STORNOPHONE 4000

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SERVICE COORDINATION

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CQP4000

NOMENCLATURE

DIGIT 1, 2, 3	4	5	6	7	8	9	10	11	12
PRODUCT CODE	FREQUENCY RANGE MHz TX	RX	CHANNEL SPAC. kHz	RADIO TYPE	TRANSMITTER OUTPUT POWER WATT		FREQ. CAPACITY	CONTROL	VERSION
C Q P 4	1 146-174	1 146-174	2 25	S Standard	0	1 1, 0	A Max. 2	0 Standard	A STAS EXP Standard freq. stab.
	3 66-88	3 66-88	3 20	U Universal	0	2 2, 0	B Max. 10	A Maritime Germany	B STAS EXP Improved freq. stab.
	6 400-470	6 400-470	4 12, 5				C Automatic Max. 99	B Std. USA w. seq. sign.	G GERMANY
	5 350-410	5 350-410							F FRANCE
	7 174-225	7 174-225					D Binary Max. 99	C Std. USA without seq. sign.	E U. K.
									S SWEDEN
									D DENMARK
									C CANADA
									Z SWITZERLD.
									U USA
									M STEL Maritime

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CQP4000

STRUCTURED OPTIONS

A TX freq. split MHz	B RX freq. split MHz	C Chan. guard	D Signal option	E Firmware Package	H Field Customizing	I Mount on cabinet
L 146-174 68-88 174-200 400-440	L 146-174 68-88 174-200 400-440	0 None	0 None	A 2 chan.	0 None	0 None
M 174-200	M 200-225	A Enc. /Dec. / Reject filter	A 5T ZVEI/CCIR enc. /dec.	B 10 chan.	A Prom. progr. kit	A Clip/swivel mount
H 200-225 430-470	H 200-225 430-470	B Enc.	B 5T ZVEI/CCIR enc. /dec. Grp. call dec. 885/970 Hz	C Unprogrammed Automatic		
		C Enc. /Dec. / Reject filter 5T enc. ZVEI/CCIR	C 5T ZVEI/CCIR enc. /dec. Grp. call dec. 2400/2800 Hz	D SAS CAMUS special (Automatic)		
			D 5T EEA enc. /dec. Grp. call dec. 1055 Hz	E BA2004 - special (Automatic)		
			E 5T ZVEI/CCIR enc. /dec. Grp. call dec. 885/970 Hz + CG enc.	F AF2004 - special (Automatic)		
			F 5T ZVEI/CCIR enc. /dec. Grp. call dec. 2400/2800 Hz + CG enc.	G 2200 Standard (Automatic)		
			G 5T EEA enc. /dec. Grp. call dec. 1055 Hz + CG enc.	H CAMUS Std. (Automatic)		
			H 5T ZVEI/CCIR enc. /dec. Grp. call dec. 1981 Hz	I Unprogrammed Binary		
				J ZVEI Binary		
				K EEA Binary		

CHAPTER 1.

CQP4xxx

INTRODUCTION

SPECIFICATIONS

GENERAL DESCRIPTION

MECHANICAL DESCRIPTION

CIRCUIT DESCRIPTION

FUNCTIONAL DIAGRAM

CONNECTION DIAGRAM

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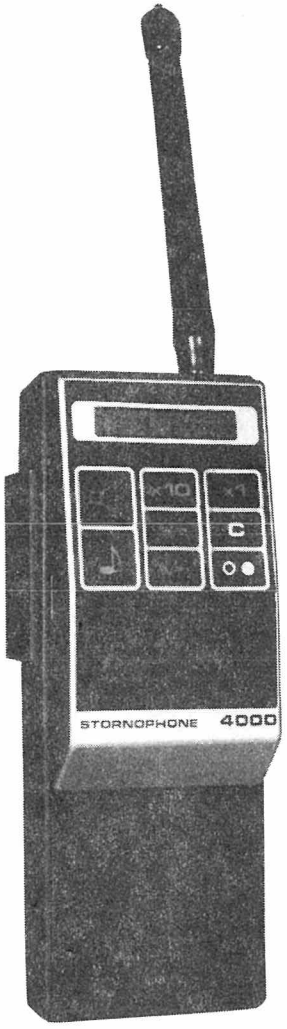
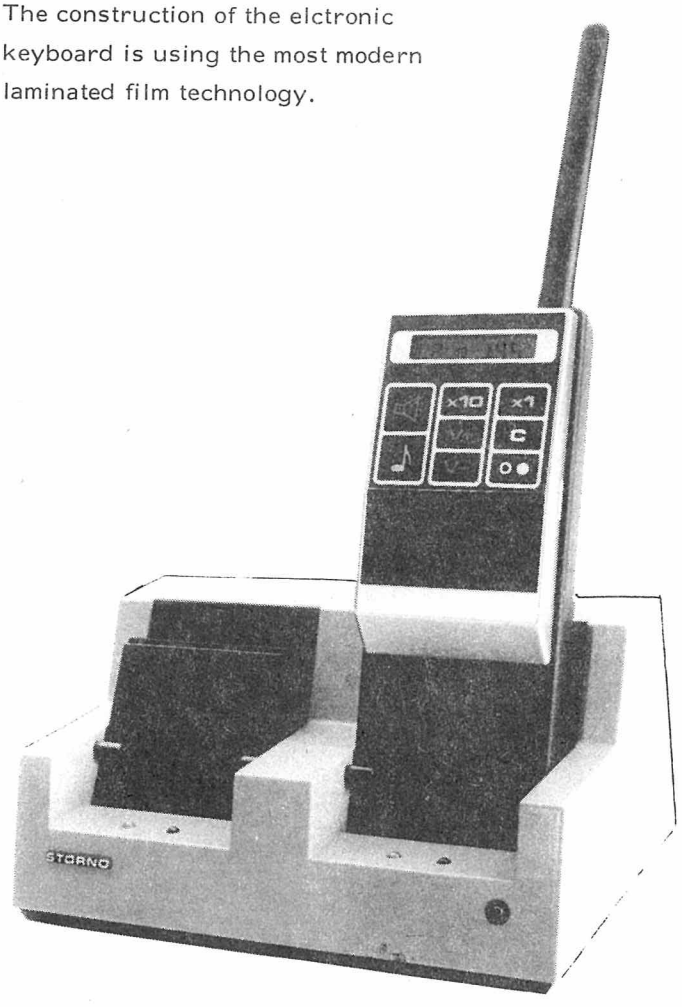
STORNOPHONE 4000



Local controlled personal radio for simplex or semi duplex operation with all necessary indicators located in a liquid crystal display.

The construction of the elctronic keyboard is using the most modern laminated film technology.



The fully automatic charger CU4001 provides charging of either the battery alone or when inserted in the radio.

GENERAL SPECIFICATIONS

CQP4000

Guaranted performance specifications unless otherwise noted.

TYPE CQP		4332	4333	4334	4112	4113	4114	4552	4662	4663	4664
Freq. & splits	MHz	66-88			146-174			350-380 370-400	400-440 430-470		
Channel spacing	kHz	25	20	12.5	25	20	12.5	25	25	20	12.5
No. of channels		1 or 2									
Service		Simplex or semi duplex									
Frequency Stability	ppm	±5 or ±10						±5	±5		±3
Operating temperature	deg.C	-25 to +60									
Antenna impedance	ohm	50									
Battery	V/ mAh	7.2 V Nominal 450 mAh 7.2 V Nominal 750 mAh						6 ni-cad cells 6.1 V to 8.6 V at extreme conditions			
Cur. drain: OFF RX (stby) RX (.5 WAF) TX (2 W)	mA	1.0 CQP411x/-433x : 30 / 35 : CQP466x 155 1100						Additional standby currents: CG4001 : 1.3 CG4002 : 1.0 CG4003 : 1.3 TQ4001 : 1.5 TQ4002 - TQ4007 : 2.0			
Operator control		LS ON/OFF and squelch cancel Tone transmission X10 Tone select; controls left tone digit on LCD X1 Tone select; controls right tone digit on LCD V+ Volume "UP" V- Volume "DOWN" C Channel select ◉O ON/OFF and LCD light									
Display		Channel, TX, LS, Call, Tone codes									
Dimensions	mm	Hight= 192,7 Width= 72,5 Depth= 26,5/42,5 (with 450 mA/h Batt. Hight= 192,7 Width= 72,5 Depth= 42,5 (with 750 mA/h Batt.									
Weight	kg.	0.6 with 450 mA/h Batt., 0.66 with 750 mA/h Batt..									

The equipment described above meets or exceeds all applicable CEPT, FTZ, Swiss and Swedish specifications.

RECEIVER SPECIFICATIONS

CQP4000

Guaranted performance specifications unless otherwise noted.

TYPE CQP		4332	4333	4334	4112	4113	4114	4552	4662	4663	4664
Sensitivity 20 dB SINAD (CEPT)	uV EMF	0.75		1	0.75		1	1			1.5
RF bandw.	MHz	2.5 (No degradation w. centertuning)									
AF outp. pwr.	W	0.5 EIA, 0.25 CEPT method.									
Aud. bandw.	Hz	300-3000	300 - 3000	300-2550	300-3000	300 - 3000	300-2550	300-3000	300-3000	300 - 3000	300-2550
Aud. resp.		-6 dB/oct. phase modulation characteristics.									
Tolerance	dB	+1 -3	+1 -3	+1 -3		+1 -3		+1 -3		+1 -3	+1 -3
Hum & noise	dB	-45 (CEPT, weighted)									
Adj. ch. sel.	dB	-70		-60	-70		60	70			-60
Cond. spur.	dBm	-57									
Rad. spurius	nW	2 (-57 dBm to resonant substitution dipole)									
AF distort.	%	2 EIA, 10 CEPT method									
Blocking	dB/ uV	90									
Intermodul.	dB	CEPT= 70, Sweden= 70, FTZ= 66 & 80									
Spurius rej.	dB	-70 (CEPT method)									
Co-chan. rej.	dB	8									
Sq. sens.	dB	5 - 6 (dB SINAD at line Output)									
Squelch tail	mS	5 (EIA)									
RX att. time	mS	50 (EIA)									
Recovery tm.	mS	75						100			
Group delay	uS	Less than 50									

+ Tolerance on response from 400 to 2700 Hz is +1, -1.5 dB.
The equipment described above meets or exceeds all applicable CEPT, FTZ, Swiss and Swedish specifications.

TRANSMITTER SPECIFICATIONS

CQP4000

Guaranted performance specifications unless otherwise noted.

TYPE CQP		4332	4333	4334	4112	4113	4114	4552	4662	4663	4664
RF outp. pwr.	W	0.1W or 2W - adjustable to 1W : ± 1.5 dB for -10/+40 deg.C + 2/3 dB for -25/+55 deg.C									
Duty cycle	%	20% at 25 deg.C ambient : TX= 1 mn, standby/RX= 4 mn									
RF bandwith	MHz	2.5 (No degradation)									
Mod. BW	Hz	300-3000	300 - 3000	300-2550	300-3000	300 - 3000	300-2550	300-3000	300-3000	300 - 3000	300-2550
Mod. resp.		+6 dB/oct. phase modulation characteristics at 6000 Hz att: ≥6 dB rel. to 1 kHz value.									
Tolerance	dB	+1 -3	+1 -3	+1 -3		+1 -3		+1 -3		+1 -3	+1 -3
Max. dev.	kHz	5	4	2.5	5	4	2.5	5	5	4	2.5
Resid. mod.	dB	-40 (Weighted, ref. to 60% dev.)									
Adjacent Chan. power	dB/C	70		60	70	60		70			60
Cond. spur.	dBm	-37									
Radia. spur.	nW	200 (-37 dBm to resonant substition dipole)									
Attack time	mS	30						50			
Group delay	uS	Less than 50									
TX stability		10:1 VSWR, all phase angles									
Audio sensitivity	mV	10 mV ±3 dB									
Aud. dist.	%	5									

+ Tolerance of response from 400 to 2700 Hz is +1, -1.5 dB.
The equipment described above meets or exceeds all applicable CEPT, FTZ, Swiss and Swedish specifications.

GENERAL DESCRIPTION

CQP4000

STORNOPHONE 4000 is a personal radiotelephone with transmitter, receiver, controls and display, loudspeaker, microphone and battery.
Although being handheld and compact in size the radio can be programmed with two channels and optionally, be equipped with sequential tone encoder/decoder, CTCSS (channel guard) encoder, or CTCSS (channel guard) encoder/decoder.

The mechanical construction of the radio is a screened enclosure in the form of a cast chassis and a metalized plastic front as lid.
A moulded plastic house is attached to the chassis to provide mechanical protection and hold the battery. All controls and indicators are integrated in a keypad/display field on the radio front except for the transmit button which is on the left side of the radio. The electrical circuitry of the radio is built on printed wiring boards: an RF-board containing the transmitter and receiver, a control logic board and, optionally, a thick film tone module.
The RF-board comprises the frequency synthesizer, the transmitter exciter and power amplifier, the receiver RF circuits and IF-circuits, the voltage regulator, and is available in different versions according to frequency band and channel spacing.
The control logic board (CL) comprises the receiver AF amplifier, the transmitter modulation processor, the microcontroller and the display.
The tone module is a thick-film add-on module designed to be plugged into a socket on the CL-board.

ANTENNAS

The CQP4000 is designed for a 50-ohm antenna which is screwed onto the top of the radio. The following types are available:

- a resonant helical antenna, AN4xx1
- a wide band conductive rubber antenna, AN4xx2

BATTERIES

The battery is designed to snap into a compartment at the bottom of the radio and is a selfcontained nickel-cadmium (Ni-Cd) pack.
Two battery packs are available:

- a 450 mA battery, BU4001
- a 750 mA battery, BU4002

CARRYING DEVICES

The following devices are available for carrying the radio:

- a carrying kit consisting of a strap and eyelets to be inserted in the plastic housing, CK4001.
- a carrying case made of black leather with a display window and flaps for access to the controls and the battery, CK4002.

BATTERY TESTER

A battery tester is available for checking the charge condition of batteries. A button on the tester loads the battery and the charge condition is read on a meter scale, SI4001.

OPERATING INSTRUCTIONS

All buttons, except the transmit button, will when pressed respond with an attention tone, approx. 40 ms long, to give the operator an indication of a depressed button.

ON/OFF/DISPLAY LIGHT

When the battery is inserted the radio is turned on by pressing the ON/OFF button. When the radio turns on the display light is on for a short time and the light timer will be reset each time a button is pressed. The radio will be on first used channel and variable tone digits, if used, set to 00. For sets with sequential tone receiver the loudspeaker will be off.
If the tone receiver is not fitted the loudspeaker is always on and the call indicator is not used.

The display light is turned on by pressing the ON/OFF button once.

The radio can only be turned off while the display light is on. To turn off press the ON/OFF button to light the display if not already on and then again press the ON/OFF button. Before the control logic turns the radio off a high pitch tone is sounded for 1 second the volume being independent of the present volume setting.
When the battery is discharged and reach a certain voltage, the radio emits an acoustic alarm tone to inform the operator that the battery has to be replaced. The alarm tone is similar to that emitted when turning the radio off and if the operator does not turn the radio off the control logic will automatically turn off.
The battery condition is monitored only when the radio is in receive mode.

CHANNEL SELECTION

When turned on the radio will be set to first used channel. To select next channel press the channel select button, C.
Channel selection can only take place while in receive mode.

VOLUME SETTING

The loudspeaker volume can be adjusted in steps. There are 8 levels and when the radio is turned on the volume is automatically set to medium.

To increase the volume press V+ and to lower the volume press V-. When the higher or lower limit is reached the volume can not be further adjusted until the opposite button is pressed. Each time a volume button is pressed the radio emits a short attention tone.

LOUDSPEAKER ON/OFF (MONITOR)

This button and its display symbol is used with sequential tone option only.

With the sequential tone receiver option the loudspeaker is off when the radio is turned on. When the loudspeaker button is pressed the loudspeaker is turned on and the call indicator displayed. The loudspeaker is automatically turned on when a call is received or when the transmitter is activated.

SQUELCH CANCEL
(with sequential tone receiver option)

When the loudspeaker is on the squelch function can be cancelled by keeping the loudspeaker on/off button depressed. If no signal is being received noise will be heard in the loudspeaker.

SQUELCH CANCEL
(without sequential tone receiver option)

The squelch function is cancelled by pressing the loudspeaker on/off button.

TRANSMITTING

Before a call can be transmitted the channel must be free. Any attempt to transmit when the loudspeaker is off and the channel is busy will result in an alarm tone in the loudspeaker as long as the transmit button is depressed.

For radios with sequential tone transmit option a call is initiated by pressing the transmit (PTT) button. A tone call is then transmitted and the

loudspeaker automatically turned on. When the call is answered the transmit button is used for conversation. If the channel is busy the call is not transmitted.

For radios with sequential tone receive option turn the loudspeaker on and press the transmit button when the channel is free.

For radios without tone option wait until the channel is free. Then press the transmit button and speak into the microphone with normal voice.

The transmit indicator will be displayed while transmitting and all button functions will be inhibited.

TONE CALL SWITCHING
(with sequeltial tone transmit option only)

The two tone call select buttons , X10 and X1, are used to select up to 100 different tone calls. The basic tone call format and the position of the selectable tones in the format are part of the personality data programmed into a Programmable Read Only Memory (PROM). Two digits are displayed to show the selected tone call. The X10 and X1 buttons are used to step the digit until the wanted number is displayed.

TONE CALL TRANSMISSION

A sequential tone call can be transmitted using the transmit button when the loudspeaker is off, refer to transmitting.
If the loudspeaker is on a tone call is transmitted by pressing the tone button. During the tone transmission the keyboard is inhibited.

TONE CALL RECEPTION

When a tone call is received the loudspeaker is automatically turned on, the call indicator displayed and an alarm tone sounded for approx. 1 sec. The call indicator is turned off when the transmit button or any other key is pressed.
If the acknowledge facility is present the acknowledge signal is automatically transmitted.

If group call facility is present a group call will automatically turn the loudspeaker on.

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GENERAL DESCRIPTION

CQP4000

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Two battery packs are available:

- a 450 mA battery, BU4001
- a 750 mA battery, BU4002

CARRYING DEVICES

The following devices are available for carrying the radio:

- a carrying strap in leather with eyelets, CK4003
- two carrying cases in stout leather, CK4004 and CK4005, one for each battery version of the CQP4000
- a belt retainer, CK4006, comprising a bracket to mount on a special plast cabinet CA4002 + a leather ring with a swivel lock.
- a belt clip, CK4007, which must also be mounted together with CA4002

BATTERY TESTER

A battery tester is available for checking the charge condition of batteries. A button on the tester loads the battery and the charge condition is read on a meter scale, SI4001.

OPERATING INSTRUCTIONS

All buttons, except the transmit button, will when pressed respond with an attention tone, approx. 40 ms long, to give the operator an indication of a depressed button.

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SQUELCH CANCEL
(with sequential tone receiver option)

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SQUELCH CANCEL
(without sequential tone receiver option)

The squelch function is cancelled by pressing the loudspeaker on/off button.

TRANSMITTING

Before a call can be transmitted the channel must be free. Any attempt to transmit when the loud-

speaker is off and the channel is busy will result in an alarm tone in the loudspeaker as long as the transmit button is depressed.

For radios with sequential tone transmit option a call is initiated by pressing the transmit (PTT) button. A tone call is then transmitted and the loudspeaker automatically turned on. When the call is answered the transmit button is used for conversation. If the channel is busy the call is not transmitted.

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MECHANICAL DESCRIPTION

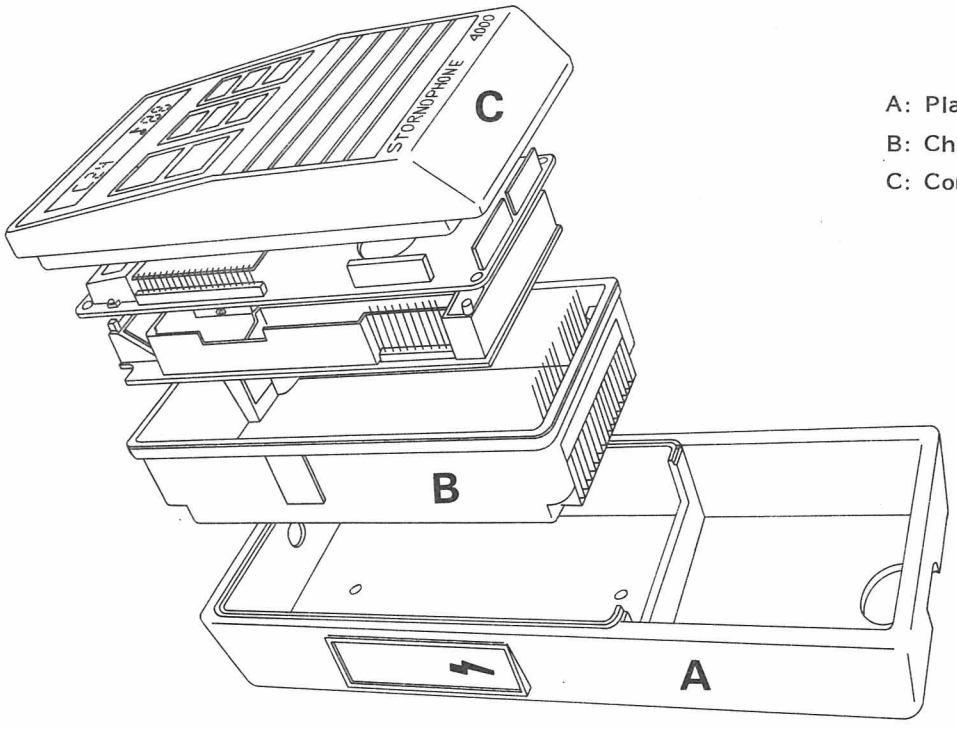
STORNOPHONE 4000

CHASSIS BOX

The chassis box is a tin plated zink casting provided with an antenna socket and a sealing gasket for transmit button which activates a microswitch on the control logic board. The combined battery/test connector is attatched to the chassis and potted for weather protection. Inside the bottom is a plate with fingers pressing against the solder side of the RF-board and thus obtains the necessary ground connections.

The RF and CL boards are kept in position with 4 screws which attatch the chassis box to the front part. In the chassis bottom are two threaded inserts for attatching the rear part of the plastic cover.
The plastic cover has a battery compartment which will accept two types of batteries. The battery snaps into position by means of a moulded contour on the inner side of the compartment wall. The battery is released by pressing through a hole in the rear wall.

An 18-position battery and test connector is placed inside the battery compartment. 5 of the connector pins are used for connection to the battery. The others are used for automatic or manual testing.



A: Plastic cover
B: Chassis box
C: Control Panel Front

CIRCUIT DESCRIPTION

CQP4xxx

RECEIVER

The receiver is a dual conversion superheterodyne receiver with a first IF of 21.4 MHz and second IF of 455 kHz. All receiver circuitry except the AF amplifier is placed on the RF board.

RECEIVER FRONT END

The receiver front-end consists of a 2-resonator input filter, an RF amplifier, a 2-resonator intermediate filter and a mixer.

IF AND DEMODULATOR

The mixer output is fed through a matching circuit to the crystal filter.
The crystal filter output is fed to the dual gate MOSFET which overcomes the noise figure of the following stages and provides constant load to the crystal filter.

The following integrated circuit includes crystal oscillator and active mixer, second IF amplifier, quadrature discriminator and schmitt trigger for squelch.

SQUELCH

The squelch circuit is a separate thick film module. The AF signal from the quadrature detector is fed to an active high-pass filter where noise above 7 kHz is extracted.
Via the squelch potentiometer, adjusted for 10-12 dB SINAD, the signal is fed to an amplifier to obtain the right level for the detector.

The detector output is connected to the schmitt-trigger, part of the preamplifier circuit, which gives the necessary hysteresis and well-defined output signal.

PREAMPLIFIER

The last stage of the IF integrated circuit is an AF preamplifier. Its output can be adjusted to 110 mV by a potentiometer.

AUDIO AMPLIFIER

The line level of the AF preamplifier is fed to the audio amplifier situated on the CL board (see the chapter about CL description).

TRANSMITTER

The transmitter consists of an exciter and a power amplifier.
The VCO (voltage controlled oscillator) drives the exciter directly. The exciter contains wide-band stages and delivers input to the power amplifier. All stages, including the VCO operate at carrier frequency.
The power amplifier includes the output stage, a low-pass filter and a power control circuit.
The power amplifier is connected to the low-pass filter via a diode antenna switch.

EXCITER

In the exciter, the VCO signal, 1 mV is amplified to 0.5 Watt.
The exciter consists of three wide band stages covering the whole band. The RF bandwidth is limited by the VCO.
The exciter needs no adjustment.

POWER AMPLIFIER

The power amplifier consists of a single broadband stage.
The antenna is matched to the power amplifier by tuning the antenna or by using a wide band antenna.

A power control circuit protects the RF output from temperature or voltage variations and keeps it relatively constant.
The output power level can be set with a potentiometer over a 2:1 range.

TX AUDIO PROCESSOR

The modulation signal is delivered from the TX audio processor situated on the CL board (see chapter of CL description).

WARNING: The transmitter PA-transistors contain Beryllium. It is dangerous to cut, to file or to dissed those transistors because the beryllium oxide is poisonous when absorbed.

FREQUENCY SYNTHESIZER

The frequency synthesizer circuits are:
- Prescaler
- PLL unit
- Ref. crystal oscillator
- TX and RX VCO (voltage controlled oscillator)
- Save switch

PRESCALER

The prescaler is a high speed counter which divides by a fixed ratio: P
Under control of the PLL circuit, it can be set to divide by the fixed ratio plus one: P+1
The prescaler has a low power consumption from 4 to 7 mA.

PLL AND ASSOCIATED CIRCUITS

The circuitry consist of:
- three programmable dividers
- control logic for the prescaler
- phase detector with lock detector

1. The R divider divides the output of the crystal oscillator in order to give channel spacing. Its output is fed into the phase detector.

2. The N divider divides the output of the prescaler. The ratio stored in the N divider must be the one giving N output equal R output. Its output is fed into the phase detector.

3. The A divider is controlled by the control logic. The ratio of the A divider makes the prescaler divide by P+1 if necessary. The A divider can not start with a zero.

4. The phase detector compares the outputs of the R and the N divider.
   The phase/lock detector two outputs are:
   - out of lock/lock signal to the CL board, indication whether or not the two inputs (R and N outputs) are equal.
   - DC level controlling the VCO through a band-pass filter and a save switch.

REFERENCE CRYSTAL OSCILLATOR

This crystal oscillator supplies clock signals to the microprocessor on the CL board and gives the reference frequency to the PLL circuit through the R divider.

TX AND RX VCO

The voltage controlled oscillator (VCO) is a FET oscillator. The frequency is controlled by two varicaps, one in the RX VCO circuit and one in the TX VCO circuit. The varicaps DC voltage is delivered from the PLL circuit.
The TX VCO contains another varicap used for frequency modulation. The modulation signal comes from the microphone amplifier placed on the CL board.
As buffer between the VCO and the PLL circuits, the following circuits are used:

- the mixer injection buffer for the RX VCO
- the exciter for the TX VCO

SAVE SWITCH

In order to reduce power consumption in standby, the save circuits disconnects:

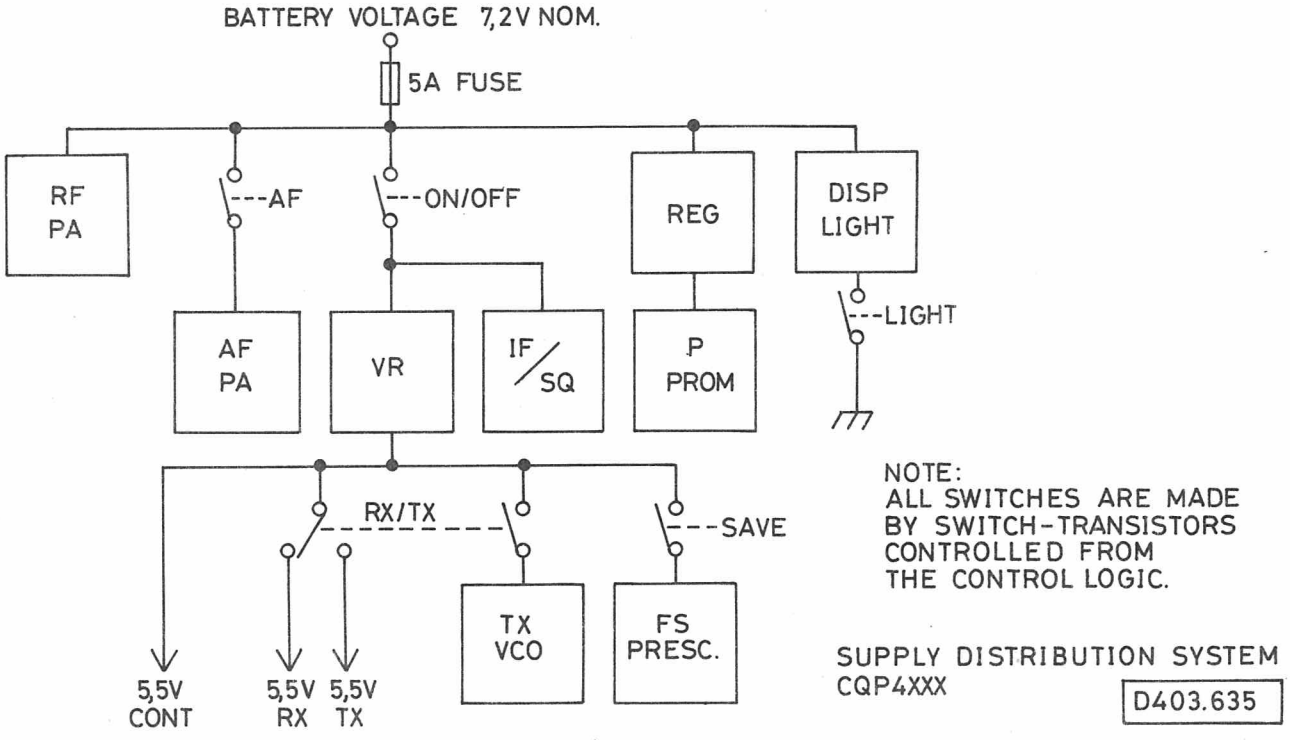
- DC control level to the VCO
- power to the prescaler

The save circuit is controlled by the microprocessor from the CL board.
It is not connected to TX VCO.

POWER SUPPLY

The 7.2 V battery voltage is distribuated for different purposes through a 5 A fuse:

- directly to the RF power amplifier
- to the audio output amplifier through a switch transistor
- to the IF/squelch circuits and the 5.5 V voltage regulator through the on/off switch transistor
- to the personality PROM through a separate regulator
- to the LED's for the LCD display-back-light.



BATTERY OPERATING TIME

Transmit	Receive	Standby	Tone Equip.	Operation			
				2 W PA		1 W PA	
				BU4001	BU4002	BU4001	BU4002
5%	5%	90%	YES	6.3 h	10.4 h	7.4 h	12.3 h
2%	5%	93%	YES	9.8 h	16.4 h	10.8 h	18.1 h
5%	25%	70%	NO	5.3 h	8.7 h	6.1 h	10.0 h
2%	25%	73%	NO	7.6 h	12.6 h	8.2 h	13.6 h

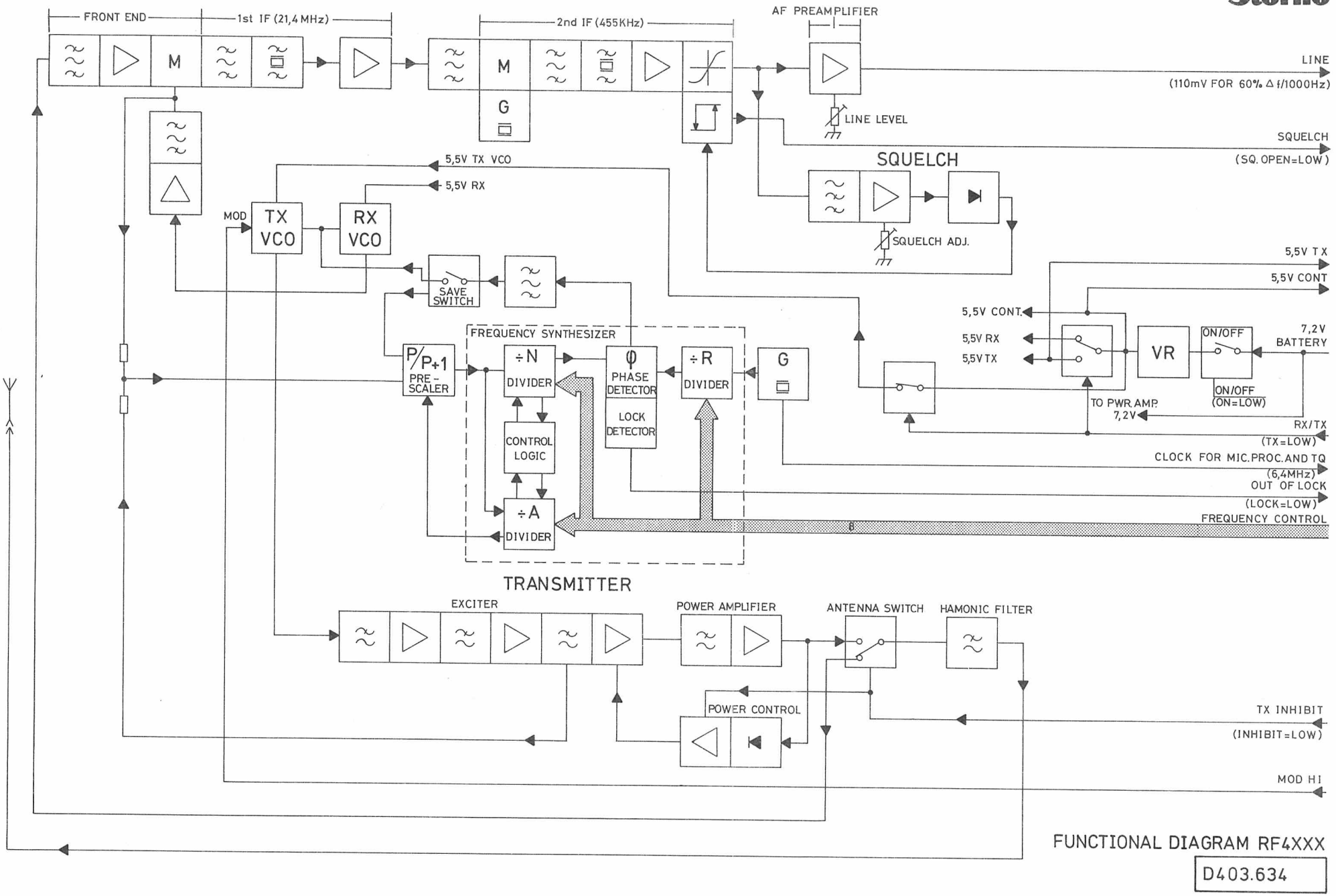
VOLTAGE REGULATOR

A 5.5 V stabilized voltage regulator is designed around an adjustable shunt regulator IC, with low drop-out voltage, high temperature stability and short circuit protection.
Regulated 5.5 V is continuously applied to the IF-squelch and synthesizer circuits, to the RX/TX switch-circuit controlled by the control logic, and through a current save switch to the pre-scaler in the RF synthesizer.

The RX/TX switching is performed, where possible, by switching only the bias currents to the involved circuits.

Storno

RECEIVER

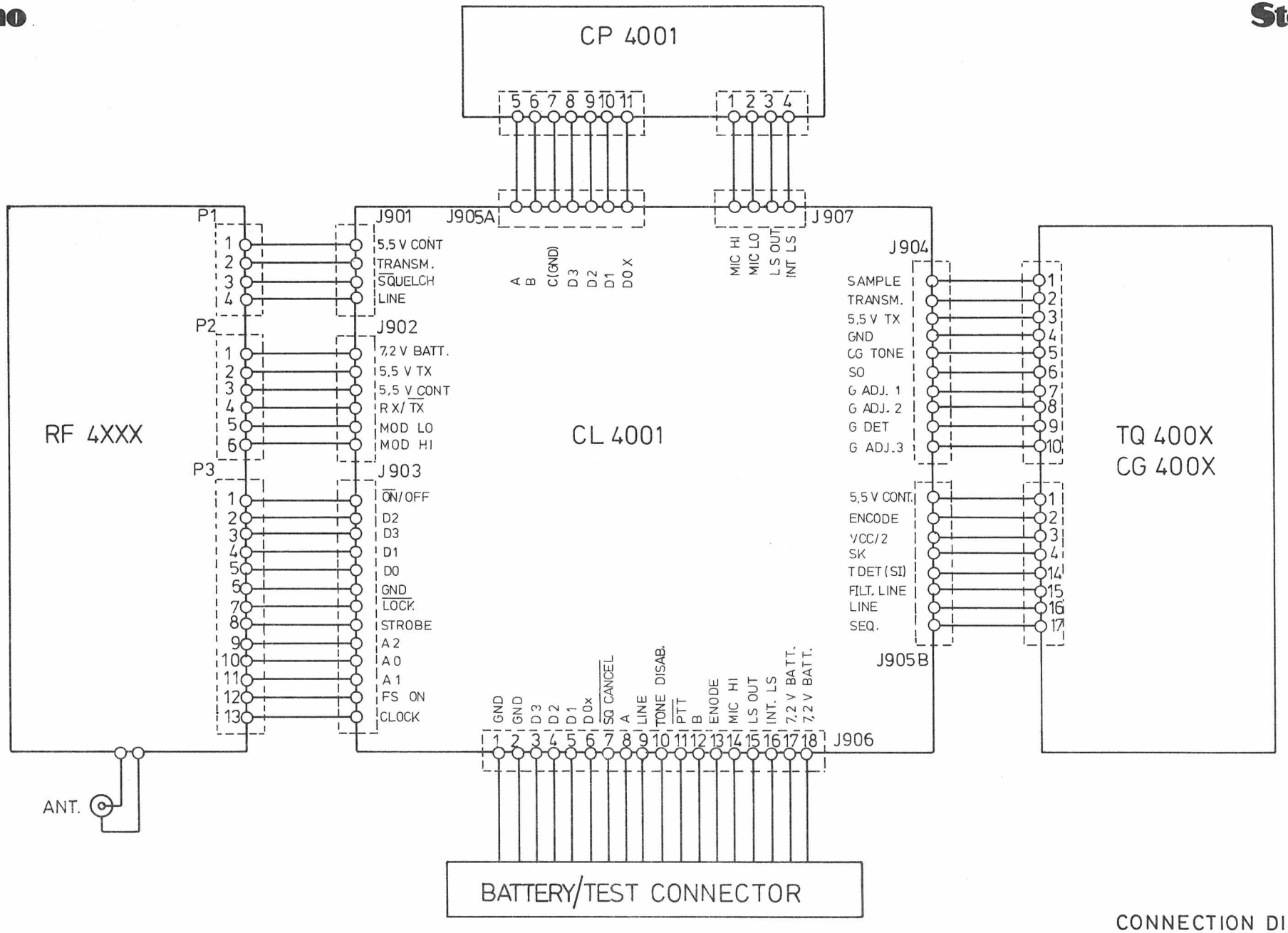


FUNCTIONAL DIAGRAM RF4XXX

D403.634

Storno

Storno



CONNECTION DIAGRAM
CQP4000 D403. 304

2 CHANNELS/10 CHANNELS VERSION

- Presentation
- Specification
- General description
- Mechanical description

GENERAL SPECIFICATIONS

CQP4000

Guaranted performance specifications unless otherwise noted.

TYPE CQP		4332	4333	4334	4112	4113	4114	4552	4662	4663	4664
Freq. & splits	MHz	66-88			146-174			350-380 370-400	400-440 430-470		
Channel spacing	kHz	25	20	12.5	25	20	12.5	25	25	20	12.5
No. of channels		max. 2 or max. 10									
Service		Simplex or semi duplex									
Frequency Stability	kHz	±1.35		±1	±2		±1.5		±2.5		±1.5
Operating temperature	deg.C	-25 to +60									
Antenna impedance	ohm	50									
Battery	V/ mAh	7.2 V Nominal 450 mAh 7.2 V Nominal 750 mAh						6 ni-cad cells 6.1 V to 8.6 V at extreme conditions			
Cur. drain: OFF RX (stby) RX (.5 WAF) TX (2 W)	mA	1.5 30 155 1200						+ Additional standby current: CG4001 1.3 CG4003 1.3 TQ4001 1.5 TQ4002 - TQ4008 2.0			
Operator control		LS ON/OFF and squelch cancel Tone transmission X10 Tone select; controls left tone digit on LCD X1 Tone select; controls right tone digit on LCD V+ Volume "UP" V- Volume "DOWN" C Channel select ON/OFF and LCD light									
Display		Channel, TX, LS, Call, Tone codes									
Dimensions	mm	Hight= 192,7 Width= 72,5 Depth= 26,5/42,5 (with 450 mA/h Batt. Hight= 192,7 Width= 72,5 Depth= 42,5 (with 750 mA/h Batt.									
Weight	kg.	0.6 with 450 mA/h Batt., 0.66 with 750 mA/h Batt..									

The equipment described above meets or exceeds all applicable CEPT, FTZ, Swiss and Swedish specifications.

+ For further information see tone module specifications

RECEIVER SPECIFICATIONS

CQP4000

Guaranted performance specifications unless otherwise noted.

TYPE CQP		4332	4333	4334	4112	4113	4114	4552	4662	4663	4664
Sensitivity 20 dB SINAD (CEPT)	uV EMF	0.75		1	0.75		1	1			1.5
RF bandw.	MHz	2.5 (No degradation w. centertuning)									
AF outp. pwr.	W	0.5 EIA, 0.25 CEPT method.									
Aud. bandw.	Hz	300-3000	300-3000	300-2550	300-3000	300-3000	300-2550	300-3000	300-3000	300-2700	300-2550
Aud. resp.		-6 dB/oct. phase modulation characteristics.									
Tolerance	dB	+1 -3	+1 -3 +	+1 -3		+1 -3 +	+1 -3			+1 -3 +	+1 -3
Hum & noise	dB	-45 (CEPT, weighted)									
Adj. ch. sel.	dB	-70		-60	-70		-60	-70			-60
Cond. spur.	dBm	-57									
Rad. spurius	nW	2 (-57 dBm to resonant substitution dipole)									
AF distort.	%	2 EIA, 10 CEPT method									
Blocking	dB/uV	90									
Intermodul.	dB	CEPT= 70, Sweden= 70, FTZ= 66 & 80									
Spurius rej.	dB	-75 (CEPT method)									
Co-chan. rej.	dB	8									
Sq. sens.	dB	10-12 (dB SINAD at line Output)									
Squelch tail	mS	10 (EIA)									
RX att. time	mS	50 (EIA)									
Recovery tm.	mS	75						100			
Group delay	uS	Less than 50									

+ Tolerance on response from 400 to 2700 Hz is +1, -1.5 dB.
The equipment described above meets or exceeds all applicable CEPT, FTZ, Swiss and Swedish specifications.

TRANSMITTER SPECIFICATIONS

CQP4000

Guaranted performance specifications unless otherwise noted.

TYPE CQP		4332	4333	4334	4112	4113	4114	4552	4662	4663	4664
RF outp. pwr.	W	0.1W or 2W -adjustable to 1W : ± 1.5 dB for -10/+40 deg.C +2/-3 dB for -25/+55°C									
Duty cycle	%	20% at 25 deg.C ambient : TX= 1 mn, standby/RX= 4 mn									
RF bandwith	MHz	2.5 (No degradation)									
Mod. BW	Hz	300-3000	300-3000	300-2550	300-3000	300-3000	300-2550	300-3000	300-3000	300-3000	300-2550
Mod. resp.		+6 dB/oct. phase modulation characteristics at 6000 Hz att: ≥6 dB rel. to 1 kHz value.									
Tolerance	dB	+1 -3	+1+ -3	+1 -3		+1+ -3		+1 -3		+1+ -3	+1 -3
Max. dev.	kHz	5	4	2.5	5	4	2.5	5	5	4	2.5
Resid. mod.	dB	-40 (Weighted, ref. to 60% dev.)									
Adjacent Chan. power	dB/C	-70		-60	-70	-60		-70			-60
Cond. spur.	dBm	-37									
Radia. spur.	nW	200 (-37 dBm to resonant substition dipole)									
Attack time	mS	30						50			
Group delay	uS	Less than 50									
TX stability		10:1 VSWR, all phase angles									
Audio sensitivity	mV	5 mV ±3 dB									
Aud. dist.	%	5									

+ Tolerance of response from 400 to 2700 Hz is +1, -1.5 dB.
The equipment described above meets or exceeds all applicable CEPT, FTZ, Swiss and Swedish specifications.

Storno

GENERAL DESCRIPTION

CQP4000

STORNOPHONE 4000 is a personal radiotelephone with transmitter, receiver, controls and display, loudspeaker, microphone and battery.
Although being handheld and compact in size the radio can be programmed with up to 10 channels and optionally, be equipped with sequential tone encoder/decoder, CTCSS (channel guard) encoder, or CTCSS (channel guard) encoder/decoder.

The mechanical construction of the radio is a screened enclosure in the form of a cast chassis and a metalized plastic front as lid.
A moulded plastic house is attached to the chassis to provide mechanical protection and hold the battery. All controls and indicators are integrated in a keypad/display field on the radio front except for the transmit button which is on the left side of the radio. The electrical circuitry of the radio is built on printed wiring boards: an RF-board containing the transmitter and receiver, a control logic board and, optionally, a thick film tone module.
The RF-board comprises the frequency synthesizer, the transmitter exciter and power amplifier, the receiver RF circuits and IF-circuits, the voltage regulator, and is available in different versions according to frequency band and channel spacing.
The control logic board (CL) comprises the receiver AF amplifier, the transmitter modulation processor, the microcontroller and the display.
The tone module is a thick-film add-on module designed to be plugged into a socket on the CL-board.

ANTENNAS

The CQP4000 is designed for a 50-ohm antenna which is screwed onto the top of the radio. The following types are available:

- a preadjusted resonant helical antenna, AN4xx3
- a wide band conductive rubber antenna, AN4xx2
- a whip antenna, AN4661

BATTERIES

The battery is designed to snap into a compartment at the bottom of the radio and is a selfcontained nickel-cadmium (Ni-Cd) pack.
Two battery packs are available:

- a 450 mA battery, BU4001
- a 750 mA battery, BU4002

CARRYING DEVICES

The following devices are available for carrying the radio:

- a carrying strap in leather with eyelets, CK4003
- two carrying cases in stout leather, CK4004 and CK4005, one for each battery version of the CQP4000
- a belt retainer, CK4006, comprising a bracket to mount on a special plast cabinet CA4002/CA4004 + a leather ring with a swivel lock.
- a belt clip, CK4007, which must also be mounted together with CA4002/CA4004.

BATTERY TESTER

A battery tester is available for checking the charge condition of batteries. A button on the tester loads the battery and the charge condition is read on a meter scale, SI4001.

OPERATING INSTRUCTIONS

All buttons, except the transmit button, will when pressed respond with an attention tone, approx. 40 ms long, to give the operator an indication of a depressed button.

ON/OFF/DISPLAY LIGHT

When the battery is inserted the radio is turned on by pressing the ON/OFF button. When the radio turns on the display light is on for a short time and the light timer will be reset each time a button is pressed. The radio will be on first used channel and variable tone digits, if used, set to 00. For sets with sequential tone receiver the loudspeaker will be off.
If the tone receiver is not fitted the loudspeaker is always on and the call indicator is not used.

The display light is turned on by pressing the ON/OFF button once.

The radio can only be turned off while the display light is on. To turn off press the ON/OFF button to light the display if not already on and then again press the ON/OFF button. Before the control logic turns the radio off a high pitch tone is sounded for 1 second the volume being independent of the present volume setting.
When the battery is discharged and reach a certain voltage, the radio emits an acoustic alarm tone to inform the operator that the battery has to be replaced. The alarm tone is similar to that emitted when turning the radio off and if the operator does not turn the radio off the control logic will automatically turn off.
The battery condition is monitored only when the radio is in receive mode.

CHANNEL SELECTION

When turned on the radio will be set to first used channel. To select next channel press the channel select button, C.
Channel selection can only take place while in receive mode.

VOLUME SETTING

The loudspeaker volume can be adjusted in steps. There are 8 levels and when the radio is turned on the volume is automatically set to medium.
To increase the volume press V+ and to lower the volume press V-. When the higher or lower limit is reached the volume can not be further adjusted until the opposite button is pressed.
Each time a volume button is pressed the radio emits a short attention tone.

LOUDSPEAKER ON/OFF (MONITOR)

This button and its display symbol is used with sequential tone option only.
With the sequential tone receiver option the loudspeaker is off when the radio is turned on. When the loudspeaker button is pressed the loudspeaker is turned on and the call indicator displayed.
The loudspeaker is automatically turned on when a call is received or when the transmitter is activated.

SQUELCH CANCEL
(with sequential tone receiver option)

When the loudspeaker is on the squelch function can be cancelled by keeping the loudspeaker on/off button depressed. If no signal is being received noise will be heard in the loudspeaker.

SQUELCH CANCEL
(without sequential tone receiver option)

The squelch function is cancelled by pressing the loudspeaker on/off button.

TRANSMITTING

Before a call can be transmitted the channel must be free. Any attempt to transmit when the loud-

speaker is off and the channel is busy will result in an alarm tone in the loudspeaker as long as the transmit button is depressed.

For radios with sequential tone transmit option a call is initiated by pressing the transmit (PTT) button. A tone call is then transmitted and the loudspeaker automatically turned on. When the call is answered the transmit button is used for conversation. If the channel is busy the call is not transmitted.

For radios with sequential tone receive option turn the loudspeaker on and press the transmit button when the channel is free.

For radios without tone option wait until the channel is free. Then press the transmit button and speak into the microphone with normal voice.

The transmit indicator will be displayed while transmitting and all button functions will be inhibited.

TONE CALL SWITCHING
(with sequeltial tone transmit option only)

The two tone call select buttons , X10 and X1, are used to select up to 100 different tone calls.

The basic tone call format and the position of the selectable tones in the format are part of the personality data programmed into a Programmable Read Only Memory (PROM). Two digits are displayed to show the selected tone call. The X10 and X1 buttons are used to step the digit until the wanted number is displayed.

TONE CALL TRANSMISSION

A sequential tone call can be transmitted using the transmit button when the loudspeaker is off, refer to transmitting.
If the loudspeaker is on a tone call is transmitted by pressing the tone button. During the tone transmission the keyboard is inhibited.

TONE CALL RECEPTION

When a tone call is received the loudspeaker is automatically turned on, the call indicator displayed and an alarm tone sounded for approx. 1 sec. The call indicator is turned off when the transmit button or any other key is pressed.
If the acknowledge facility is present the acknowledge signal is automatically transmitted.

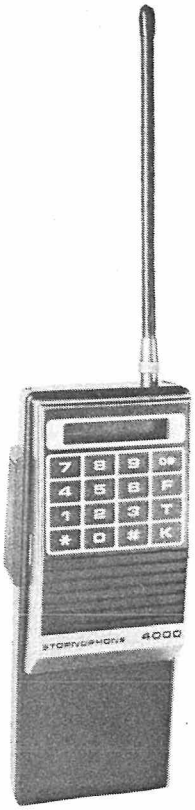
If group call facility is present a group call will automatically turn the loudspeaker on.

AUTOMATIC VERSION

- Presentation
- Specification
- General description
- Mechanical description

Storno

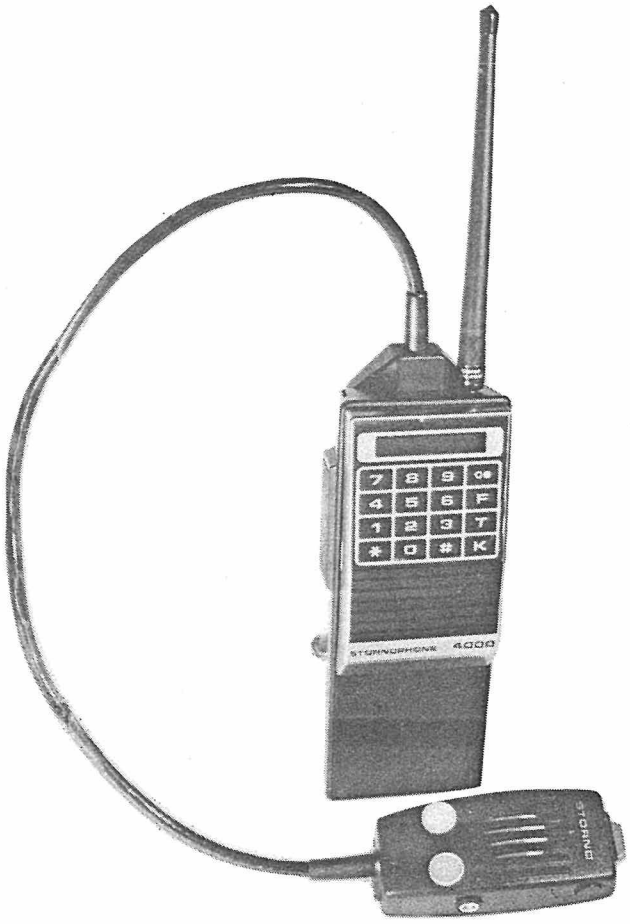
STORNOPHONE 4000 AUTOMATIC



Local controlled personal radio for simplex operation with all necessary indicators located in a liquid crystal display.

The construction of the electronic keyboard is using the most modern laminated film technology.

The operation of the CQP4000 automatic is fully controlled by microprocessor.



Remote

STORNOPHONE 4000 AUTOMATIC allows remote control.

GENERAL SPECIFICATIONS

CQP4000 AUTOMATIC

Guaranted performance specifications unless otherwise noted.

TYPE CQP		4332	4333	4334	4112	4113	4114	4662	4663	4664
Freq. & splits	MHz	66-88			146-174			400-440 430-470		
Channel spacing	kHz	25	20	12.5	25	20	12.5	25	20	12.5
No. of channels		12(99)								
Service		One or two frequencies simplex								
Frequency Stability	ppm	±5 or ±10						±5		±3
Operating temperature	deg.C	-25 to +60								
Antenna impedance	ohm	50								
Battery	V/ mAh	7.2 V Nominal 450 mAh 7.2 V Nominal 750 mAh						6 ni-cad cells 6.1 V to 8.6 V at extreme conditions		
* Cur. drain: OFF RX (stby) RX (.5 WAF) TX (2 W)	mA	 1.0 50 170 965			 1.0 50 170 965			 1.0 50 170 1015		
Dimensions	mm	D= 26.5/42.5 W= 72.5 H= 192.7 450 mA/h BATT D= 42.5 W= 72.5 H= 192.7 750 mA/h BATT								
Weight	kg.	0.6 with 450 mA/h Batt., 0.66 with 750 mA/h Batt.								

The equipment described above meets or exceeds all applicable CEPT, FTZ, Swiss and Swedish specifications.

* for additional standby current see tone modules.

Storno

RECEIVER SPECIFICATIONS

CQP4000 AUTOMATIC

Guaranteed performance specifications unless otherwise noted.

TYPE CQP		4332	4333	4334	4112	4113	4114	4662	4663	4664
Sensitivity 20 dB SINAD (CEPT)	uV EMF	0.75		1	0.75		1	1		1.4
RF bandw.	MHz	2.5 (No degradation w. centertuning)								
AF outp. pwr.	W	0.5 EIA, 0.25 CEPT method.								
Aud. bandw.	Hz	300-3000	300-3000	300-2700	300-3000	300-3000	300-2700	300-3000	300-3000	300-2700
Aud. resp.		-6 dB/oct. phase modulation characteristics.								
Tolerance	dB	+1 -3	+1 -3	+1 -3	+1 -3		+1 -3		+1* -3	+1 -3
Hum & noise	dB	-45 (CEPT, weighted)								
Adj. ch. sel.	dB	-70		-60	-70		60	70		-60
Cond. spur.	dBm	-57								
Rad. spurius	uW	0.2								
AF distort.	%	2 EIA, 10 CEPT method								
Blocking	dB/uV	90								
Intermodul.	dB	CEPT = -70, FTZ = -66 & 80								
Spurius rej.	dB	-70 (CEPT method)								
Co-chan. rej.	dB	8								
Sq. sens.	dB	5 - 6 (dB SINAD at line Output)								
Squelch tail	mS	5 (EIA)								
RX att. time	mS	50 (EIA)								
Recovery tm.	mS	75						100		
Group delay	uS	Less than 50								

* Tolerance on response from 400 to 2700 Hz is +1, -1.5 dB.

The equipment described above meets or exceeds all applicable CEPT, FTZ, Swiss and Swedish specifications.

Storno

GENERAL SPECIFICATIONS

CQP4000 AUTOMATIC

Guaranted performance specifications unless otherwise noted.

TYPE CQP		4332	4333	4334	4112	4113	4114	4662	4663	4664
Freq. & splits	MHz	66-88			146-174			400-440 430-470		
Channel spacing	kHz	25	20	12.5	25	20	12.5	25	20	12.5
No. of channels		max. 12 (99)								
Service		One or two frequencies simplex								
Frequency Stability	kHz	±1, 35		±1	±2		±1, 5	±2, 5		±1, 5
Operating temperature	deg. C	-25 to +60								
Antenna impedance	ohm	50								
Battery	V/ mAh	7.2 V Nominal 450 mAh 7.2 V Nominal 750 mAh						6 ni-cad cells 6.1 V to 8.6 V at extreme conditions		
* Cur. drain: OFF RX (stby) RX (.5 WAF) TX (2 W)	mA	1.5 55 170 1200								
Dimensions	mm	D= 26.5/42.5 W= 72.5 H= 192.7 450 mA/h BATT D= 42.5 W= 72.5 H= 192.7 750 mA/h BATT								
Weight	kg.	0.6 with 450 mA/h Batt., 0.66 with 750 mA/h Batt.								

The equipment described above meets or exceeds all applicable CEPT, FTZ, Swiss and Swedish specifications.

* for additional standby current see tone modules.

RECEIVER SPECIFICATIONS

CQP4000 AUTOMATIC

Guaranted performance specifications unless otherwise noted.

TYPE CQP		4332	4333	4334	4112	4113	4114	4662	4663	4664
Sensitivity 20 dB SINAD (CEPT)	uV EMF	0.75		1	0.75		1	1		1.4
RF bandw.	MHz	2.5 (No degradation w. centertuning)								
AF outp. pwr.	W	0.5 EIA, 0.25 CEPT method.								
Aud. bandw.	Hz	300-3000	300-3000	300-2700	300-3000	300-3000	300-2700	300-3000	300-3000	300-2700
Aud. resp.		-6 dB/oct. phase modulation characteristics.								
Tolerance	dB	+1 -3	+1 -3	+1 -3		+1 -3		+1 -3	+1* -3	+1 -3
Hum & noise	dB	-45 (CEPT, weighted)								
Adj. ch. sel.	dB	-70		-60	-70		60	70		-60
Cond. spur.	dBm	-57								
Rad. spurius	uW	0.2								
AF distort.	%	2 EIA, 10 CEPT method								
Blocking	dB/ uV	90								
Intermodul.	dB	CEPT = -70, FTZ = -66 & 80								
Spurius rej.	dB	-70 (CEPT method)								
Co-chan. rej.	dB	8								
Sq. sens.	dB	5 - 6 (dB SINAD at line Output)								
Squelch tail	mS	5 (EIA)								
RX att. time	mS	50 (EIA)								
Recovery tm.	mS	75						100		
Group delay	uS	Less than 50								

* Tolerance on response from 400 to 2700 Hz is +1, -1.5 dB.

The equipment described above meets or exceeds all applicable CEPT, FTZ, Swiss and Swedish specifications.

TRANSMITTER SPECIFICATIONS

CQP4000 AUTOMATIC

Guaranted performance specifications unless otherwise noted.

TYPE CQP		4332	4333	4334	4112	4113	4114	4662	4663	4664
RF outp. pwr.	W	1W or 2W								
Duty cycle	%	20% at 25 deg. C ambient : TX= 1 mn, standby/RX= 4 mn								
RF bandwith	MHz	2.5 (No degradation)								
Mod. BW	Hz	300-3000	300-3000	300-2550	300-3000	300-3000	300-2550	300-3000	400-3000	300-2550
Mod. resp.		+6 dB/oct. phase modulation characteristics at 6000 Hz att: $\geq$6 dB rel. to 1 kHz value.								
Tolerance	dB	+1 -3								
Max. dev.	kHz	5	4	2.5	5	4	2.5	5	4	2.5
Resid. mod.	dB	-40 (Weighted, ref. to 60% dev.)								
Adjacent Chan. power	dB/C	70		60	70	60		70		60
Cond. spur.	dBm	-37								
Radia. spur.	nW	200 (-37 dBm to resonant substition dipole)								
Attack time	mS	30						50		
Group delay	uS	Less than 50								
TX stability		10:1 VSWR, all phase angles								
Audio sensitivity	mV	10 mV ±3 dB								
Aud. dist.	%	5								

GENERAL DESCRIPTION

CQP4000 AUTOMATIC/BINARY

The CQP4000 Automatic is a personal radiotelephone with transmitter, receiver, controls and display, loudspeaker, microphone and battery.
Although being handheld and compact in size the radio can be programmed with up to 99 channels and equipped with tone facility.

The mechanical construction of the radio is a screened enclosure in the form of a cast chassis and a metallized plastic front as lid.
A moulded plastic house is attached to the chassis to provide mechanical protection and hold the battery. All controls and indicators are integrated in a keypad/display field on the radio front except for the transmit button which is on the left side of the radio. The electrical circuitry of the radio is built on printed wiring boards: an RF-board containing the transmitter and receiver, a control logic board and a thick film tone module.

The RF-board comprises the frequency synthesizer, the transmitter exciter and power amplifier, the receiver RF circuits and IF-circuits, the voltage regulator, and is available in different versions according to frequency band and channel spacing.

The control logic board (CL) comprises the receiver AF amplifier, the transmitter modulation processor, the microcontroller sub-module PU4001 and the display.
The tone module is a thick-film add-on module designed to be plugged into a socket on the CL-board.

ANTENNAS

The CQP4000 is designed for a 50-ohm antenna which is screwed onto the top of the radio. The following types are available:

- a resonant helical antenna, AN4xx1
- a wide band conductive rubber antenna, AN4xx2

BATTERIES

The battery is designed to snap into a compartment at the bottom of the radio and is a selfcontained nickel-cadmium (Ni-Cd) pack.
Two battery packs are available:

- a 450 mA battery, BU4001
- a 750 mA battery, BU4002

The CQP4000 Automatic version is furthermore fitted with a lithium battery which serves as back-up for the microcontroller's data memory. Estimated minimum lifetime of this battery is 3 years.

CARRYING DEVICES

The following devices are available for carrying the radio:

- a carrying strap in leather with eyelets, CK4003
- two carrying cases in stout leather, CK4004 and CK4005, one for each battery version of the CQP4000
- a belt retainer, CK4006, comprising a bracket to mount on a special plast cabinet CA4002/CA4004 + a leather ring with a swivel lock.
- a belt clip, CK4007, which must also be mounted together with CA4002/CA4004
- a leather carrying case, CK4008, with cut-aways for multiconnector
- a leather carrying case, CK4009, with cut-aways for multiconnector intended for BU4002 application

REMOTE CONTROLS

Three different remote control boxes are available. They are used in conjunction with a special cabinet, CA4003, and a special chassis, CH4003. The control boxes differ from one another only on the basis of a "special functions button".

- CB4001 has no extra push button
- CB4002 has one extra push button either for control of tone keying or LS ON/OFF
- CB4003 has two extra push buttons, one for the tone key and one for LS ON/OFF.

BATTERY TESTER

A battery tester is available for checking the chargeing condition of batteries. A button on the tester loads the battery and the charge condition is read on a meter scale, SI4001.

Storno

MECHANICAL DESCRIPTION

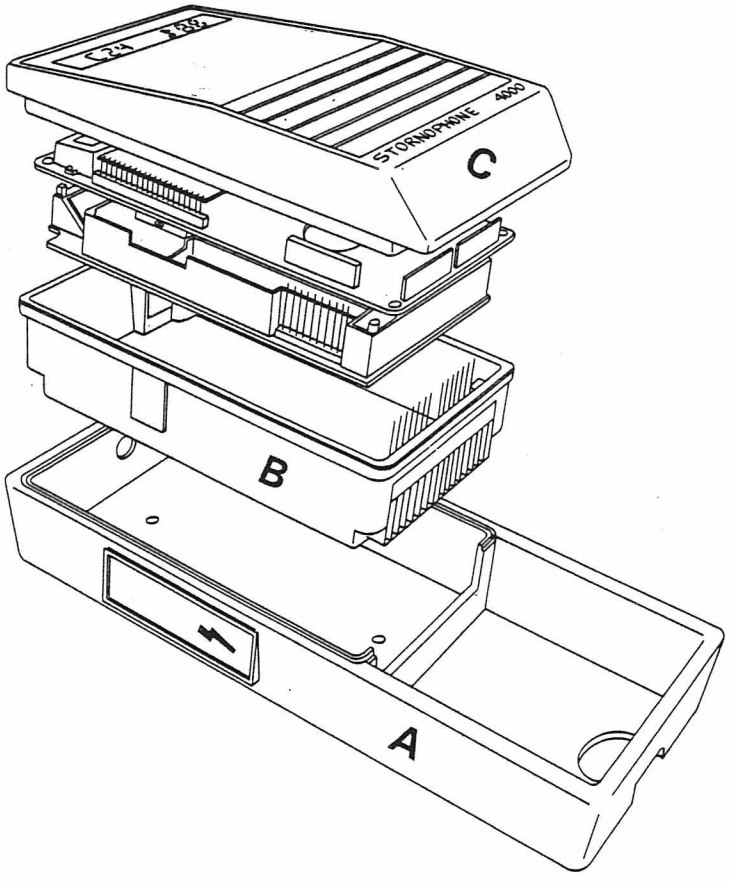
CQP4000 AUTOMATIC/BINARY

CHASSIS BOX

The chassis box is a tin plated zink casting provided with an antenna socket and a sealing gasket for transmit button which activates a microswitch on the control logic board. The combined battery/test connector is attatched to the chassis and potted for weather protection. Inside the bottom is a plate with fingers pressing against the solder side of the RF-board and thus obtains the necessary ground connections.

The RF and CL boards are kept in position with 4 screws which attatch the chassis box to the front part. In the chassis bottom are two threaded inserts for attatching the rear part of the plastic cover.
The plastic cover has a battery compartment which will accept two types of batteries. The battery snaps into position by means of a moulded contour on the inner side of the compartment wall. The battery is released by pressing through a hole in the rear wall.

An 18-position battery and test connector is placed inside the battery compartment. 5 of the connector pins are used for connection to the battery. The others are used for automatic or manual testing.



A: Plastic cover
B: Chassis box
C: Control Panel Front

MECHANICAL DESCRIPTION

CQP4000 AUTOMATIC

CHASSIS BOX

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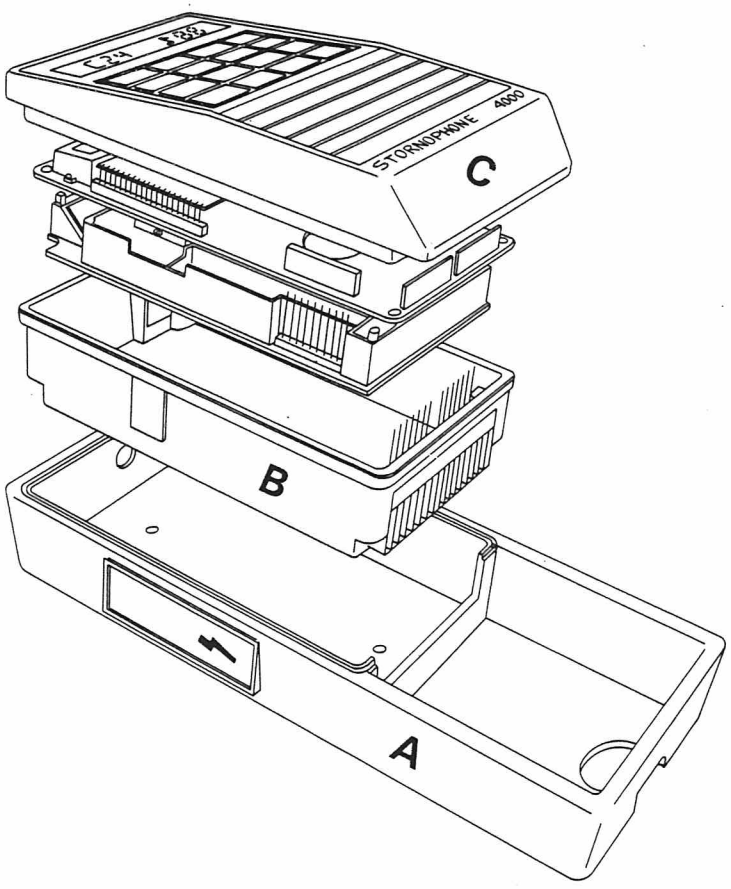


A: Plastic cover
B: Chassis box
C: Control Panel Front

CIRCUIT DESCRIPTION

- General for all RF boards

CIRCUIT DESCRIPTION

CQP4xxx

RECEIVER

The receiver is a dual conversion superheterodyne receiver with a first IF of 21.4 MHz (45 MHz for RF4774) and second IF of 455 kHz. All receiver circuitry except the AF amplifier is placed on the RF board.

RECEIVER FRONT END

The receiver front-end consists of a 2-resonator input filter, an RF amplifier, a 2-resonator intermediate filter and a mixer.

IF AND DEMODULATOR

The mixer output is fed through a matching circuit to the crystal filter.
The crystal filter output is fed to the dual gate MOSFET which overcomes the noise figure of the following stages and provides constant load to the crystal filter.

The following integrated circuit includes crystal oscillator and active mixer, second IF amplifier, quadrature discriminator and schmitt trigger for squelch.

SQUELCH

The squelch circuit is a separate thick film module. The AF signal from the quadrature detector is fed to an active high-pass filter where noise above 7 kHz is extracted.
Via the squelch potentiometer, adjusted for 10-12 dB SINAD, the signal is fed to an amplifier to obtain the right level for the detector.

The detector output is connected to the schmitt-trigger, part of the preamplifier circuit, which gives the necessary hysteresis and well-defined output signal.

PREAMPLIFIER

The last stage of the IF integrated circuit is an AF preamplifier. Its output can be adjusted to 110 mV by a potentiometer.

AUDIO AMPLIFIER

The line level of the AF preamplifier is fed to the audio amplifier situated on the CL board (see the chapter about CL description).

TRANSMITTER

The transmitter consists of an exciter and a power amplifier.
The VCO (voltage controlled oscillator) drives the exciter directly. The exciter contains wideband stages and delivers input to the power amplifier. All stages, including the VCO operate at carrier frequency.
The power amplifier includes the output stage, a low-pass filter and a power control circuit.
The power amplifier is connected to the low-pass filter via a diode antenna switch.

EXCITER

In the exciter, the VCO signal, 1 mV is amplified to 0.5 Watt.
The exciter consists of three wide band stages covering the whole band. The RF bandwidth is limited by the VCO.
The exciter needs no adjustment.

POWER AMPLIFIER

The power amplifier consists of a single broadband stage.
The antenna is matched to the power amplifier by tuning the antenna or by using a wide band antenna.

A power control circuit protects the RF output from temperature or voltage variations and keeps it relatively constant.
The output power level can be set with a potentiometer over a 2:1 range.

TX AUDIO PROCESSOR

The modulation signal is delivered from the TX audio processor situated on the CL board (see chapter of CL description).

WARNING: The transmitter PA-transistors contain Beryllium. It is dangerous to cut, to file or to dissed those transistors because the beryllium oxide is poisonous when absorbed.

FREQUENCY SYNTHESIZER

The frequency synthesizer circuits are:
- Prescaler
- PLL unit
- Ref. crystal oscillator
- TX and RX VCO (voltage controlled oscillator)
- Save switch

PRESCALER

The prescaler is a high speed counter which divides by a fixed ratio: P
Under control of the PLL circuit, it can be set to divide by the fixed ratio plus one: P+1
The prescaler has a low power consumption from 4 to 7 mA.

PLL AND ASSOCIATED CIRCUITS

The circuitry consist of:
- three programmable dividers
- control logic for the prescaler
- phase detector with lock detector

1. The R divider divides the output of the crystal oscillator in order to give channel spacing. Its output is fed into the phase detector.

2. The N divider divides the output of the prescaler. The ratio stored in the N divider must be the one giving N output equal R output. Its output is fed into the phase detector.

3. The A divider is controlled by the control logic. The ratio of the A divider makes the prescaler divide by P+1 if necessary. The A divider can not start with a zero.

4. The phase detector compares the outputs of the R and the N divider.
   The phase/lock detector two outputs are:
   - out of lock/lock signal to the CL board, indication whether or not the two inputs (R and N outputs) are equal.
   - DC level controlling the VCO through a band-pass filter and a save switch.

REFERENCE CRYSTAL OSCILLATOR

This crystal oscillator supplies clock signals to the microprocessor on the CL board and gives the reference frequency to the PLL circuit through the R divider.

TX AND RX VCO

The voltage controlled oscillator (VCO) is a FET oscillator. The frequency is controlled by two varicaps, one in the RX VCO circuit and one in the TX VCO circuit. The varicaps DC voltage is delivered from the PLL circuit.
The TX VCO contains another varicap used for frequency modulation. The modulation signal comes from the microphone amplifier placed on the CL board.
As buffer between the VCO and the PLL circuits, the following circuits are used:

- the mixer injection buffer for the RX VCO
- the exciter for the TX VCO

SAVE SWITCH

In order to reduce power consumption in standby, the save circuits disconnects:

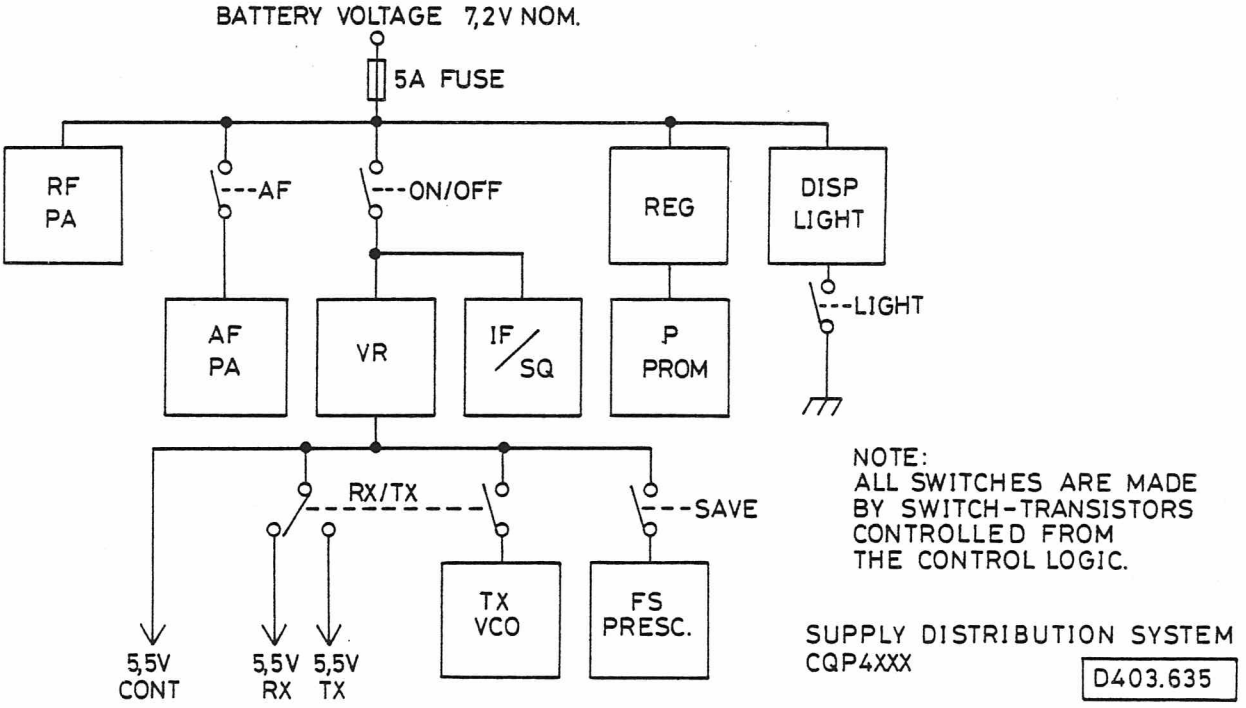
- DC control level to the VCO
- power to the prescaler

The save circuit is controlled by the microprocessor from the CL board.
It is not connected to TX VCO.
This function does not exist in the 200 MHz RF4774 radio set.

POWER SUPPLY

The 7.2 V battery voltage is distribuated for different purposes through a 5 A fuse:

- directly to the RF power amplifier
- to the audio output amplifier through a switch transistor
- to the IF/squelch circuits and the 5.5 V voltage regulator through the on/off switch transistor
- to the personality PROM through a separate regulator
- to the LED's for the LCD display-back-light.



SUPPLY DISTRIBUTION SYSTEM
CQP4XXX

D403.635

BATTERY OPERATING TIME

Trans-mit	Recei-ve	Stand-by	Tone equip.	Operation - Standard				Operation - Automatic			
				2 W PA		1 W PA		2 W PA		1 W PA	
				BU4001	BU4002	BU4001	BU4002	BU4001	BU4002	BU4001	BU4002
2=	5=	93=	Hrs.	8, 9	15, 0	10, 7	17, 1	7, 6	12, 6	8, 7	14, 4
5=	5=	90=	Hrs.	6, 1	10, 3	8, 4	14, 1	5, 6	9, 3	7, 3	12, 1
5=	10=	85=	Hrs.	5, 7	9, 6	7, 7	12, 9	5, 3	8, 9	6, 8	11, 3
10=	5=	85=	Hrs.	4, 0	6, 7	6, 3	10, 4	3, 9	6, 5	5, 7	9, 6
10=	10=	80=	Hrs.	3, 8	6, 4	5, 3	9, 8	3, 8	6, 3	5, 4	9, 1

VOLTAGE REGULATOR

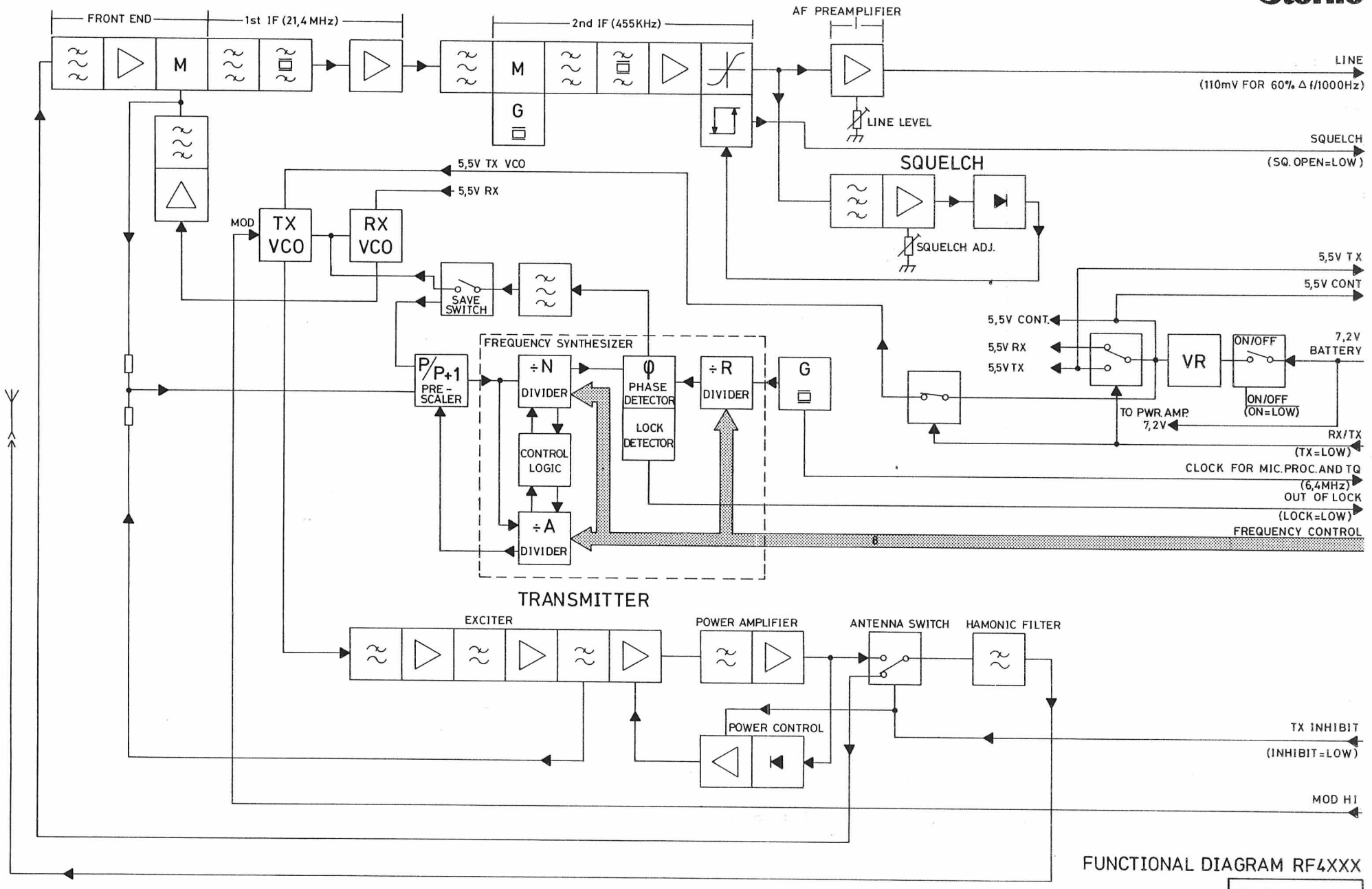
A 5.5 V stabilized voltage regulator is designed around an adjustable shunt regulator IC, with low drop-out voltage, high temperature stability and short circuit protection.
Regulated 5.5 V is continuously applied to the IF-squelch and synthesizer circuits, to the RX/TX switch-circuit controlled by the control logic, and through a current save switch to the pre-scaler in the RF synthesizer.

The RX/TX switching is performed, where possible, by switching only the bias currents to the involved circuits.

Storno

RECEIVER

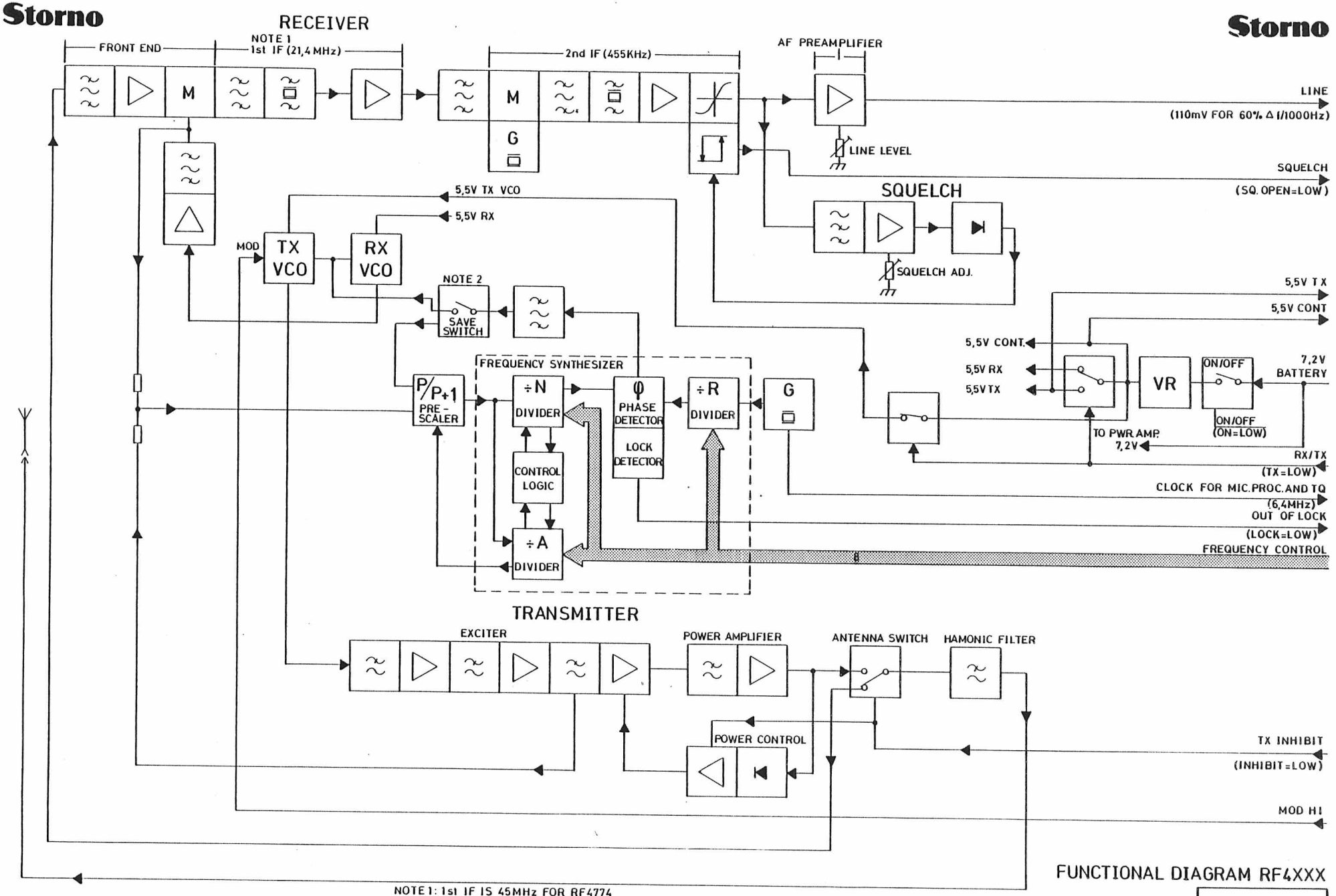
Storno



FUNCTIONAL DIAGRAM RF4XXX

D403.634

Storno



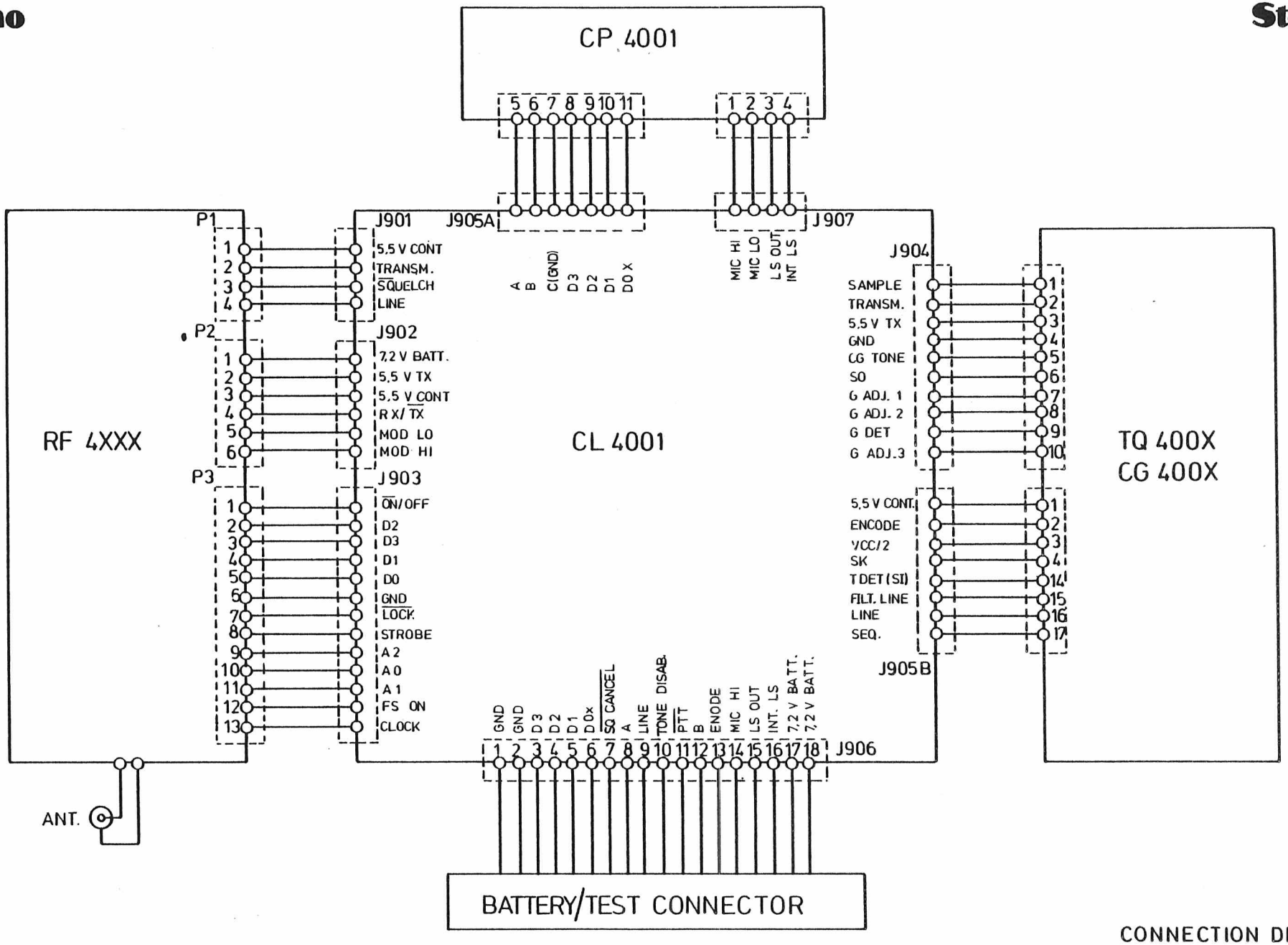
NOTE 1: 1st IF IS 45MHz FOR RF4774
NOTE 2: "SAVE MODE" IS NOT INCORPORATED IN RF4774

FUNCTIONAL DIAGRAM RF4XXX

D403.63412

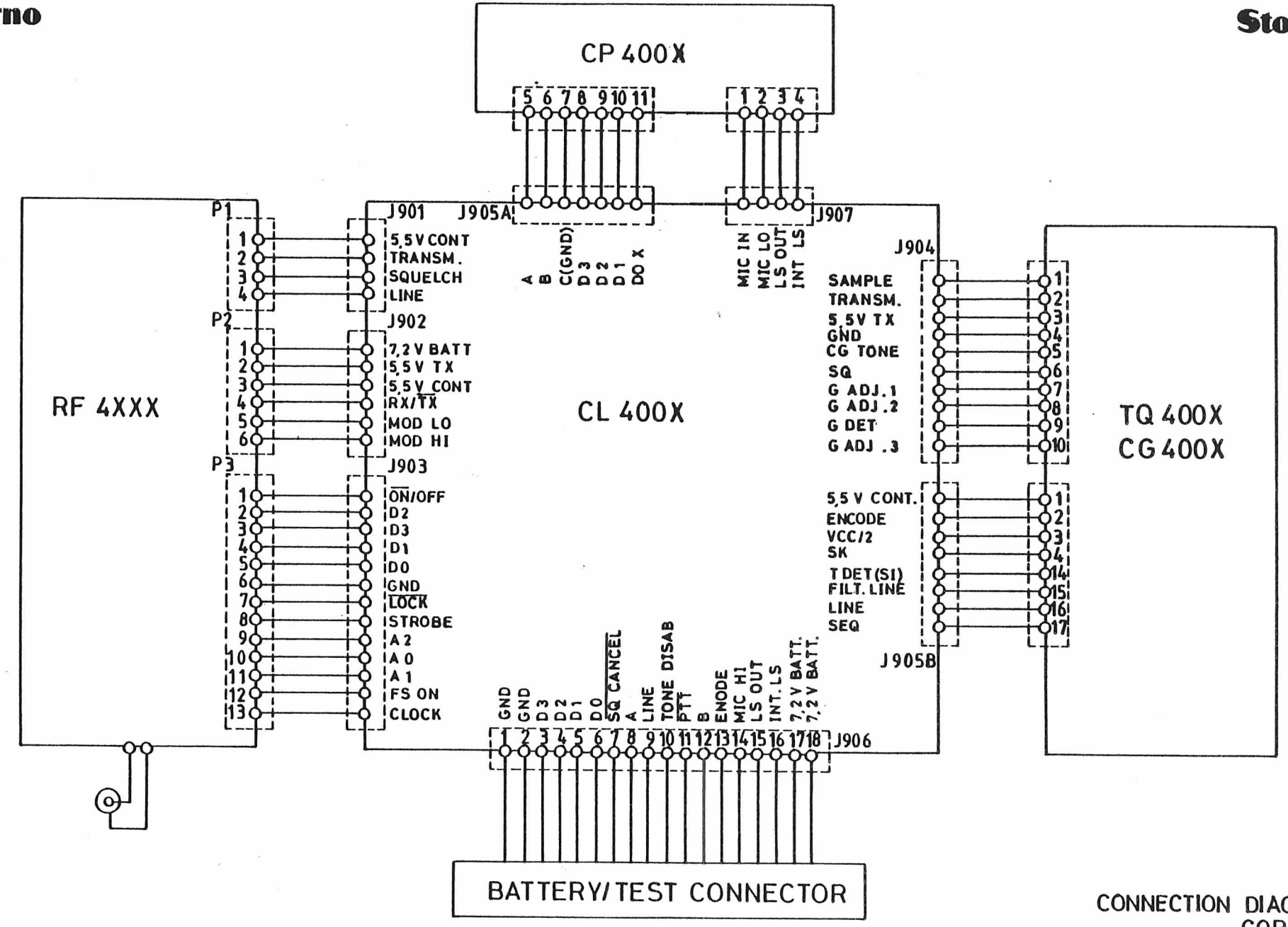
Storno

Storno



CONNECTION DIAGRAM
CQP4000 D403. 304

Storno

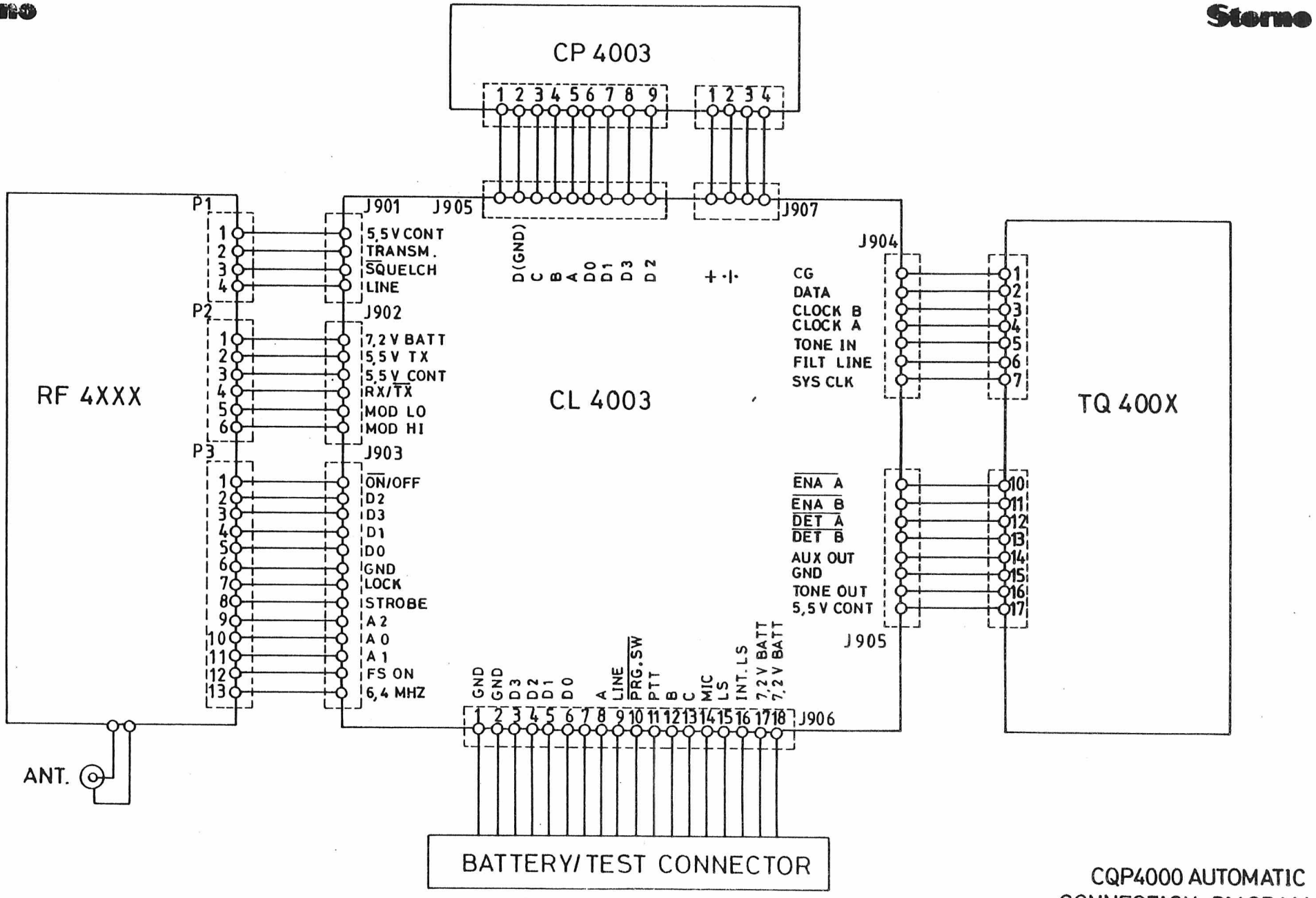


CONNECTION DIAGRAM
CQP 4000

D403.304/2

Storno

Storno



CQP4000 AUTOMATIC
CONNECTION DIAGRAM

D404.014

ADJUSTMENT PROCEDURE

TEST POINTS AND ADJUSTABLE COMPONENTS
CL - board
RF BOARD RF4110

Storno

ADJUSTMENT PROCEDURE

CQP4110

This adjustment procedure applies to the following types of STORNOPHONE 4000 radios:

CQP4112: 146-174 MHz - 25 kHz channel spacing
CQP4113: 146-174 MHz - 20 kHz channel spacing
CQP4114: 146-174 MHz - 12.5 kHz channel spacing

Before making adjustments to the radio circuit, read the type label and note the channel frequencies and the tone system coding.
Also check the personality PROM and its data against the type label information.

MEASURING INSTRUMENTS

The following measuring instruments are necessary for making service and adjustments to the CQP4110:

RF Signal Generator	146-174 MHz
AF Voltmeter	Z_i >0.5 Mohm
Multimeter	20 Kohm/V
Distortion meter	
Deviation meter	
Watt meter	0-2.5 W
AF Generator 50 Hz-5 kHz	$Z_{out} \geq$600 ohm
Frequency counter	5-200 MHz/50 mV
Power Supply	6-10 V/2 A
Signal Sampler	Storno D52
RF diode probe	Storno 95.0059-00
RF coil tuning tool	Storno 17.0053-00
Ref. oscillator tuning tool	Storno 19J707496G1
Test adaptor	SE4002 19K805371G1
Service kit	SE4003 19J707744G1
Consisting of service cabinet and antenna adaptor	
Extension cables	CC4001 19J707704G1

DISMANTLING OF CQP4000

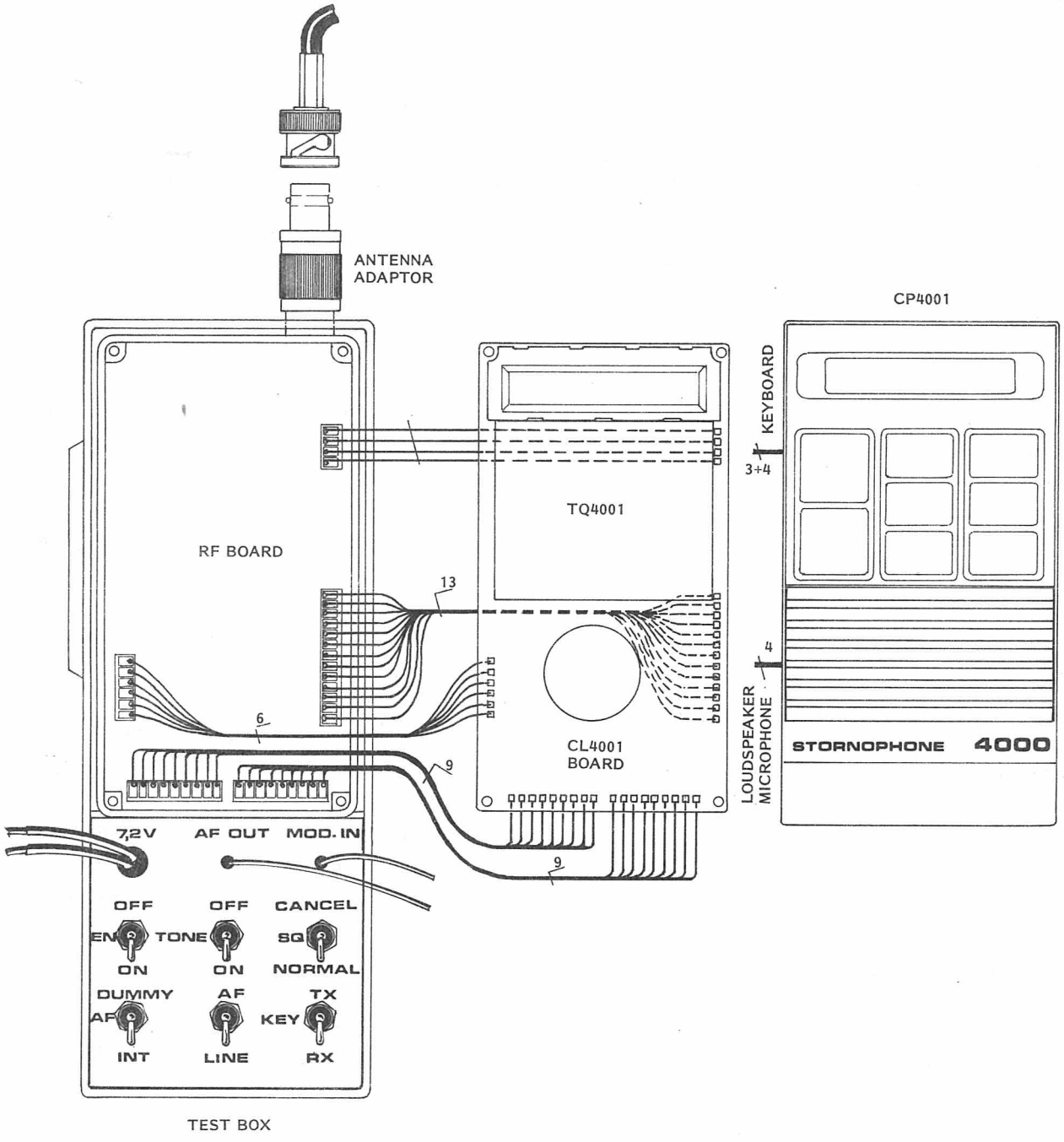
Before the CQP4000 can be adjusted the radio must be dismantled for access to all test points and adjustable components.

- Remove the battery, if inserted.
- Remove the two rear screws holding the cabinet.
- Remove the chassis box.
- Remove the four corner screws holding the front.
- Open the chassis box, carefully, without damaging the contact fingers on the rim.
- Take the CL4001 board and the RF4110 board apart.
- Connect the CL4001 board to the RF4110 board by means of the extension cables.
- Insert the chassis box in the service cabinet and firmly press the RF board to the bottom of the chassis box to establish good ground connections.
- Attach the antenna adaptor.
- Insert the test box in the battery compartment.
- The STORNOPHONE 4000 is now prepared for adjustment.

TRANSMITTER ADJUSTMENT

Refer to transmitter test setup.
Set the power supply voltage to 7.2 V.
Turn the radio on in receive mode and measure the current consumption.

Requirement: less than 30 mA.
Connect the voltmeter to the +5.5 V test point.
Read the 5.5 V regulated voltage.



TEST SETUP
STORNOPHONE 4000

D403.279

1. SYNTHESIZER REFERENCE FREQUENCY ADJUSTMENT

Connect the frequency counter to P3 pin 13-CLOCK.
Read the reference frequency.
Check the reference crystal's frequency (6.4 MHz or 6.5 MHz).
Adjust C533 for f_{nom} ±10 Hz.

Note:
The final adjustment of the reference frequency is performed later with closed chassis box.

2. TRANSMITTER VCO ADJUSTMENT

Set the ADC potentiometer to minimum, anti-clockwise.
Key the transmitter and read the current drain.
Requirement: less than 1 A.
Connect the voltmeter to P3 pin 7, OUT OF LOCK signal.
Adjust C504 for 0 V steady ready reading on the voltmeter. Connect the voltmeter to TP4.

Adjust C504 for a reading of 3 Volts. For radios with 2 channels adjust C504 so that the reading for each channel is inside the tuning range, 1-5 V. The channel with the lowest frequency has the lowest voltage reading.

3. TRANSMITTER POWER OUTPUT ADJUSTMENT

Connect the wattmeter to the antenna connector.
Adjust ADC potentiometer R115 for rated output power according to the type designation.
Note:
The current drain at rated output power must not exceed 1 A.

4. TRANSMITTER FREQUENCY ADJUSTMENT

Connect the wattmeter to the antenna connector through the signal sampler.
Connect the frequency counter to the signal sampler.
Key the transmitter and read the frequency.
Adjust C533 for correct frequency. (C533 is fine adjusted later with closed chassis box).
Requirement: F_{nom} ±0.2 ppm (30 Hz at 150 MHz)
Deenergize the transmitter.
Select channel 2, if used.
Key the transmitter and check for correct output frequency.

NOTE:
Adjustment of the transmitter frequency which also adjusts the receiver for correct frequency is done later when the chassis box is closed.

5. TRANSMITTER MODULATION ADJUSTMENT

Connect the deviation meter to the signal sampler.
Connect the AF generator to MOD IN on the test box.
Set the AF generator frequency to 1000 Hz and the output as follows:
1100 mV with test box (10:1 built-in attenuator)

Vary the AF frequency between 100 Hz and 3000 Hz and find peak deviation. Check the frequency for both + and - deviation. At the frequency producing peak deviation adjust R812 for maximum system deviation.

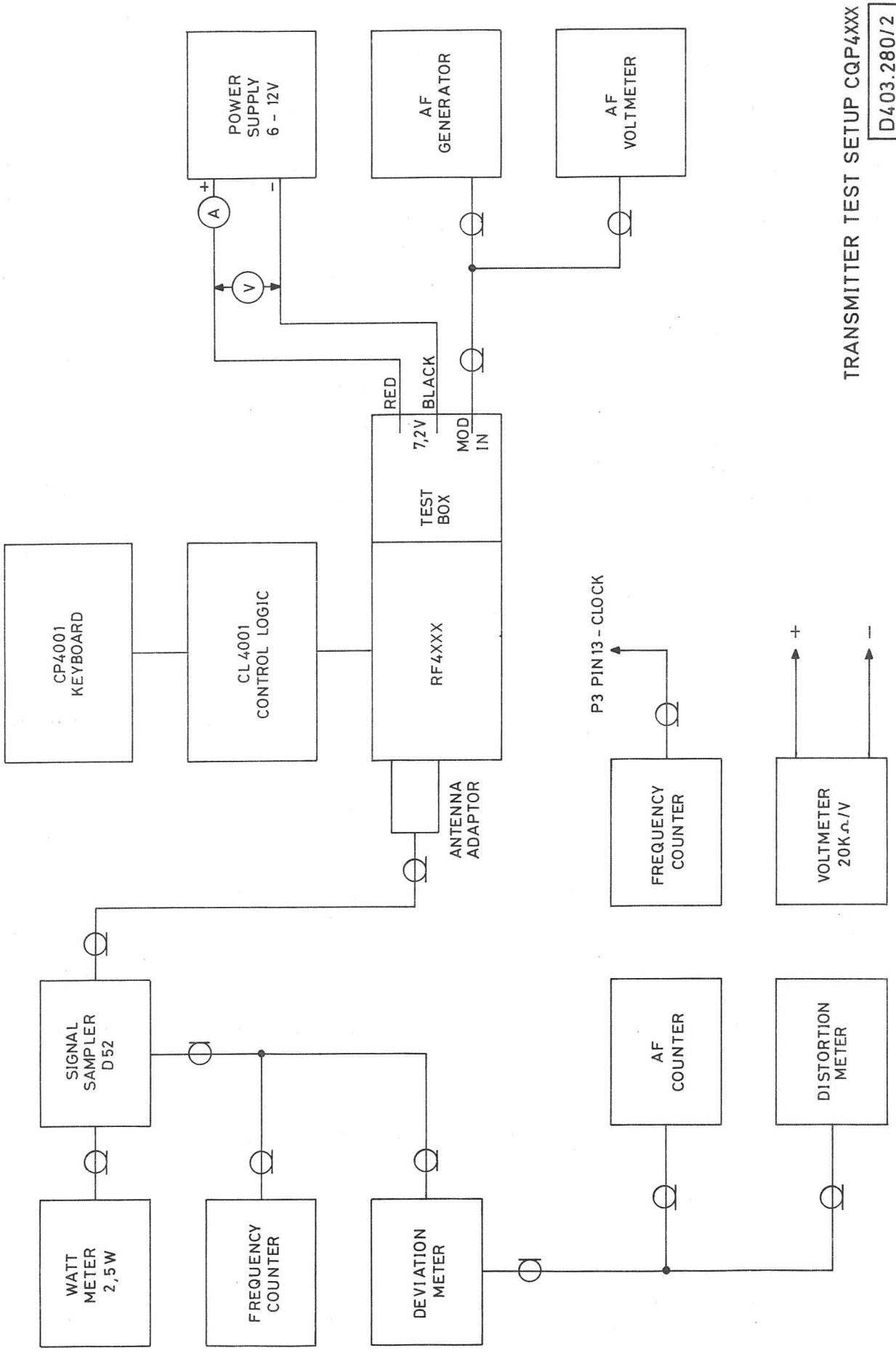
CQP4112: ±5 kHz
CQP4113: ±4 kHz
CQP4114: ±2.5 kHz

Set the AF generator frequency to 1000 Hz.
Reduce the AF generator output until a deviation of 0.7 x maximum deviation is obtained:

CQP4112: ±3.5 kHz
CQP4113: ±2.8 kHz
CQP4114: ±1.75 kHz

Typical generator output is 100 mV.

TRANSMITTER TEST SETUP CQP4XXX D403.280/2



RECEIVER ADJUSTMENT

Refer to receiver test setup.

1. RECEIVER VCO ADJUSTMENT

Connect the voltmeter to P3 pin 7, OUT OF LOCK signal.
Preset coil L508 as follows:
High end of band: 2/3 out of coil.
Low end of band: Fully down in coil form.
Set SQ switch to cancel.
Adjust C514 for 0 V steady reading on the voltmeter. Connect the voltmeter to TP4.
Adjust C514 for a reading of 3 Volts. For radios with 2 channels adjust C514 so that the reading for each channel is inside the tuning range, 1-5 V. The channel with the lowest frequency has the lowest voltage reading.

2. RECEIVER INJECTION SIGNAL ADJUSTMENT

Connect the diode probe and the voltmeter to TP2.
Adjust L508 for maximum voltmeter reading, 0.2 V ±0.1 V. (L508 is readjusted together with the front-end).

3. IF SIGNAL ADJUSTMENT

Connect the signal generator to the antenna connector and set it to the channel frequency.

Modulate the signal generator with 1000 Hz to 0.7 x maximum system deviation.
CQP4112: ±3.5 kHz
CQP4113: ±2.8 kHz
CQP4114: ±1.75 kHz

Set the signal generator output to 100 mV.

Connect the diode probe and the voltmeter to TP3.
Reduce the signal generator output until voltage reading is less than 1 V.

Adjust L402 and L308 for maximum voltmeter reading.
Connect the AF voltmeter to AF OUT. Set the signal generator output to 100 mV.
Adjust L403 for maximum voltmeter reading.

ALTERNATIVE PROCEDURE
Connect the distortion meter to AF OUT.
Adjust L403 for minimum distortion.

4. AF LINE LEVEL ADJUSTMENT

Connect the AF voltmeter to the AF OUT (J906 pin 14.
Set signal generator as described in paragraph 3.
Adjust R409 for a voltmeter reading of 110 mV ±5 mV.

5. FRONT-END ADJUSTMENT

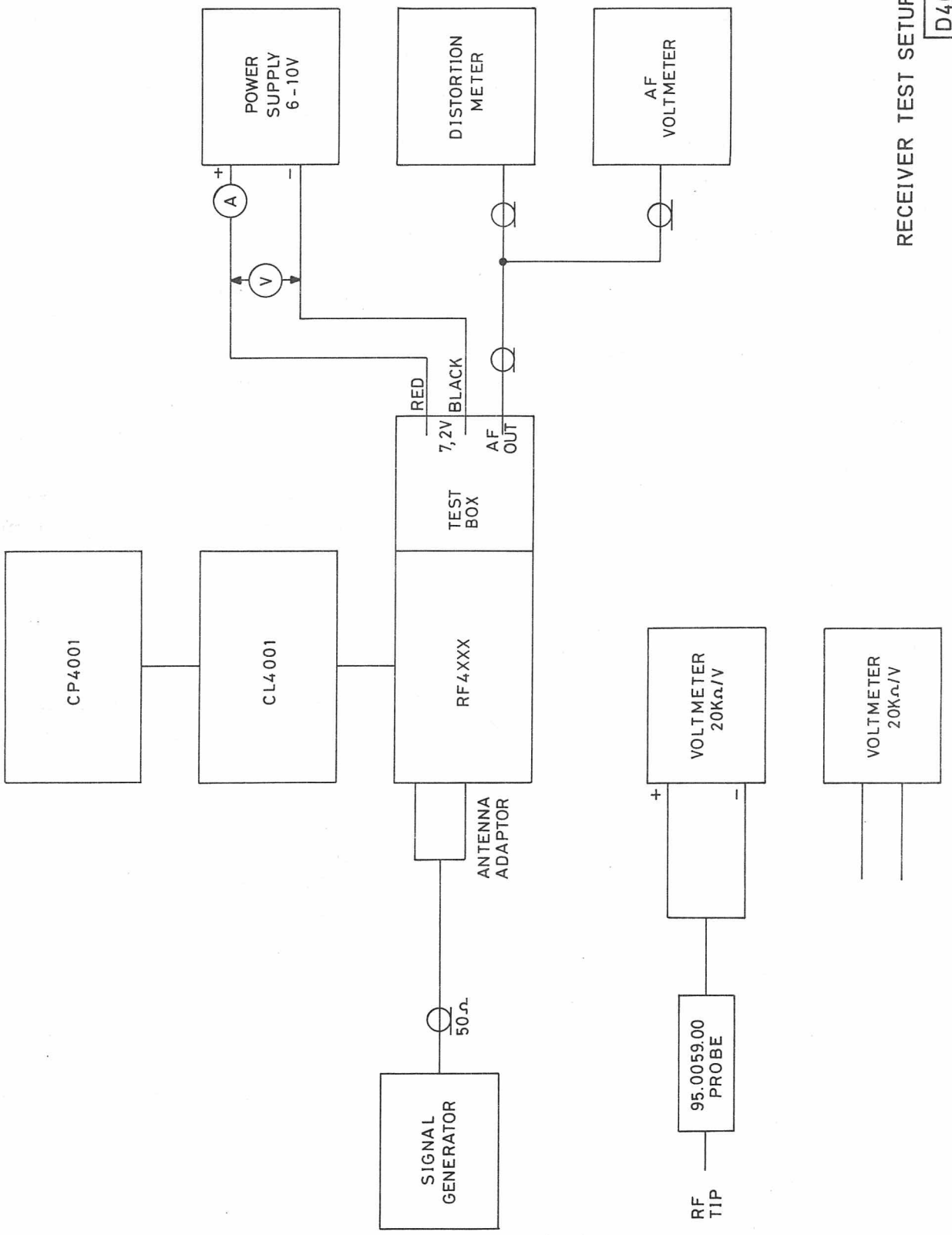
Connect the signal generator to the antenna connector and set its frequency to the channel frequency.

Modulate the signal generator as described in paragraph 3. Adjust the generator output to approx. 12 dB SINAD.
Connect a distortion meter to AF OUT.
Set the LS-LINE switch on the test box to LINE.
Set the SQ switch to cancel.

Adjust the following coils for minimum distortion. L306, L305, L303, L302 and L508.
As the sensitivity increases during the adjustment decrease the signal generator output to maintain 12 dB SINAD.

Repeat the adjustments until no further improvement is possible.

RECEIVER TEST SETUP CQP4XXX D403.281/2



Check the 12 dB SINAD on both channels, if used.
Requirement: 12 dB SINAD for less than 0.45 uV.

6. SQUELCH ADJUSTMENT

Turn the squelch potentiometer R420 completely anticlockwise to close the squelch.
Open squelch by setting SQ switch to cancel.

Set the signal generator output to the value giving 12 dB SINAD.
Close squelch by setting SQ switch to normal.
Slowly turn R420 clockwise to the point where the squelch just opens.
Vary the signal generator output slowly up and down to obtain the opening and closing level of the squelch.

Squelch opening level: 12 dB SINAD
Squelch closing level: 6-10 dB SINAD

FREQUENCY ADJUSTMENT

The reference oscillator frequency controls both the transmitter and receiver frequencies and final adjustment must be done with the chassis box properly assembled.
Turn the radio off and remove the test box.
Assemble the radio but use the service cabinet to hold the chassis box.
Connect the test box and turn the radio on.
Connect a frequency counter to the signal sampler, refer to transmitter test setup.
Key the transmitter.
Adjust, through the hole in the rear of the service cabinet, the reference oscillator, C533 for nominal frequency.
Requirement:

$F = F_{nom} \pm 0.2$ ppm (30 Hz at 150 MHz).

Switch to channel 2 and verify the frequency. (Channel switching is not possible while transmitting).

ADJUSTMENT OF HELICAL ANTENNA AN4111

The AN4111 is adjusted by a ferrite slug which can be pulled up or pushed down inside the antenna radiator. The slug should be adjusted to a position where maximum power is being radiated.
Remove the antenna cap for access to the tuning wire (fish line).

Place the field strength indicator in opright position on a non-metallic surface of at least 50x50 cm.

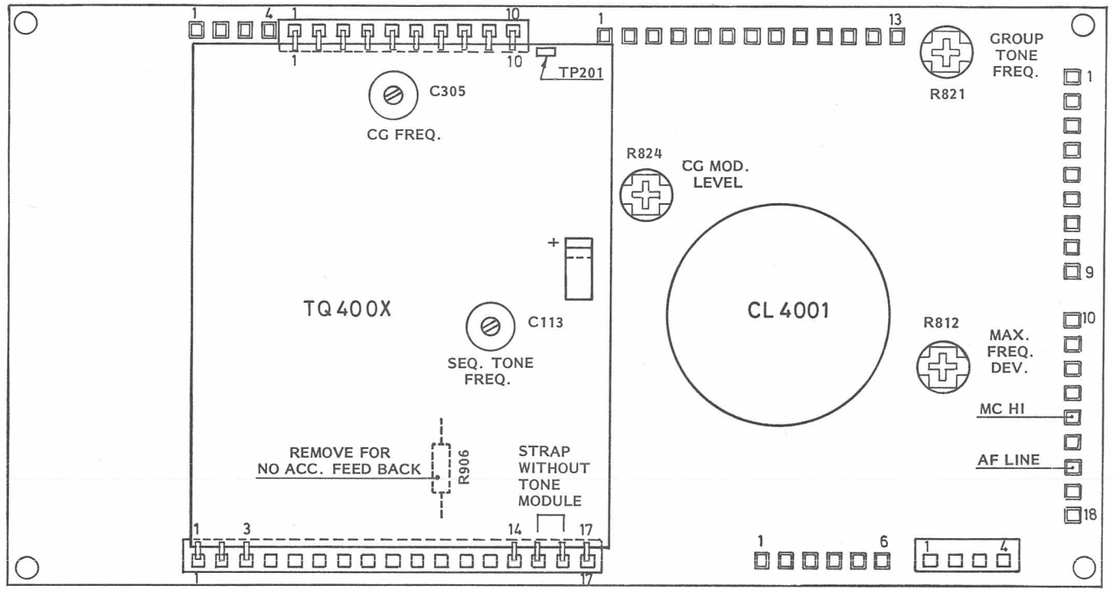
Hold the radio in upright position and key the transmitter.

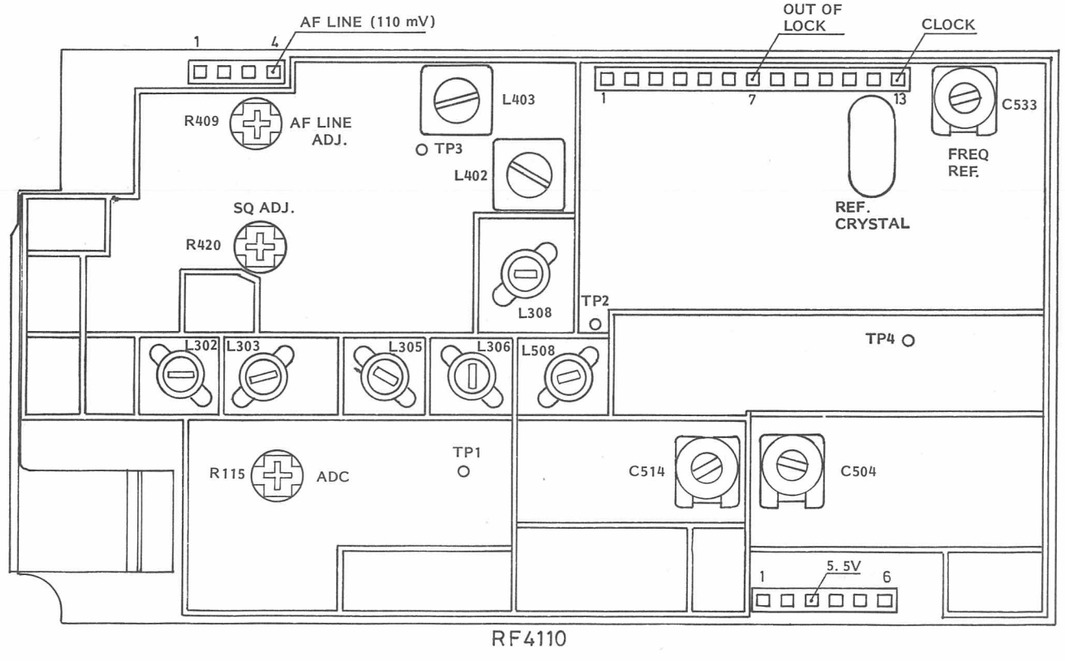
Adjust the distance between the radio and the signal strength indicator for a clear indication of signal pick-up.

Adjust by pulling the tuning slug up or down for maximum signal strength.
This adjustment is sensitive to proximity effects and the hand's position, and several positions should be tried for optimum result-check current drain which should not exceeding 1 A.
Lock the tuning wire with the conical insert and cut the wire.

Mount antenna cap.

Note:
If a signal strength indicator D37 is not available a diode probe with a signal pickup wire and a multimeter or a deviation meter with a signal strength meter can be used to measure the radiated power.

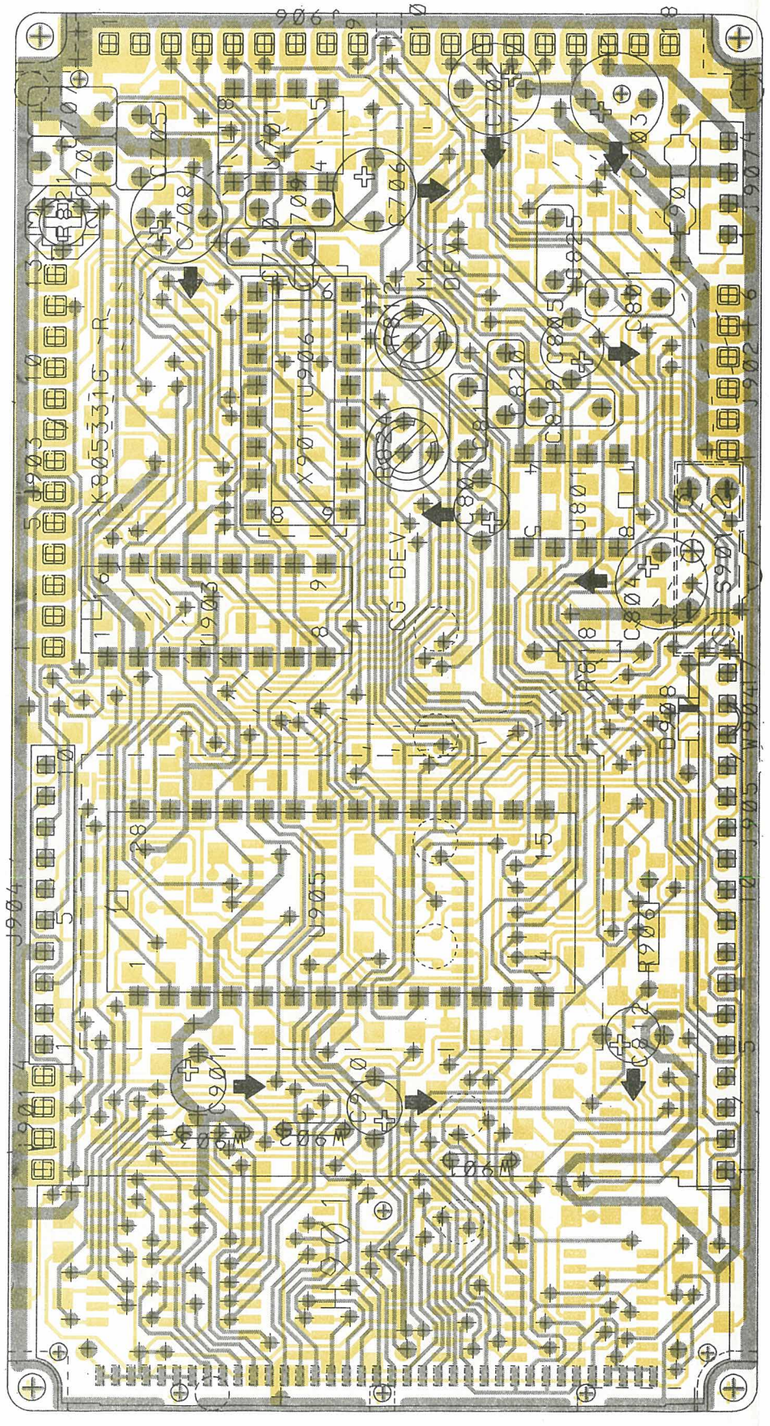


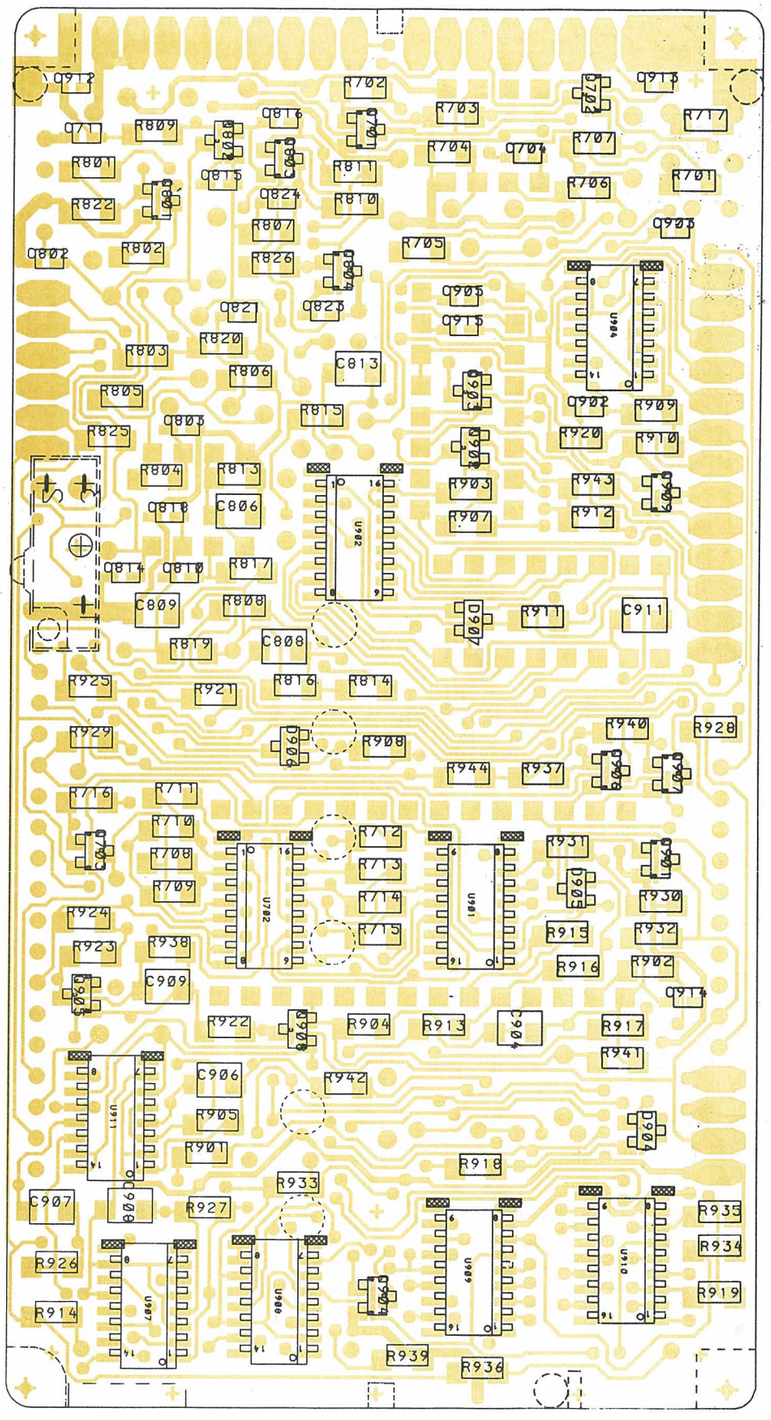


RF4110

TEST POINTS & ADJUSTABLE COMPONENTS
TQ400X, CL4001,RF4110

D403.283/2

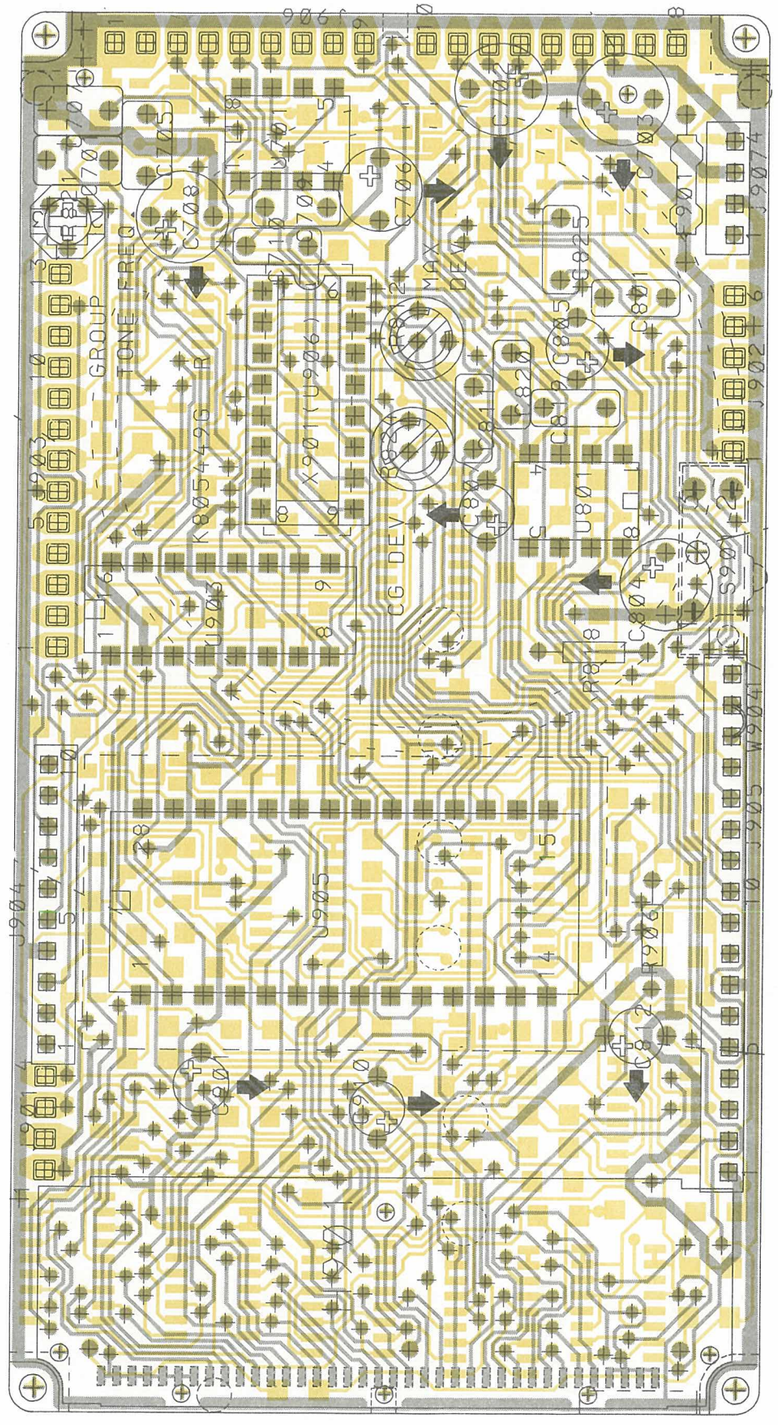




CONTROL LOGIC BOARD CL4001
COMPONENT LAYOUT

D403.760/4 REV.11

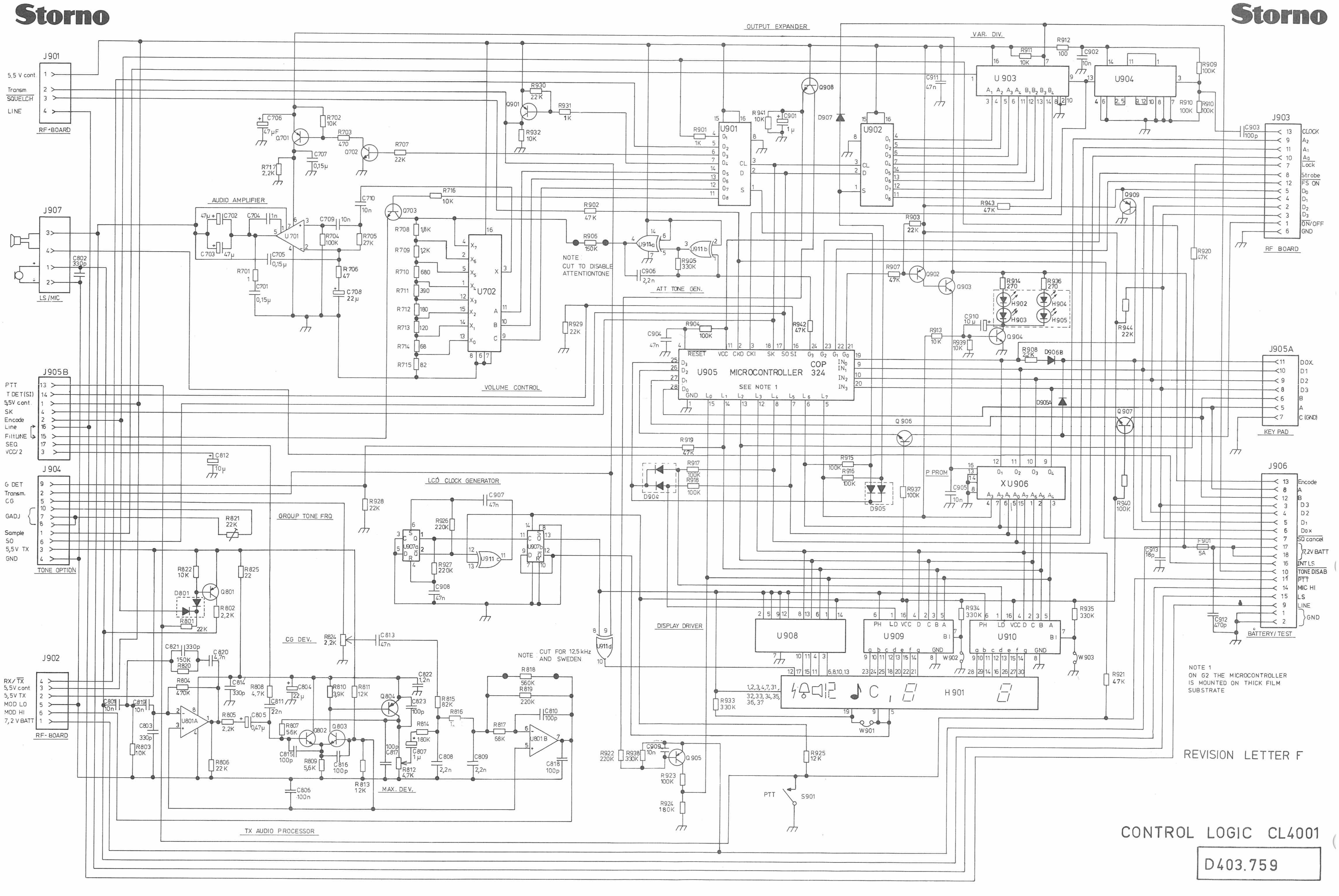
CODE NO. MOUNTED BOARD
M905465G1 - VHF
M905465G1 - UHF



CONTROL LOGIC BOARD CL4002
COMPONENT LAYOUT

D403.824/5 REV.7

CODE NO. MOUNTED BOARD
M905679G2 - VHF/UHF
(M905679G1 - VHF)


Storno
Storno
J901
J907
J905B
J904
J902
J903
J905A
J906
OUTPUT EXPANDER
VAR. DIV.
AUDIO AMPLIFIER
VOLUME CONTROL
ATT TONE GEN.
NOTE CUT TO DISABLE ATTENTIONTONE
U905 MICROCONTROLLER COP 324
SEE NOTE 1
LCD CLOCK GENERATOR
GROUP TONE FRQ
CG DEV.
MAX. DEV.
TX AUDIO PROCESSOR
DISPLAY DRIVER
NOTE CUT FOR 12,5kHz AND SWEDEN
RF-BOARD
LS/MIC
TONE OPTION
RF BOARD
KEY PAD
BATTERY/TEST
P PROM
NOTE 1 ON G2 THE MICROCONTROLLER IS MOUNTED ON THICK FILM SUBSTRATE
REVISION LETTER F
CONTROL LOGIC CL4001
D403.759

J901
5.5 V CONT. 1
TRANSM. SQUELCH 2
LINE 4
RF-BOARD

J907
LS/MIC

J905B
PTT 13
T DET(SI) 14
5.5 V CONT. 1
SK 4
ENCODE 2
LINE 16
FILTLINE 15
SEQ 17
VCC/2 3

J904
G DET 9
TRANSM. 2
CG 5
10
GADJ 7
8
SAMPLE 1
SQ 6
5.5 V TX 3
GND 4
TONE OPTION

J902
RX/TX 4
5.5 V CONT 3
5.5 V TX 2
MOD LO 5
MOD HI 6
7.2 V BATT. 1
RF-BOARD

D908 NOTE: USE ONLY TO DELETE PTR

AUDIO AMPLIFIER
C706 47µF
Q701
R702 10K
R703 470
Q702
R707 22K
R717 2,2K
C707 0,15µ
C702 47µ
C704 3n
C703 47µ
U 701
C709 10n
C710 10n
R704 100K
R705 27K
C705 0,15µ
R706 47
C708 22µ
R701 1
C701 0,15µ
C711 100p
C802 330p
C812 10µ

R716 10K
Q703
R708 1,8K
R709 12K
R710 680
R711 390
R712 180
R713 120
R714 68
R715 82
U702
VOLUME CONTROL

R902 47 K
R906 150K
NOTE
CUT TO DISABLE
ATTENTIONTONE
U911a
U911b
R905 330K
C906 2,2n
ATT. TONE GEN.
R929 22K

OUTPUT EXPANDER
R930 22K
Q901
R931 1K
R932 10K
R901 1K
U901
R941 10K
C901 1 µ
C914 10nF
Q908
D907
U902
C911 47n
R943 47K
R903 22K
Q909
R907 47K
Q902
Q903
R920 47K
R944 22K
C910 10 µ
R913 10K
R939 10K
Q904
R914 270
R935 270
H902
H903
H904
H905
R908 22K
D906B
D906A
Q907

VAR. DIV.
R912 100
C902 10n
U 903
U904
R911 10K
R909 100K
R910 100K
R910 100K

J903
C903 100p
CLOCK 13
A2 9
A1 11
A0 10
LOCK 7
STROBE 8
FS ON 12
D0 5
D1 4
D2 2
D3 3
ON/OFF 1
GND 6
RF-BOARD

J905A
D0X 11
D1 10
D2 9
D3 8
B 6
A 5
C (GND) 7
KEY PAD

J906
ENCODE 13
A 8
B 12
D3 3
D2 4
D1 5
D0X 6
SQ CANCEL 7
7.2 V BATT. 17 18
INT LS 16
TONE DISAB 10
PTT 11
MIC HI 14
LS 15
LINE 9
GND 1 2
BATTERY/TEST.
F901 5A
C913 100p
C912 470p
C915 100p

R904 100K
C904 47n
U905 MICROCONTROLLER
SEE NOTE 1
RESET VCC CKO CKI SK SO SI G3 G2 G1 G0
D3 D2 D1 D0
GND L0 L1 L2 L3 L4 L5 L6 L7
IN0 IN1 IN2 IN3
R942 47K

R919 47K
D904
R917 100K
R918 100K
R915 100K
R916 100K
D905
Q 905
R937 100K
P PROM
C905 10n
XU906
R940 100K

LCD CLOCK GENERATOR
C907 47n
R926 220K
U907a
U907b
U911
R927 220K
C908 47n
R928 22K

GROUP TONE FRQ
R821 22K
R802 2,2K
R825 22
R801 22K
Q 801
R822 22K
C801 10n

CG DEV.
R824 2,2K
C813 47n
C821 330p
150K
R820
C820 4,7n
R808 4,7K
R804 470K
C814 330p
C811 22n
C804 22 µ
R810 3,9K
R811 12K
R826 1K
Q804
C823 100p
R815 82K
R816 120K
C824 15p
R807 56K
Q802
Q803
C815 100p
R809 5,6K
C816 100p
R814 180K
C807 1 µ
R812 4,7K
C808 2,2n
C809 2,2n
C803 330p
R803 10K
C825 10n
C819 10n
R805 2,2K
C805 0,47µ
U801A
R806 22K
C806 100n
R813 12K
MAX. DEV.
NOTE: CUT FOR 12,5KHz AND SWEDEN.
R818 560K
R819 220K
C810 100p
R817 68K
U801 B
C818 100p
TX AUDIO PROCESSOR

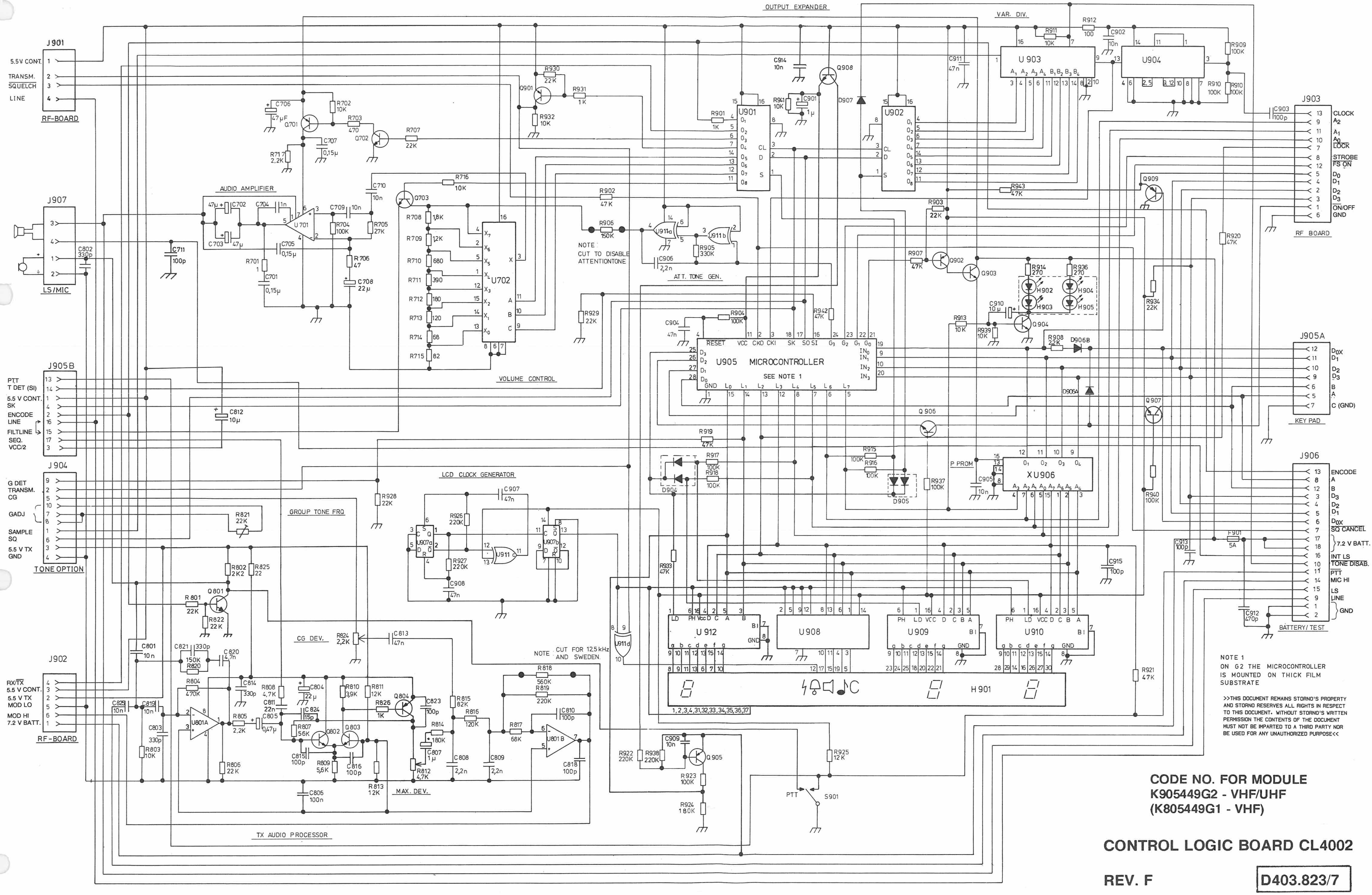
U8
DISPLAY DRIVER
U908
U909
U910
PH LD VCC D C B A BI GND
R934 330K
R935 330K
W902
W903
W901
R933 330K
1,2,3,4,7,31, 32,33,34,35, 36,37
H 901
R921 47K

R922 220K
R938 220K
C909 10n
Q 905
R923 100K
R924 180K
R925 12K
PTT
S901

NOTE 1:
ON G2 THE MICROCONTROLLER IS MOUNTED ON THICK FILM SUBSTRATE

CODE NO. MOUNTED BOARD
M905465G1 VHF
M905465G2 UHF

CONTROL LOGIC BOARD CL4001
REV.K D403.759/4



J901
5.5V CONT.
TRANSM.
SQUELCH
LINE
RF-BOARD
J907
LS/MIC
J905B
J904
TONE OPTION
J902
RF-BOARD
AUDIO AMPLIFIER
VOLUME CONTROL
OUTPUT EXPANDER
VAR. DIV.
U903
U904
U901
U902
J903
CLOCK
STROBE
ON/OFF
GND
RF BOARD
ATT. TONE GEN.
NOTE : CUT TO DISABLE ATTENTIONTONE
U905 MICROCONTROLLER
SEE NOTE 1
J905A
KEY PAD
J906
BATTERY/TEST
P PROM
XU906
LCD CLOCK GENERATOR
GROUP TONE FRQ
CG DEV.
NOTE CUT FOR 12.5 kHz AND SWEDEN
TX AUDIO PROCESSOR
MAX. DEV.
U912
U908
U909
U910
H901
PTT
S901

NOTE 1
ON G2 THE MICROCONTROLLER IS MOUNTED ON THICK FILM SUBSTRATE

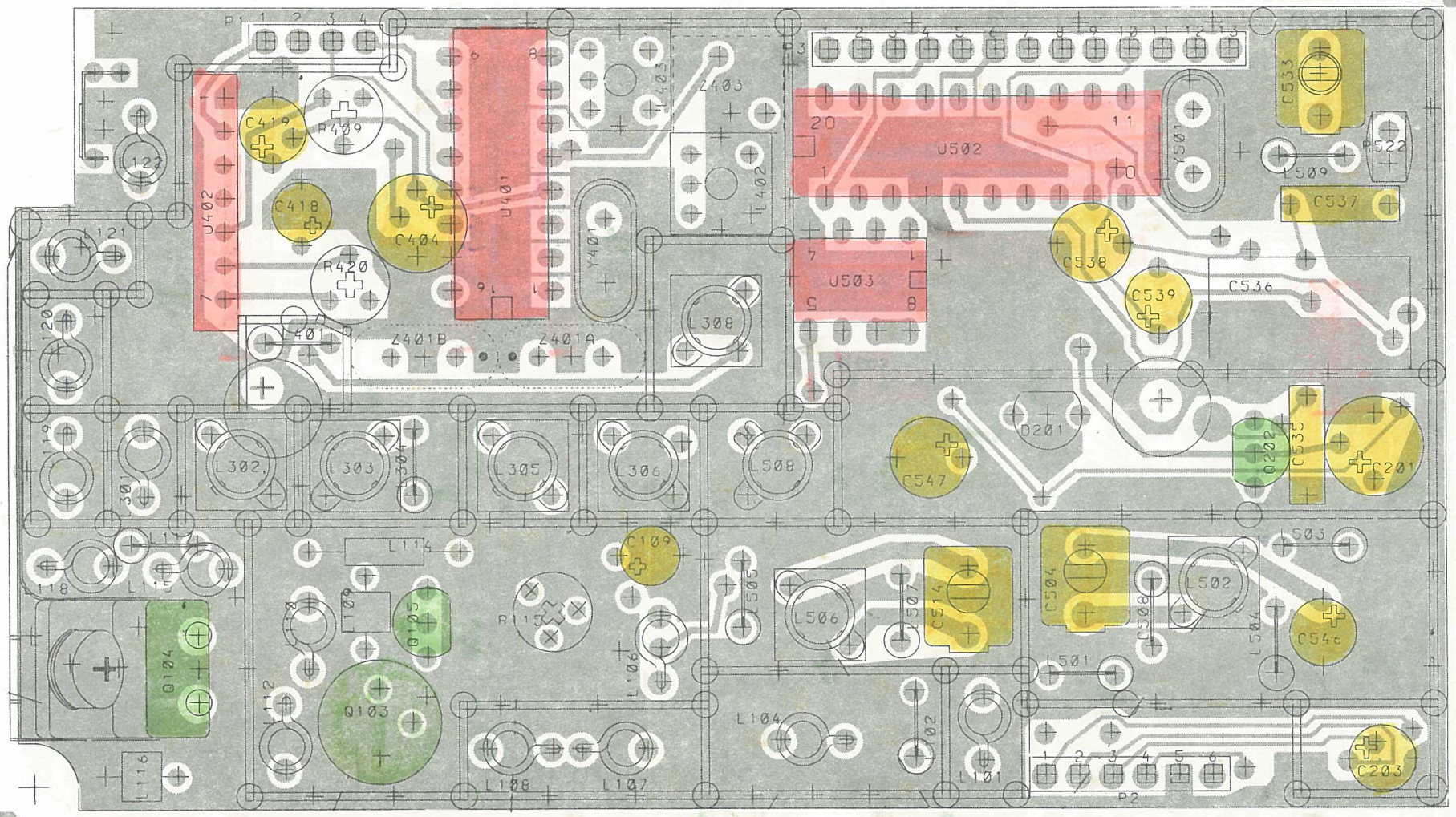
CODE NO. FOR MODULE
K905449G2 - VHF/UHF
(K805449G1 - VHF)

CONTROL LOGIC BOARD CL4002

REV. F **D403.823/7**

Storno

Storno

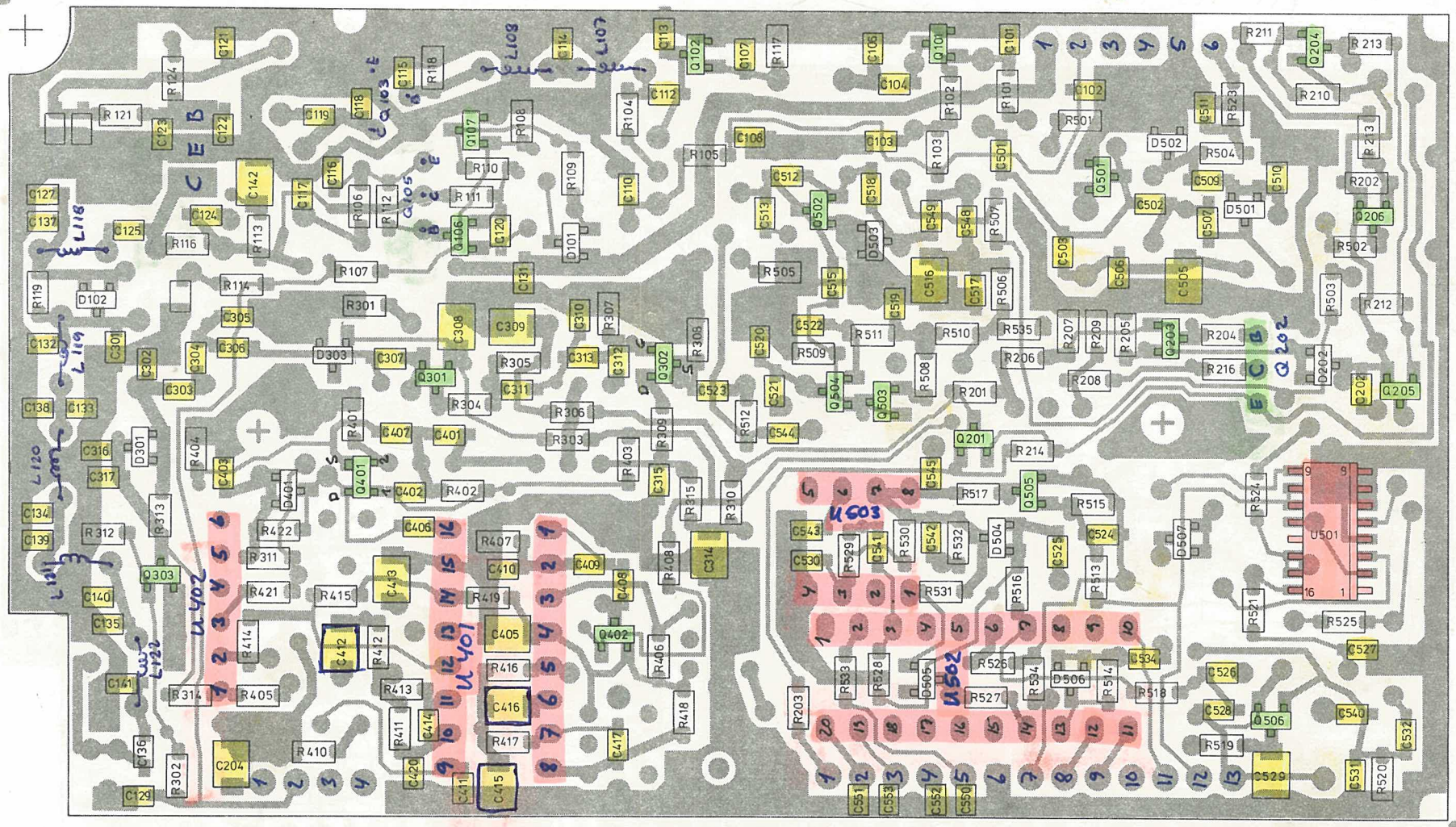


RF-BOARD RF4110
COMPONENT LAYOUT

D403.309

Storno

Storno



RF-BOARD RF4110
COMPONENT LAYOUT

D403.313

Nº	CODE	DATA		
C506	J707438P5	1 NF	CER	50 V
C507	J707436P17	12 PF	CER	50 V
C508	J707483P1	0.47 PF	PHEN	500 V
C509	J707436P3	1.5 PF	CER	50 V
C510	J707436P49	56 PF	CER	50 V
C511	J707436P73	330 PF	CER	50 V
C512	J707436P12	8.2 PF	CER	50 V
C513	J707436P13	10 PF	CER	50 V
C514	J707475P1	2-18 PF	VAR	50 V
C515	J707436P4	1.8 PF	CER	50 V
C516	J707438P26	100 NF	CER	50 V
C517	J707438P5	1 NF	CER	50 V
C518	J707436P12	8.2 PF	CER	50 V
C519	J707438P5	1 NF	CER	50 V
C520	J707436P12	8.2 PF	CER	50 V
C521	J707436P9	4.7 PF	CER	50 V
C522	J707438P5	1 NF	CER	50 V
C523	J707438P14	10 NF	CER	50 V
C524	J707438P5	1 NF	CER	50 V
C525	J707436P69	220 PF	CER	50 V
C526	J707436P45	47 PF	CER	50 V
C527	J707438P14	10 NF	CER	50 V
C528	J707436P45	47 PF	CER	50 V
C529	J707438P26	100 NF	CER	50 V
C530	J707436P21	15 PF	CER	50 V
C531	J707436P29	22 PF	CER	50 V
C532	J707436P9	4.7 PF	CER	50 V
C533	J707475P1	2-18 PF	VAR	
C534	J707438P3	470 PF	CER	50 V
C535	J707412P9	0.1 uF	POL	100 V
C536	J707612P1	2.2 uF	POL	100 V
C537	J707412P9	0.1 uF	POL	100 V
C538	J707353P7	10 uF	ELEC	16 V
C539	J707444P3	0.47 uF	TA	35 V
C540	J707436P12	8.2 PF	CER	
C541	J707438P14	10 NF	CER	50 V
C542	J707438P14	10 NF	CER	50 V
C543	J707438P5	1 NF	CER	50 V
C544	J707438P5	1 NF	CER	50 V
C545	J707438P5	1 NF	CER	50 V
C546	J707444P4	1 uF	TA	35 V
C547	J707444P5	2.2 uF	TA	35 V

Storno

Nº	CODE	DATA		
C548	J707436P8	3.9 PF	CER	50 V
C549	J707436P11	6.8 PF	CER	50 V
C550	J707436P65	150 PF	CER	50 V
C551	J707436P65	150 PF	CER	50 V
C552	J707436P65	150 PF	CER	50 V
C553	J707436P65	150 PF	CER	50 V
D101	J707389P1	BAV99	SI-DIODE	
D102	J707391P1	BAT18	SI-DIODE	
D201	J707448P1	TL4310	REF-DIODE	
D202	J707390P1	BAV74	SI-DIODE	
D301	J707391P1	BAT18	SI-DIODE	
D303	J707389P1	BAV99	SI-DIODE	
D401	J707389P1	BAV99	SI-DIODE	
D501	J707397P1	BBY40	VAR-CAP DIODE	
D502	J707397P1	BBY40	VAR-CAP DIODE	
D503	J707397P1	BBY40	VAR-CAP DIODE	
D504	J707390P1	BAV74	SI-DIODE	
D505	J707390P1	BAV74	SI-DIODE	
D506	J707390P1	BAV74	SI-DIODE	
D507	J707390P1	BAV74	SI-DIODE	
L101	J707426P1		COIL FIX	
L102	J707486P1	0.1 uH	COIL FIX	
L103	J707426P1		COIL FIX	
L104	J707426P5		COIL FIX	
L106	J707426P5		COIL FIX	
L107	J707426P2		COIL FIX	
L108	J707426P2		COIL FIX	
L109	J707339G1		COIL FIX ASM	
L110	J707426P5		COIL FIX	
L112	J707426P3		COIL FIX	
L114	J707731G1		COIL FIX ASM	
L115	J707426P4		COIL FIX	
L116	J707339G1		COIL FIX ASM	
L117	J707486P4	10 uH	COIL FIX	
L118	J707426P2		COIL FIX	
L119	J707426P6		COIL FIX	
L120	J707426P7		COIL FIX	
L121	J707426P7		Coil FIX	
L122	J707426P6		COIL FIX	
L301	J707426P6		COIL FIX	
L302	J707422P2		COIL VAR	
L303	J707422P2		COIL VAR	

RF UNIT RF4110

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Storno

Nº	CODE	DATA		
C101	J707436P21	15 PF	CER	50 V
C102	J707438P14	10 NF	CER	50 V
C103	J707436P73	330 PF	CER	50 V
C104	J707436P21	15 PF	CER	50 V
C106	J707436P33	27 PF	CER	50 V
C107	J707436P21	15 PF	CER	50 V
C108	J707438P14	10 NF	CER	50 V
C109	J707353P5	2.2 uF	ELEC	50 V
C110	J707436P73	330 PF	CER	50 V
C112	J707436P65	150 PF	CER	50 V
C113	J707436P33	27 PF	CER	50 V
C114	J707436P37	33 PF	CER	50 V
C115	J707436P33	27 PF	CER	50 V
C116	J707438P14	10 NF	CER	50 V
C117	J707436P61	100 PF	CER	50 V
C118	J707436P37	33 PF	CER	50 V
C119	J707436P65	150 PF	CER	50 V
C120	J707438P5	1 NF	CER	50 V
C121	J707436P57	82 PF	CER	50 V
C122	J707436P53	68 PF	CER	50 V
C123	J707436P53	68 PF	CER	50 V
C124	J707436P61	100 PF	CER	50 V
C125	J707436P73	330 PF	CER	50 V
C127	J707436P25	18 PF	CER	50 V
C129	J707438P5	1 NF	CER	50 V
C131	J707438P14	10 NF	CER	50 V
C132	J707436P25	18 PF	CER	50 V
C133	J707436P25	18 PF	CER	50 V
C134	J707436P25	18 PF	CER	50 V
C135	J707436P25	18 PF	CER	50 V
C136	J707438P5	1 NF	CER	50 V
C137	J707436P25	18 PF	CER	50 V
C138	J707436P25	18 PF	CER	50 V
C139	J707436P25	18 PF	CER	50 V
C140	J707436P25	18 PF	CER	50 V
C141	J707436P21	15 PF	CER	50 V
C142	J707438P22	47 NF	CER	50 V
C201	J707444P8	22 uF	TA	16 V
C202	J707438P5	1 NF	CER	50 V
C203	J707444P5	2.2 uF	TA	35 V
C204	J707438P22	47 NF	CER	50 V
C301	J707436P21	15 PF	CER	50 V

Storno

Nº	CODE	DATA		
C302	J707436P13	10 PF	CER	50 V
C303	J707436P6	2.7 PF	CER	50 V
C304	J707436P12	8.2 PF	CER	50 V
C305	J707436P53	68 PF	CER	50 V
C306	J707436P10	5.6 PF	CER	50 V
C307	J707436P8	3.9 PF	CER	50 V
C308	J707436P87	1.2 NF	CER	50 V
C309	J707436P93	2.2 NF	CER	50 V
C310	J707436P67	180 PF	CER	50 V
C311	J707436P12	8.2 PF	CER	50 V
C312	J707436P37	33 PF	CER	50 V
C313	J707436P13	10 PF	CER	50 V
C314	J707438P22	47 NF	CER	50 V
C315	J707436P67	180 PF	CER	50 V
C316	J707438P3	470 PF	CER	50 V
C317	J707438P3	470 PF	CER	50 V
C401	J707436P11	6.8 PF	CER	50 V
C402	J707436P73	330 PF	CER	50 V
C403	J707438P14	10 NF	CER	50 V
C404	J707444P9	47 uF	TA	6.3 V
C405	J707438P26	100 NF	CER	50 V
C406	J707438P5	1 NF	CER	50 V
C407	J707438P14	10 NF	CER	50 V
C408	J707436P63	120 PF	CER	50 V
C409	J707436P45	47 PF	CER	50 V
C410	J707436P63	120 PF	CER	50 V
C411	J707438P8	3.3 NF	CER	50 V
C412	J707438P26	100 NF	CER	50 V
C413	J707436P93	2.2 NF	CER	50 V
C414	J707436P73	330 PF	CER	50 V
C415	J707438P26	100 NF	CER	50 V
C416	J707438P26	100 NF	CER	50 V
C417	J707436P13	10 PF	CER	50 V
C418	J707444P7	10 uF	TA	16 V
C419	J707444P3	0.47 uF	TA	35 V
C419	J707444P4	1.0 NF	TA	
C420	J707436P73	330 PF	CER	50 V
C501	J707436P9	4.7 PF	CER	50 V
C502	J707436P7	3.3 PF	CER	50 V
C503	J707436P7	3.3 PF	CER	50 V
C504	J707475P1	2-18 PF	VAR	
C505	J707438P26	100 NF	CER	50 V

RF UNIT RF4110

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Storno

Nº	CODE	DATA	
L304	J707486P2	3.3 uH	COIL FIX
L305	J707422P2		COIL VAR
L306	J707422P2		COIL VAR
L308	J707422P3		COIL VAR
L401	J707486P3	6.8 uH	COIL FIX
L402	J707431P1		COIL VAR
L403	J707431P1		COIL VAR
L501	J707486P2	3.3 uH	COIL FIX
L502	J707422P1		COIL VAR
L503	J707486P2	3.3 uH	COIL FIX
L504	J707486P2	3.3 uH	COIL FIX
L505	J707486P2	3.3 uH	COIL FIX
L506	J707422P1		COIL VAR
L507	J707486P2	3.3 uH	COIL FIX
L508	J707375P1		COIL VAR
L509	J707486P5	330 uH	COIL FIX
P1	J707350P4	4-PIN	PLG
P2	J707350P6	6-PIN	PLG
P3	J707350P13	13-PIN	PLG
Q101	J707388P1	BFR53	TSTR
Q102	J707388P1	BFR53	TSTR
Q103	J706145P1	BCW16A	TSTR
Q104	J707447P1	MRF260	TSTR
Q105	J707673P1	BC368	TSTR
Q106	J707387P1	BCW30	TSTR
Q107	J707386P1	BCW32	TSTR
Q201	J707387P1	BCW30	TSTR
Q202	J707435P1	BC369	TSTR
Q203	J707386P1	BCW32	TSTR
Q204	J707432P1	BCX18	TSTR
Q205	J707387P1	BCW30	TSTR
Q206	J707387P1	BCW30	TSTR
Q301	J707418P1	BFS17	TSTR
Q302	J707419P1	BF511	FLD EFF
Q303	J707386P1	BCW32	TSTR
Q401	J707433P1	BF989	FLD EFF
Q402	J707387P1	BCW30	TSTR
Q501	J707419P1	BF511	FLD EFF
Q502	J707419P1	BF511	FLD EFF
Q503	J707387P1	BCW30	TSTR
Q504	J707430P1	BF569	TSTR
Q505	J707387P1	BCW30	TSTR

Storno

Nº	CODE	DATA	
Q506	J707419P1	BF511	FLD EFF
R101	J707385P103	10 Kohm	MFILM 0.125 W
R102	J707385P103	10 Kohm	MFILM 0.125 W
R103	J707385P470	47 ohm	MFILM 0.125 W
R104	J707385P222	2.2 Kohm	MFILM 0.125 W
R105	J707385P220	22 ohm	MFILM 0.125 W
R106	J707385P100	10 ohm	MFILM 0.125 W
R107	J707385P562	5.6 Kohm	MFILM 0.125 W
R108	J707385P102	1 Kohm	MFILM 0.125 W
R109	J707385P152	1.5 Kohm	MFILM 0.125 W
R110	J707385P472	4.7 Kohm	MFILM 0.125 W
R111	J707385P680	68 ohm	MFILM 0.125 W
R112	J707385P102	1 Kohm	MFILM 0.125 W
R113	J707385P100	10 ohm	MFILM 0.125 W
R114	J707385P221	220 ohm	MFILM 0.125 W
R115	J707478P4	1 Kohm	VAR 0.05 W
R116	J707385P331	330 ohm	MFILM 0.125 W
R117	J707385P101	100 ohm	MFILM 0.125 W
R118	J707385P470	47 ohm	MFILM 0.125 W
R119	J707385P104	100 Kohm	MFILM 0.125 W
R120	J707385P910	1 ohm	MFILM 0.125 W
R121	J707385P910	1 ohm	MFILM 0.125 W
R201	J707385P222	2.2 Kohm	MFILM 0.125 W
R202	J707385P473	47 Kohm	MFILM 0.125 W
R203	J707385P153	15 Kohm	MFILM 0.125 W
R204	J707385P562	5.6 Kohm	MFILM 0.125 W
R205	J707385P101	100 ohm	MFILM 0.125 W
R206	J707385P273	27 Kohm	MFILM 0.125 W
R207	J707385P682	6.8 Kohm	MFILM 0.125 W
R208	J707385P333	33 Kohm	MFILM 0.125 W
R209	J707385P333	33 Kohm	MFILM 0.125 W
R210	J707385P103	10 Kohm	MFILM 0.125 W
R211	J707385P182	1.8 Kohm	MFILM 0.125 W
R212	J707385P473	47 Kohm	MFILM 0.125 W
R213	J707385P153	15 Kohm	MFILM 0.125 W
R214	J707385P272	2.7 Kohm	MFILM 0.125 W
R215	J707385P153	15 Kohm	MFILM 0.125 W
R216	J707385P562	5.6 Kohm	MFILM 0.125 W
R301	J707385P221	220 ohm	MFILM 0.125 W
R302	J707385P103	10 Kohm	MFILM 0.125 W
R303	J707385P123	12 Kohm	MFILM 0.125 W
R304	J707385P220	22 ohm	MFILM 0.125 W

RF UNIT RF4110

X403.359/2

Nº	CODE	DATA		
R305	J707385P183	18 Kohm	MFILM	0.125 W
R306	J707385P470	47 ohm	MFILM	0.125 W
R307	J707385P153	15 Kohm	MFILM	0.125 W
R308	J707385P681	680 ohm	MFILM	0.125 W
R309	J707385P101	100 ohm	MFILM	0.125 W
R310	J707385P101	100 ohm	MFILM	0.125 W
R311	J707385P470	47 ohm	MFILM	0.125 W
R312	J707385P332	3.3 Kohm	Mfilm	0.125 W
R313	J707385P154	150 Kohm	MFILM	0.125 W
R314	J707385P472	4.7 Kohm	MFILM	0.125 W
R315	J707385P153	15 Kohm	MFILM	0.125 W
R401	J707385P152	1.5 Kohm	MFILM	0.125 W
R402	J707385P473	47 Kohm	MFILM	0.125 W
R403	J707385P473	47 Kohm	MFILM	0.125 W
R404	J707385P561	560 ohm	MFILM	0.125 W
R405	J707385P470	47 ohm	MFILM	0.125 W
R406	J707385P683	68 Kohm	MFILM	0.125 W
R407	J707385P473	47 Kohm	MFILM	0.125 W
R408	J707385P103	10 Kohm	MFILM	0.125 W
R409	J707478P10	10 Kohm	VAR	0.05 W
R410	J707385P392	3.9 Kohm	MFILM	0.125 W
R411	J707385P273	27 Kohm	MFILM	0.125 W
R412	J707385P563	56 Kohm	MFILM	0.125 W
R413	J707385P683	68 Kohm	MFILM	0.125 W
R414	J707385P683	68 Kohm	MFILM	0.125 W
R415	J707385P334	330 Kohm	MFILM	0.125 W
R416	J707385P182	1.8 Kohm	MFILM	0.125 W
R417	J707385P393	39 Kohm	MFILM	0.125 W
R418	J707385P183	18 Kohm	MFILM	0.125 W
R419	J707385P473	47 Kohm	MFILM	0.125 W
R420	J707478P11	15 Kohm	VAR	0.05 W
R421	J707385P101	100 ohm	MFILM	0.125 W
R422	J707385P332	3.3 Kohm	MFILM	0.125 W
R501	J707385P271	270 ohm	MFILM	0.125 W
R502	J707385P101	100 ohm	MFILM	0.125 W
R503	J707385P101	100 ohm	MFILM	0.125 W
R504	J707385P472	4.7 Kohm	MFILM	0.125 W
R505	J707385P271	270 ohm	MFILM	0.125 W
R506	J707385P470	47 ohm	MFILM	0.125 W
R507	J707385P101	100 ohm	MFILM	0.125 W
R508	J707385P392	3.9 Kohm	MFILM	0.125 W
R509	J707385P333	33 Kohm	MFILM	0.125 W

Nº	CODE	DATA		
R510	J707385P100	10 ohm	MFILM	0.125 W
R511	J707385P271	270 ohm	MFILM	0.125 W
R512	J707385P102	1 Kohm	MFILM	0.125 W
R513	J707385P103	10 Kohm	MFILM	0.125 W
R514	J707385P273	27 Kohm	MFILM	0.125 W
R515	J707385P822	8.2 Kohm	MFILM	0.125 W
R516	J707385P223	22 Kohm	MFILM	0.125 W
R517	J707385P220	22 ohm	MFILM	0.125 W
R518	J707385P472	4.7 Kohm	MFILM	0.125 W
R519	J707385P103	10 Kohm	MFILM	0.125 W
R520	J707385P104	100 Kohm	MFILM	0.125 W
R521	J707385P470	47 ohm	MFILM	0.125 W
R522	J707406P1	330 ohm	NTC	
R523	J707385P273	27 Kohm	MFILM	0.125 W
R524	J707385P151	150 ohm	MFILM	0.125 W
R525	J707385P272	2.7 Kohm	MFILM	0.125 W
R526	J707385P101	100 ohm	MFILM	0.125 W
R527	J707385P100	10 ohm	MFILM	0.125 W
R528	J707385P105	1 Mohm	MFILM	0.125 W
R529	J707385P101	100 ohm	MFILM	0.125 W
R530	J707385P472	4.7 Kohm	MFILM	0.125 W
R531	J707385P103	10 Kohm	MFILM	0.125 W
R532	J707385P183	18 Kohm	MFILM	0.125 W
R533	J707385P184	180 Kohm	MFILM	0.125 W
R534	J707385P273	27 Kohm	MFILM	0.125 W
R535	J707385P470	47 ohm	MFILM	0.125 W
U401	J707449P1	MC3357	IC	
U402	19M905492G1	SQ4001	IC, SQUELCH	
U501	J707434P2	HEF4053	IC	
U502	J707337P1	MC145146	IC	
U503	J707374P1	SP8793	IC	
Z401	J707310P1	21.4 MHz	FILTER	1.RF4112
Z401	J707310P2	21.4 MHz	FILTER	1.RF4113
Z401	J707310P2	21.4 MHz	FILTER	1.RF4114
Z403	J707446P1	455 kHz	FILTER	1.RF4112
Z403	J707446P3	455 kHz	FILTER	1.RF4113
Z403	J707446P4	455 kHz	FILTER	1.RF4114

RF UNIT RF4110

X403.359/2

ITEM NUMBER DESCRIPTION

M905462G1 CPNT BD RF411X , 1ST. VERSION

P A R T S L I S T :

	CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
			MECHANICAL COMPONENTS:	
		A701332P4	INSULATOR	1
		J706281P6	CORE	6
		J707962G1	PLG ASM	1
		J707962G2	PLG ASM	1
		J707962G3	PLG ASM	1
		K805323P1	HEAT ZINK	1
		K805347G1	SHLD METALL ASM	1
		L855385P1	SPRING ANTENNA	1
			CAPACITORS:	
	C101	J707436P21	CAP CER 15PF 50V	1
	C102	J707438P14	CAP CER 10NF 50V	1
	C103	J707436P73	CAP CER 330PF 50V	1
*	C104	* J707436P25	* CAP CER 18PF 50V	1
	C106	J707436P33	CAP CER 27PF 50V	1
	C107	J707436P21	CAP CER 15PF 50V	1
	C108	J707438P14	CAP CER 10NF 50V	1
	C109	J707353P5	CAP ELEC 2,2MF 50V	1
	C110	J707436P73	CAP CER 330PF 50V	1
	C112	J707436P65	CAP CER 150PF 50V	1
	C113	J707436P33	CAP CER 27PF 50V	1
*	C114	* J707436P45	* CAP CER 47PF 50V	1
	C115	J707436P33	CAP CER 27PF 50V	1
	C116	J707438P14	CAP CER 10NF 50V	1
	C117	J707436P61	CAP CER 100PF 50V	1
	C118	J707436P37	CAP CER 33PF 50V	1
*	C119	* J707436P73	* CAP CER 330PF 50V	1
	C120	J707438P5	CAP CER 1NF 50V	1
	C121	J707436P57	CAP CER 82PF 50V	1
	C122	J707436P53	CAP CER 68PF 50V	1
	C123	J707436P53	CAP CER 68PF 50V	1
	C124	J707436P61	CAP CER 100PF 50V	1
	C125	J707436P73	CAP CER 330PF 50V	1
	C127	J707436P25	CAP CER 18PF 50V	1
	C129	J707438P5	CAP CER 1NF 50V	1
	C131	J707438P14	CAP CER 10NF 50V	1
	C132	J707436P25	CAP CER 18PF 50V	1
	C133	J707436P25	CAP CER 18PF 50V	1
	C134	J707436P25	CAP CER 18PF 50V	1
	C135	J707436P25	CAP CER 18PF 50V	1
	C136	J707438P5	CAP CER 1NF 50V	1
	C137	J707436P25	CAP CER 18PF 50V	1
	C138	J707436P25	CAP CER 18PF 50V	1
	C139	J707436P25	CAP CER 18PF 50V	1
	C140	J707436P25	CAP CER 18PF 50V	1
	C141	J707436P21	CAP CER 15PF 50V	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
C142	J707438P22	CAP CER 47NF 50V	1
C201	J707444P8	CAP TA 22MF 16V	1
C202	J707438P5	CAP CER 1NF 50V	1
C203	J707444P5	CAP TA 2,2MF 35V	1
C204	J707438P22	CAP CER 47NF 50V	1
C301	J707436P21	CAP CER 15PF 50V	1
C302	J707436P13	CAP CER 10PF 50V	1
C303	J707436P6	CAP CER 2,7PF 50V	1
C304	J707436P12	CAP CER 8,2PF 50V	1
C305	J707436P53	CAP CER 68PF 50V	1
C306	J707436P10	CAP CER 5,6PF 50V	1
C307	J707436P8	CAP CER 3,9PF 50V	1
C308	J707436P87	CAP CER 1,2NF 50V	1
C309	J707436P93	CAP CER 2,2NF 50V	1
C310	J707436P67	CAP CER 180PF 50V	1
C311	J707436P12	CAP CER 8,2PF 50V	1
C312	J707436P37	CAP CER 33PF 50V	1
C313	J707436P13	CAP CER 10PF 50V	1
C314	J707438P22	CAP CER 47NF 50V	1
C315	J707436P67	CAP CER 180PF 50V	1
C316	J707438P3	CAP CER 470PF 50V	1
C317	J707438P3	CAP CER 470PF 50V	1
C401	J707436P11	CAP CER 6,8PF 50V	1
C402	J707436P73	CAP CER 330PF 50V	1
C403	J707438P14	CAP CER 10NF 50V	1
C404	J707444P9	CAP TA 47MF 6,3V	1
C405	J707438P26	CAP CER 100NF 50V	1
C406	J707438P5	CAP CER 1NF 50V	1
C407	J707438P14	CAP CER 10NF 50V	1
C408	J707436P63	CAP CER 120PF 50V	1
C409	J707436P45	CAP CER 47PF 50V	1
C410	J707436P63	CAP CER 120PF 50V	1
C411	J707438P8	CAP CER 3,3NF 50V	1
C412	J707438P26	CAP CER 100NF 50V	1
C413	J707436P93	CAP CER 2,2NF 50V	1
C414	J707436P73	CAP CER 330PF 50V	1
C415	J707438P26	CAP CER 100NF 50V	1
C416	J707438P26	CAP CER 100NF 50V	1
C417	J707436P13	CAP CER 10PF 50V	1
C418	J707444P7	CAP TA 10MF 16V	1
C419	J707444P3	CAP TA 0,47MF 35V	1
C420	J707436P73	CAP CER 330PF 50V	1
C501	J707436P9	CAP CER 4,7PF 50V	1
C502	J707436P7	CAP CER 3,3PF 50V	1
C503	J707436P7	CAP CER 3,3PF 50V	1
C504	J707475P1	CAP VAR 2 - 18 PF	1
C505	J707438P26	CAP CER 100NF 50V	1
C506	J707438P5	CAP CER 1NF 50V	1
C507	J707436P17	CAP CER 12PF 50V	1
C508	J707483P1	CAP PHEN 0,47PF 500V	1
C509	J707436P3	CAP CER 1,5PF 50V	1
C510	J707436P49	CAP CER 56PF 50V	1
C511	J707436P73	CAP CER 330PF 50V	1
C512	J707436P12	CAP CER 8,2PF 50V	1
C513	J707436P13	CAP CER 10PF 50V	1
C514	J707475P1	CAP VAR 2 - 18 PF	1
C515	J707436P4	CAP CER 1,8PF 50V	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
C516	J707438P26	CAP CER 100NF 50V	1
C517	J707438P5	CAP CER 1NF 50V	1
C518	J707436P12	CAP CER 8,2PF 50V	1
C519	J707438P5	CAP CER 1NF 50V	1
C520	J707436P12	CAP CER 8,2PF 50V	1
C521	J707436P9	CAP CER 4,7PF 50V	1
C522	J707438P5	CAP CER 1NF 50V	1
C523	J707438P14	CAP CER 10NF 50V	1
C524	J707438P5	CAP CER 1NF 50V	1
C525	J707436P69	CAP CER 220PF 50V	1
C526	J707436P45	CAP CER 47PF 50V	1
C527	J707438P14	CAP CER 10NF 50V	1
C528	J707436P45	CAP CER 47PF 50V	1
C529	J707438P26	CAP CER 100NF 50V	1
C530	J707436P21	CAP CER 15PF 50V	1
C531	J707436P29	CAP CER 22PF 50V	1
C532	J707436P9	CAP CER 4,7PF 50V	1
C533	J707475P1	CAP VAR 2 - 18 PF	1
C534	J707438P3	CAP CER 470PF 50V	1
C535	J707412P9	CAP PYES 0,1MF 63V	1
C536	J707612P1	CAP POL 2,2MF 100V	1
C537	J707412P9	CAP PYES 0,1MF 63V	1
C538	J707353P7	CAP ELEC 10MF 16V	1
C539	J707444P3	CAP TA 0,47MF 35V	1
C540	J707436P12	CAP CER 8,2PF 50V	1
C541	J707438P14	CAP CER 10NF 50V	1
C542	J707438P14	CAP CER 10NF 50V	1
C543	J707438P5	CAP CER 1NF 50V	1
C544	J707438P5	CAP CER 1NF 50V	1
C545	J707438P5	CAP CER 1NF 50V	1
C546	J707444P4	CAP TA 1MF 35V	1
C547	J707444P5	CAP TA 2,2MF 35V	1
C548	J707436P8	CAP CER 3,9PF 50V	1
C549	J707436P11	CAP CER 6,8PF 50V	1
C550	J707436P65	CAP CER 150PF 50V	1
C551	J707436P65	CAP CER 150PF 50V	1
C552	J707436P65	CAP CER 150PF 50V	1
C553	J707436P65	CAP CER 150PF 50V	1
	DIODES:		
D101	J707389P1	DIO SI SIG BAV 99	1
D102	J707391P1	DIO SI SIG BAT 18	1
D201	J707448P1	IC LIN VR VAR TL 431 CLP	1
D202	J707390P1	DIO SI SIG BAV 74L	1
D301	J707391P1	DIO SI SIG BAT 18	1
D303	J707389P1	DIO SI SIG BAV 99	1
D401	J707389P1	DIO SI SIG BAV 99	1
D501	J707397P1	DIO SI VAR CAP BBY 40	1
D502	J707397P1	DIO SI VAR CAP BBY 40	1
D503	J707397P1	DIO SI VAR CAP BBY 40	1
D504	J707390P1	DIO SI SIG BAV 74L	1
D505	J707390P1	DIO SI SIG BAV 74L	1
D506	J707390P1	DIO SI SIG BAV 74L	1
D507	J707390P1	DIO SI SIG BAV 74L	1

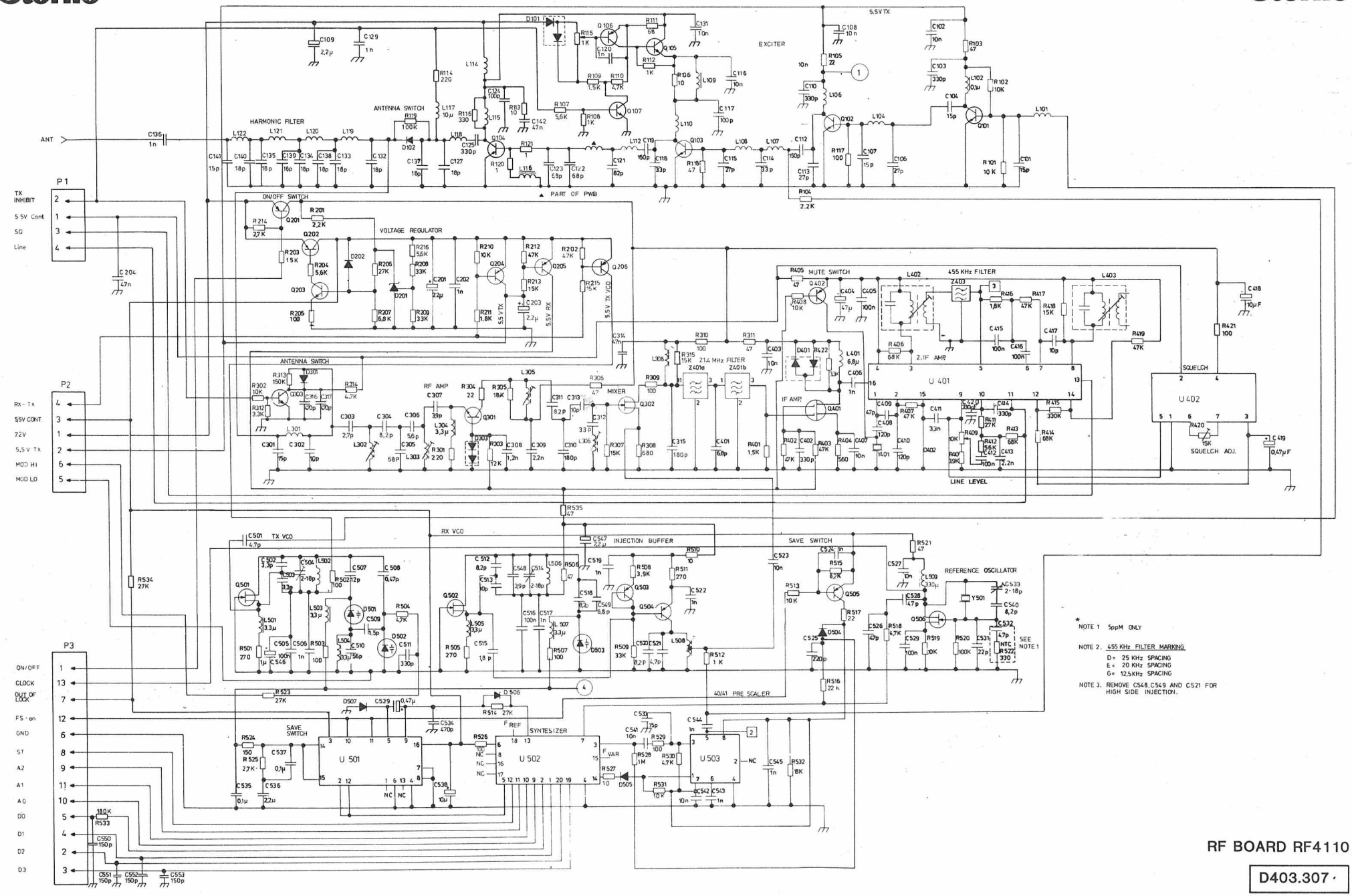
	CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
		COILS:		
	L101	J707426P1	COIL FIX	1
	L102	J707486P1	COIL FIX 100NH	1
	L104	J707426P5	COIL FIX	1
*	L106	* J707426P7	* COIL FIX	1
	L107	J707426P2	COIL FIX	1
	L108	J707426P2	COIL FIX	1
	L109	J707339G1	COIL FIX ASM	1
	L110	J707426P7	COIL FIX	1
	L112	J707426P3	COIL FIX	1
*	L114	* J707731G1	* COIL FIX ASM	1
	L115	J707426P4	COIL FIX	1
	L116	J707339G1	COIL FIX ASM	1
	L117	J707486P4	COIL,RF,FIXED 10 UH	1
	L118	J707426P2	COIL FIX	1
	L119	J707426P6	COIL FIX	1
	L120	J707426P7	COIL FIX	1
	L121	J707426P7	COIL FIX	1
	L122	J707426P6	COIL FIX	1
	L301	J707426P6	COIL FIX	1
	L302	J707422P2	COIL VAR	1
	L303	J707422P2	COIL VAR	1
	L304	J707486P2	COIL FIX 3,3 UH	1
	L305	J707422P2	COIL VAR	1
	L306	J707422P2	COIL VAR	1
	L308	J707422P3	COIL VAR	1
	L401	J707486P3	COIL,RF,FIXED 6,8 UH	1
	L402	J707431P1	COIL VAR	1
	L403	J707431P1	COIL VAR	1
	L501	J707486P2	COIL FIX 3,3 UH	1
	L502	J707422P1	COIL VAR	1
	L503	J707486P2	COIL FIX 3,3 UH	1
	L504	J707486P2	COIL FIX 3,3 UH	1
	L505	J707486P2	COIL FIX 3,3 UH	1
	L506	J707422P1	COIL VAR	1
	L507	J707486P2	COIL FIX 3,3 UH	1
	L508	J707375P1	COIL VAR	1
	L509	J707486P5	COIL FIX 330 UH	1
		TRANSISTORS:		
	Q101	J707388P1	TSTR NPN SI BFR 53	1
	Q102	J707388P1	TSTR NPN SI BFR 53	1
	Q103	J706145P1	TSTR NPN SI BFW 16A	1
	Q104	J707447P1	TSTR NPN SI RF-PWR 5W	1
	Q105	J707673P1	TSTR NPN SI BC 368	1
	Q106	J707387P1	TSTR PNP SI BCW 30	1
	Q107	J707386P1	TSTR NPN SI BCW 32	1
	Q201	J707387P1	TSTR PNP SI BCW 30	1
	Q202	J707435P1	TSTR PNP SI BC 369	1
	Q203	J707386P1	TSTR NPN SI BCW 32	1
	Q204	J707432P1	TSTR PNP SI BCX 18	1
	Q205	J707387P1	TSTR PNP SI BCW 30	1
	Q206	J707387P1	TSTR PNP SI BCW 30	1
	Q301	J707418P1	TSTR NPN SI BFS 17	1
	Q302	J707419P1	TSTR JFET SI BF 511	1
	Q303	J707386P1	TSTR NPN SI BCW 32	1

	CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
	Q401	J707433P1	TSTR MFET SI BF 989	1
	Q402	J707387P1	TSTR PNP SI BCW 30	1
	Q501	J707419P1	TSTR JFET SI BF 511	1
	Q502	J707419P1	TSTR JFET SI BF 511	1
	Q503	J707387P1	TSTR PNP SI BCW 30	1
	Q504	J707430P1	TSTR NPN SI BF 569	1
	Q505	J707387P1	TSTR PNP SI BCW 30	1
	Q506	J707419P1	TSTR JFET SI BF 511	1
		RESISTORS:		
	R101	J707385P103	RES MFILM 10K OHM 0,125W	1
	R102	J707385P103	RES MFILM 10K OHM 0,125W	1
	R103	J707385P470	RES MFILM 47 OHM 0,125W	1
	R104	J707385P222	RES MFILM 2,2K OHM 0,125W	1
	R105	J707385P220	RES MFILM 22 OHM 0,125W	1
	R106	J707385P100	RES MFILM 10 OHM 0,125W	1
	R107	J707385P562	RES MFILM 5,6K OHM 0,125W	1
	R108	J707385P102	RES MFILM 1K OHM 0,125W	1
	R109	J707385P152	RES MFILM 1,5K OHM 0,125W	1
	R110	J707385P472	RES MFILM 4,7K OHM 0,125W	1
	R111	J707385P680	RES MFILM 68 OHM 0,125W	1
	R112	J707385P102	RES MFILM 1K OHM 0,125W	1
	R113	J707385P100	RES MFILM 10 OHM 0,125W	1
	R115	J707478P4	RES VAR 1K OHM 0,05W	1
	R116	J707385P331	RES MFILM330 OHM 0,125W	1
*	R117	* J707385P680	* RES MFILM 68 OHM 0,125W	1
	R118	J707385P470	RES MFILM 47 OHM 0,125W	1
	R119	J707385P104	RES MFILM 100K OHM 0,125W	1
	R120	J707385P910	RES MFILM 1 OHM 0,125W	1
	R121	J707385P910	RES MFILM 1 OHM 0,125W	1
	R201	J707385P222	RES MFILM 2,2K OHM 0,125W	1
	R202	J707385P473	RES MFILM 47K OHM 0,125W	1
	R203	J707385P153	RES MFILM 15K OHM 0,125W	1
*	R204	* J707385P102	* RES MFILM 1K OHM 0,125W	1
	R205	J707385P101	RES MFILM 100 OHM 0,125W	1
	R206	J707385P273	RES MFILM 27K OHM 0,125W	1
	R207	J707385P682	RES MFILM 6,8K OHM 0,125W	1
	R208	J707385P333	RES MFILM 33K OHM 0,125W	1
	R209	J707385P333	RES MFILM 33K OHM 0,125W	1
	R210	J707385P103	RES MFILM 10K OHM 0,125W	1
	R211	J707385P182	RES MFILM 1,8K OHM 0,125W	1
	R212	J707385P473	RES MFILM 47K OHM 0,125W	1
	R213	J707385P153	RES MFILM 15K OHM 0,125W	1
	R214	J707385P272	RES MFILM 2,7K OHM 0,125W	1
	R215	J707385P153	RES MFILM 15K OHM 0,125W	1
	R216	J707385P562	RES MFILM 5,6K OHM 0,125W	1
	R221	J707385P221	RES MFILM 220 OHM 0,125W	1
	R301	J707385P221	RES MFILM 220 OHM 0,125W	1
	R302	J707385P103	RES MFILM 10K OHM 0,125W	1
	R303	J707385P123	RES MFILM 12K OHM 0,125W	1
	R304	J707385P220	RES MFILM 22 OHM 0,125W	1
	R305	J707385P183	RES MFILM 18K OHM 0,125W	1
	R306	J707385P470	RES MFILM 47 OHM 0,125W	1
	R307	J707385P153	RES MFILM 15K OHM 0,125W	1
	R308	J707385P681	RES MFILM 680 OHM 0,125W	1
	R309	J707385P101	RES MFILM 100 OHM 0,125W	1

	CIRCUIT POSITION		COMPONENT ITEM NUMBER		COMPONENT DESCRIPTION	QUANTITY TOTAL
	R310		J707385P101		RES MFILM 100 OHM 0,125W	1
	R311		J707385P470		RES MFILM 47 OHM 0,125W	1
	R312		J707385P332		RES MFILM 3,3K OHM 0,125W	1
	R313		J707385P154		RES MFILM 150K OHM 0,125W	1
	R314		J707385P472		RES MFILM 4,7K OHM 0,125W	1
	R315		J707385P153		RES MFILM 15K OHM 0,125W	1
	R401		J707385P152		RES MFILM 1,5K OHM 0,125W	1
	R402		J707385P473		RES MFILM 47K OHM 0,125W	1
	R403		J707385P473		RES MFILM 47K OHM 0,125W	1
	R404		J707385P561		RES MFILM 560 OHM 0,125W	1
	R405		J707385P470		RES MFILM 47 OHM 0,125W	1
	R406		J707385P683		RES MFILM 68K OHM 0,125W	1
	R407		J707385P473		RES MFILM 47K OHM 0,125W	1
	R408		J707385P103		RES MFILM 10K OHM 0,125W	1
	R409		J707478P10		RES VAR 10K OHM 0,05W	1
	R410		J707385P392		RES MFILM 3,9K OHM 0,125W	1
	R411		J707385P273		RES MFILM 27K OHM 0,125W	1
	R412		J707385P563		RES MFILM 56K OHM 0,125W	1
	R413		J707385P683		RES MFILM 68K OHM 0,125W	1
*	R414	*	J707385P393	*	RES MFILM 39K OHM 0,125W	1
	R415		J707385P334		RES MFILM 330K OHM 0,125W	1
	R416		J707385P182		RES MFILM 1,8K OHM 0,125W	1
	R417		J707385P473		RES MFILM 47K OHM 0,125W	1
*	R418	*	J707385P183	*	RES MFILM 18K OHM 0,125W	1
	R419		J707385P473		RES MFILM 47K OHM 0,125W	1
*	R420	*	J707478P12	*	RES VAR 22K OHM 0,05W	1
	R421		J707385P101		RES MFILM 100 OHM 0,125W	1
	R422		J707385P332		RES MFILM 3,3K OHM 0,125W	1
	R501		J707385P271		RES MFILM 270 OHM 0,125W	1
	R502		J707385P101		RES MFILM 100 OHM 0,125W	1
	R503		J707385P101		RES MFILM 100 OHM 0,125W	1
	R504		J707385P472		RES MFILM 4,7K OHM 0,125W	1
	R505		J707385P271		RES MFILM 270 OHM 0,125W	1
	R506		J707385P470		RES MFILM 47 OHM 0,125W	1
	R507		J707385P101		RES MFILM 100 OHM 0,125W	1
	R508		J707385P392		RES MFILM 3,9K OHM 0,125W	1
	R509		J707385P333		RES MFILM 33K OHM 0,125W	1
	R510		J707385P100		RES MFILM 10 OHM 0,125W	1
	R511		J707385P271		RES MFILM 270 OHM 0,125W	1
	R512		J707385P102		RES MFILM 1K OHM 0,125W	1
	R513		J707385P103		RES MFILM 10K OHM 0,125W	1
	R514		J707385P273		RES MFILM 27K OHM 0,125W	1
	R515		J707385P822		RES MFILM 8,2K OHM 0,125W	1
	R516		J707385P223		RES MFILM 22K OHM 0,125W	1
	R517		J707385P220		RES MFILM 22 OHM 0,125W	1
	R518		J707385P472		RES MFILM 4,7K OHM 0,125W	1
*	R519	*	J707385P562	*	RES MFILM 5,6K OHM 0,125W	1
	R520		J707385P104		RES MFILM 100K OHM 0,125W	1
	R521		J707385P470		RES MFILM 47 OHM 0,125W	1
	*		*		*	*
	R523		J707385P273		RES MFILM 27K OHM 0,125W	1
	R524		J707385P151		RES MFILM 150 OHM 0,125W	1
	R525		J707385P272		RES MFILM 2,7K OHM 0,125W	1
	R526		J707385P101		RES MFILM 100 OHM 0,125W	1
	R527		J707385P100		RES MFILM 10 OHM 0,125W	1
	R528		J707385P105		RES MFILM 1M OHM 0,125W	1
	R529		J707385P101		RES MFILM 100 OHM 0,125W	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
R530	J707385P472	RES MFILM 4,7K OHM 0,125W	1
R531	J707385P103	RES MFILM 10K OHM 0,125W	1
R532	J707385P183	RES MFILM 18K OHM 0,125W	1
R533	J707385P184	RES MFILM 180K OHM 0,125W	1
R534	J707385P273	RES MFILM 27K OHM 0,125W	1
R535	J707385P470	RES MFILM 47 OHM 0,125W	1
	INTEGRATED CICUITS:		
U401	J707449P1	INT CKT MC3357	1
*	*	*	*
U501	J707434P2	INT CKT CMOS 4053/SO16	1
U502	J707337P1	INT CKT MC145146	1
U503	J707374P1	INT CKT PLL ECL SP8793	1

Storno



* NOTE 1 5opM ONLY

NOTE 2. 455 KHz FILTER MARKING
D= 25 KHz SPACING
E= 20 KHz SPACING
G= 12,5KHz SPACING

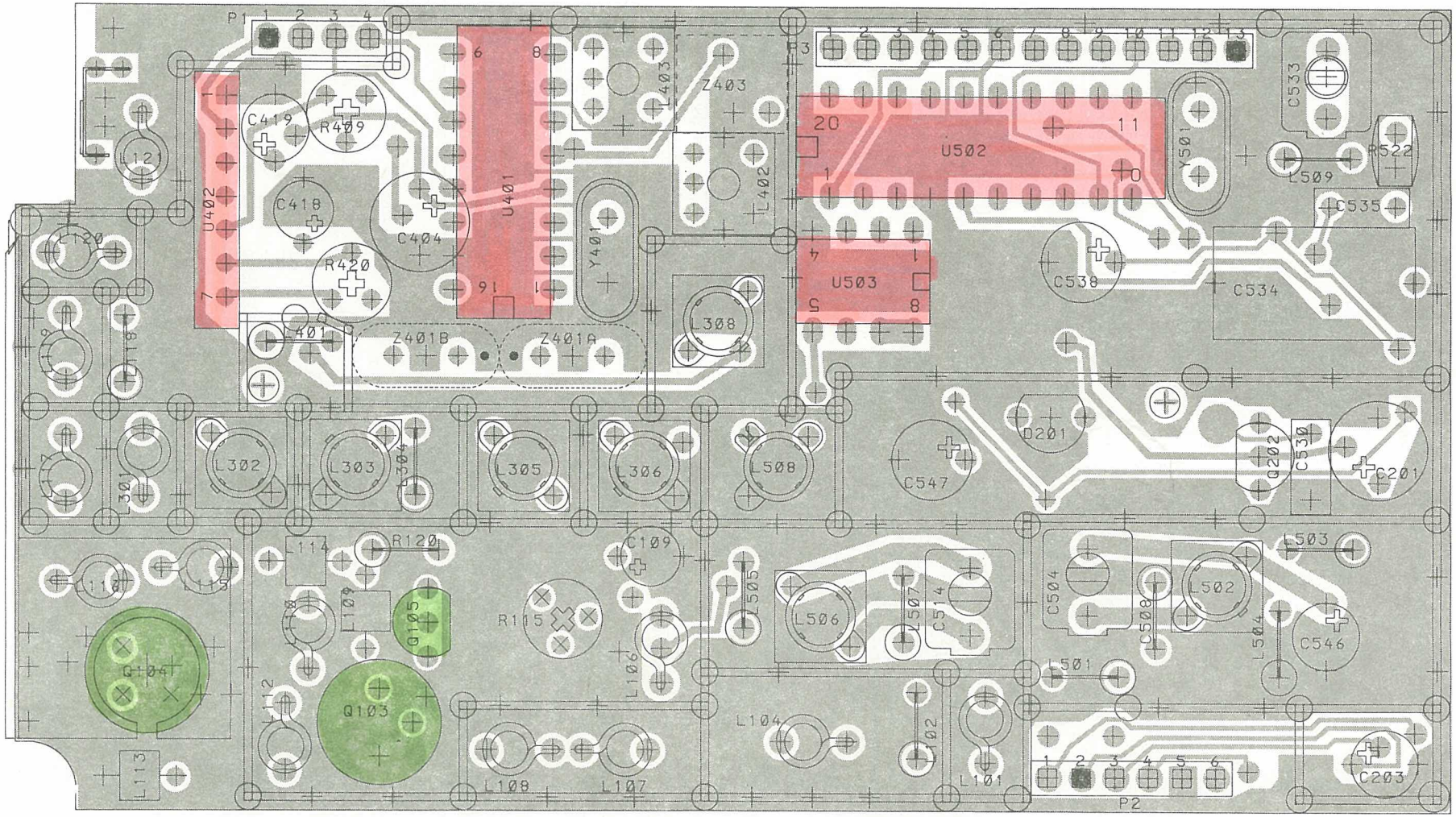
NOTE 3. REMOVE C548,C549 AND C521 FOR HIGH SIDE INJECTION.

RF BOARD RF4110

D403.307 ·

Storno

Storno



RADIO FREQUENCY-UNIT RF4110

COMPONENT LAY-OUT

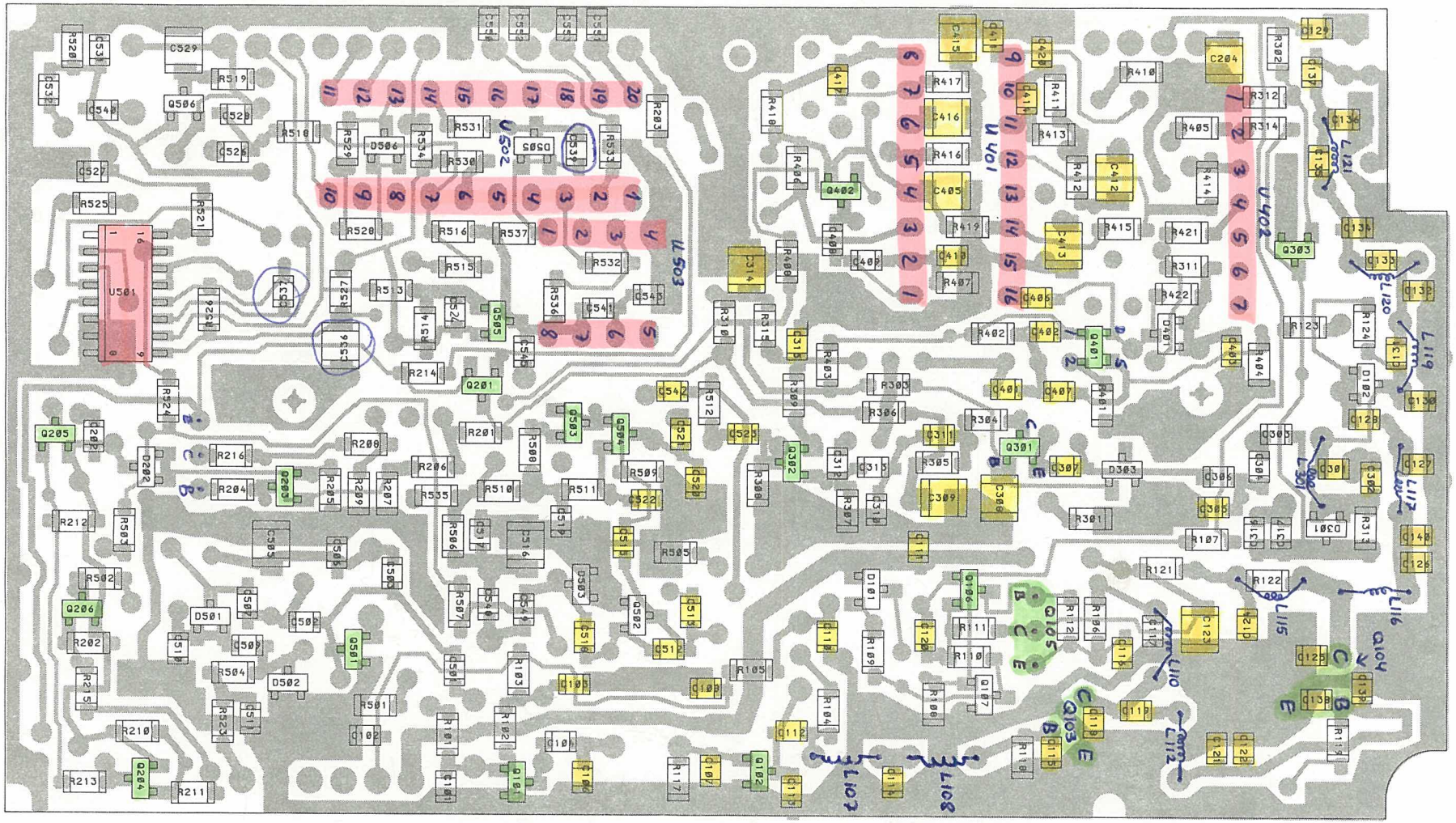
COMPONENT SIDE

CODE NO. M905741G1

D403.526

Storno

Storno



RADIOFREQUENCY-UNIT RF4110

COMPONENT LAY-OUT

CHIP SIDE

CODE NO. M905741G1

D403.527

Storno

Storno

ANT.

HARMONIC FILTER

ANTENNA SWITCH

EXCITER

5.5V TX

PART OF PWB

P1

TX INHIBIT 2
5.5V CONT. 1
SQ 3
LINE 4

ON/OFF SWITCH

VOLTAGE REGULATOR

5.5V VTX

5.5V RX

5.5V TX VCO

P2

RX-TX 4
5.5V CONT. 3
7.2V 1
5.5V TX 2
MOD HI 6
MOD LO 5

ANTENNA SWITCH

RF AMP

MIXER

MUTE SWITCH

455 KHz FILTER

21.4 MHz FILTER

2. IF AMP.

IF AMP.

U 401

SQUELCH

U 402

SQUELCH ADJ.

LINE LEVEL

TX VCO

RX VCO

INJECTION BUFFER

SAVE SWITCH

REFERENCE OSCILLATOR

40/41 PRE SCALER

P3

ON/OFF 1
CLOCK 13
OUT OF LOCK 7
FS-ON 12
GND 6
ST 8
A2 9
A1 11
A0 10
D0 5
D1 4
D2 2
D3 3

SAVE SWITCH

F REF SYNTESIZER

F VAR

U 501

U 502

U 503

NOTE 1. 5ppM ONLY

NOTE 2. 455 KHz FILTER MARKING

D= 25 KHz SPACING
E= 20 KHz SPACING
G= 12,5KHz SPACING

NOTE 3. REMOVE C548, C549 AND C521 FOR HIGH SIDE INJECTION.

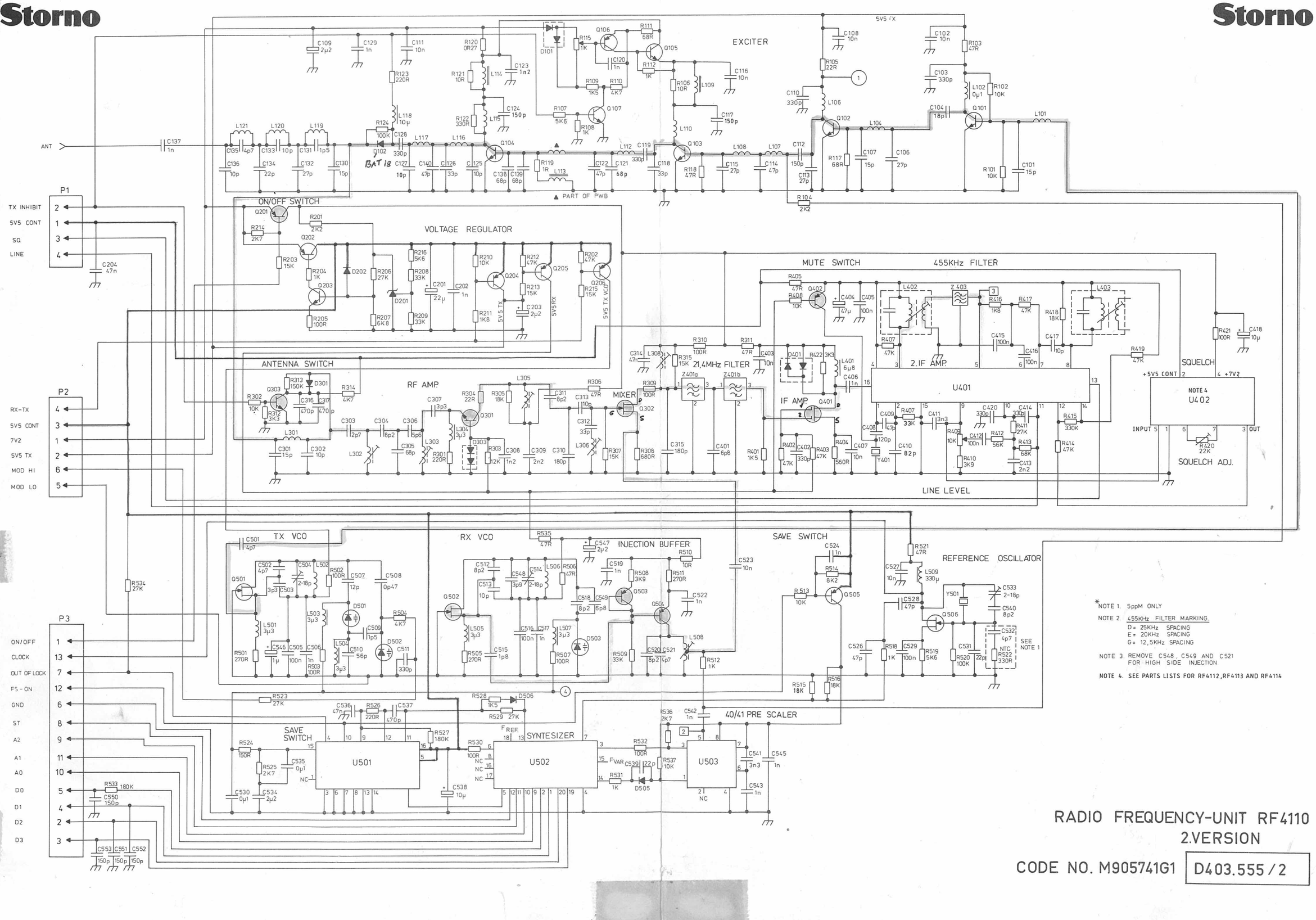
RF BOARD RF4110

CODE NO.90546 2G1

D403.307/2

Storno

Storno



*NOTE 1. 5ppM ONLY

NOTE 2. 455KHz FILTER MARKING.
D = 25KHz SPACING
E = 20KHz SPACING
G = 12,5KHz SPACING

NOTE 3. REMOVE C548, C549 AND C521 FOR HIGH SIDE INJECTION

NOTE 4. SEE PARTS LISTS FOR RF4112, RF4113 AND RF4114

RADIO FREQUENCY-UNIT RF4110
2.VERSION

CODE NO. M905741G1 | D403.555/2

ITEM NUMBER M905741G1
DESCRIPTION CPNT BD RF4110 - REVISED VERS.

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
C101	J707436P21	CAP CER 15PF 50V	1
C102	J707438P14	CAP CER 10NF 50V	1
C103	J707436P73	CAP CER 330PF 50V	1
C104	J707436P25	CAP CER 18PF 50V	1
C106	J707436P33	CAP CER 27PF 50V	1
C107	J707436P21	CAP CER 15PF 50V	1
C108	J707438P14	CAP CER 10NF 50V	1
C109	J707353P5	CAP ELEC 2,2MF 50V	1
C110	J707436P73	CAP CER 330PF 50V	1
C111	J707438P14	CAP CER 10NF 50V	1
C112	J707436P65	CAP CER 150PF 50V	1
C113	J707436P33	CAP CER 27PF 50V	1
C114	J707436P45	CAP CER 47PF 50V	1
C115	J707436P33	CAP CER 27PF 50V	1
C116	J707438P14	CAP CER 10NF 50V	1
C117	J707436P61	CAP CER 100PF 50V	1
C118	J707436P37	CAP CER 33PF 50V	1
C119	J707436P73	CAP CER 330PF 50V	1
C120	J707438P5	CAP CER 1NF 50V	1
C121	J707436P45	CAP CER 47PF 50V	1
C122	J707436P45	CAP CER 47PF 50V	1
C123	J707438P22	CAP CER 47NF 50V	1
C124	J707436P73	CAP CER 330PF 50V	1
C125	J707436P13	CAP CER 10PF 50V	1
C126	J707436P37	CAP CER 33PF 50V	1
C127	J707436P13	CAP CER 10PF 50V	1
C128	J707436P73	CAP CER 330PF 50V	1
C129	J707438P5	CAP CER 1NF 50V	1
C130	J707436P21	CAP CER 15PF 50V	1
C131	J707436P3	CAP CER 1,5PF 50V	1
C132	J707436P33	CAP CER 27PF 50V	1
C133	J707436P11	CAP CER 6,8PF 50V	1
C134	J707436P29	CAP CER 22PF 50V	1
C135	J707436P9	CAP CER 4,7PF 50V	1
C136	J707436P13	CAP CER 10PF 50V	1
C137	J707438P5	CAP CER 1NF 50V	1
C138	J707436P53	CAP CER 68PF 50V	1
C139	J707436P53	CAP CER 68PF 50V	1
C140	J707436P45	CAP CER 47PF 50V	1
C201	J707444P8	CAP TA 22MF 16V	1
C202	J707438P5	CAP CER 1NF 50V	1
C203	J707444P5	CAP TA 2,2MF 35V	1
C204	J707438P22	CAP CER 47NF 50V	1
C301	J707436P21	CAP CER 15PF 50V	1
C302	J707436P13	CAP CER 10PF 50V	1
C303	J707436P6	CAP CER 2,7PF 50V	1
C304	J707436P12	CAP CER 8,2PF 50V	1
C305	J707436P53	CAP CER 68PF 50V	1
C306	J707436P10	CAP CER 5,6PF 50V	1
C307	J707436P7	CAP CER 3,3PF 50V	1
C308	J707436P87	CAP CER 1,2NF 50V	1
C309	J707436P93	CAP CER 2,2NF 50V	1
C310	J707436P67	CAP CER 180PF 50V	1
C311	J707436P12	CAP CER 8,2PF 50V	1
C312	J707436P37	CAP CER 33PF 50V	1

	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
C313	J707436P13	CAP CER 10PF 50V	1
C314	J707438P22	CAP CER 47NF 50V	1
C315	J707436P67	CAP CER 180PF 50V	1
C316	J707438P3	CAP CER 470PF 50V	1
C317	J707438P3	CAP CER 470PF 50V	1
C401	J707436P11	CAP CER 6,8PF 50V	1
C402	J707436P73	CAP CER 330PF 50V	1
C403	J707438P14	CAP CER 10NF 50V	1
C404	J707444P9	CAP TA 47MF 6,3V	1
C405	J707438P26	CAP CER 100NF 50V	1
C406	J707438P5	CAP CER 1NF 50V	1
C407	J707438P14	CAP CER 10NF 50V	1
C408	J707436P63	CAP CER 120PF 50V	1
C409	J707436P45	CAP CER 47PF 50V	1
C410	J707436P63	CAP CER 120PF 50V	1
C411	J707438P8	CAP CER 3,3NF 50V	1
C412	J707438P26	CAP CER 100NF 50V	1
C413	J707436P93	CAP CER 2,2NF 50V	1
C414	J707436P73	CAP CER 330PF 50V	1
C415	J707438P26	CAP CER 100NF 50V	1
C416	J707438P26	CAP CER 100NF 50V	1
C417	J707436P13	CAP CER 10PF 50V	1
C418	J707444P7	CAP TA 10MF 16V	1
C419	J707444P3	CAP TA 0,47MF 35V	1
C420	J707436P73	CAP CER 330PF 50V	1
C501	J707436P9	CAP CER 4,7PF 50V	1
C502	J707436P7	CAP CER 3,3PF 50V	1
C503	J707436P7	CAP CER 3,3PF 50V	1
C504	J707475P1	CAP VAR	1
C505	J707438P26	CAP CER 100NF 50V	1
C506	J707438P5	CAP CER 1NF 50V	1
C507	J707436P17	CAP CER 12PF 50V	1
C508	J707483P1	CAP PHEN 0,47PF 500V	1
C509	J707436P3	CAP CER 1,5PF 50V	1
C510	J707436P49	CAP CER 56PF 50V	1
C511	J707436P73	CAP CER 330PF 50V	1
C512	J707436P12	CAP CER 8,2PF 50V	1
C513	J707436P13	CAP CER 10PF 50V	1
C514	J707475P1	CAP VAR	1
C515	J707436P4	CAP CER 1,8PF 50V	1
C516	J707438P26	CAP CER 100NF 50V	1
C517	J707438P5	CAP CER 1NF 50V	1
C518	J707436P12	CAP CER 8,2PF 50V	1
C519	J707438P5	CAP CER 1NF 50V	1
C520	J707436P12	CAP CER 8,2PF 50V	1
C521	J707436P9	CAP CER 4,7PF 50V	1
C522	J707438P5	CAP CER 1NF 50V	1
C523	J707438P14	CAP CER 10NF 50V	1
C524	J707438P5	CAP CER 1NF 50V	1
C526	J707436P45	CAP CER 47PF 50V	1
C527	J707438P14	CAP CER 10NF 50V	1
C528	J707436P45	CAP CER 47PF 50V	1
C529	J707438P26	CAP CER 100NF 50V	1
C530	J707412P9	CAP PYES 0,1MF 63V	1
C531	J707436P29	CAP CER 22PF 50V	1
C532	J707436P9	CAP CER 4,7PF 50V	1
C533	J707475P1	CAP VAR	1
C534	J707612P1	CAP POL 2,2MF 100V	1
C535	J707412P9	CAP PYES 0,1MF 63V	1
C536	J707438P22	CAP CER 47NF 50V	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
C537	J707438P3	CAP CER 470PF 50V	1
C538	J707353P7	CAP ELEC 10MF 16V	1
C539	J707436P29	CAP CER 22PF 50V	1
C540	J707436P12	CAP CER 8,2PF 50V	1
C541	J707438P8	CAP CER 3,3NF 50V	1
C542	J707438P5	CAP CER 1NF 50V	1
C543	J707438P5	CAP CER 1NF 50V	1
C545	J707438P5	CAP CER 1NF 50V	1
C546	J707444P4	CAP TA 1MF 35V	1
C547	J707444P5	CAP TA 2,2MF 35V	1
C548	J707436P8	CAP CER 3,9PF 50V	1
C549	J707436P11	CAP CER 6,8PF 50V	1
C550	J707436P65	CAP CER 150PF 50V	1
C551	J707436P65	CAP CER 150PF 50V	1
C552	J707436P65	CAP CER 150PF 50V	1
C553	J707436P65	CAP CER 150PF 50V	1
D101	J707389P1	DIO SI	1
D102	J707391P1	DIO SI	1
D201	J707448P1	DIO REF	1
D202	J707390P1	DIO SI BAV 70	1
D301	J707391P1	DIO SI	1
D303	J707389P1	DIO SI	1
D401	J707389P1	DIO SI	1
D501	J707397P1	DIO VAR CAP	1
D502	J707397P1	DIO VAR CAP	1
D503	J707397P1	DIO VAR CAP	1
D505	J707390P1	DIO SI BAV 70	1
D506	J707390P1	DIO SI BAV 70	1
L101	J707426P1	COIL FIX	1
L102	J707486P1	COIL FIX 100NH	1
L104	J707426P5	COIL FIX	1
L106	J707426P7	COIL FIX	1
L107	J707426P2	COIL FIX	1
L108	J707426P2	COIL FIX	1
L109	J707339G1	COIL FIX ASM	1
L110	J707426P7	COIL FIX	1
L112	J707426P2	COIL FIX	1
L113	J707339G1	COIL FIX ASM	1
L114	J707339G1	COIL FIX ASM	1
L115	J707426P4	COIL FIX	1
L116	J707426P2	COIL FIX	1
L117	J707426P4	COIL FIX	1
L118	J707486P4	COIL,RF,FIXED	1
L119	J707426P5	COIL FIX	1
L120	J707426P4	COIL FIX	1
L121	J707426P4	COIL FIX	1
L301	J707426P6	COIL FIX	1
L302	J707422P2	COIL VAR	1
L303	J707422P2	COIL VAR	1
L304	J707486P2	COIL	1
L305	J707422P2	COIL VAR	1
L306	J707422P2	COIL VAR	1
L308	J707422P3	COIL VAR	1
L401	J707486P3	COIL,RF,FIXED	1
L402	J707431P1	COIL VAR	1
L403	J707431P1	COIL VAR	1
L501	J707486P2	COIL	1
L502	J707422P1	COIL VAR	1
L503	J707486P2	COIL	1
L504	J707486P2	COIL	1

ITEM NUMBER	DESCRIPTION
M905741G1	CPNT BD RF4110 ,2.ND TYPE OCT.`83

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C101	J707436P21	CAP CER NPO 15P 5% 50V	1
C102	J707438P14	CAP CER CL2 10N 10% 50V	1
C103	J707436P73	CAP CER NPO 330P 5% 50V	1
C104	J707436P25	CAP CER NPO 18P 5% 50V	1
C106	J707436P33	CAP CER NPO 27P 5% 50V	1
C107	J707436P21	CAP CER NPO 15P 5% 50V	1
C108	J707438P14	CAP CER CL2 10N 10% 50V	1
C109	J707353P5	CAP ELEC 2,2 UF 50V	1
C110	J707436P73	CAP CER NPO 330P 5% 50V	1
C111	J707438P14	CAP CER CL2 10N 10% 50V	1
C112	J707436P65	CAP CER NPO 150P 5% 50V	1
C113	J707436P33	CAP CER NPO 27P 5% 50V	1
C114	J707436P45	CAP CER NPO 47P 5% 50V	1
C115	J707436P33	CAP CER NPO 27P 5% 50V	1
C116	J707438P14	CAP CER CL2 10N 10% 50V	1
C117	J707436P61	CAP CER NPO 100P 5% 50V	1
C118	J707436P37	CAP CER NPO 33P 5% 50V	1
C119	J707436P73	CAP CER NPO 330P 5% 50V	1
C120	J707438P5	CAP CER CL2 1N 10% 50V	1
C121	J707436P45	CAP CER NPO 47P 5% 50V	1
C122	J707436P45	CAP CER NPO 47P 5% 50V	1
C123	J707438P22	CAP CER CL2 47N 10% 50V	1
C124	J707436P73	CAP CER NPO 330P 5% 50V	1
C125	J707436P13	CAP CER NPO 10P 5% 50V	1
C126	J707436P37	CAP CER NPO 33P 5% 50V	1
C127	J707436P13	CAP CER NPO 10P 5% 50V	1
C128	J707436P73	CAP CER NPO 330P 5% 50V	1
C129	J707438P5	CAP CER CL2 1N 10% 50V	1
C130	J707436P21	CAP CER NPO 15P 5% 50V	1
C131	J707436P3	CAP CER NPO 1P5,25P 50V	1
C132	J707436P33	CAP CER NPO 27P 5% 50V	1
C133	J707436P11	CAP CER 6,8PF 50V	1
C134	J707436P29	CAP CER NPO 22P 5% 50V	1
C135	J707436P9	CAP CER NPO 4P7,25P 50V	1
C136	J707436P13	CAP CER NPO 10P 5% 50V	1
C137	J707438P5	CAP CER CL2 1N 10% 50V	1
C138	J707436P53	CAP CER NPO 68P 5% 50V	1
C139	J707436P53	CAP CER NPO 68P 5% 50V	1
C140	J707436P45	CAP CER NPO 47P 5% 50V	1
C201	J707444P8	CAP TA SOL 22U 20% 16V	1
C202	J707438P5	CAP CER CL2 1N 10% 50V	1
C203	J707444P5	CAP TA SOL 2U2 20% 35V	1
C204	J707438P22	CAP CER CL2 47N 10% 50V	1
C301	J707436P21	CAP CER NPO 15P 5% 50V	1
C302	J707436P13	CAP CER NPO 10P 5% 50V	1
C303	J707436P6	CAP CER NPO 2P7,25P 50V	1
C304	J707436P12	CAP CER NPO 8P2.25P 50V	1
C305	J707436P53	CAP CER NPO 68P 5% 50V	1
C306	J707436P10	CAP CER NPO 5P6.25P 50V	1
C307	J707436P7	CAP CER NPO 3P3,25P 50V	1
C308	J707436P87	CAP CER NPO 1N2 5% 50V	1
C309	J707436P93	CAP CER NPO 2N2 5% 50V	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C310	J707436P67	CAP CER NPO 180P 5% 50V	1
C311	J707436P12	CAP CER NPO 8P2.25P 50V	1
C312	J707436P37	CAP CER NPO 33P 5% 50V	1
C313	J707436P13	CAP CER NPO 10P 5% 50V	1
C314	J707438P22	CAP CER CL2 47N 10% 50V	1
C315	J707436P67	CAP CER NPO 180P 5% 50V	1
C316	J707438P3	CAP CER CL2 470P 10% 50V	1
C317	J707438P3	CAP CER CL2 470P 10% 50V	1
C401	J707436P11	CAP CER 6,8PF 50V	1
C402	J707436P73	CAP CER NPO 330P 5% 50V	1
C403	J707438P14	CAP CER CL2 10N 10% 50V	1
C404	J707444P9	CAP TA SOL 47U 20% 6V	1
C405	J707438P26	CAP CER CL2 100N 10% 50V	1
C406	J707438P5	CAP CER CL2 1N 10% 50V	1
C407	J707438P14	CAP CER CL2 10N 10% 50V	1
C408	J707436P63	CAP CER NPO 120P 5% 50V	1
C409	J707436P45	CAP CER NPO 47P 5% 50V	1
C410	J707436P63	CAP CER NPO 120P 5% 50V	1
C411	J707438P8	CAP CER CL2 3N3 10% 50V	1
C412	J707438P26	CAP CER CL2 100N 10% 50V	1
C413	J707436P93	CAP CER NPO 2N2 5% 50V	1
C414	J707436P73	CAP CER NPO 330P 5% 50V	1
C415	J707438P26	CAP CER CL2 100N 10% 50V	1
C416	J707438P26	CAP CER CL2 100N 10% 50V	1
C417	J707436P13	CAP CER NPO 10P 5% 50V	1
C418	J707444P7	CAP TA SOL 10U 20% 16V	1
C419	J707444P3	CAP TA SOL 0U47 20% 35V	1
C420	J707436P73	CAP CER NPO 330P 5% 50V	1
C501	J707436P9	CAP CER NPO 4P7,25P 50V	1
C502	J707436P7	CAP CER NPO 3P3,25P 50V	1
C503	J707436P7	CAP CER NPO 3P3,25P 50V	1
C504	J707475P1	CAP VAR	1
C505	J707438P26	CAP CER CL2 100N 10% 50V	1
C506	J707438P5	CAP CER CL2 1N 10% 50V	1
C507	J707436P17	CAP CER NPO 12P 5% 50V	1
C508	J707483P1	CAP PHEN 0P47 5% 500V	1
C509	J707436P3	CAP CER NPO 1P5,25P 50V	1
C510	J707436P49	CAP CER NPO 56P 5% 50V	1
C511	J707436P73	CAP CER NPO 330P 5% 50V	1
C512	J707436P12	CAP CER NPO 8P2.25P 50V	1
C513	J707436P13	CAP CER NPO 10P 5% 50V	1
C514	J707475P1	CAP VAR	1
C515	J707436P4	CAP CER NPO 1P8,25P 50V	1
C516	J707438P26	CAP CER CL2 100N 10% 50V	1
C517	J707438P5	CAP CER CL2 1N 10% 50V	1
C518	J707436P12	CAP CER NPO 8P2.25P 50V	1
C519	J707438P5	CAP CER CL2 1N 10% 50V	1
C520	J707436P12	CAP CER NPO 8P2.25P 50V	1
C521	J707436P9	CAP CER NPO 4P7,25P 50V	1
C522	J707438P5	CAP CER CL2 1N 10% 50V	1
C523	J707438P14	CAP CER CL2 10N 10% 50V	1
C524	J707438P5	CAP CER CL2 1N 10% 50V	1
C526	J707436P45	CAP CER NPO 47P 5% 50V	1
C527	J707438P14	CAP CER CL2 10N 10% 50V	1
C528	J707436P45	CAP CER NPO 47P 5% 50V	1
C529	J707438P26	CAP CER CL2 100N 10% 50V	1
C530	J707412P9	CAP PYES 100N 10% 63V	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C531	J707436P29	CAP CER NPO 22P 5% 50V	1
C532	J707436P9	CAP CER NPO 4P7,25P 50V	1
C533	J707475P1	CAP VAR	1
C534	J707612P1	CAP POL 2,2MF 100V	1
C535	J707412P9	CAP PYES 100N 10% 63V	1
C536	J707438P22	CAP CER CL2 47N 10% 50V	1
C537	J707438P3	CAP CER CL2 470P 10% 50V	1
C538	J707353P7	CAP ELEC 10MF 16V	1
C539	J707436P29	CAP CER NPO 22P 5% 50V	1
C540	J707436P12	CAP CER NPO 8P2.25P 50V	1
C541	J707438P8	CAP CER CL2 3N3 10% 50V	1
C542	J707438P5	CAP CER CL2 1N 10% 50V	1
C543	J707438P5	CAP CER CL2 1N 10% 50V	1
C545	J707438P5	CAP CER CL2 1N 10% 50V	1
C546	J707444P4	CAP TA SOL 1U 20% 35V	1
C547	J707444P5	CAP TA SOL 2U2 20% 35V	1
C548	J707436P8	CAP CER NPO 3P9,25P 50V	1
C549	J707436P11	CAP CER 6,8PF 50V	1
C550	J707436P65	CAP CER NPO 150P 5% 50V	1
C551	J707436P65	CAP CER NPO 150P 5% 50V	1
C552	J707436P65	CAP CER NPO 150P 5% 50V	1
C553	J707436P65	CAP CER NPO 150P 5% 50V	1
D101	J707389P1	DIO SI SIG BAV 99	1
D102	J707391P1	DIO SI SIG BAT 18	1
D201	J707448P1	IC LIN VR VAR 431	1
D202	J707390P1	DIO SI SIG BAV 74	1
D301	J707391P1	DIO SI SIG BAT 18	1
D303	J707389P1	DIO SI SIG BAV 99	1
D401	J707389P1	DIO SI SIG BAV 99	1
D501	J707397P1	DIO SI CAP BBY 40	1
D502	J707397P1	DIO SI CAP BBY 40	1
D503	J707397P1	DIO SI CAP BBY 40	1
D505	J707390P1	DIO SI SIG BAV 74	1
D506	J707390P1	DIO SI SIG BAV 74	1
L101	J707426P1	COIL FIX	1
L102	J707486P1	COIL RF FIX 0.1UH 10%	1
L104	J707426P5	COIL FIX	1
L106	J707426P7	COIL FIX	1
L107	J707426P2	COIL FIX	1
L108	J707426P2	COIL FIX	1
L109	J707339G1	COIL FIX ASM	1
L110	J707426P7	COIL FIX	1
L112	J707426P2	COIL FIX	1
L113	J707339G1	COIL FIX ASM	1
L114	J707339G1	COIL FIX ASM	1
L115	J707426P4	COIL FIX	1
L116	J707426P2	COIL FIX	1
L117	J707426P4	COIL FIX	1
L118	J707486P4	COIL RF FIX 10UH 10%	1
L119	J707426P5	COIL FIX	1
L120	J707426P4	COIL FIX	1
L121	J707426P4	COIL FIX	1
L301	J707426P6	COIL FIX	1
L302	J707422P2	COIL RF VAR 4-1/2T	1
L303	J707422P2	COIL RF VAR 4-1/2T	1
L304	J707486P2	COIL RF FIX 3.3UH 10%	1
L305	J707422P2	COIL RF VAR 4-1/2T	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
L306	J707422P2	COIL RF VAR 4-1/2T	1
L308	J707422P3	COIL RF VAR 9-1/2T	1
L401	J707486P3	COIL RF FIX 6.8UH 10%	1
L402	J707431P1	COIL RF VAR 455KHZ 25%	1
L403	J707431P1	COIL RF VAR 455KHZ 25%	1
L501	J707486P2	COIL RF FIX 3.3UH 10%	1
L502	J707422P1	COIL RF VAR 2-1/2T	1
L503	J707486P2	COIL RF FIX 3.3UH 10%	1
L504	J707486P2	COIL RF FIX 3.3UH 10%	1
L505	J707486P2	COIL RF FIX 3.3UH 10%	1
L506	J707422P1	COIL RF VAR 2-1/2T	1
L507	J707486P2	COIL RF FIX 3.3UH 10%	1
L508	J707375P1	COIL RF VAR 4-1/2 TAP	1
L509	J707486P5	COIL RF FIX 330UH 10%	1
P001	J707962G1	PLG ASM	1
P002	J707962G2	PLG ASM	1
P003	J707962G3	PLG ASM	1
Q101	J707388P1	TSTR NPN SI BFR 53	1
Q102	J707388P1	TSTR NPN SI BFR 53	1
Q103	J706145P1	TSTR NPN SI BFW 16A	1
Q104	J707868P1	TSTR NPN SI RF-PWR 4W	1
Q105	J707673P1	TSTR NPN SI BC 368	1
Q106	J707387P1	TSTR PNP SI BCW 30	1
Q107	J707386P1	TSTR NPN SI BCW 32	1
Q201	J707387P1	TSTR PNP SI BCW 30	1
Q202	J707435P1	TSTR PNP SI BC 369	1
Q203	J707386P1	TSTR NPN SI BCW 32	1
Q204	J707432P1	TSTR PNP SI BCX 18	1
Q205	J707387P1	TSTR PNP SI BCW 30	1
Q206	J707387P1	TSTR PNP SI BCW 30	1
Q301	J707418P1	TSTR NPN SI BFS 17	1
Q302	J707419P1	TSTR JFET SI BF 511	1
Q303	J707386P1	TSTR NPN SI BCW 32	1
Q401	J707433P1	TSTR MFET SI BF 989	1
Q402	J707387P1	TSTR PNP SI BCW 30	1
Q501	J707419P1	TSTR JFET SI BF 511	1
Q502	J707419P1	TSTR JFET SI BF 511	1
Q503	J707387P1	TSTR PNP SI BCW 30	1
Q504	J707430P1	TSTR NPN SI BF 569	1
Q505	J707387P1	TSTR PNP SI BCW 30	1
Q506	J707419P1	TSTR JFET SI BF 511	1
R101	J707385P103	RES MFILM 10K 5% 1/8W	1
R102	J707385P103	RES MFILM 10K 5% 1/8W	1
R103	J707385P470	RES MFILM 47R 5% 1/8W	1
R104	J707385P222	RES MFILM 2K2 5% 1/8W	1
R105	J707385P220	RES MFILM 22R 5% 1/8W	1
R106	J707385P100	RES MFILM 10R 5% 1/8W	1
R107	J707385P562	RES MFILM 5K6 5% 1/8W	1
R108	J707385P102	RES MFILM 1K0 5% 1/8W	1
R109	J707385P152	RES MFILM 1K5 5% 1/8W	1
R110	J707385P472	RES MFILM 4K7 5% 1/8W	1
R111	J707385P680	RES MFILM 68R 5% 1/8W	1
R112	J707385P102	RES MFILM 1K0 5% 1/8W	1
R115	J707478P4	RES VAR 1K OHM 0,05W	1
R117	J707385P680	RES MFILM 68R 5% 1/8W	1
R118	J707385P470	RES MFILM 47R 5% 1/8W	1
R119	J707385P910	RES MFILM 1R0 5% 1/8W	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
R120	J707945P1	RES WW R27 5%	1
R121	J707385P100	RES MFILM 10R 5% 1/8W	1
R122	J707385P331	RES MFILM 330R 5% 1/8W	1
R123	J707385P221	RES MFILM 220R 5% 1/8W	1
R124	J707385P104	RES MFILM 100K 5% 1/8W	1
R201	J707385P222	RES MFILM 2K2 5% 1/8W	1
R202	J707385P473	RES MFILM 47K 5% 1/8W	1
R203	J707385P153	RES MFILM 15K 5% 1/8W	1
R204	J707385P102	RES MFILM 1K0 5% 1/8W	1
R205	J707385P101	RES MFILM 100R 5% 1/8W	1
R206	J707385P273	RES MFILM 27K 5% 1/8W	1
R207	J707385P682	RES MFILM 6K8 5% 1/8W	1
R208	J707385P333	RES MFILM 33K 5% 1/8W	1
R209	J707385P333	RES MFILM 33K 5% 1/8W	1
R210	J707385P103	RES MFILM 10K 5% 1/8W	1
R211	J707385P182	RES MFILM 1K8 5% 1/8W	1
R212	J707385P473	RES MFILM 47K 5% 1/8W	1
R213	J707385P153	RES MFILM 15K 5% 1/8W	1
R214	J707385P272	RES MFILM 2K7 5% 1/8W	1
R215	J707385P153	RES MFILM 15K 5% 1/8W	1
R216	J707385P562	RES MFILM 5K6 5% 1/8W	1
R301	J707385P221	RES MFILM 220R 5% 1/8W	1
R302	J707385P103	RES MFILM 10K 5% 1/8W	1
R303	J707385P123	RES MFILM 12K 5% 1/8W	1
R304	J707385P220	RES MFILM 22R 5% 1/8W	1
R305	J707385P183	RES MFILM 18K 5% 1/8W	1
R306	J707385P470	RES MFILM 47R 5% 1/8W	1
R307	J707385P153	RES MFILM 15K 5% 1/8W	1
R308	J707385P681	RES MFILM 680R 5% 1/8W	1
R309	J707385P101	RES MFILM 100R 5% 1/8W	1
R310	J707385P101	RES MFILM 100R 5% 1/8W	1
R311	J707385P470	RES MFILM 47R 5% 1/8W	1
R312	J707385P332	RES MFILM 3K3 5% 1/8W	1
R313	J707385P154	RES MFILM 150K 5% 1/8W	1
R314	J707385P472	RES MFILM 4K7 5% 1/8W	1
R315	J707385P153	RES MFILM 15K 5% 1/8W	1
R401	J707385P152	RES MFILM 1K5 5% 1/8W	1
R402	J707385P473	RES MFILM 47K 5% 1/8W	1
R403	J707385P473	RES MFILM 47K 5% 1/8W	1
R404	J707385P561	RES MFILM 560R 5% 1/8W	1
R405	J707385P470	RES MFILM 47R 5% 1/8W	1
R406	J707385P683	RES MFILM 68K 5% 1/8W	1
R407	J707385P473	RES MFILM 47K 5% 1/8W	1
R408	J707385P103	RES MFILM 10K 5% 1/8W	1
R409	J707478P10	RES VAR 10K OHM 0,05W	1
R410	J707385P392	RES MFILM 3K9 5% 1/8W	1
R411	J707385P273	RES MFILM 27K 5% 1/8W	1
R412	J707385P563	RES MFILM 56K 5% 1/8W	1
R413	J707385P683	RES MFILM 68K 5% 1/8W	1
R414	J707385P473	RES MFILM 47K 5% 1/8W	1
R415	J707385P334	RES MFILM 330K 5% 1/8W	1
R416	J707385P182	RES MFILM 1K8 5% 1/8W	1
R417	J707385P473	RES MFILM 47K 5% 1/8W	1
R418	J707385P183	RES MFILM 18K 5% 1/8W	1
R419	J707385P473	RES MFILM 47K 5% 1/8W	1
R420	J707478P12	RES VAR 22K OHM 0,05W	1
R421	J707385P101	RES MFILM 100R 5% 1/8W	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
R422	J707385P332	RES MFILM 3K3 5% 1/8W	1
R501	J707385P271	RES MFILM 270R 5% 1/8W	1
R502	J707385P101	RES MFILM 100R 5% 1/8W	1
R503	J707385P101	RES MFILM 100R 5% 1/8W	1
R504	J707385P472	RES MFILM 4K7 5% 1/8W	1
R505	J707385P271	RES MFILM 270R 5% 1/8W	1
R506	J707385P470	RES MFILM 47R 5% 1/8W	1
R507	J707385P101	RES MFILM 100R 5% 1/8W	1
R508	J707385P392	RES MFILM 3K9 5% 1/8W	1
R509	J707385P333	RES MFILM 33K 5% 1/8W	1
R510	J707385P100	RES MFILM 10R 5% 1/8W	1
R511	J707385P271	RES MFILM 270R 5% 1/8W	1
R512	J707385P102	RES MFILM 1K0 5% 1/8W	1
R513	J707385P103	RES MFILM 10K 5% 1/8W	1
R514	J707385P822	RES MFILM 8K2 5% 1/8W	1
R515	J707385P153	RES MFILM 15K 5% 1/8W	1
R516	J707385P183	RES MFILM 18K 5% 1/8W	1
R518	J707385P472	RES MFILM 4K7 5% 1/8W	1
R519	J707385P562	RES MFILM 5K6 5% 1/8W	1
R520	J707385P104	RES MFILM 100K 5% 1/8W	1
R521	J707385P470	RES MFILM 47R 5% 1/8W	1
R522	J707406P1	RES THERM NTC 330R 20%	1
R523	J707385P273	RES MFILM 27K 5% 1/8W	1
R524	J707385P151	RES MFILM 150R 5% 1/8W	1
R525	J707385P272	RES MFILM 2K7 5% 1/8W	1
R526	J707385P221	RES MFILM 220R 5% 1/8W	1
R527	J707385P184	RES MFILM 180K 5% 1/8W	1
R528	J707385P152	RES MFILM 1K5 5% 1/8W	1
R529	J707385P273	RES MFILM 27K 5% 1/8W	1
R530	J707385P101	RES MFILM 100R 5% 1/8W	1
R531	J707385P102	RES MFILM 1K0 5% 1/8W	1
R532	J707385P101	RES MFILM 100R 5% 1/8W	1
R533	J707385P184	RES MFILM 180K 5% 1/8W	1
R534	J707385P273	RES MFILM 27K 5% 1/8W	1
R535	J707385P470	RES MFILM 47R 5% 1/8W	1
R536	J707385P272	RES MFILM 2K7 5% 1/8W	1
R537	J707385P103	RES MFILM 10K 5% 1/8W	1
U401	J707449P1	INT CKT MC3357	1
U402	M905492G1	INT CKT SQ4001	1
U501	J707434P2	IC DIG CMOS 4053	1
U502	J707337P1	INT CKT	1
U503	J707374P1	IC PLL ECL 8793	1
0003	K805347G1	SHLD METALL ASM	1
0007	L855385P1	SPRING ANTENNA	1
0008	A701332P4	INSULATOR	1
0009	J706281P6	CORE	6
0010	L855470P1	HEAT ZINK	1

ITEM NUMBER DESCRIPTION

M905741G1 CPNT BD R F 4 1 1 0, 2.ND TYPE OCT.`83

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C101	J707436P21	CAP CER NPO 15P 5% 50V	1
C102	J707438P14	CAP CER CL2 10N 10% 50V	1
C103	J707436P73	CAP CER NPO 330P 5% 50V	1
C104	J707436P25	CAP CER NPO 18P 5% 50V	1
C106	J707436P33	CAP CER NPO 27P 5% 50V	1
C107	J707436P21	CAP CER NPO 15P 5% 50V	1
C108	J707438P14	CAP CER CL2 10N 10% 50V	1
C109	J707353P5	CAP ELEC 2,2 UF 50V	1
C110	J707436P73	CAP CER NPO 330P 5% 50V	1
C111	J707438P14	CAP CER CL2 10N 10% 50V	1
C112	J707436P65	CAP CER NPO 150P 5% 50V	1
C113	J707436P33	CAP CER NPO 27P 5% 50V	1
C114	J707436P45	CAP CER NPO 47P 5% 50V	1
C115	J707436P33	CAP CER NPO 27P 5% 50V	1
C116	J707438P14	CAP CER CL2 10N 10% 50V	1
C117	J707436P61	CAP CER NPO 100P 5% 50V	1
C118	J707436P37	CAP CER NPO 33P 5% 50V	1
C119	J707436P73	CAP CER NPO 330P 5% 50V	1
C120	J707438P5	CAP CER CL2 1N 10% 50V	1
C121	J707436P45	CAP CER NPO 47P 5% 50V	1
C122	J707436P45	CAP CER NPO 47P 5% 50V	1
C123	J707438P22	CAP CER CL2 47N 10% 50V	1
C124	J707436P73	CAP CER NPO 330P 5% 50V	1
C125	J707436P13	CAP CER NPO 10P 5% 50V	1
C126	J707436P37	CAP CER NPO 33P 5% 50V	1
C127	J707436P13	CAP CER NPO 10P 5% 50V	1
C128	J707436P73	CAP CER NPO 330P 5% 50V	1
C129	J707438P5	CAP CER CL2 1N 10% 50V	1
C130	J707436P21	CAP CER NPO 15P 5% 50V	1
C131	J707436P3	CAP CER NPO 1P5,25P 50V	1
C132	J707436P33	CAP CER NPO 27P 5% 50V	1
C133	J707436P11	CAP CER 6,8PF 50V	1
C134	J707436P29	CAP CER NPO 22P 5% 50V	1
C135	J707436P9	CAP CER NPO 4P7,25P 50V	1
C136	J707436P13	CAP CER NPO 10P 5% 50V	1
C137	J707438P5	CAP CER CL2 1N 10% 50V	1
C138	J707436P53	CAP CER NPO 68P 5% 50V	1
C139	J707436P53	CAP CER NPO 68P 5% 50V	1
C140	J707436P45	CAP CER NPO 47P 5% 50V	1
C201	J707444P8	CAP TA SOL 22U 20% 16V	1
C202	J707438P5	CAP CER CL2 1N 10% 50V	1
C203	J707444P5	CAP TA SOL 2U2 20% 35V	1
C204	J707438P22	CAP CER CL2 47N 10% 50V	1
C301	J707436P21	CAP CER NPO 15P 5% 50V	1
C302	J707436P13	CAP CER NPO 10P 5% 50V	1
C303	J707436P6	CAP CER NPO 2P7,25P 50V	1
C304	J707436P12	CAP CER NPO 8P2.25P 50V	1
C305	J707436P53	CAP CER NPO 68P 5% 50V	1
C306	J707436P10	CAP CER NPO 5P6.25P 50V	1
C307	J707436P7	CAP CER NPO 3P3,25P 50V	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C308	J707436P87	CAP CER NPO 1N2 5% 50V	1
C309	J707436P93	CAP CER NPO 2N2 5% 50V	1
C310	J707436P67	CAP CER NPO 180P 5% 50V	1
C311	J707436P12	CAP CER NPO 8P2.25P 50V	1
C312	J707436P37	CAP CER NPO 33P 5% 50V	1
C313	J707436P13	CAP CER NPO 10P 5% 50V	1
C314	J707438P22	CAP CER CL2 47N 10% 50V	1
C315	J707436P67	CAP CER NPO 180P 5% 50V	1
C316	J707438P3	CAP CER CL2 470P 10% 50V	1
C317	J707438P3	CAP CER CL2 470P 10% 50V	1
C401	J707436P11	CAP CER 6,8PF 50V	1
C402	J707436P73	CAP CER NPO 330P 5% 50V	1
C403	J707438P14	CAP CER CL2 10N 10% 50V	1
C404	J707444P9	CAP TA SOL 47U 20% 6V	1
C405	J707438P26	CAP CER CL2 100N 10% 50V	1
C406	J707438P5	CAP CER CL2 1N 10% 50V	1
C407	J707438P14	CAP CER CL2 10N 10% 50V	1
C408	J707436P63	CAP CER NPO 120P 5% 50V	1
C409	J707436P45	CAP CER NPO 47P 5% 50V	1
C410	J707436P63	CAP CER NPO 120P 5% 50V	1
C411	J707438P8	CAP CER CL2 3N3 10% 50V	1
C412	J707438P26	CAP CER CL2 100N 10% 50V	1
C413	J707436P93	CAP CER NPO 2N2 5% 50V	1
C414	J707436P73	CAP CER NPO 330P 5% 50V	1
C415	J707438P26	CAP CER CL2 100N 10% 50V	1
C416	J707438P26	CAP CER CL2 100N 10% 50V	1
C417	J707436P13	CAP CER NPO 10P 5% 50V	1
C418	J707444P7	CAP TA SOL 10U 20% 16V	1
C419	J707444P3	CAP TA SOL 0U47 20% 35V	1
C420	J707436P73	CAP CER NPO 330P 5% 50V	1
C501	J707436P9	CAP CER NPO 4P7,25P 50V	1
C502	J707436P7	CAP CER NPO 3P3,25P 50V	1
C503	J707436P7	CAP CER NPO 3P3,25P 50V	1
C504	J707475P1	CAP VAR	1
C505	J707438P26	CAP CER CL2 100N 10% 50V	1
C506	J707438P5	CAP CER CL2 1N 10% 50V	1
C507	J707436P17	CAP CER NPO 12P 5% 50V	1
C508	J707483P1	CAP PHEN 0P47 5% 500V	1
C509	J707436P3	CAP CER NPO 1P5,25P 50V	1
C510	J707436P49	CAP CER NPO 56P 5% 50V	1
C511	J707436P73	CAP CER NPO 330P 5% 50V	1
C512	J707436P12	CAP CER NPO 8P2.25P 50V	1
C513	J707436P13	CAP CER NPO 10P 5% 50V	1
C514	J707475P1	CAP VAR	1
C515	J707436P4	CAP CER NPO 1P8,25P 50V	1
C516	J707438P26	CAP CER CL2 100N 10% 50V	1
C517	J707438P5	CAP CER CL2 1N 10% 50V	1
C518	J707436P12	CAP CER NPO 8P2.25P 50V	1
C519	J707438P5	CAP CER CL2 1N 10% 50V	1
C520	J707436P12	CAP CER NPO 8P2.25P 50V	1
C521	J707436P9	CAP CER NPO 4P7,25P 50V	1
C522	J707438P5	CAP CER CL2 1N 10% 50V	1
C523	J707438P14	CAP CER CL2 10N 10% 50V	1
C524	J707438P5	CAP CER CL2 1N 10% 50V	1
C526	J707436P45	CAP CER NPO 47P 5% 50V	1
C527	J707438P14	CAP CER CL2 10N 10% 50V	1
C528	J707436P45	CAP CER NPO 47P 5% 50V	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C529	J707438P26	CAP CER CL2 100N 10% 50V	1
C530	J707412P9	CAP PYES 100N 10% 63V	1
C531	J707436P29	CAP CER NPO 22P 5% 50V	1
C532	J707436P9	CAP CER NPO 4P7,25P 50V	1
C533	J707475P1	CAP VAR	1
C534	J707612P1	CAP POL 2,2MF 100V	1
C535	J707412P9	CAP PYES 100N 10% 63V	1
C536	J707438P22	CAP CER CL2 47N 10% 50V	1
C537	J707438P3	CAP CER CL2 470P 10% 50V	1
C538	J707353P7	CAP ELEC 10MF 16V	1
C539	J707436P29	CAP CER NPO 22P 5% 50V	1
C540	J707436P12	CAP CER NPO 8P2.25P 50V	1
C541	J707438P8	CAP CER CL2 3N3 10% 50V	1
C542	J707438P5	CAP CER CL2 1N 10% 50V	1
C543	J707438P5	CAP CER CL2 1N 10% 50V	1
C545	J707438P5	CAP CER CL2 1N 10% 50V	1
C546	J707444P4	CAP TA SOL 1U 20% 35V	1
C547	J707444P5	CAP TA SOL 2U2 20% 35V	1
C548	J707436P8	CAP CER NPO 3P9,25P 50V	1
C549	J707436P11	CAP CER 6,8PF 50V	1
C550	J707436P65	CAP CER NPO 150P 5% 50V	1
C551	J707436P65	CAP CER NPO 150P 5% 50V	1
C552	J707436P65	CAP CER NPO 150P 5% 50V	1
C553	J707436P65	CAP CER NPO 150P 5% 50V	1
D101	J707389P1	DIO SI SIG BAV 99	1
D102	J707391P1	DIO SI SIG BAT 18	1
D201	J707448P1	IC LIN VR VAR 431	1
D202	J707390P1	DIO SI SIG BAV 74	1
D301	J707391P1	DIO SI SIG BAT 18	1
D303	J707389P1	DIO SI SIG BAV 99	1
D401	J707389P1	DIO SI SIG BAV 99	1
D501	J707397P1	DIO SI CAP BBY 40	1
D502	J707397P1	DIO SI CAP BBY 40	1
D503	J707397P1	DIO SI CAP BBY 40	1
D505	J707390P1	DIO SI SIG BAV 74	1
D506	J707390P1	DIO SI SIG BAV 74	1
L101	J707426P1	COIL FIX	1
L102	J707486P1	COIL RF FIX 0.1UH 10%	1
L104	J707426P5	COIL FIX	1
L106	J707426P7	COIL FIX	1
L107	J707426P2	COIL FIX	1
L108	J707426P2	COIL FIX	1
L109	J707339G1	COIL FIX ASM	1
L110	J707426P7	COIL FIX	1
L112	J707426P2	COIL FIX	1
L113	J707339G1	COIL FIX ASM	1
L114	J707339G1	COIL FIX ASM	1
L115	J707426P4	COIL FIX	1
L116	J707426P2	COIL FIX	1
L117	J707426P4	COIL FIX	1
L118	J707486P4	COIL RF FIX 10UH 10%	1
L119	J707426P5	COIL FIX	1
L120	J707426P4	COIL FIX	1
L121	J707426P4	COIL FIX	1
L301	J707426P6	COIL FIX	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
L302	J707422P2	COIL RF VAR 4-1/2T	1
L303	J707422P2	COIL RF VAR 4-1/2T	1
L304	J707486P2	COIL RF FIX 3.3UH 10%	1
L305	J707422P2	COIL RF VAR 4-1/2T	1
L306	J707422P2	COIL RF VAR 4-1/2T	1
L308	J707422P3	COIL RF VAR 9-1/2T	1
L401	J707486P3	COIL RF FIX 6.8UH 10%	1
L402	J707431P1	COIL RF VAR 455KHZ 25%	1
L403	J707431P1	COIL RF VAR 455KHZ 25%	1
L501	J707486P2	COIL RF FIX 3.3UH 10%	1
L502	J707422P1	COIL RF VAR 2-1/2T	1
L503	J707486P2	COIL RF FIX 3.3UH 10%	1
L504	J707486P2	COIL RF FIX 3.3UH 10%	1
L505	J707486P2	COIL RF FIX 3.3UH 10%	1
L506	J707422P1	COIL RF VAR 2-1/2T	1
L507	J707486P2	COIL RF FIX 3.3UH 10%	1
L508	J707375P1	COIL RF VAR 4-1/2 TAP	1
L509	J707486P5	COIL RF FIX 330UH 10%	1
P001	J707962G1	PLG ASM	1
P002	J707962G2	PLG ASM	1
P003	J707962G3	PLG ASM	1
Q101	J707388P1	TSTR NPN SI BFR 53	1
Q102	J707388P1	TSTR NPN SI BFR 53	1
Q103	J706145P1	TSTR NPN SI BFW 16A	1
Q104	J707868P1	TSTR NPN SI RF-PWR 4W	1
Q105	J707673P1	TSTR NPN SI BC 368	1
Q106	J707387P1	TSTR PNP SI BCW 30	1
Q107	J707386P1	TSTR NPN SI BCW 32	1
Q201	J707387P1	TSTR PNP SI BCW 30	1
Q202	J707435P1	TSTR PNP SI BC 369	1
Q203	J707386P1	TSTR NPN SI BCW 32	1
Q204	J707432P1	TSTR PNP SI BCX 18	1
Q205	J707387P1	TSTR PNP SI BCW 30	1
Q206	J707387P1	TSTR PNP SI BCW 30	1
Q301	J707418P1	TSTR NPN SI BFS 17	1
Q302	J707419P1	TSTR JFET SI BF 511	1
Q303	J707386P1	TSTR NPN SI BCW 32	1
Q401	J707433P1	TSTR MFET SI BF 989	1
Q402	J707387P1	TSTR PNP SI BCW 30	1
Q501	J707419P1	TSTR JFET SI BF 511	1
Q502	J707419P1	TSTR JFET SI BF 511	1
Q503	J707387P1	TSTR PNP SI BCW 30	1
Q504	J707430P1	TSTR NPN SI BF 569	1
Q505	J707387P1	TSTR PNP SI BCW 30	1
Q506	J707419P1	TSTR JFET SI BF 511	1
R101	J707385P103	RES MFILM 10K 5% 1/8W	1
R102	J707385P103	RES MFILM 10K 5% 1/8W	1
R103	J707385P470	RES MFILM 47R 5% 1/8W	1
R104	J707385P222	RES MFILM 2K2 5% 1/8W	1
R105	J707385P220	RES MFILM 22R 5% 1/8W	1
R106	J707385P100	RES MFILM 10R 5% 1/8W	1
R107	J707385P562	RES MFILM 5K6 5% 1/8W	1
R108	J707385P102	RES MFILM 1KO 5% 1/8W	1
R109	J707385P152	RES MFILM 1K5 5% 1/8W	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
R110	J707385P472	RES MFILM 4K7 5% 1/8W	1
R111	J707385P680	RES MFILM 68R 5% 1/8W	1
R112	J707385P102	RES MFILM 1KO 5% 1/8W	1
R115	J707478P4	RES VAR 1K OHM 0,05W	1
R117	J707385P680	RES MFILM 68R 5% 1/8W	1
R118	J707385P470	RES MFILM 47R 5% 1/8W	1
R119	J707385P910	RES MFILM 1RO 5% 1/8W	1
R120	J707945P1	RES WW R27 5%	1
R121	J707385P100	RES MFILM 10R 5% 1/8W	1
R122	J707385P331	RES MFILM 330R 5% 1/8W	1
R123	J707385P221	RES MFILM 220R 5% 1/8W	1
R124	J707385P104	RES MFILM 100K 5% 1/8W	1
R201	J707385P222	RES MFILM 2K2 5% 1/8W	1
R202	J707385P473	RES MFILM 47K 5% 1/8W	1
R203	J707385P153	RES MFILM 15K 5% 1/8W	1
R204	J707385P102	RES MFILM 1KO 5% 1/8W	1
R205	J707385P101	RES MFILM 100R 5% 1/8W	1
R206	J707385P273	RES MFILM 27K 5% 1/8W	1
R207	J707385P682	RES MFILM 6K8 5% 1/8W	1
R208	J707385P333	RES MFILM 33K 5% 1/8W	1
R209	J707385P333	RES MFILM 33K 5% 1/8W	1
R210	J707385P103	RES MFILM 10K 5% 1/8W	1
R211	J707385P182	RES MFILM 1K8 5% 1/8W	1
R212	J707385P473	RES MFILM 47K 5% 1/8W	1
R213	J707385P153	RES MFILM 15K 5% 1/8W	1
R214	J707385P272	RES MFILM 2K7 5% 1/8W	1
R215	J707385P153	RES MFILM 15K 5% 1/8W	1
R216	J707385P562	RES MFILM 5K6 5% 1/8W	1
R301	J707385P221	RES MFILM 220R 5% 1/8W	1
R302	J707385P103	RES MFILM 10K 5% 1/8W	1
R303	J707385P123	RES MFILM 12K 5% 1/8W	1
R304	J707385P220	RES MFILM 22R 5% 1/8W	1
R305	J707385P183	RES MFILM 18K 5% 1/8W	1
R306	J707385P470	RES MFILM 47R 5% 1/8W	1
R307	J707385P153	RES MFILM 15K 5% 1/8W	1
R308	J707385P681	RES MFILM 680R 5% 1/8W	1
R309	J707385P101	RES MFILM 100R 5% 1/8W	1
R310	J707385P101	RES MFILM 100R 5% 1/8W	1
R311	J707385P470	RES MFILM 47R 5% 1/8W	1
R312	J707385P332	RES MFILM 3K3 5% 1/8W	1
R313	J707385P154	RES MFILM 150K 5% 1/8W	1
R314	J707385P472	RES MFILM 4K7 5% 1/8W	1
R315	J707385P153	RES MFILM 15K 5% 1/8W	1
R401	J707385P152	RES MFILM 1K5 5% 1/8W	1
R402	J707385P473	RES MFILM 47K 5% 1/8W	1
R403	J707385P473	RES MFILM 47K 5% 1/8W	1
R404	J707385P561	RES MFILM 560R 5% 1/8W	1
R405	J707385P470	RES MFILM 47R 5% 1/8W	1
R406	J707385P683	RES MFILM 68K 5% 1/8W	1
R407	J707385P473	RES MFILM 47K 5% 1/8W	1
R408	J707385P103	RES MFILM 10K 5% 1/8W	1
R409	J707478P10	RES VAR 10K OHM 0,05W	1
R410	J707385P392	RES MFILM 3K9 5% 1/8W	1
R411	J707385P273	RES MFILM 27K 5% 1/8W	1
R412	J707385P563	RES MFILM 56K 5% 1/8W	1
R413	J707385P683	RES MFILM 68K 5% 1/8W	1
R414	J707385P473	RES MFILM 47K 5% 1/8W	1

CIRCUIT POSITION		COMPONENT ITEM NUMBER		COMPONENT DESCRIPTION	QUANTITY
R415		J707385P334		RES MFILM 330K 5% 1/8W	1
R416		J707385P182		RES MFILM 1K8 5% 1/8W	1
R417		J707385P473		RES MFILM 47K 5% 1/8W	1
R418		J707385P183		RES MFILM 18K 5% 1/8W	1
R419		J707385P473		RES MFILM 47K 5% 1/8W	1
R420		J707478P12		RES VAR 22K OHM 0,05W	1
R421		J707385P101		RES MFILM 100R 5% 1/8W	1
R422		J707385P332		RES MFILM 3K3 5% 1/8W	1
R501		J707385P271		RES MFILM 270R 5% 1/8W	1
R502		J707385P101		RES MFILM 100R 5% 1/8W	1
R503		J707385P101		RES MFILM 100R 5% 1/8W	1
R504		J707385P472		RES MFILM 4K7 5% 1/8W	1
R505		J707385P271		RES MFILM 270R 5% 1/8W	1
R506		J707385P470		RES MFILM 47R 5% 1/8W	1
R507		J707385P101		RES MFILM 100R 5% 1/8W	1
R508		J707385P392		RES MFILM 3K9 5% 1/8W	1
R509		J707385P333		RES MFILM 33K 5% 1/8W	1
R510		J707385P100		RES MFILM 10R 5% 1/8W	1
R511		J707385P271		RES MFILM 270R 5% 1/8W	1
R512		J707385P102		RES MFILM 1K0 5% 1/8W	1
R513		J707385P103		RES MFILM 10K 5% 1/8W	1
R514		J707385P822		RES MFILM 8K2 5% 1/8W	1
R515		J707385P153		RES MFILM 15K 5% 1/8W	1
R516		J707385P183		RES MFILM 18K 5% 1/8W	1
R518	*	J707385P102	*	RES MFILM 1K0 5% 1/8W	1
R519		J707385P562		RES MFILM 5K6 5% 1/8W	1
R520		J707385P104		RES MFILM 100K 5% 1/8W	1
R521		J707385P470		RES MFILM 47R 5% 1/8W	1
*		*		*	*
R523		J707385P273		RES MFILM 27K 5% 1/8W	1
R524		J707385P151		RES MFILM 150R 5% 1/8W	1
R525		J707385P272		RES MFILM 2K7 5% 1/8W	1
R526		J707385P221		RES MFILM 220R 5% 1/8W	1
R527		J707385P184		RES MFILM 180K 5% 1/8W	1
R528		J707385P152		RES MFILM 1K5 5% 1/8W	1
R529		J707385P273		RES MFILM 27K 5% 1/8W	1
R530		J707385P101		RES MFILM 100R 5% 1/8W	1
R531		J707385P102		RES MFILM 1K0 5% 1/8W	1
R532		J707385P101		RES MFILM 100R 5% 1/8W	1
R533		J707385P184		RES MFILM 180K 5% 1/8W	1
R534		J707385P273		RES MFILM 27K 5% 1/8W	1
R535		J707385P470		RES MFILM 47R 5% 1/8W	1
R536		J707385P272		RES MFILM 2K7 5% 1/8W	1
R537		J707385P103		RES MFILM 10K 5% 1/8W	1
U401		J707449P1		INT CKT MC3357	1
*		*		*	*
U501		J707434P2		IC DIG CMOS 4053	1
U502		J707337P1		INT CKT	1
U503		J707374P1		IC PLL ECL 8793	1
0003		K805347G1		SHLD METALL ASM	1
0007		L855385P1		SPRING ANTENNA	1
0008		A701332P4		INSULATOR	1
0009		J706281P6		CORE	6
0010		L855470P1		HEAT SINK	1

ITEM NUMBER DESCRIPTION

M905741G1 CPNT BD R F 4 1 1 0, 2.ND TYPE

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C101	J707436P21	CAP CER NPO 15P 5% 50V	1
C102	J707438P14	CAP CER CL2 10N 10% 50V	1
C103	J707436P73	CAP CER NPO 330P 5% 50V	1
C104	J707436P25	CAP CER NPO 18P 5% 50V	1
C106	J707436P33	CAP CER NPO 27P 5% 50V	1
C107	J707436P21	CAP CER NPO 15P 5% 50V	1
C108	J707438P14	CAP CER CL2 10N 10% 50V	1
C109	J707353P5	CAP ELEC 2,2 UF 50V	1
C110	J707436P73	CAP CER NPO 330P 5% 50V	1
C111	J707438P14	CAP CER CL2 10N 10% 50V	1
C112	J707436P65	CAP CER NPO 150P 5% 50V	1
C113	J707436P33	CAP CER NPO 27P 5% 50V	1
C114	J707436P45	CAP CER NPO 47P 5% 50V	1
C115	J707436P33	CAP CER NPO 27P 5% 50V	1
C116	J707438P14	CAP CER CL2 10N 10% 50V	1
C117	J707436P61	CAP CER NPO 100P 5% 50V	1
C118	J707436P37	CAP CER NPO 33P 5% 50V	1
C119	J707436P73	CAP CER NPO 330P 5% 50V	1
C120	J707438P5	CAP CER CL2 1N 10% 50V	1
C121	J707436P45	CAP CER NPO 47P 5% 50V	1
C122	J707436P45	CAP CER NPO 47P 5% 50V	1
C123	J707438P22	CAP CER CL2 47N 10% 50V	1
C124	J707436P73	CAP CER NPO 330P 5% 50V	1
C125	J707436P13	CAP CER NPO 10P 5% 50V	1
C126	J707436P37	CAP CER NPO 33P 5% 50V	1
C127	J707436P13	CAP CER NPO 10P 5% 50V	1
C128	J707436P73	CAP CER NPO 330P 5% 50V	1
C129	J707438P5	CAP CER CL2 1N 10% 50V	1
C130	J707436P21	CAP CER NPO 15P 5% 50V	1
C131	J707436P3	CAP CER NPO 1P5,25P 50V	1
C132	J707436P33	CAP CER NPO 27P 5% 50V	1
C133	J707436P11	CAP CER 6,8PF 50V	1
C134	J707436P29	CAP CER NPO 22P 5% 50V	1
C135	J707436P9	CAP CER NPO 4P7,25P 50V	1
C136	J707436P13	CAP CER NPO 10P 5% 50V	1
C137	J707438P5	CAP CER CL2 1N 10% 50V	1
C138	J707436P53	CAP CER NPO 68P 5% 50V	1
C139	J707436P53	CAP CER NPO 68P 5% 50V	1
C140	J707436P45	CAP CER NPO 47P 5% 50V	1
C201	J707444P8	CAP TA SOL 22U 20% 16V	1
C202	J707438P5	CAP CER CL2 1N 10% 50V	1
C203	J707444P5	CAP TA SOL 2U2 20% 35V	1
C204	J707438P22	CAP CER CL2 47N 10% 50V	1
C301	J707436P21	CAP CER NPO 15P 5% 50V	1
C302	J707436P13	CAP CER NPO 10P 5% 50V	1
C303	J707436P6	CAP CER NPO 2P7,25P 50V	1
C304	J707436P12	CAP CER NPO 8P2.25P 50V	1
C305	J707436P53	CAP CER NPO 68P 5% 50V	1
C306	J707436P10	CAP CER NPO 5P6.25P 50V	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY	
C307	J707436P7	CAP CER NPO 3P3,25P 50V	1	
C308	J707436P87	CAP CER NPO 1N2 5% 50V	1	
C309	J707436P93	CAP CER NPO 2N2 5% 50V	1	
C310	J707436P67	CAP CER NPO 180P 5% 50V	1	
C311	J707436P12	CAP CER NPO 8P2.25P 50V	1	
C312	J707436P37	CAP CER NPO 33P 5% 50V	1	
C313	J707436P13	CAP CER NPO 10P 5% 50V	1	
C314	J707438P22	CAP CER CL2 47N 10% 50V	1	
C315	J707436P67	CAP CER NPO 180P 5% 50V	1	
C316	J707438P3	CAP CER CL2 470P 10% 50V	1	
C317	J707438P3	CAP CER CL2 470P 10% 50V	1	
C401	J707436P11	CAP CER 6,8PF 50V	1	
C402	J707436P73	CAP CER NPO 330P 5% 50V	1	
C403	J707438P14	CAP CER CL2 10N 10% 50V	1	
C404	J707444P9	CAP TA SOL 47U 20% 6V	1	
C405	J707438P26	CAP CER CL2 100N 10% 50V	1	
C406	J707438P5	CAP CER CL2 1N 10% 50V	1	
C407	J707438P14	CAP CER CL2 10N 10% 50V	1	
C408	J707436P63	CAP CER NPO 120P 5% 50V	1	
C409	J707436P45	CAP CER NPO 47P 5% 50V	1	
C410	J707436P63	CAP CER NPO 120P 5% 50V	1	
C411	J707438P8	CAP CER CL2 3N3 10% 50V	1	
C412	J707438P26	CAP CER CL2 100N 10% 50V	1	
C413	J707436P93	CAP CER NPO 2N2 5% 50V	1	
C414	J707436P73	CAP CER NPO 330P 5% 50V	1	
C415	J707438P26	CAP CER CL2 100N 10% 50V	1	
C416	J707438P26	CAP CER CL2 100N 10% 50V	1	
C417	J707436P13	CAP CER NPO 10P 5% 50V	1	
C418	J707444P7	CAP TA SOL 10U 20% 16V	1	
C419	J707444P3	CAP TA SOL 0U47 20% 35V	1	RF4112/3
* C419	* J707444P4	* CAP TA SOL 1U0 20% 35V	1	F.RF4114
C420	J707436P73	CAP CER NPO 330P 5% 50V	1	
C501	J707436P9	CAP CER NPO 4P7,25P 50V	1	
C502	J707436P7	CAP CER NPO 3P3,25P 50V	1	
C503	J707436P7	CAP CER NPO 3P3,25P 50V	1	
C504	J707475P1	CAP VAR 2 - 18 PF	1	
C505	J707438P26	CAP CER CL2 100N 10% 50V	1	
C506	J707438P5	CAP CER CL2 1N 10% 50V	1	
C507	J707436P17	CAP CER NPO 12P 5% 50V	1	
C508	J707483P1	CAP PHEN 0P47 5% 500V	1	
C509	J707436P3	CAP CER NPO 1P5,25P 50V	1	
C510	J707436P49	CAP CER NPO 56P 5% 50V	1	
C511	J707436P73	CAP CER NPO 330P 5% 50V	1	
C512	J707436P12	CAP CER NPO 8P2.25P 50V	1	
C513	J707436P13	CAP CER NPO 10P 5% 50V	1	
C514	J707475P1	CAP VAR 2 - 18 PF	1	
C515	J707436P4	CAP CER NPO 1P8,25P 50V	1	
C516	J707438P26	CAP CER CL2 100N 10% 50V	1	
C517	J707438P5	CAP CER CL2 1N 10% 50V	1	
C518	J707436P12	CAP CER NPO 8P2.25P 50V	1	
C519	J707438P5	CAP CER CL2 1N 10% 50V	1	
C520	J707436P12	CAP CER NPO 8P2.25P 50V	1	
C521	J707436P9	CAP CER NPO 4P7,25P 50V	1	
C522	J707438P5	CAP CER CL2 1N 10% 50V	1	
C523	J707438P14	CAP CER CL2 10N 10% 50V	1	
C524	J707438P5	CAP CER CL2 1N 10% 50V	1	

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C526	J707436P45	CAP CER NPO 47P 5% 50V	1
C527	J707438P14	CAP CER CL2 10N 10% 50V	1
C528	J707436P45	CAP CER NPO 47P 5% 50V	1
C529	J707438P26	CAP CER CL2 100N 10% 50V	1
C530	J707412P9	CAP PYES 100N 10% 63V	1
C531	J707436P29	CAP CER NPO 22P 5% 50V	1
C532	J707436P9	CAP CER NPO 4P7,25P 50V	1
C533	J707475P1	CAP VAR 2 - 18 PF	1
C534	J707612P1	CAP POL 2,2MF 100V	1
C535	J707412P9	CAP PYES 100N 10% 63V	1
C536	J707438P22	CAP CER CL2 47N 10% 50V	1
C537	J707438P3	CAP CER CL2 470P 10% 50V	1
C538	J707353P7	CAP ELEC 10MF 16V	1
C539	J707436P29	CAP CER NPO 22P 5% 50V	1
C540	J707436P12	CAP CER NPO 8P2.25P 50V	1
C541	J707438P8	CAP CER CL2 3N3 10% 50V	1
C542	J707438P5	CAP CER CL2 1N 10% 50V	1
C543	J707438P5	CAP CER CL2 1N 10% 50V	1
C545	J707438P5	CAP CER CL2 1N 10% 50V	1
C546	J707444P4	CAP TA SOL 1U 20% 35V	1
C547	J707444P5	CAP TA SOL 2U2 20% 35V	1
C548	J707436P8	CAP CER NPO 3P9,25P 50V	1
C549	J707436P11	CAP CER 6,8PF 50V	1
C550	J707436P65	CAP CER NPO 150P 5% 50V	1
C551	J707436P65	CAP CER NPO 150P 5% 50V	1
C552	J707436P65	CAP CER NPO 150P 5% 50V	1
C553	J707436P65	CAP CER NPO 150P 5% 50V	1
D101	J707389P1	DIO SI SIG BAV 99	1
D102	J707391P1	DIO SI SIG BAT 18	1
D201	J707448P1	IC LIN VR VAR TL431 CLP	1
D202	J707390P1	DIO SI SIG BAV 74	1
D301	J707391P1	DIO SI SIG BAT 18	1
D303	J707389P1	DIO SI SIG BAV 99	1
D401	J707389P1	DIO SI SIG BAV 99	1
D501	J707397P1	DIO SI CAP BBY 40	1
D502	J707397P1	DIO SI CAP BBY 40	1
D503	J707397P1	DIO SI CAP BBY 40	1
D505	J707390P1	DIO SI SIG BAV 74	1
D506	J707390P1	DIO SI SIG BAV 74	1
L101	J707426P1	COIL FIX	1
L102	J707486P1	COIL RF FIX 0.1UH 10%	1
L104	J707426P5	COIL FIX	1
L106	J707426P7	COIL FIX	1
L107	J707426P2	COIL FIX	1
L108	J707426P2	COIL FIX	1
L109	J707339G1	COIL FIX ASM	1
L110	J707426P7	COIL FIX	1
L112	J707426P2	COIL FIX	1
L113	J707339G1	COIL FIX ASM	1
L114	J707339G1	COIL FIX ASM	1
L115	J707426P4	COIL FIX	1
L116	J707426P2	COIL FIX	1
L117	J707426P4	COIL FIX	1
L118	J707486P4	COIL RF FIX 10UH 10%	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
L119	J707426P5	COIL FIX	1
L120	J707426P4	COIL FIX	1
L121	J707426P4	COIL FIX	1
L301	J707426P6	COIL FIX	1
L302	J707422P2	COIL RF VAR 4-1/2T	1
L303	J707422P2	COIL RF VAR 4-1/2T	1
L304	J707486P2	COIL RF FIX 3.3UH 10%	1
L305	J707422P2	COIL RF VAR 4-1/2T	1
L306	J707422P2	COIL RF VAR 4-1/2T	1
L308	J707422P3	COIL RF VAR 9-1/2T	1
L401	J707486P3	COIL RF FIX 6.8UH 10%	1
L402	J707431P1	COIL RF VAR 455KHZ 25%	1
L403	J707431P1	COIL RF VAR 455KHZ 25%	1
L501	J707486P2	COIL RF FIX 3.3UH 10%	1
L502	J707422P1	COIL RF VAR 2-1/2T	1
L503	J707486P2	COIL RF FIX 3.3UH 10%	1
L504	J707486P2	COIL RF FIX 3.3UH 10%	1
L505	J707486P2	COIL RF FIX 3.3UH 10%	1
L506	J707422P1	COIL RF VAR 2-1/2T	1
L507	J707486P2	COIL RF FIX 3.3UH 10%	1
L508	J707375P1	COIL RF VAR 4-1/2 TAP	1
L509	J707486P5	COIL RF FIX 330UH 10%	1
P001	J707962G1	PLG ASM	1
P002	J707962G2	PLG ASM	1
P003	J707962G3	PLG ASM	1
Q101	J707388P1	TSTR NPN SI BFR 53	1
Q102	J707388P1	TSTR NPN SI BFR 53	1
Q103	J706145P1	TSTR NPN SI BFW 16A	1
Q104	J707868P1	TSTR NPN SI RF-PWR 4W	1
Q105	J707673P1	TSTR NPN SI BC 368	1
Q106	J707387P1	TSTR PNP SI BCW 30	1
Q107	J707386P1	TSTR NPN SI BCW 32	1
Q201	J707387P1	TSTR PNP SI BCW 30	1
Q202	J707435P1	TSTR PNP SI BC 369	1
Q203	J707386P1	TSTR NPN SI BCW 32	1
Q204	J707432P1	TSTR PNP SI BCX 18	1
Q205	J707387P1	TSTR PNP SI BCW 30	1
Q206	J707387P1	TSTR PNP SI BCW 30	1
Q301	J707418P1	TSTR NPN SI BFS 17	1
Q302	J707419P1	TSTR JFET SI BF 511	1
Q303	J707386P1	TSTR NPN SI BCW 32	1
Q401	J707433P1	TSTR MFET SI BF 989	1
Q402	J707387P1	TSTR PNP SI BCW 30	1
Q501	J707419P1	TSTR JFET SI BF 511	1
Q502	J707419P1	TSTR JFET SI BF 511	1
Q503	J707387P1	TSTR PNP SI BCW 30	1
Q504	J707430P1	TSTR NPN SI BF 569	1
Q505	J707387P1	TSTR PNP SI BCW 30	1
Q506	J707419P1	TSTR JFET SI BF 511	1
R101	J707385P103	RES MFILM 10K 5% 1/8W	1
R102	J707385P103	RES MFILM 10K 5% 1/8W	1
R103	J707385P470	RES MFILM 47R 5% 1/8W	1
R104	J707385P222	RES MFILM 2K2 5% 1/8W	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
R105	J707385P220	RES MFILM 22R 5% 1/8W	1
R106	J707385P100	RES MFILM 10R 5% 1/8W	1
R107	J707385P562	RES MFILM 5K6 5% 1/8W	1
R108	J707385P102	RES MFILM 1K0 5% 1/8W	1
R109	J707385P152	RES MFILM 1K5 5% 1/8W	1
R110	J707385P472	RES MFILM 4K7 5% 1/8W	1
R111	J707385P680	RES MFILM 68R 5% 1/8W	1
R112	J707385P102	RES MFILM 1K0 5% 1/8W	1
R115	J707478P4	RES VAR 1K OHM 0,05W	1
R117	J707385P680	RES MFILM 68R 5% 1/8W	1
R118	J707385P470	RES MFILM 47R 5% 1/8W	1
R119	J707385P910	RES MFILM 1R0 5% 1/8W	1
R120	J707945P1	RES WW R27 5%	1
R121	J707385P100	RES MFILM 10R 5% 1/8W	1
R122	J707385P331	RES MFILM 330R 5% 1/8W	1
R123	J707385P221	RES MFILM 220R 5% 1/8W	1
R124	J707385P104	RES MFILM 100K 5% 1/8W	1
R201	J707385P222	RES MFILM 2K2 5% 1/8W	1
R202	J707385P473	RES MFILM 47K 5% 1/8W	1
R203	J707385P153	RES MFILM 15K 5% 1/8W	1
R204	J707385P102	RES MFILM 1K0 5% 1/8W	1
R205	J707385P101	RES MFILM 100R 5% 1/8W	1
R206	J707385P273	RES MFILM 27K 5% 1/8W	1
R207	J707385P682	RES MFILM 6K8 5% 1/8W	1
R208	J707385P333	RES MFILM 33K 5% 1/8W	1
R209	J707385P333	RES MFILM 33K 5% 1/8W	1
R210	J707385P103	RES MFILM 10K 5% 1/8W	1
R211	J707385P182	RES MFILM 1K8 5% 1/8W	1
R212	J707385P473	RES MFILM 47K 5% 1/8W	1
R213	J707385P153	RES MFILM 15K 5% 1/8W	1
R214	J707385P272	RES MFILM 2K7 5% 1/8W	1
R215	J707385P153	RES MFILM 15K 5% 1/8W	1
R216	J707385P562	RES MFILM 5K6 5% 1/8W	1
R301	J707385P221	RES MFILM 220R 5% 1/8W	1
R302	J707385P103	RES MFILM 10K 5% 1/8W	1
R303	J707385P123	RES MFILM 12K 5% 1/8W	1
R304	J707385P220	RES MFILM 22R 5% 1/8W	1
R305	J707385P183	RES MFILM 18K 5% 1/8W	1
R306	J707385P470	RES MFILM 47R 5% 1/8W	1
R307	J707385P153	RES MFILM 15K 5% 1/8W	1
R308	J707385P681	RES MFILM 680R 5% 1/8W	1
R309	J707385P101	RES MFILM 100R 5% 1/8W	1
R310	J707385P101	RES MFILM 100R 5% 1/8W	1
R311	J707385P470	RES MFILM 47R 5% 1/8W	1
R312	J707385P332	RES MFILM 3K3 5% 1/8W	1
R313	J707385P154	RES MFILM 150K 5% 1/8W	1
R314	J707385P472	RES MFILM 4K7 5% 1/8W	1
R315	J707385P153	RES MFILM 15K 5% 1/8W	1
R401	J707385P152	RES MFILM 1K5 5% 1/8W	1
R402	J707385P473	RES MFILM 47K 5% 1/8W	1
R403	J707385P473	RES MFILM 47K 5% 1/8W	1
R404	J707385P561	RES MFILM 560R 5% 1/8W	1
R405	J707385P470	RES MFILM 47R 5% 1/8W	1
R406	J707385P683	RES MFILM 68K 5% 1/8W	1
R407	J707385P473	RES MFILM 47K 5% 1/8W	1
R408	J707385P103	RES MFILM 10K 5% 1/8W	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
R409	J707478P10	RES VAR 10K OHM 0,05W	1
R410	J707385P392	RES MFILM 3K9 5% 1/8W	1
R411	J707385P273	RES MFILM 27K 5% 1/8W	1
R412	J707385P563	RES MFILM 56K 5% 1/8W	1
R413	J707385P683	RES MFILM 68K 5% 1/8W	1
R414	J707385P393 *	RES MFILM 39K 5% 1/8W *	1
R415	J707385P334	RES MFILM 330K 5% 1/8W	1
R416	J707385P182	RES MFILM 1K8 5% 1/8W	1
R417	J707385P473	RES MFILM 47K 5% 1/8W	1
R418	J707385P183	RES MFILM 18K 5% 1/8W	1
R419	J707385P473	RES MFILM 47K 5% 1/8W	1
R420	J707478P12	RES VAR 22K OHM O,05W	1
R421	J707385P101	RES MFILM 100R 5% 1/8W	1
R422	J707385P332	RES MFILM 3K3 5% 1/8W	1
R501	J707385P271	RES MFILM 270R 5% 1/8W	1
R502	J707385P101	RES MFILM 100R 5% 1/8W	1
R503	J707385P101	RES MFILM 100R 5% 1/8W	1
R504	J707385P472	RES MFILM 4K7 5% 1/8W	1
R505	J707385P271	RES MFILM 270R 5% 1/8W	1
R506	J707385P470	RES MFILM 47R 5% 1/8W	1
R507	J707385P101	RES MFILM 100R 5% 1/8W	1
R508	J707385P392	RES MFILM 3K9 5% 1/8W	1
R509	J707385P333	RES MFILM 33K 5% 1/8W	1
R510	J707385P100	RES MFILM 10R 5% 1/8W	1
R511	J707385P271	RES MFILM 270R 5% 1/8W	1
R512	J707385P102	RES MFILM 1K0 5% 1/8W	1
R513	J707385P103	RES MFILM 10K 5% 1/8W	1
R514	J707385P822	RES MFILM 8K2 5% 1/8W	1
R515	J707385P153	RES MFILM 15K 5% 1/8W	1
R516	J707385P183	RES MFILM 18K 5% 1/8W	1
R518	J707385P102	RES MFILM 1K0 5% 1/8W	1
R519	J707385P562	RES MFILM 5K6 5% 1/8W	1
R520	J707385P104	RES MFILM 100K 5% 1/8W	1
R521	J707385P470	RES MFILM 47R 5% 1/8W	1
R523	J707385P273	RES MFILM 27K 5% 1/8W	1
R524	J707385P151	RES MFILM 150R 5% 1/8W	1
R525	J707385P272	RES MFILM 2K7 5% 1/8W	1
R526	J707385P221	RES MFILM 220R 5% 1/8W	1
R527	J707385P184	RES MFILM 180K 5% 1/8W	1
R528	J707385P152	RES MFILM 1K5 5% 1/8W	1
R529	J707385P273	RES MFILM 27K 5% 1/8W	1
R530	J707385P101	RES MFILM 100R 5% 1/8W	1
R531	J707385P102	RES MFILM 1K0 5% 1/8W	1
R532	J707385P101	RES MFILM 100R 5% 1/8W	1
R533	J707385P184	RES MFILM 180K 5% 1/8W	1
R534	J707385P273	RES MFILM 27K 5% 1/8W	1
R535	J707385P470	RES MFILM 47R 5% 1/8W	1
R536	J707385P272	RES MFILM 2K7 5% 1/8W	1
R537	J707385P103	RES MFILM 10K 5% 1/8W	1
U401	J707449P1	INT CKT MC3357	1
U501	J707434P2	IC DIG CMOS 4053	1
U502	J707337P1	INT CKT	1
U503	J707374P1	IC PLL ECL 8793	1
0003	K805347P1	SHLD METALL ASM	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
0004	A700136P5	SLVG INS EL Ø4.7 X 0.51MM	
0005	A701648P2	SIL RUBB. SEALANT RTV-162	
0006	J706647P1	SILICONE OIL QZ 13	
0007	L855385P1	SPRING ANTENNA	1
0008	A701332P4	INSULATOR	1
0009	J706281P6	CORE	6
0010	L855470P1	HEAT SINK	1

ITEM NUMBER	DESCRIPTION
J707428G1	RF 4112

P A R T S L I S T :

	CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
*	A001	M905741G1	CPNT BD RF411X	1
	Z401	J707310P1	FLT 21,4MHZ	1
	Z403	J707446P1	FLT 455KHZ	1
	0002	J706804P2	WASH,INSULATION	2

ITEM NUMBER	DESCRIPTION
J707428G1	R F 4 1 1 2

P A R T S L I S T :

	CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
	A001	M905462G1	CPNT BD RF411X	1
*	U402	M905492G1	INT CKT. SQ4001	1
	Z401	J707310P1	FLT 21,4MHZ	1
	Z403	J707446P1	FLT 455KHZ	1
	0002	J706804P2	WASH,INSULATION	2

ITEM NUMBER	DESCRIPTION
J707428G2	RF 4113

P A R T S L I S T :

	CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
*	A001	M905741G1	CPNT BD RF411X	1
	Z401	J707310P2	FLT 21,4MHZ	1
	Z403	J707446P3	FLT 455KHZ	1
	0002	J706804P2	WASH,INSULATION	2

ITEM NUMBER	DESCRIPTION
J707428G2	R F 4 1 1 3

P A R T S L I S T :

	CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
	A001	M905462G1	CPNT BD RF411X	1
*	U402	M905492G1	INT CKT SQ4001	1
	Z401	J707310P2	FLT 21,4MHZ	1
	Z403	J707446P3	FLT 455KHZ	1
	0002	J706804P2	WASH,INSULATION	2

ITEM NUMBER	DESCRIPTION
J707428G3	RF 4114

P A R T S L I S T :

	CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
*	A001	M905741G1	CPNT BD RF411X	1
	C419	J707444P4	CAP TA 1MF 35V	1
	Z401	J707310P3	FLT 21,4MHZ	1
	Z403	J707446P4	FLT 455KHZ	1
	0002	J706804P2	WASH,INSULATION	2

ITEM NUMBER	DESCRIPTION
J707428G3	R F 4 1 1 4

P A R T S L I S T :

	CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
	A001	M905462G1	CPNT BD RF411X	1
	C419	J707444P4	CAP TA 1MF 35V	1
*	R522	J707406P1	RES NTC 330 OHM	1
*	U402	M905492G1	INT CKT SQ4001	1
	Z401	J707310P3	FLT 21,4MHZ	1
	Z403	J707446P4	FLT 455KHZ	1
	0002	J706804P2	WASH,INSULATION	2

CHAPTER 2a

CQP4110

2/10 CHANNELS VERSION

- ADJUSTMENT PROCEDURE
- TEST POINTS AND ADJUSTABLE COMPONENTS

ADJUSTMENT PROCEDURE

CQP4110

This adjustment procedure applies to the following types of STORNOPHONE 4000 radios:

CQP4112: 146-174 MHz - 25 kHz channel spacing
CQP4113: 146-174 MHz - 20 kHz channel spacing
CQP4114: 146-174 MHz - 12.5 kHz channel spacing

Before making adjustments to the radio circuit, read the type label and note the channel frequencies and the tone system coding.
Also check the personality PROM and its data against the type label information.

MEASURING INSTRUMENTS

The following measuring instruments are necessary for making service and adjustments to the CQP4110:

RF Signal Generator	146-174 MHz
AF Voltmeter	Z_i >0.5 Mohm
Multimeter	20 Kohm/V
Distortion meter	
Deviation meter	
Watt meter	0-2.5 W
AF Generator 50 Hz-5 kHz	Z_{out} ≥600 ohm
Frequency counter	5-200 MHz/50 mV
Power Supply	6-10 V/2 A
Signal Sampler	Storno D52
RF diode probe	Storno 95.0059-00
RF coil tuning tool	Storno 17.0053-00
Ref. oscillator tuning tool	Storno 19J707496G1
Test adaptor	SE4002 19K805371G1
Service kit	SE4003 19J707744G1
Consisting of service cabinet and antenna adaptor	
Extension cables	CC4001 19J707704G1

DISMANTLING OF CQP4000

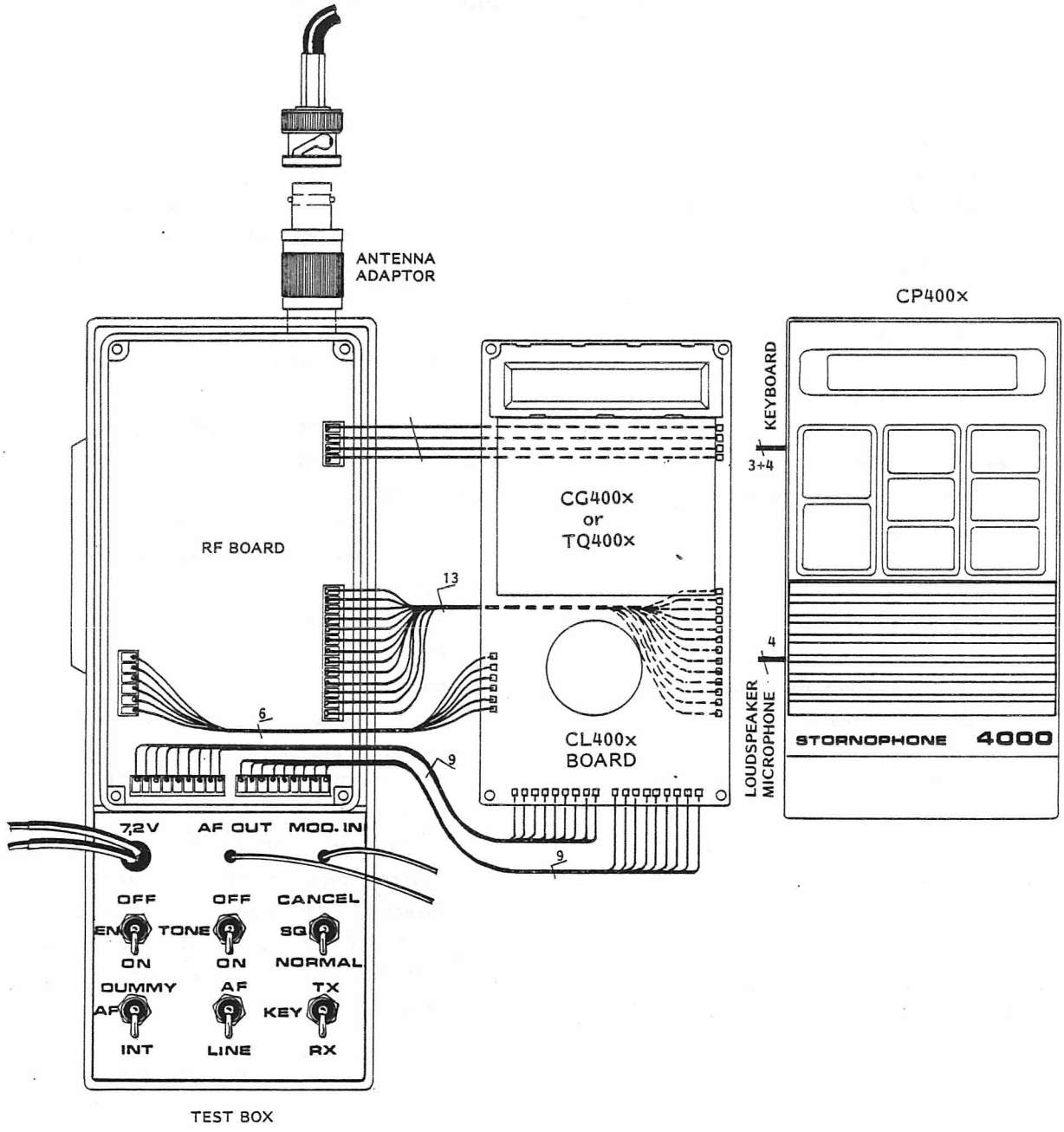
Before the CQP4000 can be adjusted the radio must be dismantled for access to all test points and adjustable components.

- Remove the battery, if inserted.
- Remove the two rear screws holding the cabinet.
- Remove the chassis box.
- Remove the four corner screws holding the front.
- Open the chassis box, carefully, without damaging the contact fingers on the rim.
- Take the CL400x board and the RF4110 board apart.
- Connect the CL400x board to the RF4110 board by means of the extension cables.
- Insert the chassis box in the service cabinet and firmly press the RF board to the bottom of the chassis box to establish good ground connections.
- Attach the antenna adaptor.
- Insert the test box in the battery compartment.
- The STORNOPHONE 4000 is now prepared for adjustment.

TRANSMITTER ADJUSTMENT

Refer to transmitter test setup.
Set the power supply voltage to 7.2 V.
Turn the radio on in receive mode and measure the current consumption.

Requirement: less than 30 mA.
Connect the voltmeter to the +5.5 V test point.
Read the 5.5 V regulated voltage.



TEST SETUP
STORNOPHONE 4000

D403.279/3

1. SYNTHESIZER REFERENCE FREQUENCY ADJUSTMENT

Connect the frequency counter to P3 pin 13-CLOCK.
Read the reference frequency.
Check the reference crystal's frequency (6.4 MHz or 6.5 MHz).
Adjust C533 for f_{nom} ±10 Hz.

Note:
The final adjustment of the reference frequency is performed later with closed chassis box.

2. TRANSMITTER VCO ADJUSTMENT

Set the ADC potentiometer to minimum, anti-clockwise.
Key the transmitter and read the current drain.
Requirement: less than 1 A.
Connect the voltmeter to P3 pin 7, OUT OF LOCK signal.
Adjust C504 for 0 V steady ready reading on the voltmeter. Connect the voltmeter to TP4.

Adjust C504 for a reading of 3 Volts. Adjust C504 so that the reading for each channel is inside the tuning range, 1 - 4 V. The channel with the lowest frequency has the lowest voltage reading.

3. TRANSMITTER POWER OUTPUT ADJUSTMENT

Connect the wattmeter to the antenna connector.
Adjust ADC potentiometer R115 for rated output power according to the type designation.
Note:
The current drain at rated output power must not exceed 1 A.

4. TRANSMITTER FREQUENCY ADJUSTMENT

Connect the wattmeter to the antenna connector through the signal sampler.
Connect the frequency counter to the signal sampler.
Key the transmitter and read the frequency.
Adjust C533 for correct frequency. (C533 is fine adjusted later with closed chassis box).
Requirement: F_{nom} ±0.2 ppm (30 Hz at 150 MHz)
Deenergize the transmitter.
Select next channel
Key the transmitter and check for correct output frequency for each channel.

NOTE:
Adjustment of the transmitter frequency which also adjusts the receiver for correct frequency is done later when the chassis box is closed.

5. TRANSMITTER MODULATION ADJUSTMENT

Connect the deviation meter to the signal sampler.
Connect the AF generator to MOD IN on the test box.
Set the AF generator frequency to 1000 Hz and the output as follows:
1100 mV with test box (11:1 built-in attenuator)

Vary the AF frequency between 100 Hz and 3000 Hz and find peak deviation. Check the frequency for both + and - deviation. At the frequency producing peak deviation adjust R812 for maximum system deviation.

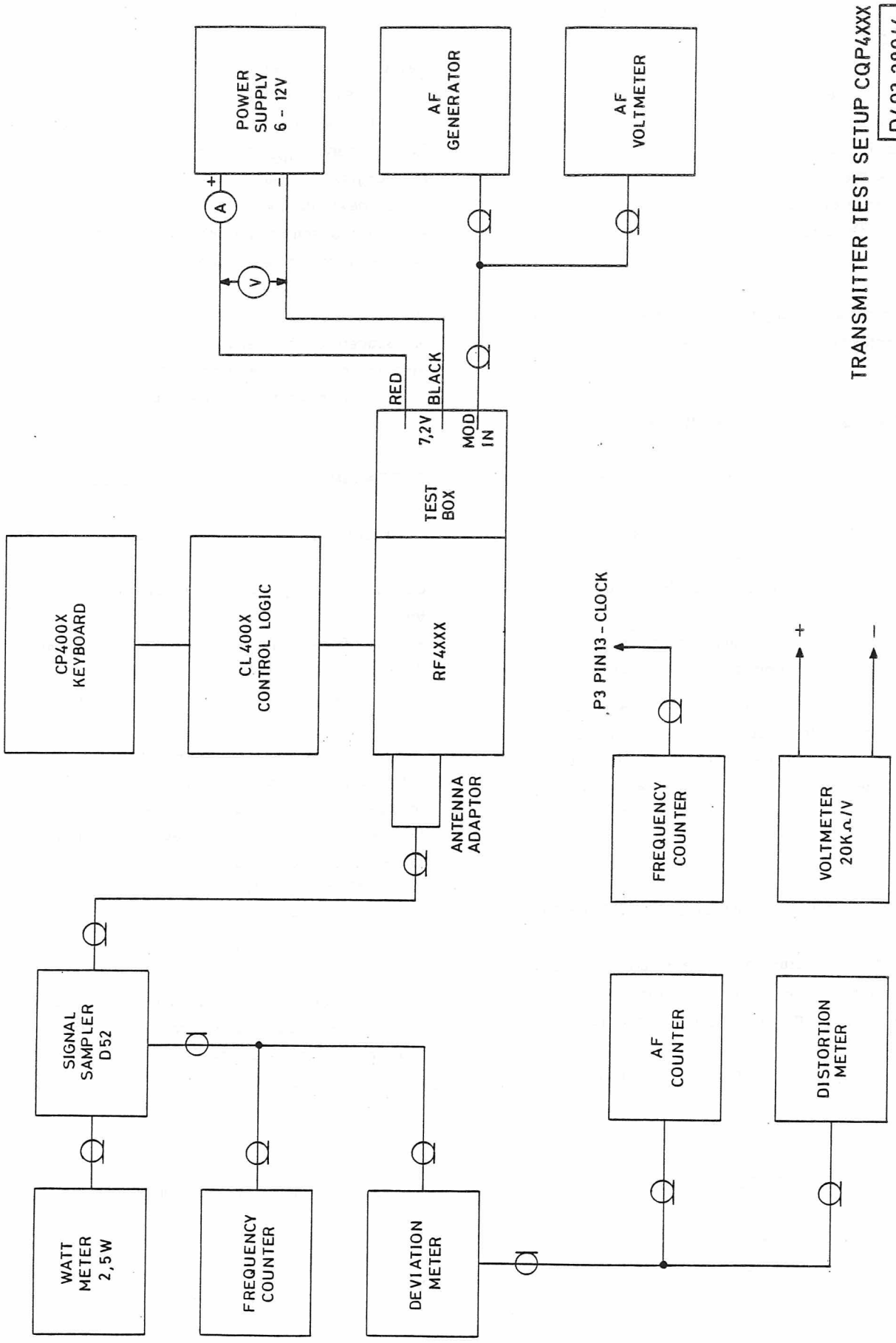
CQP4112: ±5 kHz
CQP4113: ±4 kHz
CQP4114: ±2.5 kHz

Set the AF generator frequency to 1000 Hz.
Reduce the AF generator output until a deviation of 0.7 x maximum deviation is obtained:

CQP4112: ±3.5 kHz
CQP4113: ±2.8 kHz
CQP4114: ±1.75 kHz

Typical generator output is 100 mV.

TRANSMITTER TEST SETUP CQP4XXX D403.280/4



RECEIVER ADJUSTMENT

Refer to receiver test setup.

1. RECEIVER VCO ADJUSTMENT

Connect the voltmeter to P3 pin 7, OUT OF LOCK signal.
Preset coil L508 as follows:
High end of band: 2/3 out of coil.
Low end of band: Fully down in coil form.
Set SQ switch to cancel.
Adjust C514 for 0 V steady reading on the voltmeter. Connect the voltmeter to TP4.
Adjust C514 for a reading of 3 Volts. Adjust C514 so that the reading for each channel is inside the tuning range, 1 - 4 V.
The channel with the lowest frequency has the lowest voltage reading.

2. RECEIVER INJECTION SIGNAL ADJUSTMENT

Connect the diode probe and the voltmeter to TP2.
Adjust L508 for maximum voltmeter reading, 0.2 V ±0.1 V. (L508 is readjusted together with the front-end).

3. IF SIGNAL ADJUSTMENT

Connect the signal generator to the antenna connector and set it to the channel frequency.

Modulate the signal generator with 1000 Hz to 0.7 x maximum system deviation.
CQP4112: ±3.5 kHz
CQP4113: ±2.8 kHz
CQP4114: ±1.75 kHz

Set the signal generator output to 100 mV.

Connect the diode probe and the voltmeter to TP3.
Reduce the signal generator output until voltage reading is less than 1 V.

Adjust L402 and L308 for maximum voltmeter reading.
Connect the AF voltmeter to AF OUT. Set the signal generator output to 100 mV.
Adjust L403 for maximum voltmeter reading.

ALTERNATIVE PROCEDURE
Connect the distortion meter to AF OUT.
Adjust L403 for minimum distortion.

4. AF LINE LEVEL ADJUSTMENT

Connect the AF voltmeter to the AF OUT (J906 pin 14.
Set signal generator as described in paragraph 3.
Adjust R409 for a voltmeter reading of 110 mV ±5 mV.

5. FRONT-END ADJUSTMENT

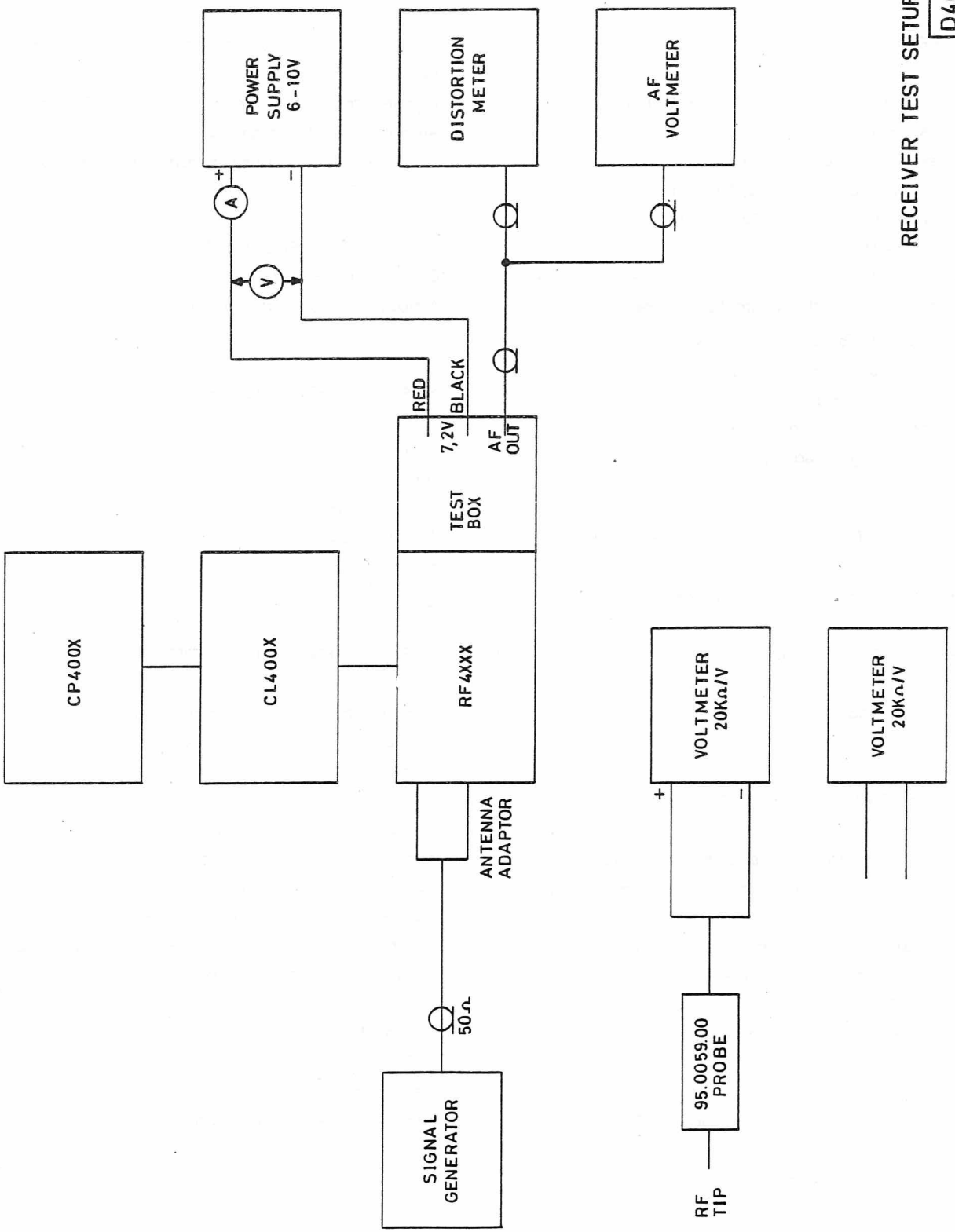
Connect the signal generator to the antenna connector and set its frequency to the channel frequency.

Modulate the signal generator as described in paragraph 3. Adjust the generator output to approx. 12 dB SINAD.
Connect a distortion meter to AF OUT.
Set the LS-LINE switch on the test box to LINE.
Set the SQ switch to cancel.

Adjust the following coils for minimum distortion.
L306, L305, L303, L302 and L508.
As the sensitivity increases during the adjustment decrease the signal generator output to maintain 12 dB SINAD.

Repeat the adjustments until no further improvement is possible.

RECEIVER TEST SETUP CQP4XXX D403.281/4



Check the 12 dB SINAD on all channels.

Requirement: 12 dB SINAD for less than 0.45 uV.

6. SQUELCH ADJUSTMENT

Turn the squelch potentiometer R420 completely anticlockwise to close the squelch.
Open squelch by setting SQ switch to cancel.

Set the signal generator output to the value giving 12 dB SINAD.
Close squelch by setting SQ switch to normal.
Slowly turn R420 clockwise to the point where the squelch just opens.
Vary the signal generator output slowly up and down to obtain the opening and closing level of the squelch.

Squelch opening level: 12 dB SINAD
Squelch closing level: 6-10 dB SINAD

FREQUENCY ADJUSTMENT

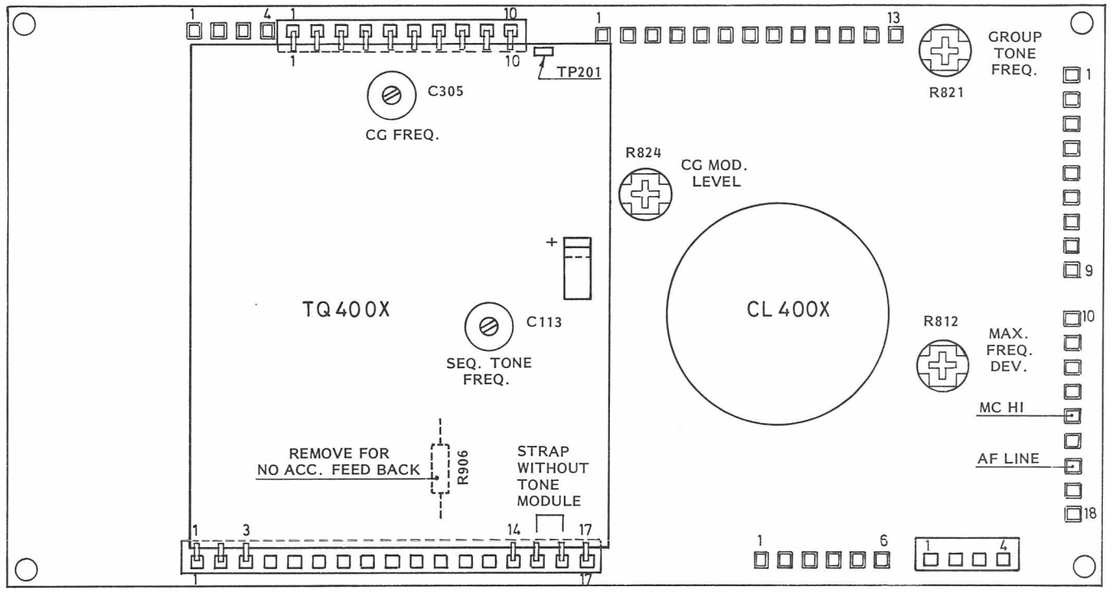
The reference oscillator frequency controls both the transmitter and receiver frequencies and final adjustment must be done with the chassis box properly assembled.
Turn the radio off and remove the test box.
Assemble the radio but use the service cabinet to hold the chassis box.
Connect the test box and turn the radio on.
Connect a frequency counter to the signal sampler, refer to transmitter test setup.

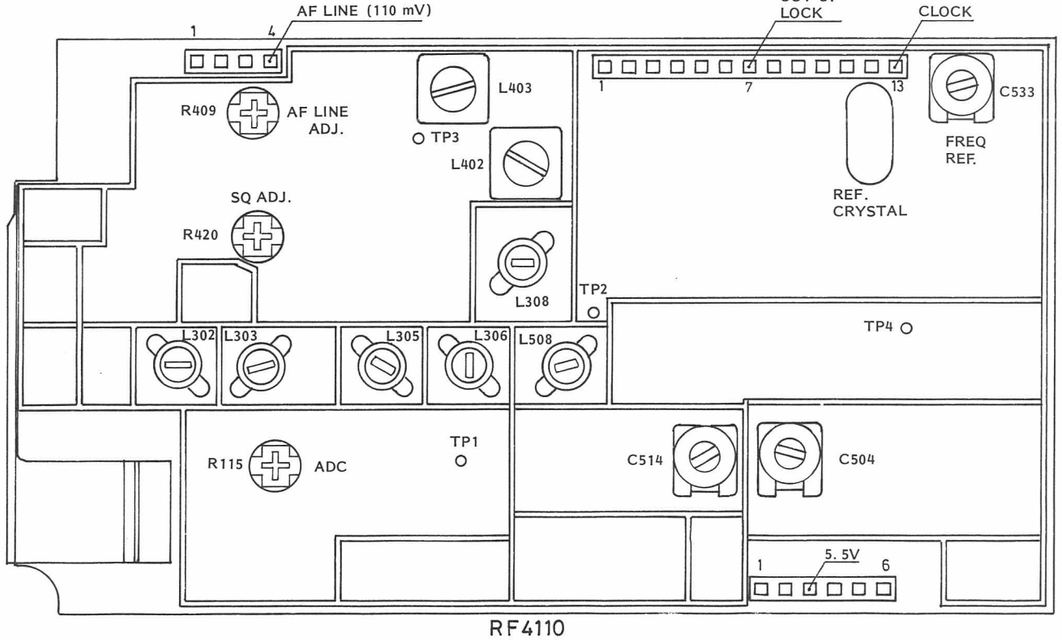
Key the transmitter.
Adjust, through the hole in the rear of the service cabinet, the reference oscillator, C533 for nominal frequency.
Requirement:

$F = F_{nom} \pm 0.2$ ppm (30 Hz at 150 MHz).

Switch to next channel. Verify the frequency for all channels. (Channel switching is not possible while transmitting).

Storno





RF4110

TEST POINTS & ADJUSTABLE COMPONENTS
TQ400X,CL400X,RF4110

D403.283/3

CHAPTER 2b

CQP4110

AUTOMATIC VERSION

- ADJUSTMENT PROCEDURE
- TEST POINTS AND ADJUSTABLE COMPONENTS

STORNOPHONE 4000 AUTOMATIC

ADJUSTMENT PROCEDURE

RF BOARD ADJUSTMENTS

For adjustment of the RF board refer to the appropriate description:

RF411x - 60.617-E3
RF433x - 60.778-E2
RF466x - 60.779-E2

TEST SETUP

When the radio has been dismantled it should be fixed in service equipment SE4005 with the Control Panel CP4002 connected, or assembled in the test cabinet with extension cables and the test adapter SE4002. Note that the operation of the radio is totally different in the service mode.

SERVICE MODE SOFTWARE

The Stornophone 4000 Automatic software has an inherent test program which can be invoked when the radio is set up for test and alignment. In service mode the radio can be operated on 3 channels:
Channel 1: A lower pair of the user frequencies (RX/TX)
Channel 2: A pair of calculated center frequencies
Channel 3: The higher pair of the user frequencies

Channel 2 may necessarily not be a user channel but is included for alignment purposes as to optimize performance.

To invoke the service mode set the SE4002/SE4005 toggle switches as follows:

SWITCH	POSITION
EN	OFF
TONE	OFF
SQ	NORMAL
AF	INT
AF-LINE	LINE
KEY	RX

When the radio is turned on it will be in SERVICE MODE.

IMPORTANT
Don't change the setting of the EN and TONE switches while the radio is in service mode as this will result in an undefined condition of program execution. If this is done accidentally it will not harm the radio set but the operation will be in an uncontrolable state. The only way to clear the situation is to remove the DC power to the radio.

SERVICE MODE OPERATION

The service mode has two operating levels, 1 and 2.

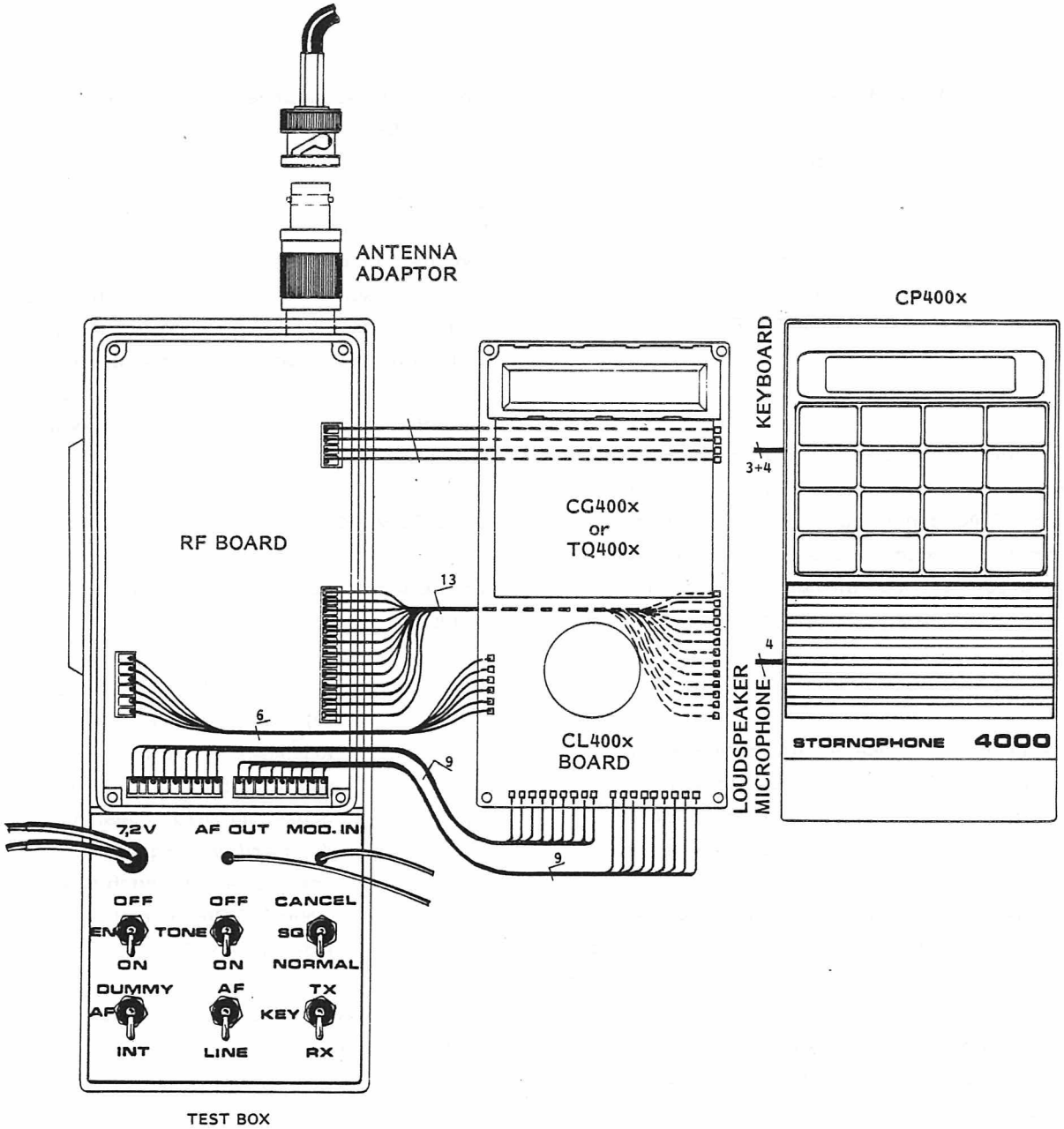
Level 1 is used for RF test (channel select), setting the volume and selecting the tone mode. Level 2 is entered by pressing the ON/OFF button.

Level 2 is used for display test (LCD), Keyboard test, Squelch ON/OFF, Encode/Decode switch of subunit 0 and 1 (TQ4009) and continuous side tone ON/OFF.

The Service Mode Keyboard configurations appear from fig. 1, 2 and 3.

TONE SUBUNIT TEST (TQ4009)

The Tone Subunits 0 and 1 (TQ4009) can be tested for DECODE and ENCODE. In ENCODE-phase a capital letter "E" is indicated in the display for the pertinent tone subunit.
When a correct tone is decoded (detected) a "small" letter "d" is indicated in the display.



TEST SET-UP
STORNOPHONE 4000 AUTOMATIC

D404.094

Please note: This tone subunit test is a single tone test, not sequential. In ENCODE-mode the transmitter is permanently and automatically keyed with a single continuous AF-signal.

In ENCODE-mode it is further possible to transmit a true (continuous) DTMF (Touch-tone or Double-tone signal). It is not possible in DECODE-mode to decode (detect) a DTMF-signal.

The Tone Loading-Codes are listed below.

TONE LOADING CODES

Display-code	CCIR no.	Frequency (norm.)
00	0	1981 Hz
01	1	1124 Hz
02	2	1197 Hz
03	3	1275 Hz
04	4	1358 Hz
05	5	1446 Hz
06	6	1540 Hz
07	7	1640 Hz
08	8	1747 Hz
09	9	1860 Hz
10	G	2400 Hz
11		930 Hz
12		2247 Hz
13		991 Hz
14	R (Repeat)	2110 Hz

Display code	CCITT DTMF (norm.)
15	697 Hz
16	770 Hz
17	852 Hz
18	941 Hz
19	1209 Hz
20	1336 Hz
21	1475 Hz
22	1633 Hz

Display codes

> 22	Will be ignored

TONE MODULATION ADJUSTMENT

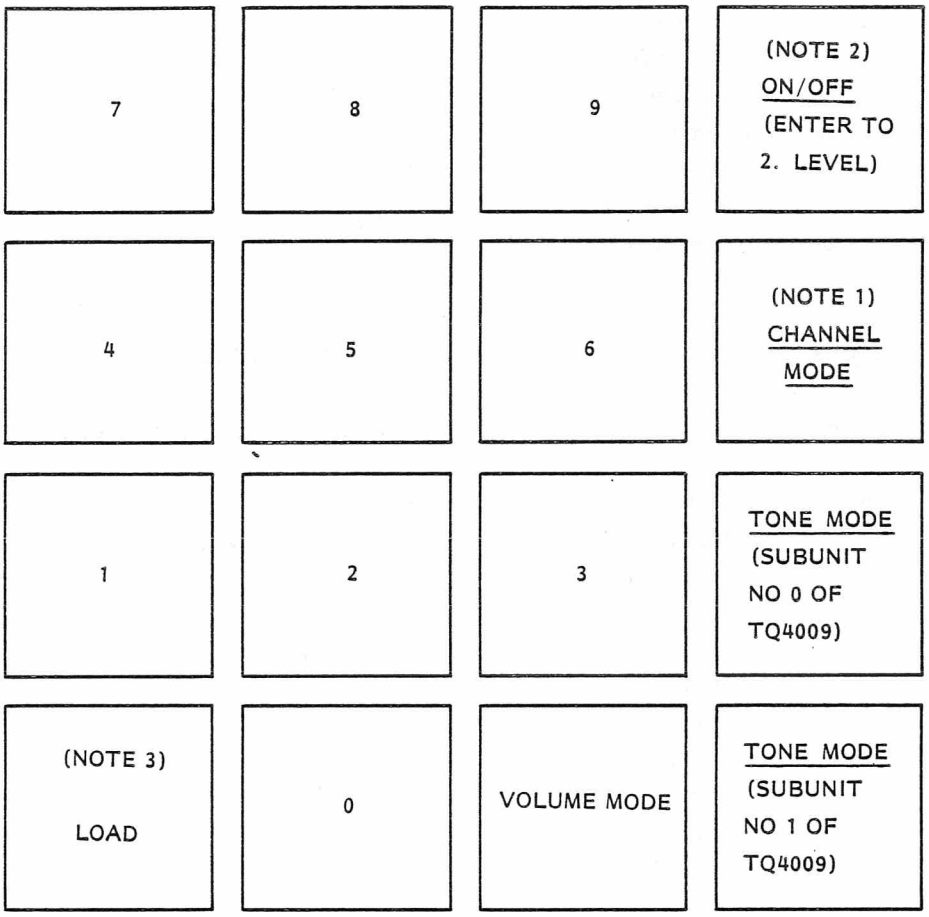
Connect a frequency deviationmeter to the antenna connector.
Enter service mode level 2 and turn the side tone on. The transmitter will automatically be keyed.

Adjust R824 for 3.5 kHz deviation.

KEYBOARD CONFIGURATION

FIG. 1

SERVICE MODE 1. LEVEL



NOTE 1: In service mode only 3 RF channels can be accessed,
CH1 = lowest user RF frequency (RX and TX)
CH2 = center RF frequency (RX and TX)
CH3 = highest RF user RF frequency (RX and TX)

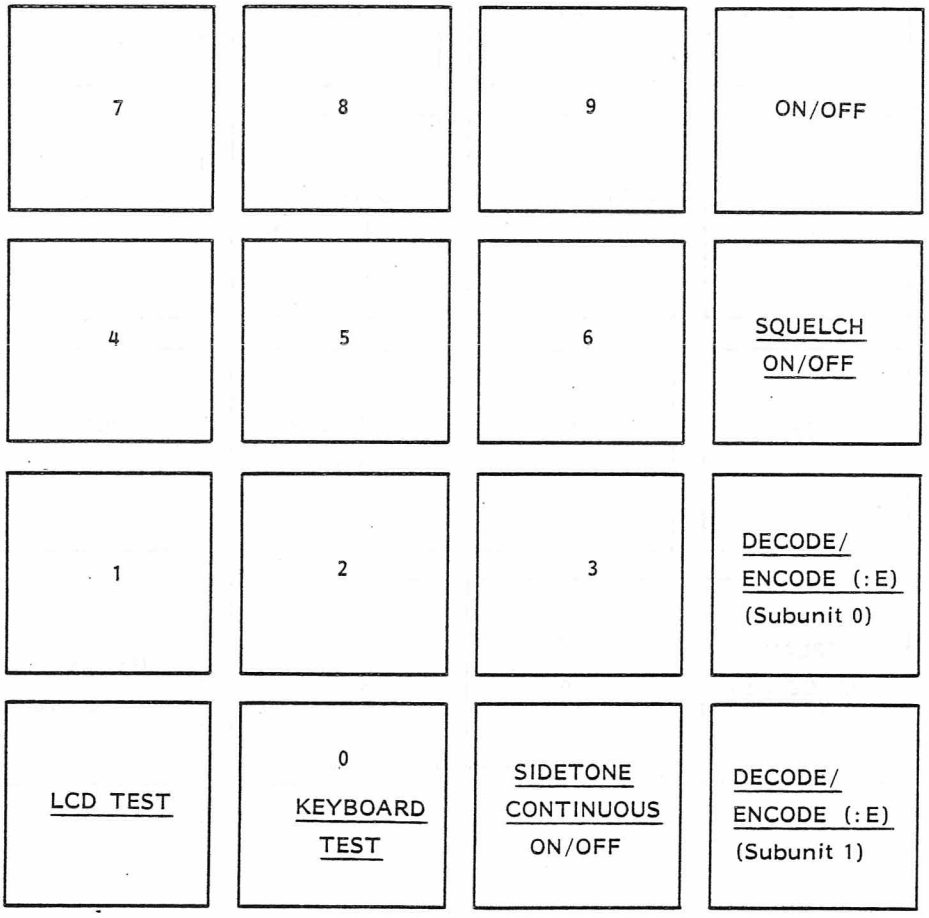
NOTE 2: After pressing this button once the set will be in the 2nd service mode for approx. 5 seconds.

NOTE 3: Load, i.e.: enter channel number or AF-tone.

KEYBOARD CONFIGURATION

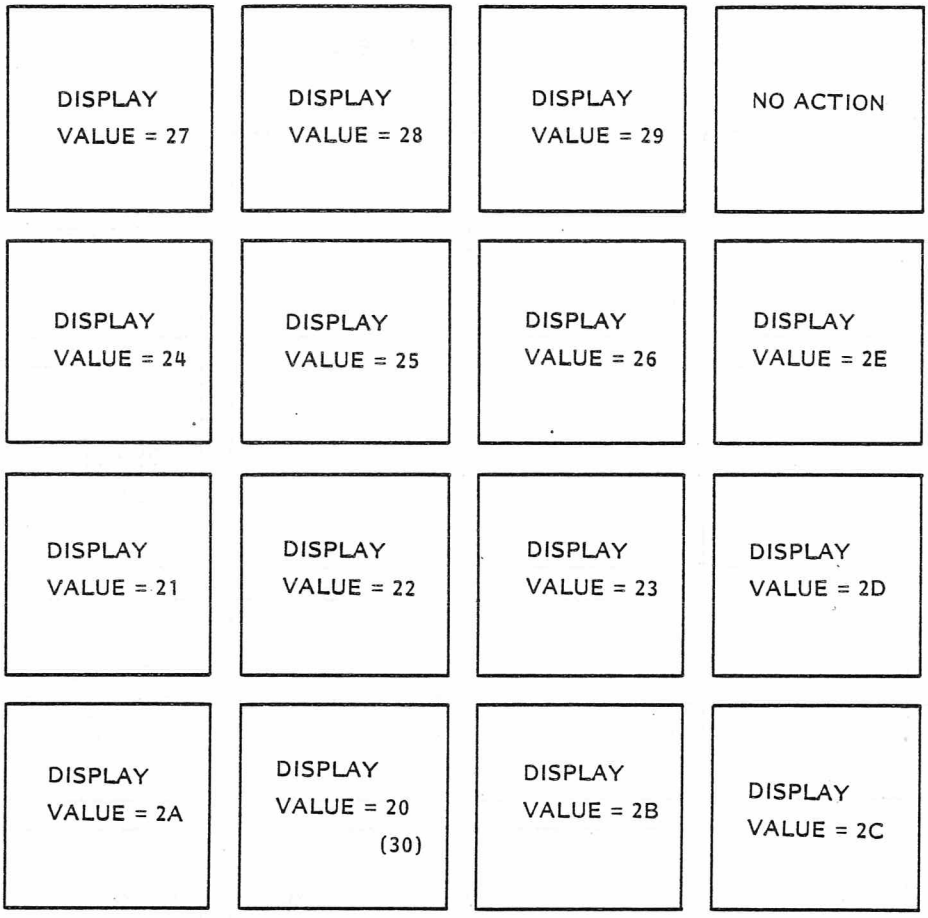
SERVICE MODE 2. LEVEL

FIG. 2



KEYBOARD TEST

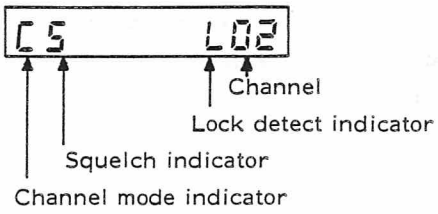
FIG. 3



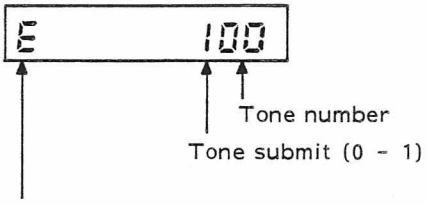
NOTE: The first digit indicates the test level
The second digit indicates the HEX value
of the pertinent keyboard field.

SERVICE MODE DISPLAY

Channel mode



Tone mode



E = Encode
d = Decode

AF VOLUME TEST

The AF volume level can be changed and checked by entering the volume mode.
From service level 1 press the volume mode button and the present volume level is displayed in the three rightmost places.
Press buttons 0 - 7 to change the volume setting.
Press a new function button to exit.

LOCK DETECT INDICATOR

In channel mode the status of the synthesizer lock detect circuit is being echoed in the display. When the circuit is locked an "L" is displayed to the left of the channel number both in receive and transmit condition.

SQUELCH DETECT INDICATOR

The status of the squelch circuit is echoed in the display. When the squelch circuit is being activated by a carrier or by pressing squelch cancel an "S" is displayed to the right of the C (Channel mode). To cancel the squelch press the ON/OFF button once, enter level 2 and within 5 sec. press the channel mode button (squelch). Using the same procedure once more will reactivate the squelch circuit.

DISPLAY TEST

The display can be tested from the keyboard to ensure that all display segments except the bell symbol are operating properly.

To enter the display test press the ON/OFF button once (level 2) and within 5 sec. press the LCD test button. All display segments except the bell will then be turned on. Press ON/OFF and a new function button to exist.

KEYBOARD TEST

Each button on the keyboard can be tested for proper operation when the keyboard test is enabled. To enter the keyboard test press the ON/OFF button once (level 2) and within 5 sec. press the keyboard test button and the display will read "30". When pressing a key the internal value of the key will be echoed in the display. Note that the buttons 1 - 9 have not been defined and pressing any of these buttons causes no change in the display. Press ON/OFF and a function button to exit.

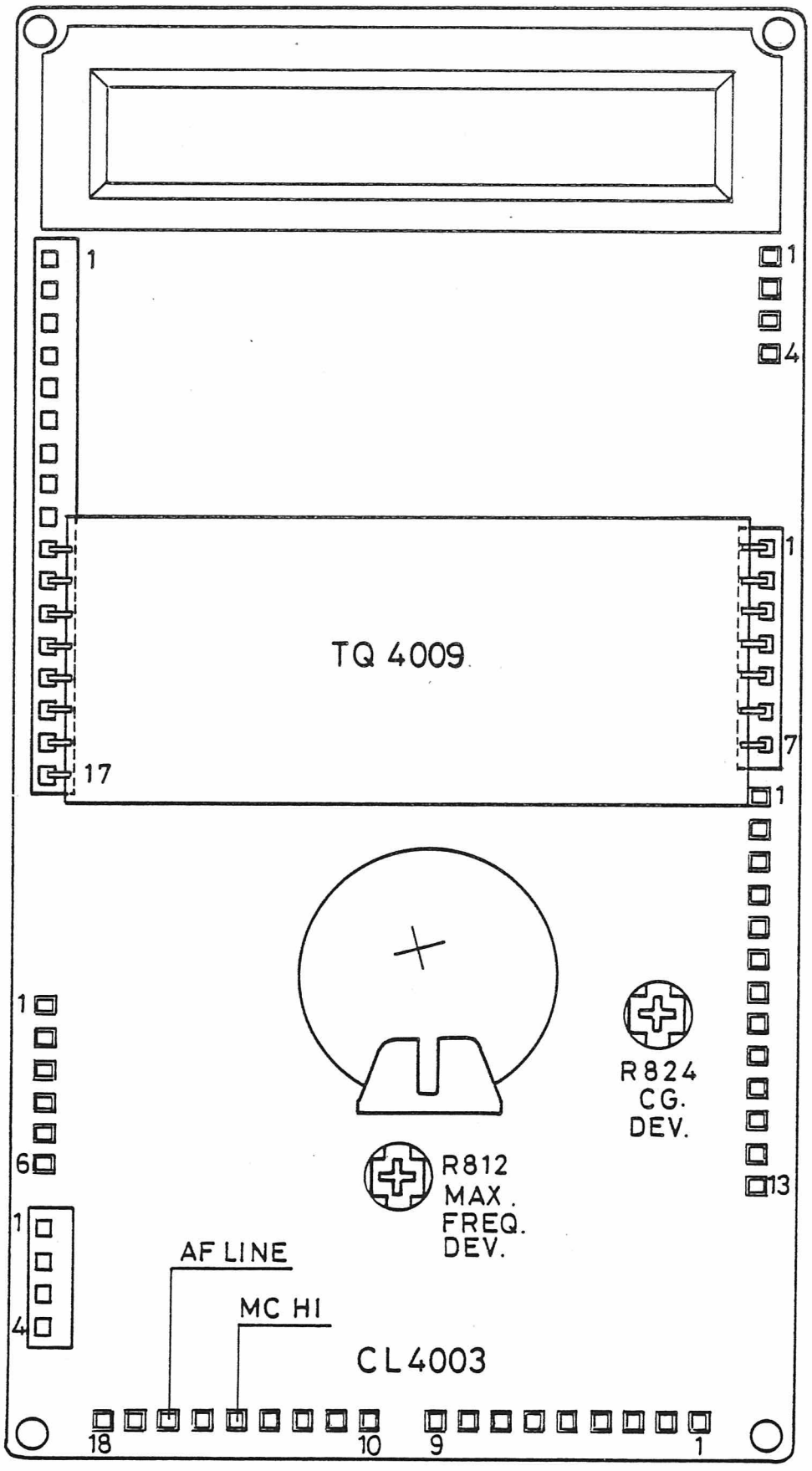
ALERT TONE TEST

The alert tone can be turned on and sounded continuously. Press the ON/OFF button (level 2) and within 5 sec. the alert tone button (side tone).

The alert tone will be turned on and its volume will be at level 4 independently of the volume setting. Press ON/OFF and the alert tone button again to exit

BATTERY VOLUME THRESHOLD

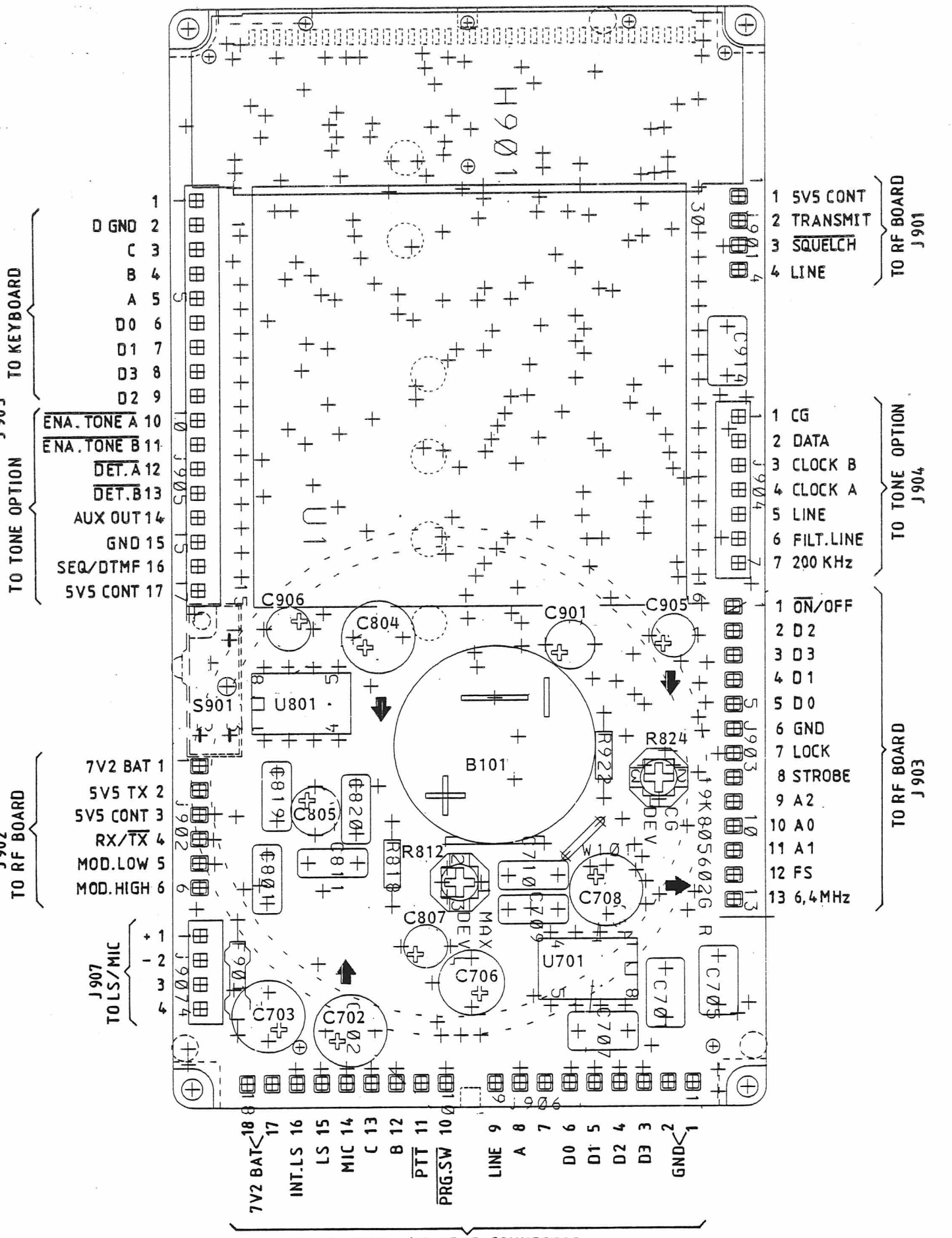
The battery low voltage threshold at which the radio automatically turns off can be checked by lowering the voltage from the external powersupply until the bell indicater turns on and a 1 sec. alert tone is sounded. The power supply voltage at this point is the threshold voltage. Increasing the voltage above the threshold voltage will turn the bell indicator off and sound a 1 sec. alert tone. If the alert tone is sounded continously the power supply voltage is exactly equal to the threshold voltage.



ADJUSTABLE COMPONENTS AND TEST POINTS
TQ4009, CL4003

M405.199

Storno



CONNECTIONS DIAGRAM FOR CL4003

D 404.011

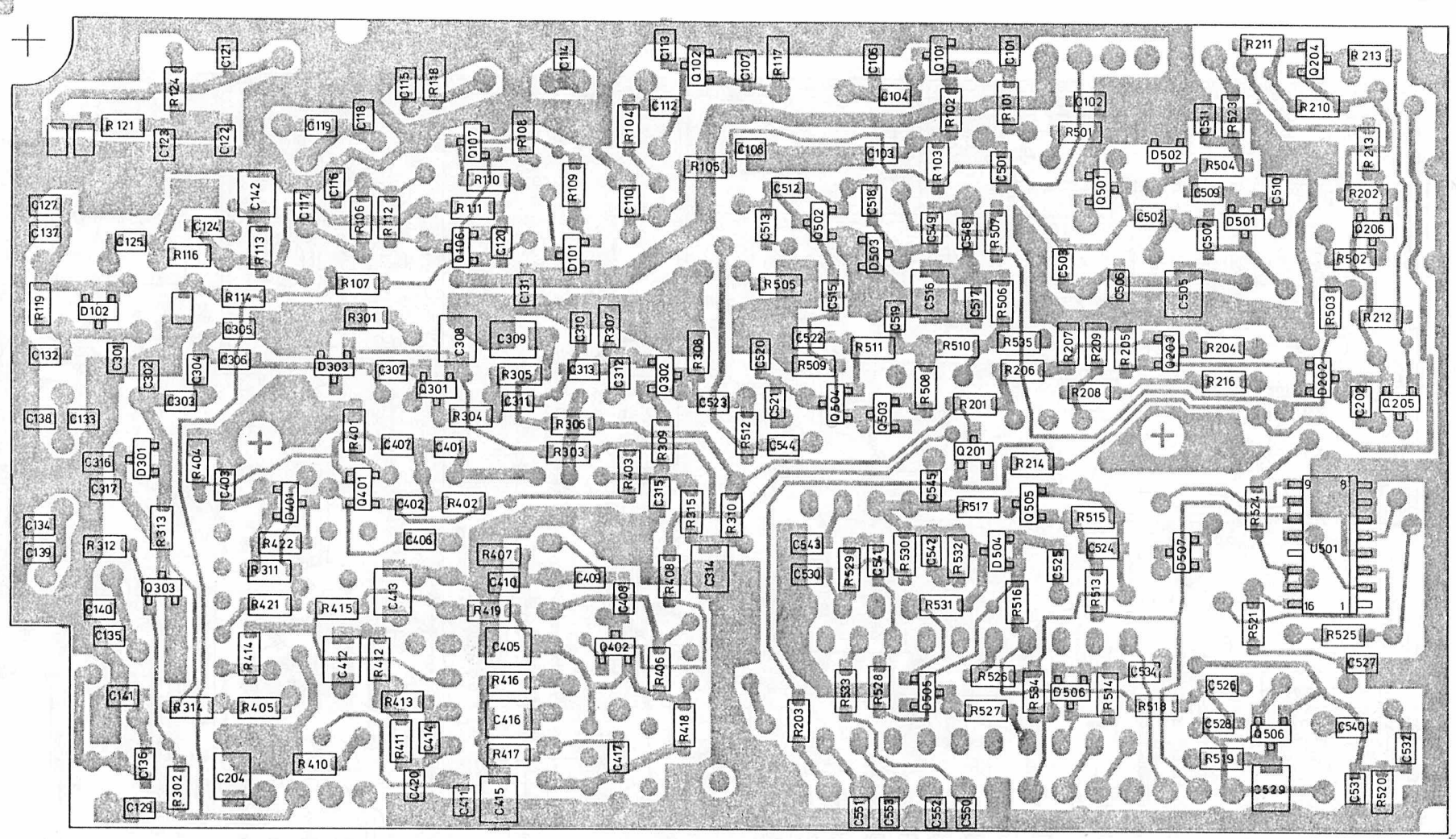
CL - board

RF BOARD 4110

- ELECTRICAL DIAGRAMS
- COMPONENT LAYOUTS
- PARTS LISTS

Storno

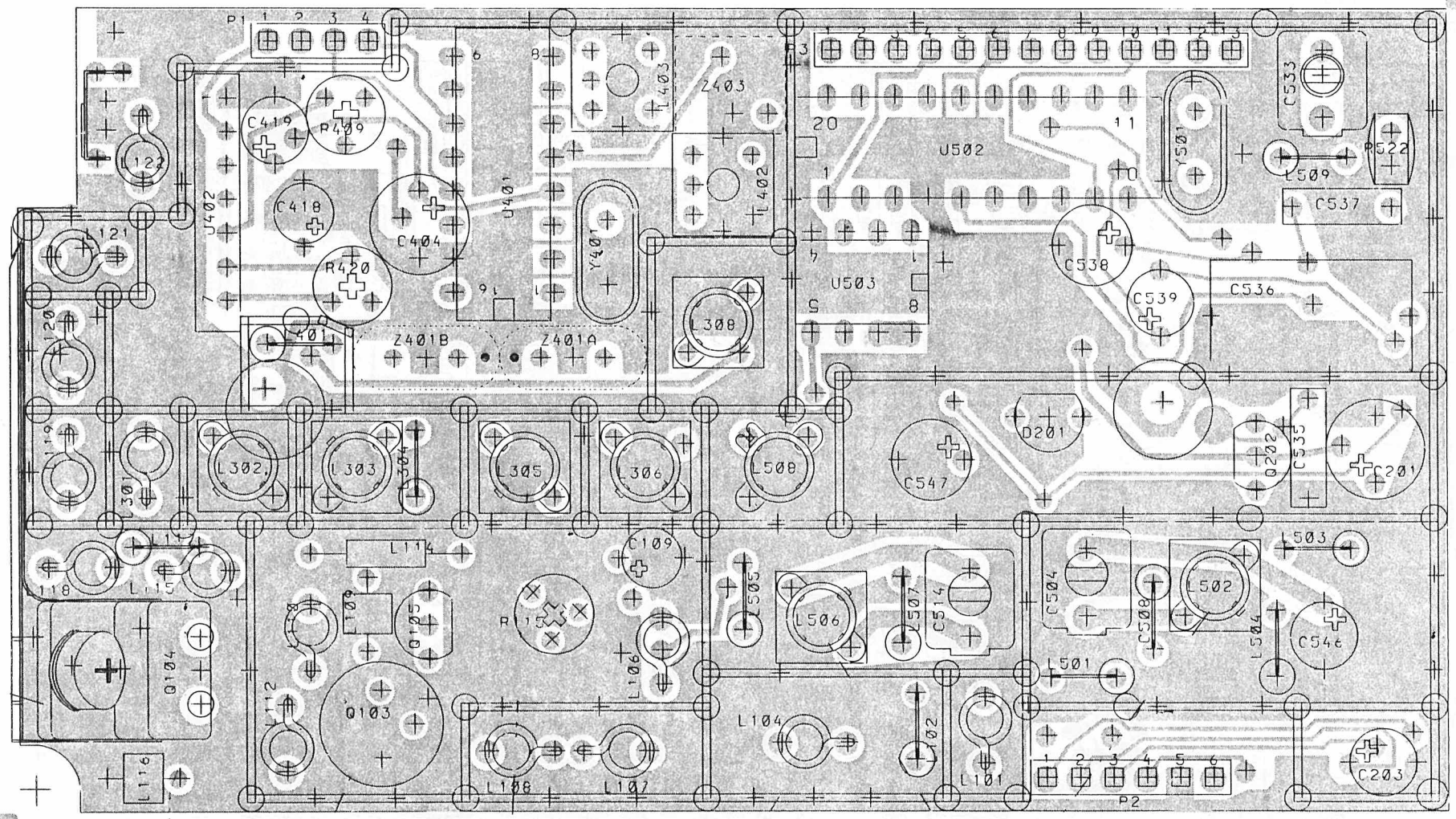
Storno



RF-BOARD RF4110
COMPONENT LAYOUT

D403.313

Storno

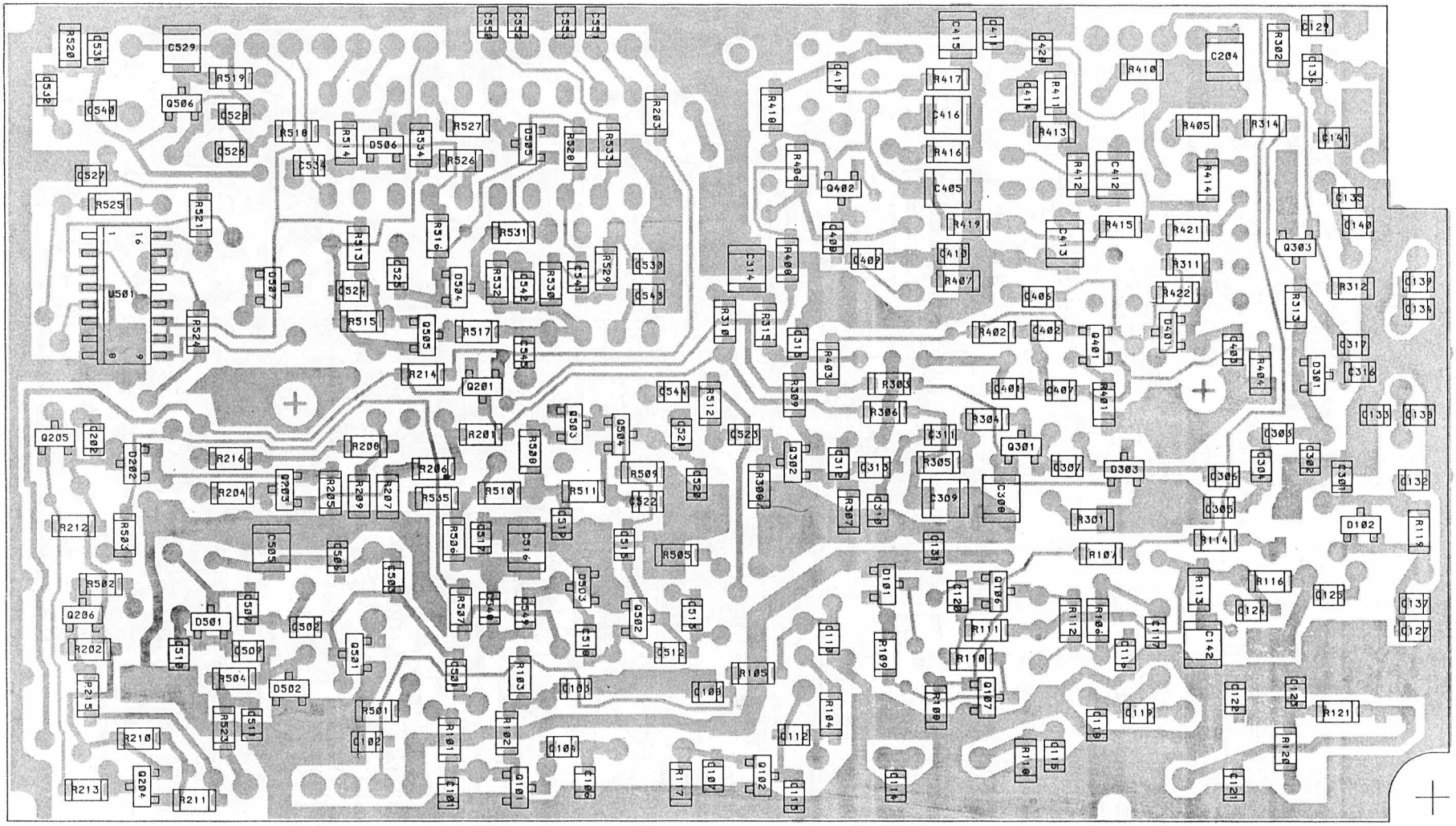


RF-BOARD RF4110
COMPONENT LAYOUT

D403.309

Storno

Storno



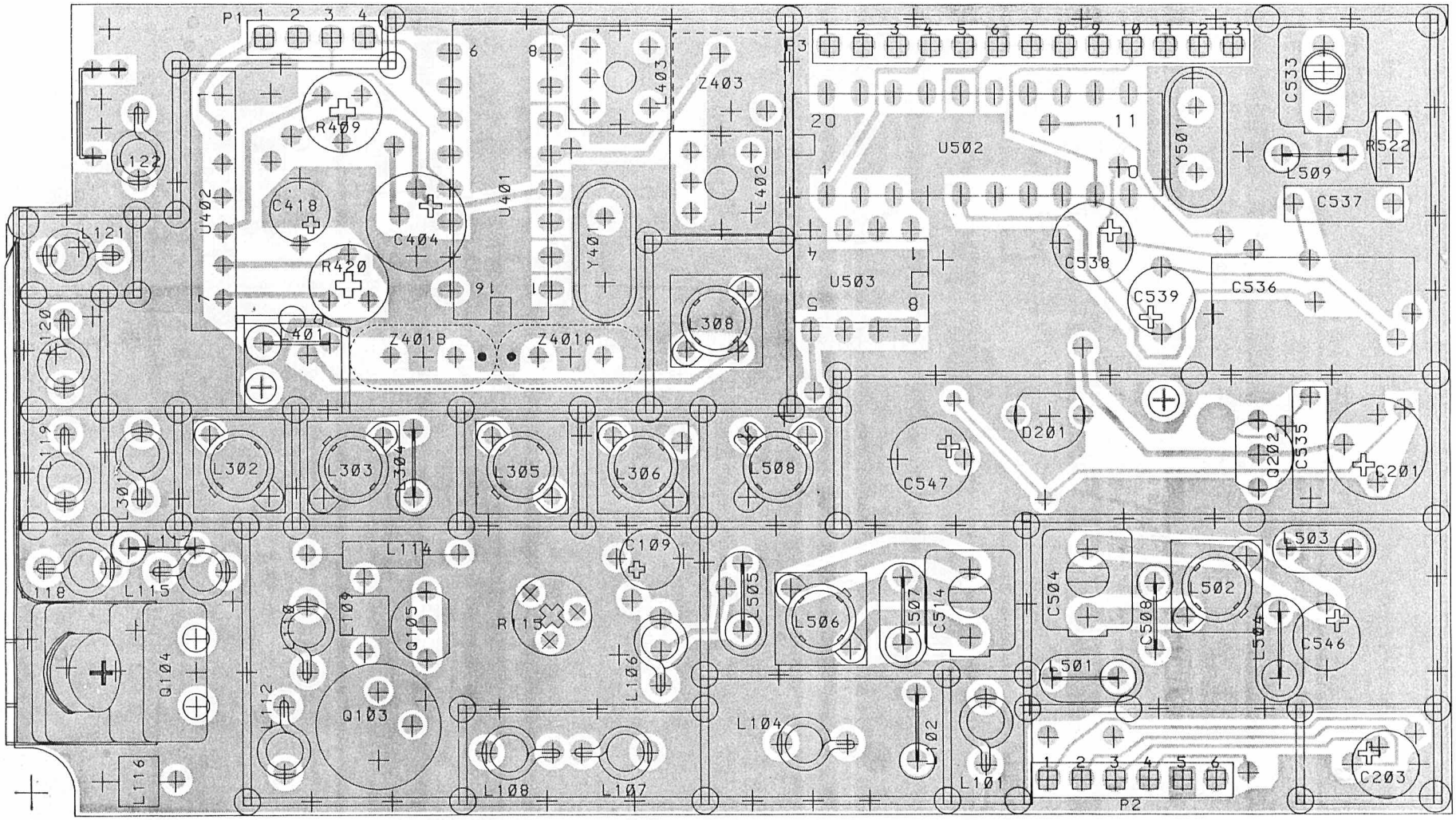
RADIO FREQUENCY-UNIT RF4110

COMPONENT LAYOUT

CHIP SIDE

CODE NO. M905462G1 | D403. /2

Storno



RADIO FREQUENCY-UNIT RF4110

COMPONENT LAYOUT

COMPONENT SIDE

CODE NO. M905462G1 | D403.309/2

ITEM NUMBER DESCRIPTION

M905462G1 CPNT BD RF411X , 1ST. VERSION

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
		CAPACITORS:	
C101	J707436P21	CAP CER 15PF 50V	1
C102	J707438P14	CAP CER 10NF 50V	1
C103	J707436P73	CAP CER 330PF 50V	1
C104	J707436P25	CAP CER 18PF 50V	1
C106	J707436P33	CAP CER 27PF 50V	1
C107	J707436P21	CAP CER 15PF 50V	1
C108	J707438P14	CAP CER 10NF 50V	1
C109	J707353P5	CAP ELEC 2,2MF 50V	1
C110	J707436P73	CAP CER 330PF 50V	1
C112	J707436P65	CAP CER 150PF 50V	1
C113	J707436P33	CAP CER 27PF 50V	1
C114	J707436P45	CAP CER 47PF 50V	1
C115	J707436P33	CAP CER 27PF 50V	1
C116	J707438P14	CAP CER 10NF 50V	1
C117	J707436P61	CAP CER 100PF 50V	1
C118	J707436P37	CAP CER 33PF 50V	1
C119	J707436P73	CAP CER 330PF 50V	1
C120	J707438P5	CAP CER 1NF 50V	1
C121	J707436P57	CAP CER 82PF 50V	1
C122	J707436P53	CAP CER 68PF 50V	1
C123	J707436P53	CAP CER 68PF 50V	1
C124	J707436P61	CAP CER 100PF 50V	1
C125	J707436P73	CAP CER 330PF 50V	1
C127	J707436P25	CAP CER 18PF 50V	1
C129	J707438P5	CAP CER 1NF 50V	1
C131	J707438P14	CAP CER 10NF 50V	1
C132	J707436P25	CAP CER 18PF 50V	1
C133	J707436P25	CAP CER 18PF 50V	1
C134	J707436P25	CAP CER 18PF 50V	1
C135	J707436P25	CAP CER 18PF 50V	1
C136	J707438P5	CAP CER 1NF 50V	1
C137	J707436P25	CAP CER 18PF 50V	1
C138	J707436P25	CAP CER 18PF 50V	1
C139	J707436P25	CAP CER 18PF 50V	1
C140	J707436P25	CAP CER 18PF 50V	1
C141	J707436P21	CAP CER 15PF 50V	1
C142	J707438P22	CAP CER 47NF 50V	1
C201	J707444P8	CAP TA 22MF 16V	1
C202	J707438P5	CAP CER 1NF 50V	1
C203	J707444P5	CAP TA 2,2MF 35V	1
C204	J707438P22	CAP CER 47NF 50V	1
C301	J707436P21	CAP CER 15PF 50V	1
C302	J707436P13	CAP CER 10PF 50V	1
C303	J707436P6	CAP CER 2,7PF 50V	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C304	J707436P12	CAP CER 8,2PF 50V	1
C305	J707436P53	CAP CER 68PF 50V	1
C306	J707436P10	CAP CER 5,6PF 50V	1
C307	J707436P8	CAP CER 3,9PF 50V	1
C308	J707436P87	CAP CER 1,2NF 50V	1
C309	J707436P93	CAP CER 2,2NF 50V	1
C310	J707436P67	CAP CER 180PF 50V	1
C311	J707436P12	CAP CER 8,2PF 50V	1
C312	J707436P37	CAP CER 33PF 50V	1
C313	J707436P13	CAP CER 10PF 50V	1
C314	J707438P22	CAP CER 47NF 50V	1
C315	J707436P67	CAP CER 180PF 50V	1
C316	J707438P3	CAP CER 470PF 50V	1
C317	J707438P3	CAP CER 470PF 50V	1
C401	J707436P11	CAP CER 6,8PF 50V	1
C402	J707436P73	CAP CER 330PF 50V	1
C403	J707438P14	CAP CER 10NF 50V	1
C404	J707444P9	CAP TA 47MF 6,3V	1
C405	J707438P26	CAP CER 100NF 50V	1
C406	J707438P5	CAP CER 1NF 50V	1
C407	J707438P14	CAP CER 10NF 50V	1
C408	J707436P63	CAP CER 120PF 50V	1
C409	J707436P45	CAP CER 47PF 50V	1
C410	J707436P57 *	* CAP CER 82PF 50V	1
C411	J707438P8	CAP CER 3,3NF 50V	1
C412	J707438P26	CAP CER 100NF 50V	1
C413	J707436P93	CAP CER 2,2NF 50V	1
C414	J707436P73	CAP CER 330PF 50V	1
C415	J707438P26	CAP CER 100NF 50V	1
C416	J707438P26	CAP CER 100NF 50V	1
C417	J707436P13	CAP CER 10PF 50V	1
C418	J707444P7	CAP TA 10MF 16V	1
*	*	*	*
C420	J707436P73	CAP CER 330PF 50V	1
C501	J707436P9	CAP CER 4,7PF 50V	1
C502	J707436P7	CAP CER 3,3PF 50V	1
C503	J707436P7	CAP CER 3,3PF 50V	1
C504	J707475P1	CAP VAR 2 - 18 PF	1
C505	J707438P26	CAP CER 100NF 50V	1
C506	J707438P5	CAP CER 1NF 50V	1
C507	J707436P17	CAP CER 12PF 50V	1
C508	J707483P1	CAP PHEN 0,47PF 500V	1
C509	J707436P3	CAP CER 1,5PF 50V	1
C510	J707436P49	CAP CER 56PF 50V	1
C511	J707436P73	CAP CER 330PF 50V	1
C512	J707436P12	CAP CER 8,2PF 50V	1
C513	J707436P13	CAP CER 10PF 50V	1
C514	J707475P1	CAP VAR 2 - 18 PF	1
C515	J707436P4	CAP CER 1,8PF 50V	1
C516	J707438P26	CAP CER 100NF 50V	1
C517	J707438P5	CAP CER 1NF 50V	1
C518	J707436P12	CAP CER 8,2PF 50V	1
C519	J707438P5	CAP CER 1NF 50V	1
C520	J707436P12	CAP CER 8,2PF 50V	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C521	J707436P9	CAP CER 4,7PF 50V	1
C522	J707438P5	CAP CER 1NF 50V	1
C523	J707438P14	CAP CER 10NF 50V	1
C524	J707438P5	CAP CER 1NF 50V	1
C525	J707436P69	CAP CER 220PF 50V	1
C526	J707436P45	CAP CER 47PF 50V	1
C527	J707438P14	CAP CER 10NF 50V	1
C528	J707436P45	CAP CER 47PF 50V	1
C529	J707438P26	CAP CER 100NF 50V	1
C530	J707436P21	CAP CER 15PF 50V	1
C531	J707436P29	CAP CER 22PF 50V	1
C532	J707436P9	CAP CER 4,7PF 50V	1
C533	J707475P1	CAP VAR 2 - 18 PF	1
C534	J707438P3	CAP CER 470PF 50V	1
C535	J707412P9	CAP PYES 0,1MF 63V	1
C536	J707612P1	CAP POL 2,2MF 100V	1
C537	J707412P9	CAP PYES 0,1MF 63V	1
C538	J707353P7	CAP ELEC 10MF 16V	1
C539	J707444P3	CAP TA 0,47MF 35V	1
C540	J707436P12	CAP CER 8,2PF 50V	1
C541	J707438P14	CAP CER 10NF 50V	1
C542	J707438P14	CAP CER 10NF 50V	1
C543	J707438P5	CAP CER 1NF 50V	1
C544	J707438P5	CAP CER 1NF 50V	1
C545	J707438P5	CAP CER 1NF 50V	1
C546	J707444P4	CAP TA 1MF 35V	1
C547	J707444P5	CAP TA 2,2MF 35V	1
C548	J707436P8	CAP CER 3,9PF 50V	1
C549	J707436P11	CAP CER 6,8PF 50V	1
C550	J707436P65	CAP CER 150PF 50V	1
C551	J707436P65	CAP CER 150PF 50V	1
C552	J707436P65	CAP CER 150PF 50V	1
C553	J707436P65	CAP CER 150PF 50V	1
		DIODES:	
D101	J707389P1	DIO SI SIG BAV 99	1
D102	J707391P1	DIO SI SIG BAT 18	1
D201	J707448P1	IC LIN VR VAR TL 431 CLP	1
D202	J707390P1	DIO SI SIG BAV 74L	1
D301	J707391P1	DIO SI SIG BAT 18	1
D303	J707389P1	DIO SI SIG BAV 99	1
D401	J707389P1	DIO SI SIG BAV 99	1
D501	J707397P1	DIO SI VAR CAP BBY 40	1
D502	J707397P1	DIO SI VAR CAP BBY 40	1
D503	J707397P1	DIO SI VAR CAP BBY 40	1
D504	J707390P1	DIO SI SIG BAV 74L	1
D505	J707390P1	DIO SI SIG BAV 74L	1
D506	J707390P1	DIO SI SIG BAV 74L	1
D507	J707390P1	DIO SI SIG BAV 74L	1
		COILS:	
L101	J707426P1	COIL FIX	1

CIRCUIT POSITION		COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
L102	*	A700024P1	COIL FIX 100NH 10%	1
L104		J707426P5	COIL FIX	1
L106		J707426P7	COIL FIX	1
L107		J707426P2	COIL FIX	1
L108		J707426P2	COIL FIX	1
L109		J707339G1	COIL FIX ASM	1
L110		J707426P7	COIL FIX	1
L112		J707426P3	COIL FIX	1
L114		J707731G1	COIL FIX ASM	1
L115		J707426P4	COIL FIX	1
L116		J707339G1	COIL FIX ASM	1
L117		J707486P4	COIL,RF-FIXED 10 UH 10%	1
L118		J707426P2	COIL FIX	1
L119		J707426P6	COIL FIX	1
L120		J707426P7	COIL FIX	1
L121		J707426P7	COIL FIX	1
L122		J707426P6	COIL FIX	1
L301		J707426P6	COIL FIX	1
L302		J707422P2	COIL RF-VAR., 4-1/2T	1
L303		J707422P2	COIL RF-VAR., 4-1/2T	1
L304		J707486P2	COIL RF-FIX., 3.3 UH 10%	1
L305		J707422P2	COIL RF-VAR., 4-1/2T	1
L306		J707422P2	COIL RF-VAR., 4-1/2T	1
L308		J707422P3	COIL RF-VAR., 9-1/2T	1
L401		J707486P3	COIL,RF-FIX., 6.8 UH 10%	1
L402		J707431P1	COIL RF-VAR., 455KHZ 25%	1
L403		J707431P1	COIL RF-VAR., 455KHZ 25%	1
L501		J707486P2	COIL RF-FIX., 3.3 UH 10%	1
L502		J707422P1	COIL RF-VAR., 2-1/2T	1
L503		J707486P2	COIL RF-FIX., 3.3 UH 10%	1
L504		J707486P2	COIL RF-FIX., 3.3 UH 10%	1
L505		J707486P2	COIL RF-FIX., 3.3 UH 10%	1
L506		J707422P1	COIL RF-VAR., 2-1/2T	1
L507		J707486P2	COIL RF-FIX., 3.3 UH 10%	1
L508		J707375P1	COIL RF-VAR., 4-1/2 TAP	1
L509		J707486P5	COIL RF-FIX., 330 UH 10%	1
			CONNECTORS:	
P001		J707962G1	PLUG-ASM, 4 PIN,+ FERR. CORE	1
P002		J707962G2	PLUG-ASM, 6 PIN,+ FERR. CORE	1
P003		J707962G3	PLUG-ASM, 13 PIN,+ FERR.CORE	1
			TRANSISTORS:	
Q101		J707388P1	TSTR NPN SI BFR 53	1
Q102		J707388P1	TSTR NPN SI BFR 53	1
Q103		J706145P1	TSTR NPN SI BFW 16A	1
Q104		J707447P1	TSTR NPN SI RF-PWR 5W	1
Q105		J707673P1	TSTR NPN SI BC 368	1
Q106		J707387P1	TSTR PNP SI BCW 30	1
Q107		J707386P1	TSTR NPN SI BCW 32	1
Q201		J707387P1	TSTR PNP SI BCW 30	1
Q202		J707435P1	TSTR PNP SI BC 369	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
Q203	J707386P1	TSTR NPN SI BCW 32	1
Q204	J707432P1	TSTR PNP SI BCX 18	1
Q205	J707387P1	TSTR PNP SI BCW 30	1
Q206	J707387P1	TSTR PNP SI BCW 30	1
Q301	J707418P1	TSTR NPN SI BFS 17	1
Q302	J707419P1	TSTR JFET SI BF 511	1
Q303	J707386P1	TSTR NPN SI BCW 32	1
Q401	J707433P1	TSTR MFET SI BF 989	1
Q402	J707387P1	TSTR PNP SI BCW 30	1
Q501	J707419P1	TSTR JFET SI BF 511	1
Q502	J707419P1	TSTR JFET SI BF 511	1
Q503	J707387P1	TSTR PNP SI BCW 30	1
Q504	J707430P1	TSTR NPN SI BF 569	1
Q505	J707387P1	TSTR PNP SI BCW 30	1
Q506	J707419P1	TSTR JFET SI BF 511	1
		RESISTORS:	
R101	J707385P103	RES MFILM 10K OHM 0,125W	1
R102	J707385P103	RES MFILM 10K OHM 0,125W	1
R103	J707385P470	RES MFILM 47 OHM 0,125W	1
R104	J707385P222	RES MFILM 2,2K OHM 0,125W	1
R105	J707385P220	RES MFILM 22 0HM 0,125W	1
R106	J707385P100	RES MFILM 10 0HM 0,125W	1
R107	J707385P562	RES MFILM 5,6K OHM 0,125W	1
R108	J707385P102	RES MFILM 1K OHM 0,125W	1
R109	J707385P152	RES MFILM 1,5K OHM 0,125W	1
R110	J707385P472	RES MFILM 4,7K OHM 0,125W	1
R111	J707385P680	RES MFILM 68 OHM 0,125W	1
R112	J707385P102	RES MFILM 1K OHM 0,125W	1
R113	J707385P100	RES MFILM 10 0HM 0,125W	1
R115	J707478P4	RES VAR 1K OHM 0,05W	1
R116	J707385P331	RES MFILM330 OHM 0,125W	1
R117	J707385P680	RES MFILM 68 OHM 0,125W	1
R118	J707385P470	RES MFILM 47 OHM 0,125W	1
R119	J707385P104	RES MFILM 100K OHM 0,125W	1
R120	J707385P910	RES MFILM 1 OHM 0,125W	1
R121	J707385P910	RES MFILM 1 OHM 0,125W	1
R201	J707385P222	RES MFILM 2,2K OHM 0,125W	1
R202	J707385P473	RES MFILM 47K OHM 0,125W	1
R203	J707385P153	RES MFILM 15K OHM 0,125W	1
R204	J707385P102	RES MFILM 1K OHM 0,125W	1
R205	J707385P101	RES MFILM 100 OHM 0,125W	1
R206	J707385P273	RES MFILM 27K OHM 0,125W	1
R207	J707385P682	RES MFILM 6,8K OHM 0,125W	1
R208	J707385P333	RES MFILM 33K OHM 0,125W	1
R209	J707385P333	RES MFILM 33K OHM 0,125W	1
R210	J707385P103	RES MFILM 10K OHM 0,125W	1
R211	J707385P182	RES MFILM 1,8K OHM 0,125W	1
R212	J707385P473	RES MFILM 47K OHM 0,125W	1
R213	J707385P153	RES MFILM 15K OHM 0,125W	1
R214	J707385P272	RES MFILM 2,7K OHM 0,125W	1
R215	J707385P153	RES MFILM 15K OHM 0,125W	1
R216	J707385P562	RES MFILM 5,6K OHM 0,125W	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER		COMPONENT DESCRIPTION	QUANTITY
R221	J707385P221		RES MFILM 220 OHM 0,125W	1
R301	J707385P221		RES MFILM 220 OHM 0,125W	1
R302	J707385P103		RES MFILM 10K OHM 0,125W	1
R303	J707385P123		RES MFILM 12K OHM 0,125W	1
R304	J707385P220		RES MFILM 22 0HM 0,125W	1
R305	J707385P183		RES MFILM 18K OHM 0,125W	1
R306	J707385P470		RES MFILM 47 OHM 0,125W	1
R307	J707385P153		RES MFILM 15K OHM 0,125W	1
R308	J707385P681		RES MFILM 680 OHM 0,125W	1
R309	J707385P101		RES MFILM 100 OHM 0,125W	1
R310	J707385P101		RES MFILM 100 OHM 0,125W	1
R311	J707385P470		RES MFILM 47 OHM 0,125W	1
R312	J707385P332		RES MFILM 3,3K OHM 0,125W	1
R313	J707385P154		RES MFILM 150K OHM 0,125W	1
R314	J707385P472		RES MFILM 4,7K OHM 0,125W	1
R315	J707385P153		RES MFILM 15K OHM 0,125W	1
R401	J707385P152		RES MFILM 1,5K OHM 0,125W	1
R402	J707385P473		RES MFILM 47K OHM 0,125W	1
R403	J707385P473		RES MFILM 47K OHM 0,125W	1
R404	J707385P561		RES MFILM 560 OHM 0,125W	1
R405	J707385P470		RES MFILM 47 OHM 0,125W	1
R406	J707385P683		RES MFILM 68K OHM 0,125W	1
R407	J707385P333	* *	RES MFILM 33K OHM 0,125W	1
R408	J707385P103		RES MFILM 10K OHM 0,125W	1
R409	J707478P10		RES VAR 10K OHM 0,05W	1
R410	J707385P392		RES MFILM 3,9K OHM 0,125W	1
R411	J707385P273		RES MFILM 27K OHM 0,125W	1
R412	J707385P563		RES MFILM 56K OHM 0,125W	1
R413	J707385P683		RES MFILM 68K OHM 0,125W	1
R414	J707385P393		RES MFILM 39K OHM 0,125W	1
R415	J707385P334		RES MFILM 330K 0HM 0,125W	1
R416	J707385P182		RES MFILM 1,8K OHM 0,125W	1
R417	J707385P473		RES MFILM 47K OHM 0,125W	1
R418	J707385P183		RES MFILM 18K OHM 0,125W	1
R419	J707385P473		RES MFILM 47K OHM 0,125W	1
R420	J707478P12		RES VAR 22K OHM O,05W	1
R421	J707385P101		RES MFILM 100 OHM 0,125W	1
R422	J707385P332		RES MFILM 3,3K OHM 0,125W	1
R501	J707385P271		RES MFILM 270 OHM 0,125W	1
R502	J707385P101		RES MFILM 100 OHM 0,125W	1
R503	J707385P101		RES MFILM 100 OHM 0,125W	1
R504	J707385P472		RES MFILM 4,7K OHM 0,125W	1
R505	J707385P271		RES MFILM 270 OHM 0,125W	1
R506	J707385P470		RES MFILM 47 OHM 0,125W	1
R507	J707385P101		RES MFILM 100 OHM 0,125W	1
R508	J707385P392		RES MFILM 3,9K OHM 0,125W	1
R509	J707385P333		RES MFILM 33K OHM 0,125W	1
R510	J707385P100		RES MFILM 10 0HM 0,125W	1
R511	J707385P271		RES MFILM 270 OHM 0,125W	1
R512	J707385P102		RES MFILM 1K OHM 0,125W	1
R513	J707385P103		RES MFILM 10K OHM 0,125W	1
R514	J707385P273		RES MFILM 27K OHM 0,125W	1
R515	J707385P822		RES MFILM 8,2K OHM 0,125W	1
R516	J707385P223		RES MFILM 22K OHM 0,125W	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
R517	J707385P220	RES MFILM 22 0HM 0,125W	1
R518	J707385P472	RES MFILM 4,7K OHM 0,125W	1
R519	J707385P562	RES MFILM 5,6K OHM 0,125W	1
R520	J707385P104	RES MFILM 100K OHM 0,125W	1
R521	J707385P470	RES MFILM 47 OHM 0,125W	1
R523	J707385P273	RES MFILM 27K OHM 0,125W	1
R524	J707385P151	RES MFILM 150 OHM 0,125W	1
R525	J707385P272	RES MFILM 2,7K OHM 0,125W	1
R526	J707385P101	RES MFILM 100 OHM 0,125W	1
R527	J707385P100	RES MFILM 10 0HM 0,125W	1
R528	J707385P105	RES MFILM 1M OHM 0,125W	1
R529	J707385P101	RES MFILM 100 OHM 0,125W	1
R530	J707385P472	RES MFILM 4,7K OHM 0,125W	1
R531	J707385P103	RES MFILM 10K OHM 0,125W	1
R532	J707385P183	RES MFILM 18K OHM 0,125W	1
R533	J707385P184	RES MFILM 180K OHM 0,125W	1
R534	J707385P273	RES MFILM 27K OHM 0,125W	1
R535	J707385P470	RES MFILM 47 OHM 0,125W	1
	INTEGRATED CICUITS:		
U401	J707449P1	INT CKT MC3357	1
U501	J707434P2	INT CKT CMOS 4053/S016	1
U502	J707337P1	INT CKT MC145146	1
U503	J707374P1	INT CKT PLL ECL SP8793	1
	MECHANICAL COMPONENTS:		
0003	K805347P1 *	SHLD METALL ASM	1
* 0004	* A701136P5	* SLVG. INS.- EL, D-4.7X0.51MM	0.05M
* 0005	* A701648P2	* SIL. RUBB. SEALANT, RTV-162	0.002KG
* 0006	* J706647P1	* SILICONE OIL, QZ 13	0.0001KG
0007	L855385P1	SPRING ANTENNA	1
0008	A701332P4	INSULATOR	1
0009	J706281P6	CORE-SCREW, FERR. U10	6
0010	K805323P1	HEAT-SINK	1

Storno

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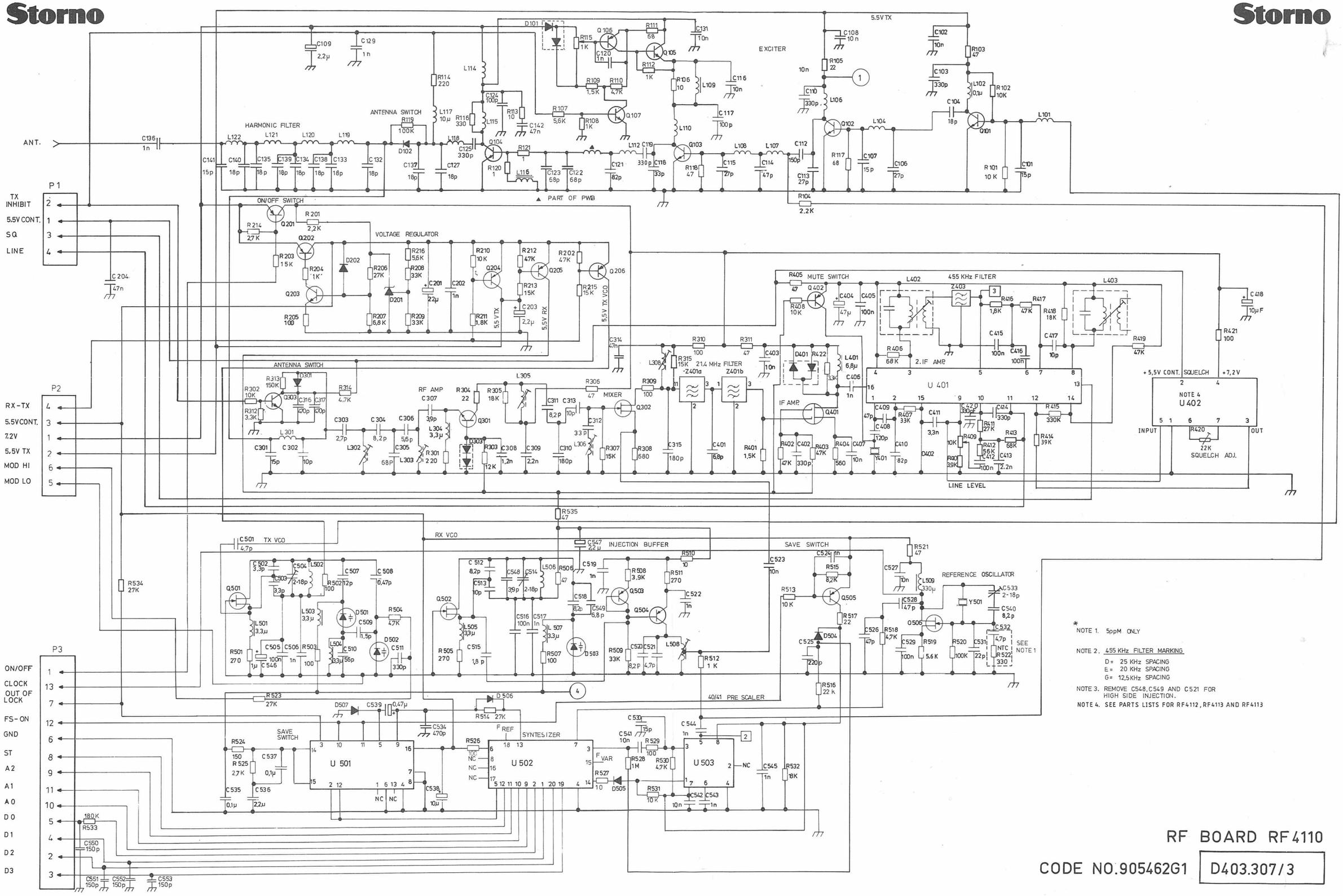

* NOTE 1. 5ppM ONLY

NOTE 2. 455 KHz FILTER MARKING

D= 25 KHz SPACING
E= 20 KHz SPACING
G= 12,5KHz SPACING

NOTE 3. REMOVE C548, C549 AND C521 FOR HIGH SIDE INJECTION.

NOTE 4. SEE PARTS LISTS FOR RF4112, RF4113 AND RF4113

RF BOARD RF4110

CODE NO.905462G1 | D403.307/3

Storno

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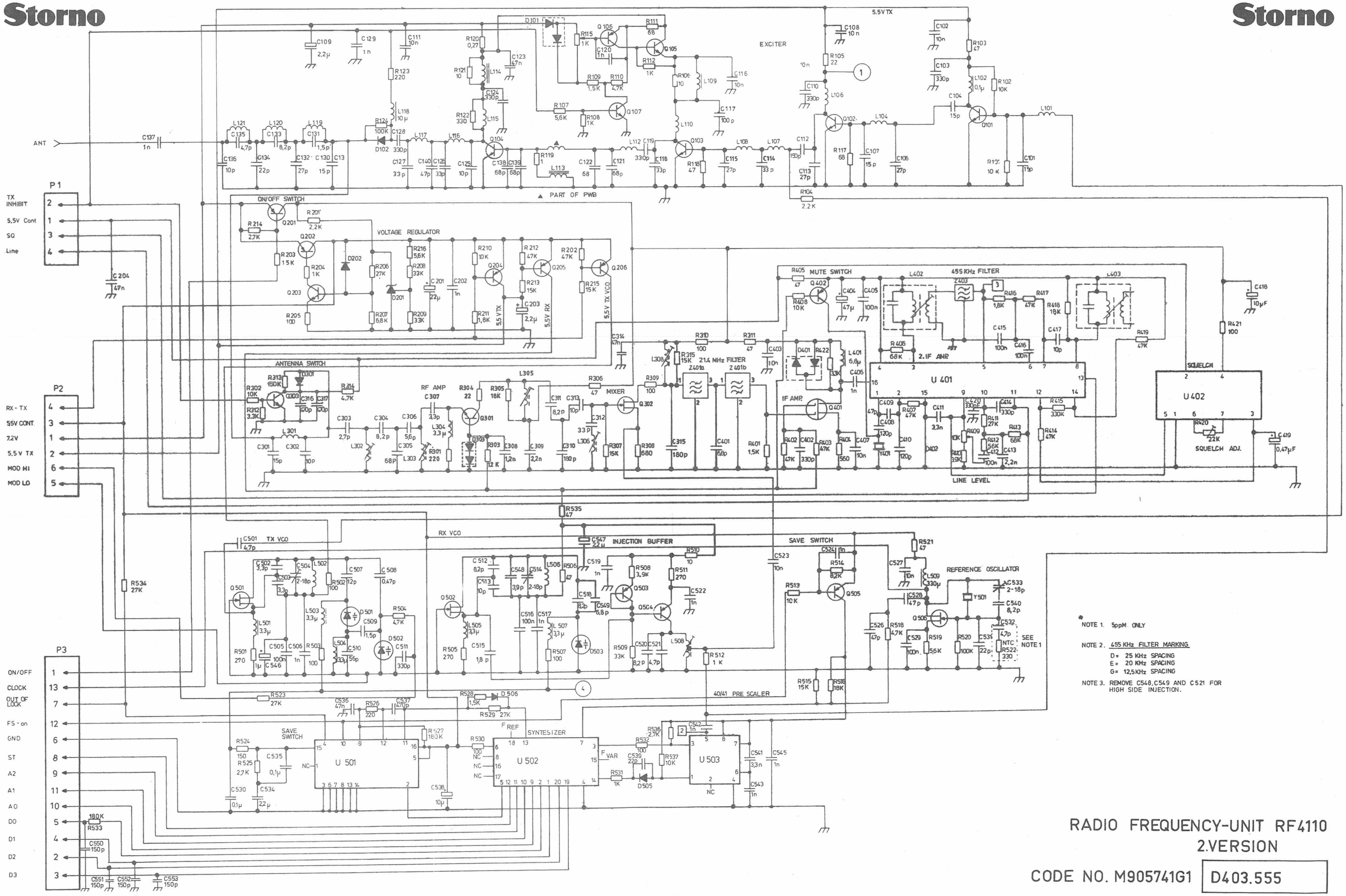

NOTE 1. 5ppM ONLY

NOTE 2. 455 KHz FILTER MARKING

D= 25 KHz SPACING
E= 20 KHz SPACING
G= 12,5KHz SPACING

NOTE 3. REMOVE C548, C549 AND C521 FOR HIGH SIDE INJECTION.

RADIO FREQUENCY-UNIT RF4110
2.VERSION

CODE NO. M905741G1 | D403.555

Storno

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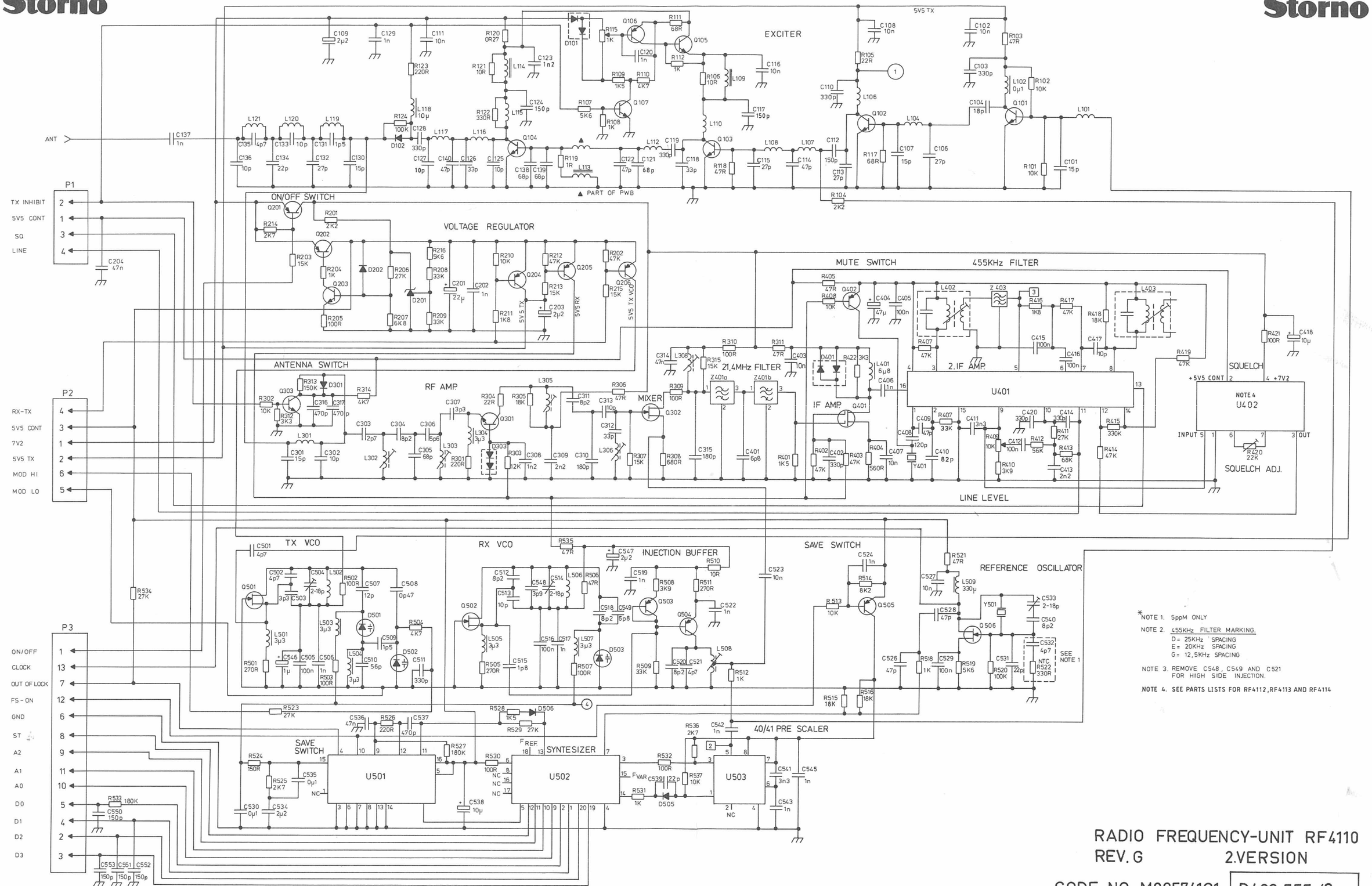


*NOTE 1. 5ppM ONLY

NOTE 2. 455KHz FILTER MARKING.
D= 25KHz SPACING
E= 20KHz SPACING
G= 12,5KHz SPACING

NOTE 3. REMOVE C548, C549 AND C521 FOR HIGH SIDE INJECTION.

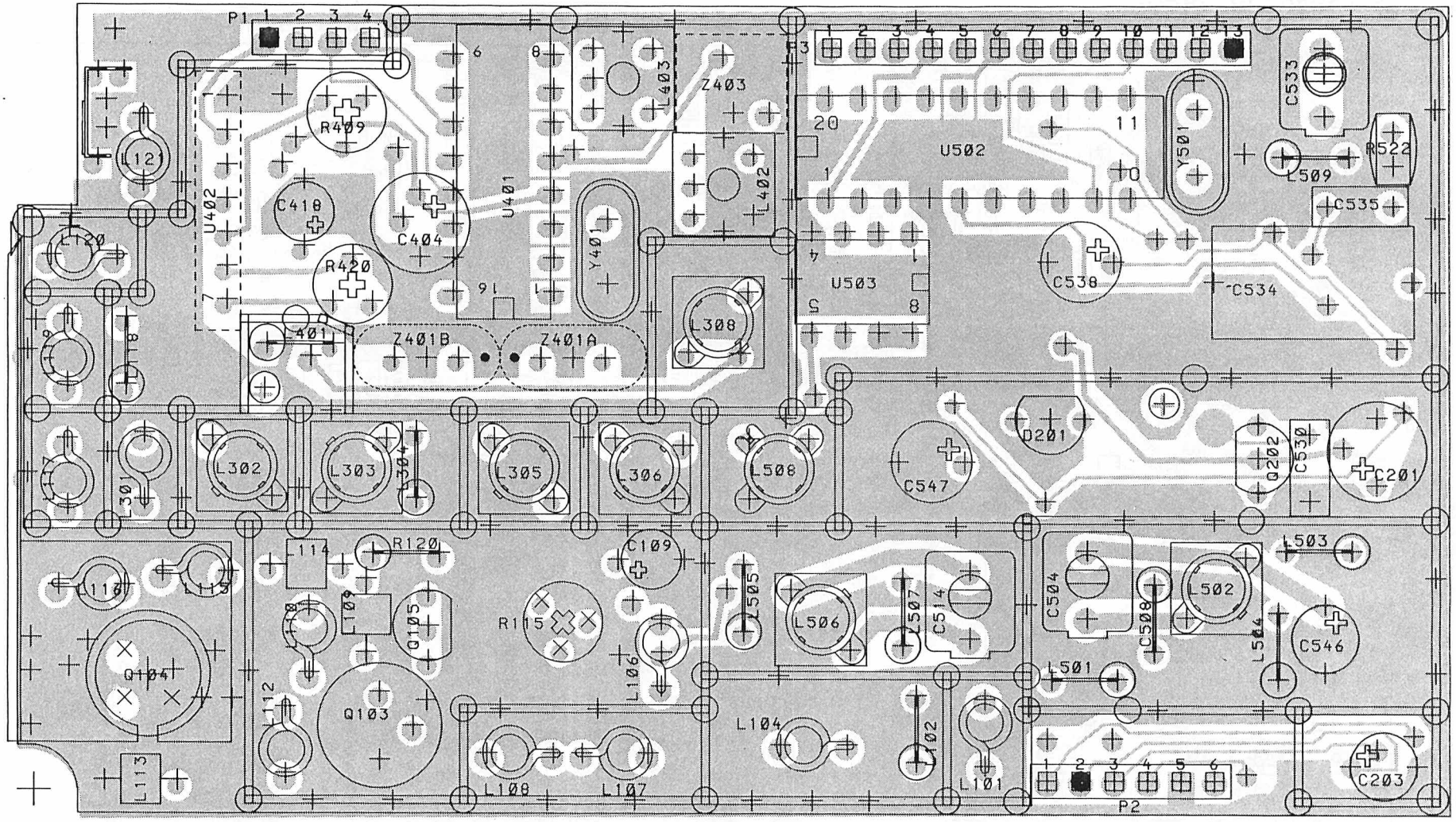
NOTE 4. SEE PARTS LISTS FOR RF4112, RF4113 AND RF4114

RADIO FREQUENCY-UNIT RF4110

REV. G 2.VERSION

CODE NO. M905741G1 D403.555/3

Storno



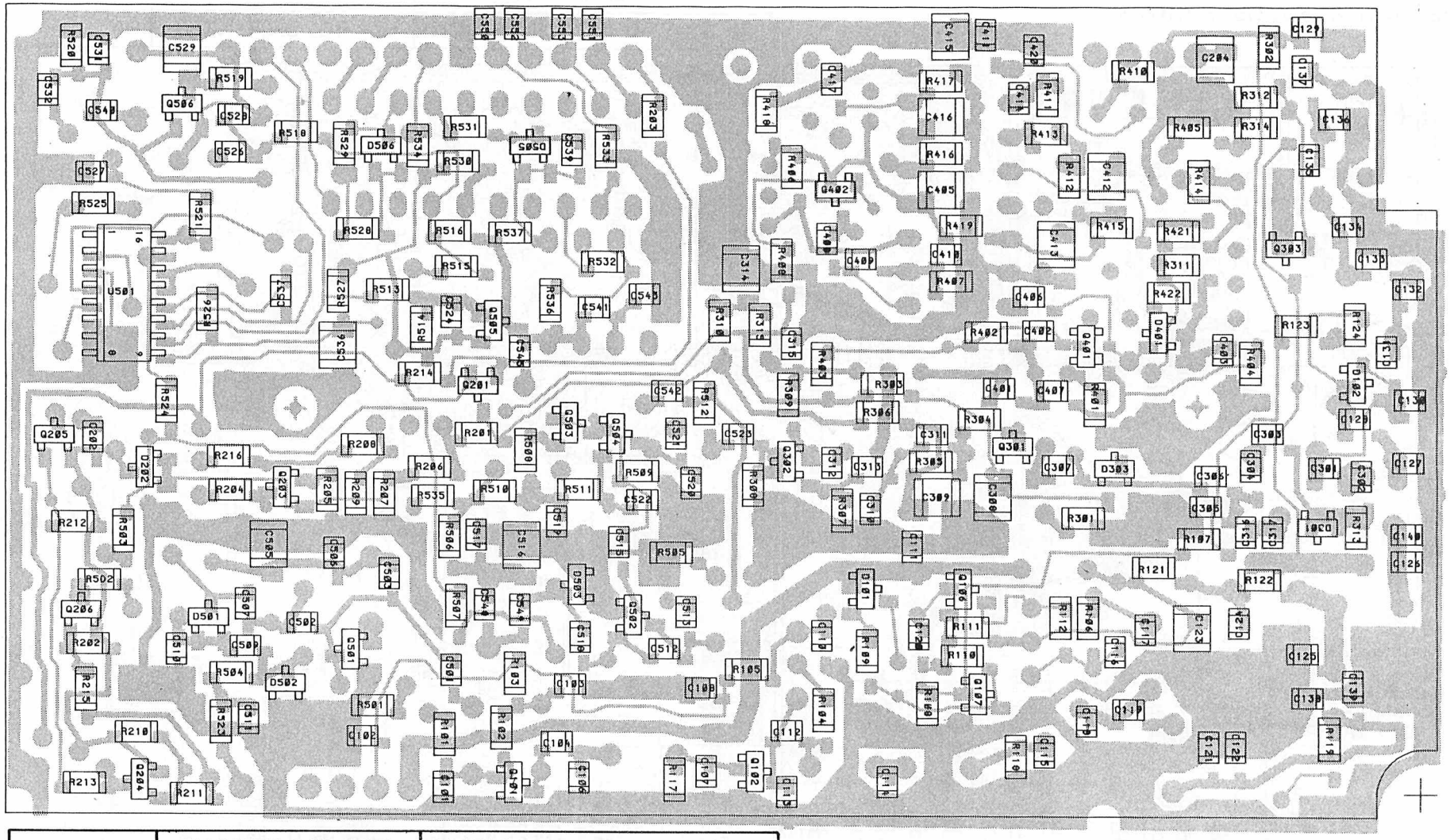
	MODULE CODE NO.	MOUNTED BOARD CODE NO.
25 kHz	J707428G1	M905741G1
20 kHz	J707428G2	M905741G1
12, 5 kHz	J707428G3	M905741G1

SEE PARTS LISTS

RADIO FREQUENCY-UNIT RF4110
COMPONENT LAYOUT
COMPONENT SIDE 2. VERSION
REV. 2

D403.526/4

Storno



	MODULE CODE NO.	MOUNTED BOARD CODE NO.
25 kHz	J707428G1	M905741G1
20 kHz	J707428G2	M905741G1
12, 5 kHz	J707428G3	M905741G1

SEE PARTS LISTS

RADIO FREQUENCY-UNIT RF4110

COMPONENT LAYOUT

CHIP SIDE

REV. 2

2. VERSION

D40[illegible] 527/ 4

ITEM NUMBER DESCRIPTION

M905741G1 CPNT BD R F 4 1 1 0, 2.ND TYPE- REV. 2

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER		COMPONENT DESCRIPTION	QUANTITY
C101	J707436P21		CAP CER NPO 15P 5% 50V	1
C102	J707438P14		CAP CER CL2 10N 10% 50V	1
C103	J707436P73		CAP CER NPO 330P 5% 50V	1
C104	J707436P25		CAP CER NPO 18P 5% 50V	1
C106	J707436P33		CAP CER NPO 27P 5% 50V	1
C107	J707436P21		CAP CER NPO 15P 5% 50V	1
C108	J707438P14		CAP CER CL2 10N 10% 50V	1
C109	J707353P5		CAP ELEC 2,2 UF 50V	1
C110	J707436P73		CAP CER NPO 330P 5% 50V	1
C111	J707438P14		CAP CER CL2 10N 10% 50V	1
C112	J707436P65		CAP CER NPO 150P 5% 50V	1
C113	J707436P33		CAP CER NPO 27P 5% 50V	1
C114	J707436P45		CAP CER NPO 47P 5% 50V	1
C115	J707436P33		CAP CER NPO 27P 5% 50V	1
C116	J707438P14		CAP CER CL2 10N 10% 50V	1
C117	J707436P65 *	*	CAP CER NPO 150P 5% 50V	1
C118	J707436P37		CAP CER NPO 33P 5% 50V	1
C119	J707436P73		CAP CER NPO 330P 5% 50V	1
C120	J707438P5		CAP CER CL2 1N 10% 50V	1
C121	J707436P53 *	*	CAP CER NPO 68P 5% 50V	1
C122	J707436P45		CAP CER NPO 47P 5% 50V	1
C123	* J707436P87	*	CAP CER CL2 1N2 5% 50V	1
C124	J707436P65 *	*	CAP CER NPO 150P 5% 50V	1
C125	J707436P13		CAP CER NPO 10P 5% 50V	1
C126	J707436P37		CAP CER NPO 33P 5% 50V	1
C127	J707436P13 *	*	CAP CER NPO 10P 5% 50V	1
C128	J707436P73		CAP CER NPO 330P 5% 50V	1
C129	J707438P5		CAP CER CL2 1N 10% 50V	1
C130	J707436P21		CAP CER NPO 15P 5% 50V	1
C131	J707436P3		CAP CER NPO 1P5,25P 50V	1
C132	J707436P33		CAP CER NPO 27P 5% 50V	1
C133	J707436P13 *	*	CAP CER NPO 10P 5% 50V	1
C134	J707436P29		CAP CER NPO 22P 5% 50V	1
C135	J707436P9		CAP CER NPO 4P7,25P 50V	1
C136	J707436P13		CAP CER NPO 10P 5% 50V	1
C137	J707438P5		CAP CER CL2 1N 10% 50V	1
C138	J707436P53		CAP CER NPO 68P 5% 50V	1
C139	J707436P53		CAP CER NPO 68P 5% 50V	1
C140	J707436P45		CAP CER NPO 47P 5% 50V	1
C201	J707444P8		CAP TA SOL 22U 20% 16V	1
C202	J707438P5		CAP CER CL2 1N 10% 50V	1
C203	J707444P5		CAP TA SOL 2U2 20% 35V	1
C204	J707438P22		CAP CER CL2 47N 10% 50V	1
C301	J707436P21		CAP CER NPO 15P 5% 50V	1
C302	J707436P13		CAP CER NPO 10P 5% 50V	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C303	J707436P6	CAP CER NPO 2P7,25P 50V	1
C304	J707436P12	CAP CER NPO 8P2.25P 50V	1
C305	J707436P53	CAP CER NPO 68P 5% 50V	1
C306	J707436P10	CAP CER NPO 5P6.25P 50V	1
C307	J707436P7	CAP CER NPO 3P3,25P 50V	1
C308	J707436P87	CAP CER NPO 1N2 5% 50V	1
C309	J707436P93	CAP CER NPO 2N2 5% 50V	1
C310	J707436P67	CAP CER NPO 180P 5% 50V	1
C311	J707436P12	CAP CER NPO 8P2.25P 50V	1
C312	J707436P37	CAP CER NPO 33P 5% 50V	1
C313	J707436P13	CAP CER NPO 10P 5% 50V	1
C314	J707438P22	CAP CER CL2 47N 10% 50V	1
C315	J707436P67	CAP CER NPO 180P 5% 50V	1
C316	J707438P3	CAP CER CL2 470P 10% 50V	1
C317	J707438P3	CAP CER CL2 470P 10% 50V	1
C401	J707436P11	CAP CER 6,8PF 50V	1
C402	J707436P73	CAP CER NPO 330P 5% 50V	1
C403	J707438P14	CAP CER CL2 10N 10% 50V	1
C404	J707444P9	CAP TA SOL 47U 20% 6V	1
C405	J707438P26	CAP CER CL2 100N 10% 50V	1
C406	J707438P5	CAP CER CL2 1N 10% 50V	1
C407	J707438P14	CAP CER CL2 10N 10% 50V	1
C408	J707436P63	CAP CER NPO 120P 5% 50V	1
C409	J707436P45	CAP CER NPO 47P 5% 50V	1
C410	J707436P57 * *	CAP CER NPO 82P 5% 50V	1
C411	J707438P8	CAP CER CL2 3N3 10% 50V	1
C412	J707438P26	CAP CER CL2 100N 10% 50V	1
C413	J707436P93	CAP CER NPO 2N2 5% 50V	1
C414	J707436P73	CAP CER NPO 330P 5% 50V	1
C415	J707438P26	CAP CER CL2 100N 10% 50V	1
C416	J707438P26	CAP CER CL2 100N 10% 50V	1
C417	J707436P13	CAP CER NPO 10P 5% 50V	1
C418	J707444P7	CAP TA SOL 10U 20% 16V	1
*	*	*	*
C420	J707436P73	CAP CER NPO 330P 5% 50V	1
C501	J707436P9	CAP CER NPO 4P7,25P 50V	1
C502	J707436P7	CAP CER NPO 3P3,25P 50V	1
C503	J707436P7	CAP CER NPO 3P3,25P 50V	1
C504	J707475P1	CAP VAR 2 - 18 PF	1
C505	J707438P26	CAP CER CL2 100N 10% 50V	1
C506	J707438P5	CAP CER CL2 1N 10% 50V	1
C507	J707436P17	CAP CER NPO 12P 5% 50V	1
C508	J707483P1	CAP PHEN 0P47 5% 500V	1
C509	J707436P3	CAP CER NPO 1P5,25P 50V	1
C510	J707436P49	CAP CER NPO 56P 5% 50V	1
C511	J707436P73	CAP CER NPO 330P 5% 50V	1
C512	J707436P12	CAP CER NPO 8P2.25P 50V	1
C513	J707436P13	CAP CER NPO 10P 5% 50V	1
C514	J707475P1	CAP VAR 2 - 18 PF	1
C515	J707436P4	CAP CER NPO 1P8,25P 50V	1
C516	J707438P26	CAP CER CL2 100N 10% 50V	1
C517	J707438P5	CAP CER CL2 1N 10% 50V	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C518	J707436P12	CAP CER NPO 8P2.25P 50V	1
C519	J707438P5	CAP CER CL2 1N 10% 50V	1
C520	J707436P12	CAP CER NPO 8P2.25P 50V	1
C521	J707436P9	CAP CER NPO 4P7,25P 50V	1
C522	J707438P5	CAP CER CL2 1N 10% 50V	1
C523	J707438P14	CAP CER CL2 10N 10% 50V	1
C524	J707438P5	CAP CER CL2 1N 10% 50V	1
C526	J707436P45	CAP CER NPO 47P 5% 50V	1
C527	J707438P14	CAP CER CL2 10N 10% 50V	1
C528	J707436P45	CAP CER NPO 47P 5% 50V	1
C529	J707438P26	CAP CER CL2 100N 10% 50V	1
C530	J707412P9	CAP PYES 100N 10% 63V	1
C531	J707436P29	CAP CER NPO 22P 5% 50V	1
C532	J707436P9	CAP CER NPO 4P7,25P 50V	1
C533	J707475P1	CAP VAR 2 - 18 PF	1
C534	J707612P1	CAP POL 2,2MF 100V	1
C535	J707412P9	CAP PYES 100N 10% 63V	1
C536	J707438P22	CAP CER CL2 47N 10% 50V	1
C537	J707438P3	CAP CER CL2 470P 10% 50V	1
C538	J707353P7	CAP ELEC 10MF 16V	1
C539	J707436P29	CAP CER NPO 22P 5% 50V	1
C540	J707436P12	CAP CER NPO 8P2.25P 50V	1
C541	J707438P8	CAP CER CL2 3N3 10% 50V	1
C542	J707438P5	CAP CER CL2 1N 10% 50V	1
C543	J707438P5	CAP CER CL2 1N 10% 50V	1
C545	J707438P5	CAP CER CL2 1N 10% 50V	1
C546	J707444P4	CAP TA SOL 1U 20% 35V	1
C547	J707444P5	CAP TA SOL 2U2 20% 35V	1
C548	J707436P8	CAP CER NPO 3P9,25P 50V	1
C549	J707436P11	CAP CER 6,8PF 50V	1
C550	J707436P65	CAP CER NPO 150P 5% 50V	1
C551	J707436P65	CAP CER NPO 150P 5% 50V	1
C552	J707436P65	CAP CER NPO 150P 5% 50V	1
C553	J707436P65	CAP CER NPO 150P 5% 50V	1
D101	J707389P1	DIO SI SIG BAV 99	1
D102	J707391P1	DIO SI SIG BAT 18	1
D201	J707448P1	IC LIN VR VAR TL431 CLP	1
D202	J707390P1	DIO SI SIG BAV 74	1
D301	J707391P1	DIO SI SIG BAT 18	1
D303	J707389P1	DIO SI SIG BAV 99	1
D401	J707389P1	DIO SI SIG BAV 99	1
D501	J707397P1	DIO SI CAP BBY 40	1
D502	J707397P1	DIO SI CAP BBY 40	1
D503	J707397P1	DIO SI CAP BBY 40	1
D505	J707390P1	DIO SI SIG BAV 74	1
D506	J707390P1	DIO SI SIG BAV 74	1

CIRCUIT POSITION		COMPONENT ITEM NUMBER		COMPONENT DESCRIPTION	QUANTITY
L101		J707426P1		COIL FIX	1
L102	*	A700024P1	*	COIL RF FIX 100NH 10%	1
L104		J707426P5		COIL FIX	1
L106		J707426P7		COIL FIX	1
L107		J707426P2		COIL FIX	1
L108		J707426P2		COIL FIX	1
L109		J707339G1		COIL FIX ASM	1
L110		J707426P7		COIL FIX	1
L112		J707426P2		COIL FIX	1
L113		J707339G1		COIL FIX ASM	1
L114		J707339G1		COIL FIX ASM	1
L115		J707426P4		COIL FIX	1
L116		J707426P1	*	COIL FIX	1
L117		J707426P1	*	COIL FIX	1
L118		J707486P4		COIL RF FIX 10UH 10%	1
L119		J707426P5		COIL FIX	1
L120		J707426P4		COIL FIX	1
L121		J707426P4		COIL FIX	1
L301		J707426P6		COIL FIX	1
L302		J707422P2		COIL RF VAR 4-1/2T	1
L303		J707422P2		COIL RF VAR 4-1/2T	1
L304		J707486P2		COIL RF FIX 3.3UH 10%	1
L305		J707422P2		COIL RF VAR 4-1/2T	1
L306		J707422P2		COIL RF VAR 4-1/2T	1
L308		J707422P3		COIL RF VAR 9-1/2T	1
L401		J707486P3		COIL RF FIX 6.8UH 10%	1
L402		J707431P1		COIL RF VAR 455KHZ 25%	1
L403		J707431P1		COIL RF VAR 455KHZ 25%	1
L501		J707486P2		COIL RF FIX 3.3UH 10%	1
L502		J707422P1		COIL RF VAR 2-1/2T	1
L503		J707486P2		COIL RF FIX 3.3UH 10%	1
L504		J707486P2		COIL RF FIX 3.3UH 10%	1
L505		J707486P2		COIL RF FIX 3.3UH 10%	1
L506		J707422P1		COIL RF VAR 2-1/2T	1
L507		J707486P2		COIL RF FIX 3.3UH 10%	1
L508		J707375P1		COIL RF VAR 4-1/2 TAP	1
L509		J707486P5		COIL RF FIX 330UH 10%	1
P001		J707962G1		PLUG ASM	1
P002		J707962G2		PLUG ASM	1
P003		J707962G3		PLUG ASM	1
Q101		J707388P1		TSTR NPN SI BFR 53	1
Q102		J707388P1		TSTR NPN SI BFR 53	1
Q103		J706145P1		TSTR NPN SI BFW 16A	1
Q104		J707868P1		TSTR NPN SI RF-PWR 4W	1
Q105		J707673P1		TSTR NPN SI BC 368	1
Q106		J707387P1		TSTR PNP SI BCW 30	1
Q107		J707386P1		TSTR NPN SI BCW 32	1
Q201		J707387P1		TSTR PNP SI BCW 30	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
Q202	J707435P1	TSTR PNP SI BC 369	1
Q203	J707386P1	TSTR NPN SI BCW 32	1
Q204	J707432P1	TSTR PNP SI BCX 18	1
Q205	J707387P1	TSTR PNP SI BCW 30	1
Q206	J707387P1	TSTR PNP SI BCW 30	1
Q301	J707418P1	TSTR NPN SI BFS 17	1
Q302	J707419P1	TSTR JFET SI BF 511	1
Q303	J707386P1	TSTR NPN SI BCW 32	1
Q401	J707433P1	TSTR MFET SI BF 989	1
Q402	J707387P1	TSTR PNP SI BCW 30	1
Q501	J707419P1	TSTR JFET SI BF 511	1
Q502	J707419P1	TSTR JFET SI BF 511	1
Q503	J707387P1	TSTR PNP SI BCW 30	1
Q504	J707430P1	TSTR NPN SI BF 569	1
Q505	J707387P1	TSTR PNP SI BCW 30	1
Q506	J707419P1	TSTR JFET SI BF 511	1
R101	J707385P103	RES MFILM 10K 5% 1/8W	1
R102	J707385P103	RES MFILM 10K 5% 1/8W	1
R103	J707385P470	RES MFILM 47R 5% 1/8W	1
R104	J707385P222	RES MFILM 2K2 5% 1/8W	1
R105	J707385P220	RES MFILM 22R 5% 1/8W	1
R106	J707385P100	RES MFILM 10R 5% 1/8W	1
R107	J707385P562	RES MFILM 5K6 5% 1/8W	1
R108	J707385P102	RES MFILM 1K0 5% 1/8W	1
R109	J707385P152	RES MFILM 1K5 5% 1/8W	1
R110	J707385P472	RES MFILM 4K7 5% 1/8W	1
R111	J707385P680	RES MFILM 68R 5% 1/8W	1
R112	J707385P102	RES MFILM 1K0 5% 1/8W	1
R115	J707478P4	RES VAR 1K OHM 0,05W	1
R117	J707385P680	RES MFILM 68R 5% 1/8W	1
R118	J707385P470	RES MFILM 47R 5% 1/8W	1
R119	J707385P910	RES MFILM 1R0 5% 1/8W	1
R120	J707945P1	RES WW R27 5%	1
R121	J707385P100	RES MFILM 10R 5% 1/8W	1
R122	J707385P331	RES MFILM 330R 5% 1/8W	1
R123	J707385P221	RES MFILM 220R 5% 1/8W	1
R124	J707385P104	RES MFILM 100K 5% 1/8W	1
R201	J707385P222	RES MFILM 2K2 5% 1/8W	1
R202	J707385P473	RES MFILM 47K 5% 1/8W	1
R203	J707385P153	RES MFILM 15K 5% 1/8W	1
R204	J707385P102	RES MFILM 1K0 5% 1/8W	1
R205	J707385P101	RES MFILM 100R 5% 1/8W	1
R206	J707385P273	RES MFILM 27K 5% 1/8W	1
R207	J707385P682	RES MFILM 6K8 5% 1/8W	1
R208	J707385P333	RES MFILM 33K 5% 1/8W	1
R209	J707385P333	RES MFILM 33K 5% 1/8W	1
R210	J707385P103	RES MFILM 10K 5% 1/8W	1
R211	J707385P182	RES MFILM 1K8 5% 1/8W	1
R212	J707385P473	RES MFILM 47K 5% 1/8W	1
R213	J707385P153	RES MFILM 15K 5% 1/8W	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
R214	J707385P272	RES MFILM 2K7 5% 1/8W	1
R215	J707385P153	RES MFILM 15K 5% 1/8W	1
R216	J707385P562	RES MFILM 5K6 5% 1/8W	1
R301	J707385P221	RES MFILM 220R 5% 1/8W	1
R302	J707385P103	RES MFILM 10K 5% 1/8W	1
R303	J707385P123	RES MFILM 12K 5% 1/8W	1
R304	J707385P220	RES MFILM 22R 5% 1/8W	1
R305	J707385P183	RES MFILM 18K 5% 1/8W	1
R306	J707385P470	RES MFILM 47R 5% 1/8W	1
R307	J707385P153	RES MFILM 15K 5% 1/8W	1
R308	J707385P681	RES MFILM 680R 5% 1/8W	1
R309	J707385P101	RES MFILM 100R 5% 1/8W	1
R310	J707385P101	RES MFILM 100R 5% 1/8W	1
R311	J707385P470	RES MFILM 47R 5% 1/8W	1
R312	J707385P332	RES MFILM 3K3 5% 1/8W	1
R313	J707385P154	RES MFILM 150K 5% 1/8W	1
R314	J707385P472	RES MFILM 4K7 5% 1/8W	1
R315	J707385P153	RES MFILM 15K 5% 1/8W	1
R401	J707385P152	RES MFILM 1K5 5% 1/8W	1
R402	J707385P473	RES MFILM 47K 5% 1/8W	1
R403	J707385P473	RES MFILM 47K 5% 1/8W	1
R404	J707385P561	RES MFILM 560R 5% 1/8W	1
R405	J707385P470	RES MFILM 47R 5% 1/8W	1
R406	J707385P683	RES MFILM 68K 5% 1/8W	1
R407	J707385P333 * *	RES MFILM 33K 5% 1/8W	1
R408	J707385P103	RES MFILM 10K 5% 1/8W	1
R409	J707478P10	RES VAR 10K OHM 0,05W	1
R410	J707385P392	RES MFILM 3K9 5% 1/8W	1
R411	J707385P273	RES MFILM 27K 5% 1/8W	1
R412	J707385P563	RES MFILM 56K 5% 1/8W	1
R413	J707385P683	RES MFILM 68K 5% 1/8W	1
R414	J707385P473	RES MFILM 47K 5% 1/8W	1
R415	J707385P334	RES MFILM 330K 5% 1/8W	1
R416	J707385P182	RES MFILM 1K8 5% 1/8W	1
R417	J707385P473	RES MFILM 47K 5% 1/8W	1
R418	J707385P183	RES MFILM 18K 5% 1/8W	1
R419	J707385P473	RES MFILM 47K 5% 1/8W	1
R420	J707478P12	RES VAR 22K OHM O,05W	1
R421	J707385P101	RES MFILM 100R 5% 1/8W	1
R422	J707385P332	RES MFILM 3K3 5% 1/8W	1
R501	J707385P271	RES MFILM 270R 5% 1/8W	1
R502	J707385P101	RES MFILM 100R 5% 1/8W	1
R503	J707385P101	RES MFILM 100R 5% 1/8W	1
R504	J707385P472	RES MFILM 4K7 5% 1/8W	1
R505	J707385P271	RES MFILM 270R 5% 1/8W	1
R506	J707385P470	RES MFILM 47R 5% 1/8W	1
R507	J707385P101	RES MFILM 100R 5% 1/8W	1
R508	J707385P392	RES MFILM 3K9 5% 1/8W	1
R509	J707385P333	RES MFILM 33K 5% 1/8W	1
R510	J707385P100	RES MFILM 10R 5% 1/8W	1
R511	J707385P271	RES MFILM 270R 5% 1/8W	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
R512	J707385P102	RES MFILM 1K0 5% 1/8W	1
R513	J707385P103	RES MFILM 10K 5% 1/8W	1
R514	J707385P822	RES MFILM 8K2 5% 1/8W	1
R515	J707385P183 *	* RES MFILM 18K 5% 1/8W	1
R516	J707385P183	RES MFILM 18K 5% 1/8W	1
R518	J707385P102	RES MFILM 1K0 5% 1/8W	1
R519	J707385P562	RES MFILM 5K6 5% 1/8W	1
R520	J707385P104	RES MFILM 100K 5% 1/8W	1
R521	J707385P470	RES MFILM 47R 5% 1/8W	1
R523	J707385P273	RES MFILM 27K 5% 1/8W	1
R524	J707385P151	RES MFILM 150R 5% 1/8W	1
R525	J707385P272	RES MFILM 2K7 5% 1/8W	1
R526	J707385P221	RES MFILM 220R 5% 1/8W	1
R527	J707385P184	RES MFILM 180K 5% 1/8W	1
R528	J707385P152	RES MFILM 1K5 5% 1/8W	1
R529	J707385P273	RES MFILM 27K 5% 1/8W	1
R530	J707385P101	RES MFILM 100R 5% 1/8W	1
R531	J707385P102	RES MFILM 1K0 5% 1/8W	1
R532	J707385P101	RES MFILM 100R 5% 1/8W	1
R533	J707385P184	RES MFILM 180K 5% 1/8W	1
R534	J707385P273	RES MFILM 27K 5% 1/8W	1
R535	J707385P470	RES MFILM 47R 5% 1/8W	1
R536	J707385P272	RES MFILM 2K7 5% 1/8W	1
R537	J707385P103	RES MFILM 10K 5% 1/8W	1
U401	J707449P1	IC, LIN., IF-AMP., MC3357	1
U501	J707434P2	IC, DIG. MUX., 4053 CMOS	1
U502	J707337P1	IC, PLL. SYN., MC145146	1
U503	J707374P1	IC, ECL.,PLL.-PRESC., SP8793	1
* 0002	* M9-----P1R2	* CPNT BD PW, REVISION NO.: 2	
0003	K805347P1	SHLD METALL ASM	1
0004	A700136P5	SLVG INS EL Ø4.7 X 0.51MM	0.002 M
0005	A701648P2	SIL RUBB. SEALANT RTV-162	0.001 KG
0006	J706647P1	SILICONE OIL QZ 13	0.0001 KG
0007	L855385P1	SPRING ANTENNA	1
0008	A701332P4	INSULATOR	1
0009	J706281P6	CORE	6
0010	L855470P1	HEAT SINK	1

ITEM NUMBER DESCRIPTION

M905741G1 CPNT BD R F 4 1 1 0, 2.ND TYPE

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C101	J707436P21	CAP CER NPO 15P 5% 50V	1
C102	J707438P14	CAP CER CL2 10N 10% 50V	1
C103	J707436P73	CAP CER NPO 330P 5% 50V	1
C104	J707436P25	CAP CER NPO 18P 5% 50V	1
C106	J707436P33	CAP CER NPO 27P 5% 50V	1
C107	J707436P21	CAP CER NPO 15P 5% 50V	1
C108	J707438P14	CAP CER CL2 10N 10% 50V	1
C109	J707353P5	CAP ELEC 2,2 UF 50V	1
C110	J707436P73	CAP CER NPO 330P 5% 50V	1
C111	J707438P14	CAP CER CL2 10N 10% 50V	1
C112	J707436P65	CAP CER NPO 150P 5% 50V	1
C113	J707436P33	CAP CER NPO 27P 5% 50V	1
C114	J707436P45	CAP CER NPO 47P 5% 50V	1
C115	J707436P33	CAP CER NPO 27P 5% 50V	1
C116	J707438P14	CAP CER CL2 10N 10% 50V	1
C117	J707436P61	CAP CER NPO 100P 5% 50V	1
C118	J707436P37	CAP CER NPO 33P 5% 50V	1
C119	J707436P73	CAP CER NPO 330P 5% 50V	1
C120	J707438P5	CAP CER CL2 1N 10% 50V	1
C121	J707436P45	CAP CER NPO 47P 5% 50V	1
C122	J707436P45	CAP CER NPO 47P 5% 50V	1
C123	J707438P22	CAP CER CL2 47N 10% 50V	1
C124	J707436P73	CAP CER NPO 330P 5% 50V	1
C125	J707436P13	CAP CER NPO 10P 5% 50V	1
C126	J707436P37	CAP CER NPO 33P 5% 50V	1
C127	J707436P13	CAP CER NPO 10P 5% 50V	1
C128	J707436P73	CAP CER NPO 330P 5% 50V	1
C129	J707438P5	CAP CER CL2 1N 10% 50V	1
C130	J707436P21	CAP CER NPO 15P 5% 50V	1
C131	J707436P3	CAP CER NPO 1P5,25P 50V	1
C132	J707436P33	CAP CER NPO 27P 5% 50V	1
C133	J707436P11	CAP CER 6,8PF 50V	1
C134	J707436P29	CAP CER NPO 22P 5% 50V	1
C135	J707436P9	CAP CER NPO 4P7,25P 50V	1
C136	J707436P13	CAP CER NPO 10P 5% 50V	1
C137	J707438P5	CAP CER CL2 1N 10% 50V	1
C138	J707436P53	CAP CER NPO 68P 5% 50V	1
C139	J707436P53	CAP CER NPO 68P 5% 50V	1
C140	J707436P45	CAP CER NPO 47P 5% 50V	1
C201	J707444P8	CAP TA SOL 22U 20% 16V	1
C202	J707438P5	CAP CER CL2 1N 10% 50V	1
C203	J707444P5	CAP TA SOL 2U2 20% 35V	1
C204	J707438P22	CAP CER CL2 47N 10% 50V	1
C301	J707436P21	CAP CER NPO 15P 5% 50V	1
C302	J707436P13	CAP CER NPO 10P 5% 50V	1
C303	J707436P6	CAP CER NPO 2P7,25P 50V	1
C304	J707436P12	CAP CER NPO 8P2.25P 50V	1
C305	J707436P53	CAP CER NPO 68P 5% 50V	1
C306	J707436P10	CAP CER NPO 5P6.25P 50V	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY	
C307	J707436P7	CAP CER NPO 3P3,25P 50V	1	
C308	J707436P87	CAP CER NPO 1N2 5% 50V	1	
C309	J707436P93	CAP CER NPO 2N2 5% 50V	1	
C310	J707436P67	CAP CER NPO 180P 5% 50V	1	
C311	J707436P12	CAP CER NPO 8P2.25P 50V	1	
C312	J707436P37	CAP CER NPO 33P 5% 50V	1	
C313	J707436P13	CAP CER NPO 10P 5% 50V	1	
C314	J707438P22	CAP CER CL2 47N 10% 50V	1	
C315	J707436P67	CAP CER NPO 180P 5% 50V	1	
C316	J707438P3	CAP CER CL2 470P 10% 50V	1	
C317	J707438P3	CAP CER CL2 470P 10% 50V	1	
C401	J707436P11	CAP CER 6,8PF 50V	1	
C402	J707436P73	CAP CER NPO 330P 5% 50V	1	
C403	J707438P14	CAP CER CL2 10N 10% 50V	1	
C404	J707444P9	CAP TA SOL 47U 20% 6V	1	
C405	J707438P26	CAP CER CL2 100N 10% 50V	1	
C406	J707438P5	CAP CER CL2 1N 10% 50V	1	
C407	J707438P14	CAP CER CL2 10N 10% 50V	1	
C408	J707436P63	CAP CER NPO 120P 5% 50V	1	
C409	J707436P45	CAP CER NPO 47P 5% 50V	1	
C410	J707436P63	CAP CER NPO 120P 5% 50V	1	
C411	J707438P8	CAP CER CL2 3N3 10% 50V	1	
C412	J707438P26	CAP CER CL2 100N 10% 50V	1	
C413	J707436P93	CAP CER NPO 2N2 5% 50V	1	
C414	J707436P73	CAP CER NPO 330P 5% 50V	1	
C415	J707438P26	CAP CER CL2 100N 10% 50V	1	
C416	J707438P26	CAP CER CL2 100N 10% 50V	1	
C417	J707436P13	CAP CER NPO 10P 5% 50V	1	
C418	J707444P7	CAP TA SOL 10U 20% 16V	1	
C419	J707444P3	CAP TA SOL 0U47 20% 35V	1	RF4112/3
* C419	* J707444P4	* CAP TA SOL 1U0 20% 35V	1	F.RF4114
C420	J707436P73	CAP CER NPO 330P 5% 50V	1	
C501	J707436P9	CAP CER NPO 4P7,25P 50V	1	
C502	J707436P7	CAP CER NPO 3P3,25P 50V	1	
C503	J707436P7	CAP CER NPO 3P3,25P 50V	1	
C504	J707475P1	CAP VAR 2 - 18 PF	1	
C505	J707438P26	CAP CER CL2 100N 10% 50V	1	
C506	J707438P5	CAP CER CL2 1N 10% 50V	1	
C507	J707436P17	CAP CER NPO 12P 5% 50V	1	
C508	J707483P1	CAP PHEN 0P47 5% 500V	1	
C509	J707436P3	CAP CER NPO 1P5,25P 50V	1	
C510	J707436P49	CAP CER NPO 56P 5% 50V	1	
C511	J707436P73	CAP CER NPO 330P 5% 50V	1	
C512	J707436P12	CAP CER NPO 8P2.25P 50V	1	
C513	J707436P13	CAP CER NPO 10P 5% 50V	1	
C514	J707475P1	CAP VAR 2 - 18 PF	1	
C515	J707436P4	CAP CER NPO 1P8,25P 50V	1	
C516	J707438P26	CAP CER CL2 100N 10% 50V	1	
C517	J707438P5	CAP CER CL2 1N 10% 50V	1	
C518	J707436P12	CAP CER NPO 8P2.25P 50V	1	
C519	J707438P5	CAP CER CL2 1N 10% 50V	1	
C520	J707436P12	CAP CER NPO 8P2.25P 50V	1	
C521	J707436P9	CAP CER NPO 4P7,25P 50V	1	
C522	J707438P5	CAP CER CL2 1N 10% 50V	1	
C523	J707438P14	CAP CER CL2 10N 10% 50V	1	
C524	J707438P5	CAP CER CL2 1N 10% 50V	1	

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C526	J707436P45	CAP CER NPO 47P 5% 50V	1
C527	J707438P14	CAP CER CL2 10N 10% 50V	1
C528	J707436P45	CAP CER NPO 47P 5% 50V	1
C529	J707438P26	CAP CER CL2 100N 10% 50V	1
C530	J707412P9	CAP PYES 100N 10% 63V	1
C531	J707436P29	CAP CER NPO 22P 5% 50V	1
C532	J707436P9	CAP CER NPO 4P7,25P 50V	1
C533	J707475P1	CAP VAR 2 - 18 PF	1
C534	J707612P1	CAP POL 2,2MF 100V	1
C535	J707412P9	CAP PYES 100N 10% 63V	1
C536	J707438P22	CAP CER CL2 47N 10% 50V	1
C537	J707438P3	CAP CER CL2 470P 10% 50V	1
C538	J707353P7	CAP ELEC 10MF 16V	1
C539	J707436P29	CAP CER NPO 22P 5% 50V	1
C540	J707436P12	CAP CER NPO 8P2.25P 50V	1
C541	J707438P8	CAP CER CL2 3N3 10% 50V	1
C542	J707438P5	CAP CER CL2 1N 10% 50V	1
C543	J707438P5	CAP CER CL2 1N 10% 50V	1
C545	J707438P5	CAP CER CL2 1N 10% 50V	1
C546	J707444P4	CAP TA SOL 1U 20% 35V	1
C547	J707444P5	CAP TA SOL 2U2 20% 35V	1
C548	J707436P8	CAP CER NPO 3P9,25P 50V	1
C549	J707436P11	CAP CER 6,8PF 50V	1
C550	J707436P65	CAP CER NPO 150P 5% 50V	1
C551	J707436P65	CAP CER NPO 150P 5% 50V	1
C552	J707436P65	CAP CER NPO 150P 5% 50V	1
C553	J707436P65	CAP CER NPO 150P 5% 50V	1
D101	J707389P1	DIO SI SIG BAV 99	1
D102	J707391P1	DIO SI SIG BAT 18	1
D201	J707448P1	IC LIN VR VAR TL431 CLP	1
D202	J707390P1	DIO SI SIG BAV 74	1
D301	J707391P1	DIO SI SIG BAT 18	1
D303	J707389P1	DIO SI SIG BAV 99	1
D401	J707389P1	DIO SI SIG BAV 99	1
D501	J707397P1	DIO SI CAP BBY 40	1
D502	J707397P1	DIO SI CAP BBY 40	1
D503	J707397P1	DIO SI CAP BBY 40	1
D505	J707390P1	DIO SI SIG BAV 74	1
D506	J707390P1	DIO SI SIG BAV 74	1
L101	J707426P1	COIL FIX	1
L102	J707486P1	COIL RF FIX 0.1UH 10%	1
L104	J707426P5	COIL FIX	1
L106	J707426P7	COIL FIX	1
L107	J707426P2	COIL FIX	1
L108	J707426P2	COIL FIX	1
L109	J707339G1	COIL FIX ASM	1
L110	J707426P7	COIL FIX	1
L112	J707426P2	COIL FIX	1
L113	J707339G1	COIL FIX ASM	1
L114	J707339G1	COIL FIX ASM	1
L115	J707426P4	COIL FIX	1
L116	J707426P2	COIL FIX	1
L117	J707426P4	COIL FIX	1
L118	J707486P4	COIL RF FIX 10UH 10%	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
L119	J707426P5	COIL FIX	1
L120	J707426P4	COIL FIX	1
L121	J707426P4	COIL FIX	1
L301	J707426P6	COIL FIX	1
L302	J707422P2	COIL RF VAR 4-1/2T	1
L303	J707422P2	COIL RF VAR 4-1/2T	1
L304	J707486P2	COIL RF FIX 3.3UH 10%	1
L305	J707422P2	COIL RF VAR 4-1/2T	1
L306	J707422P2	COIL RF VAR 4-1/2T	1
L308	J707422P3	COIL RF VAR 9-1/2T	1
L401	J707486P3	COIL RF FIX 6.8UH 10%	1
L402	J707431P1	COIL RF VAR 455KHZ 25%	1
L403	J707431P1	COIL RF VAR 455KHZ 25%	1
L501	J707486P2	COIL RF FIX 3.3UH 10%	1
L502	J707422P1	COIL RF VAR 2-1/2T	1
L503	J707486P2	COIL RF FIX 3.3UH 10%	1
L504	J707486P2	COIL RF FIX 3.3UH 10%	1
L505	J707486P2	COIL RF FIX 3.3UH 10%	1
L506	J707422P1	COIL RF VAR 2-1/2T	1
L507	J707486P2	COIL RF FIX 3.3UH 10%	1
L508	J707375P1	COIL RF VAR 4-1/2 TAP	1
L509	J707486P5	COIL RF FIX 330UH 10%	1
P001	J707962G1	PLG ASM	1
P002	J707962G2	PLG ASM	1
P003	J707962G3	PLG ASM	1
Q101	J707388P1	TSTR NPN SI BFR 53	1
Q102	J707388P1	TSTR NPN SI BFR 53	1
Q103	J706145P1	TSTR NPN SI BFW 16A	1
Q104	J707868P1	TSTR NPN SI RF-PWR 4W	1
Q105	J707673P1	TSTR NPN SI BC 368	1
Q106	J707387P1	TSTR PNP SI BCW 30	1
Q107	J707386P1	TSTR NPN SI BCW 32	1
Q201	J707387P1	TSTR PNP SI BCW 30	1
Q202	J707435P1	TSTR PNP SI BC 369	1
Q203	J707386P1	TSTR NPN SI BCW 32	1
Q204	J707432P1	TSTR PNP SI BCX 18	1
Q205	J707387P1	TSTR PNP SI BCW 30	1
Q206	J707387P1	TSTR PNP SI BCW 30	1
Q301	J707418P1	TSTR NPN SI BFS 17	1
Q302	J707419P1	TSTR JFET SI BF 511	1
Q303	J707386P1	TSTR NPN SI BCW 32	1
Q401	J707433P1	TSTR MFET SI BF 989	1
Q402	J707387P1	TSTR PNP SI BCW 30	1
Q501	J707419P1	TSTR JFET SI BF 511	1
Q502	J707419P1	TSTR JFET SI BF 511	1
Q503	J707387P1	TSTR PNP SI BCW 30	1
Q504	J707430P1	TSTR NPN SI BF 569	1
Q505	J707387P1	TSTR PNP SI BCW 30	1
Q506	J707419P1	TSTR JFET SI BF 511	1
R101	J707385P103	RES MFILM 10K 5% 1/8W	1
R102	J707385P103	RES MFILM 10K 5% 1/8W	1
R103	J707385P470	RES MFILM 47R 5% 1/8W	1
R104	J707385P222	RES MFILM 2K2 5% 1/8W	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
R105	J707385P220	RES MFILM 22R 5% 1/8W	1
R106	J707385P100	RES MFILM 10R 5% 1/8W	1
R107	J707385P562	RES MFILM 5K6 5% 1/8W	1
R108	J707385P102	RES MFILM 1K0 5% 1/8W	1
R109	J707385P152	RES MFILM 1K5 5% 1/8W	1
R110	J707385P472	RES MFILM 4K7 5% 1/8W	1
R111	J707385P680	RES MFILM 68R 5% 1/8W	1
R112	J707385P102	RES MFILM 1K0 5% 1/8W	1
R115	J707478P4	RES VAR 1K OHM 0,05W	1
R117	J707385P680	RES MFILM 68R 5% 1/8W	1
R118	J707385P470	RES MFILM 47R 5% 1/8W	1
R119	J707385P910	RES MFILM 1R0 5% 1/8W	1
R120	J707945P1	RES WW R27 5%	1
R121	J707385P100	RES MFILM 10R 5% 1/8W	1
R122	J707385P331	RES MFILM 330R 5% 1/8W	1
R123	J707385P221	RES MFILM 220R 5% 1/8W	1
R124	J707385P104	RES MFILM 100K 5% 1/8W	1
R201	J707385P222	RES MFILM 2K2 5% 1/8W	1
R202	J707385P473	RES MFILM 47K 5% 1/8W	1
R203	J707385P153	RES MFILM 15K 5% 1/8W	1
R204	J707385P102	RES MFILM 1K0 5% 1/8W	1
R205	J707385P101	RES MFILM 100R 5% 1/8W	1
R206	J707385P273	RES MFILM 27K 5% 1/8W	1
R207	J707385P682	RES MFILM 6K8 5% 1/8W	1
R208	J707385P333	RES MFILM 33K 5% 1/8W	1
R209	J707385P333	RES MFILM 33K 5% 1/8W	1
R210	J707385P103	RES MFILM 10K 5% 1/8W	1
R211	J707385P182	RES MFILM 1K8 5% 1/8W	1
R212	J707385P473	RES MFILM 47K 5% 1/8W	1
R213	J707385P153	RES MFILM 15K 5% 1/8W	1
R214	J707385P272	RES MFILM 2K7 5% 1/8W	1
R215	J707385P153	RES MFILM 15K 5% 1/8W	1
R216	J707385P562	RES MFILM 5K6 5% 1/8W	1
R301	J707385P221	RES MFILM 220R 5% 1/8W	1
R302	J707385P103	RES MFILM 10K 5% 1/8W	1
R303	J707385P123	RES MFILM 12K 5% 1/8W	1
R304	J707385P220	RES MFILM 22R 5% 1/8W	1
R305	J707385P183	RES MFILM 18K 5% 1/8W	1
R306	J707385P470	RES MFILM 47R 5% 1/8W	1
R307	J707385P153	RES MFILM 15K 5% 1/8W	1
R308	J707385P681	RES MFILM 680R 5% 1/8W	1
R309	J707385P101	RES MFILM 100R 5% 1/8W	1
R310	J707385P101	RES MFILM 100R 5% 1/8W	1
R311	J707385P470	RES MFILM 47R 5% 1/8W	1
R312	J707385P332	RES MFILM 3K3 5% 1/8W	1
R313	J707385P154	RES MFILM 150K 5% 1/8W	1
R314	J707385P472	RES MFILM 4K7 5% 1/8W	1
R315	J707385P153	RES MFILM 15K 5% 1/8W	1
R401	J707385P152	RES MFILM 1K5 5% 1/8W	1
R402	J707385P473	RES MFILM 47K 5% 1/8W	1
R403	J707385P473	RES MFILM 47K 5% 1/8W	1
R404	J707385P561	RES MFILM 560R 5% 1/8W	1
R405	J707385P470	RES MFILM 47R 5% 1/8W	1
R406	J707385P683	RES MFILM 68K 5% 1/8W	1
R407	J707385P473	RES MFILM 47K 5% 1/8W	1
R408	J707385P103	RES MFILM 10K 5% 1/8W	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
R409	J707478P10	RES VAR 10K OHM 0,05W	1
R410	J707385P392	RES MFILM 3K9 5% 1/8W	1
R411	J707385P273	RES MFILM 27K 5% 1/8W	1
R412	J707385P563	RES MFILM 56K 5% 1/8W	1
R413	J707385P683	RES MFILM 68K 5% 1/8W	1
R414	J707385P393 *	RES MFILM 39K 5% 1/8W *	1
R415	J707385P334	RES MFILM 330K 5% 1/8W	1
R416	J707385P182	RES MFILM 1K8 5% 1/8W	1
R417	J707385P473	RES MFILM 47K 5% 1/8W	1
R418	J707385P183	RES MFILM 18K 5% 1/8W	1
R419	J707385P473	RES MFILM 47K 5% 1/8W	1
R420	J707478P12	RES VAR 22K OHM O,05W	1
R421	J707385P101	RES MFILM 100R 5% 1/8W	1
R422	J707385P332	RES MFILM 3K3 5% 1/8W	1
R501	J707385P271	RES MFILM 270R 5% 1/8W	1
R502	J707385P101	RES MFILM 100R 5% 1/8W	1
R503	J707385P101	RES MFILM 100R 5% 1/8W	1
R504	J707385P472	RES MFILM 4K7 5% 1/8W	1
R505	J707385P271	RES MFILM 270R 5% 1/8W	1
R506	J707385P470	RES MFILM 47R 5% 1/8W	1
R507	J707385P101	RES MFILM 100R 5% 1/8W	1
R508	J707385P392	RES MFILM 3K9 5% 1/8W	1
R509	J707385P333	RES MFILM 33K 5% 1/8W	1
R510	J707385P100	RES MFILM 10R 5% 1/8W	1
R511	J707385P271	RES MFILM 270R 5% 1/8W	1
R512	J707385P102	RES MFILM 1K0 5% 1/8W	1
R513	J707385P103	RES MFILM 10K 5% 1/8W	1
R514	J707385P822	RES MFILM 8K2 5% 1/8W	1
R515	J707385P153	RES MFILM 15K 5% 1/8W	1
R516	J707385P183	RES MFILM 18K 5% 1/8W	1
R518	J707385P102	RES MFILM 1K0 5% 1/8W	1
R519	J707385P562	RES MFILM 5K6 5% 1/8W	1
R520	J707385P104	RES MFILM 100K 5% 1/8W	1
R521	J707385P470	RES MFILM 47R 5% 1/8W	1
R523	J707385P273	RES MFILM 27K 5% 1/8W	1
R524	J707385P151	RES MFILM 150R 5% 1/8W	1
R525	J707385P272	RES MFILM 2K7 5% 1/8W	1
R526	J707385P221	RES MFILM 220R 5% 1/8W	1
R527	J707385P184	RES MFILM 180K 5% 1/8W	1
R528	J707385P152	RES MFILM 1K5 5% 1/8W	1
R529	J707385P273	RES MFILM 27K 5% 1/8W	1
R530	J707385P101	RES MFILM 100R 5% 1/8W	1
R531	J707385P102	RES MFILM 1K0 5% 1/8W	1
R532	J707385P101	RES MFILM 100R 5% 1/8W	1
R533	J707385P184	RES MFILM 180K 5% 1/8W	1
R534	J707385P273	RES MFILM 27K 5% 1/8W	1
R535	J707385P470	RES MFILM 47R 5% 1/8W	1
R536	J707385P272	RES MFILM 2K7 5% 1/8W	1
R537	J707385P103	RES MFILM 10K 5% 1/8W	1
U401	J707449P1	INT CKT MC3357	1
U501	J707434P2	IC DIG CMOS 4053	1
U502	J707337P1	INT CKT	1
U503	J707374P1	IC PLL ECL 8793	1
0003	K805347P1	SHLD METALL ASM	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
0004	A700136P5	SLVG INS EL Ø4.7 X 0.51MM	
0005	A701648P2	SIL RUBB. SEALANT RTV-162	
0006	J706647P1	SILICONE OIL QZ 13	
0007	L855385P1	SPRING ANTENNA	1
0008	A701332P4	INSULATOR	1
0009	J706281P6	CORE	6
0010	L855470P1	HEAT SINK	1

ITEM NUMBER DESCRIPTION

M905741G1 CPNT BD R F 4 1 1 0, 2.ND TYPE- REV. 2

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER		COMPONENT DESCRIPTION	QUANTITY
C101	J707436P21		CAP CER NPO 15P 5% 50V	1
C102	J707438P14		CAP CER CL2 10N 10% 50V	1
C103	J707436P73		CAP CER NPO 330P 5% 50V	1
C104	J707436P25		CAP CER NPO 18P 5% 50V	1
C106	J707436P33		CAP CER NPO 27P 5% 50V	1
C107	J707436P21		CAP CER NPO 15P 5% 50V	1
C108	J707438P14		CAP CER CL2 10N 10% 50V	1
C109	J707353P5		CAP ELEC 2,2 UF 50V	1
C110	J707436P73		CAP CER NPO 330P 5% 50V	1
C111	J707438P14		CAP CER CL2 10N 10% 50V	1
C112	J707436P65		CAP CER NPO 150P 5% 50V	1
C113	J707436P33		CAP CER NPO 27P 5% 50V	1
C114	J707436P45		CAP CER NPO 47P 5% 50V	1
C115	J707436P33		CAP CER NPO 27P 5% 50V	1
C116	J707438P14		CAP CER CL2 10N 10% 50V	1
C117	J707436P65 *	*	CAP CER NPO 150P 5% 50V	1
C118	J707436P37		CAP CER NPO 33P 5% 50V	1
C119	J707436P73		CAP CER NPO 330P 5% 50V	1
C120	J707438P5		CAP CER CL2 1N 10% 50V	1
C121	J707436P53 *	*	CAP CER NPO 68P 5% 50V	1
C122	J707436P45		CAP CER NPO 47P 5% 50V	1
C123	* J707436P87	*	CAP CER CL2 1N2 5% 50V	1
C124	J707436P65 *	*	CAP CER NPO 150P 5% 50V	1
C125	J707436P13		CAP CER NPO 10P 5% 50V	1
C126	J707436P37		CAP CER NPO 33P 5% 50V	1
C127	J707436P13 *	*	CAP CER NPO 10P 5% 50V	1
C128	J707436P73		CAP CER NPO 330P 5% 50V	1
C129	J707438P5		CAP CER CL2 1N 10% 50V	1
C130	J707436P21		CAP CER NPO 15P 5% 50V	1
C131	J707436P3		CAP CER NPO 1P5,25P 50V	1
C132	J707436P33		CAP CER NPO 27P 5% 50V	1
C133	J707436P13 *	*	CAP CER NPO 10P 5% 50V	1
C134	J707436P29		CAP CER NPO 22P 5% 50V	1
C135	J707436P9		CAP CER NPO 4P7,25P 50V	1
C136	J707436P13		CAP CER NPO 10P 5% 50V	1
C137	J707438P5		CAP CER CL2 1N 10% 50V	1
C138	J707436P53		CAP CER NPO 68P 5% 50V	1
C139	J707436P53		CAP CER NPO 68P 5% 50V	1
C140	J707436P45		CAP CER NPO 47P 5% 50V	1
C201	J707444P8		CAP TA SOL 22U 20% 16V	1
C202	J707438P5		CAP CER CL2 1N 10% 50V	1
C203	J707444P5		CAP TA SOL 2U2 20% 35V	1
C204	J707438P22		CAP CER CL2 47N 10% 50V	1
C301	J707436P21		CAP CER NPO 15P 5% 50V	1
C302	J707436P13		CAP CER NPO 10P 5% 50V	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C303	J707436P6	CAP CER NPO 2P7,25P 50V	1
C304	J707436P12	CAP CER NPO 8P2.25P 50V	1
C305	J707436P53	CAP CER NPO 68P 5% 50V	1
C306	J707436P10	CAP CER NPO 5P6.25P 50V	1
C307	J707436P7	CAP CER NPO 3P3,25P 50V	1
C308	J707436P87	CAP CER NPO 1N2 5% 50V	1
C309	J707436P93	CAP CER NPO 2N2 5% 50V	1
C310	J707436P67	CAP CER NPO 180P 5% 50V	1
C311	J707436P12	CAP CER NPO 8P2.25P 50V	1
C312	J707436P37	CAP CER NPO 33P 5% 50V	1
C313	J707436P13	CAP CER NPO 10P 5% 50V	1
C314	J707438P22	CAP CER CL2 47N 10% 50V	1
C315	J707436P67	CAP CER NPO 180P 5% 50V	1
C316	J707438P3	CAP CER CL2 470P 10% 50V	1
C317	J707438P3	CAP CER CL2 470P 10% 50V	1
C401	J707436P11	CAP CER 6,8PF 50V	1
C402	J707436P73	CAP CER NPO 330P 5% 50V	1
C403	J707438P14	CAP CER CL2 10N 10% 50V	1
C404	J707444P9	CAP TA SOL 47U 20% 6V	1
C405	J707438P26	CAP CER CL2 100N 10% 50V	1
C406	J707438P5	CAP CER CL2 1N 10% 50V	1
C407	J707438P14	CAP CER CL2 10N 10% 50V	1
C408	J707436P63	CAP CER NPO 120P 5% 50V	1
C409	J707436P45	CAP CER NPO 47P 5% 50V	1
C410	J707436P57 * *	CAP CER NPO 82P 5% 50V	1
C411	J707438P8	CAP CER CL2 3N3 10% 50V	1
C412	J707438P26	CAP CER CL2 100N 10% 50V	1
C413	J707436P93	CAP CER NPO 2N2 5% 50V	1
C414	J707436P73	CAP CER NPO 330P 5% 50V	1
C415	J707438P26	CAP CER CL2 100N 10% 50V	1
C416	J707438P26	CAP CER CL2 100N 10% 50V	1
C417	J707436P13	CAP CER NPO 10P 5% 50V	1
C418	J707444P7	CAP TA SOL 10U 20% 16V	1
*	*	*	*
C420	J707436P73	CAP CER NPO 330P 5% 50V	1
C501	J707436P9	CAP CER NPO 4P7,25P 50V	1
C502	J707436P7	CAP CER NPO 3P3,25P 50V	1
C503	J707436P7	CAP CER NPO 3P3,25P 50V	1
C504	J707475P1	CAP VAR 2 - 18 PF	1
C505	J707438P26	CAP CER CL2 100N 10% 50V	1
C506	J707438P5	CAP CER CL2 1N 10% 50V	1
C507	J707436P17	CAP CER NPO 12P 5% 50V	1
C508	J707483P1	CAP PHEN 0P47 5% 500V	1
C509	J707436P3	CAP CER NPO 1P5,25P 50V	1
C510	J707436P49	CAP CER NPO 56P 5% 50V	1
C511	J707436P73	CAP CER NPO 330P 5% 50V	1
C512	J707436P12	CAP CER NPO 8P2.25P 50V	1
C513	J707436P13	CAP CER NPO 10P 5% 50V	1
C514	J707475P1	CAP VAR 2 - 18 PF	1
C515	J707436P4	CAP CER NPO 1P8,25P 50V	1
C516	J707438P26	CAP CER CL2 100N 10% 50V	1
C517	J707438P5	CAP CER CL2 1N 10% 50V	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C518	J707436P12	CAP CER NPO 8P2.25P 50V	1
C519	J707438P5	CAP CER CL2 1N 10% 50V	1
C520	J707436P12	CAP CER NPO 8P2.25P 50V	1
C521	J707436P9	CAP CER NPO 4P7,25P 50V	1
C522	J707438P5	CAP CER CL2 1N 10% 50V	1
C523	J707438P14	CAP CER CL2 10N 10% 50V	1
C524	J707438P5	CAP CER CL2 1N 10% 50V	1
C526	J707436P45	CAP CER NPO 47P 5% 50V	1
C527	J707438P14	CAP CER CL2 10N 10% 50V	1
C528	J707436P45	CAP CER NPO 47P 5% 50V	1
C529	J707438P26	CAP CER CL2 100N 10% 50V	1
C530	J707412P9	CAP PYES 100N 10% 63V	1
C531	J707436P29	CAP CER NPO 22P 5% 50V	1
C532	J707436P9	CAP CER NPO 4P7,25P 50V	1
C533	J707475P1	CAP VAR 2 - 18 PF	1
C534	J707612P1	CAP POL 2,2MF 100V	1
C535	J707412P9	CAP PYES 100N 10% 63V	1
C536	J707438P22	CAP CER CL2 47N 10% 50V	1
C537	J707438P3	CAP CER CL2 470P 10% 50V	1
C538	J707353P7	CAP ELEC 10MF 16V	1
C539	J707436P29	CAP CER NPO 22P 5% 50V	1
C540	J707436P12	CAP CER NPO 8P2.25P 50V	1
C541	J707438P8	CAP CER CL2 3N3 10% 50V	1
C542	J707438P5	CAP CER CL2 1N 10% 50V	1
C543	J707438P5	CAP CER CL2 1N 10% 50V	1
C545	J707438P5	CAP CER CL2 1N 10% 50V	1
C546	J707444P4	CAP TA SOL 1U 20% 35V	1
C547	J707444P5	CAP TA SOL 2U2 20% 35V	1
C548	J707436P8	CAP CER NPO 3P9,25P 50V	1
C549	J707436P11	CAP CER 6,8PF 50V	1
C550	J707436P65	CAP CER NPO 150P 5% 50V	1
C551	J707436P65	CAP CER NPO 150P 5% 50V	1
C552	J707436P65	CAP CER NPO 150P 5% 50V	1
C553	J707436P65	CAP CER NPO 150P 5% 50V	1
D101	J707389P1	DIO SI SIG BAV 99	1
D102	J707391P1	DIO SI SIG BAT 18	1
D201	J707448P1	IC LIN VR VAR TL431 CLP	1
D202	J707390P1	DIO SI SIG BAV 74	1
D301	J707391P1	DIO SI SIG BAT 18	1
D303	J707389P1	DIO SI SIG BAV 99	1
D401	J707389P1	DIO SI SIG BAV 99	1
D501	J707397P1	DIO SI CAP BBY 40	1
D502	J707397P1	DIO SI CAP BBY 40	1
D503	J707397P1	DIO SI CAP BBY 40	1
D505	J707390P1	DIO SI SIG BAV 74	1
D506	J707390P1	DIO SI SIG BAV 74	1

CIRCUIT POSITION		COMPONENT ITEM NUMBER		COMPONENT DESCRIPTION	QUANTITY
L101		J707426P1		COIL FIX	1
L102	*	A700024P1	*	COIL RF FIX 100NH 10%	1
L104		J707426P5		COIL FIX	1
L106		J707426P7		COIL FIX	1
L107		J707426P2		COIL FIX	1
L108		J707426P2		COIL FIX	1
L109		J707339G1		COIL FIX ASM	1
L110		J707426P7		COIL FIX	1
L112		J707426P2		COIL FIX	1
L113		J707339G1		COIL FIX ASM	1
L114		J707339G1		COIL FIX ASM	1
L115		J707426P4		COIL FIX	1
L116		J707426P1	*	COIL FIX	1
L117		J707426P1	*	COIL FIX	1
L118		J707486P4		COIL RF FIX 10UH 10%	1
L119		J707426P5		COIL FIX	1
L120		J707426P4		COIL FIX	1
L121		J707426P4		COIL FIX	1
L301		J707426P6		COIL FIX	1
L302		J707422P2		COIL RF VAR 4-1/2T	1
L303		J707422P2		COIL RF VAR 4-1/2T	1
L304		J707486P2		COIL RF FIX 3.3UH 10%	1
L305		J707422P2		COIL RF VAR 4-1/2T	1
L306		J707422P2		COIL RF VAR 4-1/2T	1
L308		J707422P3		COIL RF VAR 9-1/2T	1
L401		J707486P3		COIL RF FIX 6.8UH 10%	1
L402		J707431P1		COIL RF VAR 455KHZ 25%	1
L403		J707431P1		COIL RF VAR 455KHZ 25%	1
L501		J707486P2		COIL RF FIX 3.3UH 10%	1
L502		J707422P1		COIL RF VAR 2-1/2T	1
L503		J707486P2		COIL RF FIX 3.3UH 10%	1
L504		J707486P2		COIL RF FIX 3.3UH 10%	1
L505		J707486P2		COIL RF FIX 3.3UH 10%	1
L506		J707422P1		COIL RF VAR 2-1/2T	1
L507		J707486P2		COIL RF FIX 3.3UH 10%	1
L508		J707375P1		COIL RF VAR 4-1/2 TAP	1
L509		J707486P5		COIL RF FIX 330UH 10%	1
P001		J707962G1		PLUG ASM	1
P002		J707962G2		PLUG ASM	1
P003		J707962G3		PLUG ASM	1
Q101		J707388P1		TSTR NPN SI BFR 53	1
Q102		J707388P1		TSTR NPN SI BFR 53	1
Q103		J706145P1		TSTR NPN SI BFW 16A	1
Q104		J707868P1		TSTR NPN SI RF-PWR 4W	1
Q105		J707673P1		TSTR NPN SI BC 368	1
Q106		J707387P1		TSTR PNP SI BCW 30	1
Q107		J707386P1		TSTR NPN SI BCW 32	1
Q201		J707387P1		TSTR PNP SI BCW 30	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
Q202	J707435P1	TSTR PNP SI BC 369	1
Q203	J707386P1	TSTR NPN SI BCW 32	1
Q204	J707432P1	TSTR PNP SI BCX 18	1
Q205	J707387P1	TSTR PNP SI BCW 30	1
Q206	J707387P1	TSTR PNP SI BCW 30	1
Q301	J707418P1	TSTR NPN SI BFS 17	1
Q302	J707419P1	TSTR JFET SI BF 511	1
Q303	J707386P1	TSTR NPN SI BCW 32	1
Q401	J707433P1	TSTR MFET SI BF 989	1
Q402	J707387P1	TSTR PNP SI BCW 30	1
Q501	J707419P1	TSTR JFET SI BF 511	1
Q502	J707419P1	TSTR JFET SI BF 511	1
Q503	J707387P1	TSTR PNP SI BCW 30	1
Q504	J707430P1	TSTR NPN SI BF 569	1
Q505	J707387P1	TSTR PNP SI BCW 30	1
Q506	J707419P1	TSTR JFET SI BF 511	1
R101	J707385P103	RES MFILM 10K 5% 1/8W	1
R102	J707385P103	RES MFILM 10K 5% 1/8W	1
R103	J707385P470	RES MFILM 47R 5% 1/8W	1
R104	J707385P222	RES MFILM 2K2 5% 1/8W	1
R105	J707385P220	RES MFILM 22R 5% 1/8W	1
R106	J707385P100	RES MFILM 10R 5% 1/8W	1
R107	J707385P562	RES MFILM 5K6 5% 1/8W	1
R108	J707385P102	RES MFILM 1K0 5% 1/8W	1
R109	J707385P152	RES MFILM 1K5 5% 1/8W	1
R110	J707385P472	RES MFILM 4K7 5% 1/8W	1
R111	J707385P680	RES MFILM 68R 5% 1/8W	1
R112	J707385P102	RES MFILM 1K0 5% 1/8W	1
R115	J707478P4	RES VAR 1K OHM 0,05W	1
R117	J707385P680	RES MFILM 68R 5% 1/8W	1
R118	J707385P470	RES MFILM 47R 5% 1/8W	1
R119	J707385P910	RES MFILM 1R0 5% 1/8W	1
R120	J707945P1	RES WW R27 5%	1
R121	J707385P100	RES MFILM 10R 5% 1/8W	1
R122	J707385P331	RES MFILM 330R 5% 1/8W	1
R123	J707385P221	RES MFILM 220R 5% 1/8W	1
R124	J707385P104	RES MFILM 100K 5% 1/8W	1
R201	J707385P222	RES MFILM 2K2 5% 1/8W	1
R202	J707385P473	RES MFILM 47K 5% 1/8W	1
R203	J707385P153	RES MFILM 15K 5% 1/8W	1
R204	J707385P102	RES MFILM 1K0 5% 1/8W	1
R205	J707385P101	RES MFILM 100R 5% 1/8W	1
R206	J707385P273	RES MFILM 27K 5% 1/8W	1
R207	J707385P682	RES MFILM 6K8 5% 1/8W	1
R208	J707385P333	RES MFILM 33K 5% 1/8W	1
R209	J707385P333	RES MFILM 33K 5% 1/8W	1
R210	J707385P103	RES MFILM 10K 5% 1/8W	1
R211	J707385P182	RES MFILM 1K8 5% 1/8W	1
R212	J707385P473	RES MFILM 47K 5% 1/8W	1
R213	J707385P153	RES MFILM 15K 5% 1/8W	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER			COMPONENT DESCRIPTION	QUANTITY
R214	J707385P272			RES MFILM 2K7 5% 1/8W	1
R215	J707385P153			RES MFILM 15K 5% 1/8W	1
R216	J707385P562			RES MFILM 5K6 5% 1/8W	1
R301	J707385P221			RES MFILM 220R 5% 1/8W	1
R302	J707385P103			RES MFILM 10K 5% 1/8W	1
R303	J707385P123			RES MFILM 12K 5% 1/8W	1
R304	J707385P220			RES MFILM 22R 5% 1/8W	1
R305	J707385P183			RES MFILM 18K 5% 1/8W	1
R306	J707385P470			RES MFILM 47R 5% 1/8W	1
R307	J707385P153			RES MFILM 15K 5% 1/8W	1
R308	J707385P681			RES MFILM 680R 5% 1/8W	1
R309	J707385P101			RES MFILM 100R 5% 1/8W	1
R310	J707385P101			RES MFILM 100R 5% 1/8W	1
R311	J707385P470			RES MFILM 47R 5% 1/8W	1
R312	J707385P332			RES MFILM 3K3 5% 1/8W	1
R313	J707385P154			RES MFILM 150K 5% 1/8W	1
R314	J707385P472			RES MFILM 4K7 5% 1/8W	1
R315	J707385P153			RES MFILM 15K 5% 1/8W	1
R401	J707385P152			RES MFILM 1K5 5% 1/8W	1
R402	J707385P473			RES MFILM 47K 5% 1/8W	1
R403	J707385P473			RES MFILM 47K 5% 1/8W	1
R404	J707385P561			RES MFILM 560R 5% 1/8W	1
R405	J707385P470			RES MFILM 47R 5% 1/8W	1
R406	J707385P683			RES MFILM 68K 5% 1/8W	1
R407	J707385P333	*	*	RES MFILM 33K 5% 1/8W	1
R408	J707385P103			RES MFILM 10K 5% 1/8W	1
R409	J707478P10			RES VAR 10K OHM 0,05W	1
R410	J707385P392			RES MFILM 3K9 5% 1/8W	1
R411	J707385P273			RES MFILM 27K 5% 1/8W	1
R412	J707385P563			RES MFILM 56K 5% 1/8W	1
R413	J707385P683			RES MFILM 68K 5% 1/8W	1
R414	J707385P473			RES MFILM 47K 5% 1/8W	1
R415	J707385P334			RES MFILM 330K 5% 1/8W	1
R416	J707385P182			RES MFILM 1K8 5% 1/8W	1
R417	J707385P473			RES MFILM 47K 5% 1/8W	1
R418	J707385P183			RES MFILM 18K 5% 1/8W	1
R419	J707385P473			RES MFILM 47K 5% 1/8W	1
R420	J707478P12			RES VAR 22K OHM 0,05W	1
R421	J707385P101			RES MFILM 100R 5% 1/8W	1
R422	J707385P332			RES MFILM 3K3 5% 1/8W	1
R501	J707385P271			RES MFILM 270R 5% 1/8W	1
R502	J707385P101			RES MFILM 100R 5% 1/8W	1
R503	J707385P101			RES MFILM 100R 5% 1/8W	1
R504	J707385P472			RES MFILM 4K7 5% 1/8W	1
R505	J707385P271			RES MFILM 270R 5% 1/8W	1
R506	J707385P470			RES MFILM 47R 5% 1/8W	1
R507	J707385P101			RES MFILM 100R 5% 1/8W	1
R508	J707385P392			RES MFILM 3K9 5% 1/8W	1
R509	J707385P333			RES MFILM 33K 5% 1/8W	1
R510	J707385P100			RES MFILM 10R 5% 1/8W	1
R511	J707385P271			RES MFILM 270R 5% 1/8W	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
R512	J707385P102	RES MFILM 1K0 5% 1/8W	1
R513	J707385P103	RES MFILM 10K 5% 1/8W	1
R514	J707385P822	RES MFILM 8K2 5% 1/8W	1
R515	J707385P183 *	* RES MFILM 18K 5% 1/8W	1
R516	J707385P183	RES MFILM 18K 5% 1/8W	1
R518	J707385P102	RES MFILM 1K0 5% 1/8W	1
R519	J707385P562	RES MFILM 5K6 5% 1/8W	1
R520	J707385P104	RES MFILM 100K 5% 1/8W	1
R521	J707385P470	RES MFILM 47R 5% 1/8W	1
R523	J707385P273	RES MFILM 27K 5% 1/8W	1
R524	J707385P151	RES MFILM 150R 5% 1/8W	1
R525	J707385P272	RES MFILM 2K7 5% 1/8W	1
R526	J707385P221	RES MFILM 220R 5% 1/8W	1
R527	J707385P184	RES MFILM 180K 5% 1/8W	1
R528	J707385P152	RES MFILM 1K5 5% 1/8W	1
R529	J707385P273	RES MFILM 27K 5% 1/8W	1
R530	J707385P101	RES MFILM 100R 5% 1/8W	1
R531	J707385P102	RES MFILM 1K0 5% 1/8W	1
R532	J707385P101	RES MFILM 100R 5% 1/8W	1
R533	J707385P184	RES MFILM 180K 5% 1/8W	1
R534	J707385P273	RES MFILM 27K 5% 1/8W	1
R535	J707385P470	RES MFILM 47R 5% 1/8W	1
R536	J707385P272	RES MFILM 2K7 5% 1/8W	1
R537	J707385P103	RES MFILM 10K 5% 1/8W	1
U401	J707449P1	IC, LIN., IF-AMP., MC3357	1
U501	J707434P2	IC, DIG. MUX., 4053 CMOS	1
U502	J707337P1	IC, PLL. SYN., MC145146	1
U503	J707374P1	IC, ECL.,PLL.-PRESC., SP8793	1
* 0002	* M9-----P1R2	* CPNT BD PW, REVISION NO.: 2	
0003	K805347P1	SHLD METALL ASM	1
0004	A700136P5	SLVG INS EL Ø4.7 X 0.51MM	0.002 M
0005	A701648P2	SIL RUBB. SEALANT RTV-162	0.001 KG
0006	J706647P1	SILICONE OIL QZ 13	0.0001 KG
0007	L855385P1	SPRING ANTENNA	1
0008	A701332P4	INSULATOR	1
0009	J706281P6	CORE	6
0010	L855470P1	HEAT SINK	1

ITEM NUMBER	DESCRIPTION
J707428G1	RF 4112 , F. 25 KHZ CHANN.SPAC.
M905462G1	A001 : RF 4110 CPNT BD. 1ST. TYPE
OR	OR
M905741G1	A001 : RF 4110 CPNT BD. 2ND. TYPE

P A R T S L I S T :

	CIRCUIT POSITION		COMPONENT ITEM NUMBER		COMPONENT DESCRIPTION	QUANTITY TOTAL	
	A001		M905462G1		RF 4110 CPNT BD., 1ST. TYPE	1	(NOTE)
	OR :		OR :		OR :		
*	A001	*	M905741G1	*	RF 4110 CPNT BD., 2ND. TYPE	1	(NOTE)
	U402		M905492G1		SQ 4001, MIC.MOD. F.1ST.TYPE	1	
	OR:		OR:		OR:		
*	U402	*	M905766G1	*	SQ 4002, MIC.MOD. F.2ND.TYPE	1	
	Z401		J707310P1		FLT 21,4MHZ	1	
	Z403		J707446P1		FLT 455KHZ	1	
	0002		J706804P2		WASHER, INSULATION-	2	

ITEM NUMBER	DESCRIPTION
J707428G2	RF 4113 , F. 20 KHZ CHANN.SPAC.
M905462G1 OR M905741G1	A001 : RF 4110 CPNT BD. 1ST. TYPE OR A001 : RF 4110 CPNT BD. 2ND. TYPE

P A R T S L I S T :

	CIRCUIT POSITION		COMPONENT ITEM NUMBER		COMPONENT DESCRIPTION	QUANTITY TOTAL	
	A001		M905462G1		RF 4110 CPNT BD., 1ST. TYPE	1	(NOTE)
	OR :		OR :		OR :		
*	A001	*	M905741G1	*	RF 4110 CPNT BD., 2ND. TYPE	1	(NOTE)
	U402		M905492G1		SQ 4001, MIC.MOD. F.1ST.TYPE	1	
	OR:		OR:		OR:		
*	U402	*	M905766G1	*	SQ 4002, MIC.MOD. F.2ND.TYPE	1	
	Z401		J707310P2		FLT 21,4MHZ	1	
	Z403		J707446P3		FLT 455KHZ	1	
	0002		J706804P2		WASHER, INSULATION-	2	

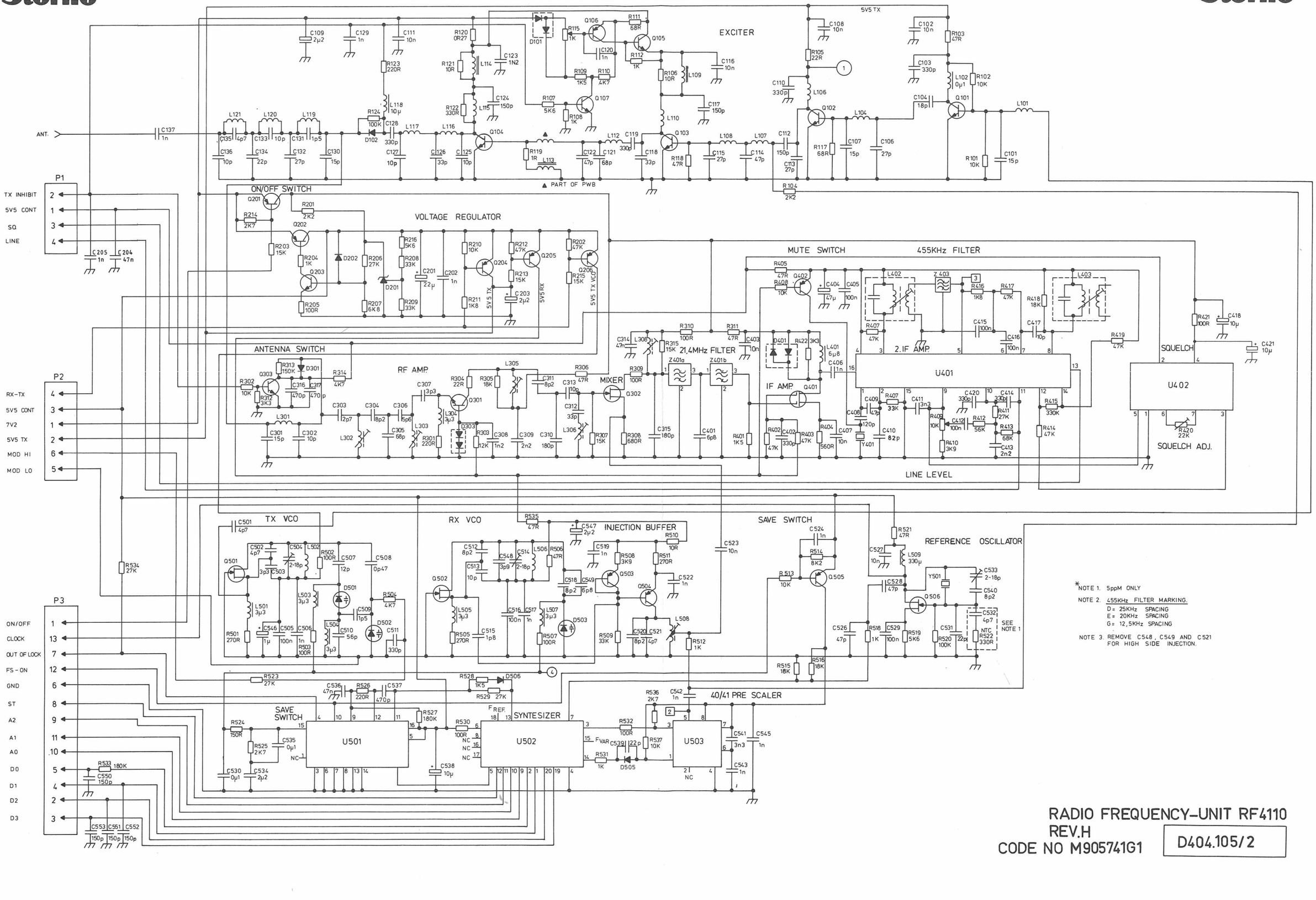
ITEM NUMBER	DESCRIPTION
J707428G3	RF 4114 , F. 12.5 KHZ CHANN.SPAC.
M905462G1 OR M905741G1	A001 : RF 4110 CPNT BD. 1ST. TYPE OR A001 : RF 4110 CPNT BD. 2ND. TYPE

P A R T S L I S T :

CIRCUIT POSITION		COMPONENT ITEM NUMBER		COMPONENT DESCRIPTION	QUANTITY TOTAL	
A001		M905462G1		RF 4110 CPNT BD., 1ST. TYPE	1	(NOTE)
OR :		OR :		OR :		
A001	*	M905741G1	*	RF 4110 CPNT BD., 2ND. TYPE	1	(NOTE)
C419		J707444P4		CAP TA 1U0 35V	1	
R522		J707406P1		RES NTC 330R	1	
U402		M905492G1		INT CKT. SQ4001	1	
Z401		J707310P3		FLT 21,4MHZ	1	
Z403		J707446P4		FLT 455KHZ	1	
0002		J706804P2		WASHER, INSULATION-	2	

Storno

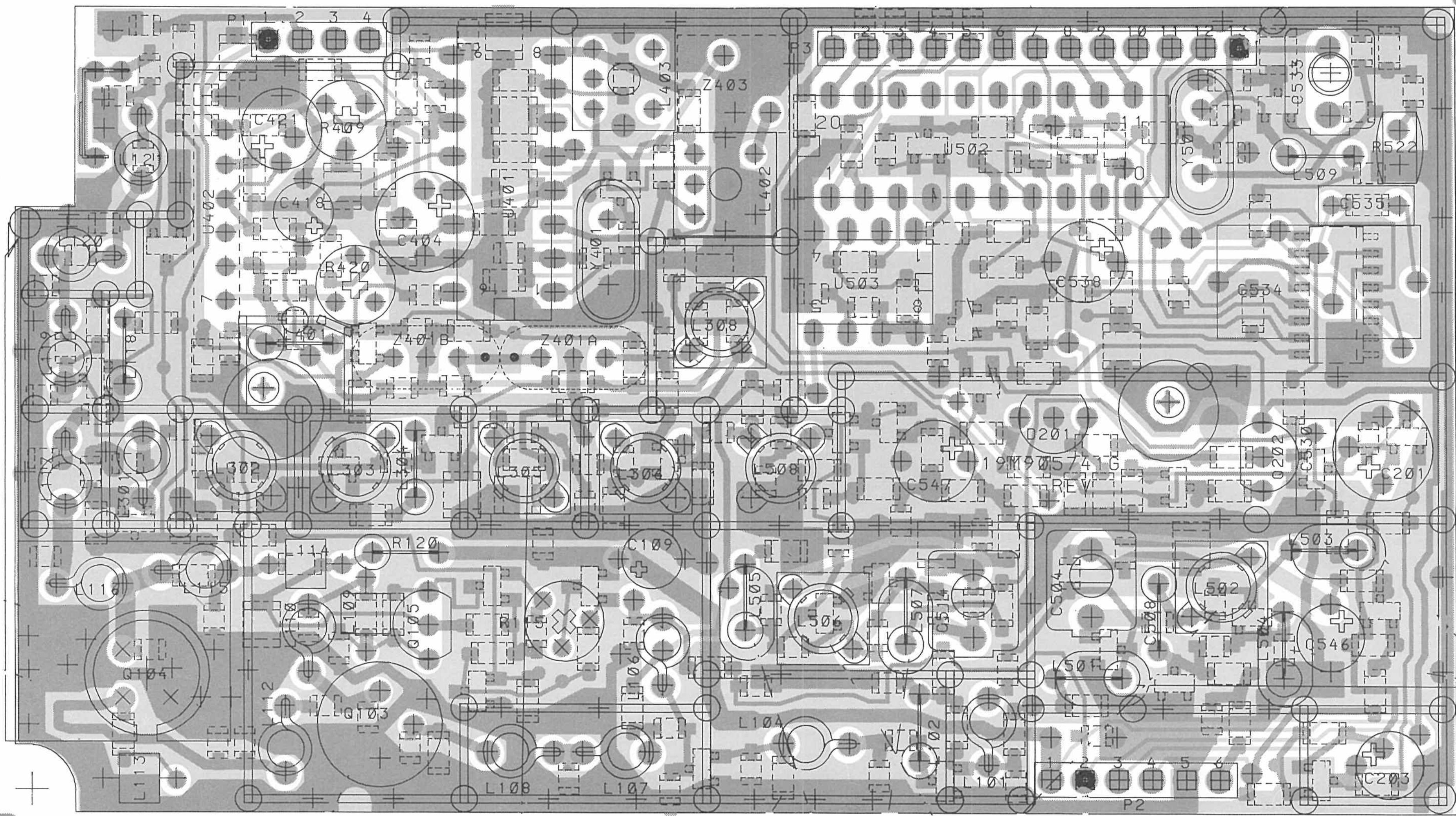
Storno



RADIO FREQUENCY-UNIT RF4110
REV.H
CODE NO M90574161

D404.105/2

Storno



	MODULE CODE NO.	MOUNTED BOARD CODE NO.
25 kHz	J707428G1	M905741G1
20 kHz	J707428G2	M905741G1
12, 5 kHz	J707428G3	M905741G1

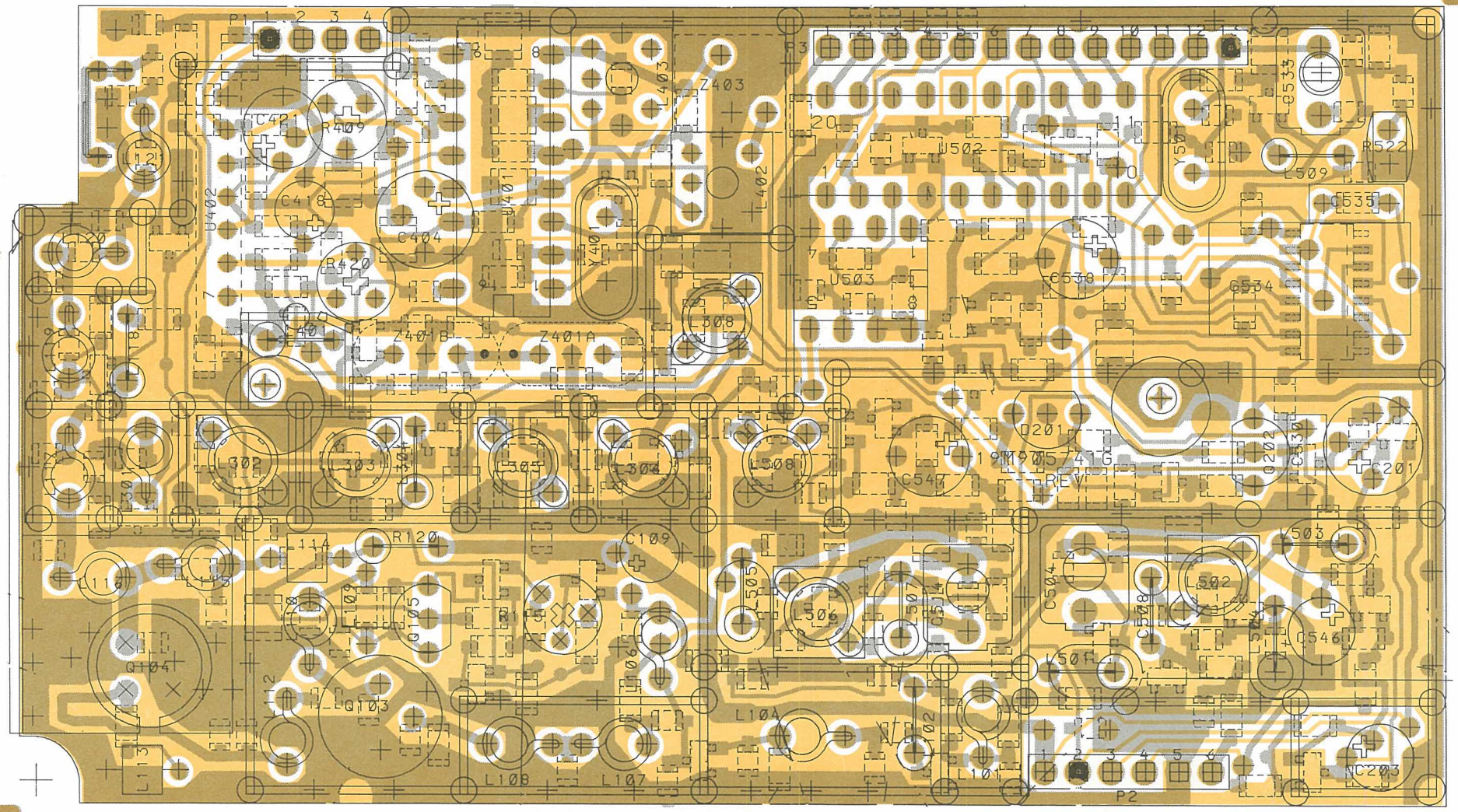
SEE PARTS LISTS

RADIO FREQUENCY-UNIT RF4110
COMPONENT LAYOUT
COMPONENT SIDE
REV. 3

D404. 106/2

Storno

Storno



	MODULE CODE NO.	MOUNTED BOARD CODE NO.
25 kHz	J707428G1	M905741G1
20 kHz	J707428G2	M905741G1
12, 5 kHz	J707428G3	M905741G1

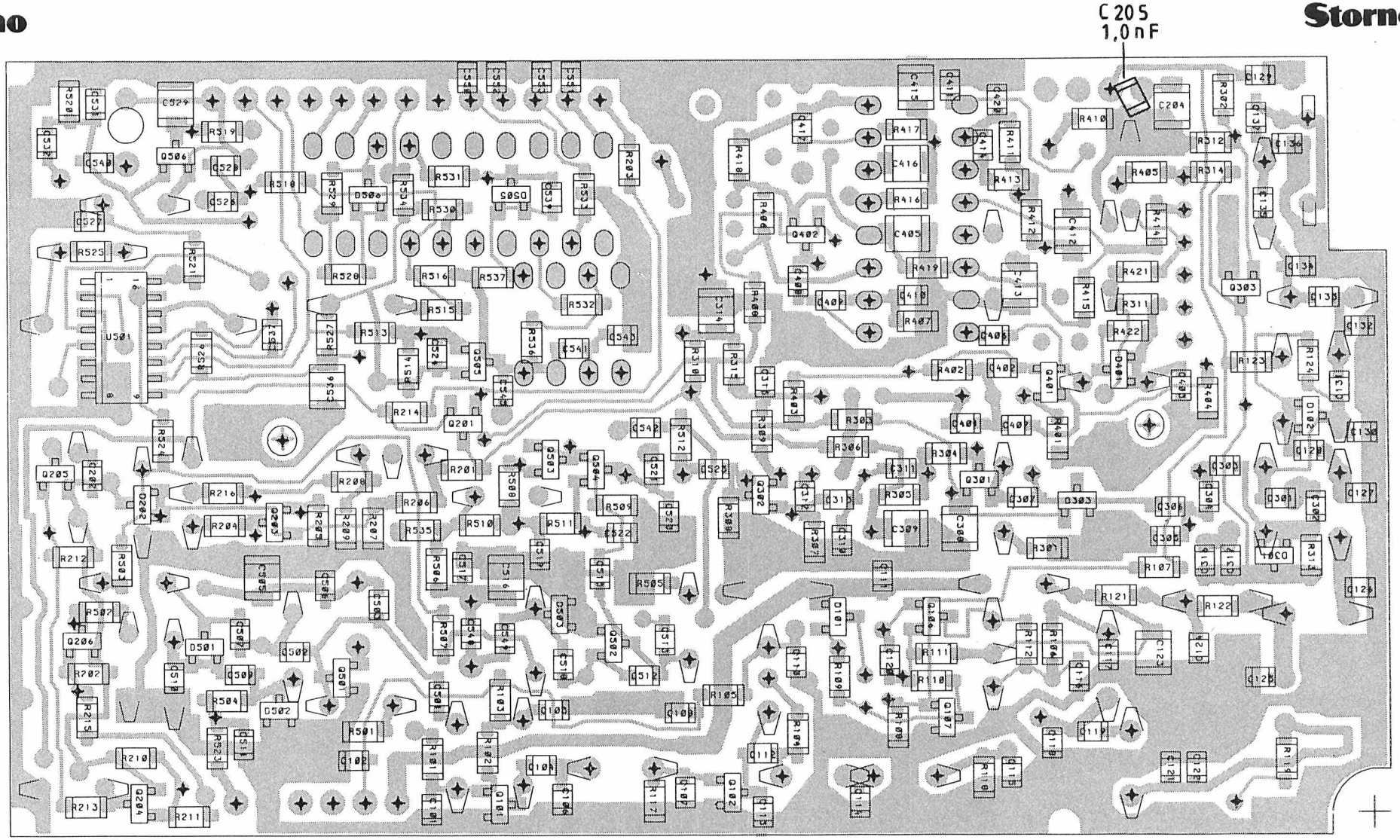
SEE PARTS LISTS

RADIO FREQUENCY-UNIT RF4110
COMPONENT LAYOUT
COMPONENT SIDE
REV. 3

D404. 106/2

Storno

Storno



	MODULE CODE NO.	MOUNTED BOARD CODE NO.
25 kHz	J707428G1	M905741G1
20 kHz	J707428G2	M905741G1
12, 5 kHz	J707428G3	M905741G1

SEE PARTS LISTS

RADIO FREQUENCY-UNIT RF4110
COMPONENT LAYOUT
CHIP SIDE

D404.107/2

REV. 3

ITEM NUMBER DESCRIPTION

M905741G1 CPNT BD R F 4 1 1 0, 2.ND TYPE- REV. 3

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C101	J707436P21	CAP CER NPO 15P 5% 50V	1
C102	J707438P14	CAP CER CL2 10N 10% 50V	1
C103	J707436P73	CAP CER NPO 330P 5% 50V	1
C104	J707436P25	CAP CER NPO 18P 5% 50V	1
C106	J707436P33	CAP CER NPO 27P 5% 50V	1
C107	J707436P21	CAP CER NPO 15P 5% 50V	1
C108	J707438P14	CAP CER CL2 10N 10% 50V	1
C109	J707353P5	CAP ELEC 2,2 UF 50V	1
C110	J707436P73	CAP CER NPO 330P 5% 50V	1
C111	J707438P14	CAP CER CL2 10N 10% 50V	1
C112	J707436P65	CAP CER NPO 150P 5% 50V	1
C113	J707436P33	CAP CER NPO 27P 5% 50V	1
C114	J707436P45	CAP CER NPO 47P 5% 50V	1
C115	J707436P33	CAP CER NPO 27P 5% 50V	1
C116	J707438P14	CAP CER CL2 10N 10% 50V	1
C117	J707436P65	CAP CER NPO 150P 5% 50V	1
C118	J707436P37	CAP CER NPO 33P 5% 50V	1
C119	J707436P73	CAP CER NPO 330P 5% 50V	1
C120	J707438P5	CAP CER CL2 1N 10% 50V	1
C121	J707436P53	CAP CER NPO 68P 5% 50V	1
C122	J707436P45	CAP CER NPO 47P 5% 50V	1
C123	J707436P87	CAP CER CL2 1N2 5% 50V	1
C124	J707436P65	CAP CER NPO 150P 5% 50V	1
C125	J707436P13	CAP CER NPO 10P 5% 50V	1
C126	J707436P37	CAP CER NPO 33P 5% 50V	1
C127	J707436P13	CAP CER NPO 10P 5% 50V	1
C128	J707436P73	CAP CER NPO 330P 5% 50V	1
C129	J707438P5	CAP CER CL2 1N 10% 50V	1
C130	J707436P21	CAP CER NPO 15P 5% 50V	1
C131	J707436P3	CAP CER NPO 1P5,25P 50V	1
C132	J707436P33	CAP CER NPO 27P 5% 50V	1
C133	J707436P13	CAP CER NPO 10P 5% 50V	1
C134	J707436P29	CAP CER NPO 22P 5% 50V	1
C135	J707436P9	CAP CER NPO 4P7,25P 50V	1
C136	J707436P13	CAP CER NPO 10P 5% 50V	1
C137	J707438P5	CAP CER CL2 1N 10% 50V	1
C201	J707444P8	CAP TA SOL 22U 20% 16V	1
C202	J707438P5	CAP CER CL2 1N 10% 50V	1
C203	J707444P5	CAP TA SOL 2U2 20% 35V	1
C204	J707438P22	CAP CER CL2 47N 10% 50V	1
C301	J707436P21	CAP CER NPO 15P 5% 50V	1
C302	J707436P13	CAP CER NPO 10P 5% 50V	1
C303	J707436P6	CAP CER NPO 2P7,25P 50V	1
C304	J707436P12	CAP CER NPO 8P2.25P 50V	1
C305	J707436P53	CAP CER NPO 68P 5% 50V	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C306	J707436P10	CAP CER NPO 5P6.25P 50V	1
C307	J707436P7	CAP CER NPO 3P3,25P 50V	1
C308	J707436P87	CAP CER NPO 1N2 5% 50V	1
C309	J707436P93	CAP CER NPO 2N2 5% 50V	1
C310	J707436P67	CAP CER NPO 180P 5% 50V	1
C311	J707436P12	CAP CER NPO 8P2.25P 50V	1
C312	J707436P37	CAP CER NPO 33P 5% 50V	1
C313	J707436P13	CAP CER NPO 10P 5% 50V	1
C314	J707438P22	CAP CER CL2 47N 10% 50V	1
C315	J707436P67	CAP CER NPO 180P 5% 50V	1
C316	J707438P3	CAP CER CL2 470P 10% 50V	1
C317	J707438P3	CAP CER CL2 470P 10% 50V	1
C401	J707436P11	CAP CER 6,8PF 50V	1
C402	J707436P73	CAP CER NPO 330P 5% 50V	1
C403	J707438P14	CAP CER CL2 10N 10% 50V	1
C404	J707444P9	CAP TA SOL 47U 20% 6V	1
C405	J707438P26	CAP CER CL2 100N 10% 50V	1
C406	J707438P5	CAP CER CL2 1N 10% 50V	1
C407	J707438P14	CAP CER CL2 10N 10% 50V	1
C408	J707436P63	CAP CER NPO 120P 5% 50V	1
C409	J707436P45	CAP CER NPO 47P 5% 50V	1
C410	J707436P57	CAP CER NPO 82P 5% 50V	1
C411	J707438P8	CAP CER CL2 3N3 10% 50V	1
C412	J707438P26	CAP CER CL2 100N 10% 50V	1
C413	J707436P93	CAP CER NPO 2N2 5% 50V	1
C414	J707436P73	CAP CER NPO 330P 5% 50V	1
C415	J707438P26	CAP CER CL2 100N 10% 50V	1
C416	J707438P26	CAP CER CL2 100N 10% 50V	1
C417	J707436P13	CAP CER NPO 10P 5% 50V	1
C418	J707444P7	CAP TA SOL 10U 20% 16V	1
C420	J707436P73	CAP CER NPO 330P 5% 50V	1
C421	J707444P7	CAP TA SOL 10U 20% 16V	1
C501	J707436P9	CAP CER NPO 4P7,25P 50V	1
C502	J707436P7	CAP CER NPO 3P3,25P 50V	1
C503	J707436P7	CAP CER NPO 3P3,25P 50V	1
C504	J707475P1	CAP VAR 2 - 18 PF	1
C505	J707438P26	CAP CER CL2 100N 10% 50V	1
C506	J707438P5	CAP CER CL2 1N 10% 50V	1
C507	J707436P17	CAP CER NPO 12P 5% 50V	1
C508	J707483P1	CAP PHEN 0P47 5% 500V	1
C509	J707436P3	CAP CER NPO 1P5,25P 50V	1
C510	J707436P49	CAP CER NPO 56P 5% 50V	1
C511	J707436P73	CAP CER NPO 330P 5% 50V	1
C512	J707436P12	CAP CER NPO 8P2.25P 50V	1
C513	J707436P13	CAP CER NPO 10P 5% 50V	1
C514	J707475P1	CAP VAR 2 - 18 PF	1
C515	J707436P4	CAP CER NPO 1P8,25P 50V	1
C516	J707438P26	CAP CER CL2 100N 10% 50V	1
C517	J707438P5	CAP CER CL2 1N 10% 50V	1
C518	J707436P12	CAP CER NPO 8P2.25P 50V	1
C519	J707438P5	CAP CER CL2 1N 10% 50V	1
C520	J707436P12	CAP CER NPO 8P2.25P 50V	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C521	J707436P9	CAP CER NPO 4P7,25P 50V	1
C522	J707438P5	CAP CER CL2 1N 10% 50V	1
C523	J707438P14	CAP CER CL2 10N 10% 50V	1
C524	J707438P5	CAP CER CL2 1N 10% 50V	1
C526	J707436P45	CAP CER NPO 47P 5% 50V	1
C527	J707438P14	CAP CER CL2 10N 10% 50V	1
C528	J707436P45	CAP CER NPO 47P 5% 50V	1
C529	J707438P26	CAP CER CL2 100N 10% 50V	1
C530	J707412P9	CAP PYES 100N 10% 63V	1
C531	J707436P29	CAP CER NPO 22P 5% 50V	1
C532	J707436P9	CAP CER NPO 4P7,25P 50V	1
C533	J707475P1	CAP VAR 2 - 18 PF	1
C534	J707612P1	CAP POL 2,2MF 100V	1
C535	J707412P9	CAP PYES 100N 10% 63V	1
C536	J707438P22	CAP CER CL2 47N 10% 50V	1
C537	J707438P3	CAP CER CL2 470P 10% 50V	1
C538	J707353P7	CAP ELEC 10MF 16V	1
C539	J707436P29	CAP CER NPO 22P 5% 50V	1
C540	J707436P12	CAP CER NPO 8P2.25P 50V	1
C541	J707438P8	CAP CER CL2 3N3 10% 50V	1
C542	J707438P5	CAP CER CL2 1N 10% 50V	1
C543	J707438P5	CAP CER CL2 1N 10% 50V	1
C545	J707438P5	CAP CER CL2 1N 10% 50V	1
C546	J707444P4	CAP TA SOL 1U 20% 35V	1
C547	J707444P5	CAP TA SOL 2U2 20% 35V	1
C548	J707436P8	CAP CER NPO 3P9,25P 50V	1
C549	J707436P11	CAP CER 6,8PF 50V	1
C550	J707436P65	CAP CER NPO 150P 5% 50V	1
C551	J707436P65	CAP CER NPO 150P 5% 50V	1
C552	J707436P65	CAP CER NPO 150P 5% 50V	1
C553	J707436P65	CAP CER NPO 150P 5% 50V	1
D101	J707389P1	DIO SI SIG BAV 99	1
D102	J707391P1	DIO SI SIG BAT 18	1
D201	J707448P1	IC LIN VR VAR TL431 CLP	1
D202	J707390P1	DIO SI SIG BAV 74	1
D301	J707391P1	DIO SI SIG BAT 18	1
D303	J707389P1	DIO SI SIG BAV 99	1
D401	J707389P1	DIO SI SIG BAV 99	1
D501	J707397P1	DIO SI CAP BBY 40	1
D502	J707397P1	DIO SI CAP BBY 40	1
D503	J707397P1	DIO SI CAP BBY 40	1
D505	J707390P1	DIO SI SIG BAV 74	1
D506	J707390P1	DIO SI SIG BAV 74	1
L101	J707426P1	COIL FIX	1
L102	A700024P1	COIL RF FIX 100NH 10%	1
L104	J707426P5	COIL FIX	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
L106	J707426P7	COIL FIX	1
L107	J707426P2	COIL FIX	1
L108	J707426P2	COIL FIX	1
L109	J707339G1	COIL FIX ASM	1
L110	J707426P7	COIL FIX	1
L112	J707426P2	COIL FIX	1
L113	J707339G1	COIL FIX ASM	1
L114	J707339G1	COIL FIX ASM	1
L115	J707426P4	COIL FIX	1
L116	J707426P1	COIL FIX	1
L117	J707426P1	COIL FIX	1
L118	J707486P4	COIL RF FIX 10UH 10%	1
L119	J707426P5	COIL FIX	1
L120	J707426P4	COIL FIX	1
L121	J707426P4	COIL FIX	1
L301	J707426P6	COIL FIX	1
L302	J707422P2	COIL RF VAR 4-1/2T	1
L303	J707422P2	COIL RF VAR 4-1/2T	1
L304	J707486P2	COIL RF FIX 3.3UH 10%	1
L305	J707422P2	COIL RF VAR 4-1/2T	1
L306	J707422P2	COIL RF VAR 4-1/2T	1
L308	J707422P3	COIL RF VAR 9-1/2T	1
L401	J707486P3	COIL RF FIX 6.8UH 10%	1
L402	J707431P1	COIL RF VAR 455KHZ 25%	1
L403	J707431P1	COIL RF VAR 455KHZ 25%	1
L501	J707486P2	COIL RF FIX 3.3UH 10%	1
L502	J707422P1	COIL RF VAR 2-1/2T	1
L503	J707486P2	COIL RF FIX 3.3UH 10%	1
L504	J707486P2	COIL RF FIX 3.3UH 10%	1
L505	J707486P2	COIL RF FIX 3.3UH 10%	1
L506	J707422P1	COIL RF VAR 2-1/2T	1
L507	J707486P2	COIL RF FIX 3.3UH 10%	1
L508	J707375P1	COIL RF VAR 4-1/2 TAP	1
L509	J707486P5	COIL RF FIX 330UH 10%	1
P001	J707962G1	PLUG ASM	1
P002	J707962G2	PLUG ASM	1
P003	J707962G3	PLUG ASM	1
Q101	J707388P1	TSTR NPN SI BFR 53	1
Q102	J707388P1	TSTR NPN SI BFR 53	1
Q103	J706145P1	TSTR NPN SI BFW 16A	1
Q104	J707868P1	TSTR NPN SI RF-PWR 4W	1
Q105	J707673P1	TSTR NPN SI BC 368	1
Q106	J707387P1	TSTR PNP SI BCW 30	1
Q107	J707386P1	TSTR NPN SI BCW 32	1
Q201	J707387P1	TSTR PNP SI BCW 30	1
Q202	J707435P1	TSTR PNP SI BC 369	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
Q203	J707386P1	TSTR NPN SI BCW 32	1
Q204	J707432P1	TSTR PNP SI BCX 18	1
Q205	J707387P1	TSTR PNP SI BCW 30	1
Q206	J707387P1	TSTR PNP SI BCW 30	1
Q301	J707418P1	TSTR NPN SI BFS 17	1
Q302	J707419P1	TSTR JFET SI BF 511	1
Q303	J707386P1	TSTR NPN SI BCW 32	1
Q401	J707433P1	TSTR MFET SI BF 989	1
Q402	J707387P1	TSTR PNP SI BCW 30	1
Q501	J707419P1	TSTR JFET SI BF 511	1
Q502	J707419P1	TSTR JFET SI BF 511	1
Q503	J707387P1	TSTR PNP SI BCW 30	1
Q504	J707430P1	TSTR NPN SI BF 569	1
Q505	J707387P1	TSTR PNP SI BCW 30	1
Q506	J707419P1	TSTR JFET SI BF 511	1
R101	J707385P103	RES MFILM 10K 5% 1/8W	1
R102	J707385P103	RES MFILM 10K 5% 1/8W	1
R103	J707385P470	RES MFILM 47R 5% 1/8W	1
R104	J707385P222	RES MFILM 2K2 5% 1/8W	1
R105	J707385P220	RES MFILM 22R 5% 1/8W	1
R106	J707385P100	RES MFILM 10R 5% 1/8W	1
R107	J707385P562	RES MFILM 5K6 5% 1/8W	1
R108	J707385P102	RES MFILM 1K0 5% 1/8W	1
R109	J707385P152	RES MFILM 1K5 5% 1/8W	1
R110	J707385P472	RES MFILM 4K7 5% 1/8W	1
R111	J707385P680	RES MFILM 68R 5% 1/8W	1
R112	J707385P102	RES MFILM 1K0 5% 1/8W	1
R115	J707478P4	RES VAR 1K OHM 0,05W	1
R117	J707385P680	RES MFILM 68R 5% 1/8W	1
R118	J707385P470	RES MFILM 47R 5% 1/8W	1
R119	J707385P910	RES MFILM 1R0 5% 1/8W	1
R120	J707945P1	RES WW R27 5%	1
R121	J707385P100	RES MFILM 10R 5% 1/8W	1
R122	J707385P331	RES MFILM 330R 5% 1/8W	1
R123	J707385P221	RES MFILM 220R 5% 1/8W	1
R124	J707385P104	RES MFILM 100K 5% 1/8W	1
R201	J707385P222	RES MFILM 2K2 5% 1/8W	1
R202	J707385P473	RES MFILM 47K 5% 1/8W	1
R203	J707385P153	RES MFILM 15K 5% 1/8W	1
R204	J707385P102	RES MFILM 1K0 5% 1/8W	1
R205	J707385P101	RES MFILM 100R 5% 1/8W	1
R206	J707385P273	RES MFILM 27K 5% 1/8W	1
R207	J707385P682	RES MFILM 6K8 5% 1/8W	1
R208	J707385P333	RES MFILM 33K 5% 1/8W	1
R209	J707385P333	RES MFILM 33K 5% 1/8W	1
R210	J707385P103	RES MFILM 10K 5% 1/8W	1
R211	J707385P182	RES MFILM 1K8 5% 1/8W	1
R212	J707385P473	RES MFILM 47K 5% 1/8W	1
R213	J707385P153	RES MFILM 15K 5% 1/8W	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
R214	J707385P272	RES MFILM 2K7 5% 1/8W	1
R215	J707385P153	RES MFILM 15K 5% 1/8W	1
R216	J707385P562	RES MFILM 5K6 5% 1/8W	1
R301	J707385P221	RES MFILM 220R 5% 1/8W	1
R302	J707385P103	RES MFILM 10K 5% 1/8W	1
R303	J707385P123	RES MFILM 12K 5% 1/8W	1
R304	J707385P220	RES MFILM 22R 5% 1/8W	1
R305	J707385P183	RES MFILM 18K 5% 1/8W	1
R306	J707385P470	RES MFILM 47R 5% 1/8W	1
R307	J707385P153	RES MFILM 15K 5% 1/8W	1
R308	J707385P681	RES MFILM 680R 5% 1/8W	1
R309	J707385P101	RES MFILM 100R 5% 1/8W	1
R310	J707385P101	RES MFILM 100R 5% 1/8W	1
R311	J707385P470	RES MFILM 47R 5% 1/8W	1
R312	J707385P332	RES MFILM 3K3 5% 1/8W	1
R313	J707385P154	RES MFILM 150K 5% 1/8W	1
R314	J707385P472	RES MFILM 4K7 5% 1/8W	1
R315	J707385P153	RES MFILM 15K 5% 1/8W	1
R401	J707385P152	RES MFILM 1K5 5% 1/8W	1
R402	J707385P473	RES MFILM 47K 5% 1/8W	1
R403	J707385P473	RES MFILM 47K 5% 1/8W	1
R404	J707385P561	RES MFILM 560R 5% 1/8W	1
R405	J707385P470	RES MFILM 47R 5% 1/8W	1
R406	J707385P683	RES MFILM 68K 5% 1/8W	1
R407	J707385P333	RES MFILM 33K 5% 1/8W	1
R408	J707385P103	RES MFILM 10K 5% 1/8W	1
R409	J707478P10	RES VAR 10K OHM 0,05W	1
R410	J707385P392	RES MFILM 3K9 5% 1/8W	1
R411	J707385P273	RES MFILM 27K 5% 1/8W	1
R412	J707385P563	RES MFILM 56K 5% 1/8W	1
R413	J707385P683	RES MFILM 68K 5% 1/8W	1
R414	J707385P473	RES MFILM 47K 5% 1/8W	1
R415	J707385P334	RES MFILM 330K 5% 1/8W	1
R416	J707385P182	RES MFILM 1K8 5% 1/8W	1
R417	J707385P473	RES MFILM 47K 5% 1/8W	1
R418	J707385P183	RES MFILM 18K 5% 1/8W	1
R419	J707385P473	RES MFILM 47K 5% 1/8W	1
R420	J707478P12	RES VAR 22K OHM 0,05W	1
R421	J707385P101	RES MFILM 100R 5% 1/8W	1
R422	J707385P332	RES MFILM 3K3 5% 1/8W	1
R501	J707385P271	RES MFILM 270R 5% 1/8W	1
R502	J707385P101	RES MFILM 100R 5% 1/8W	1
R503	J707385P101	RES MFILM 100R 5% 1/8W	1
R504	J707385P472	RES MFILM 4K7 5% 1/8W	1
R505	J707385P271	RES MFILM 270R 5% 1/8W	1
R506	J707385P470	RES MFILM 47R 5% 1/8W	1
R507	J707385P101	RES MFILM 100R 5% 1/8W	1
R508	J707385P392	RES MFILM 3K9 5% 1/8W	1
R509	J707385P333	RES MFILM 33K 5% 1/8W	1
R510	J707385P100	RES MFILM 10R 5% 1/8W	1
R511	J707385P271	RES MFILM 270R 5% 1/8W	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
R512	J707385P102	RES MFILM 1K0 5% 1/8W	1
R513	J707385P103	RES MFILM 10K 5% 1/8W	1
R514	J707385P822	RES MFILM 8K2 5% 1/8W	1
R515	J707385P183	RES MFILM 18K 5% 1/8W	1
R516	J707385P183	RES MFILM 18K 5% 1/8W	1
R518	J707385P102	RES MFILM 1K0 5% 1/8W	1
R519	J707385P562	RES MFILM 5K6 5% 1/8W	1
R520	J707385P104	RES MFILM 100K 5% 1/8W	1
R521	J707385P470	RES MFILM 47R 5% 1/8W	1
R523	J707385P273	RES MFILM 27K 5% 1/8W	1
R524	J707385P151	RES MFILM 150R 5% 1/8W	1
R525	J707385P272	RES MFILM 2K7 5% 1/8W	1
R526	J707385P221	RES MFILM 220R 5% 1/8W	1
R527	J707385P184	RES MFILM 180K 5% 1/8W	1
R528	J707385P152	RES MFILM 1K5 5% 1/8W	1
R529	J707385P273	RES MFILM 27K 5% 1/8W	1
R530	J707385P101	RES MFILM 100R 5% 1/8W	1
R531	J707385P102	RES MFILM 1K0 5% 1/8W	1
R532	J707385P101	RES MFILM 100R 5% 1/8W	1
R533	J707385P184	RES MFILM 180K 5% 1/8W	1
R534	J707385P273	RES MFILM 27K 5% 1/8W	1
R535	J707385P470	RES MFILM 47R 5% 1/8W	1
R536	J707385P272	RES MFILM 2K7 5% 1/8W	1
R537	J707385P103	RES MFILM 10K 5% 1/8W	1
U401	J707449P1	IC, LIN., IF-AMP., MC3357	1
U501	J707434P2	IC, DIG. MUX., 4053 CMOS	1
U502	J707337P1	IC, PLL. SYN., MC145146	1
U503	J707374P1	IC, ECL.,PLL.-PRESC., SP8793	1
0002	M9-----P1R3	CPNT BD PW, REVISION NO.: 3	
0003	K805347P1	SHLD METALL ASM	1
0004	J707921P2	SLVG HEAT SHRINK PYOL CLEAR	0.002 M
0005	A701648P2	SIL RUBB. SEALANT RTV-162	0.001 KG
0006	J706647P1	SILICONE OIL QZ 13	0.0001 KG
0007	L855385P1	SPRING ANTENNA	1
0008	A701332P4	INSULATOR	1
0009	J706281P6	CORE	6
0010	L855470P1	HEAT SINK	1

ITEM NUMBER DESCRIPTION

M905741G1 CPNT BD R F 4 1 1 0, 2.ND TYPE- REV. 3

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY	
C101	J707436P21	CAP CER NPO 15P 5% 50V	1	
C102	J707438P14	CAP CER CL2 10N 10% 50V	1	
C103	J707436P73	CAP CER NPO 330P 5% 50V	1	
C104	J707436P25	CAP CER NPO 18P 5% 50V	1	
C106	J707436P33	CAP CER NPO 27P 5% 50V	1	
C107	J707436P21	CAP CER NPO 15P 5% 50V	1	
C108	J707438P14	CAP CER CL2 10N 10% 50V	1	
C109	J707353P5	CAP ELEC 2,2 UF 50V	1	
C110	J707436P73	CAP CER NPO 330P 5% 50V	1	
C111	J707438P14	CAP CER CL2 10N 10% 50V	1	
C112	J707436P65	CAP CER NPO 150P 5% 50V	1	
C113	J707436P33	CAP CER NPO 27P 5% 50V	1	
C114	J707436P45	CAP CER NPO 47P 5% 50V	1	
C115	J707436P33	CAP CER NPO 27P 5% 50V	1	
C116	J707438P14	CAP CER CL2 10N 10% 50V	1	
C117	J707436P65	CAP CER NPO 150P 5% 50V	1	
C118	J707436P37	CAP CER NPO 33P 5% 50V	1	
C119	J707436P73	CAP CER NPO 330P 5% 50V	1	
C120	J707438P5	CAP CER CL2 1N 10% 50V	1	
C121	J707436P53	CAP CER NPO 68P 5% 50V	1	
C122	J707436P45	CAP CER NPO 47P 5% 50V	1	
C123	J707436P87	CAP CER CL2 1N2 5% 50V	1	
C124	J707436P65	CAP CER NPO 150P 5% 50V	1	
C125	J707436P13	CAP CER NPO 10P 5% 50V	1	
C126	J707436P37	CAP CER NPO 33P 5% 50V	1	
C127	J707436P13	CAP CER NPO 10P 5% 50V	1	
C128	J707436P73	CAP CER NPO 330P 5% 50V	1	
C129	J707438P5	CAP CER CL2 1N 10% 50V	1	
C130	J707436P21	CAP CER NPO 15P 5% 50V	1	
C131	J707436P3	CAP CER NPO 1P5,25P 50V	1	
C132	J707436P33	CAP CER NPO 27P 5% 50V	1	
C133	J707436P13	CAP CER NPO 10P 5% 50V	1	
C134	J707436P29	CAP CER NPO 22P 5% 50V	1	
C135	J707436P9	CAP CER NPO 4P7,25P 50V	1	
C136	J707436P13	CAP CER NPO 10P 5% 50V	1	
C137	J707438P5	CAP CER CL2 1N 10% 50V	1	
C201	J707444P8	CAP TA SOL 22U 20% 16V	1	
C202	J707438P5	CAP CER CL2 1N 10% 50V	1	
C203	J707444P5	CAP TA SOL 2U2 20% 35V	1	
C204	J707438P22	CAP CER CL2 47N 10% 50V	1	
* C205	* J707438P5	* CAP CER CL2 1N 10% 50V	* 1	IF AUTOM
C301	J707436P21	CAP CER NPO 15P 5% 50V	1	
C302	J707436P13	CAP CER NPO 10P 5% 50V	1	
C303	J707436P6	CAP CER NPO 2P7,25P 50V	1	

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C304	J707436P12	CAP CER NPO 8P2.25P 50V	1
C305	J707436P53	CAP CER NPO 68P 5% 50V	1
C306	J707436P10	CAP CER NPO 5P6.25P 50V	1
C307	J707436P7	CAP CER NPO 3P3,25P 50V	1
C308	J707436P87	CAP CER NPO 1N2 5% 50V	1
C309	J707436P93	CAP CER NPO 2N2 5% 50V	1
C310	J707436P67	CAP CER NPO 180P 5% 50V	1
C311	J707436P12	CAP CER NPO 8P2.25P 50V	1
C312	J707436P37	CAP CER NPO 33P 5% 50V	1
C313	J707436P13	CAP CER NPO 10P 5% 50V	1
C314	J707438P22	CAP CER CL2 47N 10% 50V	1
C315	J707436P67	CAP CER NPO 180P 5% 50V	1
C316	J707438P3	CAP CER CL2 470P 10% 50V	1
C317	J707438P3	CAP CER CL2 470P 10% 50V	1
C401	J707436P11	CAP CER 6,8PF 50V	1
C402	J707436P73	CAP CER NPO 330P 5% 50V	1
C403	J707438P14	CAP CER CL2 10N 10% 50V	1
C404	J707444P9	CAP TA SOL 47U 20% 6V	1
C405	J707438P26	CAP CER CL2 100N 10% 50V	1
C406	J707438P5	CAP CER CL2 1N 10% 50V	1
C407	J707438P14	CAP CER CL2 10N 10% 50V	1
C408	J707436P63	CAP CER NPO 120P 5% 50V	1
C409	J707436P45	CAP CER NPO 47P 5% 50V	1
C410	J707436P57	CAP CER NPO 82P 5% 50V	1
C411	J707438P8	CAP CER CL2 3N3 10% 50V	1
C412	J707438P26	CAP CER CL2 100N 10% 50V	1
C413	J707436P93	CAP CER NPO 2N2 5% 50V	1
C414	J707436P73	CAP CER NPO 330P 5% 50V	1
C415	J707438P26	CAP CER CL2 100N 10% 50V	1
C416	J707438P26	CAP CER CL2 100N 10% 50V	1
C417	J707436P13	CAP CER NPO 10P 5% 50V	1
C418	J707444P7	CAP TA SOL 10U 20% 16V	1
C420	J707436P73	CAP CER NPO 330P 5% 50V	1
C421	J707444P7	CAP TA SOL 10U 20% 16V	1
C501	J707436P9	CAP CER NPO 4P7,25P 50V	1
C502	J707436P7	CAP CER NPO 3P3,25P 50V	1
C503	J707436P7	CAP CER NPO 3P3,25P 50V	1
C504	J707475P1	CAP VAR 2 - 18 PF	1
C505	J707438P26	CAP CER CL2 100N 10% 50V	1
C506	J707438P5	CAP CER CL2 1N 10% 50V	1
C507	J707436P17	CAP CER NPO 12P 5% 50V	1
C508	J707483P1	CAP PHEN 0P47 5% 500V	1
C509	J707436P3	CAP CER NPO 1P5,25P 50V	1
C510	J707436P49	CAP CER NPO 56P 5% 50V	1
C511	J707436P73	CAP CER NPO 330P 5% 50V	1
C512	J707436P12	CAP CER NPO 8P2.25P 50V	1
C513	J707436P13	CAP CER NPO 10P 5% 50V	1
C514	J707475P1	CAP VAR 2 - 18 PF	1
C515	J707436P4	CAP CER NPO 1P8,25P 50V	1
C516	J707438P26	CAP CER CL2 100N 10% 50V	1
C517	J707438P5	CAP CER CL2 1N 10% 50V	1
C518	J707436P12	CAP CER NPO 8P2.25P 50V	1

	CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
	C519	J707438P5	CAP CER CL2 1N 10% 50V	1
	C520	J707436P12	CAP CER NPO 8P2.25P 50V	1
	C521	J707436P9	CAP CER NPO 4P7,25P 50V	1
*	OR:			
*	REMOVE	IF RX-SIGN.	IS CHANGED TO UNDER-INJECTION	
	C522	J707438P5	CAP CER CL2 1N 10% 50V	1
	C523	J707438P14	CAP CER CL2 10N 10% 50V	1
	C524	J707438P5	CAP CER CL2 1N 10% 50V	1
	C526	J707436P45	CAP CER NPO 47P 5% 50V	1
	C527	J707438P14	CAP CER CL2 10N 10% 50V	1
	C528	J707436P45	CAP CER NPO 47P 5% 50V	1
	C529	J707438P26	CAP CER CL2 100N 10% 50V	1
	C530	J707412P9	CAP PYES 100N 10% 63V	1
	C531	J707436P29	CAP CER NPO 22P 5% 50V	1
	C532	J707436P9	CAP CER NPO 4P7,25P 50V	1
	C533	J707475P1	CAP VAR 2 - 18 PF	1
	C534	J707612P1	CAP POL 2,2MF 100V	1
	C535	J707412P9	CAP PYES 100N 10% 63V	1
	C536	J707438P22	CAP CER CL2 47N 10% 50V	1
	C537	J707438P3	CAP CER CL2 470P 10% 50V	1
	C538	J707353P7	CAP ELEC 10MF 16V	1
	C539	J707436P29	CAP CER NPO 22P 5% 50V	1
	C540	J707436P12	CAP CER NPO 8P2.25P 50V	1
	C541	J707438P8	CAP CER CL2 3N3 10% 50V	1
	C542	J707438P5	CAP CER CL2 1N 10% 50V	1
	C543	J707438P5	CAP CER CL2 1N 10% 50V	1
	C545	J707438P5	CAP CER CL2 1N 10% 50V	1
	C546	J707444P4	CAP TA SOL 1U 20% 35V	1
	C547	J707444P5	CAP TA SOL 2U2 20% 35V	1
	C548	J707436P8	CAP CER NPO 3P9,25P 50V	1
*	OR:			
*	REMOVE	IF RX-SIGN.	IS CHANGED TO UNDER-INJECTION	
	C549	J707436P11	CAP CER 6,8PF 50V	1
*	OR:			
*	REMOVE	IF RX-SIGN.	IS CHANGED TO UNDER-INJECTION	
	C550	J707436P65	CAP CER NPO 150P 5% 50V	1
	C551	J707436P65	CAP CER NPO 150P 5% 50V	1
	C552	J707436P65	CAP CER NPO 150P 5% 50V	1
	C553	J707436P65	CAP CER NPO 150P 5% 50V	1
	D101	J707389P1	DIO SI SIG BAV 99	1
	D102	J707391P1	DIO SI SIG BAT 18	1
	D201	J707448P1	IC LIN VR VAR TL431 CLP	1
	D202	J707390P1	DIO SI SIG BAV 74	1
	D301	J707391P1	DIO SI SIG BAT 18	1
	D303	J707389P1	DIO SI SIG BAV 99	1
	D401	J707389P1	DIO SI SIG BAV 99	1
	D501	J707397P1	DIO SI CAP BBY 40	1
	D502	J707397P1	DIO SI CAP BBY 40	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
D503	J707397P1	DIO SI CAP BBY 40	1
D505	J707390P1	DIO SI SIG BAV 74	1
D506	J707390P1	DIO SI SIG BAV 74	1
L101	J707426P1	COIL FIX	1
L102	A700024P1	COIL RF FIX 100NH 10%	1
L104	J707426P5	COIL FIX	1
L106	J707426P7	COIL FIX	1
L107	J707426P2	COIL FIX	1
L108	J707426P2	COIL FIX	1
L109	J707339G1	COIL FIX ASM	1
L110	J707426P7	COIL FIX	1
L112	J707426P2	COIL FIX	1
L113	J707339G1	COIL FIX ASM	1
L114	J707339G1	COIL FIX ASM	1
L115	J707426P4	COIL FIX	1
L116	J707426P1	COIL FIX	1
L117	J707426P1	COIL FIX	1
L118	J707486P4	COIL RF FIX 10UH 10%	1
L119	J707426P5	COIL FIX	1
L120	J707426P4	COIL FIX	1
L121	J707426P4	COIL FIX	1
L301	J707426P6	COIL FIX	1
L302	J707422P2	COIL RF VAR 4-1/2T	1
L303	J707422P2	COIL RF VAR 4-1/2T	1
L304	J707486P2	COIL RF FIX 3.3UH 10%	1
L305	J707422P2	COIL RF VAR 4-1/2T	1
L306	J707422P2	COIL RF VAR 4-1/2T	1
L308	J707422P3	COIL RF VAR 9-1/2T	1
L401	J707486P3	COIL RF FIX 6.8UH 10%	1
L402	J707431P1	COIL RF VAR 455KHZ 25%	1
L403	J707431P1	COIL RF VAR 455KHZ 25%	1
L501	J707486P2	COIL RF FIX 3.3UH 10%	1
L502	J707422P1	COIL RF VAR 2-1/2T	1
L503	J707486P2	COIL RF FIX 3.3UH 10%	1
L504	J707486P2	COIL RF FIX 3.3UH 10%	1
L505	J707486P2	COIL RF FIX 3.3UH 10%	1
L506	J707422P1	COIL RF VAR 2-1/2T	1
L507	J707486P2	COIL RF FIX 3.3UH 10%	1
L508	J707375P1	COIL RF VAR 4-1/2 TAP	1
L509	J707486P5	COIL RF FIX 330UH 10%	1
P001	J707962G1	PLUG ASM	1
P002	J707962G2	PLUG ASM	1
P003	J707962G3	PLUG ASM	1
Q101	J707388P1	TSTR NPN SI BFR 53	1
Q102	J707388P1	TSTR NPN SI BFR 53	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
Q103	J706145P1	TSTR NPN SI BFW 16A	1
Q104	J707868P1	TSTR NPN SI RF-PWR 4W	1
Q105	J707673P1	TSTR NPN SI BC 368	1
Q106	J707387P1	TSTR PNP SI BCW 30	1
Q107	J707386P1	TSTR NPN SI BCW 32	1
Q201	J707387P1	TSTR PNP SI BCW 30	1
Q202	J707435P1	TSTR PNP SI BC 369	1
Q203	J707386P1	TSTR NPN SI BCW 32	1
Q204	J707432P1	TSTR PNP SI BCX 18	1
Q205	J707387P1	TSTR PNP SI BCW 30	1
Q206	J707387P1	TSTR PNP SI BCW 30	1
Q301	J707418P1	TSTR NPN SI BFS 17	1
Q302	J707419P1	TSTR JFET SI BF 511	1
Q303	J707386P1	TSTR NPN SI BCW 32	1
Q401	J707433P1	TSTR MFET SI BF 989	1
Q402	J707387P1	TSTR PNP SI BCW 30	1
Q501	J707419P1	TSTR JFET SI BF 511	1
Q502	J707419P1	TSTR JFET SI BF 511	1
Q503	J707387P1	TSTR PNP SI BCW 30	1
Q504	J707430P1	TSTR NPN SI BF 569	1
Q505	J707387P1	TSTR PNP SI BCW 30	1
Q506	J707419P1	TSTR JFET SI BF 511	1
R101	J707385P103	RES MFILM 10K 5% 1/8W	1
R102	J707385P103	RES MFILM 10K 5% 1/8W	1
R103	J707385P470	RES MFILM 47R 5% 1/8W	1
R104	J707385P222	RES MFILM 2K2 5% 1/8W	1
R105	J707385P220	RES MFILM 22R 5% 1/8W	1
R106	J707385P100	RES MFILM 10R 5% 1/8W	1
R107	J707385P562	RES MFILM 5K6 5% 1/8W	1
R108	J707385P102	RES MFILM 1K0 5% 1/8W	1
R109	J707385P152	RES MFILM 1K5 5% 1/8W	1
R110	J707385P472	RES MFILM 4K7 5% 1/8W	1
R111	J707385P680	RES MFILM 68R 5% 1/8W	1
R112	J707385P102	RES MFILM 1K0 5% 1/8W	1
R115	J707478P4	RES VAR 1K OHM 0,05W	1
R117	J707385P680	RES MFILM 68R 5% 1/8W	1
R118	J707385P470	RES MFILM 47R 5% 1/8W	1
R119	J707385P910	RES MFILM 1R0 5% 1/8W	1
R120	J707945P1	RES WW R27 5%	1
R121	J707385P100	RES MFILM 10R 5% 1/8W	1
R122	J707385P331	RES MFILM 330R 5% 1/8W	1
R123	J707385P221	RES MFILM 220R 5% 1/8W	1
R124	J707385P104	RES MFILM 100K 5% 1/8W	1
R201	J707385P222	RES MFILM 2K2 5% 1/8W	1
R202	J707385P473	RES MFILM 47K 5% 1/8W	1
R203	J707385P153	RES MFILM 15K 5% 1/8W	1
R204	J707385P102	RES MFILM 1K0 5% 1/8W	1
R205	J707385P101	RES MFILM 100R 5% 1/8W	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
R206	J707385P273	RES MFILM 27K 5% 1/8W	1
R207	J707385P682	RES MFILM 6K8 5% 1/8W	1
R208	J707385P333	RES MFILM 33K 5% 1/8W	1
R209	J707385P333	RES MFILM 33K 5% 1/8W	1
R210	J707385P103	RES MFILM 10K 5% 1/8W	1
R211	J707385P182	RES MFILM 1K8 5% 1/8W	1
R212	J707385P473	RES MFILM 47K 5% 1/8W	1
R213	J707385P153	RES MFILM 15K 5% 1/8W	1
R214	J707385P272	RES MFILM 2K7 5% 1/8W	1
R215	J707385P153	RES MFILM 15K 5% 1/8W	1
R216	J707385P562	RES MFILM 5K6 5% 1/8W	1
R301	J707385P221	RES MFILM 220R 5% 1/8W	1
R302	J707385P103	RES MFILM 10K 5% 1/8W	1
R303	J707385P123	RES MFILM 12K 5% 1/8W	1
R304	J707385P220	RES MFILM 22R 5% 1/8W	1
R305	J707385P183	RES MFILM 18K 5% 1/8W	1
R306	J707385P470	RES MFILM 47R 5% 1/8W	1
R307	J707385P153	RES MFILM 15K 5% 1/8W	1
R308	J707385P681	RES MFILM 680R 5% 1/8W	1
R309	J707385P101	RES MFILM 100R 5% 1/8W	1
R310	J707385P101	RES MFILM 100R 5% 1/8W	1
R311	J707385P470	RES MFILM 47R 5% 1/8W	1
R312	J707385P332	RES MFILM 3K3 5% 1/8W	1
R313	J707385P154	RES MFILM 150K 5% 1/8W	1
R314	J707385P472	RES MFILM 4K7 5% 1/8W	1
R315	J707385P153	RES MFILM 15K 5% 1/8W	1
R401	J707385P152	RES MFILM 1K5 5% 1/8W	1
R402	J707385P473	RES MFILM 47K 5% 1/8W	1
R403	J707385P473	RES MFILM 47K 5% 1/8W	1
R404	J707385P561	RES MFILM 560R 5% 1/8W	1
R405	J707385P470	RES MFILM 47R 5% 1/8W	1
R406	J707385P683	RES MFILM 68K 5% 1/8W	1
R407	J707385P333	RES MFILM 33K 5% 1/8W	1
R408	J707385P103	RES MFILM 10K 5% 1/8W	1
R409	J707478P10	RES VAR 10K OHM 0,05W	1
R410	J707385P392	RES MFILM 3K9 5% 1/8W	1
R411	J707385P273	RES MFILM 27K 5% 1/8W	1
R412	J707385P563	RES MFILM 56K 5% 1/8W	1
R413	J707385P683	RES MFILM 68K 5% 1/8W	1
R414	J707385P473	RES MFILM 47K 5% 1/8W	1
R415	J707385P334	RES MFILM 330K 5% 1/8W	1
R416	J707385P182	RES MFILM 1K8 5% 1/8W	1
R417	J707385P473	RES MFILM 47K 5% 1/8W	1
R418	J707385P183	RES MFILM 18K 5% 1/8W	1
R419	J707385P473	RES MFILM 47K 5% 1/8W	1
R420	J707478P12	RES VAR 22K OHM 0,05W	1
R421	J707385P101	RES MFILM 100R 5% 1/8W	1
R422	J707385P332	RES MFILM 3K3 5% 1/8W	1
R501	J707385P271	RES MFILM 270R 5% 1/8W	1
R502	J707385P101	RES MFILM 100R 5% 1/8W	1
R503	J707385P101	RES MFILM 100R 5% 1/8W	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
R504	J707385P472	RES MFILM 4K7 5% 1/8W	1
R505	J707385P271	RES MFILM 270R 5% 1/8W	1
R506	J707385P470	RES MFILM 47R 5% 1/8W	1
R507	J707385P101	RES MFILM 100R 5% 1/8W	1
R508	J707385P392	RES MFILM 3K9 5% 1/8W	1
R509	J707385P333	RES MFILM 33K 5% 1/8W	1
R510	J707385P100	RES MFILM 10R 5% 1/8W	1
R511	J707385P271	RES MFILM 270R 5% 1/8W	1
R512	J707385P102	RES MFILM 1K0 5% 1/8W	1
R513	J707385P103	RES MFILM 10K 5% 1/8W	1
R514	J707385P822	RES MFILM 8K2 5% 1/8W	1
R515	J707385P183	RES MFILM 18K 5% 1/8W	1
R516	J707385P183	RES MFILM 18K 5% 1/8W	1
R518	J707385P102	RES MFILM 1K0 5% 1/8W	1
R519	J707385P562	RES MFILM 5K6 5% 1/8W	1
R520	J707385P104	RES MFILM 100K 5% 1/8W	1
R521	J707385P470	RES MFILM 47R 5% 1/8W	1
R523	J707385P273	RES MFILM 27K 5% 1/8W	1
R524	J707385P151	RES MFILM 150R 5% 1/8W	1
R525	J707385P272	RES MFILM 2K7 5% 1/8W	1
R526	J707385P221	RES MFILM 220R 5% 1/8W	1
R527	J707385P184	RES MFILM 180K 5% 1/8W	1
R528	J707385P152	RES MFILM 1K5 5% 1/8W	1
R529	J707385P273	RES MFILM 27K 5% 1/8W	1
R530	J707385P101	RES MFILM 100R 5% 1/8W	1
R531	J707385P102	RES MFILM 1K0 5% 1/8W	1
R532	J707385P101	RES MFILM 100R 5% 1/8W	1
R533	J707385P184	RES MFILM 180K 5% 1/8W	1
R534	J707385P273	RES MFILM 27K 5% 1/8W	1
R535	J707385P470	RES MFILM 47R 5% 1/8W	1
R536	J707385P272	RES MFILM 2K7 5% 1/8W	1
R537	J707385P103	RES MFILM 10K 5% 1/8W	1
U401	J707449P1	IC, LIN., IF-AMP., MC3357	1
U501	J707434P2	IC, DIG. MUX., 4053 CMOS	1
U502	J707337P1	IC, PLL. SYN., MC145146	1
U503	J707374P1	IC, PLL.-PRESC., SP8793	1
0002	M9-----P1R3	CPNT BD PW, REVISION NO.: 3	
0003	K805347P1	SHLD METALL ASM	1
0004	J707921P2	SLVG HEAT SHRINK PYOL CLEAR	0.002 M
0005	A701648P2	SIL RUBB. SEALANT RTV-162	0.001 KG
0006	J706647P1	SILICONE OIL QZ 13	0.0001 KG
0007	L855385P1	SPRING ANTENNA	1
0008	A701332P4	INSULATOR	1
0009	J706281P6	CORE	6
0010	L855470P1	HEAT SINK	1

CHAPTER 3.

CQP4330

ADJUSTMENT PROCEDURE

TEST POINTS AND ADJUSTABLE COMPONENTS

RF BOARD RF4330

ADJUSTMENT PROCEDURE

CQP4330

This adjustment procedure applies to the following types of STORNOPHONE 4000 radios:

CQP4332: 66-88 MHz - 25 kHz channel spacing
CQP4333: 66-88 MHz - 20 kHz channel spacing
CQP4334: 66-88 MHz - 12.5 kHz channel spacing

Before making adjustments to the radio circuit, read the type label and note the channel frequencies and the tone system coding.
Also check the personality PROM and its data against the type label information.

MEASURING INSTRUMENTS

The following measuring instruments are necessary for making service and adjustments to the CQP4330:

RF Signal Generator	66-88 MHz
AF Voltmeter	Z_i >0.5 Mohm
Multimeter	20 Kohm/V
Distortion meter	
Deviation meter	
Watt meter	0-2.5 W
AF Generator 50 Hz-5 kHz	Z_{out} ≥600 ohm
Frequency counter	5-200 MHz/50 mV
Power Supply	6-10 V/2 A
Signal Sampler	Storno D52
RF diode probe	Storno 95.0059-00
RF coil tuning tool	Storno 17.0053-00
Ref. oscillator tuning tool	Storno 19J707496G1
Test adaptor	SE4002 19K805371G1
Service kit	SE4003 19J707744G1
Consisting of service cabinet and antenna adaptor	
Extension cables	CC4001 19J707704G1

DISMANTLING OF CQP4000

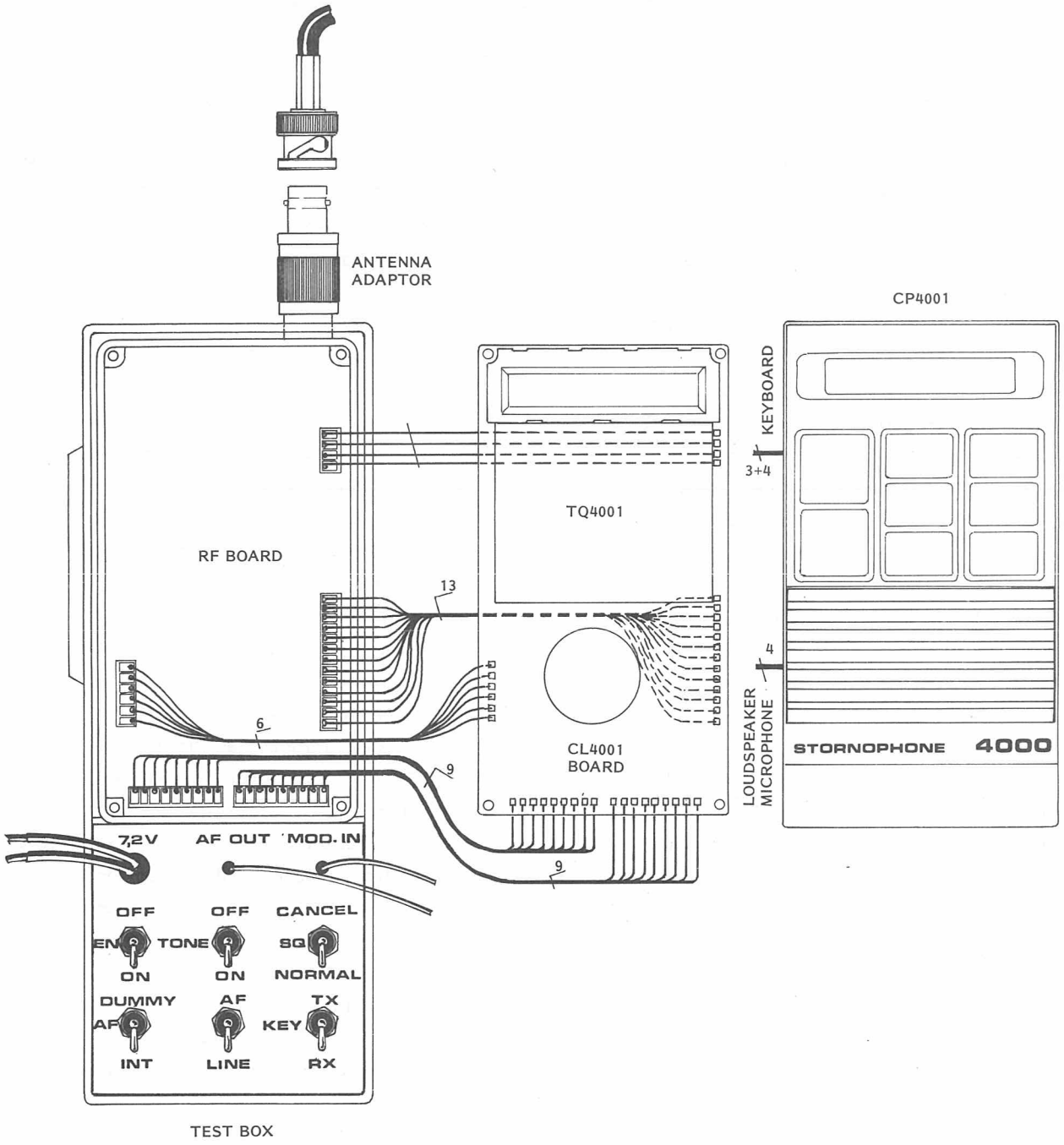
Before the CQP4000 can be adjusted the radio must be dismantled for access to all test points and adjustable components.

- Remove the battery, if inserted.
- Remove the two rear screws holding the cabinet.
- Remove the chassis box.
- Remove the four corner screws holding the front.
- Open the chassis box, carefully, without damaging the contact fingers on the rim.
- Take the CL4001 board and the RF4110 board apart.
- Connect the CL4001 board to the RF4110 board by means of the extension cables.
- Insert the chassis box in the service cabinet and firmly press the RF board to the bottom of the chassis box to establish good ground connections.
- Attach the antenna adaptor.
- Insert the test box in the battery compartment.
- The STORNOPHONE 4000 is now prepared for adjustment.

TRANSMITTER ADJUSTMENT

Refer to transmitter test setup.
Set the power supply voltage to 7.2 V.
Turn the radio on in receive mode and measure the current consumption.

Requirement: less than 30 mA.
Connect the voltmeter to the +5.5 V test point.
Read the 5.5 V regulated voltage.



TEST SETUP
STORNOPHONE 4000

D403.279

1. SYNTHESIZER REFERENCE FREQUENCY ADJUSTMENT

Connect the frequency counter to P3 pin 13-CLOCK.
Read the reference frequency.
Check the reference crystal's frequency (6.4 MHz or 6.5 MHz).
Adjust C533 for f_{nom} ±10 Hz.

Note:
The final adjustment of the reference frequency is performed later with closed chassis box.

2. TRANSMITTER VCO ADJUSTMENT

Set the ADC potentiometer to minimum, anti-clockwise.
Key the transmitter and read the current drain.
Requirement: less than 1 A.
Connect the voltmeter to P3 pin 7, OUT OF LOCK signal.
Adjust L502 for 0 V steady ready reading on the voltmeter. Connect the voltmeter to TP4.

Adjust L502 for a reading of 3 Volts. For radios with 2 channels adjust L502 so that the reading for each channel is inside the tuning range, 1-5 V. The channel with the lowest frequency has the lowest voltage reading.

3. TRANSMITTER POWER OUTPUT ADJUSTMENT

Connect the wattmeter to the antenna connector.
Adjust ADC potentiometer R115 for rated output power according to the type designation.
Note:
The current drain at rated output power must not exceed 1 A.

4. TRANSMITTER FREQUENCY ADJUSTMENT

Connect the wattmeter to the antenna connector through the signal sampler.
Connect the frequency counter to the signal sampler.
Key the transmitter and read the frequency.
Adjust C533 for correct frequency. (C533 is fine adjusted later with closed chassis box).
Requirement: F_{nom} ±0.2 ppm (40 Hz at 80 MHz)
Deenergize the transmitter.
Select channel 2, if used.
Key the transmitter and check for correct output frequency.

NOTE:
Adjustment of the transmitter frequency which also adjusts the receiver for correct frequency is done later when the chassis box is closed.

5. TRANSMITTER MODULATION ADJUSTMENT

Connect the deviation meter to the signal sampler.
Connect the AF generator to MOD IN on the test box.
Set the AF generator frequency to 1000 Hz and the output as follows:
1100 mV with test box (10:1 built-in attenuator)

Vary the AF frequency between 100 Hz and 3000 Hz and find peak deviation. Check the frequency for both + and - deviation. At the frequency producing peak deviation adjust R812 for maximum system deviation.

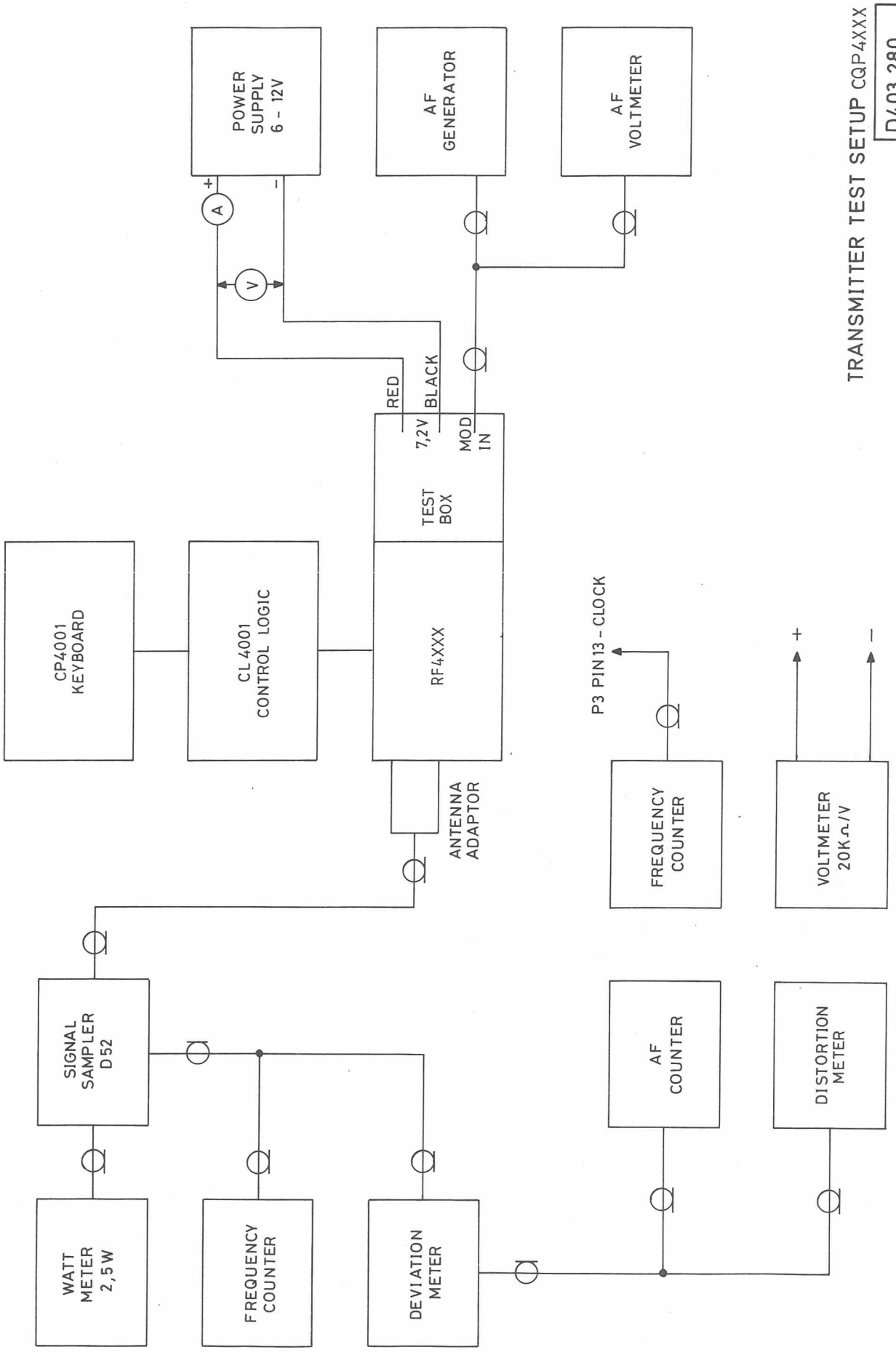
CQP4332: ±5 kHz
CQP4333: ±4 kHz
CQP4334: ±2.5 kHz

Set the AF generator frequency to 1000 Hz.
Reduce the AF generator output until a deviation of 0.7 x maximum deviation is obtained:

CQP4332: ±3.5 kHz
CQP4333: ±2.8 kHz
CQP4334: ±1.75 kHz

Typical generator output is 100 mV.

TRANSMITTER TEST SETUP CQP4XXX D403.280



RECEIVER ADJUSTMENT

Refer to receiver test setup.

1. RECEIVER VCO ADJUSTMENT

Connect the voltmeter to P3 pin 7, OUT OF LOCK signal.
Preset coil L508 as follows:

High end of band: 2/3 out of coil.
Low end of band: Fully down in coil form.

Set SQ switch to cancel.
Adjust L507 for 0 V steady reading on the voltmeter. Connect the voltmeter to TP4.
Adjust L507 for a reading of 3 Volts. For radios with 2 channels adjust L507 so that the reading for each channel is inside the tuning range, 1-5 V. The channel with the lowest frequency has the lowest voltage reading.

2. RECEIVER INJECTION SIGNAL ADJUSTMENT

Connect the diode probe and the voltmeter to TP2.
Adjust L508 for maximum voltmeter reading, 0.2 V ±0.1 V. (L508 is readjusted together with the front-end).

3. IF SIGNAL ADJUSTMENT

Connect the signal generator to the antenna connector and set it to the channel frequency.

Modulate the signal generator with 1000 Hz to 0.7 x maximum system deviation.

CQP4332: ±3.5 kHz
CQP4333: ±2.8 kHz
CQP4334: ±1.75 kHz

Set the signal generator output to 100 mV.

Connect the diode probe and the voltmeter to TP3.
Reduce the signal generator output until voltage reading is less than 1 V.
Adjust L402 and L308 for maximum voltmeter reading.
Connect the AF voltmeter to AF OUT. Set the signal generator output to 100 mV.
Adjust L403 for maximum voltmeter reading.

ALTERNATIVE PROCEDURE
Connect the distortion meter to AF OUT.
Adjust L403 for minimum distortion.

4. AF LINE LEVEL ADJUSTMENT

Connect the AF voltmeter to the AF OUT (J906 pin 14.
Set signal generator as described in paragraph 3.
Adjust R409 for a voltmeter reading of 110 mV ±5 mV.

5. FRONT-END ADJUSTMENT

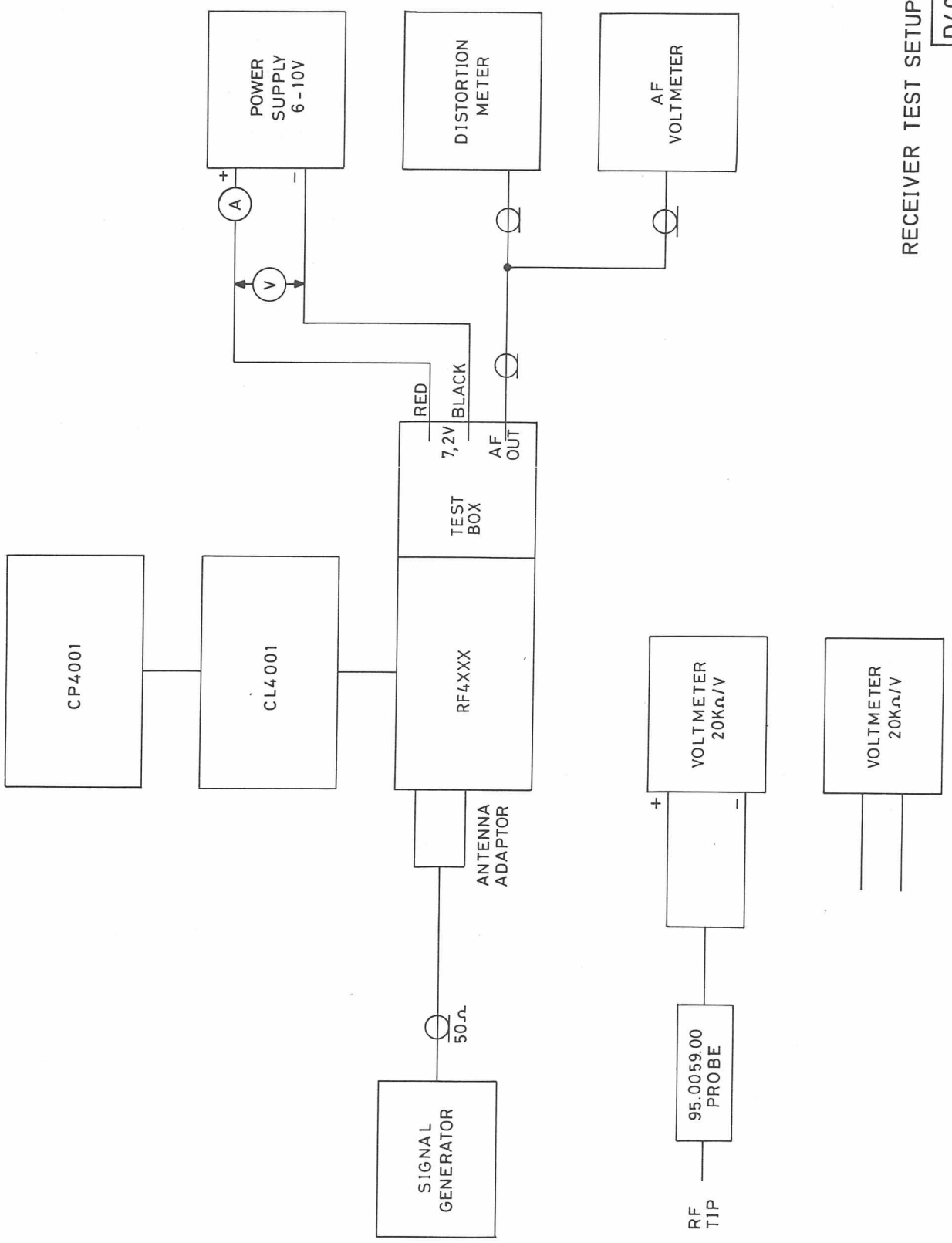
Connect the signal generator to the antenna connector and set its frequency to the channel frequency.

Modulate the signal generator as described in paragraph 3. Adjust the generator output to approx. 12 dB SINAD.
Connect a distortion meter to AF OUT.
Set the LS-LINE switch on the test box to LINE.
Set the SQ switch to cancel.

Adjust the following coils for minimum distortion. L306, L305, L303, L302 and L508.
As the sensitivity increases during the adjustment decrease the signal generator output to maintain 12 dB SINAD.

Repeat the adjustments until no further improvement is possible.

RECEIVER TEST SETUP CQP4XXX D403.281



Check the 12 dB SINAD on both channels, if used.
Requirement: 12 dB SINAD for less than 0.45 uV.

6. SQUELCH ADJUSTMENT

Turn the squelch potentiometer R420 completely anticlockwise to close the squelch.
Open squelch by setting SQ switch to cancel.

Set the signal generator output to the value giving 12 dB SINAD.
Close squelch by setting SQ switch to normal.
Slowly turn R420 clockwise to the point where the squelch just opens.
Vary the signal generator output slowly up and down to obtain the opening and closing level of the squelch.

Squelch opening level: 12 dB SINAD
Squelch closing level: 6-10 dB SINAD

FREQUENCY ADJUSTMENT

The reference oscillator frequency controls both the transmitter and receiver frequencies and final adjustment must be done with the chassis box properly assembled.
Turn the radio off and remove the test box.
Assemble the radio but use the service cabinet to hold the chassis box.
Connect the test box and turn the radio on.
Connect a frequency counter to the signal sampler, refer to transmitter test setup.
Key the transmitter.
Adjust, through the hole in the rear of the service cabinet, the reference oscillator, C533 for nominal frequency.
Requirement:

$F = F_{nom} \pm 0.2$ ppm (40 Hz at 80 MHz)

Switch to channel 2 and verify the frequency. (Channel switching is not possible while transmitting).

ADJUSTMENT OF HELICAL ANTENNA AN4xx1

The AN4xx1 is adjusted by a ferrite slug which can be pulled up or pushed down inside the antenna radiator. The slug should be adjusted to a position where maximum power is being radiated.
Remove the antenna cap for access to the tuning wire (fish line).

Place the field strength indicator in opright position on a non-metallic surface of at least 50x50 cm.

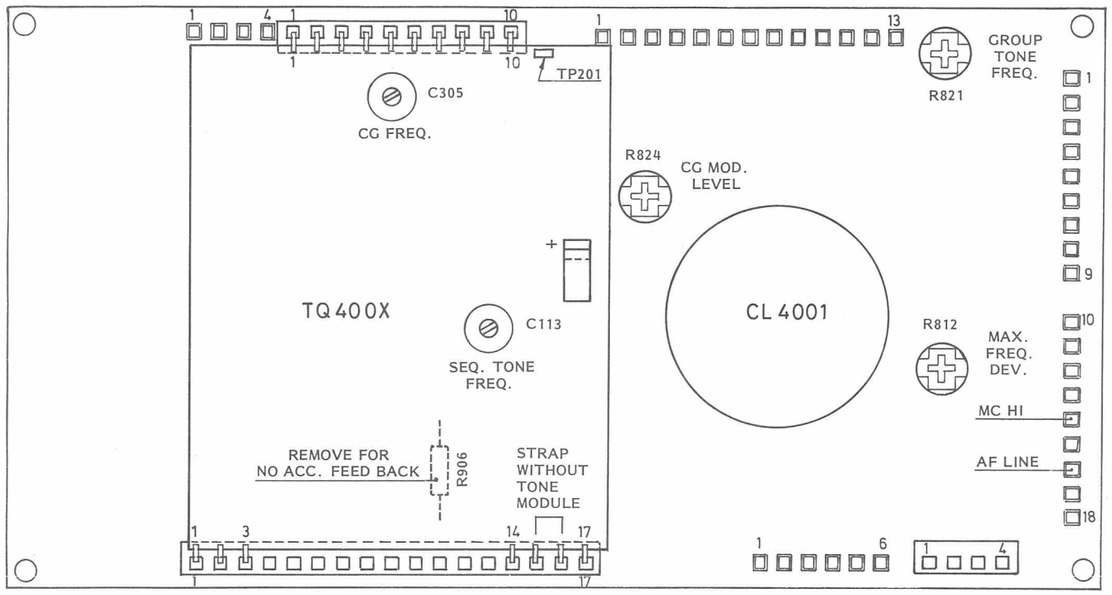
Hold the radio in upright position and key the transmitter.

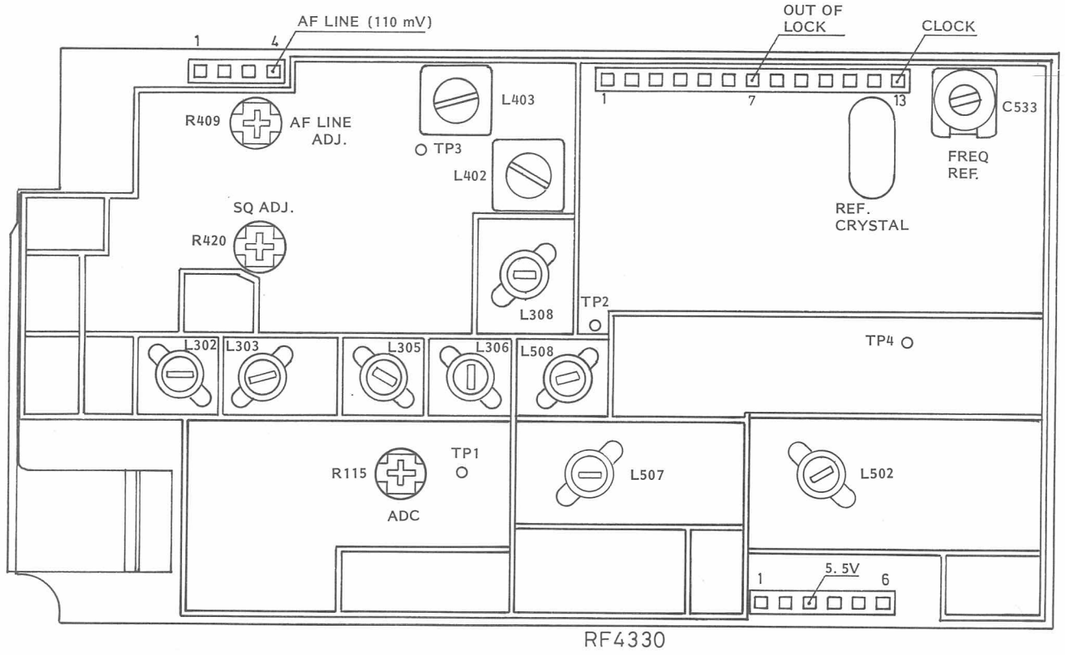
Adjust the distance between the radio and the signal strength indicator for a clear indication of signal pick-up.

Adjust by pulling the tuning slug up or down for maximum signal strength.
This adjustment is sensitive to proximity effects and the hand's position, and several positions should be tried for optimum result-check current drain which should not exceeding 1 A.
Lock the tuning wire with the conical insert and cut the wire.

Mount antenna cap.

Note:
If a signal strength indicator D37 is not available a diode probe with a signal pickup wire and a multimeter or a deviation meter with a signal strength meter can be used to measure the radiated power.





RF4330

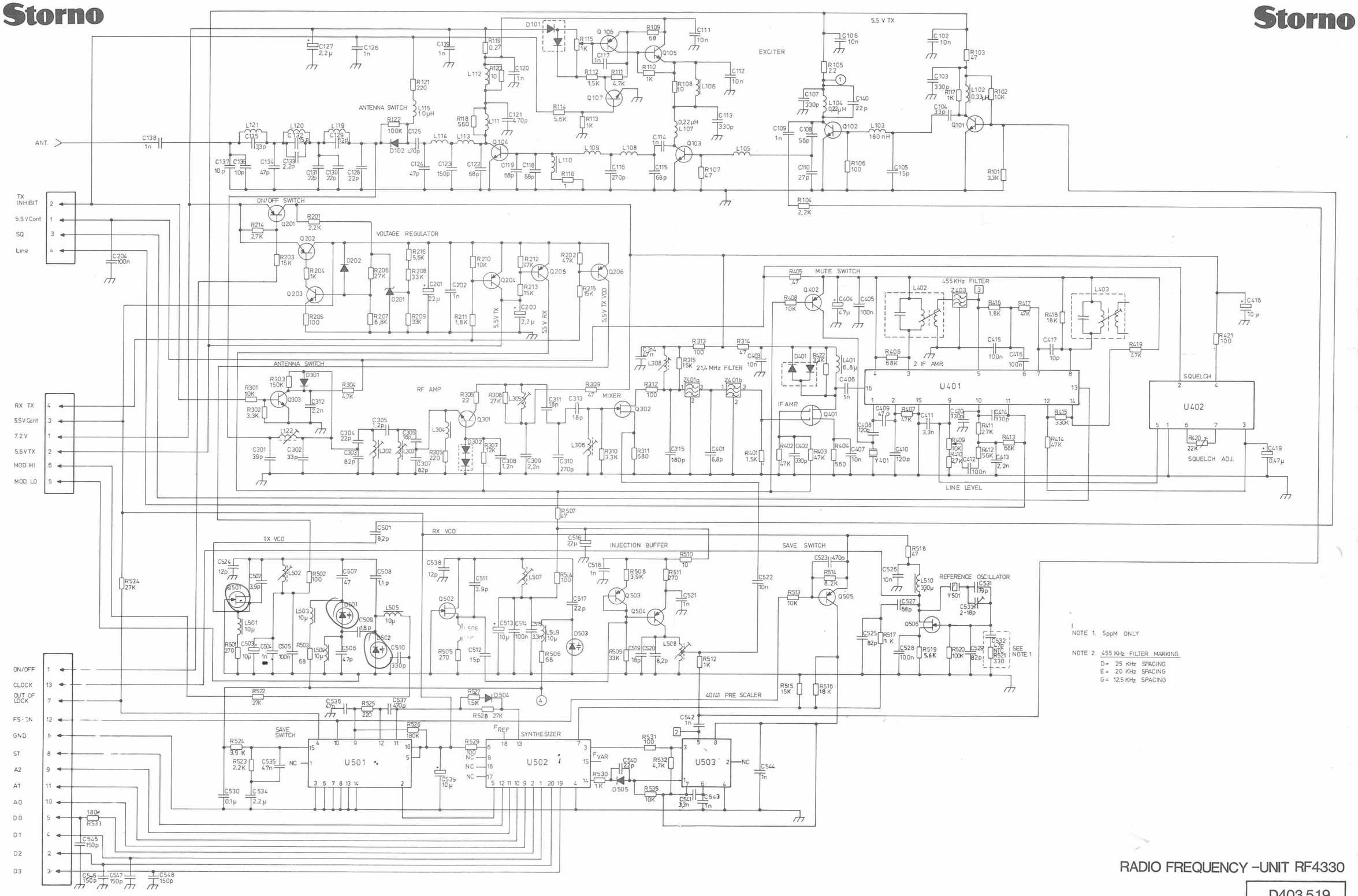
TEST POINTS & ADJUSTABLE COMPONENTS

TQ400X,CL4001,RF4330

D403.464

Storno

Storno



NOTE 1. 5ppM ONLY

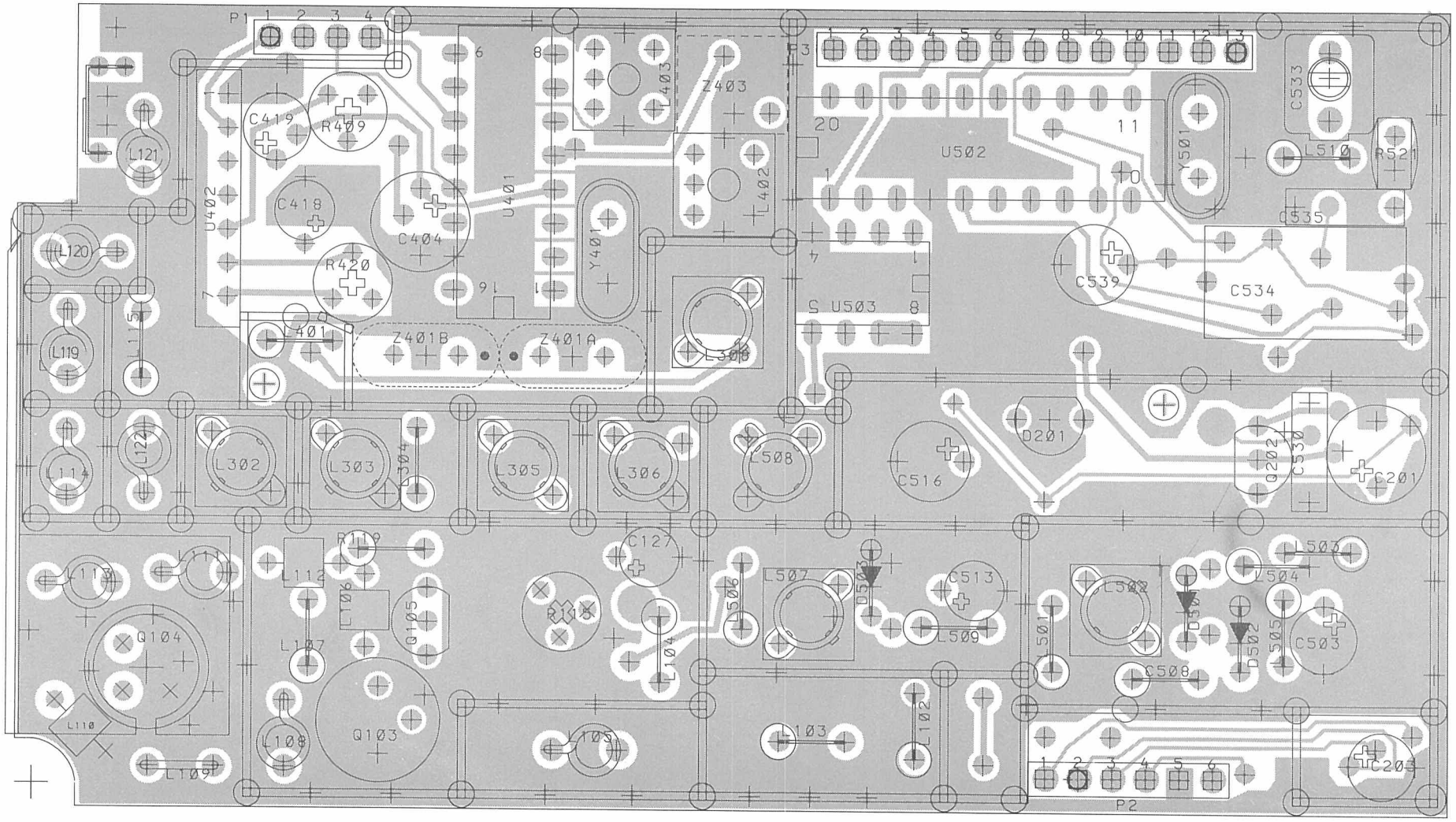
NOTE 2. 455 KHz FILTER MARKING

D = 25 KHz SPACING
E = 20 KHz SPACING
G = 12,5 KHz SPACING

RADIO FREQUENCY -UNIT RF4330

D403.519

Storno



RADIO FREQUENCY-UNIT RF 4330

COMPONENT LAY-OUT

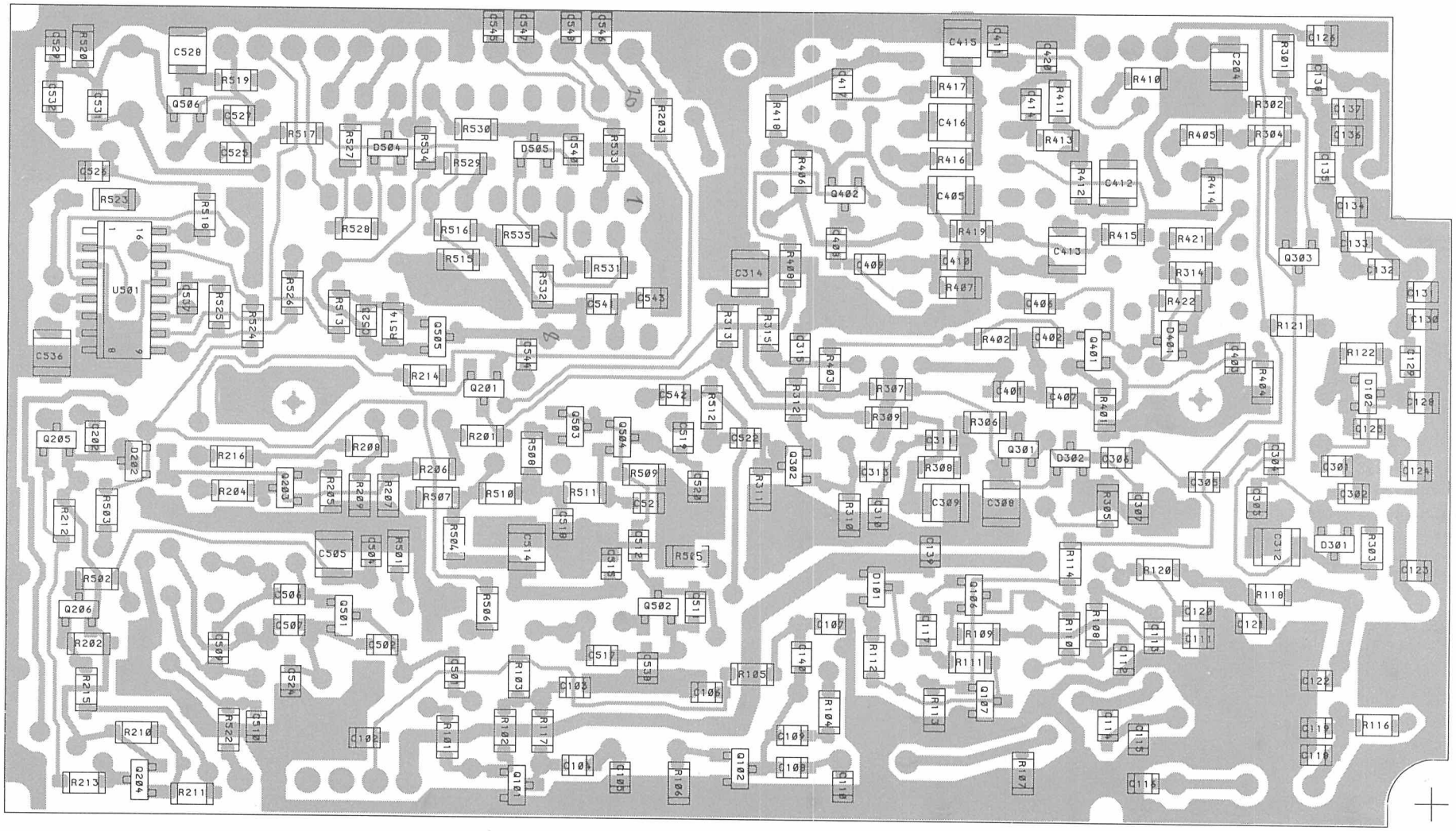
COMPONENT SIDE

CODE NO. M905652G1

D403.520

Storno

Storno



RADIO FREQUENCY-UNIT RF4330

COMPONENT SIDE

CHIP SIDE

CODE NO. M905652G1

D403.521

ITEM NUMBER	DESCRIPTION
M905652G1	CPNT BD RF 433X

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
	A701332P4	DISK -INSULAT.	1
Q103	J706145P1	TSTR	1
	J706281P7	CORE	6
L109	J707256P4	COIL FIX	1
U502	J707337P1	INT CKT	1
L106	J707339G1	COIL FIX ASM	1
L110	J707339G1	COIL FIX ASM	1
L112	J707339G1	COIL FIX ASM	1
U503	J707374P1	INT CKT SP8793	1
L508	J707375P1	COIL VAR	1
R108	J707385P100	RES MFILM 10 OHM 0,125W	1
R120	J707385P100	RES MFILM 10 OHM 0,125W	1
R510	J707385P100	RES MFILM 10 OHM 0,125W	1
R106	J707385P101	RES MFILM 100 OHM 0,125W	1
R205	J707385P101	RES MFILM 100 OHM 0,125W	1
R312	J707385P101	RES MFILM 100 OHM 0,125W	1
R313	J707385P101	RES MFILM 100 OHM 0,125W	1
R421	J707385P101	RES MFILM 100 OHM 0,125W	1
R502	J707385P101	RES MFILM 100 OHM 0,125W	1
R504	J707385P101	RES MFILM 100 OHM 0,125W	1
R529	J707385P101	RES MFILM 100 OHM 0,125W	1
R531	J707385P101	RES MFILM 100 OHM 0,125W	1
R110	J707385P102	RES MFILM 1K OHM 0,125W	1
R113	J707385P102	RES MFILM 1K OHM 0,125W	1
R117	J707385P102	RES MFILM 1K OHM 0,125W	1
R204	J707385P102	RES MFILM 1K OHM 0,125W	1
R512	J707385P102	RES MFILM 1K OHM 0,125W	1
R517	J707385P102	RES MFILM 1K OHM 0,125W	1
R530	J707385P102	RES MFILM 1K OHM 0,125W	1
R102	J707385P103	RES MFILM 10K OHM 0,125W	1
R210	J707385P103	RES MFILM 10K OHM 0,125W	1
R301	J707385P103	RES MFILM 10K OHM 0,125W	1
R408	J707385P103	RES MFILM 10K OHM 0,125W	1
R513	J707385P103	RES MFILM 10K OHM 0,125W	1
R535	J707385P103	RES MFILM 10K OHM 0,125W	1
R122	J707385P104	RES MFILM 100K OHM 0,125W	1
R520	J707385P104	RES MFILM 100K OHM 0,125W	1
R307	J707385P123	RES MFILM 12K OHM 0,125W	1
R112	J707385P152	RES MFILM 1,5K OHM 0,125W	1
R401	J707385P152	RES MFILM 1,5K OHM 0,125W	1
R527	J707385P152	RES MFILM 1,5K OHM 0,125W	1
R203	J707385P153	RES MFILM 15K OHM 0,125W	1
R213	J707385P153	RES MFILM 15K OHM 0,125W	1
R215	J707385P153	RES MFILM 15K OHM 0,125W	1
R315	J707385P153	RES MFILM 15K OHM 0,125W	1
R515	J707385P153	RES MFILM 15K OHM 0,125W	1
R303	J707385P154	RES MFILM 150K OHM 0,125W	1
R211	J707385P182	RES MFILM 1,8K OHM 0,125W	1
R416	J707385P182	RES MFILM 1,8K OHM 0,125W	1
R418	J707385P183	RES MFILM 18K OHM 0,125W	1
R516	J707385P183	RES MFILM 18K OHM 0,125W	1
R526	J707385P184	RES MFILM 180K OHM 0,125W	1
R533	J707385P184	RES MFILM 180K OHM 0,125W	1
R105	J707385P220	RES MFILM 22 OHM 0,125W	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
R306	J707385P220	RES MFILM 22 OHM 0,125W	1
R121	J707385P221	RES MFILM 220 OHM 0,125W	1
R305	J707385P221	RES MFILM 220 OHM 0,125W	1
R525	J707385P221	RES MFILM 220 OHM 0,125W	1
R104	J707385P222	RES MFILM 2,2K OHM 0,125W	1
R201	J707385P222	RES MFILM 2,2K OHM 0,125W	1
R523	J707385P222	RES MFILM 2,2K OHM 0,125W	1
R501	J707385P271	RES MFILM 270 OHM 0,125W	1
R505	J707385P271	RES MFILM 270 OHM 0,125W	1
R511	J707385P271	RES MFILM 270 OHM 0,125W	1
R214	J707385P272	RES MFILM 2,7K OHM 0,125W	1
R308	J707385P272	RES MFILM 2,7K OHM 0,125W	1
R410	J707385P272	RES MFILM 2,7K OHM 0,125W	1
R206	J707385P273	RES MFILM 27K OHM 0,125W	1
R411	J707385P273	RES MFILM 27K OHM 0,125W	1
R522	J707385P273	RES MFILM 27K OHM 0,125W	1
R528	J707385P273	RES MFILM 27K OHM 0,125W	1
R534	J707385P273	RES MFILM 27K OHM 0,125W	1
R101	J707385P332	RES MFILM 3,3K OHM 0,125W	1
R302	J707385P332	RES MFILM 3,3K OHM 0,125W	1
R310	J707385P332	RES MFILM 3,3K OHM 0,125W	1
R422	J707385P332	RES MFILM 3,3K OHM 0,125W	1
R208	J707385P333	RES MFILM 33K OHM 0,125W	1
R209	J707385P333	RES MFILM 33K OHM 0,125W	1
R509	J707385P333	RES MFILM 33K OHM 0,125W	1
R415	J707385P334	RES MFILM 330K OHM 0,125W	1
R508	J707385P392	RES MFILM 3,9K OHM 0,125W	1
R524	J707385P392	RES MFILM 3,9K OHM 0,125W	1
R103	J707385P470	RES MFILM 47 OHM 0,125W	1
R107	J707385P470	RES MFILM 47 OHM 0,125W	1
R309	J707385P470	RES MFILM 47 OHM 0,125W	1
R314	J707385P470	RES MFILM 47 OHM 0,125W	1
R405	J707385P470	RES MFILM 47 OHM 0,125W	1
R507	J707385P470	RES MFILM 47 OHM 0,125W	1
R518	J707385P470	RES MFILM 47 OHM 0,125W	1
R111	J707385P472	RES MFILM 4,7K OHM 0,125W	1
R304	J707385P472	RES MFILM 4,7K OHM 0,125W	1
R532	J707385P472	RES MFILM 4,7K OHM 0,125W	1
R202	J707385P473	RES MFILM 47K OHM 0,125W	1
R212	J707385P473	RES MFILM 47K OHM 0,125W	1
R402	J707385P473	RES MFILM 47K OHM 0,125W	1
R403	J707385P473	RES MFILM 47K OHM 0,125W	1
R407	J707385P473	RES MFILM 47K OHM 0,125W	1
R414	J707385P473	RES MFILM 47K OHM 0,125W	1
R417	J707385P473	RES MFILM 47K OHM 0,125W	1
R419	J707385P473	RES MFILM 47K OHM 0,125W	1
R118	J707385P560	RES MFILM 56 OHM 0,125W	1
R404	J707385P561	RES MFILM 560 OHM 0,125W	1
R114	J707385P562	RES MFILM 5,6K OHM 0,125W	1
R216	J707385P562	RES MFILM 5,6K OHM 0,125W	1
R519	J707385P562	RES MFILM 5,6K OHM 0,125W	1
R412	J707385P563	RES MFILM 56K OHM 0,125W	1
R109	J707385P680	RES MFILM 68 OHM 0,125W	1
R503	J707385P680	RES MFILM 68 OHM 0,125W	1
R506	J707385P680	RES MFILM 68 OHM 0,125W	1
R311	J707385P681	RES MFILM 680 OHM 0,125W	1
R207	J707385P682	RES MFILM 6,8K OHM 0,125W	1
R406	J707385P683	RES MFILM 68K OHM 0,125W	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
R413	J707385P683	RES MFILM 68K OHM 0,125W	1
R514	J707385P822	RES MFILM 8,2K OHM 0,125W	1
R116	J707385P910	RES MFILM 91 OHM 0,125W	1
Q107	J707386P1	TSTR BCW 32	1
Q203	J707386P1	TSTR BCW 32	1
Q303	J707386P1	TSTR BCW 32	1
Q106	J707387P1	TSTR BCW 30	1
Q201	J707387P1	TSTR BCW 30	1
Q205	J707387P1	TSTR BCW 30	1
Q206	J707387P1	TSTR BCW 30	1
Q402	J707387P1	TSTR BCW 30	1
Q503	J707387P1	TSTR BCW 30	1
Q505	J707387P1	TSTR BCW 30	1
Q101	J707388P1	TSTR	1
Q102	J707388P1	TSTR	1
D101	J707389P1	DIO SI	1
D302	J707389P1	DIO SI	1
D401	J707389P1	DIO SI	1
D202	J707390P1	DIO SI BAV 70	1
D504	J707390P1	DIO SI BAV 70	1
D505	J707390P1	DIO SI BAV 70	1
D102	J707391P1	DIO SI	1
D301	J707391P1	DIO SI	1
R521	J707406P1	RES NTC 330 OHM	1
C535	J707412P7	CAP POL 47NF 100V	1
C530	J707412P9	CAP PYES 0,1MF 63V	1
Q301	J707418P1	TSTR	1
Q302	J707419P1	FLD EFF	1
Q501	J707419P1	FLD EFF	1
Q502	J707419P1	FLD EFF	1
Q506	J707419P1	FLD EFF	1
L502	J707422P2	COIL VAR	1
L308	J707422P3	COIL VAR	1
L507	J707422P4	COIL VAR	1
L302	J707422P5	COIL VAR	1
L303	J707422P5	COIL VAR	1
L305	J707422P5	COIL VAR	1
L306	J707422P5	COIL VAR	1
L121	J707426P10	COIL FIX	1
L113	J707426P2	COIL FIX	1
L105	J707426P5	COIL FIX	1
L108	J707426P5	COIL FIX	1
L111	J707426P5	COIL FIX	1
L114	J707426P6	COIL FIX	1
L119	J707426P9	COIL FIX	1
L120	J707426P9	COIL FIX	1
Q504	J707430P1	TSTR	1
L402	J707431P1	COIL VAR	1
L403	J707431P1	COIL VAR	1
Q204	J707432P1	TSTR BCX18	1
Q401	J707433P1	FLD EFF	1
U501	J707434P2	INT CKT 4053/SO16	1
Q202	J707435P1	TSTR	1
C401	J707436P11	CAP CER 6,8PF 50V	1
C501	J707436P12	CAP CER 8,2PF 50V	1
C520	J707436P12	CAP CER 8,2PF 50V	1
C136	J707436P13	CAP CER 10PF 50V	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C137	J707436P13	CAP CER 10PF 50V	1
C417	J707436P13	CAP CER 10PF 50V	1
C129	J707436P17	CAP CER 12PF 50V	1
C524	J707436P17	CAP CER 12PF 50V	1
C538	J707436P17	CAP CER 12PF 50V	1
C305	J707436P2	CAP CER 1,2PF 50V	1
C105	J707436P21	CAP CER 15PF 50V	1
C132	J707436P21	CAP CER 15PF 50V	1
C512	J707436P21	CAP CER 15PF 50V	1
C306	J707436P25	CAP CER 18PF 50V	1
C311	J707436P25	CAP CER 18PF 50V	1
C313	J707436P25	CAP CER 18PF 50V	1
C519	J707436P25	CAP CER 18PF 50V	1
C128	J707436P29	CAP CER 22PF 50V	1
C130	J707436P29	CAP CER 22PF 50V	1
C131	J707436P29	CAP CER 22PF 50V	1
C140	J707436P29	CAP CER 22PF 50V	1
C304	J707436P29	CAP CER 22PF 50V	1
C517	J707436P29	CAP CER 22PF 50V	1
C540	J707436P29	CAP CER 22PF 50V	1
C110	J707436P33	CAP CER 27PF 50V	1
C104	J707436P37	CAP CER 33PF 50V	1
C302	J707436P37	CAP CER 33PF 50V	1
C509	J707436P4	CAP CER 1,8PF 50V	1
C301	J707436P41	CAP CER 39PF 50V	1
C531	J707436P41	CAP CER 39PF 50V	1
C124	J707436P45	CAP CER 47PF 50V	1
C134	J707436P45	CAP CER 47PF 50V	1
C409	J707436P45	CAP CER 47PF 50V	1
C506	J707436P45	CAP CER 47PF 50V	1
C507	J707436P45	CAP CER 47PF 50V	1
C108	J707436P49	CAP CER 56PF 50V	1
C133	J707436P5	CAP CER 2,2PF 50V	1
C115	J707436P53	CAP CER 68PF 50V	1
C118	J707436P53	CAP CER 68PF 50V	1
C119	J707436P53	CAP CER 68PF 50V	1
C122	J707436P53	CAP CER 68PF 50V	1
C527	J707436P53	CAP CER 68PF 50V	1
C303	J707436P57	CAP CER 82PF 50V	1
C307	J707436P57	CAP CER 82PF 50V	1
C525	J707436P57	CAP CER 82PF 50V	1
C529	J707436P57	CAP CER 82PF 50V	1
C408	J707436P63	CAP CER 120PF 50V	1
C410	J707436P63	CAP CER 120PF 50V	1
C123	J707436P65	CAP CER 150PF 50V	1
C545	J707436P65	CAP CER 150PF 50V	1
C546	J707436P65	CAP CER 150PF 50V	1
C547	J707436P65	CAP CER 150PF 50V	1
C548	J707436P65	CAP CER 150PF 50V	1
C315	J707436P67	CAP CER 180PF 50V	1
C135	J707436P7	CAP CER 3,3PF 50V	1
C116	J707436P71	CAP CER 270PF 50V	1
C310	J707436P71	CAP CER 270PF 50V	1
C103	J707436P73	CAP CER 330PF 50V	1
C107	J707436P73	CAP CER 330PF 50V	1
C113	J707436P73	CAP CER 330PF 50V	1
C402	J707436P73	CAP CER 330PF 50V	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C414	J707436P73	CAP CER 330PF 50V	1
C420	J707436P73	CAP CER 330PF 50V	1
C510	J707436P73	CAP CER 330PF 50V	1
C125	J707436P77	CAP CER 470PF 50V	1
C502	J707436P8	CAP CER 3,9PF 50V	1
C511	J707436P8	CAP CER 3,9PF 50V	1
C308	J707436P87	CAP CER 1,2NF 50V	1
C532	J707436P9	CAP CER 4,7PF 50V	1
C309	J707436P93	CAP CER 2,2NF 50V	1
C312	J707436P93	CAP CER 2,2NF 50V	1
C413	J707436P93	CAP CER 2,2NF 50V	1
C102	J707438P14	CAP CER 10NF 50V	1
C106	J707438P14	CAP CER 10NF 50V	1
C111	J707438P14	CAP CER 10NF 50V	1
C112	J707438P14	CAP CER 10NF 50V	1
C403	J707438P14	CAP CER 10NF 50V	1
C407	J707438P14	CAP CER 10NF 50V	1
C522	J707438P14	CAP CER 10NF 50V	1
C526	J707438P14	CAP CER 10NF 50V	1
C314	J707438P22	CAP CER 47NF 50V	1
C536	J707438P22	CAP CER 47NF 50V	1
C204	J707438P26	CAP CER 100NF 50V	1
C405	J707438P26	CAP CER 100NF 50V	1
C412	J707438P26	CAP CER 100NF 50V	1
C415	J707438P26	CAP CER 100NF 50V	1
C416	J707438P26	CAP CER 100NF 50V	1
C505	J707438P26	CAP CER 100NF 50V	1
C514	J707438P26	CAP CER 100NF 50V	1
C528	J707438P26	CAP CER 100NF 50V	1
C121	J707438P3	CAP CER 470PF 50V	1
C523	J707438P3	CAP CER 470PF 50V	1
C537	J707438P3	CAP CER 470PF 50V	1
C109	J707438P5	CAP CER 1NF 50V	1
C114	J707438P5	CAP CER 1NF 50V	1
C117	J707438P5	CAP CER 1NF 50V	1
C120	J707438P5	CAP CER 1NF 50V	1
C126	J707438P5	CAP CER 1NF 50V	1
C138	J707438P5	CAP CER 1NF 50V	1
C139	J707438P5	CAP CER 1NF 50V	1
C202	J707438P5	CAP CER 1NF 50V	1
C406	J707438P5	CAP CER 1NF 50V	1
C504	J707438P5	CAP CER 1NF 50V	1
C518	J707438P5	CAP CER 1NF 50V	1
C521	J707438P5	CAP CER 1NF 50V	1
C542	J707438P5	CAP CER 1NF 50V	1
C543	J707438P5	CAP CER 1NF 50V	1
C544	J707438P5	CAP CER 1NF 50V	1
C411	J707438P8	CAP CER 3,3NF 50V	1
C515	J707438P8	CAP CER 3,3NF 50V	1
C541	J707438P8	CAP CER 3,3NF 50V	1
C419	J707444P3	CAP TA 0,47 UF 35V	1
C127	J707444P5	CAP TA 2,2 UF 35V	1
C203	J707444P5	CAP TA 2,2 UF 35V	1
C516	J707444P5	CAP TA 2,2 UF 35V	1
C418	J707444P7	CAP TA 10 UF 16V	1
C503	J707444P7	CAP TA 10 UF 16V	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C513	J707444P7	CAP TA 10 UF 16V	1
C539	J707444P7	CAP TA 10 UF 16V	1
C201	J707444P8	CAP TA 22MF 16V	1
C404	J707444P9	CAP TA 47MF 6,3V	1
D201	J707448P1	DIO REF	1
U401	J707449P1	INT CKT MC3357	1
C533	J707475P1	CAP VAR	1
R409	J707478P10	RES VAR 10K OHM 0,05W	1
R420	J707478P12	RES VAR 22K OHM 0,05W	1
R115	J707478P4	RES VAR 1K OHM 0,05W	1
C508	J707483P7	CAP PHEN 1,0 PF 500V	1
L304	J707486P2	COIL	1
L401	J707486P3	COIL,RF,FIXED	1
L115	J707486P4	COIL,RF,FIXED	1
L501	J707486P4	COIL,RF,FIXED	1
L503	J707486P4	COIL,RF,FIXED	1
L504	J707486P4	COIL,RF,FIXED	1
L505	J707486P4	COIL,RF,FIXED	1
L506	J707486P4	COIL,RF,FIXED	1
L509	J707486P4	COIL,RF,FIXED	1
L510	J707486P5	COIL	1
L103	J707486P7	COIL FIX 0,18 MH	1
L102	J707486P8	COIL FIX 0,33 MH	1
L104	J707486P9	COIL FIX 0,22 MH	1
L107	J707486P9	COIL FIX 0,22 MH	1
L119	J707486P9	COIL FIX 0,22 MH	1
L120	J707486P9	COIL FIX 0,22 MH	1
C534	J707612P1	CAP POL 2,2MF 100V	1
Q105	J707673P1	TSTR NPN SI BC 368	1
Q104	J707868P1	TSTR	1
D501	J707928P1	DIO VAR CAP	1
D502	J707928P1	DIO VAR CAP	1
D503	J707928P1	DIO VAR CAP	1
L122	J707934G1	COIL ASM	1
R119	J707945P1	RES WW 0,27 OHM	1
P101	J707962G1	PLG ASM , 4 PIN	1
P102	J707962G2	PLG ASM , 6 PIN	1
P103	J707962G3	PLG ASM , 13 PIN	1
	K805347G1	SHIELD MET.	1
	L855385P1	SPRING FOR ANT.	1
	L855470P1	HEAT - SINK	1
U402	M905492G1	INT CKT SQ4001	1

ITEM NUMBER	DESCRIPTION
J707942G1	RF 4332

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
0002	J706804P2	WASH,INSULATION	2
Z401	J707310P1	FLT 21,4MHZ	1
Z403	J707446P1	FLT 455KHZ	1
A001	M905652G1	CPNT BD RF 433X	1

ITEM NUMBER	DESCRIPTION
J707942G2	RF 4333

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
0002	J706804P2	WASH,INSULATION	2
Z401	J707310P2	FLT 21,4MHZ	1
Z403	J707446P3	FLT 455KHZ	1
A001	M905652G1	CPNT BD RF 433X	1

ITEM NUMBER	DESCRIPTION
J707942G3	RF 4334

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
0002	J706804P2	WASH,INSULATION	2
Z401	J707310P3	FLT 21,4MHZ	1
Z403	J707446P4	FLT 455KHZ	1
A001	M905652G1	CPNT BD RF 433X	1

2/10 CHANNELS VERSION

- ADJUSTMENT PROCEDURE
- TEST POINTS AND ADJUSTABLE COMPONENTS

ADJUSTMENT PROCEDURE

CQP4330

This adjustment procedure applies to the following types of STORNOPHONE 4000 radios:

CQP4332: 66-88 MHz - 25 kHz channel spacing
CQP4333: 66-88 MHz - 20 kHz channel spacing
CQP4334: 66-88 MHz - 12.5 kHz channel spacing

Before making adjustments to the radio circuit, read the type label and note the channel frequencies and the tone system coding.
Also check the personality PROM and its data against the type label information.

MEASURING INSTRUMENTS

The following measuring instruments are necessary for making service and adjustments to the CQP4330:

RF Signal Generator	66-88 MHz
AF Voltmeter	Z_i >0.5 Mohm
Multimeter	20 Kohm/V
Distortion meter	
Deviation meter	
Watt meter	0-2.5 W
AF Generator 50 Hz-5 kHz	Z_{out} ≥600 ohm
Frequency counter	5-200 MHz/50 mV
Power Supply	6-10 V/2 A
Signal Sampler	Storno D52
RF diode probe	Storno 95.0059-00
RF coil tuning tool	Storno 17.0053-00
Ref. oscillator tuning tool	Storno 19J707496G1
Test adaptor	SE4002 19K805371G1
Service kit	SE4003 19J707744G1
Consisting of service cabinet and antenna adaptor	
Extension cables	CC4001 19J707704G1

DISMANTLING OF CQP4000

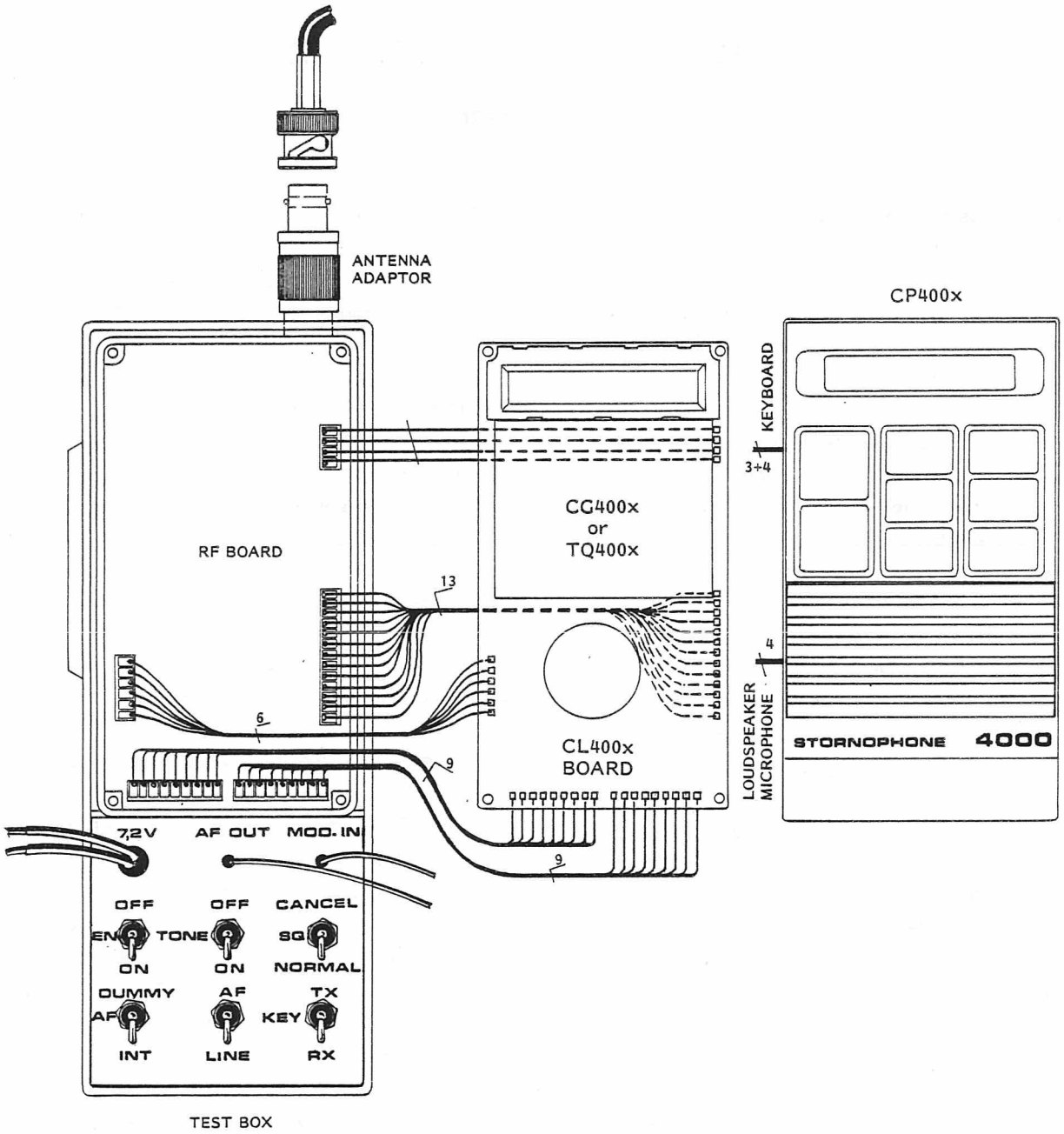
Before the CQP4000 can be adjusted the radio must be dismantled for access to all test points and adjustable components.

- Remove the battery, if inserted.
- Remove the two rear screws holding the cabinet.
- Remove the chassis box.
- Remove the four corner screws holding the front.
- Open the chassis box, carefully, without damaging the contact fingers on the rim.
- Take the CL400x board and the RF4330 board apart.
- Connect the CL400x board to the RF4330 board by means of the extension cables.
- Insert the chassis box in the service cabinet and firmly press the RF board to the bottom of the chassis box to establish good ground connections.
- Attach the antenna adaptor.
- Insert the test box in the battery compartment.
- The STORNOPHONE 4000 is now prepared for adjustment.

TRANSMITTER ADJUSTMENT

Refer to transmitter test setup.
Set the power supply voltage to 7.2 V.
Turn the radio on in receive mode and measure the current consumption.

Requirement: less than 30 mA.
Connect the voltmeter to the +5.5 V test point.
Read the 5.5 V regulated voltage.



TEST SETUP
STORNOPHONE 4000

D403.279/3

1. SYNTHESIZER REFERENCE FREQUENCY ADJUSTMENT

Connect the frequency counter to P3 pin 13- CLOCK.
Read the reference frequency.
Check the reference crystal's frequency (6.4 MHz or 6.5 MHz).
Adjust C533 for f_{nom} ±10 Hz.

Note:
The final adjustment of the reference frequency is performed later with closed chassis box.

2. TRANSMITTER VCO ADJUSTMENT

Set the ADC potentiometer to minimum, anti-clockwise.
Key the transmitter and read the current drain.
Requirement: less than 1 A.
Connect the voltmeter to P3 pin 7, OUT OF LOCK signal.
Adjust L502 for 0 V steady ready reading on the voltmeter. Connect the voltmeter to TP4.

Adjust L502 for a reading of 3 Volts. Adjust L502 so that the reading for each channel is inside the tuning range, 1 - 4 V.
The channel with the lowest frequency has the lowest voltage reading.

3. TRANSMITTER POWER OUTPUT ADJUSTMENT

Connect the wattmeter to the antenna connector.
Adjust ADC potentiometer R115 for rated output power according to the type designation.
Note:
The current drain at rated output power must not exceed 1 A.

4. TRANSMITTER FREQUENCY ADJUSTMENT

Connect the wattmeter to the antenna connector through the signal sampler.
Connect the frequency counter to the signal sampler.
Key the transmitter and read the frequency.
Adjust C533 for correct frequency. (C533 is fine adjusted later with closed chassis box).
Requirement: F_{nom} ±0.2 ppm (40 Hz at 80 MHz)
Deenergize the transmitter.
Select next channel.
Key the transmitter and check for correct output frequency for each channel.

NOTE:
Adjustment of the transmitter frequency which also adjusts the receiver for correct frequency is done later when the chassis box is closed.

5. TRANSMITTER MODULATION ADJUSTMENT

Connect the deviation meter to the signal sampler.
Connect the AF generator to MOD IN on the test box.
Set the AF generator frequency to 1000 Hz and the output as follows:
1100 mV with test box (11:1 built-in attenuator)

Vary the AF frequency between 100 Hz and 3000 Hz and find peak deviation. Check the frequency for both + and - deviation. At the frequency producing peak deviation adjust R812 for maximum system deviation.

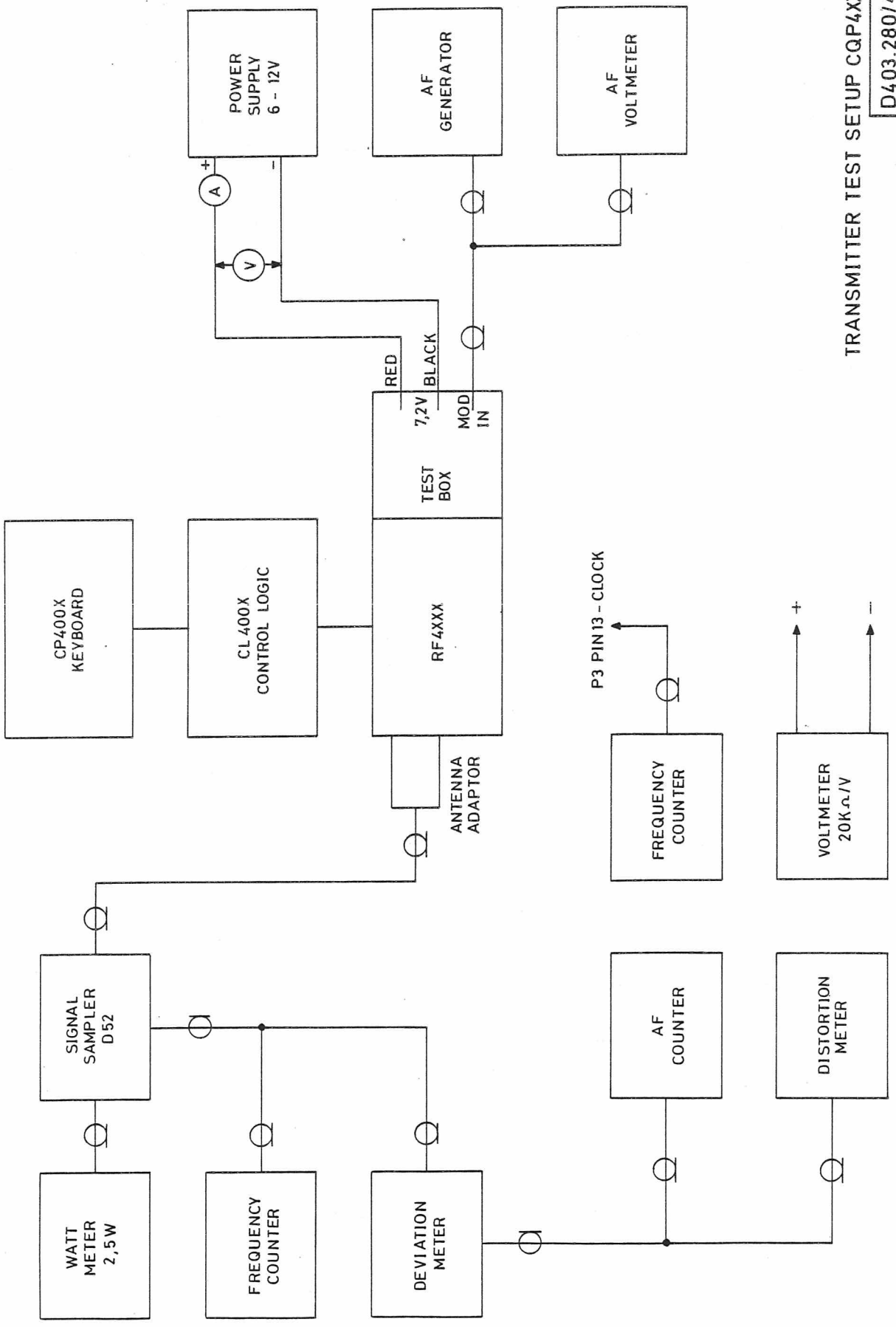
CQP4332: ±5 kHz
CQP4333: ±4 kHz
CQP4334: ±2.5 kHz

Set the AF generator frequency to 1000 Hz.
Reduce the AF generator output until a deviation of 0.7 x maximum deviation is obtained:

CQP4332: ±3.5 kHz
CQP4333: ±2.8 kHz
CQP4334: ±1.75 kHz

Typical generator output is 100 mV.

TRANSMITTER TEST SETUP CQP4XXX D403.280/4



RECEIVER ADJUSTMENT

Refer to receiver test setup.

1. RECEIVER VCO ADJUSTMENT

Connect the voltmeter to P3 pin 7, OUT OF LOCK signal.
Preset coil L508 as follows:
High end of band: 2/3 out of coil.
Low end of band: Fully down in coil form.
Set SQ switch to cancel.
Adjust L507 for 0 V steady reading on the voltmeter. Connect the voltmeter to TP4.
Adjust L507 for a reading of 3 Volts. Adjust L507 so that the reading for each channel is inside the tuning range, 1 - 4 V.
The channel with the lowest frequency has the lowest voltage reading.

2. RECEIVER INJECTION SIGNAL ADJUSTMENT

Connect the diode probe and the voltmeter to TP2.
Adjust L508 for maximum voltmeter reading, 0.2 V ±0.1 V. (L508 is readjusted together with the front-end).

3. IF SIGNAL ADJUSTMENT

Connect the signal generator to the antenna connector and set it to the channel frequency.

Modulate the signal generator with 1000 Hz to 0.7 x maximum system deviation.
CQP4332: ±3.5 kHz
CQP4333: ±2.8 kHz
CQP4334: ±1.75 kHz

Set the signal generator output to 100 mV.

Connect the diode probe and the voltmeter to TP3.
Reduce the signal generator output until voltage reading is less than 1 V.
Adjust L402 and L308 for maximum voltmeter reading.
Connect the AF voltmeter to AF OUT. Set the signal generator output to 100 mV.
Adjust L403 for maximum voltmeter reading.

ALTERNATIVE PROCEDURE
Connect the distortion meter to AF OUT.
Adjust L403 for minimum distortion.

4. AF LINE LEVEL ADJUSTMENT

Connect the AF voltmeter to the AF OUT (J906 pin 14.
Set signal generator as described in paragraph 3.
Adjust R409 for a voltmeter reading of 110 mV ±5 mV.

5. FRONT-END ADJUSTMENT

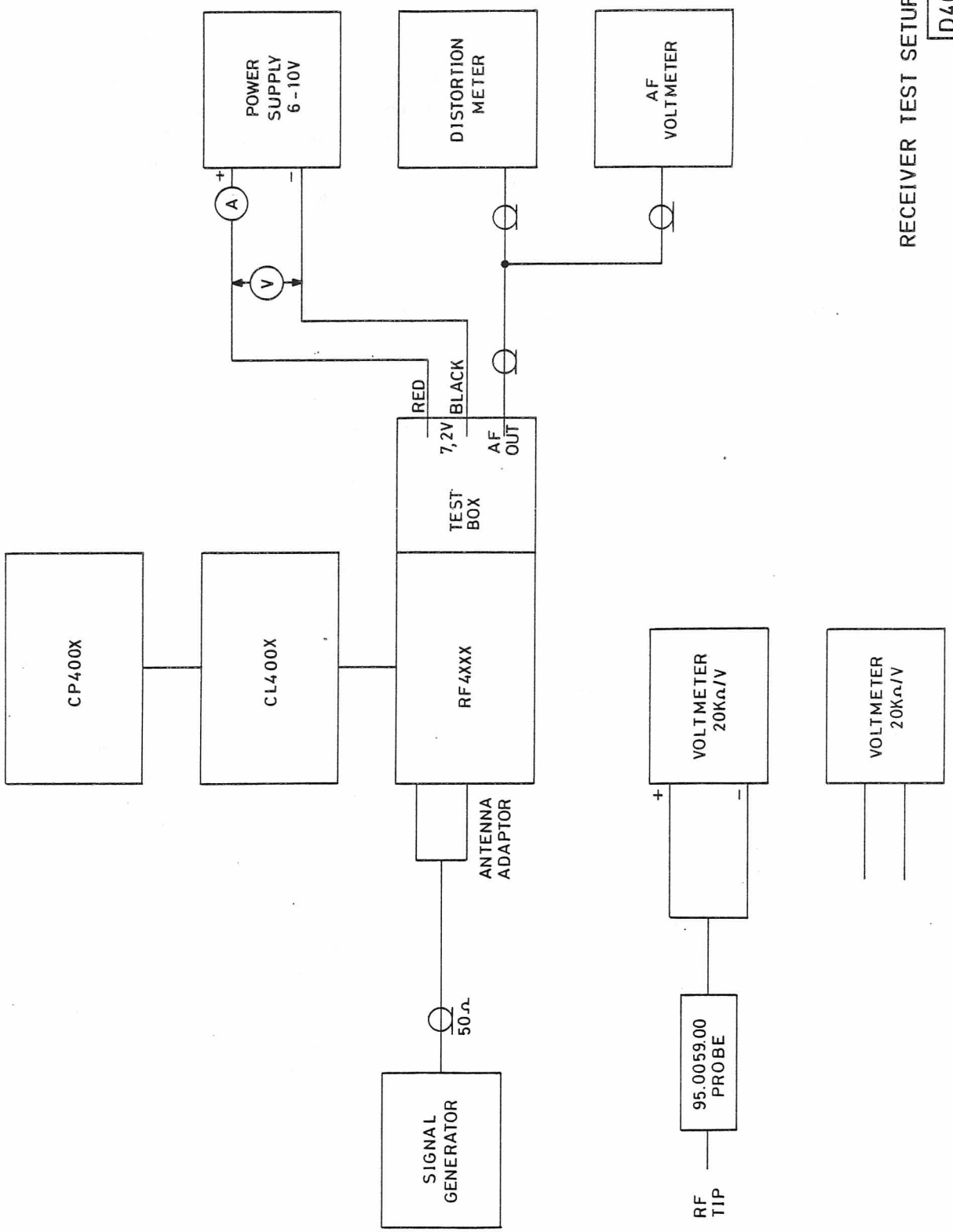
Connect the signal generator to the antenna connector and set its frequency to the channel frequency.

Modulate the signal generator as described in paragraph 3. Adjust the generator output to approx. 12 dB SINAD.
Connect a distortion meter to AF OUT.
Set the LS-LINE switch on the test box to LINE.
Set the SQ switch to cancel.

Adjust the following coils for minimum distortion.
L306, L305, L303, L302, L508 and L308.
As the sensitivity increases during the adjustment decrease the signal generator output to maintain 12 dB SINAD.

Repeat the adjustments until no further improvement is possible.

RECEIVER TEST SETUP CQP4XXX D403.281/4



Check the 12 dB SINAD on all channels.

Requirement: 12 dB SINAD for less than 0.45 uV.

6. SQUELCH ADJUSTMENT

Turn the squelch potentiometer R420 completely anticlockwise to close the squelch.
Open squelch by setting SQ switch to cancel.

Set the signal generator output to the value giving 12 dB SINAD.
Close squelch by setting SQ switch to normal.
Slowly turn R420 clockwise to the point where the squelch just opens.
Vary the signal generator output slowly up and down to obtain the opening and closing level of the squelch.

Squelch opening level: 12 dB SINAD
Squelch closing level: 6-10 dB SINAD

FREQUENCY ADJUSTMENT

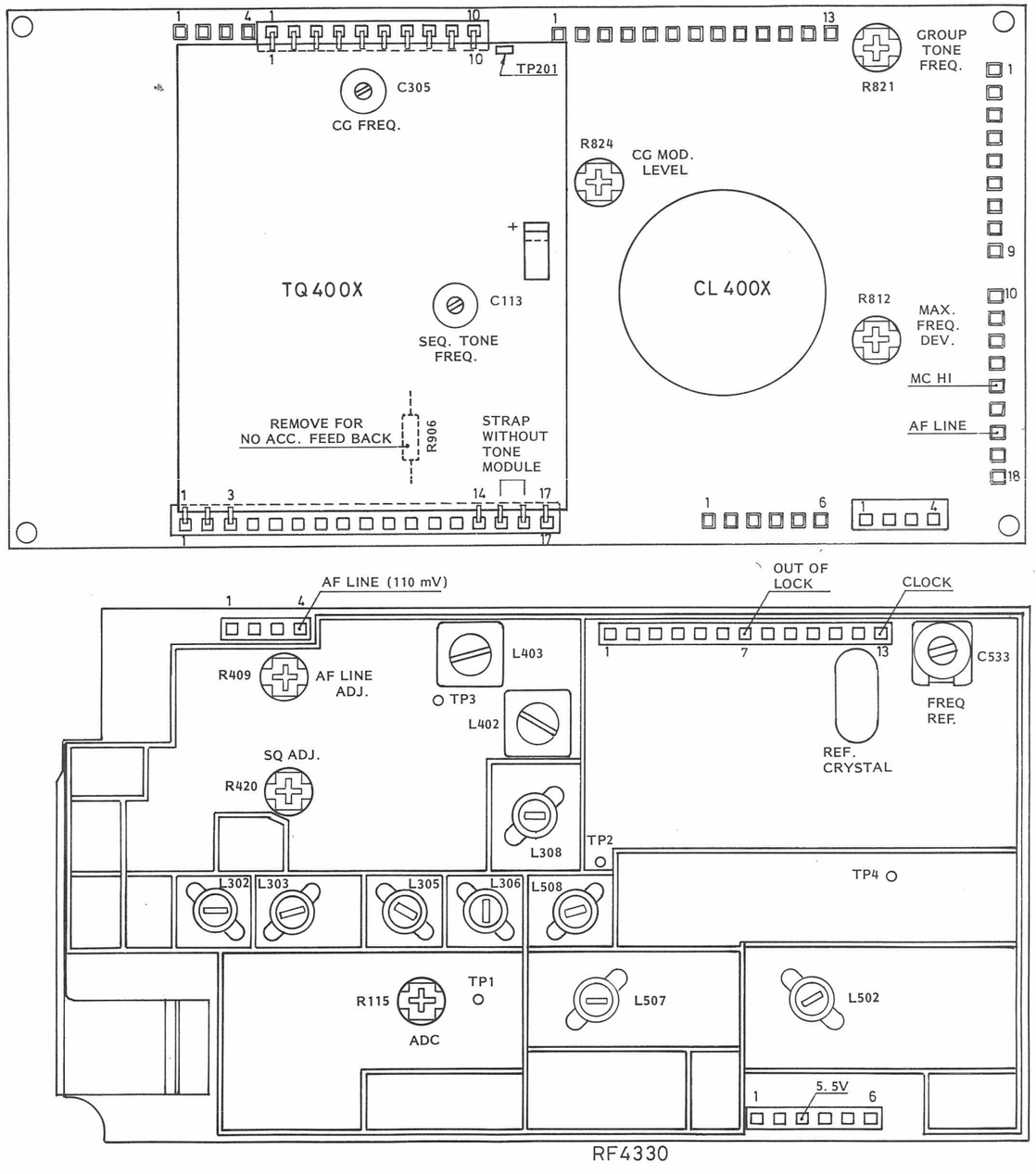
The reference oscillator frequency controls both the transmitter and receiver frequencies and final adjustment must be done with the chassis box properly assembled.
Turn the radio off and remove the test box.
Assemble the radio but use the service cabinet to hold the chassis box.
Connect the test box and turn the radio on.
Connect a frequency counter to the signal sampler, refer to transmitter test setup.

Key the transmitter.
Adjust, through the hole in the rear of the service cabinet, the reference oscillator, C533 for nominal frequency.
Requirement:

$F = F_{nom} \pm 0.2$ ppm (40 Hz at 80 MHz)

Switch to next channel. Verify the frequency for all channels. (Channel switching is not possible while transmitting).

Storno



RF4330

TEST POINTS & ADJUSTABLE COMPONENTS
TQ400X,CL400X,RF4330

D403.464/2

CHAPTER 3b

CQP4330

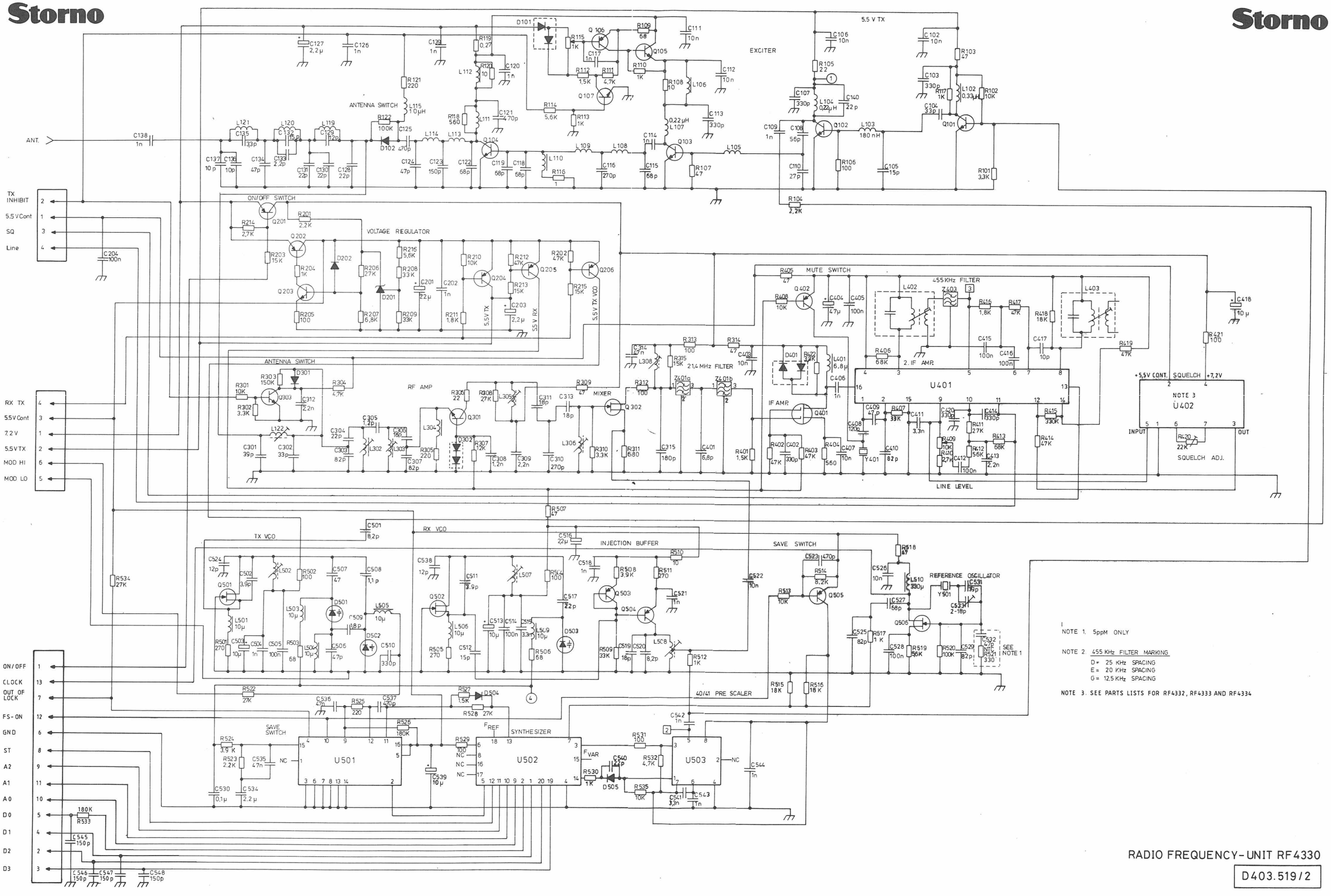
AUTOMATIC VERSION (SEE CHAPTER 2b)

- ADJUSTMENT PROCEDURE
- TEST POINTS AND ADJUSTABLE COMPONENTS

RF BOARD 4330

- ELECTRICAL DIAGRAMS
- COMPONENT LAYOUTS
- PARTS LISTS

Storno



NOTE 1. 5ppM ONLY

NOTE 2. 455 KHz FILTER MARKING

D = 25 KHz SPACING
E = 20 KHz SPACING
G = 12,5 KHz SPACING

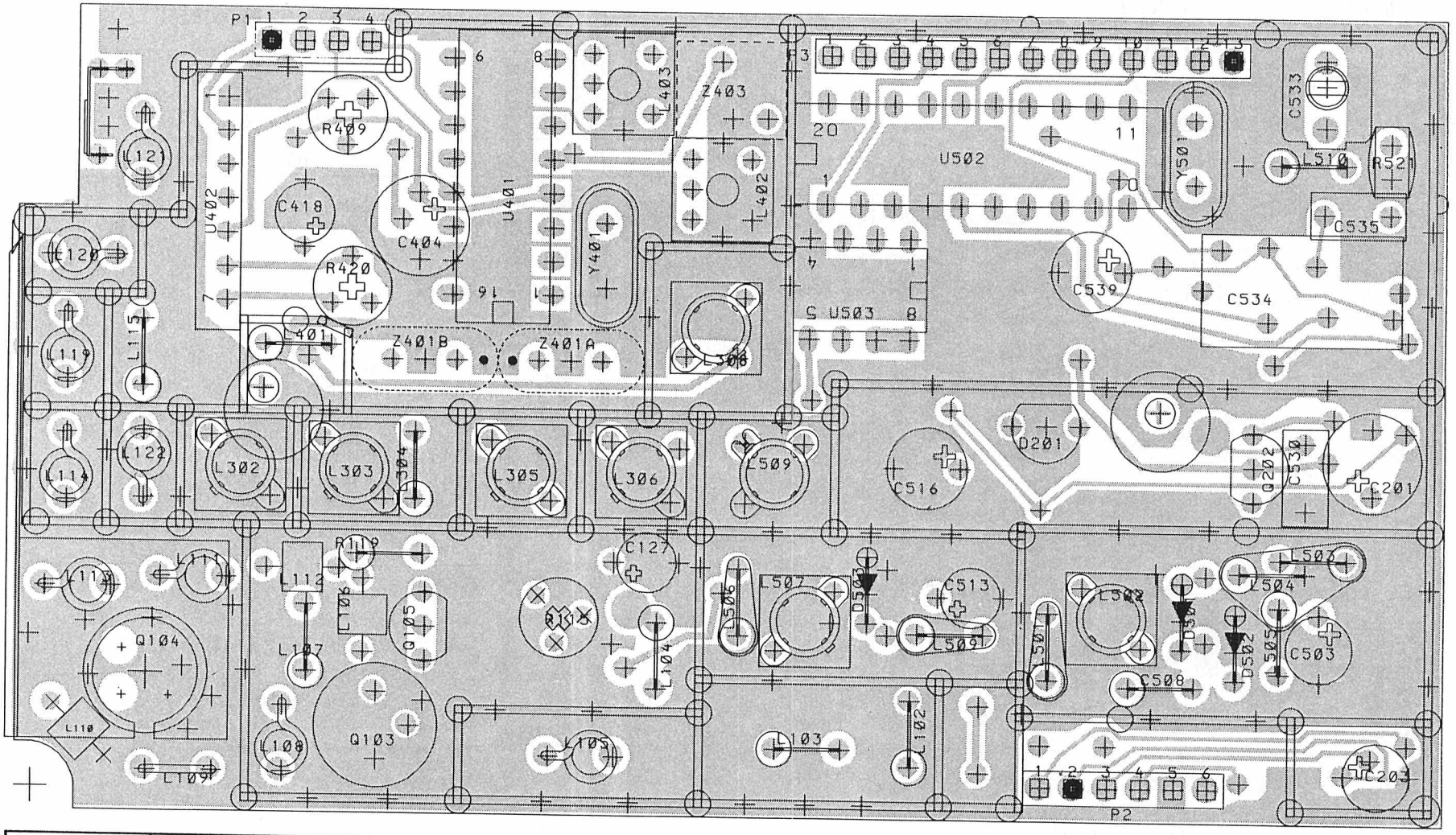
NOTE 3. SEE PARTS LISTS FOR RF4332, RF4333 AND RF4334

RADIO FREQUENCY-UNIT RF4330

D403.519/2

Storno

Storno



	MODULE CODE NO.	MOUNTED BOARD CODE NO.
25 kHz	J707942G1	M905652G1
20 kHz	J707942G2	M905652G1
12.5 kHz	J707942G3	M905652G1

SEE PARTS LISTS

RADIO FREQUENCY UNIT RF4330

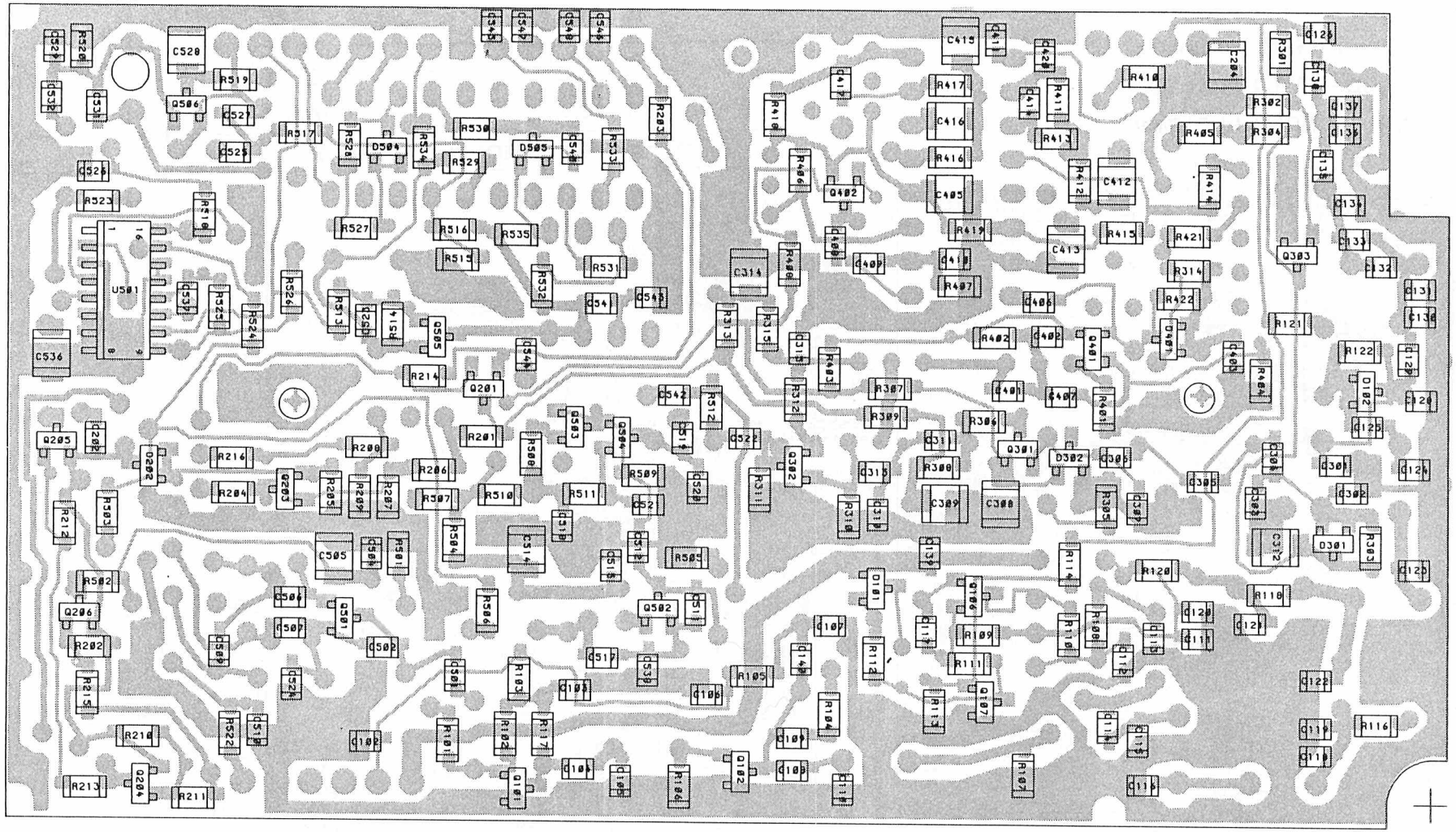
COMPONENT LAYOUT

COMPONENT SIDE

REV. 1

D403.520/4

Storno



	MODULE CODE NO.	MOUNTED BOARD CODE NO.
25 kHz	J707942G1	M905652G1
20 kHz	J707942G2	M905652G1
12.5 kHz	J707942G3	M905652G1

SEE PARTS LISTS

RADIO FREQUENCY UNIT RF4330

COMPONENT LAYOUT

CHIP SIDE

REV. 1

D403.521/4

ITEM NUMBER	DESCRIPTION
M905652G1	RF 4330 , CPNT BD.

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C102	J707438P14	CAP CER 10NF 50V	1
C103	J707436P73	CAP CER 330PF 50V	1
C104	J707436P37	CAP CER 33PF 50V	1
C105	J707436P21	CAP CER 15PF 50V	1
C106	J707438P14	CAP CER 10NF 50V	1
C107	J707436P73	CAP CER 330PF 50V	1
C108	J707436P49	CAP CER 56PF 50V	1
C109	J707438P5	CAP CER 1NF 50V	1
C110	J707436P33	CAP CER 27PF 50V	1
C111	J707438P14	CAP CER 10NF 50V	1
C112	J707438P14	CAP CER 10NF 50V	1
C113	J707436P73	CAP CER 330PF 50V	1
C114	J707438P5	CAP CER 1NF 50V	1
C115	J707436P53	CAP CER 68PF 50V	1
C116	J707436P71	CAP CER 270PF 50V	1
C117	J707438P5	CAP CER 1NF 50V	1
C118	J707436P53	CAP CER 68PF 50V	1
C119	J707436P53	CAP CER 68PF 50V	1
C120	J707438P5	CAP CER 1NF 50V	1
C121	J707438P3	CAP CER 470PF 50V	1
C122	J707436P53	CAP CER 68PF 50V	1
C123	J707436P65	CAP CER 150PF 50V	1
C124	J707436P45	CAP CER 47PF 50V	1
C125	J707436P77	CAP CER 470PF 50V	1
C126	J707438P5	CAP CER 1NF 50V	1
C127	J707444P5	CAP TA 2,2 UF 35V	1
C128	J707436P29	CAP CER 22PF 50V	1
C129	J707436P17	CAP CER 12PF 50V	1
C130	J707436P29	CAP CER 22PF 50V	1
C131	J707436P29	CAP CER 22PF 50V	1
C132	J707436P21	CAP CER 15PF 50V	1
C133	J707436P5	CAP CER 2,2PF 50V	1
C134	J707436P45	CAP CER 47PF 50V	1
C135	J707436P7	CAP CER 3,3PF 50V	1
C136	J707436P13	CAP CER 10PF 50V	1
C137	J707436P13	CAP CER 10PF 50V	1
C138	J707438P5	CAP CER 1NF 50V	1
C139	J707438P5	CAP CER 1NF 50V	1
C140	J707436P29	CAP CER 22PF 50V	1
C201	J707444P8	CAP TA 22MF 16V	1
C202	J707438P5	CAP CER 1NF 50V	1
C203	J707444P5	CAP TA 2,2 UF 35V	1
C204	J707438P26	CAP CER 100NF 50V	1
C301	J707436P41	CAP CER 39PF 50V	1
C302	J707436P37	CAP CER 33PF 50V	1
C303	J707436P57	CAP CER 82PF 50V	1
C304	J707436P29	CAP CER 22PF 50V	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C203	J707444P5	CAP TA 2,2 UF 35V	1
C204	J707438P26	CAP CER 100NF 50V	1
C301	J707436P41	CAP CER 39PF 50V	1
C302	J707436P37	CAP CER 33PF 50V	1
C303	J707436P57	CAP CER 82PF 50V	1
C304	J707436P29	CAP CER 22PF 50V	1
C305	J707436P2	CAP CER 1,2PF 50V	1
C306	J707436P25	CAP CER 18PF 50V	1
C307	J707436P57	CAP CER 82PF 50V	1
C308	J707436P87	CAP CER 1,2NF 50V	1
C309	J707436P93	CAP CER 2,2NF 50V	1
C310	J707436P71	CAP CER 270PF 50V	1
C311	J707436P25	CAP CER 18PF 50V	1
C312	J707436P93	CAP CER 2,2NF 50V	1
C313	J707436P25	CAP CER 18PF 50V	1
C314	J707438P22	CAP CER 47NF 50V	1
C315	J707436P67	CAP CER 180PF 50V	1
C401	J707436P11	CAP CER 6,8PF 50V	1
C402	J707436P73	CAP CER 330PF 50V	1
C403	J707438P14	CAP CER 10NF 50V	1
C404	J707444P9	CAP TA 47MF 6,3V	1
C405	J707438P26	CAP CER 100NF 50V	1
C406	J707438P5	CAP CER 1NF 50V	1
C407	J707438P14	CAP CER 10NF 50V	1
C408	J707436P63	CAP CER 120PF 50V	1
C409	J707436P45	CAP CER 47PF 50V	1
C410	J707436P57 * *	CAP CER 82PF 50V	1
C411	J707438P8	CAP CER 3,3NF 50V	1
C412	J707438P26	CAP CER 100NF 50V	1
C413	J707436P93	CAP CER 2,2NF 50V	1
C414	J707436P73	CAP CER 330PF 50V	1
C415	J707438P26	CAP CER 100NF 50V	1
C416	J707438P26	CAP CER 100NF 50V	1
C417	J707436P13	CAP CER 10PF 50V	1
C418	J707444P7	CAP TA 10 UF 16V	1
C420	J707436P73	CAP CER 330PF 50V	1
C501	J707436P12	CAP CER 8,2PF 50V	1
C502	J707436P8	CAP CER 3,9PF 50V	1
C503	J707444P7	CAP TA 10 UF 16V	1
C504	J707438P5	CAP CER 1NF 50V	1
C505	J707438P26	CAP CER 100NF 50V	1
C506	J707436P45	CAP CER 47PF 50V	1
C507	J707436P45	CAP CER 47PF 50V	1
C508	J707483P7	CAP PHEN 1,0 PF 500V	1
C509	J707436P4	CAP CER 1,8PF 50V	1
C510	J707436P73	CAP CER 330PF 50V	1
C511	J707436P8	CAP CER 3,9PF 50V	1
C512	J707436P21	CAP CER 15PF 50V	1
C513	J707444P7	CAP TA 10 UF 16V	1
C514	J707438P26	CAP CER 100NF 50V	1
C515	J707438P8	CAP CER 3,3NF 50V	1
C516	J707444P5	CAP TA 2,2 UF 35V	1
C517	J707436P29	CAP CER 22PF 50V	1
C518	J707438P5	CAP CER 1NF 50V	1
C519	J707436P25	CAP CER 18PF 50V	1

CIRCUIT POSITION		COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C520		J707436P12	CAP CER 8,2PF 50V	1
C521		J707438P5	CAP CER 1NF 50V	1
C522		J707438P14	CAP CER 10NF 50V	1
C523		J707438P3	CAP CER 470PF 50V	1
C524		J707436P17	CAP CER 12PF 50V	1
C525		J707436P57	CAP CER 82PF 50V	1
C526		J707438P14	CAP CER 10NF 50V	1
C527		J707436P53	CAP CER 68PF 50V	1
C528		J707438P26	CAP CER 100NF 50V	1
C529		J707436P57	CAP CER 82PF 50V	1
C530		J707412P9	CAP PYES 0,1MF 63V	1
C531		J707436P41	CAP CER 39PF 50V	1
C532		J707436P9	CAP CER 4,7PF 50V	1
C533		J707475P1	CAP VAR 2 - 18 PF	1
C534		J707612P1	CAP POL 2,2MF 100V	1
C535		J707412P7	CAP POL 47NF 100V	1
C536		J707438P22	CAP CER 47NF 50V	1
C537		J707438P3	CAP CER 470PF 50V	1
C538		J707436P17	CAP CER 12PF 50V	1
C539		J707444P7	CAP TA 10 UF 16V	1
C540		J707436P29	CAP CER 22PF 50V	1
C541		J707438P8	CAP CER 3,3NF 50V	1
C542		J707438P5	CAP CER 1NF 50V	1
C543		J707438P5	CAP CER 1NF 50V	1
C544		J707438P5	CAP CER 1NF 50V	1
C545		J707436P65	CAP CER 150PF 50V	1
C546		J707436P65	CAP CER 150PF 50V	1
C547		J707436P65	CAP CER 150PF 50V	1
C548		J707436P65	CAP CER 150PF 50V	1
D101		J707389P1	DIO SI SIG BAV 99	1
D102		J707391P1	DIO SI SIG BAT 18	1
D201		J707448P1	IC LIN VR VAR TL431 CLP	1
D202		J707390P1	DIO SI SIG BAV 74	1
D301		J707391P1	DIO SI SIG BAT 18	1
D302		J707389P1	DIO SI SIG BAV 99	1
D401		J707389P1	DIO SI SIG BAV 99	1
D501		J707928P1	DIO VAR CAP BB 409	1
D502		J707928P1	DIO VAR CAP BB 409	1
D503		J707928P1	DIO VAR CAP BB 409	1
D504		J707390P1	DIO SI SIG BAV 74	1
D505		J707390P1	DIO SI SIG BAV 74	1
L102	*	A700024P7	COIL FIX 330NH 10% *	1
L103		J707486P7	COIL FIX 0,18 UH 10%	1
L104		J707486P9	COIL FIX 0,22 UH 10%	1
L105		J707426P5	COIL FIX	1
L106		J707339G1	COIL FIX ASM	1
L107		J707486P9	COIL FIX 0,22 UH 10%	1
L108		J707426P5	COIL FIX	1
L109		J707256P4	COIL FIX	1
L110		J707339G1	COIL FIX ASM	1
L111		J707426P5	COIL FIX	1
L112		J707339G1	COIL FIX ASM	1
L113		J707426P2	COIL FIX	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
L114	J707426P6	COIL FIX	1
L115	J707486P4	COIL,RF,FIXED 10 UH 10%	1
L119	J707426P9	COIL FIX	1
L120	J707426P9	COIL FIX	1
L121	J707426P10	COIL FIX	1
L122	J707934G1	COIL ASM	1
L302	J707422P5	COIL RF- VAR 7-1/2T	1
L303	J707422P5	COIL RF- VAR 7-1/2T	1
L304	J707486P2	COIL FIX 3.3 UH 10%	1
L305	J707422P5	COIL RF- VAR 7-1/2T	1
L306	J707422P5	COIL RF- VAR 7-1/2T	1
L308	J707422P3	COIL RF- VAR 9-1/2T	1
L401	J707486P3	COIL RF- FIX 6.8 UH 10%	1
L402	J707431P1	COIL RF- VAR 455 KHZ 25%	1
L403	J707431P1	COIL RF- VAR 455 KHZ 25%	1
L501	J707486P4	COIL RF- FIX 10UH 10%	1
L502	J707422P2	COIL RF- VAR 4-1/2 T	1
L503	J707486P4	COIL RF- FIX 10UH 10%	1
L504	J707486P4	COIL RF- FIX 10UH 10%	1
L505	J707486P4	COIL RF- FIX 10UH 10%	1
L506	J707486P4	COIL RF- FIX 10UH 10%	1
L507	J707422P4	COIL RF- VAR 3-1/2T	1
L508	J707375P1	COIL RF- VAR 4-1/2 T TAP	1
L509	J707486P4	COIL RF- FIX 10UH 10%	1
L510	J707486P5	COIL FIX 330 UH 10%	1
P101	J707962G1	PLG ASM , 4 PIN	1
P102	J707962G2	PLG ASM , 6 PIN	1
P103	J707962G3	PLG ASM , 13 PIN	1
Q101	J707388P1	TSTR NPN SI BFR 53	1
Q102	J707388P1	TSTR NPN SI BFR 53	1
Q103	J706145P1	TSTR NPN SI BFW 16A	1
Q104	J707868P1	TSTR NPN SI RF-PWR 4W	1
Q105	J707673P1	TSTR NPN SI BC 368	1
Q106	J707387P1	TSTR BCW 30	1
Q107	J707386P1	TSTR BCW 32	1
Q201	J707387P1	TSTR BCW 30	1
Q202	J707435P1	TSTR PNP SI BC 369	1
Q203	J707386P1	TSTR BCW 32	1
Q204	J707432P1	TSTR BCX18	1
Q205	J707387P1	TSTR BCW 30	1
Q206	J707387P1	TSTR BCW 30	1
Q301	J707418P1	TSTR NPN SI BFS 17	1
Q302	J707419P1	TSTR JFET SI BF 511	1
Q303	J707386P1	TSTR BCW 32	1
Q401	J707433P1	TSTR MFET SI BF989	1
Q402	J707387P1	TSTR BCW 30	1
Q501	J707419P1	TSTR JFET SI BF 511	1
Q502	J707419P1	TSTR JFET SI BF 511	1
Q503	J707387P1	TSTR BCW 30	1
Q504	J707430P1	TSTR NPN SI BF 569	1
Q505	J707387P1	TSTR BCW 30	1
Q506	J707419P1	TSTR JFET SI BF 511	1
R101	J707385P332	RES MFILM 3,3K OHM 0,125W	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
R102	J707385P103	RES MFILM 10K 5% 0,125W	1
R103	J707385P470	RES MFILM 47R 5% 0,125W	1
R104	J707385P222	RES MFILM 2K2 5% 0,125W	1
R105	J707385P220	RES MFILM 22R 5% 0,125W	1
R106	J707385P101	RES MFILM 100R 5% 0,125W	1
R107	J707385P470	RES MFILM 47R 5% 0,125W	1
R108	J707385P100	RES MFILM 10R 5% 0,125W	1
R109	J707385P680	RES MFILM 68R 5% 0,125W	1
R110	J707385P102	RES MFILM 1K0 5% 0,125W	1
R111	J707385P472	RES MFILM 4K7 5% 0,125W	1
R112	J707385P152	RES MFILM 1K5 5% 0,125W	1
R113	J707385P102	RES MFILM 1K0 5% 0,125W	1
R114	J707385P562	RES MFILM 5K6 5% 0,125W	1
R115	J707478P4	RES VAR 1K 20% 0,05W	1
R116	J707385P910	RES MFILM 1R0 20% 0,125W	1
R117	J707385P102	RES MFILM 1K0 5% 0,125W	1
R118	J707385P560	RES MFILM 56R 5% 0,125W	1
R119	J707945P1	RES WW 0,27 OHM	1
R120	J707385P100	RES MFILM 10R 5% 0,125W	1
R121	J707385P221	RES MFILM 220R 5% 0,125W	1
R122	J707385P104	RES MFILM 100K 5% 0,125W	1
R201	J707385P222	RES MFILM 2K2 5% 0,125W	1
R202	J707385P473	RES MFILM 47K 5% 0,125W	1
R203	J707385P153	RES MFILM 15K 5% 0,125W	1
R204	J707385P102	RES MFILM 1K0 5% 0,125W	1
R205	J707385P101	RES MFILM 100R 5% 0,125W	1
R206	J707385P273	RES MFILM 27K 5% 0,125W	1
R207	J707385P682	RES MFILM 6K8 5% 0,125W	1
R208	J707385P333	RES MFILM 33K 5% 0,125W	1
R209	J707385P333	RES MFILM 33K 5% 0,125W	1
R210	J707385P103	RES MFILM 10K 5% 0,125W	1
R211	J707385P182	RES MFILM 1K8 5% 0,125W	1
R212	J707385P473	RES MFILM 47K 5% 0,125W	1
R213	J707385P153	RES MFILM 15K 5% 0,125W	1
R214	J707385P272	RES MFILM 2K7 5% 0,125W	1
R215	J707385P153	RES MFILM 15K 5% 0,125W	1
R216	J707385P562	RES MFILM 5K6 5% 0,125W	1
R301	J707385P103	RES MFILM 10K 5% 0,125W	1
R302	J707385P332	RES MFILM 3K3 5% 0,125W	1
R303	J707385P154	RES MFILM 150K 5% 0,125W	1
R304	J707385P472	RES MFILM 4K7 5% 0,125W	1
R305	J707385P221	RES MFILM 220R 5% 0,125W	1
R306	J707385P220	RES MFILM 22R 5% 0,125W	1
R307	J707385P123	RES MFILM 12K 5% 0,125W	1
R308	J707385P272	RES MFILM 2K7 5% 0,125W	1
R309	J707385P470	RES MFILM 47R 5% 0,125W	1
R310	J707385P332	RES MFILM 3K3 5% 0,125W	1
R311	J707385P681	RES MFILM 680R 5% 0,125W	1
R312	J707385P101	RES MFILM 100R 5% 0,125W	1
R313	J707385P101	RES MFILM 100R 5% 0,125W	1
R314	J707385P470	RES MFILM 47R 5% 0,125W	1
R315	J707385P153	RES MFILM 15K 5% 0,125W	1
R401	J707385P152	RES MFILM 1K5 5% 0,125W	1
R402	J707385P473	RES MFILM 47K 5% 0,125W	1
R403	J707385P473	RES MFILM 47K 5% 0,125W	1
R404	J707385P561	RES MFILM 560R 5% 0,125W	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER		COMPONENT DESCRIPTION	QUANTITY
R405	J707385P470		RES MFILM 47R 5% 0,125W	1
R406	J707385P683		RES MFILM 68K 5% 0,125W	1
R407	J707385P333 *	*	RES MFILM 33K 5% 0,125W	1
R408	J707385P103		RES MFILM 10K 5% 0,125W	1
R409	J707478P10		RES VAR 10K 20% 0.05W	1
R410	J707385P272		RES MFILM 2K7 5% 0,125W	1
R411	J707385P273		RES MFILM 27K 5% 0,125W	1
R412	J707385P563		RES MFILM 56K 5% 0,125W	1
R413	J707385P683		RES MFILM 68K 5% 0,125W	1
R414	J707385P473		RES MFILM 47K 5% 0,125W	1
R415	J707385P334		RES MFILM 330K 5% 0,125W	1
R416	J707385P182		RES MFILM 1K8 5% 0,125W	1
R417	J707385P473		RES MFILM 47K 5% 0,125W	1
R418	J707385P183		RES MFILM 18K 5% 0,125W	1
R419	J707385P473		RES MFILM 47K 5% 0,125W	1
R420	J707478P12		RES VAR 22K 20% 0.05W	1
R421	J707385P101		RES MFILM 100R 5% 0,125W	1
R422	J707385P332		RES MFILM 3K3 5% 0,125W	1
R501	J707385P271		RES MFILM 270R 5% 0,125W	1
R502	J707385P101		RES MFILM 100R 5% 0,125W	1
R503	J707385P680		RES MFILM 68R 5% 0,125W	1
R504	J707385P101		RES MFILM 100R 5% 0,125W	1
R505	J707385P271		RES MFILM 270R 5% 0,125W	1
R506	J707385P680		RES MFILM 68R 5% 0,125W	1
R507	J707385P470		RES MFILM 47R 5% 0,125W	1
R508	J707385P392		RES MFILM 3K9 5% 0,125W	1
R509	J707385P333		RES MFILM 33K 5% 0,125W	1
R510	J707385P100		RES MFILM 10R 5% 0,125W	1
R511	J707385P271		RES MFILM 270R 5% 0,125W	1
R512	J707385P102		RES MFILM 1K0 5% 0,125W	1
R513	J707385P103		RES MFILM 10K 5% 0,125W	1
R514	J707385P822		RES MFILM 8K2 5% 0,125W	1
R515	J707385P183 *	*	RES MFILM 18K 5% 0,125W	1
R516	J707385P183		RES MFILM 18K 5% 0,125W	1
R517	J707385P102		RES MFILM 1K0 5% 0,125W	1
R518	J707385P470		RES MFILM 47R 5% 0,125W	1
R519	J707385P562		RES MFILM 5K6 5% 0,125W	1
R520 *	J707385P104		RES MFILM 100K 5% 0,125W	1
R522	J707385P273		RES MFILM 27K 5% 0,125W	1
R523	J707385P222		RES MFILM 2K2 5% 0,125W	1
R524	J707385P392		RES MFILM 3K9 5% 0,125W	1
R525	J707385P221		RES MFILM 220R 5% 0,125W	1
R526	J707385P184		RES MFILM 180K 5% 0,125W	1
R527	J707385P152		RES MFILM 1K5 5% 0,125W	1
R528	J707385P273		RES MFILM 27K 5% 0,125W	1
R529	J707385P101		RES MFILM 100R 5% 0,125W	1
R530	J707385P102		RES MFILM 1K0 5% 0,125W	1
R531	J707385P101		RES MFILM 100R 5% 0,125W	1
R532	J707385P472		RES MFILM 4K7 5% 0,125W	1
R533	J707385P184		RES MFILM 180K 5% 0,125W	1
R534	J707385P273		RES MFILM 27K 5% 0,125W	1
R535	J707385P103		RES MFILM 10K 5% 0,125W	1
U401	J707449P1		INT CKT MC3357	1
U501	J707434P2		INT CKT 4053/S016	1

	CIRCUIT POSITION		COMPONENT ITEM NUMBER		COMPONENT DESCRIPTION	QUANTITY TOTAL
	U502		J707337P1		INT CKT	1
	U503		J707374P1		INT CKT SP8793	1
	0008		A701332P4		DISC -INSULAT.	1
	0009		J706281P7		CORE	6
	0003	*	K805347P1		SHIELD MET.	1
*	0004	*	A700136P7	*	SLVG INS EL Ø9.5 X 0.64MM	0.050 M
*	0005	*	A700136P5	*	SLVG INS EL Ø4.7 X 0.51MM	0.002 M
*	0006	*	A701648P2	*	SIL RUBB. SEALANT RTV-162	0.001 KG
	0007		L855385P1		SPRING FOR ANT.	1
	0008		A701332P4		DISC -INSULAT.	1
	0009		J706281P7		CORE	6
	0010		L855470P1		HEAT SINK	1

ITEM NUMBER	DESCRIPTION
M905652G1	CPNT BD R F 4 3 3 0

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
	A701332P4	DISK -INSULAT.	1
	J706281P7	CORE	6
	K805347G1	SHIELD MET.	1
	L855385P1	SPRING FOR ANT.	1
	L855470P1	HEAT - SINK	1
C102	J707438P14	CAP CER 10NF 50V	1
C103	J707436P73	CAP CER 330PF 50V	1
C104	J707436P37	CAP CER 33PF 50V	1
C105	J707436P21	CAP CER 15PF 50V	1
C106	J707438P14	CAP CER 10NF 50V	1
C107	J707436P73	CAP CER 330PF 50V	1
C108	J707436P49	CAP CER 56PF 50V	1
C109	J707438P5	CAP CER 1NF 50V	1
C110	J707436P33	CAP CER 27PF 50V	1
C111	J707438P14	CAP CER 10NF 50V	1
C112	J707438P14	CAP CER 10NF 50V	1
C113	J707436P73	CAP CER 330PF 50V	1
C114	J707438P5	CAP CER 1NF 50V	1
C115	J707436P53	CAP CER 68PF 50V	1
C116	J707436P71	CAP CER 270PF 50V	1
C117	J707438P5	CAP CER 1NF 50V	1
C118	J707436P53	CAP CER 68PF 50V	1
C119	J707436P53	CAP CER 68PF 50V	1
C120	J707438P5	CAP CER 1NF 50V	1
C121	J707438P3	CAP CER 470PF 50V	1
C122	J707436P53	CAP CER 68PF 50V	1
C123	J707436P65	CAP CER 150PF 50V	1
C124	J707436P45	CAP CER 47PF 50V	1
C125	J707436P77	CAP CER 470PF 50V	1
C126	J707438P5	CAP CER 1NF 50V	1
C127	J707444P5	CAP TA 2,2 UF 35V	1
C128	J707436P29	CAP CER 22PF 50V	1
C129	J707436P17	CAP CER 12PF 50V	1
C130	J707436P29	CAP CER 22PF 50V	1
C131	J707436P29	CAP CER 22PF 50V	1
C132	J707436P21	CAP CER 15PF 50V	1
C133	J707436P5	CAP CER 2,2PF 50V	1
C134	J707436P45	CAP CER 47PF 50V	1
C135	J707436P7	CAP CER 3,3PF 50V	1
C136	J707436P13	CAP CER 10PF 50V	1
C137	J707436P13	CAP CER 10PF 50V	1
C138	J707438P5	CAP CER 1NF 50V	1
C139	J707438P5	CAP CER 1NF 50V	1
C140	J707436P29	CAP CER 22PF 50V	1
C201	J707444P8	CAP TA 22MF 16V	1
C202	J707438P5	CAP CER 1NF 50V	1
C203	J707444P5	CAP TA 2,2 UF 35V	1
C204	J707438P26	CAP CER 100NF 50V	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C301	J707436P41	CAP CER 39PF 50V	1
C302	J707436P37	CAP CER 33PF 50V	1
C303	J707436P57	CAP CER 82PF 50V	1
C304	J707436P29	CAP CER 22PF 50V	1
C305	J707436P2	CAP CER 1,2PF 50V	1
C306	J707436P25	CAP CER 18PF 50V	1
C307	J707436P57	CAP CER 82PF 50V	1
C308	J707436P87	CAP CER 1,2NF 50V	1
C309	J707436P93	CAP CER 2,2NF 50V	1
C310	J707436P71	CAP CER 270PF 50V	1
C311	J707436P25	CAP CER 18PF 50V	1
C312	J707436P93	CAP CER 2,2NF 50V	1
C313	J707436P25	CAP CER 18PF 50V	1
C314	J707438P22	CAP CER 47NF 50V	1
C315	J707436P67	CAP CER 180PF 50V	1
C401	J707436P11	CAP CER 6,8PF 50V	1
C402	J707436P73	CAP CER 330PF 50V	1
C403	J707438P14	CAP CER 10NF 50V	1
C404	J707444P9	CAP TA 47MF 6,3V	1
C405	J707438P26	CAP CER 100NF 50V	1
C406	J707438P5	CAP CER 1NF 50V	1
C407	J707438P14	CAP CER 10NF 50V	1
C408	J707436P63	CAP CER 120PF 50V	1
C409	J707436P45	CAP CER 47PF 50V	1
C410	J707436P63	CAP CER 120PF 50V	1
C411	J707438P8	CAP CER 3,3NF 50V	1
C412	J707438P26	CAP CER 100NF 50V	1
C413	J707436P93	CAP CER 2,2NF 50V	1
C414	J707436P73	CAP CER 330PF 50V	1
C415	J707438P26	CAP CER 100NF 50V	1
C416	J707438P26	CAP CER 100NF 50V	1
C417	J707436P13	CAP CER 10PF 50V	1
C418	J707444P7	CAP TA 10 UF 16V	1
C419	J707444P3	CAP TA 0,47 UF 35V	1
C420	J707436P73	CAP CER 330PF 50V	1
C501	J707436P12	CAP CER 8,2PF 50V	1
C502	J707436P8	CAP CER 3,9PF 50V	1
C503	J707444P7	CAP TA 10 UF 16V	1
C504	J707438P5	CAP CER 1NF 50V	1
C505	J707438P26	CAP CER 100NF 50V	1
C506	J707436P45	CAP CER 47PF 50V	1
C507	J707436P45	CAP CER 47PF 50V	1
C508	J707483P7	CAP PHEN 1,0 PF 500V	1
C509	J707436P4	CAP CER 1,8PF 50V	1
C510	J707436P73	CAP CER 330PF 50V	1
C511	J707436P8	CAP CER 3,9PF 50V	1
C512	J707436P21	CAP CER 15PF 50V	1
C513	J707444P7	CAP TA 10 UF 16V	1
C514	J707438P26	CAP CER 100NF 50V	1
C515	J707438P8	CAP CER 3,3NF 50V	1
C516	J707444P5	CAP TA 2,2 UF 35V	1
C517	J707436P29	CAP CER 22PF 50V	1
C518	J707438P5	CAP CER 1NF 50V	1
C519	J707436P25	CAP CER 18PF 50V	1
C520	J707436P12	CAP CER 8,2PF 50V	1
C521	J707438P5	CAP CER 1NF 50V	1
C522	J707438P14	CAP CER 10NF 50V	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C523	J707438P3	CAP CER 470PF 50V	1
C524	J707436P17	CAP CER 12PF 50V	1
C525	J707436P57	CAP CER 82PF 50V	1
C526	J707438P14	CAP CER 10NF 50V	1
C527	J707436P53	CAP CER 68PF 50V	1
C528	J707438P26	CAP CER 100NF 50V	1
C529	J707436P57	CAP CER 82PF 50V	1
C530	J707412P9	CAP PYES 0,1MF 63V	1
C531	J707436P41	CAP CER 39PF 50V	1
C532	J707436P9	CAP CER 4,7PF 50V	1
C533	J707475P1	CAP VAR 2 - 18 PF	1
C534	J707612P1	CAP POL 2,2MF 100V	1
C535	J707412P7	CAP POL 47NF 100V	1
C536	J707438P22	CAP CER 47NF 50V	1
C537	J707438P3	CAP CER 470PF 50V	1
C538	J707436P17	CAP CER 12PF 50V	1
C539	J707444P7	CAP TA 10 UF 16V	1
C540	J707436P29	CAP CER 22PF 50V	1
C541	J707438P8	CAP CER 3,3NF 50V	1
C542	J707438P5	CAP CER 1NF 50V	1
C543	J707438P5	CAP CER 1NF 50V	1
C544	J707438P5	CAP CER 1NF 50V	1
C545	J707436P65	CAP CER 150PF 50V	1
C546	J707436P65	CAP CER 150PF 50V	1
C547	J707436P65	CAP CER 150PF 50V	1
C548	J707436P65	CAP CER 150PF 50V	1
D101	J707389P1	DIO SI SIG BAV 99	1
D102	J707391P1	DIO SI SIG BAT 18	1
D201	J707448P1	IC LIN VR VAR TL431 CLP	1
D202	J707390P1	DIO SI SIG BAV 74	1
D301	J707391P1	DIO SI SIG BAT 18	1
D302	J707389P1	DIO SI SIG BAV 99	1
D401	J707389P1	DIO SI SIG BAV 99	1
D501	J707928P1	DIO VAR CAP BB 409	1
D502	J707928P1	DIO VAR CAP BB 409	1
D503	J707928P1	DIO VAR CAP BB 409	1
D504	J707390P1	DIO SI SIG BAV 74	1
D505	J707390P1	DIO SI SIG BAV 74	1
L102	J707486P8	COIL FIX 0,33 UH	1
L103	J707486P7	COIL FIX 0,18 UH	1
L104	J707486P9	COIL FIX 0,22 UH	1
L105	J707426P5	COIL FIX	1
L106	J707339G1	COIL FIX ASM	1
L107	J707486P9	COIL FIX 0,22 UH	1
L108	J707426P5	COIL FIX	1
L109	J707256P4	COIL FIX	1
L110	J707339G1	COIL FIX ASM	1
L111	J707426P5	COIL FIX	1
L112	J707339G1	COIL FIX ASM	1
L113	J707426P2	COIL FIX	1
L114	J707426P6	COIL FIX	1
L115	J707486P4	COIL,RF,FIXED 10 UH 10%	1
L119	J707426P9	COIL FIX	1
L120	J707426P9	COIL FIX	1
L121	J707426P10	COIL FIX	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
L122	J707934G1	COIL ASM	1
L302	J707422P5	COIL VAR	1
L303	J707422P5	COIL VAR	1
L304	J707486P2	COIL FIX 3,3 UH 10%	1
L305	J707422P5	COIL VAR	1
L306	J707422P5	COIL VAR	1
L308	J707422P3	COIL VAR 9-1/2 T	1
L401	J707486P3	COIL,RF,FIX 6.8 UH 10%	1
L402	J707431P1	COIL VAR 455 KHZ 25%	1
L403	J707431P1	COIL VAR 455 KHZ 25%	1
L501	J707486P4	COIL,RF,FIXED	1
L502	J707422P2	COIL VAR 4-1/2 T	1
L503	J707486P4	COIL,RF,FIXED	1
L504	J707486P4	COIL,RF,FIXED	1
L505	J707486P4	COIL,RF,FIXED	1
L506	J707486P4	COIL,RF,FIXED	1
L507	J707422P4	COIL VAR	1
L508	J707375P1	COIL VAR 4-1/2 T TAP	1
L509	J707486P4	COIL,RF,FIXED	1
L510	J707486P5	COIL FIX 330 UH 10%	1
P101	J707962G1	PLG ASM , 4 PIN	1
P102	J707962G2	PLG ASM , 6 PIN	1
P103	J707962G3	PLG ASM , 13 PIN	1
Q101	J707388P1	TSTR NPN SI BFR 53	1
Q102	J707388P1	TSTR NPN SI BFR 53	1
Q103	J706145P1	TSTR NPN SI BFW 16A	1
Q104	J707868P1	TSTR NPN SI RF-PWR 4W	1
Q105	J707673P1	TSTR NPN SI BC 368	1
Q106	J707387P1	TSTR BCW 30	1
Q107	J707386P1	TSTR BCW 32	1
Q201	J707387P1	TSTR BCW 30	1
Q202	J707435P1	TSTR PNP SI BC 369	1
Q203	J707386P1	TSTR BCW 32	1
Q204	J707432P1	TSTR BCX18	1
Q205	J707387P1	TSTR BCW 30	1
Q206	J707387P1	TSTR BCW 30	1
Q301	J707418P1	TSTR NPN SI BFS 17	1
Q302	J707419P1	TSTR JFET SI BF 511	1
Q303	J707386P1	TSTR BCW 32	1
Q401	J707433P1	TSTR MFET SI BF989	1
Q402	J707387P1	TSTR BCW 30	1
Q501	J707419P1	TSTR JFET SI BF 511	1
Q502	J707419P1	TSTR JFET SI BF 511	1
Q503	J707387P1	TSTR BCW 30	1
Q504	J707430P1	TSTR NPN SI BF 569	1
Q505	J707387P1	TSTR BCW 30	1
Q506	J707419P1	TSTR JFET SI BF 511	1
R101	J707385P332	RES MFILM 3,3K OHM 0,125W	1
R102	J707385P103	RES MFILM 10K OHM 0,125W	1
R103	J707385P470	RES MFILM 47 OHM 0,125W	1
R104	J707385P222	RES MFILM 2,2K OHM 0,125W	1
R105	J707385P220	RES MFILM 22 0HM 0,125W	1
R106	J707385P101	RES MFILM 100 OHM 0,125W	1
R107	J707385P470	RES MFILM 47 OHM 0,125W	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
R108	J707385P100	RES MFILM 10 0HM 0,125W	1
R109	J707385P680	RES MFILM 68 OHM 0,125W	1
R110	J707385P102	RES MFILM 1K OHM 0,125W	1
R111	J707385P472	RES MFILM 4,7K OHM 0,125W	1
R112	J707385P152	RES MFILM 1,5K OHM 0,125W	1
R113	J707385P102	RES MFILM 1K OHM 0,125W	1
R114	J707385P562	RES MFILM 5,6K OHM 0,125W	1
R115	J707478P4	RES VAR 1K OHM 0,05W	1
R116	J707385P910	RES MFILM 91 OHM 0,125W	1
R117	J707385P102	RES MFILM 1K OHM 0,125W	1
R118	J707385P560	RES MFILM 56 OHM 0,125W	1
R119	J707945P1	RES WW 0,27 OHM	1
R120	J707385P100	RES MFILM 10 0HM 0,125W	1
R121	J707385P221	RES MFILM 220 OHM 0,125W	1
R122	J707385P104	RES MFILM 100K OHM 0,125W	1
R201	J707385P222	RES MFILM 2,2K OHM 0,125W	1
R202	J707385P473	RES MFILM 47K OHM 0,125W	1
R203	J707385P153	RES MFILM 15K OHM 0,125W	1
R204	J707385P102	RES MFILM 1K OHM 0,125W	1
R205	J707385P101	RES MFILM 100 OHM 0,125W	1
R206	J707385P273	RES MFILM 27K OHM 0,125W	1
R207	J707385P682	RES MFILM 6,8K OHM 0,125W	1
R208	J707385P333	RES MFILM 33K OHM 0,125W	1
R209	J707385P333	RES MFILM 33K OHM 0,125W	1
R210	J707385P103	RES MFILM 10K OHM 0,125W	1
R211	J707385P182	RES MFILM 1,8K OHM 0,125W	1
R212	J707385P473	RES MFILM 47K OHM 0,125W	1
R213	J707385P153	RES MFILM 15K OHM 0,125W	1
R214	J707385P272	RES MFILM 2,7K OHM 0,125W	1
R215	J707385P153	RES MFILM 15K OHM 0,125W	1
R216	J707385P562	RES MFILM 5,6K OHM 0,125W	1
R301	J707385P103	RES MFILM 10K OHM 0,125W	1
R302	J707385P332	RES MFILM 3,3K OHM 0,125W	1
R303	J707385P154	RES MFILM 150K OHM 0,125W	1
R304	J707385P472	RES MFILM 4,7K OHM 0,125W	1
R305	J707385P221	RES MFILM 220 OHM 0,125W	1
R306	J707385P220	RES MFILM 22 0HM 0,125W	1
R307	J707385P123	RES MFILM 12K OHM 0,125W	1
R308	J707385P272	RES MFILM 2,7K OHM 0,125W	1
R309	J707385P470	RES MFILM 47 OHM 0,125W	1
R310	J707385P332	RES MFILM 3,3K OHM 0,125W	1
R311	J707385P681	RES MFILM 680 OHM 0,125W	1
R312	J707385P101	RES MFILM 100 OHM 0,125W	1
R313	J707385P101	RES MFILM 100 OHM 0,125W	1
R314	J707385P470	RES MFILM 47 OHM 0,125W	1
R315	J707385P153	RES MFILM 15K OHM 0,125W	1
R401	J707385P152	RES MFILM 1,5K OHM 0,125W	1
R402	J707385P473	RES MFILM 47K OHM 0,125W	1
R403	J707385P473	RES MFILM 47K OHM 0,125W	1
R404	J707385P561	RES MFILM 560 OHM 0,125W	1
R405	J707385P470	RES MFILM 47 OHM 0,125W	1
R406	J707385P683	RES MFILM 68K OHM 0,125W	1
R407	J707385P473	RES MFILM 47K OHM 0,125W	1
R408	J707385P103	RES MFILM 10K OHM 0,125W	1
R409	J707478P10	RES VAR 10K OHM 0,05W	1
R410	J707385P272	RES MFILM 2,7K OHM 0,125W	1
R411	J707385P273	RES MFILM 27K OHM 0,125W	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
R412	J707385P563	RES MFILM 56K OHM 0,125W	1
R413	J707385P683	RES MFILM 68K OHM 0,125W	1
R414	J707385P473	RES MFILM 47K OHM 0,125W	1
R415	J707385P334	RES MFILM 330K 0HM 0,125W	1
R416	J707385P182	RES MFILM 1,8K OHM 0,125W	1
R417	J707385P473	RES MFILM 47K OHM 0,125W	1
R418	J707385P183	RES MFILM 18K OHM 0,125W	1
R419	J707385P473	RES MFILM 47K OHM 0,125W	1
R420	J707478P12	RES VAR 22K OHM 0,05W	1
R421	J707385P101	RES MFILM 100 OHM 0,125W	1
R422	J707385P332	RES MFILM 3,3K OHM 0,125W	1
R501	J707385P271	RES MFILM 270 OHM 0,125W	1
R502	J707385P101	RES MFILM 100 OHM 0,125W	1
R503	J707385P680	RES MFILM 68 OHM 0,125W	1
R504	J707385P101	RES MFILM 100 OHM 0,125W	1
R505	J707385P271	RES MFILM 270 OHM 0,125W	1
R506	J707385P680	RES MFILM 68 OHM 0,125W	1
R507	J707385P470	RES MFILM 47 OHM 0,125W	1
R508	J707385P392	RES MFILM 3,9K OHM 0,125W	1
R509	J707385P333	RES MFILM 33K OHM 0,125W	1
R510	J707385P100	RES MFILM 10 0HM 0,125W	1
R511	J707385P271	RES MFILM 270 OHM 0,125W	1
R512	J707385P102	RES MFILM 1K OHM 0,125W	1
R513	J707385P103	RES MFILM 10K OHM 0,125W	1
R514	J707385P822	RES MFILM 8,2K OHM 0,125W	1
R515	J707385P153	RES MFILM 15K OHM 0,125W	1
R516	J707385P183	RES MFILM 18K OHM 0,125W	1
R517	J707385P102	RES MFILM 1K OHM 0,125W	1
R518	J707385P470	RES MFILM 47 OHM 0,125W	1
R519	J707385P562	RES MFILM 5,6K OHM 0,125W	1
R520	J707385P104	RES MFILM 100K OHM 0,125W	1
*			
R522	J707385P273	RES MFILM 27K OHM 0,125W	1
R523	J707385P222	RES MFILM 2,2K OHM 0,125W	1
R524	J707385P392	RES MFILM 3,9K OHM 0,125W	1
R525	J707385P221	RES MFILM 220 OHM 0,125W	1
R526	J707385P184	RES MFILM 180K OHM 0,125W	1
R527	J707385P152	RES MFILM 1,5K OHM 0,125W	1
R528	J707385P273	RES MFILM 27K OHM 0,125W	1
R529	J707385P101	RES MFILM 100 OHM 0,125W	1
R530	J707385P102	RES MFILM 1K OHM 0,125W	1
R531	J707385P101	RES MFILM 100 OHM 0,125W	1
R532	J707385P472	RES MFILM 4,7K OHM 0,125W	1
R533	J707385P184	RES MFILM 180K OHM 0,125W	1
R534	J707385P273	RES MFILM 27K OHM 0,125W	1
R535	J707385P103	RES MFILM 10K OHM 0,125W	1
U401	J707449P1	INT CKT MC3357	1
*			
U501	J707434P2	INT CKT 4053/S016	1
U502	J707337P1	INT CKT	1
U503	J707374P1	INT CKT SP8793	1

ITEM NUMBER	DESCRIPTION
J707942G1	R F 4 3 3 2

P A R T S L I S T :

CIRCUIT POSITION		COMPONENT ITEM NUMBER		COMPONENT DESCRIPTION	QUANTITY TOTAL
A001		M905652G1		CPNT BD RF 4330	1
U402	*	M905766G1	*	SQ 4002 , MICRO MODULE	1
Z401		J707310P1		FLT 21,4MHZ	1
Z403		J707446P1		FLT 455KHZ	1
0002		J706804P2		WASH,INSULATION	2

ITEM NUMBER	DESCRIPTION
J707942G1	R F 4 3 3 2

P A R T S L I S T :

	CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
	A001	M905652G1	CPNT BD RF 433X	1
*	U402	M905492G1	INT CKT SQ4001	1
	Z401	J707310P1	FLT 21,4MHZ	1
	Z403	J707446P1	FLT 455KHZ	1
	0002	J706804P2	WASH,INSULATION	2

ITEM NUMBER	DESCRIPTION
J707942G2	R F 4 3 3 3

P A R T S L I S T :

CIRCUIT POSITION		COMPONENT ITEM NUMBER		COMPONENT DESCRIPTION	QUANTITY TOTAL
A001		M905652G1		CPNT BD RF 4330	1
U402	*	M905766G1	*	SQ 4002 , MICRO MODULE	1
Z401		J707310P2		FLT 21,4MHZ	1
Z403		J707446P3		FLT 455KHZ	1
0002		J706804P2		WASH,INSULATION	2

ITEM NUMBER	DESCRIPTION
J707942G2	R F 4 3 3 3

P A R T S L I S T :

	CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
	A001	M905652G1	CPNT BD RF 433X	1
*	U402	M905492G1	INT CKT SQ4001	1
	Z401	J707310P2	FLT 21,4MHZ	1
	Z403	J707446P3	FLT 455KHZ	1
	0002	J706804P2	WASH,INSULATION	2

ITEM NUMBER	DESCRIPTION
J707942G3	R F 4 3 3 4

P A R T S L I S T :

CIRCUIT POSITION		COMPONENT ITEM NUMBER		COMPONENT DESCRIPTION	QUANTITY TOTAL
A001		M905652G1		CPNT BD RF 4330	1
R521		J707406P1		RES NTC 330 OHM	1
U402	*	M905766G2	*	SQ 4003 , MICRO MODULE	1
Z401		J707310P3		FLT 21,4MHZ	1
Z403		J707446P4		FLT 455KHZ	1
0002		J706804P2		WASH,INSULATION	2

ITEM NUMBER	DESCRIPTION
J707942G3	R F 4 3 3 4

P A R T S L I S T :

	CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
	A001	M905652G1	CPNT BD RF 433X	1
*	R521	J707406P1	RES NTC 330 OHM	1
*	U402	M905492G1	INT CKT SQ4001	1
	Z401	J707310P3	FLT 21,4MHZ	1
	Z403	J707446P4	FLT 455KHZ	1
	0002	J706804P2	WASH,INSULATION	2

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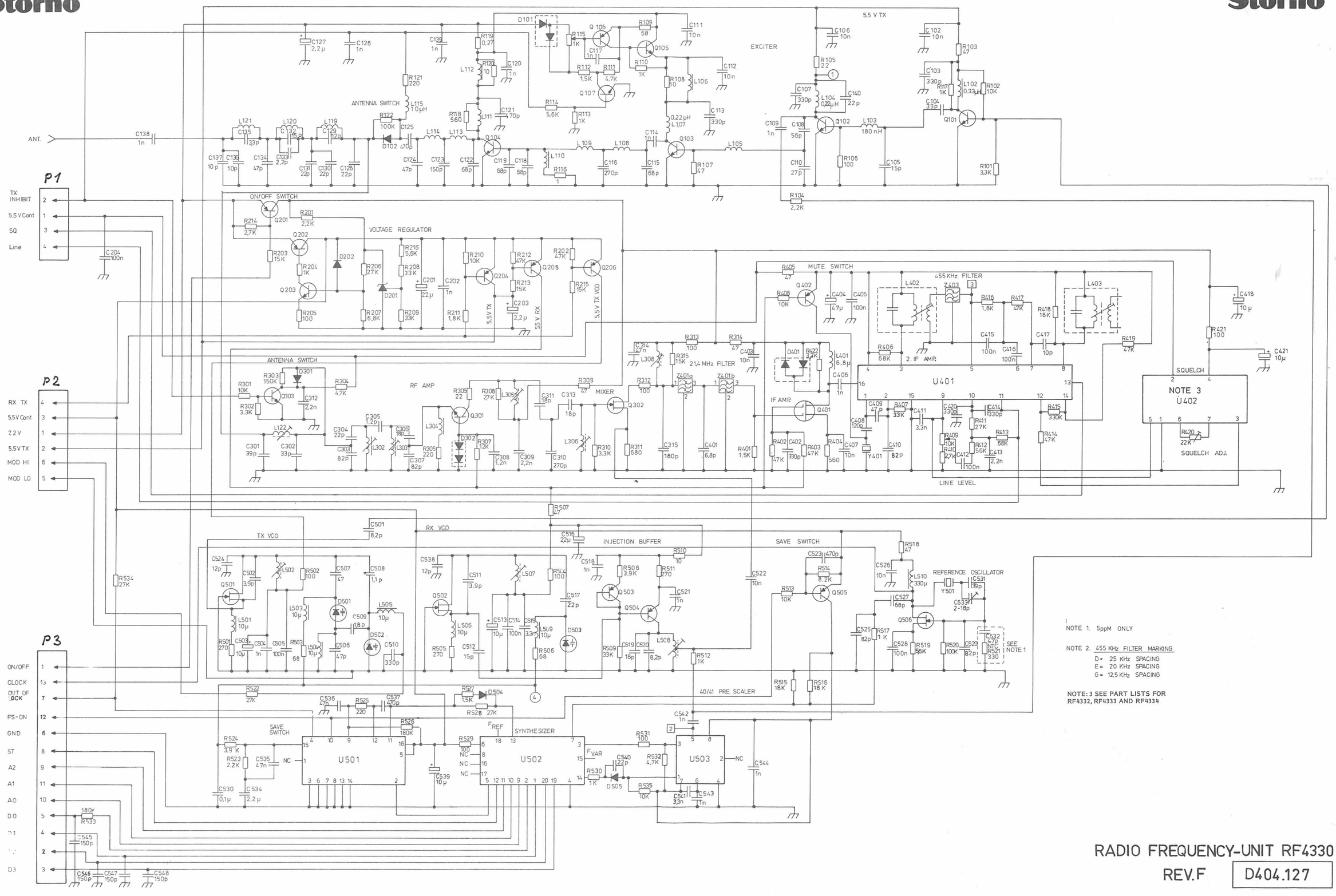

NOTE 1. 5ppM ONLY

NOTE 2. 455 KHz FILTER MARKING
D= 25 KHz SPACING
E= 20 KHz SPACING
G= 12,5 KHz SPACING

NOTE: 3 SEE PART LISTS FOR RF4332, RF4333 AND RF4334

RADIO FREQUENCY-UNIT RF4330

REV.F D404.127

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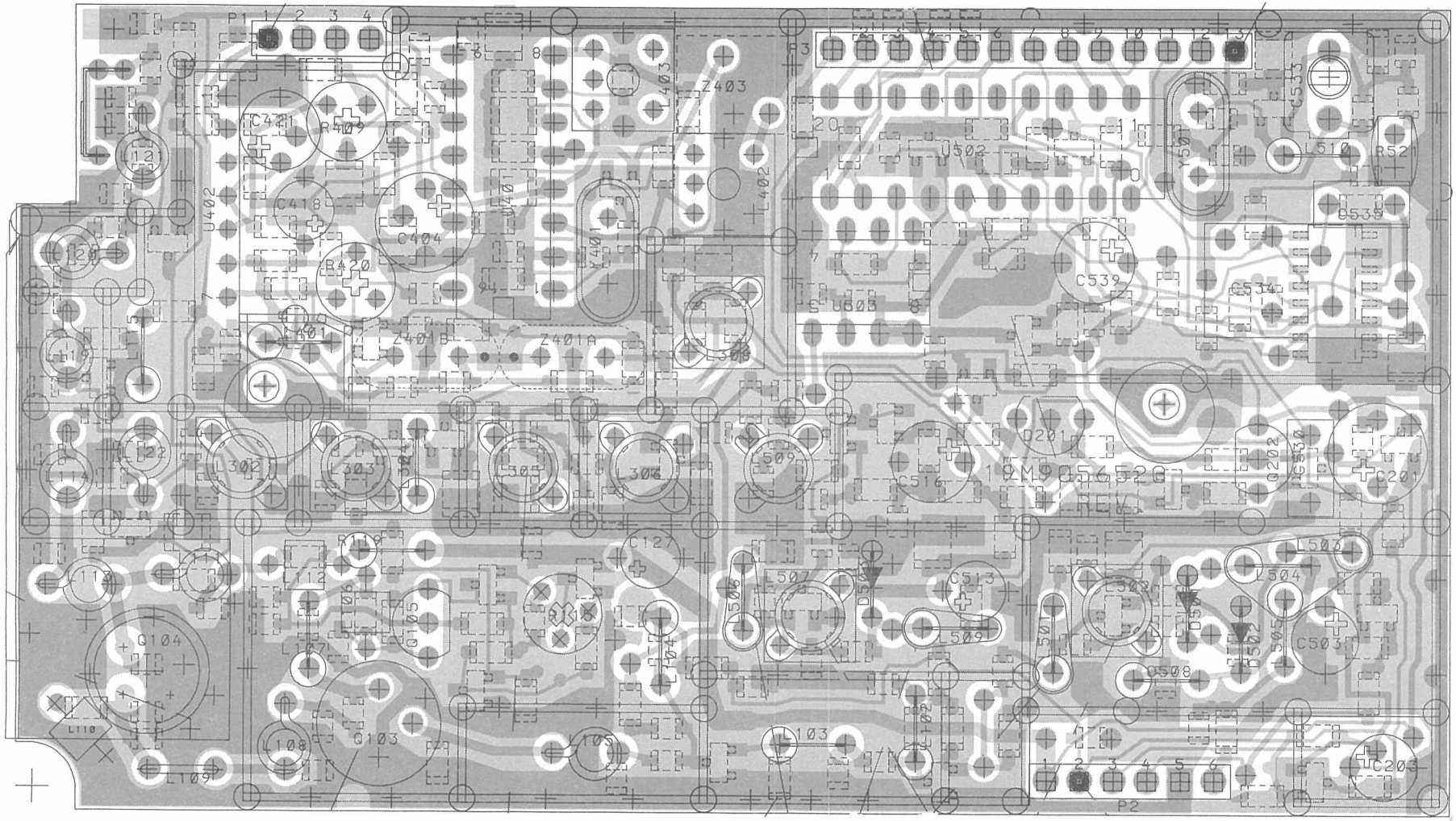


	MODULE CODE NO.	MOUNTED BOARD CODE NO.
25 kHz	J707942G1	M905652G1
20 kHz	J707942G2	M905652G1
12.5 kHz	J707942G3	M905652G1

SEE PARTS LISTS

RADIO FREQUENCY UNIT RF4330
COMPONENT LAYOUT
COMPONENT SIDE

REV. 2

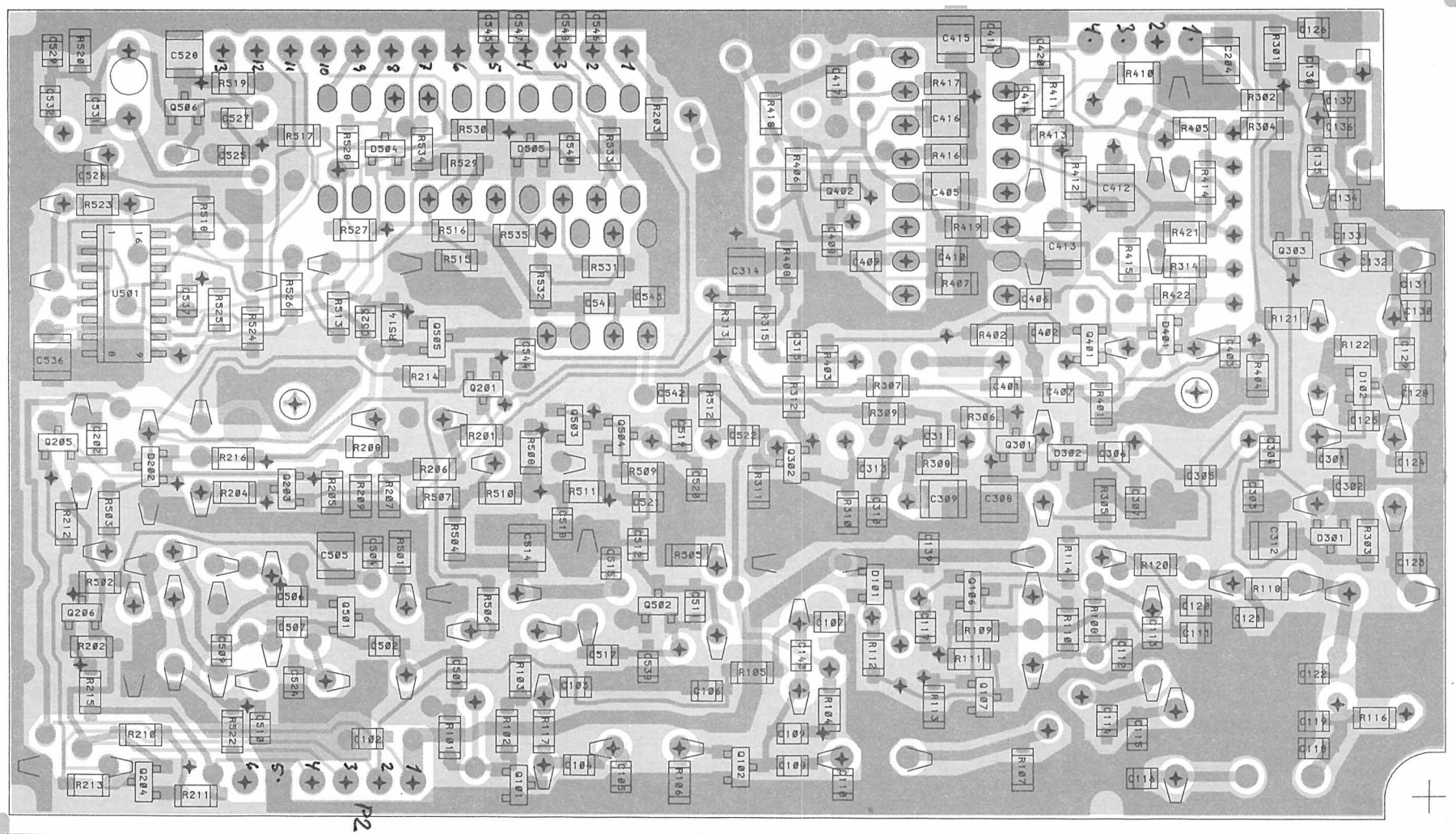
D404.123

Storno

P3

P1

Storno



	MODULE CODE NO.	MOUNTED BOARD CODE NO.
25 kHz	J707942G1	M905652G1
20 kHz	J707942G2	M905652G1
12.5 kHz	J707942G3	M905652G1

SEE PARTS LISTS

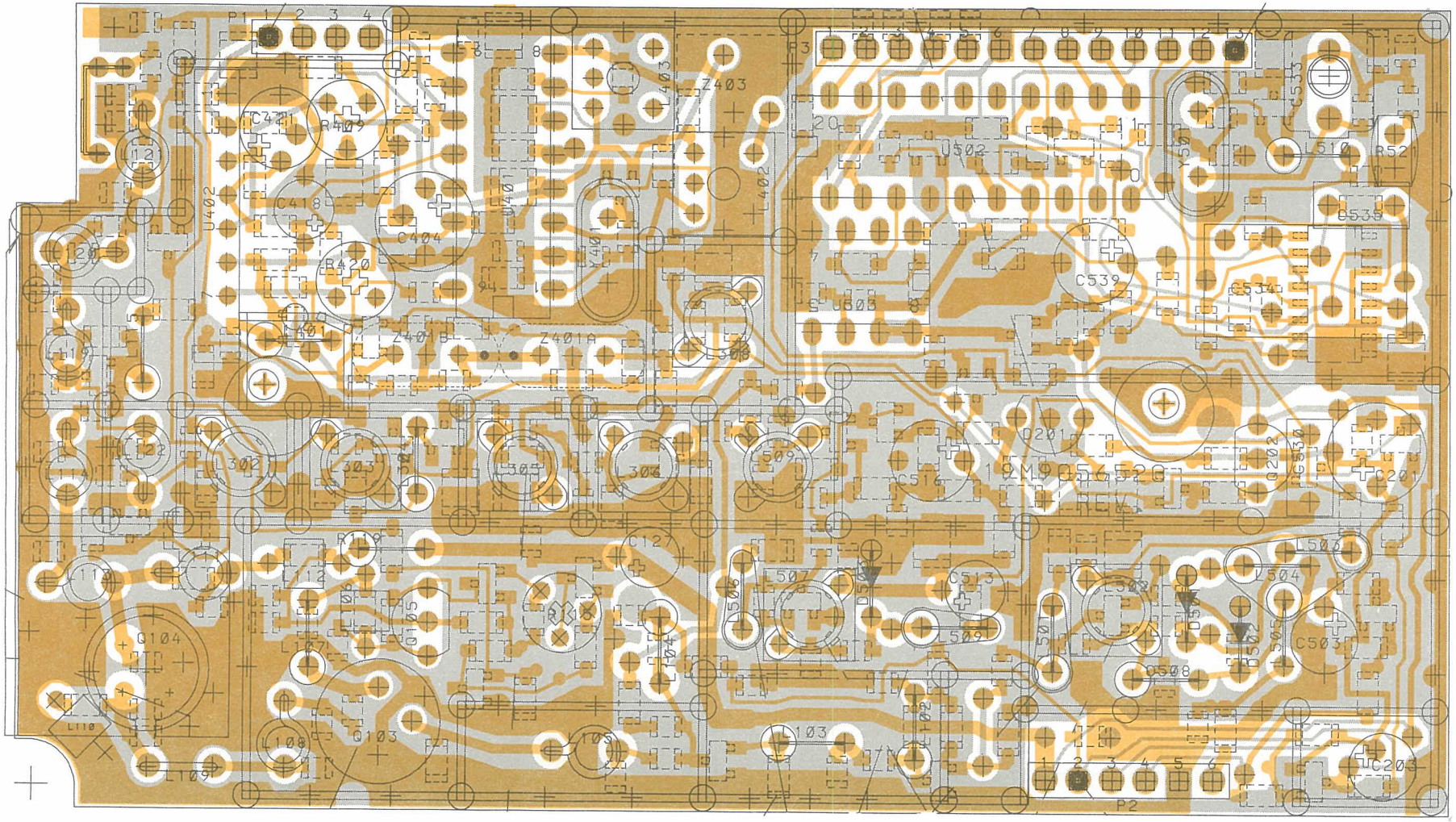
RADIO FREQUENCY UNIT RF4330
COMPONENT LAYOUT
CHIP SIDE

REV. 2

D404.124

Storno

Storno



	MODULE CODE NO.	MOUNTED BOARD CODE NO.
25 kHz	J707942G1	M905652G1
20 kHz	J707942G2	M905652G1
12.5 kHz	J707942G3	M905652G1

SEE PARTS LISTS

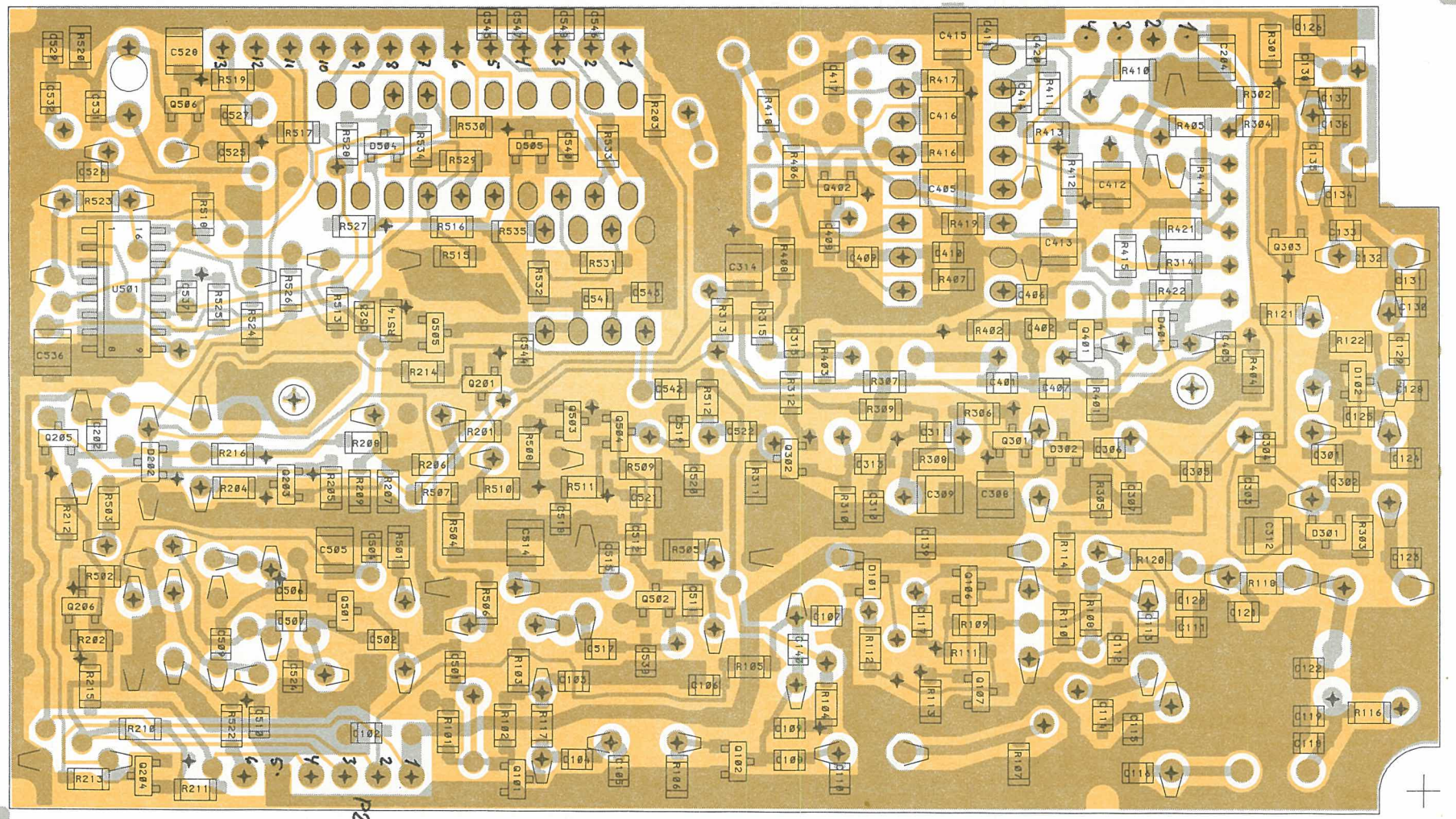
RADIO FREQUENCY UNIT RF4330
COMPONENT LAYOUT
COMPONENT SIDE

REV. 2

D404.123

Storno

Storno



	MODULE CODE NO.	MOUNTED BOARD CODE NO.
25 kHz	J707942G1	M905652G1
20 kHz	J707942G2	M905652G1
12.5 kHz	J707942G3	M905652G1

SEE PARTS LISTS

RADIO FREQUENCY UNIT RF4330
COMPONENT LAYOUT
CHIP SIDE

REV. 2

D404.124

ITEM NUMBER DESCRIPTION

M905652G1 CPNT BD : RF 4330, REVISION NO.: 2

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C102	J707438P14	CAP CER 10NF 50V	1
C103	J707436P73	CAP CER 330PF 50V	1
C104	J707436P37	CAP CER 33PF 50V	1
C105	J707436P21	CAP CER 15PF 50V	1
C106	J707438P14	CAP CER 10NF 50V	1
C107	J707436P73	CAP CER 330PF 50V	1
C108	J707436P49	CAP CER 56PF 50V	1
C109	J707438P5	CAP CER 1NF 50V	1
C110	J707436P33	CAP CER 27PF 50V	1
C111	J707438P14	CAP CER 10NF 50V	1
C112	J707438P14	CAP CER 10NF 50V	1
C113	J707436P73	CAP CER 330PF 50V	1
C114	J707438P5	CAP CER 1NF 50V	1
C115	J707436P53	CAP CER 68PF 50V	1
C116	J707436P71	CAP CER 270PF 50V	1
C117	J707438P5	CAP CER 1NF 50V	1
C118	J707436P53	CAP CER 68PF 50V	1
C119	J707436P53	CAP CER 68PF 50V	1
C120	J707438P5	CAP CER 1NF 50V	1
C121	J707438P3	CAP CER 470PF 50V	1
C122	J707436P53	CAP CER 68PF 50V	1
C123	J707436P65	CAP CER 150PF 50V	1
C124	J707436P45	CAP CER 47PF 50V	1
C125	J707436P77	CAP CER 470PF 50V	1
C126	J707438P5	CAP CER 1NF 50V	1
C127	J707444P5	CAP TA 2,2 UF 35V	1
C128	J707436P29	CAP CER 22PF 50V	1
C129	J707436P17	CAP CER 12PF 50V	1
C130	J707436P29	CAP CER 22PF 50V	1
C131	J707436P29	CAP CER 22PF 50V	1
C132	J707436P21	CAP CER 15PF 50V	1
C133	J707436P5	CAP CER 2,2PF 50V	1
C134	J707436P45	CAP CER 47PF 50V	1
C135	J707436P7	CAP CER 3,3PF 50V	1
C136	J707436P13	CAP CER 10PF 50V	1
C137	J707436P13	CAP CER 10PF 50V	1
C138	J707438P5	CAP CER 1NF 50V	1
C139	J707438P5	CAP CER 1NF 50V	1
C140	J707436P29	CAP CER 22PF 50V	1
C201	J707444P8	CAP TA 22MF 16V	1
C202	J707438P5	CAP CER 1NF 50V	1
C203	J707444P5	CAP TA 2,2 UF 35V	1
C204	J707438P26	CAP CER 100NF 50V	1
C301	J707436P41	CAP CER 39PF 50V	1
C302	J707436P37	CAP CER 33PF 50V	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C303	J707436P57	CAP CER 82PF 50V	1
C304	J707436P29	CAP CER 22PF 50V	1
C305	J707436P2	CAP CER 1,2PF 50V	1
C306	J707436P25	CAP CER 18PF 50V	1
C307	J707436P57	CAP CER 82PF 50V	1
C308	J707436P87	CAP CER 1,2NF 50V	1
C309	J707436P93	CAP CER 2,2NF 50V	1
C310	J707436P71	CAP CER 270PF 50V	1
C311	J707436P25	CAP CER 18PF 50V	1
C312	J707436P93	CAP CER 2,2NF 50V	1
C313	J707436P25	CAP CER 18PF 50V	1
C314	J707438P22	CAP CER 47NF 50V	1
C315	J707436P67	CAP CER 180PF 50V	1
C401	J707436P11	CAP CER 6,8PF 50V	1
C402	J707436P73	CAP CER 330PF 50V	1
C403	J707438P14	CAP CER 10NF 50V	1
C404	J707444P9	CAP TA 47MF 6,3V	1
C405	J707438P26	CAP CER 100NF 50V	1
C406	J707438P5	CAP CER 1NF 50V	1
C407	J707438P14	CAP CER 10NF 50V	1
C408	J707436P63	CAP CER 120PF 50V	1
C409	J707436P45	CAP CER 47PF 50V	1
C410	J707436P57	CAP CER 82PF 50V	1
C411	J707438P8	CAP CER 3,3NF 50V	1
C412	J707438P26	CAP CER 100NF 50V	1
C413	J707436P93	CAP CER 2,2NF 50V	1
C414	J707436P73	CAP CER 330PF 50V	1
C415	J707438P26	CAP CER 100NF 50V	1
C416	J707438P26	CAP CER 100NF 50V	1
C417	J707436P13	CAP CER 10PF 50V	1
C418	J707444P7	CAP TA 10 UF 16V	1
C419	J707444P3	CAP TA 0,47 UF 35V	1
C420	J707436P73	CAP CER 330PF 50V	1
C421	J707444P7	CAP TA 10 UF 16V	1
C501	J707436P12	CAP CER 8,2PF 50V	1
C502	J707436P8	CAP CER 3,9PF 50V	1
C503	J707444P7	CAP TA 10 UF 16V	1
C504	J707438P5	CAP CER 1NF 50V	1
C505	J707438P26	CAP CER 100NF 50V	1
C506	J707436P45	CAP CER 47PF 50V	1
C507	J707436P45	CAP CER 47PF 50V	1
C508	J707483P7	CAP PHEN 1,0 PF 500V	1
C509	J707436P4	CAP CER 1,8PF 50V	1
C510	J707436P73	CAP CER 330PF 50V	1
C511	J707436P8	CAP CER 3,9PF 50V	1
* OR:			* IF RX-INJ
* C511	* J707436P17	* CAP CER 12PF 50V	* 1 TO U-INJ
C512	J707436P21	CAP CER 15PF 50V	1
C513	J707444P7	CAP TA 10 UF 16V	1
C514	J707438P26	CAP CER 100NF 50V	1
C515	J707438P8	CAP CER 3,3NF 50V	1
C516	J707444P5	CAP TA 2,2 UF 35V	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C517	J707436P29	CAP CER 22PF 50V	1
* OR:			* IF RX-INJ
* C517	* J707436P33	* CAP CER 27PF 50V	* 1 TO U-INJ
C518	J707438P5	CAP CER 1NF 50V	1
C519	J707436P25	CAP CER 18PF 50V	1
C520	J707436P12	CAP CER 8,2PF 50V	1
* OR:			* IF RX-INJ
* C520	* J707436P53	* CAP CER 68PF 50V	* 1 TO U-INJ
C521	J707438P5	CAP CER 1NF 50V	1
C522	J707438P14	CAP CER 10NF 50V	1
C523	J707438P3	CAP CER 470PF 50V	1
C524	J707436P17	CAP CER 12PF 50V	1
C525	J707436P57	CAP CER 82PF 50V	1
C526	J707438P14	CAP CER 10NF 50V	1
C527	J707436P53	CAP CER 68PF 50V	1
C528	J707438P26	CAP CER 100NF 50V	1
C529	J707436P57	CAP CER 82PF 50V	1
C530	J707412P9	CAP PYES 0,1MF 63V	1
C531	J707436P41	CAP CER 39PF 50V	1
C532	J707436P9	CAP CER 4,7PF 50V	1
C533	J707475P1	CAP VAR 2 - 18 PF	1
C534	J707612P1	CAP POL 2,2MF 100V	1
C535	J707412P7	CAP POL 47NF 100V	1
C536	J707438P22	CAP CER 47NF 50V	1
C537	J707438P3	CAP CER 470PF 50V	1
C538	J707436P17	CAP CER 12PF 50V	1
C539	J707444P7	CAP TA 10 UF 16V	1
C540	J707436P29	CAP CER 22PF 50V	1
C541	J707438P8	CAP CER 3,3NF 50V	1
C542	J707438P5	CAP CER 1NF 50V	1
C543	J707438P5	CAP CER 1NF 50V	1
C544	J707438P5	CAP CER 1NF 50V	1
C545	J707436P65	CAP CER 150PF 50V	1
C546	J707436P65	CAP CER 150PF 50V	1
C547	J707436P65	CAP CER 150PF 50V	1
C548	J707436P65	CAP CER 150PF 50V	1
D100	J706001P1	DIO SI BAV 74	1
D101	J707389P1	DIO SI SIG BAV 99	1
D102	J707391P1	DIO SI SIG BAT 18	1
D201	J707448P1	IC LIN VR VAR TL431 CLP	1
D202	J707390P1	DIO SI SIG BAV 74	1
D301	J707391P1	DIO SI SIG BAT 18	1
D302	J707389P1	DIO SI SIG BAV 99	1
D401	J707389P1	DIO SI SIG BAV 99	1
D501	J707928P1	DIO VAR CAP BB 409	1
D502	J707928P1	DIO VAR CAP BB 409	1
D503	J707928P1	DIO VAR CAP BB 409	1
D504	J707390P1	DIO SI SIG BAV 74	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY	
D505	J707390P1	DIO SI SIG BAV 74	1	
L102	A700024P7	COIL FIX 330NH 10%	1	
L103	J707486P7	COIL FIX 0,18 UH 10%	1	
L104	J707486P9	COIL FIX 0,22 UH 10%	1	
L105	J707426P5	COIL FIX	1	
L106	J707339G1	COIL FIX ASM	1	
L107	J707486P9	COIL FIX 0,22 UH 10%	1	
L108	J707426P5	COIL FIX	1	
L109	J707256P4	COIL FIX	1	
L110	J707339G1	COIL FIX ASM	1	
L111	J707426P5	COIL FIX	1	
L112	J707339G1	COIL FIX ASM	1	
L113	J707426P2	COIL FIX	1	
L114	J707426P6	COIL FIX	1	
L115	J707486P4	COIL,RF,FIXED 10 UH 10%	1	
L119	J707426P9	COIL FIX	1	
L120	J707426P9	COIL FIX	1	
L121	J707426P10	COIL FIX	1	
L122	J707934G1	COIL ASM	1	
L302	J707422P5	COIL RF- VAR 7-1/2T	1	
L303	J707422P5	COIL RF- VAR 7-1/2T	1	
L304	J707486P2	COIL FIX 3.3 UH 10%	1	
L305	J707422P5	COIL RF- VAR 7-1/2T	1	
L306	J707422P5	COIL RF- VAR 7-1/2T	1	
L308	J707422P3	COIL RF- VAR 9-1/2T	1	
L401	J707486P3	COIL RF- FIX 6.8 UH 10%	1	
L402	J707431P1	COIL RF- VAR 455 KHZ 25%	1	
L403	J707431P1	COIL RF- VAR 455 KHZ 25%	1	
L501	J707486P4	COIL RF- FIX 10UH 10%	1	
L502	J707422P2	COIL RF- VAR 4-1/2 T	1	
L503	J707486P4	COIL RF- FIX 10UH 10%	1	
L504	J707486P4	COIL RF- FIX 10UH 10%	1	
L505	J707486P4	COIL RF- FIX 10UH 10%	1	
L506	J707486P4	COIL RF- FIX 10UH 10%	1	
L507	J707422P4	COIL RF- VAR 3-1/2T	1	
* OR:			*	IF RX-INJ
* L507	* J707422P6	* COIL RF- VAR 6-1/2T	*	1 TO U-INJ
L508	J707375P1	COIL RF- VAR 4-1/2 T TAP	1	
L509	J707486P4	COIL RF- FIX 10UH 10%	1	
L510	J707486P5	COIL FIX 330 UH 10%	1	
P101	J707962G1	PLUG ASM , 4 PIN	1	
P102	J707962G2	PLUG ASM , 6 PIN	1	
P103	J707962G3	PLUG ASM , 13 PIN	1	
Q101	J707388P1	TSTR NPN SI BFR 53	1	
Q102	J707388P1	TSTR NPN SI BFR 53	1	

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
Q103	J706145P1	TSTR NPN SI BFW 16A	1
Q104	J707868P1	TSTR NPN SI RF-PWR 4W	1
Q105	J707673P1	TSTR NPN SI BC 368	1
Q106	J707387P1	TSTR BCW 30	1
Q107	J707386P1	TSTR BCW 32	1
Q201	J707387P1	TSTR BCW 30	1
Q202	J707435P1	TSTR PNP SI BC 369	1
Q203	J707386P1	TSTR BCW 32	1
Q204	J707432P1	TSTR BCX18	1
Q205	J707387P1	TSTR BCW 30	1
Q206	J707387P1	TSTR BCW 30	1
Q301	J707418P1	TSTR NPN SI BFS 17	1
Q302	J707419P1	TSTR JFET SI BF 511	1
Q303	J707386P1	TSTR BCW 32	1
Q401	J707433P1	TSTR MFET SI BF989	1
Q402	J707387P1	TSTR BCW 30	1
Q501	J707419P1	TSTR JFET SI BF 511	1
Q502	J707419P1	TSTR JFET SI BF 511	1
Q503	J707387P1	TSTR BCW 30	1
Q504	J707430P1	TSTR NPN SI BF 569	1
Q505	J707387P1	TSTR BCW 30	1
Q506	J707419P1	TSTR JFET SI BF 511	1
R101	J707385P332	RES MFILM 3,3K OHM 0,125W	1
R102	J707385P103	RES MFILM 10K 5% 0,125W	1
R103	J707385P470	RES MFILM 47R 5% 0,125W	1
R104	J707385P222	RES MFILM 2K2 5% 0,125W	1
R105	J707385P220	RES MFILM 22R 5% 0,125W	1
R106	J707385P101	RES MFILM 100R 5% 0,125W	1
R107	J707385P470	RES MFILM 47R 5% 0,125W	1
R108	J707385P100	RES MFILM 10R 5% 0,125W	1
R109	J707385P680	RES MFILM 68R 5% 0,125W	1
R110	J707385P102	RES MFILM 1K0 5% 0,125W	1
R111	J707385P472	RES MFILM 4K7 5% 0,125W	1
R112	J707385P152	RES MFILM 1K5 5% 0,125W	1
R113	J707385P102	RES MFILM 1K0 5% 0,125W	1
R114	J707385P562	RES MFILM 5K6 5% 0,125W	1
R115	J707478P4	RES VAR 1K 20% 0,05W	1
R116	J707385P910	RES MFILM 1R0 20% 0,125W	1
R117	J707385P102	RES MFILM 1K0 5% 0,125W	1
R118	J707385P560	RES MFILM 56R 5% 0,125W	1
R119	J707945P1	RES WW 0,27 OHM	1
R120	J707385P100	RES MFILM 10R 5% 0,125W	1
R121	J707385P221	RES MFILM 220R 5% 0,125W	1
R122	J707385P104	RES MFILM 100K 5% 0,125W	1
R201	J707385P222	RES MFILM 2K2 5% 0,125W	1
R202	J707385P473	RES MFILM 47K 5% 0,125W	1
R203	J707385P153	RES MFILM 15K 5% 0,125W	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
R204	J707385P102	RES MFILM 1K0 5% 0,125W	1
R205	J707385P101	RES MFILM 100R 5% 0,125W	1
R206	J707385P273	RES MFILM 27K 5% 0,125W	1
R207	J707385P682	RES MFILM 6K8 5% 0,125W	1
R208	J707385P333	RES MFILM 33K 5% 0,125W	1
R209	J707385P333	RES MFILM 33K 5% 0,125W	1
R210	J707385P103	RES MFILM 10K 5% 0,125W	1
R211	J707385P182	RES MFILM 1K8 5% 0,125W	1
R212	J707385P473	RES MFILM 47K 5% 0,125W	1
R213	J707385P153	RES MFILM 15K 5% 0,125W	1
R214	J707385P272	RES MFILM 2K7 5% 0,125W	1
R215	J707385P153	RES MFILM 15K 5% 0,125W	1
R216	J707385P562	RES MFILM 5K6 5% 0,125W	1
R301	J707385P103	RES MFILM 10K 5% 0,125W	1
R302	J707385P332	RES MFILM 3K3 5% 0,125W	1
R303	J707385P154	RES MFILM 150K 5% 0,125W	1
R304	J707385P472	RES MFILM 4K7 5% 0,125W	1
R305	J707385P221	RES MFILM 220R 5% 0,125W	1
R306	J707385P220	RES MFILM 22R 5% 0,125W	1
R307	J707385P123	RES MFILM 12K 5% 0,125W	1
R308	J707385P272	RES MFILM 2K7 5% 0,125W	1
R309	J707385P470	RES MFILM 47R 5% 0,125W	1
R310	J707385P332	RES MFILM 3K3 5% 0,125W	1
R311	J707385P681	RES MFILM 680R 5% 0,125W	1
R312	J707385P101	RES MFILM 100R 5% 0,125W	1
R313	J707385P101	RES MFILM 100R 5% 0,125W	1
R314	J707385P470	RES MFILM 47R 5% 0,125W	1
R315	J707385P153	RES MFILM 15K 5% 0,125W	1
R401	J707385P152	RES MFILM 1K5 5% 0,125W	1
R402	J707385P473	RES MFILM 47K 5% 0,125W	1
R403	J707385P473	RES MFILM 47K 5% 0,125W	1
R404	J707385P561	RES MFILM 560R 5% 0,125W	1
R405	J707385P470	RES MFILM 47R 5% 0,125W	1
R406	J707385P683	RES MFILM 68K 5% 0,125W	1
R407	J707385P333	RES MFILM 33K 5% 0,125W	1
R408	J707385P103	RES MFILM 10K 5% 0,125W	1
R409	J707478P10	RES VAR 10K 20% 0.05W	1
R410	J707385P272	RES MFILM 2K7 5% 0,125W	1
R411	J707385P273	RES MFILM 27K 5% 0,125W	1
R412	J707385P563	RES MFILM 56K 5% 0,125W	1
R413	J707385P683	RES MFILM 68K 5% 0,125W	1
R414	J707385P473	RES MFILM 47K 5% 0,125W	1
R415	J707385P334	RES MFILM 330K 5% 0,125W	1
R416	J707385P182	RES MFILM 1K8 5% 0,125W	1
R417	J707385P473	RES MFILM 47K 5% 0,125W	1
R418	J707385P183	RES MFILM 18K 5% 0,125W	1
R419	J707385P473	RES MFILM 47K 5% 0,125W	1
R420	J707478P12	RES VAR 22K 20% 0.05W	1
R421	J707385P101	RES MFILM 100R 5% 0,125W	1
R422	J707385P332	RES MFILM 3K3 5% 0,125W	1
R501	J707385P271	RES MFILM 270R 5% 0,125W	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
R502	J707385P101	RES MFILM 100R 5% 0,125W	1
R503	J707385P680	RES MFILM 68R 5% 0,125W	1
R504	J707385P101	RES MFILM 100R 5% 0,125W	1
R505	J707385P271	RES MFILM 270R 5% 0,125W	1
R506	J707385P680	RES MFILM 68R 5% 0,125W	1
R507	J707385P470	RES MFILM 47R 5% 0,125W	1
R508	J707385P392	RES MFILM 3K9 5% 0,125W	1
R509	J707385P333	RES MFILM 33K 5% 0,125W	1
R510	J707385P100	RES MFILM 10R 5% 0,125W	1
R511	J707385P271	RES MFILM 270R 5% 0,125W	1
R512	J707385P102	RES MFILM 1K0 5% 0,125W	1
R513	J707385P103	RES MFILM 10K 5% 0,125W	1
R514	J707385P822	RES MFILM 8K2 5% 0,125W	1
R515	J707385P183	RES MFILM 18K 5% 0,125W	1
R516	J707385P183	RES MFILM 18K 5% 0,125W	1
R517	J707385P102	RES MFILM 1K0 5% 0,125W	1
R518	J707385P470	RES MFILM 47R 5% 0,125W	1
R519	J707385P562	RES MFILM 5K6 5% 0,125W	1
R520	J707385P104	RES MFILM 100K 5% 0,125W	1
R522	J707385P273	RES MFILM 27K 5% 0,125W	1
R523	J707385P222	RES MFILM 2K2 5% 0,125W	1
R524	J707385P392	RES MFILM 3K9 5% 0,125W	1
R525	J707385P221	RES MFILM 220R 5% 0,125W	1
R526	J707385P184	RES MFILM 180K 5% 0,125W	1
R527	J707385P152	RES MFILM 1K5 5% 0,125W	1
R528	J707385P273	RES MFILM 27K 5% 0,125W	1
R529	J707385P101	RES MFILM 100R 5% 0,125W	1
R530	J707385P102	RES MFILM 1K0 5% 0,125W	1
R531	J707385P101	RES MFILM 100R 5% 0,125W	1
R532	J707385P472	RES MFILM 4K7 5% 0,125W	1
R533	J707385P184	RES MFILM 180K 5% 0,125W	1
R534	J707385P273	RES MFILM 27K 5% 0,125W	1
R535	J707385P103	RES MFILM 10K 5% 0,125W	1
U401	J707449P1	IC, LIN-, IF-AMP, MC3357	1
U501	J707434P2	IC, DIG. MUX., 4053 CMOS	1
U502	J707337P1	IC, PLL SYN., MC145146	1
U503	J707374P1	IC, PLL PRESC., SP8793	1
0002	M9-----P1R2	BD PW., REVISION NO.: 2	
0003	K805347P1	SHIELD MET.	1
0004	J707921P4	SLVG HEAT SHRINK PYOL CLEAR	0.050 M
0005	J707921P2	SLVG HEAT SHRINK PYOL CLEAR	0.002 M
0006	A701648P2	SIL RUBB. SEALANT RTV-162	0.001 KG
0007	L855385P1	SPRING FOR ANT.	1
0008	A701332P4	DISC -INSULAT.	1
0009	J706281P7	CORE	6
0010	L855470P1	HEAT SINK	1

ITEM NUMBER DESCRIPTION

M905652G1 CPNT BD : RF 4330, REVISION NO.: 2

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C102	J707438P14	CAP CER 10NF 50V	1
C103	J707436P73	CAP CER 330PF 50V	1
C104	J707436P37	CAP CER 33PF 50V	1
C105	J707436P21	CAP CER 15PF 50V	1
C106	J707438P14	CAP CER 10NF 50V	1
C107	J707436P73	CAP CER 330PF 50V	1
C108	J707436P49	CAP CER 56PF 50V	1
C109	J707438P5	CAP CER 1NF 50V	1
C110	J707436P33	CAP CER 27PF 50V	1
C111	J707438P14	CAP CER 10NF 50V	1
C112	J707438P14	CAP CER 10NF 50V	1
C113	J707436P73	CAP CER 330PF 50V	1
C114	J707438P5	CAP CER 1NF 50V	1
C115	J707436P53	CAP CER 68PF 50V	1
C116	J707436P71	CAP CER 270PF 50V	1
C117	J707438P5	CAP CER 1NF 50V	1
C118	J707436P53	CAP CER 68PF 50V	1
C119	J707436P53	CAP CER 68PF 50V	1
C120	J707438P5	CAP CER 1NF 50V	1
C121	J707438P3	CAP CER 470PF 50V	1
C122	J707436P53	CAP CER 68PF 50V	1
C123	J707436P65	CAP CER 150PF 50V	1
C124	J707436P45	CAP CER 47PF 50V	1
C125	J707436P77	CAP CER 470PF 50V	1
C126	J707438P5	CAP CER 1NF 50V	1
C127	J707444P5	CAP TA 2,2 UF 35V	1
C128	J707436P29	CAP CER 22PF 50V	1
C129	J707436P17	CAP CER 12PF 50V	1
C130	J707436P29	CAP CER 22PF 50V	1
C131	J707436P29	CAP CER 22PF 50V	1
C132	J707436P21	CAP CER 15PF 50V	1
C133	J707436P5	CAP CER 2,2PF 50V	1
C134	J707436P45	CAP CER 47PF 50V	1
C135	J707436P7	CAP CER 3,3PF 50V	1
C136	J707436P13	CAP CER 10PF 50V	1
C137	J707436P13	CAP CER 10PF 50V	1
C138	J707438P5	CAP CER 1NF 50V	1
C139	J707438P5	CAP CER 1NF 50V	1
C140	J707436P29	CAP CER 22PF 50V	1
C201	J707444P8	CAP TA 22MF 16V	1
C202	J707438P5	CAP CER 1NF 50V	1
C203	J707444P5	CAP TA 2,2 UF 35V	1
C204	J707438P26	CAP CER 100NF 50V	1
C301	J707436P41	CAP CER 39PF 50V	1
C302	J707436P37	CAP CER 33PF 50V	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C303	J707436P57	CAP CER 82PF 50V	1
C304	J707436P29	CAP CER 22PF 50V	1
C305	J707436P2	CAP CER 1,2PF 50V	1
C306	J707436P25	CAP CER 18PF 50V	1
C307	J707436P57	CAP CER 82PF 50V	1
C308	J707436P87	CAP CER 1,2NF 50V	1
C309	J707436P93	CAP CER 2,2NF 50V	1
C310	J707436P71	CAP CER 270PF 50V	1
C311	J707436P25	CAP CER 18PF 50V	1
C312	J707436P93	CAP CER 2,2NF 50V	1
C313	J707436P25	CAP CER 18PF 50V	1
C314	J707438P22	CAP CER 47NF 50V	1
C315	J707436P67	CAP CER 180PF 50V	1
C401	J707436P11	CAP CER 6,8PF 50V	1
C402	J707436P73	CAP CER 330PF 50V	1
C403	J707438P14	CAP CER 10NF 50V	1
C404	J707444P9	CAP TA 47MF 6,3V	1
C405	J707438P26	CAP CER 100NF 50V	1
C406	J707438P5	CAP CER 1NF 50V	1
C407	J707438P14	CAP CER 10NF 50V	1
C408	J707436P63	CAP CER 120PF 50V	1
C409	J707436P45	CAP CER 47PF 50V	1
C410	J707436P57	CAP CER 82PF 50V	1
C411	J707438P8	CAP CER 3,3NF 50V	1
C412	J707438P26	CAP CER 100NF 50V	1
C413	J707436P93	CAP CER 2,2NF 50V	1
C414	J707436P73	CAP CER 330PF 50V	1
C415	J707438P26	CAP CER 100NF 50V	1
C416	J707438P26	CAP CER 100NF 50V	1
C417	J707436P13	CAP CER 10PF 50V	1
C418	J707444P7	CAP TA 10 UF 16V	1
C419	J707444P3	CAP TA 0,47 UF 35V	1
C420	J707436P73	CAP CER 330PF 50V	1
* C421 *	J707444P7 *	CAP TA 10 UF 16V *	1
C501	J707436P12	CAP CER 8,2PF 50V	1
C502	J707436P8	CAP CER 3,9PF 50V	1
C503	J707444P7	CAP TA 10 UF 16V	1
C504	J707438P5	CAP CER 1NF 50V	1
C505	J707438P26	CAP CER 100NF 50V	1
C506	J707436P45	CAP CER 47PF 50V	1
C507	J707436P45	CAP CER 47PF 50V	1
C508	J707483P7	CAP PHEN 1,0 PF 500V	1
C509	J707436P4	CAP CER 1,8PF 50V	1
C510	J707436P73	CAP CER 330PF 50V	1
C511	J707436P8	CAP CER 3,9PF 50V	1
C512	J707436P21	CAP CER 15PF 50V	1
C513	J707444P7	CAP TA 10 UF 16V	1
C514	J707438P26	CAP CER 100NF 50V	1
C515	J707438P8	CAP CER 3,3NF 50V	1
C516	J707444P5	CAP TA 2,2 UF 35V	1
C517	J707436P29	CAP CER 22PF 50V	1
C518	J707438P5	CAP CER 1NF 50V	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C519	J707436P25	CAP CER 18PF 50V	1
C520	J707436P12	CAP CER 8,2PF 50V	1
C521	J707438P5	CAP CER 1NF 50V	1
C522	J707438P14	CAP CER 10NF 50V	1
C523	J707438P3	CAP CER 470PF 50V	1
C524	J707436P17	CAP CER 12PF 50V	1
C525	J707436P57	CAP CER 82PF 50V	1
C526	J707438P14	CAP CER 10NF 50V	1
C527	J707436P53	CAP CER 68PF 50V	1
C528	J707438P26	CAP CER 100NF 50V	1
C529	J707436P57	CAP CER 82PF 50V	1
C530	J707412P9	CAP PYES 0,1MF 63V	1
C531	J707436P41	CAP CER 39PF 50V	1
C532	J707436P9	CAP CER 4,7PF 50V	1
C533	J707475P1	CAP VAR 2 - 18 PF	1
C534	J707612P1	CAP POL 2,2MF 100V	1
C535	J707412P7	CAP POL 47NF 100V	1
C536	J707438P22	CAP CER 47NF 50V	1
C537	J707438P3	CAP CER 470PF 50V	1
C538	J707436P17	CAP CER 12PF 50V	1
C539	J707444P7	CAP TA 10 UF 16V	1
C540	J707436P29	CAP CER 22PF 50V	1
C541	J707438P8	CAP CER 3,3NF 50V	1
C542	J707438P5	CAP CER 1NF 50V	1
C543	J707438P5	CAP CER 1NF 50V	1
C544	J707438P5	CAP CER 1NF 50V	1
C545	J707436P65	CAP CER 150PF 50V	1
C546	J707436P65	CAP CER 150PF 50V	1
C547	J707436P65	CAP CER 150PF 50V	1
C548	J707436P65	CAP CER 150PF 50V	1
D100	J706001P1	DIO SI BAV 74	1
D101	J707389P1	DIO SI SIG BAV 99	1
D102	J707391P1	DIO SI SIG BAT 18	1
D201	J707448P1	IC LIN VR VAR TL431 CLP	1
D202	J707390P1	DIO SI SIG BAV 74	1
D301	J707391P1	DIO SI SIG BAT 18	1
D302	J707389P1	DIO SI SIG BAV 99	1
D401	J707389P1	DIO SI SIG BAV 99	1
D501	J707928P1	DIO VAR CAP BB 409	1
D502	J707928P1	DIO VAR CAP BB 409	1
D503	J707928P1	DIO VAR CAP BB 409	1
D504	J707390P1	DIO SI SIG BAV 74	1
D505	J707390P1	DIO SI SIG BAV 74	1
L102	A700024P7	COIL FIX 330NH 10%	1
L103	J707486P7	COIL FIX 0,18 UH 10%	1
L104	J707486P9	COIL FIX 0,22 UH 10%	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
L105	J707426P5	COIL FIX	1
L106	J707339G1	COIL FIX ASM	1
L107	J707486P9	COIL FIX 0,22 UH 10%	1
L108	J707426P5	COIL FIX	1
L109	J707256P4	COIL FIX	1
L110	J707339G1	COIL FIX ASM	1
L111	J707426P5	COIL FIX	1
L112	J707339G1	COIL FIX ASM	1
L113	J707426P2	COIL FIX	1
L114	J707426P6	COIL FIX	1
L115	J707486P4	COIL,RF,FIXED 10 UH 10%	1
L119	J707426P9	COIL FIX	1
L120	J707426P9	COIL FIX	1
L121	J707426P10	COIL FIX	1
L122	J707934G1	COIL ASM	1
L302	J707422P5	COIL RF- VAR 7-1/2T	1
L303	J707422P5	COIL RF- VAR 7-1/2T	1
L304	J707486P2	COIL FIX 3.3 UH 10%	1
L305	J707422P5	COIL RF- VAR 7-1/2T	1
L306	J707422P5	COIL RF- VAR 7-1/2T	1
L308	J707422P3	COIL RF- VAR 9-1/2T	1
L401	J707486P3	COIL RF- FIX 6.8 UH 10%	1
L402	J707431P1	COIL RF- VAR 455 KHZ 25%	1
L403	J707431P1	COIL RF- VAR 455 KHZ 25%	1
L501	J707486P4	COIL RF- FIX 10UH 10%	1
L502	J707422P2	COIL RF- VAR 4-1/2 T	1
L503	J707486P4	COIL RF- FIX 10UH 10%	1
L504	J707486P4	COIL RF- FIX 10UH 10%	1
L505	J707486P4	COIL RF- FIX 10UH 10%	1
L506	J707486P4	COIL RF- FIX 10UH 10%	1
L507	J707422P4	COIL RF- VAR 3-1/2T	1
L508	J707375P1	COIL RF- VAR 4-1/2 T TAP	1
L509	J707486P4	COIL RF- FIX 10UH 10%	1
L510	J707486P5	COIL FIX 330 UH 10%	1
P101	J707962G1	PLUG ASM , 4 PIN	1
P102	J707962G2	PLUG ASM , 6 PIN	1
P103	J707962G3	PLUG ASM , 13 PIN	1
Q101	J707388P1	TSTR NPN SI BFR 53	1
Q102	J707388P1	TSTR NPN SI BFR 53	1
Q103	J706145P1	TSTR NPN SI BFW 16A	1
Q104	J707868P1	TSTR NPN SI RF-PWR 4W	1
Q105	J707673P1	TSTR NPN SI BC 368	1
Q106	J707387P1	TSTR BCW 30	1
Q107	J707386P1	TSTR BCW 32	1
Q201	J707387P1	TSTR BCW 30	1
Q202	J707435P1	TSTR PNP SI BC 369	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
Q203	J707386P1	TSTR BCW 32	1
Q204	J707432P1	TSTR BCX18	1
Q205	J707387P1	TSTR BCW 30	1
Q206	J707387P1	TSTR BCW 30	1
Q301	J707418P1	TSTR NPN SI BFS 17	1
Q302	J707419P1	TSTR JFET SI BF 511	1
Q303	J707386P1	TSTR BCW 32	1
Q401	J707433P1	TSTR MFET SI BF989	1
Q402	J707387P1	TSTR BCW 30	1
Q501	J707419P1	TSTR JFET SI BF 511	1
Q502	J707419P1	TSTR JFET SI BF 511	1
Q503	J707387P1	TSTR BCW 30	1
Q504	J707430P1	TSTR NPN SI BF 569	1
Q505	J707387P1	TSTR BCW 30	1
Q506	J707419P1	TSTR JFET SI BF 511	1
R101	J707385P332	RES MFILM 3,3K OHM 0,125W	1
R102	J707385P103	RES MFILM 10K 5% 0,125W	1
R103	J707385P470	RES MFILM 47R 5% 0,125W	1
R104	J707385P222	RES MFILM 2K2 5% 0,125W	1
R105	J707385P220	RES MFILM 22R 5% 0,125W	1
R106	J707385P101	RES MFILM 100R 5% 0,125W	1
R107	J707385P470	RES MFILM 47R 5% 0,125W	1
R108	J707385P100	RES MFILM 10R 5% 0,125W	1
R109	J707385P680	RES MFILM 68R 5% 0,125W	1
R110	J707385P102	RES MFILM 1K0 5% 0,125W	1
R111	J707385P472	RES MFILM 4K7 5% 0,125W	1
R112	J707385P152	RES MFILM 1K5 5% 0,125W	1
R113	J707385P102	RES MFILM 1K0 5% 0,125W	1
R114	J707385P562	RES MFILM 5K6 5% 0,125W	1
R115	J707478P4	RES VAR 1K 20% 0,05W	1
R116	J707385P910	RES MFILM 1R0 20% 0,125W	1
R117	J707385P102	RES MFILM 1K0 5% 0,125W	1
R118	J707385P560	RES MFILM 56R 5% 0,125W	1
R119	J707945P1	RES WW 0,27 OHM	1
R120	J707385P100	RES MFILM 10R 5% 0,125W	1
R121	J707385P221	RES MFILM 220R 5% 0,125W	1
R122	J707385P104	RES MFILM 100K 5% 0,125W	1
R201	J707385P222	RES MFILM 2K2 5% 0,125W	1
R202	J707385P473	RES MFILM 47K 5% 0,125W	1
R203	J707385P153	RES MFILM 15K 5% 0,125W	1
R204	J707385P102	RES MFILM 1K0 5% 0,125W	1
R205	J707385P101	RES MFILM 100R 5% 0,125W	1
R206	J707385P273	RES MFILM 27K 5% 0,125W	1
R207	J707385P682	RES MFILM 6K8 5% 0,125W	1
R208	J707385P333	RES MFILM 33K 5% 0,125W	1
R209	J707385P333	RES MFILM 33K 5% 0,125W	1
R210	J707385P103	RES MFILM 10K 5% 0,125W	1
R211	J707385P182	RES MFILM 1K8 5% 0,125W	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
R212	J707385P473	RES MFILM 47K 5% 0,125W	1
R213	J707385P153	RES MFILM 15K 5% 0,125W	1
R214	J707385P272	RES MFILM 2K7 5% 0,125W	1
R215	J707385P153	RES MFILM 15K 5% 0,125W	1
R216	J707385P562	RES MFILM 5K6 5% 0,125W	1
R301	J707385P103	RES MFILM 10K 5% 0,125W	1
R302	J707385P332	RES MFILM 3K3 5% 0,125W	1
R303	J707385P154	RES MFILM 150K 5% 0,125W	1
R304	J707385P472	RES MFILM 4K7 5% 0,125W	1
R305	J707385P221	RES MFILM 220R 5% 0,125W	1
R306	J707385P220	RES MFILM 22R 5% 0,125W	1
R307	J707385P123	RES MFILM 12K 5% 0,125W	1
R308	J707385P272	RES MFILM 2K7 5% 0,125W	1
R309	J707385P470	RES MFILM 47R 5% 0,125W	1
R310	J707385P332	RES MFILM 3K3 5% 0,125W	1
R311	J707385P681	RES MFILM 680R 5% 0,125W	1
R312	J707385P101	RES MFILM 100R 5% 0,125W	1
R313	J707385P101	RES MFILM 100R 5% 0,125W	1
R314	J707385P470	RES MFILM 47R 5% 0,125W	1
R315	J707385P153	RES MFILM 15K 5% 0,125W	1
R401	J707385P152	RES MFILM 1K5 5% 0,125W	1
R402	J707385P473	RES MFILM 47K 5% 0,125W	1
R403	J707385P473	RES MFILM 47K 5% 0,125W	1
R404	J707385P561	RES MFILM 560R 5% 0,125W	1
R405	J707385P470	RES MFILM 47R 5% 0,125W	1
R406	J707385P683	RES MFILM 68K 5% 0,125W	1
R407	J707385P333	RES MFILM 33K 5% 0,125W	1
R408	J707385P103	RES MFILM 10K 5% 0,125W	1
R409	J707478P10	RES VAR 10K 20% 0.05W	1
R410	J707385P272	RES MFILM 2K7 5% 0,125W	1
R411	J707385P273	RES MFILM 27K 5% 0,125W	1
R412	J707385P563	RES MFILM 56K 5% 0,125W	1
R413	J707385P683	RES MFILM 68K 5% 0,125W	1
R414	J707385P473	RES MFILM 47K 5% 0,125W	1
R415	J707385P334	RES MFILM 330K 5% 0,125W	1
R416	J707385P182	RES MFILM 1K8 5% 0,125W	1
R417	J707385P473	RES MFILM 47K 5% 0,125W	1
R418	J707385P183	RES MFILM 18K 5% 0,125W	1
R419	J707385P473	RES MFILM 47K 5% 0,125W	1
R420	J707478P12	RES VAR 22K 20% 0.05W	1
R421	J707385P101	RES MFILM 100R 5% 0,125W	1
R422	J707385P332	RES MFILM 3K3 5% 0,125W	1
R501	J707385P271	RES MFILM 270R 5% 0,125W	1
R502	J707385P101	RES MFILM 100R 5% 0,125W	1
R503	J707385P680	RES MFILM 68R 5% 0,125W	1
R504	J707385P101	RES MFILM 100R 5% 0,125W	1
R505	J707385P271	RES MFILM 270R 5% 0,125W	1
R506	J707385P680	RES MFILM 68R 5% 0,125W	1
R507	J707385P470	RES MFILM 47R 5% 0,125W	1
R508	J707385P392	RES MFILM 3K9 5% 0,125W	1
R509	J707385P333	RES MFILM 33K 5% 0,125W	1

CIRCUIT POSITION		COMPONENT ITEM NUMBER		COMPONENT DESCRIPTION	QUANTITY TOTAL
R510		J707385P100		RES MFILM 10R 5% 0,125W	1
R511		J707385P271		RES MFILM 270R 5% 0,125W	1
R512		J707385P102		RES MFILM 1K0 5% 0,125W	1
R513		J707385P103		RES MFILM 10K 5% 0,125W	1
R514		J707385P822		RES MFILM 8K2 5% 0,125W	1
R515	*	J707385P183	*	RES MFILM 18K 5% 0,125W	1
R516		J707385P183		RES MFILM 18K 5% 0,125W	1
R517		J707385P102		RES MFILM 1K0 5% 0,125W	1
R518		J707385P470		RES MFILM 47R 5% 0,125W	1
R519		J707385P562		RES MFILM 5K6 5% 0,125W	1
R520		J707385P104		RES MFILM 100K 5% 0,125W	1
R522		J707385P273		RES MFILM 27K 5% 0,125W	1
R523		J707385P222		RES MFILM 2K2 5% 0,125W	1
R524		J707385P392		RES MFILM 3K9 5% 0,125W	1
R525		J707385P221		RES MFILM 220R 5% 0,125W	1
R526		J707385P184		RES MFILM 180K 5% 0,125W	1
R527		J707385P152		RES MFILM 1K5 5% 0,125W	1
R528		J707385P273		RES MFILM 27K 5% 0,125W	1
R529		J707385P101		RES MFILM 100R 5% 0,125W	1
R530		J707385P102		RES MFILM 1K0 5% 0,125W	1
R531		J707385P101		RES MFILM 100R 5% 0,125W	1
R532		J707385P472		RES MFILM 4K7 5% 0,125W	1
R533		J707385P184		RES MFILM 180K 5% 0,125W	1
R534		J707385P273		RES MFILM 27K 5% 0,125W	1
R535		J707385P103		RES MFILM 10K 5% 0,125W	1
U401		J707449P1		IC, LIN-, IF-AMP, MC3357	1
U501		J707434P2		IC, DIG. MUX., 4053 CMOS	1
U502		J707337P1		IC, PLL SYN., MC145146	1
U503		J707374P1		IC, ECL, PLL.PRESC., SP8793	1
* 0002	*	M9-----P1R2	*	BD PW., REVISION NO.: 2	
0003		K805347P1		SHIELD MET.	1
0004	*	J707921P4	*	SLVG HEAT SHRINK PYOL CLEAR	0.050 M
0005	*	J707921P2	*	SLVG HEAT SHRINK PYOL CLEAR	0.002 M
0006		A701648P2		SIL RUBB. SEALANT RTV-162	0.001 KG
0007		L855385P1		SPRING FOR ANT.	1
0008		A701332P4		DISC -INSULAT.	1
0009		J706281P7		CORE	6
0010		L855470P1		HEAT SINK	1

CHAPTER 4.

CQP4660

ADJUSTMENT PROCEDURE

TEST POINTS AND ADJUSTABLE COMPONENTS

RF BOARD RF4660

ADJUSTMENT PROCEDURE

CQP4660

This adjustment procedure applies to the following types of STORNOPHONE 4000 radios:

CQP4662: 400-470MHz - 25 kHz channel spacing
CQP4663: 400-470MHz - 20 kHz channel spacing
CQP4664: 400-470MHz - 12.5 kHz channel spacing

Before making adjustments to the radio circuit, read the type label and note the channel frequencies and the tone system coding.
Also check the personality PROM and its data against the type label information.

MEASURING INSTRUMENTS

The following measuring instruments are necessary for making service and adjustments to the CQP4660:

RF Signal Generator	400-470 MHz
AF Voltmeter	Z_i >0.5 Mohm
Multimeter	20 Kohm/V
Distortion meter	
Deviation meter	
Watt meter	0-2.5 W
AF Generator 50 Hz-5 kHz	Z_{out} ≥600 ohm
Frequency counter	5-200 MHz/50 mV
Power Supply	6-10 V/2 A
Signal Sampler	Storno D52
RF diode probe	Storno 95.0059-00
RF coil tuning tool	Storno 17.0053-00
Ref. oscillator tuning tool	Storno 19J707496G1
Test adaptor	SE4002 19K805371G1
Service kit	SE4003 19J707744G1
Consisting of service cabinet and antenna adaptor	
Extension cables	CC4001 19J707704G1

DISMANTLING OF CQP4000

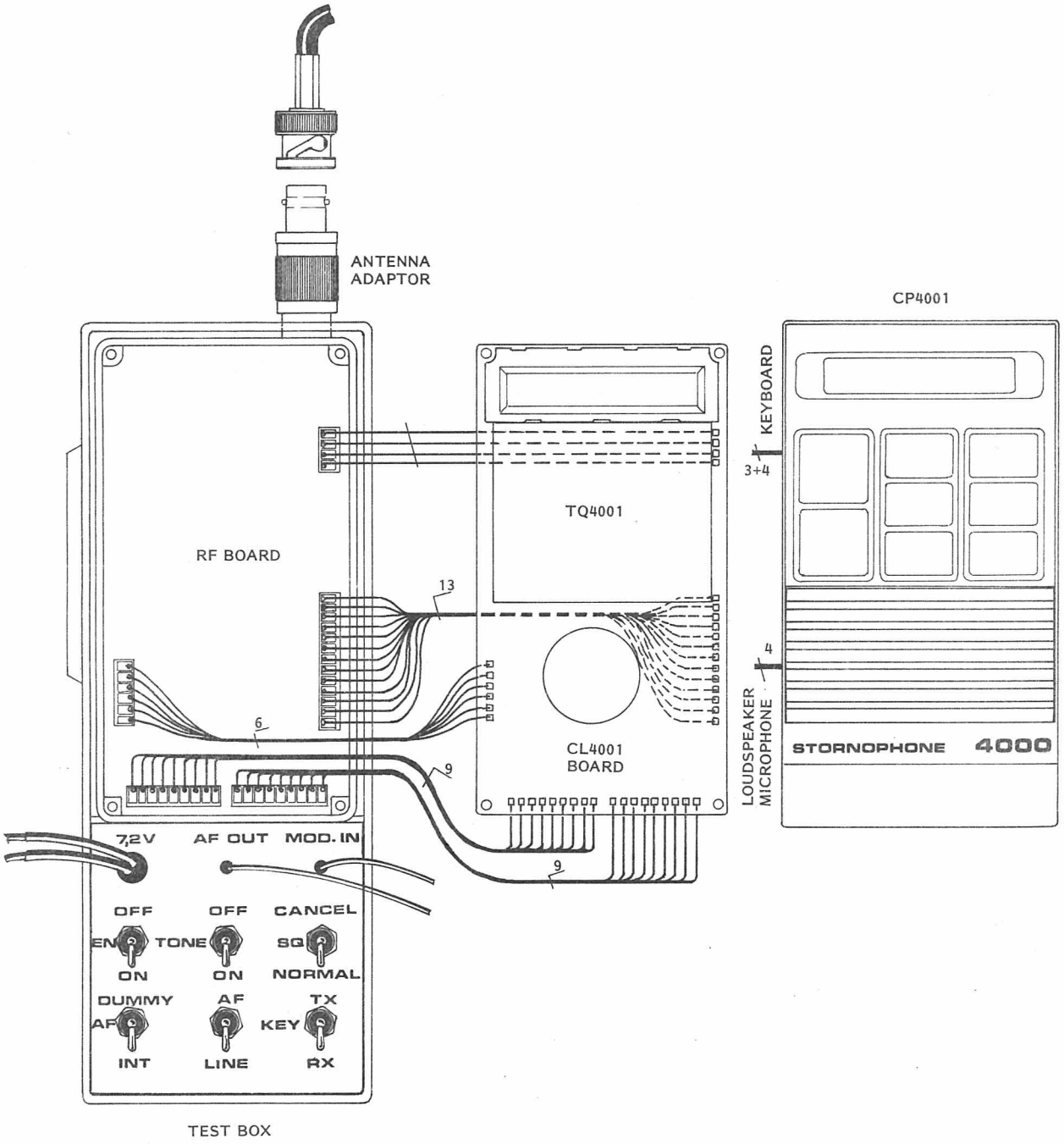
Before the CQP4000 can be adjusted the radio must be dismantled for access to all test points and adjustable components.

- Remove the battery, if inserted.
- Remove the two rear screws holding the cabinet.
- Remove the chassis box.
- Remove the four corner screws holding the front.
- Open the chassis box, carefully, without damaging the contact fingers on the rim.
- Take the CL4001 board and the RF4110 board apart.
- Connect the CL4001 board to the RF4110 board by means of the extension cables.
- Insert the chassis box in the service cabinet and firmly press the RF board to the bottom of the chassis box to establish good ground connections.
- Attach the antenna adaptor.
- Insert the test box in the battery compartment.
- The STORNOPHONE 4000 is now prepared for adjustment.

TRANSMITTER ADJUSTMENT

Refer to transmitter test setup.
Set the power supply voltage to 7.2 V.
Turn the radio on in receive mode and measure the current consumption.

Requirement: less than 30 mA.
Connect the voltmeter to the +5.5 V test point.
Read the 5.5 V regulated voltage.



TEST SETUP
STORNOPHONE 4000

D403.279

1. SYNTHESIZER REFERENCE FREQUENCY ADJUSTMENT

Connect the frequency counter to P3 pin 13-CLOCK.
Read the reference frequency.
Check the reference crystal's frequency (6.4 MHz or 6.5 MHz).
Adjust C533 for f_{nom} ±10 Hz.

Note:
The final adjustment of the reference frequency is performed later with closed chassis box.

2. TRANSMITTER VCO ADJUSTMENT

Set the ADC potentiometer to minimum, anti-clockwise.
Key the transmitter and read the current drain.
Requirement: less than 1 A.
Connect the voltmeter to P3 pin 7, OUT OF LOCK signal.
Adjust C504 for 0 V steady ready reading on the voltmeter. Connect the voltmeter to TP4.

Adjust C504 for a reading of 3 Volts. For radios with 2 channels adjust C504 so that the reading for each channel is inside the tuning range, 1-5 V. The channel with the lowest frequency has the lowest voltage reading.

3. TRANSMITTER POWER OUTPUT ADJUSTMENT

Connect the wattmeter to the antenna connector.
Adjust ADC potentiometer R115 for rated output power according to the type designation.
Note:
The current drain at rated output power must not exceed 1 A.

4. TRANSMITTER FREQUENCY ADJUSTMENT

Connect the wattmeter to the antenna connector through the signal sampler.
Connect the frequency counter to the signal sampler.
Key the transmitter and read the frequency.
Adjust C533 for correct frequency. (C533 is fine adjusted later with closed chassis box).
Requirement: F_{nom} ±0.2 ppm (225 Hz at 450 MHz)
Deenergize the transmitter.
Select channel 2, if used.
Key the transmitter and check for correct output frequency.

NOTE:
Adjustment of the transmitter frequency which also adjusts the receiver for correct frequency is done later when the chassis box is closed.

5. TRANSMITTER MODULATION ADJUSTMENT

Connect the deviation meter to the signal sampler.
Connect the AF generator to MOD IN on the test box.
Set the AF generator frequency to 1000 Hz and the output as follows:
1100 mV with test box (10:1 built-in attenuator)

Vary the AF frequency between 100 Hz and 3000 Hz and find peak deviation. Check the frequency for both + and - deviation. At the frequency producing peak deviation adjust R812 for maximum system deviation.

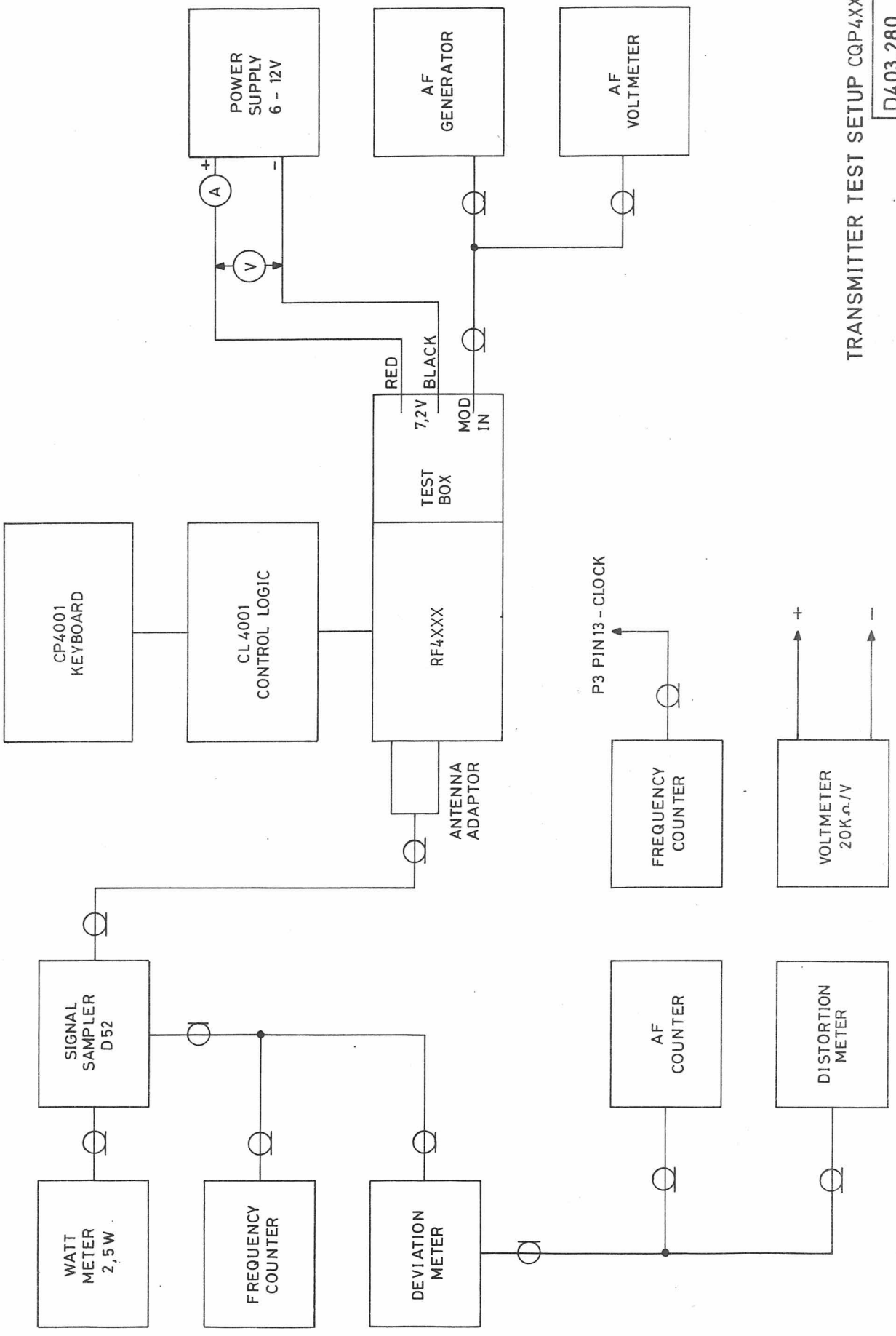
CQP4662: ±5 kHz
CQP4663: ±4 kHz
CQP4664: ±2.5 kHz

Set the AF generator frequency to 1000 Hz.
Reduce the AF generator output until a deviation of 0.7 x maximum deviation is obtained:

CQP4662: ±3.5 kHz
CQP4663: ±2.8 kHz
CQP4664: ±1.75 kHz

Typical generator output is 100 mV.

TRANSMITTER TEST SETUP CQP4XXX D403.280



RECEIVER ADJUSTMENT

Refer to receiver test setup.

1. RECEIVER VCO ADJUSTMENT

Connect the voltmeter to P3 pin 7, OUT OF LOCK signal.
Preset coil L508 as follows:

High end of band: 2/3 out of coil.
Low end of band: Fully down in coil form.

Set SQ switch to cancel.
Adjust C514 for 0 V steady reading on the voltmeter. Connect the voltmeter to TP4.
Adjust C514 for a reading of 3 Volts. For radios with 2 channels adjust C514 so that the reading for each channel is inside the tuning range, 1-5 V. The channel with the lowest frequency has the lowest voltage reading.

2. RECEIVER INJECTION SIGNAL ADJUSTMENT

Connect the diode probe and the voltmeter to TP2.
Adjust L508 for maximum voltmeter reading, 0.13 V ±0.02 V. (L508 is readjusted together with the front-end).

3. IF SIGNAL ADJUSTMENT

Connect the signal generator to the antenna connector and set it to the channel frequency.

Modulate the signal generator with 1000 Hz to 0.7 x maximum system deviation.

CQP4662: ±3.5 kHz
CQP4663: ±2.8 kHz
CQP4664: ±1.75 kHz

Set the signal generator output to 100 mV.

Connect the diode probe and the voltmeter to TP3.
Reduce the signal generator output until voltage reading is less than 1 V.

Adjust L402 and L308 for maximum voltmeter reading.
Connect the AF voltmeter to AF OUT. Set the signal generator output to 100 mV.
Adjust L403 for maximum voltmeter reading.

ALTERNATIVE PROCEDURE
Connect the distortion meter to AF OUT.
Adjust L403 for minimum distortion.

4. AF LINE LEVEL ADJUSTMENT

Connect the AF voltmeter to the AF OUT (J906 pin 14.
Set signal generator as described in paragraph 3.
Adjust R409 for a voltmeter reading of 110 mV ±5 mV.

5. FRONT-END ADJUSTMENT

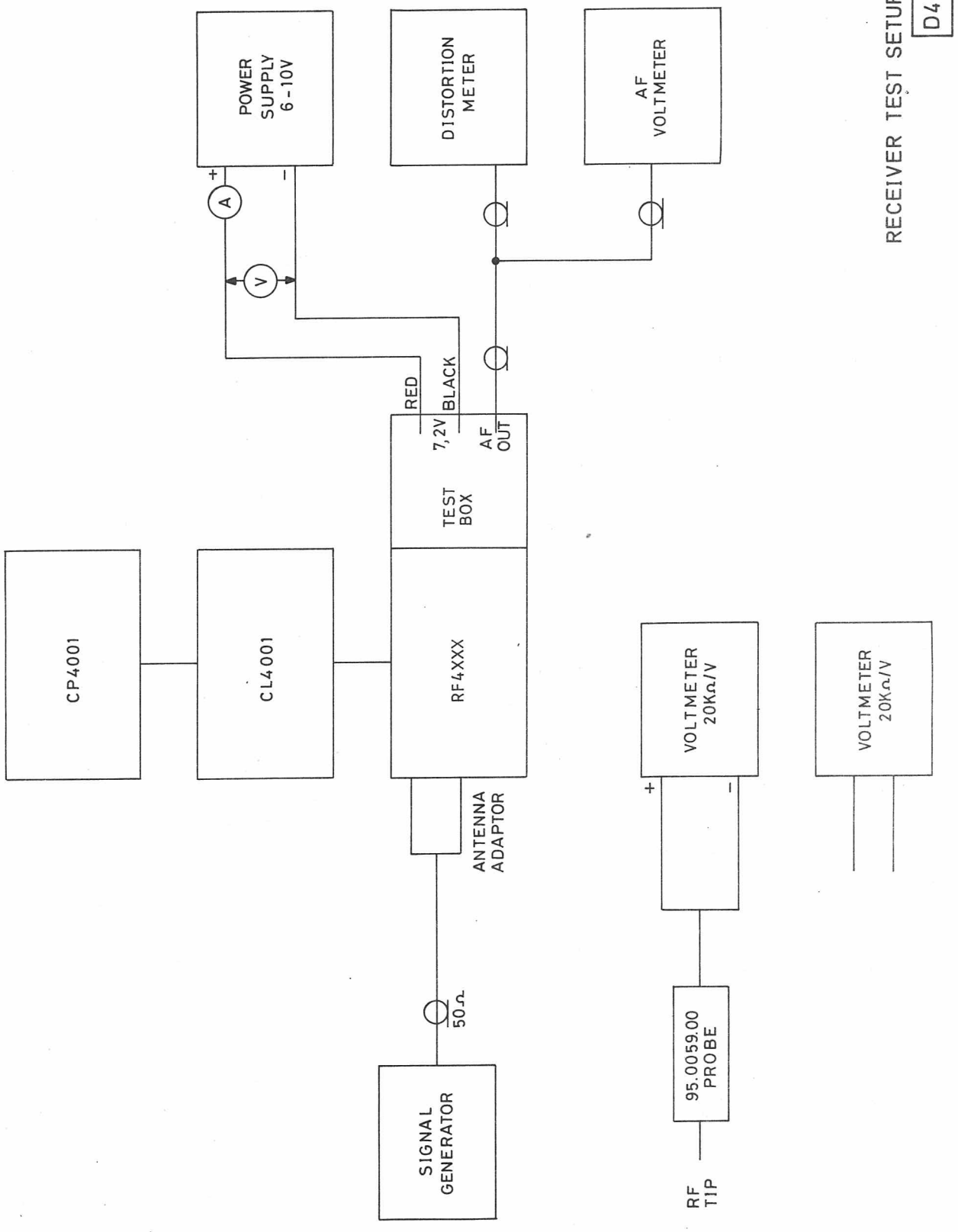
Connect the signal generator to the antenna connector and set its frequency to the channel frequency.

Modulate the signal generator as described in paragraph 3. Adjust the generator output to approx. 12 dB SINAD.
Connect a distortion meter to AF OUT.
Set the LS-LINE switch on the test box to LINE.
Set the SQ switch to cancel.

Adjust the following coils for minimum distortion. L508, L302, L303, L305, L307 and L306.
As the sensitivity increases during the adjustment decrease the signal generator output to maintain 12 dB SINAD.

Repeat the adjustments until no further improvement is possible.

RECEIVER TEST SETUP CQP4XXX D403.281



Check the 12 dB SINAD on both channels, if used.
Requirement: 12 dB SINAD for less than 0.45 uV.

6. SQUELCH ADJUSTMENT

Turn the squelch potentiometer R420 completely anticlockwise to close the squelch.
Open squelch by setting SQ switch to cancel.

Set the signal generator output to the value giving 12 dB SINAD.
Close squelch by setting SQ switch to normal.
Slowly turn R420 clockwise to the point where the squelch just opens.
Vary the signal generator output slowly up and down to obtain the opening and closing level of the squelch.

Squelch opening level: 12 dB SINAD
Squelch closing level: 6-10 dB SINAD

FREQUENCY ADJUSTMENT

The reference oscillator frequency controls both the transmitter and receiver frequencies and final adjustment must be done with the chassis box properly assembled.
Turn the radio off and remove the test box.
Assemble the radio but use the service cabinet to hold the chassis box.
Connect the test box and turn the radio on.
Connect a frequency counter to the signal sampler, refer to transmitter test setup.
Key the transmitter.
Adjust, through the hole in the rear of the service cabinet, the reference oscillator, C533 for nominal frequency.
Requirement:

$F = F_{nom} \pm 0.2$ ppm (225 Hz at 450 MHz).

Switch to channel 2 and verify the frequency. (Channel switching is not possible while transmitting).

ADJUSTMENT OF HELICAL ANTENNA AN4xx1

The AN4xx1 is adjusted by a ferrite slug which can be pulled up or pushed down inside the antenna radiator. The slug should be adjusted to a position where maximum power is being radiated.
Remove the antenna cap for access to the tuning wire (fish line).

Place the field strength indicator in opright position on a non-metallic surface of at least 50x50 cm.

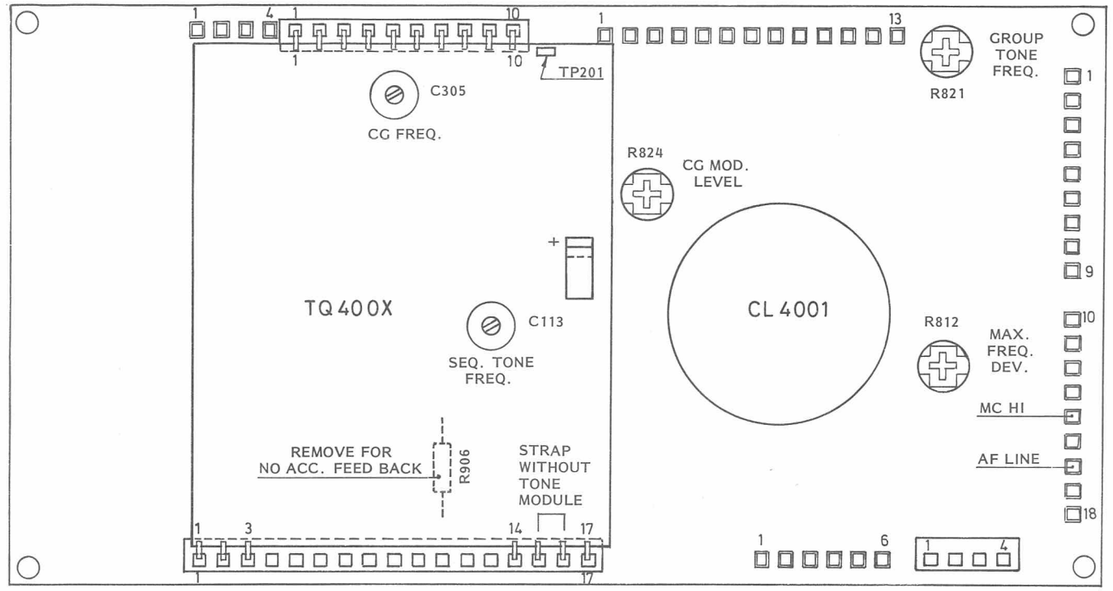
Hold the radio in upright position and key the transmitter.

Adjust the distance between the radio and the signal strength indicator for a clear indication of signal pick-up.

Adjust by pulling the tuning slug up or down for maximum signal strength.
This adjustment is sensitive to proximity effects and the hand's position, and several positions should be tried for optimum result-check current drain which should not exceeding 1 A.
Lock the tuning wire with the conical insert and cut the wire.

Mount antenna cap.

Note:
If a signal strength indicator D37 is not available a diode probe with a signal pickup wire and a multimeter or a deviation meter with a signal strength meter can be used to measure the radiated power.



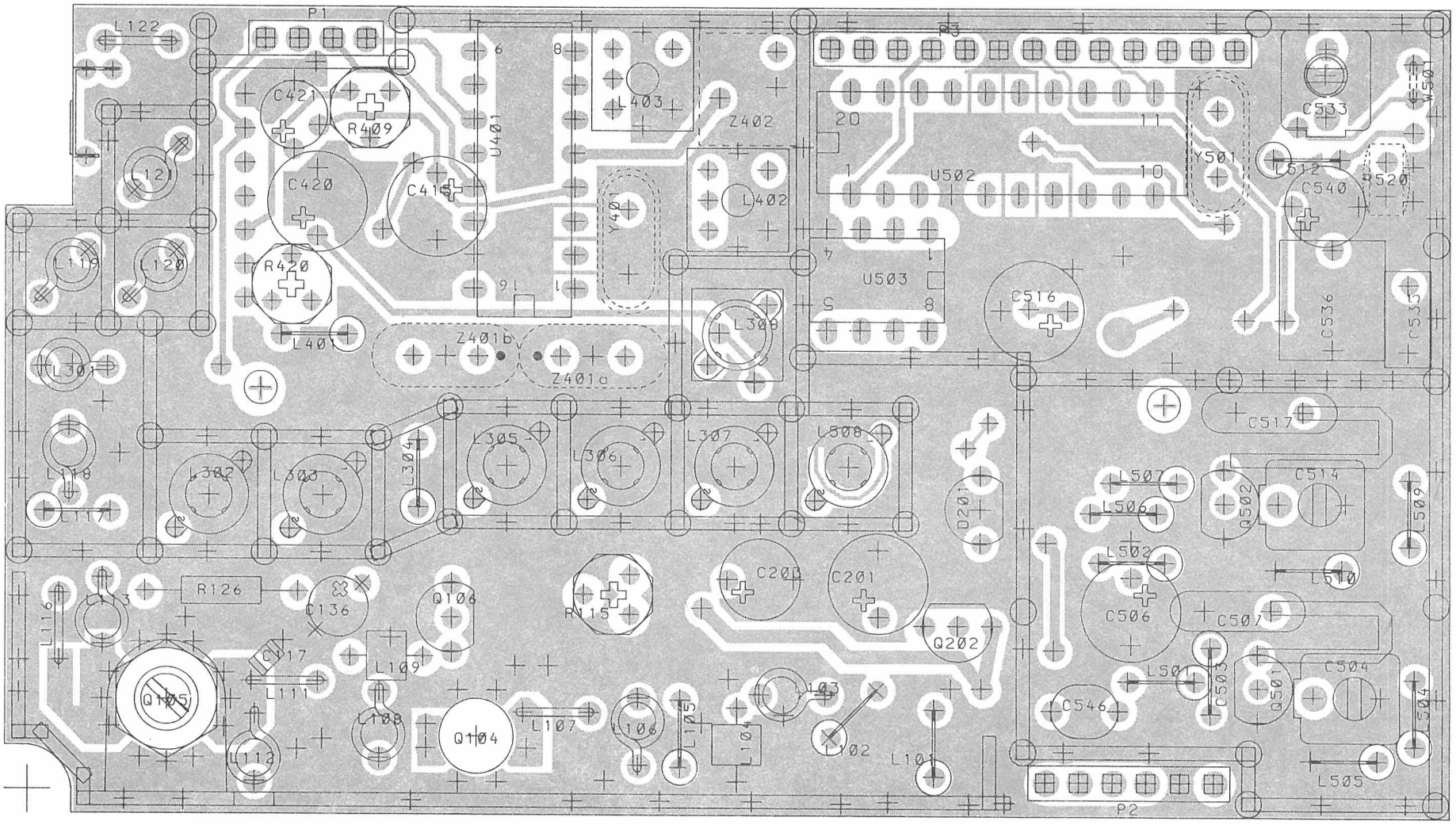
RF4660

TEST POINTS & ADJUSTABLE COMPONENTS

TQ400X,CL4001,RF4660

D403.465

Storno



RADIO FREQUENCY-UNIT RF4660

COMPONENT LAY-OUT

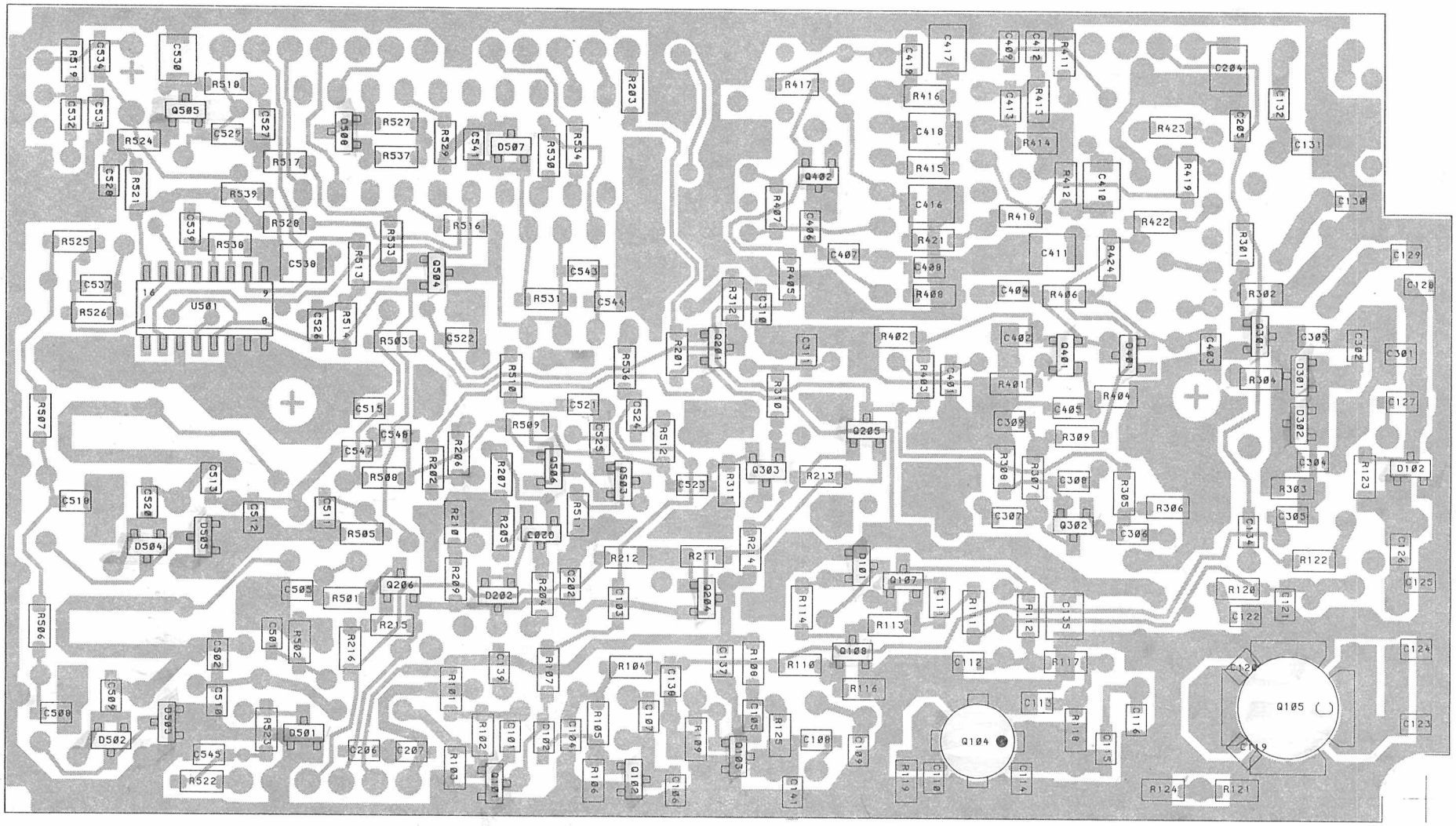
COMPONENT SIDE

D403.463

RF4660 H, 20/25 KHz CODE NO. M905468G1
RF4660 L, 20/25 KHz CODE NO. M905468G2
RF4660 H, 12,5 KHz CODE NO. M905468G3
RF4660L, 12,5 KHz CODE NO. M905468G4

Storno

Storno



RADIOFREQUENCY-UNIT RF4660

COMPONENT LAY-OUT

CHIP SIDE

D403.462

ITEM NUMBER	DESCRIPTION
M905468G1	RF4660HI 470-430 MHZ, 25/20 KHZ CH. SPAC.
M905468G2	RF4660LO 440-400 MHZ, 25/20 KHZ CH. SPAC.
M905468G3	RF4660HI 470-430 MHZ, 12.5 KHZ CH. SPAC.
M905468G4	RF4660LO 440-400 MHZ, 12.5 KHZ CH. SPAC.

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED
	J706281P6	CORE	ALL
	J706804P2	WASH,INSULATION	ALL
	J707257P1	TUNING SLUG "SHORT" L=4MM,	M905468G2 /-G4
	J707257P1	TUNING SLUG "SHORT" L=4MM,	M905468G2 /-G4
	J707257P1	TUNING SLUG "SHORT" L=4MM,	M905468G2 /-G4
	J707257P1	TUNING SLUG "SHORT" L=4MM,	M905468G2 /-G4
	J707257P1	TUNING SLUG "SHORT" L=4MM,	M905468G2 /-G4
	J707257P1	TUNING SLUG "SHORT" L=4MM,	M905468G2 /-G4
	J707257P2	TUNING SLUG "LONG" L=6MM,	M905468G1 /-G3
	J707257P2	TUNING SLUG "LONG" L=6MM,	M905468G1 /-G3
	J707257P2	TUNING SLUG "LONG" L=6MM,	M905468G1 /-G3
	J707257P2	TUNING SLUG "LONG" L=6MM,	M905468G1 /-G3
	J707257P2	TUNING SLUG "LONG" L=6MM,	M905468G1 /-G3
	J707257P2	TUNING SLUG "LONG" L=6MM,	M905468G1 /-G3
	J707808P1	SPRING	ALL
	J707808P1	SPRING	ALL
	J707808P1	SPRING	ALL
	J707841G1	HEAT SINK,TINNED	ALL
	J707887G1	COV MACH.	ALL
	J707887G1	COV MACH.	ALL
	J707887G1	COV MACH.	ALL
	J707976P1	NUT HEX	ALL
	J708124P1	INSULATOR	M905468G3 /-G4
	K805392G1	SHLD MET	ALL
	L855385P1	SPRING ANTENNA	ALL
A2	L855339G1	CPNT BD. F.TEMP. COMP.	M905468G3 /-G4
C101	J707436P10	CAP CER 5,6PF 50V	ALL
C102	J707436P13	CAP CER 10PF 50V	ALL
C103	J707436P13	CAP CER 10PF 50V	ALL
C104	J707436P13	CAP CER 10PF 50V	ALL
C105	J707436P29	CAP CER 22PF 50V	ALL
C106	J707436P7	CAP CER 3,3PF 50V	ALL
C107	J707436P65	CAP CER 150PF 50V	ALL
C108	J707436P65	CAP CER 150PF 50V	ALL
C109	J707436P25	CAP CER 18PF 50V	ALL
C110	J707436P7	CAP CER 3,3PF 50V	ALL
C111	J707438P5	CAP CER 1NF 50V	ALL
C112	J707438P14	CAP CER 10NF 50V	ALL
C113	J707436P49	CAP CER 56PF 50V	ALL
C114	J707436P7	CAP CER 3,3PF 50V	ALL
C115	J707436P65	CAP CER 150PF 50V	ALL
C116	J707809P16	CAP CER 18PF 50V	M905468G1 /-G3
C116	J707809P17	CAP CER 22PF 50V	M905468G2 /-G4
C117	J707809P22	CAP CER 56PF 50V	M905468G1 /-G3
C117	J707809P23	CAP CER 68PF 50V	M905468G2 /-G4
C119	J707809P20	CAP CER 39PF 50V	ALL
C120	J707809P20	CAP CER 39PF 50V	ALL
C121	J707436P61	CAP CER 100PF 50V	ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED
C122	J707438P14	CAP CER 10NF 50V	ALL
C124	J707809P20	CAP CER 39PF 50V	M905468G1 /-G3
C124	J707809P21	CAP CER 47PF 50V	M905468G2 /-G4
C125	J707809P16	CAP CER 18PF 50V	M905468G1 /-G3
C125	J707809P18	CAP CER 27PF 50V	M905468G2 /-G4
C126	J707436P65	CAP CER 150PF 50V	ALL
C127	J707436P65	CAP CER 150PF 50V	ALL
C128	J707809P12	CAP CER 8,2PF 50V	ALL
C129	J707809P15	CAP CER 15PF 50V	ALL
C130	J707809P16	CAP CER 18PF 50V	ALL
C131	J707809P15	CAP CER 15PF 50V	ALL
C132	J707809P27	CAP CER 150PF 50V	ALL
C134	J707438P5	CAP CER 1NF 50V	ALL
C135	J707438P22	CAP CER 47NF 50V	ALL
C136	J707353P5	CAP ELEC 2,2 UF 50V	ALL
C137	J707438P14	CAP CER 10NF 50V	ALL
C138	J707438P14	CAP CER 10NF 50V	ALL
C139	J707436P73	CAP CER 330PF 50V	ALL
C141	J707436P7	CAP CER 3,3PF 50V	ALL
C201	J707444P8	CAP TA 22 UF 16V	ALL
C202	J707438P5	CAP CER 1NF 50V	ALL
C203	J707444P5	CAP TA 2,2 UF 35V	ALL
C204	J707438P22	CAP CER 47NF 50V	ALL
C205	J707436P61	CAP CER 100PF 50V	ALL
C206	J707436P61	CAP CER 100PF 50V	ALL
C207	J707436P61	CAP CER 100PF 50V	ALL
C208	J707436P61	CAP CER 100PF 50V	ALL
C301	J707436P12	CAP CER 8,2PF 50V	ALL
C302	J707436P9	CAP CER 4,7PF 50V	ALL
C303	J707436P77	CAP CER 470PF 50V	ALL
C304	J707436P77	CAP CER 470PF 50V	ALL
C305	J707436P61	CAP CER 100PF 50V	ALL
C306	J707436P25	CAP CER 18PF 50V	ALL
C307	J707436P5	CAP CER 2,2PF 50V	ALL
C308	J707436P73	CAP CER 330PF 50V	ALL
C309	J707438P5	CAP CER 1NF 50V	ALL
C310	J707438P14	CAP CER 10NF 50V	ALL
C311	J707436P65	CAP CER 150PF 50V	ALL
C401	J707436P11	CAP CER 6,8PF 50V	ALL
C402	J707436P73	CAP CER 330PF 50V	ALL
C403	J707438P14	CAP CER 10NF 50V	ALL
C404	J707438P5	CAP CER 1NF 50V	ALL
C405	J707438P14	CAP CER 10NF 50V	ALL
C406	J707436P63	CAP CER 120PF 50V	ALL
C407	J707436P45	CAP CER 47PF 50V	ALL
C408	J707436P63	CAP CER 120PF 50V	ALL
C409	J707438P8	CAP CER 3,3NF 50V	ALL
C410	J707438P26	CAP CER 100NF 50V	ALL
C411	J707436P93	CAP CER 2,2NF 50V	ALL
C412	J707436P73	CAP CER 330PF 50V	ALL
C413	J707436P73	CAP CER 330PF 50V	ALL
C415	J707444P9	CAP TA 47 UF 6,3V	ALL
C416	J707438P26	CAP CER 100NF 50V	ALL
C417	J707438P26	CAP CER 100NF 50V	ALL
C418	J707438P26	CAP CER 100NF 50V	ALL
C419	J707436P13	CAP CER 10PF 50V	ALL
C420	J707444P7	CAP TA 10 UF 16V	ALL
C421	J707444P3	CAP TA 0,47 UF 35V	ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED
C501	J707436P69	CAP CER 220PF 50V	ALL
C502	J707436P8	CAP CER 3,9PF 50V	ALL
C503	J707483P3	CAP PHEN 0,39PF 500V	ALL
C504	J707475P2	CAP VAR 2-10PF	ALL
C505	J707436P69	CAP CER 220PF 50V	ALL
C506	J707444P8	CAP TA 22 UF 16V	ALL
C507	J707870P20	CAP CER 39PF 50V	M905468G1 /-G3
C507	J707870P21	CAP CER 47PF 50V	M905468G2 /-G4
C508	J707436P69	CAP CER 220PF 50V	ALL
C509	J707436P10	CAP CER 5,6PF 50V	M905468G2 /-G4
C509	J707436P9	CAP CER 4,7PF 50V	M905468G1 /-G3
C510	J707436P8	CAP CER 3,9PF 50V	ALL
C511	J707436P69	CAP CER 220PF 50V	ALL
C512	J707436P8	CAP CER 3,9PF 50V	ALL
C513	J707436P8	CAP CER 3,9PF 50V	ALL
C514	J707475P2	CAP VAR 2-10PF	ALL
C515	J707436P69	CAP CER 220PF 50V	ALL
C516	J707444P8	CAP TA 22 UF 16V	ALL
C517	J707870P20	CAP CER 39PF 50V	M905468G1 /-G3
C517	J707870P21	CAP CER 47PF 50V	M905468G2 /-G4
C518	J707436P69	CAP CER 220PF 50V	ALL
C520	J707436P10	CAP CER 5,6PF 50V	M905468G2 /-G4
C520	J707436P9	CAP CER 4,7PF 50V	M905468G1 /-G3
C521	J707436P61	CAP CER 100PF 50V	ALL
C522	J707438P5	CAP CER 1NF 50V	ALL
C523	J707438P14	CAP CER 10NF 50V	ALL
C524	J707436P13	CAP CER 10PF 50V	ALL
C525	J707436P61	CAP CER 100PF 50V	ALL
C526	J707438P5	CAP CER 1NF 50V	ALL
C527	J707436P57	CAP CER 82PF 50V	ALL
C528	J707438P14	CAP CER 10NF 50V	ALL
C529	J707436P53	CAP CER 68PF 50V	ALL
C530	J707438P26	CAP CER 100NF 50V	ALL
C531	J707436P57	CAP CER 82PF 50V	ALL
C532	J707436P9	CAP CER 4,7PF 50V	ALL
C533	J707475P1	CAP VAR 2-18PF	ALL
C534	J707436P41	CAP CER 39PF 50V	ALL
C535	J707412P9	CAP PYES 100N 10% 63V	ALL
C536	J707612P2	CAP POL 0,68 UF 100V	ALL
C537	J707438P14	CAP CER 10NF 50V	ALL
C538	J707438P22	CAP CER 47NF 50V	ALL
C539	J707436P77	CAP CER 470PF 50V	ALL
C540	J707444P7	CAP TA 10 UF 16V	ALL
C541	J707436P29	CAP CER 22PF 50V	ALL
C543	J707438P8	CAP CER 3,3NF 50V	ALL
C544	J707438P5	CAP CER 1NF 50V	ALL
C545	J707436P73	CAP CER 330PF 50V	ALL
C546	J707870P8	CAP CER 3,9PF 50V	ALL
C547	J707436P8	CAP CER 3,9PF 50V	ALL
C548	J707436P8	CAP CER 3,9PF 50V	ALL
D101	J707389P1	DIO SI BAV 99	ALL
D102	J707391P1	DIO SI BAT 18	ALL
D201	J707448P1	DIO REF TL 431 CLP	ALL
D202	J707390P1	DIO SI BAV 70	ALL
D301	J707391P1	DIO SI BAT 18	ALL
D302	J707391P1	DIO SI BAT 18	ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED
D401	J707389P1	DIO SI BAV 99	ALL
D501	J707769P1	DIO VAR CAP BBY 31	ALL
D502	J707769P1	DIO VAR CAP BBY 31	ALL
D503	J707769P1	DIO VAR CAP BBY 31	ALL
D504	J707769P1	DIO VAR CAP BBY 31	ALL
D505	J707769P1	DIO VAR CAP BBY 31	ALL
D507	J707390P1	DIO SI BAV 70	ALL
D508	J707390P1	DIO SI BAV 70	ALL
L101	J707486P1	COIL FIX 100NH	ALL
L102	J707486P1	COIL FIX 100NH	ALL
L103	J707426P3	COIL FIX 3 1/2 WIND.	ALL
L104	J707339G1	COIL FIX ASM	ALL
L105	J707486P1	COIL FIX 100NH	ALL
L106	J707426P2	COIL FIX 2 1/2 WIND.	ALL
L107	J707256P2	COIL FIX	ALL
L108	J707426P3	COIL FIX 3 1/2 WIND.	ALL
L109	J707339G1	COIL FIX ASM	ALL
L111	J707256P2	COIL FIX	ALL
L112	J707426P1	COIL FIX 1 1/2 WIND.	ALL
L113	J707426P1	COIL FIX 1 1/2 WIND.	ALL
L116	J707256P2	COIL FIX	ALL
L117	J707486P4	COIL,RF,FIXED 10 UH	ALL
L118	J707426P7	COIL FIX 7 1/2 WIND.	ALL
L119	J707426P2	COIL FIX 2 1/2 WIND.	ALL
L120	J707426P1	COIL FIX 1 1/2 WIND.	ALL
L121	J707426P1	COIL FIX 1 1/2 WIND.	ALL
L122	J707256P2	COIL FIX	ALL
L301	J707426P2	COIL FIX 2 1/2 WIND.	ALL
L302	J707816P3	COIL HELICAL	M905468G2 /-G4
L302	J707816P5	COIL HELICAL	M905468G1 /-G3
L303	J707816P3	COIL HELICAL	M905468G2 /-G4
L303	J707816P5	COIL HELICAL	M905468G1 /-G3
L304	J707486P1	COIL FIX 100NH	ALL
L305	J707816P4	COIL HELICAL	M905468G2 /-G4
L305	J707816P6	COIL HELICAL	M905468G1 /-G3
L306	J707816P3	COIL HELICAL	M905468G2 /-G4
L306	J707816P5	COIL HELICAL	M905468G1 /-G3
L307	J707816P4	COIL HELICAL	M905468G2 /-G4
L307	J707816P6	COIL HELICAL	M905468G1 /-G3
L308	J707422P3	COIL RF VAR	ALL
L401	J707486P3	COIL,RF,FIXED 6.8 UH	ALL
L402	J707431P1	COIL VAR 455 KHZ	ALL
L403	J707431P1	COIL VAR 455 KHZ	ALL
L501	J707486P6	COIL FIX 0,47 UH	ALL
L502	J707486P6	COIL FIX 0,47 UH	ALL
L504	J707486P6	COIL FIX 0,47 UH	ALL
L505	J707486P6	COIL FIX 0,47 UH	ALL
L506	J707486P6	COIL FIX 0,47 UH	ALL
L507	J707486P6	COIL FIX 0,47 UH	ALL
L508	J707816P4	COIL HELICAL	M905468G2 /-G4
L508	J707816P6	COIL HELICAL	M905468G1 /-G3
L509	J707486P6	COIL FIX 0,47 UH	ALL
L510	J707486P6	COIL FIX 0,47 UH	ALL
L512	J707486P5	COIL FIX 330 UH	ALL
P1	J707350P4	PLG 4-PIN	ALL
P2	J707350P6	PLG 6-PIN	ALL
P3	J707350P13	PLG 13-PIN	ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED
Q101	J707388P1	TSTR BFR 53	ALL
Q102	J707388P1	TSTR BFR 53	ALL
Q103	J707388P1	TSTR BFR 53	ALL
Q104	J707763P1	TSTR NPN RF MFR 627	ALL
Q105	A702448P1	TSTR (2N5945) , RF POWER	ALL
Q106	J707673P1	TSTR NPN SI BC 368	ALL
Q107	J707387P1	TSTR BCW 30	ALL
Q108	J707386P1	TSTR BCW 32	ALL
Q201	J707387P1	TSTR BCW 30	ALL
Q202	J707435P1	TSTR BC 369	ALL
Q203	J707386P1	TSTR BCW 32	ALL
Q204	J707432P1	TSTR BCX 18	ALL
Q205	J707387P1	TSTR BCW 30	ALL
Q206	J707387P1	TSTR BCW 30	ALL
Q301	J707386P1	TSTR BCW 32	ALL
Q302	J707771P1	TSTR BFR 93	ALL
Q303	J707770P1	FLD EFF BF 4416A	ALL
Q401	J707433P1	FLD EFF BF 989	ALL
Q402	J707387P1	TSTR BCW 30	ALL
Q501	J707817P1	FLD EFF J309	ALL
Q502	J707817P1	FLD EFF J309	ALL
Q503	J707430P1	TSTR BF 569	ALL
Q504	J707387P1	TSTR BCW 30	ALL
Q505	J707419P1	TSTR JFET SI BF 511	ALL
Q506	J707430P1	TSTR BF 569	ALL
R101	J707385P470	RES MFILM 47 OHM 0,125W	ALL
R102	J707385P332	RES MFILM 3,3K OHM 0,125W	ALL
R103	J707385P152	RES MFILM 1,5K OHM 0,125W	ALL
R104	J707385P270	RES MFILM 27 OHM 0,125W	ALL
R105	J707385P332	RES MFILM 3,3K OHM 0,125W	ALL
R106	J707385P152	RES MFILM 1,5K OHM 0,125W	ALL
R107	J707385P331	RES MFILM 330 OHM 0,125W	ALL
R108	J707385P100	RES MFILM 10 OHM 0,125W	ALL
R109	J707385P101	RES MFILM 100 OHM 0,125W	ALL
R110	J707385P562	RES MFILM 5,6K OHM 0,125W	ALL
R111	J707385P680	RES MFILM 68 OHM 0,125W	ALL
R112	J707385P102	RES MFILM 1K OHM 0,125W	ALL
R113	J707385P472	RES MFILM 4,7K OHM 0,125W	ALL
R114	J707385P152	RES MFILM 1,5K OHM 0,125W	ALL
R115	J707478P4	RES VAR 1K OHM 0,05W	ALL
R116	J707385P102	RES MFILM 1K OHM 0,125W	ALL
R117	J707385P270	RES MFILM 27 OHM 0,125W	ALL
R118	J707385P102	RES MFILM 1K OHM 0,125W	ALL
R119	J707385P270	RES MFILM 27 OHM 0,125W	ALL
R120	J707385P100	RES MFILM 10 OHM 0,125W	ALL
R121	J707385P100	RES MFILM 10 OHM 0,125W	ALL
R122	J707385P221	RES MFILM 220 OHM 0,125W	ALL
R123	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R124	J707385P100	RES MFILM 10 OHM 0,125W	ALL
R125	J707385P102	RES MFILM 1K OHM 0,125W	ALL
R126	J707945P1	RES WW 0,27 OHM	ALL
R201	J707385P272	RES MFILM 2,7K OHM 0,125W	ALL
R202	J707385P222	RES MFILM 2,2K OHM 0,125W	ALL
R203	J707385P153	RES MFILM 15K OHM 0,125W	ALL
R204	J707385P102	RES MFILM 1K OHM 0,125W	ALL
R205	J707385P101	RES MFILM 100 OHM 0,125W	ALL
R206	J707385P273	RES MFILM 27K OHM 0,125W	ALL
R207	J707385P682	RES MFILM 6,8K OHM 0,125W	ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED
R209	J707385P393	RES MFILM 39K OHM 0,125W	ALL
R210	J707385P333	RES MFILM 33K OHM 0,125W	ALL
R211	J707385P103	RES MFILM 10K OHM 0,125W	ALL
R212	J707385P182	RES MFILM 1,8K OHM 0,125W	ALL
R213	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R214	J707385P153	RES MFILM 15K OHM 0,125W	ALL
R215	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R216	J707385P153	RES MFILM 15K OHM 0,125W	ALL
R301	J707385P562	RES MFILM 5,6K OHM 0,125W	ALL
R302	J707385P102	RES MFILM 1K OHM 0,125W	ALL
R303	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R304	J707385P472	RES MFILM 4,7K OHM 0,125W	ALL
R305	J707385P103	RES MFILM 10K OHM 0,125W	ALL
R306	J707385P682	RES MFILM 6,8K OHM 0,125W	ALL
R307	J707385P391	RES MFILM 390 OHM 0,125W	ALL
R308	J707385P561	RES MFILM 560 OHM 0,125W	ALL
R309	J707385P470	RES MFILM 47 OHM 0,125W	ALL
R310	J707385P470	RES MFILM 47 OHM 0,125W	ALL
R311	J707385P182	RES MFILM 1,8K OHM 0,125W	ALL
R312	J707385P101	RES MFILM 100 OHM 0,125W	ALL
R401	J707385P152	RES MFILM 1,5K OHM 0,125W	ALL
R402	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R403	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R404	J707385P561	RES MFILM 560 OHM 0,125W	ALL
R405	J707385P103	RES MFILM 10K OHM 0,125W	ALL
R406	J707385P332	RES MFILM 3,3K OHM 0,125W	ALL
R407	J707385P683	RES MFILM 68K OHM 0,125W	ALL
R408	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R409	J707478P10	RES VAR 10K OHM 0,05W	ALL
R411	J707385P272	RES MFILM 2,7K OHM 0,125W	ALL
R412	J707385P563	RES MFILM 56K OHM 0,125W	ALL
R413	J707385P273	RES MFILM 27K OHM 0,125W	ALL
R414	J707385P683	RES MFILM 68K OHM 0,125W	ALL
R415	J707385P182	RES MFILM 1,8K OHM 0,125W	ALL
R416	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R417	J707385P183	RES MFILM 18K OHM 0,125W	ALL
R418	J707385P334	RES MFILM 330K OHM 0,125W	ALL
R419	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R420	J707478P11	RES VAR 15K OHM 0,05W	ALL
R421	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R422	J707385P101	RES MFILM 100 OHM 0,125W	ALL
R423	J707385P470	RES MFILM 47 OHM 0,125W	ALL
R424	J707385P470	RES MFILM 47 OHM 0,125W	ALL
R501	J707385P101	RES MFILM 100 OHM 0,125W	ALL
R502	J707385P181	RES MFILM 180 OHM 0,125W	ALL
R503	J707385P470	RES MFILM 47 OHM 0,125W	ALL
R505	J707385P181	RES MFILM 180 OHM 0,125W	ALL
R506	J707385P121	RES MFILM 120 OHM 0,125W	ALL
R507	J707385P121	RES MFILM 120 OHM 0,125W	ALL
R508	J707385P222	RES MFILM 2,2K OHM 0,125W	ALL
R509	J707385P222	RES MFILM 2,2K OHM 0,125W	ALL
R510	J707385P561	RES MFILM 560 OHM 0,125W	ALL
R511	J707385P472	RES MFILM 4,7K OHM 0,125W	ALL
R512	J707385P221	RES MFILM 220 OHM 0,125W	ALL
R513	J707385P103	RES MFILM 10K OHM 0,125W	ALL
R514	J707385P223	RES MFILM 22K OHM 0,125W	ALL
R516	J707385P183	RES MFILM 18K OHM 0,125W	ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED
R517	J707385P100	RES MFILM 10 OHM 0,125W	ALL
R518	J707385P562	RES MFILM 5,6K OHM 0,125W	ALL
R519	J707385P104	RES MFILM 100K OHM 0,125W	ALL
R520	J707406P1	RES NTC 330 OHM	M905468G1 /-G2
R521	J707385P470	RES MFILM 47 OHM 0,125W	ALL
R522	J707385P273	RES MFILM 27K OHM 0,125W	ALL
R523	J707385P472	RES MFILM 4,7K OHM 0,125W	ALL
R524	J707385P334	RES MFILM 330K OHM 0,125W	ALL
R525	J707385P222	RES MFILM 2,2K OHM 0,125W	ALL
R526	J707385P392	RES MFILM 3,9K OHM 0,125W	ALL
R527	J707385P273	RES MFILM 27K OHM 0,125W	ALL
R528	J707385P101	RES MFILM 100 OHM 0,125W	ALL
R529	J707385P102	RES MFILM 1K OHM 0,125W	ALL
R530	J707385P101	RES MFILM 100 OHM 0,125W	ALL
R531	J707385P103	RES MFILM 10K OHM 0,125W	ALL
R533	J707385P153	RES MFILM 15K OHM 0,125W	ALL
R534	J707385P184	RES MFILM 180K OHM 0,125W	ALL
R536	J707385P100	RES MFILM 10 OHM 0,125W	ALL
R537	J707385P152	RES MFILM 1,5K OHM 0,125W	ALL
R538	J707385P221	RES MFILM 220 OHM 0,125W	ALL
R539	J707385P184	RES MFILM 180K OHM 0,125W	ALL
U401	J707449P1	INT CKT MC3357	ALL
U402	M905492G1	INT CKT SQ4001 SQUELCH-UN.	ALL
U501	J707434P2	INT CKT 4053/SO16	ALL
U502	J707337P1	INT CKT , MC145146	ALL
U503	J707374P2	INT CKT SP8718	ALL
U504	L855471G1	INT CKT. RES. NETW.	M905468G3 /-G4
W501	A700134P9	WIRE , JMPR	M905468G1 /-G2
Y501	J707019P3	X-TAL 6,4MHZ 5PPM	ALL

ITEM NUMBER	DESCRIPTION
J707801G1	RF 4662H , 25 KHZ CHANN. SPACING

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
0002	J706804P2	WASH,INSULATION	2
Z401	J707310P1	FLT 21,4MHZ	1
Z403	J707446P1	FLT 455KHZ	1
A001	M905468G1	CPNT BD RF4660H	1

ITEM NUMBER	DESCRIPTION
J707801G4	RF 4662L , 25 KHZ CHANN. SPACING

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
0002	J706804P2	WASH,INSULATION	2
Z401	J707310P1	FLT 21,4MHZ	1
Z403	J707446P1	FLT 455KHZ	1
A001	M905468G2	CPNT BD RF4660L	1

ITEM NUMBER	DESCRIPTION
J707801G2	RF 4663H , 20 KHZ CHANN. SPACING

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
0002	J706804P2	WASH,INSULATION	2
Z401	J707310P2	FLT 21,4MHZ	1
Z403	J707446P3	FLT 455KHZ	1
A001	M905468G1	CPNT BD RF4660H	1

ITEM NUMBER	DESCRIPTION
J707801G5	RF 4663L , 20 KHZ CHANN. SPACING

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
0002	J706804P2	WASH,INSULATION	2
Z401	J707310P2	FLT 21,4MHZ	1
Z403	J707446P3	FLT 455KHZ	1
A001	M905468G2	CPNT BD RF4660L	1

ITEM NUMBER	DESCRIPTION
J707801G3	RF4664H , 12,5 KHZ CHANN. SPACING

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
0002	J706804P2	WASH INS	2
Z401	J707310P3	FLT 21,4MHZ	1
Z402	J707446P4	FLT 455KHZ	1
A001	M905468G3	CPNT BD. RF4660H, 3PPM STAB.	1

ITEM NUMBER	DESCRIPTION
J707801G6	RF4664L , 12.5 KHZ CHANN. SPACING.

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
0002	J706804P2	WASH. INS.	2
Z401	J707310P3	FLT 21,4 MHZ	1
Z402	J707446P4	FLT 455 KHZ	1
A001	M905468G4	CPNT BD. RF4660L , 3PPM STAB.	1

ITEM NUMBER:	DESCRIPTION:
M905468G1	RF4660HI 470-430 MHZ, 25/20 KHZ CH. SPAC.
M905468G2	RF4660LO 440-400 MHZ, 25/20 KHZ CH. SPAC.
M905468G3	RF4660HI 470-430 MHZ, 12.5 KHZ CH. SPAC.
M905468G4	RF4660LO 440-400 MHZ, 12.5 KHZ CH. SPAC.

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
	J706281P6	CORE	ALL
	J706804P2	WASH,INSULATION	ALL
	J707257P1	TUNING SLUG "SHORT" L=4MM,	M905468G2 /-G4
	J707257P1	TUNING SLUG "SHORT" L=4MM,	M905468G2 /-G4
	J707257P1	TUNING SLUG "SHORT" L=4MM,	M905468G2 /-G4
	J707257P1	TUNING SLUG "SHORT" L=4MM,	M905468G2 /-G4
	J707257P1	TUNING SLUG "SHORT" L=4MM,	M905468G2 /-G4
	J707257P1	TUNING SLUG "SHORT" L=4MM,	M905468G2 /-G4
	J707257P2	TUNING SLUG "LONG" L=6MM,	M905468G1 /-G3
	J707257P2	TUNING SLUG "LONG" L=6MM,	M905468G1 /-G3
	J707257P2	TUNING SLUG "LONG" L=6MM,	M905468G1 /-G3
	J707257P2	TUNING SLUG "LONG" L=6MM,	M905468G1 /-G3
	J707257P2	TUNING SLUG "LONG" L=6MM,	M905468G1 /-G3
	J707257P2	TUNING SLUG "LONG" L=6MM,	M905468G1 /-G3
	J707808P1	SPRING	ALL
	J707808P1	SPRING	ALL
	J707808P1	SPRING	ALL
	J707841G1	HEAT SINK,TINNED	ALL
	J707887G1	COV MACH.	ALL
	J707887G1	COV MACH.	ALL
	J707887G1	COV MACH.	ALL
	J707976P1	NUT HEX	ALL
	J708124P1	INSULATOR	M905468G3 /-G4
	K805392G1	SHLD MET	ALL
	L855385P1	SPRING ANTENNA	ALL
A2	L855339G1	CPNT BD. F.TEMP. COMP.	M905468G3 /-G4
C101	J707436P10	CAP CER 5,6PF 50V	ALL
C102	J707436P13	CAP CER 10PF 50V	ALL
C103	J707436P13	CAP CER 10PF 50V	ALL
C104	J707436P13	CAP CER 10PF 50V	ALL
C105	J707436P29	CAP CER 22PF 50V	ALL
C106	J707436P7	CAP CER 3,3PF 50V	ALL
C107	J707436P65	CAP CER 150PF 50V	ALL
C108	J707436P65	CAP CER 150PF 50V	ALL
C109	J707436P25	CAP CER 18PF 50V	ALL
C110	J707436P7	CAP CER 3,3PF 50V	ALL
C111	J707438P5	CAP CER 1NF 50V	ALL
C112	J707438P14	CAP CER 10NF 50V	ALL
C113	J707436P49	CAP CER 56PF 50V	ALL
C114	J707436P7	CAP CER 3,3PF 50V	ALL
C115	J707436P65	CAP CER 150PF 50V	ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
C116	J707809P16	CAP CER 18PF 50V	M905468G1 /-G3
C116	J707809P17	CAP CER 22PF 50V	M905468G2 /-G4
C117	J707809P22	CAP CER 56PF 50V	M905468G1 /-G3
C117	J707809P23	CAP CER 68PF 50V	M905468G2 /-G4
C119	J707809P20	CAP CER 39PF 50V	ALL
C120	J707809P20	CAP CER 39PF 50V	ALL
C121	J707436P61	CAP CER 100PF 50V	ALL
C122	J707438P14	CAP CER 10NF 50V	ALL
C124	J707809P20	CAP CER 39PF 50V	M905468G1 /-G3
C124	J707809P21	CAP CER 47PF 50V	M905468G2 /-G4
C125	J707809P16	CAP CER 18PF 50V	M905468G1 /-G3
C125	J707809P18	CAP CER 27PF 50V	M905468G2 /-G4
C126	J707436P65	CAP CER 150PF 50V	ALL
C127	J707436P65	CAP CER 150PF 50V	ALL
C128	J707809P12	CAP CER 8,2PF 50V	ALL
C129	J707809P15	CAP CER 15PF 50V	ALL
C130	J707809P16	CAP CER 18PF 50V	ALL
C131	J707809P15	CAP CER 15PF 50V	ALL
C132	J707809P27	CAP CER 150PF 50V	ALL
C134	J707438P5	CAP CER 1NF 50V	ALL
C135	J707438P22	CAP CER 47NF 50V	ALL
C136	J707353P5	CAP ELEC 2,2 UF 50V	ALL
C137	J707438P14	CAP CER 10NF 50V	ALL
C138	J707438P14	CAP CER 10NF 50V	ALL
C139	J707436P73	CAP CER 330PF 50V	ALL
C141	J707436P7	CAP CER 3,3PF 50V	ALL
C201	J707444P8	CAP TA 22 UF 16V	ALL
C202	J707438P5	CAP CER 1NF 50V	ALL
C203	J707444P5	CAP TA 2,2 UF 35V	ALL
C204	J707438P22	CAP CER 47NF 50V	ALL
C205	J707436P61	CAP CER 100PF 50V	ALL
C206	J707436P61	CAP CER 100PF 50V	ALL
C207	J707436P61	CAP CER 100PF 50V	ALL
C208	J707436P61	CAP CER 100PF 50V	ALL
C301	J707436P12	CAP CER 8,2PF 50V	ALL
C302	J707436P9	CAP CER 4,7PF 50V	ALL
C303	J707436P77	CAP CER 470PF 50V	ALL
C304	J707436P77	CAP CER 470PF 50V	ALL
C305	J707436P61	CAP CER 100PF 50V	ALL
C306	J707436P25	CAP CER 18PF 50V	ALL
C307	J707436P5	CAP CER 2,2PF 50V	ALL
C308	J707436P73	CAP CER 330PF 50V	ALL
C309	J707438P5	CAP CER 1NF 50V	ALL
C310	J707438P14	CAP CER 10NF 50V	ALL
C311	J707436P65	CAP CER 150PF 50V	ALL
C401	J707436P11	CAP CER 6,8PF 50V	ALL
C402	J707436P73	CAP CER 330PF 50V	ALL
C403	J707438P14	CAP CER 10NF 50V	ALL
C404	J707438P5	CAP CER 1NF 50V	ALL
C405	J707438P14	CAP CER 10NF 50V	ALL
C406	J707436P63	CAP CER 120PF 50V	ALL
C407	J707436P45	CAP CER 47PF 50V	ALL
C408	J707436P63	CAP CER 120PF 50V	ALL
C409	J707438P8	CAP CER 3,3NF 50V	ALL
C410	J707438P26	CAP CER 100NF 50V	ALL
C411	J707436P93	CAP CER 2,2NF 50V	ALL
C412	J707436P73	CAP CER 330PF 50V	ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
C413	J707436P73	CAP CER 330PF 50V	ALL
C415	J707444P9	CAP TA 47 UF 6,3V	ALL
C416	J707438P26	CAP CER 100NF 50V	ALL
C417	J707438P26	CAP CER 100NF 50V	ALL
C418	J707438P26	CAP CER 100NF 50V	ALL
C419	J707436P13	CAP CER 10PF 50V	ALL
C420	J707444P7	CAP TA 10 UF 16V	ALL
C421	J707444P3	CAP TA 0,47 UF 35V	ALL
C501	J707436P69	CAP CER 220PF 50V	ALL
C502	J707436P8	CAP CER 3,9PF 50V	ALL
C503	J707483P3	CAP PHEN 0,39PF 500V	ALL
C504	J707475P2	CAP VAR 2 - 10 PF	ALL
C505	J707436P69	CAP CER 220PF 50V	ALL
C506	J707444P8	CAP TA 22 UF 16V	ALL
C507	J707870P20	CAP CER 39PF 50V	M905468G1 /-G3
C507	J707870P21	CAP CER 47PF 50V	M905468G2 /-G4
C508	J707436P69	CAP CER 220PF 50V	ALL
C509	J707436P10	CAP CER 5,6PF 50V	M905468G2 /-G4
C509	J707436P9	CAP CER 4,7PF 50V	M905468G1 /-G3
C510	J707436P8	CAP CER 3,9PF 50V	ALL
C511	J707436P69	CAP CER 220PF 50V	ALL
C512	J707436P8	CAP CER 3,9PF 50V	ALL
C513	J707436P8	CAP CER 3,9PF 50V	ALL
C514	J707475P2	CAP VAR 2 - 10 PF	ALL
C515	J707436P69	CAP CER 220PF 50V	ALL
C516	J707444P8	CAP TA 22 UF 16V	ALL
C517	J707870P20	CAP CER 39PF 50V	M905468G1 /-G3
C517	J707870P21	CAP CER 47PF 50V	M905468G2 /-G4
C518	J707436P69	CAP CER 220PF 50V	ALL
C520	J707436P10	CAP CER 5,6PF 50V	M905468G2 /-G4
C520	J707436P9	CAP CER 4,7PF 50V	M905468G1 /-G3
C521	J707436P61	CAP CER 100PF 50V	ALL
C522	J707438P5	CAP CER 1NF 50V	ALL
C523	J707438P14	CAP CER 10NF 50V	ALL
C524	J707436P13	CAP CER 10PF 50V	ALL
C525	J707436P61	CAP CER 100PF 50V	ALL
C526	J707438P5	CAP CER 1NF 50V	ALL
C527	J707436P57	CAP CER 82PF 50V	ALL
C528	J707438P14	CAP CER 10NF 50V	ALL
C529	J707436P53	CAP CER 68PF 50V	ALL
C530	J707438P26	CAP CER 100NF 50V	ALL
C531	J707436P57	CAP CER 82PF 50V	ALL
C532	J707436P9	CAP CER 4,7PF 50V	ALL
C533	J707475P1	CAP VAR 2 - 18 PF	ALL
C534	J707436P41	CAP CER 39PF 50V	ALL
C535	J707412P9	CAP PYES 100N 10% 63V	ALL
C536	J707612P2	CAP POL 0,68 UF 100V	ALL
C537	J707438P14	CAP CER 10NF 50V	ALL
C538	J707438P22	CAP CER 47NF 50V	ALL
C539	J707436P77	CAP CER 470PF 50V	ALL
C540	J707444P7	CAP TA 10 UF 16V	ALL
C541	J707436P29	CAP CER 22PF 50V	ALL
C543	J707438P8	CAP CER 3,3NF 50V	ALL
C544	J707438P5	CAP CER 1NF 50V	ALL
C545	J707436P73	CAP CER 330PF 50V	ALL
C546	J707870P8	CAP CER 3,9PF 50V	ALL
C547	J707436P8	CAP CER 3,9PF 50V	ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
C548	J707436P8	CAP CER 3,9PF 50V	ALL
D101	J707389P1	DIO SI BAV 99	ALL
D102	J707391P1	DIO SI BAT 18	ALL
D201	J707448P1	DIO REF TL431 CLP	ALL
D202	J707390P1	DIO SI BAV 70	ALL
D301	J707391P1	DIO SI BAT 18	ALL
D302	J707391P1	DIO SI BAT 18	ALL
D401	J707389P1	DIO SI BAV 99	ALL
D501	J707769P1	DIO VAR CAP BBY 31	ALL
D502	J707769P1	DIO VAR CAP BBY 31	ALL
D503	J707769P1	DIO VAR CAP BBY 31	ALL
D504	J707769P1	DIO VAR CAP BBY 31	ALL
D505	J707769P1	DIO VAR CAP BBY 31	ALL
D507	J707390P1	DIO SI BAV 70	ALL
D508	J707390P1	DIO SI BAV 70	ALL
L101	J707486P1	COIL FIX 100NH	ALL
L102	J707486P1	COIL FIX 100NH	ALL
L103	J707426P3	COIL FIX 3 1/2 WIND.	ALL
L104	J707339G1	COIL FIX ASM	ALL
L105	J707486P1	COIL FIX 100NH	ALL
L106	J707426P2	COIL FIX 2 1/2 WIND.	ALL
L107	J707256P2	COIL FIX	ALL
L108	J707426P3	COIL FIX 3 1/2 WIND.	ALL
L109	J707339G1	COIL FIX ASM	ALL
L111	J707256P2	COIL FIX	ALL
L112	J707426P1	COIL FIX 1 1/2 WIND.	ALL
L113	J707426P1	COIL FIX 1 1/2 WIND.	ALL
L116	J707256P2	COIL FIX	ALL
L117	J707486P4	COIL,RF,FIXED 10 UH	ALL
L118	J707426P7	COIL FIX 7 1/2 WIND.	ALL
L119	J707426P2	COIL FIX 2 1/2 WIND.	ALL
L120	J707426P1	COIL FIX 1 1/2 WIND.	ALL
L121	J707426P1	COIL FIX 1 1/2 WIND.	ALL
L122	J707256P2	COIL FIX	ALL
L301	J707426P2	COIL FIX 2 1/2 WIND.	ALL
L302	J707816P3	COIL HELICAL	M905468G2 /-G4
L302	J707816P5	COIL HELICAL	M905468G1 /-G3
L303	J707816P3	COIL HELICAL	M905468G2 /-G4
L303	J707816P5	COIL HELICAL	M905468G1 /-G3
L304	J707486P1	COIL FIX 100NH	ALL
L305	J707816P4	COIL HELICAL	M905468G2 /-G4
L305	J707816P6	COIL HELICAL	M905468G1 /-G3
L306	J707816P3	COIL HELICAL	M905468G2 /-G4
L306	J707816P5	COIL HELICAL	M905468G1 /-G3
L307	J707816P4	COIL HELICAL	M905468G2 /-G4
L307	J707816P6	COIL HELICAL	M905468G1 /-G3
L308	J707422P3	COIL RF VAR	ALL
L401	J707486P3	COIL,RF,FIXED 6.8 UH	ALL
L402	J707431P1	COIL VAR 455 KHZ	ALL
L403	J707431P1	COIL VAR 455 KHZ	ALL
L501	J707486P6	COIL FIX 0,47 UH	ALL
L502	J707486P6	COIL FIX 0,47 UH	ALL
L504	J707486P6	COIL FIX 0,47 UH	ALL
L505	J707486P6	COIL FIX 0,47 UH	ALL
L506	J707486P6	COIL FIX 0,47 UH	ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
L507	J707486P6	COIL FIX 0,47 UH	ALL
L508	J707816P4	COIL HELICAL	M905468G2 /-G4
L508	J707816P6	COIL HELICAL	M905468G1 /-G3
L509	J707486P6	COIL FIX 0,47 UH	ALL
L510	J707486P6	COIL FIX 0,47 UH	ALL
L512	J707486P5	COIL FIX 330 UH	ALL
P1	J707350P4	PLG 4-PIN	ALL
P2	J707350P6	PLG 6-PIN	ALL
P3	J707350P13	PLG 13-PIN	ALL
Q101	J707388P1	TSTR BFR 53	ALL
Q102	J707388P1	TSTR BFR 53	ALL
Q103	J707388P1	TSTR BFR 53	ALL
Q104	J707763P1	TSTR NPN RF MFR 627	ALL
Q105	A702448P1	TSTR (2N5945) , RF POWER	ALL
Q106	J707673P1	TSTR NPN SI BC 368	ALL
Q107	J707387P1	TSTR BCW 30	ALL
Q108	J707386P1	TSTR BCW 32	ALL
Q201	J707387P1	TSTR BCW 30	ALL
Q202	J707435P1	TSTR BC 369	ALL
Q203	J707386P1	TSTR BCW 32	ALL
Q204	J707432P1	TSTR BCX 18	ALL
Q205	J707387P1	TSTR BCW 30	ALL
Q206	J707387P1	TSTR BCW 30	ALL
Q301	J707386P1	TSTR BCW 32	ALL
Q302	J707771P1	TSTR BFR 93	ALL
Q303	J707770P1	FLD EFF BF 4416A	ALL
Q401	J707433P1	FLD EFF BF 989	ALL
Q402	J707387P1	TSTR BCW 30	ALL
Q501	J707817P1	FLD EFF J309	ALL
Q502	J707817P1	FLD EFF J309	ALL
Q503	J707430P1	TSTR BF 569	ALL
Q504	J707387P1	TSTR BCW 30	ALL
Q505	J707419P1	TSTR JFET SI BF 511	ALL
Q506	J707430P1	TSTR BF 569	ALL
R101	J707385P470	RES MFILM 47 OHM 0,125W	ALL
R102	J707385P332	RES MFILM 3,3K OHM 0,125W	ALL
R103	J707385P152	RES MFILM 1,5K OHM 0,125W	ALL
R104	J707385P270	RES MFILM 27 OHM 0,125W	ALL
R105	J707385P332	RES MFILM 3,3K OHM 0,125W	ALL
R106	J707385P152	RES MFILM 1,5K OHM 0,125W	ALL
R107	J707385P331	RES MFILM 330 OHM 0,125W	ALL
R108	J707385P100	RES MFILM 10 OHM 0,125W	ALL
R109	J707385P101	RES MFILM 100 OHM 0,125W	ALL
R110	J707385P562	RES MFILM 5,6K OHM 0,125W	ALL
R111	J707385P680	RES MFILM 68 OHM 0,125W	ALL
R112	J707385P102	RES MFILM 1K OHM 0,125W	ALL
R113	J707385P472	RES MFILM 4,7K OHM 0,125W	ALL
R114	J707385P152	RES MFILM 1,5K OHM 0,125W	ALL
R115	J707478P4	RES VAR 1K OHM 0,05W	ALL
R116	J707385P102	RES MFILM 1K OHM 0,125W	ALL
R117	J707385P270	RES MFILM 27 OHM 0,125W	ALL
R118	J707385P102	RES MFILM 1K OHM 0,125W	ALL
R119	J707385P270	RES MFILM 27 OHM 0,125W	ALL
R120	J707385P100	RES MFILM 10 OHM 0,125W	ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
R121	J707385P100	RES MFILM 10 OHM 0,125W	ALL
R122	J707385P221	RES MFILM 220 OHM 0,125W	ALL
R123	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R124	J707385P100	RES MFILM 10 OHM 0,125W	ALL
R125	J707385P102	RES MFILM 1K OHM 0,125W	ALL
R126	J707945P1	RES WW 0,27 OHM	ALL
R201	J707385P272	RES MFILM 2,7K OHM 0,125W	ALL
R202	J707385P222	RES MFILM 2,2K OHM 0,125W	ALL
R203	J707385P153	RES MFILM 15K OHM 0,125W	ALL
R204	J707385P102	RES MFILM 1K OHM 0,125W	ALL
R205	J707385P101	RES MFILM 100 OHM 0,125W	ALL
R206	J707385P273	RES MFILM 27K OHM 0,125W	ALL
R207	J707385P682	RES MFILM 6,8K OHM 0,125W	ALL
R209	J707385P393	RES MFILM 39K OHM 0,125W	ALL
R210	J707385P333	RES MFILM 33K OHM 0,125W	ALL
R211	J707385P103	RES MFILM 10K OHM 0,125W	ALL
R212	J707385P182	RES MFILM 1,8K OHM 0,125W	ALL
R213	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R214	J707385P153	RES MFILM 15K OHM 0,125W	ALL
R215	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R216	J707385P153	RES MFILM 15K OHM 0,125W	ALL
R301	J707385P562	RES MFILM 5,6K OHM 0,125W	ALL
R302	J707385P102	RES MFILM 1K OHM 0,125W	ALL
R303	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R304	J707385P472	RES MFILM 4,7K OHM 0,125W	ALL
R305	J707385P103	RES MFILM 10K OHM 0,125W	ALL
R306	J707385P682	RES MFILM 6,8K OHM 0,125W	ALL
R307	J707385P391	RES MFILM 390 OHM 0,125W	ALL
R308	J707385P561	RES MFILM 560 OHM 0,125W	ALL
R309	J707385P470	RES MFILM 47 OHM 0,125W	ALL
R310	J707385P470	RES MFILM 47 OHM 0,125W	ALL
R311	J707385P182	RES MFILM 1,8K OHM 0,125W	ALL
R312	J707385P101	RES MFILM 100 OHM 0,125W	ALL
R401	J707385P152	RES MFILM 1,5K OHM 0,125W	ALL
R402	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R403	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R404	J707385P561	RES MFILM 560 OHM 0,125W	ALL
R405	J707385P103	RES MFILM 10K OHM 0,125W	ALL
R406	J707385P332	RES MFILM 3,3K OHM 0,125W	ALL
R407	J707385P683	RES MFILM 68K OHM 0,125W	ALL
R408	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R409	J707478P10	RES VAR 10K OHM 0,05W	ALL
R411	J707385P272	RES MFILM 2,7K OHM 0,125W	ALL
R412	J707385P563	RES MFILM 56K OHM 0,125W	ALL
R413	J707385P273	RES MFILM 27K OHM 0,125W	ALL
R414	J707385P683	RES MFILM 68K OHM 0,125W	ALL
R415	J707385P182	RES MFILM 1,8K OHM 0,125W	ALL
R416	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R417	J707385P183	RES MFILM 18K OHM 0,125W	ALL
R418	J707385P334	RES MFILM 330K OHM 0,125W	ALL
R419	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R420	J707478P11	RES VAR 15K OHM 0,05W	ALL
R421	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R422	J707385P101	RES MFILM 100 OHM 0,125W	ALL
R423	J707385P470	RES MFILM 47 OHM 0,125W	ALL
R424	J707385P470	RES MFILM 47 OHM 0,125W	ALL
R501	J707385P101	RES MFILM 100 OHM 0,125W	ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
R502	J707385P181	RES MFILM 180 OHM 0,125W	ALL
R503	J707385P470	RES MFILM 47 OHM 0,125W	ALL
R505	J707385P181	RES MFILM 180 OHM 0,125W	ALL
R506	J707385P121	RES MFILM 120 OHM 0,125W	ALL
R507	J707385P121	RES MFILM 120 OHM 0,125W	ALL
R508	J707385P222	RES MFILM 2,2K OHM 0,125W	ALL
R509	J707385P222	RES MFILM 2,2K OHM 0,125W	ALL
R510	J707385P561	RES MFILM 560 OHM 0,125W	ALL
R511	J707385P472	RES MFILM 4,7K OHM 0,125W	ALL
R512	J707385P221	RES MFILM 220 OHM 0,125W	ALL
R513	J707385P103	RES MFILM 10K OHM 0,125W	ALL
R514	J707385P223	RES MFILM 22K OHM 0,125W	ALL
R516	J707385P183	RES MFILM 18K OHM 0,125W	ALL
R517	J707385P100	RES MFILM 10 OHM 0,125W	ALL
R518	J707385P562	RES MFILM 5,6K OHM 0,125W	ALL
R519	J707385P104	RES MFILM 100K OHM 0,125W	ALL
R520	J707406P1	RES NTC 330 OHM	M905468G1 /-G2
R521	J707385P470	RES MFILM 47 OHM 0,125W	ALL
R522	J707385P273	RES MFILM 27K OHM 0,125W	ALL
R523	J707385P472	RES MFILM 4,7K OHM 0,125W	ALL
R524	J707385P334	RES MFILM 330K OHM 0,125W	ALL
R525	J707385P222	RES MFILM 2,2K OHM 0,125W	ALL
R526	J707385P392	RES MFILM 3,9K OHM 0,125W	ALL
R527	J707385P273	RES MFILM 27K OHM 0,125W	ALL
R528	J707385P101	RES MFILM 100 OHM 0,125W	ALL
R529	J707385P102	RES MFILM 1K OHM 0,125W	ALL
R530	J707385P101	RES MFILM 100 OHM 0,125W	ALL
R531	J707385P103	RES MFILM 10K OHM 0,125W	ALL
R533	J707385P153	RES MFILM 15K OHM 0,125W	ALL
R534	J707385P184	RES MFILM 180K OHM 0,125W	ALL
R536	J707385P100	RES MFILM 10 OHM 0,125W	ALL
R537	J707385P152	RES MFILM 1,5K OHM 0,125W	ALL
R538	J707385P221	RES MFILM 220 OHM 0,125W	ALL
R539	J707385P184	RES MFILM 180K OHM 0,125W	ALL
U401 *	J707449P1	INT CKT MC3357	ALL
U501	J707434P2	INT CKT 4053/SO16	ALL
U502	J707337P1	INT CKT , MC145146	ALL
U503	J707374P2	INT CKT SP8718	ALL
U504	L855471G1	INT CKT. RES. NETW.	M905468G3 /-G4
W501	A700134P9	WIRE , JMPR	M905468G1 /-G2
Y501	J707019P3	X-TAL 6,4MHZ 5PPM	ALL

ITEM NUMBER	DESCRIPTION
J707801G1	R F 4 6 6 2 H , 25 KHZ CHANN. SPACING

P A R T S L I S T :

	CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
	A001	M905468G1	CPNT BD RF4660H	1
*	U402	M905492G1	INT CKT SQ4001	1
	Z401	J707310P1	FLT 21,4MHZ	1
	Z403	J707446P1	FLT 455KHZ	1
	0002	J706804P2	WASH,INSULATION	2

ITEM NUMBER DESCRIPTION

J707801G4 R F 4 6 6 2 L , 25 KHZ CHANN. SPACING

P A R T S L I S T :

	CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
	A001	M905468G2	CPNT BD RF4660L	1
*	U402	M905492G1	INT CKT SQ4001	1
	Z401	J707310P1	FLT 21,4MHZ	1
	Z403	J707446P1	FLT 455KHZ	1
	0002	J706804P2	WASH,INSULATION	2

ITEM NUMBER	DESCRIPTION
J707801G2	R F 4 6 6 3 H , 20 KHZ CHANN. SPACING

P A R T S L I S T :

	CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
	A001	M905468G1	CPNT BD RF4660H	1
*	U402	M905492G1	INT CKT SQ4001	1
	Z401	J707310P2	FLT 21,4MHZ	1
	Z403	J707446P3	FLT 455KHZ	1
	0002	J706804P2	WASH,INSULATION	2

ITEM NUMBER DESCRIPTION

J707801G5 R F 4 6 6 3 L , 20 KHZ CHANN. SPACING

P A R T S L I S T :

	CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
	A001	M905468G2	CPNT BD RF4660L	1
*	U402	M905492G1	INT CKT SQ4001	1
	Z401	J707310P2	FLT 21,4MHZ	1
	Z403	J707446P3	FLT 455KHZ	1
	0002	J706804P2	WASH,INSULATION	2

ITEM NUMBER	DESCRIPTION
J707801G3	R F 4 6 6 4 H, 12,5 KHZ CHAN. SPACING

P A R T S L I S T :

	CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
	A001	M905468G3	CPNT BD. RF4660H, 3PPM STAB.	1
*	U402	M905492G1	INT CKT SQ4001	1
	Z401	J707310P3	FLT 21,4MHZ	1
	Z402	J707446P4	FLT 455KHZ	1
	0002	J706804P2	WASH INS	2

ITEM NUMBER	DESCRIPTION
J707801G6	R F 4 6 6 4 L , 12.5 KHZ CHAN. SPACING

P A R T S L I S T :

	CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
	A001	M905468G4	CPNT BD. RF4660L , 3PPM STAB.	1
*	U402	M905492G1	INT CKT SQ4001	1
	Z401	J707310P3	FLT 21,4 MHZ	1
	Z402	J707446P4	FLT 455 KHZ	1
	0002	J706804P2	WASH. INS.	2

2/10 CHANNELS VERSION

- ADJUSTMENT PROCEDURE
- TEST POINTS AND ADJUSTABLE COMPONENTS

ADJUSTMENT PROCEDURE

CQP4660

This adjustment procedure applies to the following types of STORNOPHONE 4000 radios:

CQP4662: 400-470MHz - 25 kHz channel spacing
CQP4663: 400-470MHz - 20 kHz channel spacing
CQP4664: 400-470MHz - 12.5 kHz channel spacing

Before making adjustments to the radio circuit, read the type label and note the channel frequencies and the tone system coding.
Also check the personality PROM and its data against the type label information.

MEASURING INSTRUMENTS

The following measuring instruments are necessary for making service and adjustments to the CQP4660:

RF Signal Generator	400-470 MHz
AF Voltmeter	Z_i >0.5 Mohm
Multimeter	20 Kohm/V
Distortion meter	
Deviation meter	
Watt meter	0-2.5 W
AF Generator 50 Hz-5 kHz	Z_{out} ≥600 ohm
Frequency counter	5-500 MHz/50 mV
Power Supply	6-10 V/2 A
Signal Sampler	Storno D52
RF diode probe	Storno 95.0059-00
RF coil tuning tool	Storno 17.0053-00
Ref. oscillator tuning tool	Storno 19J707496G1
Test adaptor	SE4002 19K805371G1
Service kit	SE4003 19J707744G1
Consisting of service cabinet and antenna adaptor	
Extension cables	CC4001 19J707704G1

DISMANTLING OF CQP4000

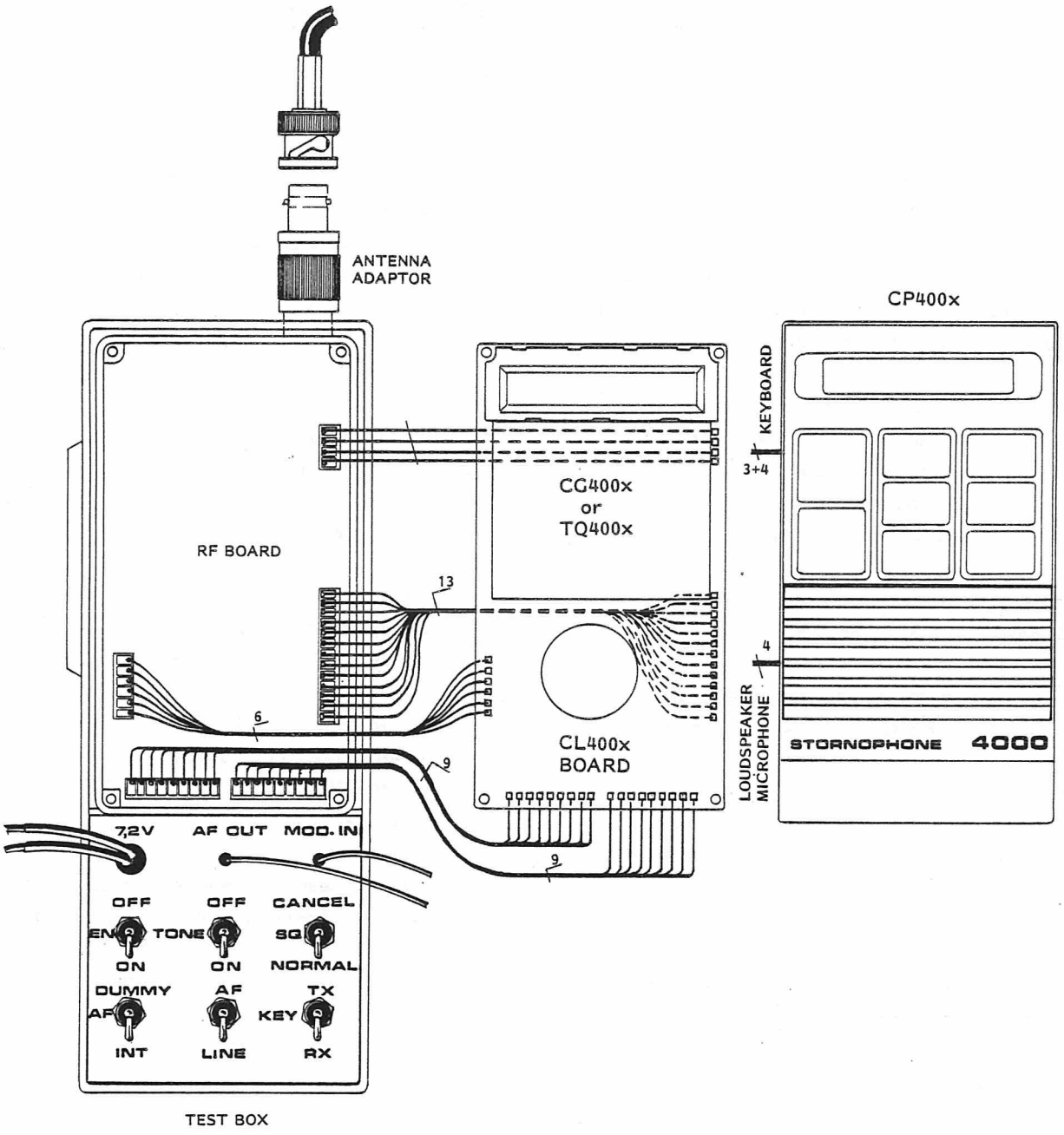
Before the CQP4000 can be adjusted the radio must be dismantled for access to all test points and adjustable components.

- Remove the battery, if inserted.
- Remove the two rear screws holding the cabinet.
- Remove the chassis box.
- Remove the four corner screws holding the front.
- Open the chassis box, carefully, without damaging the contact fingers on the rim.
  Take the CL400x board and the RF466x board apart.
  Connect the CL400x board to the RF466x board by means of the extension cables.
- Insert the chassis box in the service cabinet and firmly press the RF board to the bottom of the chassis box to establish good ground connections.
- Attach the antenna adaptor.
- Insert the test box in the battery compartment.
- The STORNOPHONE 4000 is now prepared for adjustment.

TRANSMITTER ADJUSTMENT

Refer to transmitter test setup.
Set the power supply voltage to 7.2 V.
Turn the radio on in receive mode and measure the current consumption.

Requirement: less than 30 mA.
Connect the voltmeter to the +5.5 V test point.
Read the 5.5 V regulated voltage.



TEST SETUP
STORNOPHONE 4000

D403.279/3

1. SYNTHESIZER REFERENCE FREQUENCY ADJUSTMENT

Connect the frequency counter to P3 pin 13-CLOCK.
Read the reference frequency.
Check the reference crystal's frequency (6.4 MHz or 6.5 MHz).
Adjust C533 for f_{nom} ±10 Hz.

Note:
The final adjustment of the reference frequency is performed later with closed chassis box.

2. TRANSMITTER VCO ADJUSTMENT

Set the ADC potentiometer to minimum, anti-clockwise.
Key the transmitter and read the current drain.
Requirement: less than 1 A.
Connect the voltmeter to P3 pin 7, OUT OF LOCK signal.
Adjust C504 for 0 V steady ready reading on the voltmeter. Connect the voltmeter to TP4.
Adjust C504 for a voltage reading of 3 V. For radios with more than 1 channel adjust C504 so that the reading for each channel is inside the tuning range, 1 - 3 V. The channel having the lowest frequency has the lowest voltage reading.

3. TRANSMITTER POWER OUTPUT ADJUSTMENT

Select the channel whose frequency is closest to the center frequency. Connect the wattmeter to the antenna connector.
Adjust ADC potentiometer R115 for rated output power according to the type designation.
Note:
The current drain at rated output power must not exceed 1 A.

4. TRANSMITTER FREQUENCY ADJUSTMENT

Connect the wattmeter to the antenna connector through the signal sampler.
Connect the frequency counter to the signal sampler.
Key the transmitter and read the frequency.
Adjust C533 for correct frequency. (C533 is fine adjusted later with closed chassis box).
Requirement: F_{nom} ±0.2 ppm (225 Hz at 450 MHz)
Deenergize the transmitter.
Select next channel.
Key the transmitter and check for correct output frequency for each channel.

NOTE:
Adjustment of the transmitter frequency which also adjusts the receiver for correct frequency is done later when the chassis box is closed.

5. TRANSMITTER MODULATION ADJUSTMENT

Select the channel whose frequency is closest to the center frequency.
Connect the deviation meter to the signal sampler.
Connect the AF generator to MOD IN on the test box.
Set the AF generator frequency to 1000 Hz and the output as follows:
1100 mV with test box (11:1 built-in attenuator)

Vary the AF frequency between 100 Hz and 3000 Hz and find peak deviation. Check the frequency for both + and - deviation. At the frequency producing peak deviation adjust R812 for maximum system deviation.

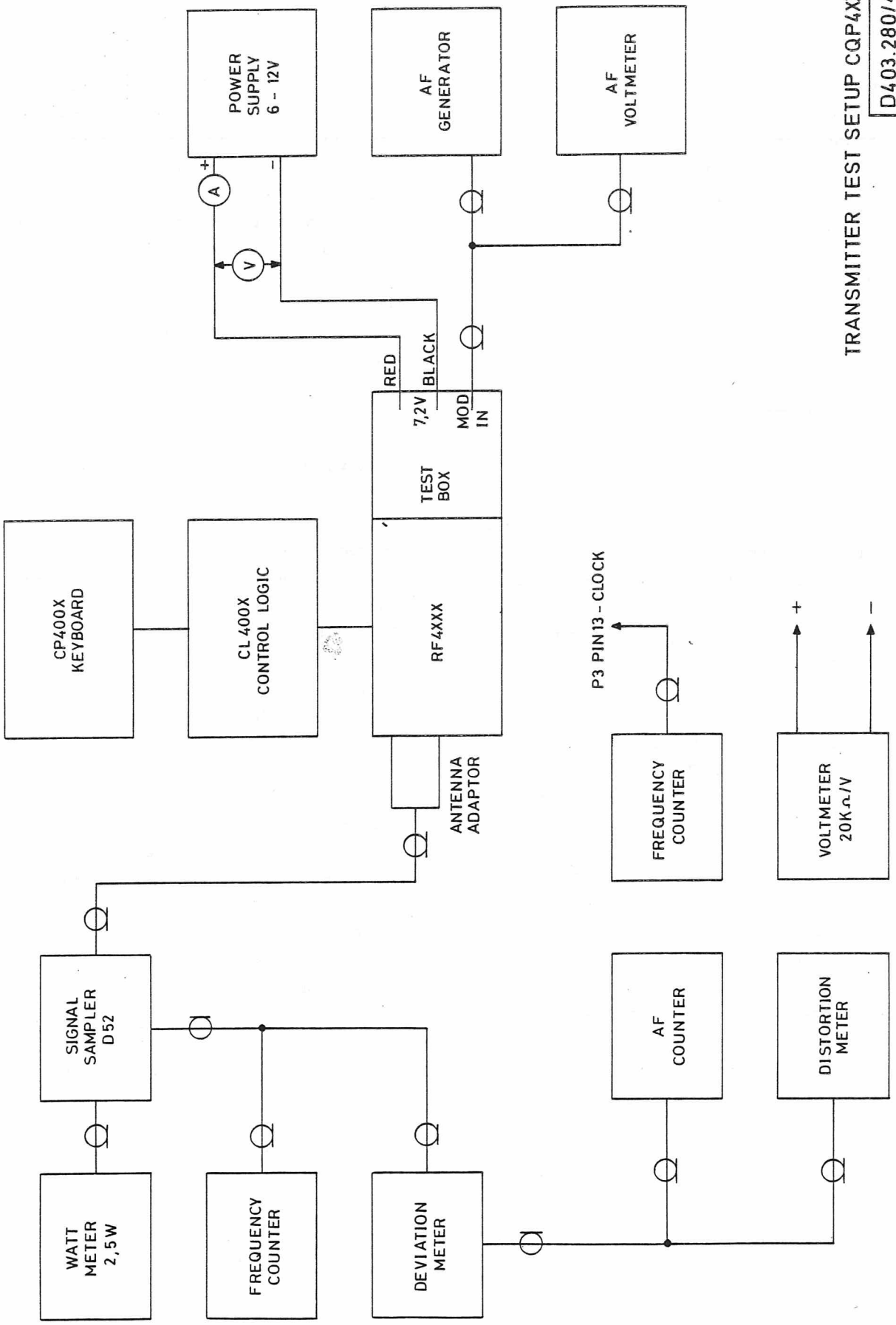
CQP4662: ±5 kHz
CQP4663: ±4 kHz
CQP4664: ±2.5 kHz

Set the AF generator frequency to 1000 Hz.
Reduce the AF generator output until a deviation of 0.7 x maximum deviation is obtained:

CQP4662: ±3.5 kHz
CQP4663: ±2.8 kHz
CQP4664: ±1.75 kHz

Typical generator output is 100 mV.

TRANSMITTER TEST SETUP CQP4XXX D403.280/4



RECEIVER ADJUSTMENT

Refer to receiver test setup.

1. RECEIVER VCO ADJUSTMENT

Connect the voltmeter to P3 pin 7, OUT OF LOCK signal.
Preset coil L508 as follows:
High end of band: 2/3 out of coil.
Low end of band: Fully down in coil form.
Set SQ switch to cancel.
Adjust C514 for 0 V steady reading on the voltmeter. Connect the voltmeter to TP4.
Adjust C514 for a voltage reading of 3 V. For radios with more than 1 channel adjust C514 so that the reading for each channel is inside the tuning range, 1 - 3 V. The channel having the lowest frequency has the lowest voltage reading.

2. RECEIVER INJECTION SIGNAL ADJUSTMENT

Connect the diode probe and the voltmeter to TP2.
Adjust L508 for maximum voltmeter reading, 0.13 V ±0.02 V. (L508 is readjusted together with the front-end).

3. IF SIGNAL ADJUSTMENT

Connect the signal generator to the antenna connector and set it to the channel whose frequency is closest to the center frequency.

Modulate the signal generator with 1000 Hz to 0.7 x maximum system deviation.
CQP4662: ±3.5 kHz
CQP4663: ±2.8 kHz
CQP4664: ±1.75 kHz

Set the signal generator output to 100 mV.

Connect the diode probe and the voltmeter to TP3.
Reduce the signal generator output until voltage reading is less than 1 V.
Adjust L402 and L308 for maximum voltmeter reading.
Connect the AF voltmeter to AF OUT. Set the signal generator output to 100 mV.
Adjust L403 for maximum voltmeter reading.

ALTERNATIVE PROCEDURE
Connect the distortion meter to AF OUT.
Adjust L403 for minimum distortion.

4. AF LINE LEVEL ADJUSTMENT

Connect the AF voltmeter to the AF OUT (J906 pin 14.
Set signal generator as described in paragraph 3.
Adjust R409 for a voltmeter reading of 110 mV ±5 mV.

5. FRONT-END ADJUSTMENT

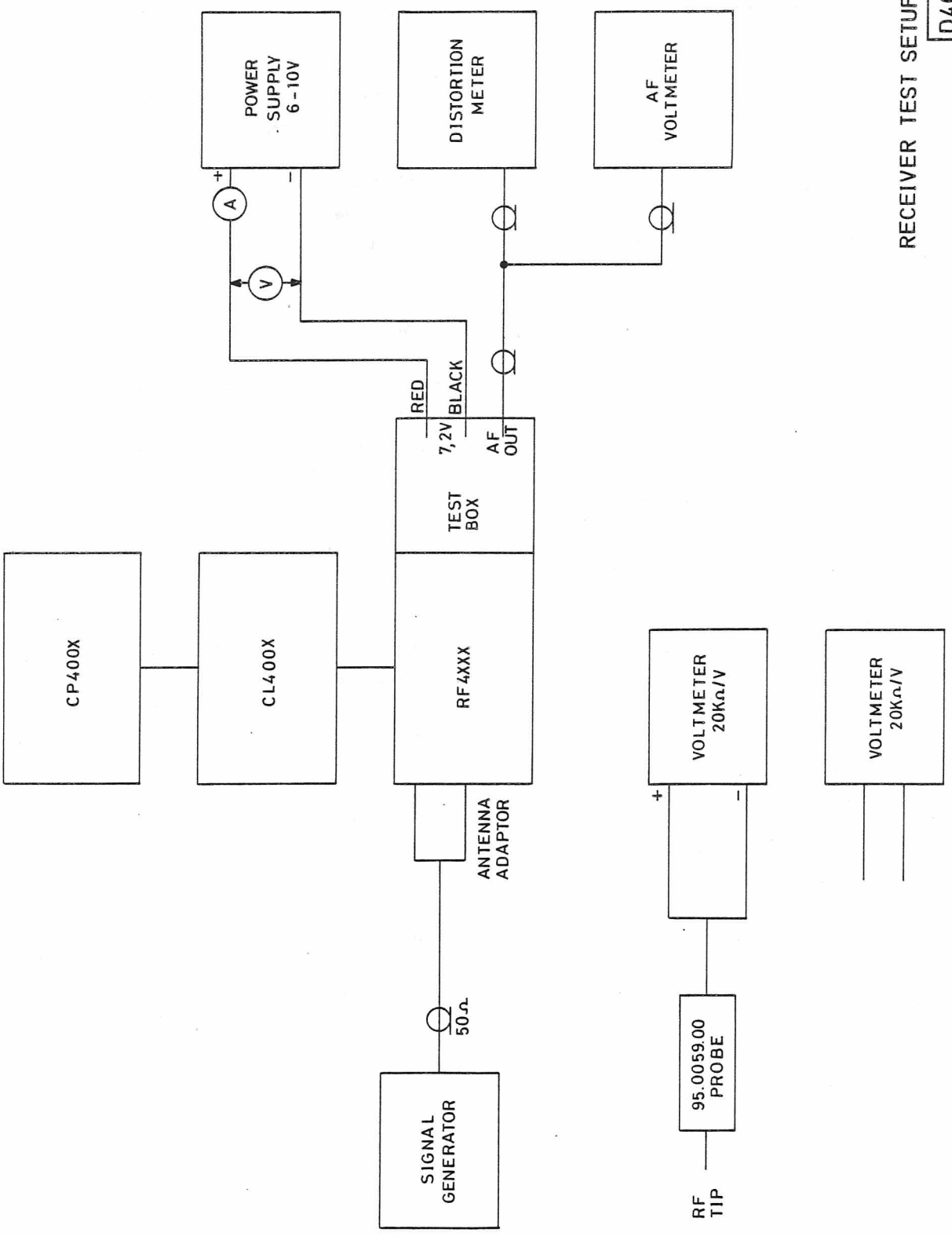
Connect the signal generator to the antenna connector and set its frequency to the channel whose frequency is closest to the center frequency.

Modulate the signal generator as described in paragraph 3. Adjust the generator output to approx. 12 dB SINAD.
Connect a distortion meter to AF OUT.
Set the LS-LINE switch on the test box to LINE.
Set the SQ switch to cancel.

Adjust the following coils for minimum distortion.
L508, L302, L303, L305, L307 and L306.

Note:
If any of the 6 tuning screws: Code J707257P2 - "long" exceeds any of the 3 covers:
Code J707808G1 - with more than 1 mm, - then it/they must be replaced by tuning screw:
Code J707257P1 - "short".

RECEIVER TEST SETUP CQP4XXX D403.281/4



As the sensitivity increases during the adjustment decrease the signal generator output to maintain 12 dB SINAD.

Repeat the adjustments until no further improvement is possible.
Check the 12 dB SINAD on all channels.

Requirement: 12 dB SINAD for less than 0.45 uV.

6. SQUELCH ADJUSTMENT

Turn the squelch potentiometer R420 completely anticlockwise to close the squelch.

Open squelch by setting SQ switch to cancel.
Set the signal generator output to the value giving 12 dB SINAD.

Close squelch by setting SQ switch to normal.
Slowly turn R420 clockwise to the point where the squelch just opens.

Vary the signal generator output slowly up and down to obtain the opening and closing level of the squelch.

Squelch opening level: 12 dB SINAD
Squelch closing level: 6-10 dB SINAD

FREQUENCY ADJUSTMENT

The reference oscillator frequency controls both the transmitter and receiver frequencies and final adjustment must be done with the chassis box properly assembled.
Turn the radio off and remove the test box.
Assemble the radio but use the service cabinet to hold the chassis box.
Connect the test box and turn the radio on.
Connect a frequency counter to the signal sampler, refer to transmitter test setup.
Key the transmitter.
Adjust, through the hole in the rear of the service cabinet, the reference oscillator, C533 for nominal frequency.
Requirement:

$F = F_{nom} \pm 0.2$ ppm (225 Hz at 450 MHz).

Select all channels used and verify the frequency. (Channel switching is not possible while transmitting).

ADJUSTMENT OF WHIP ANTENNA AN4661

Place the field strength indicator in opright position on a non-metallic surface of at least 50x50 cm.

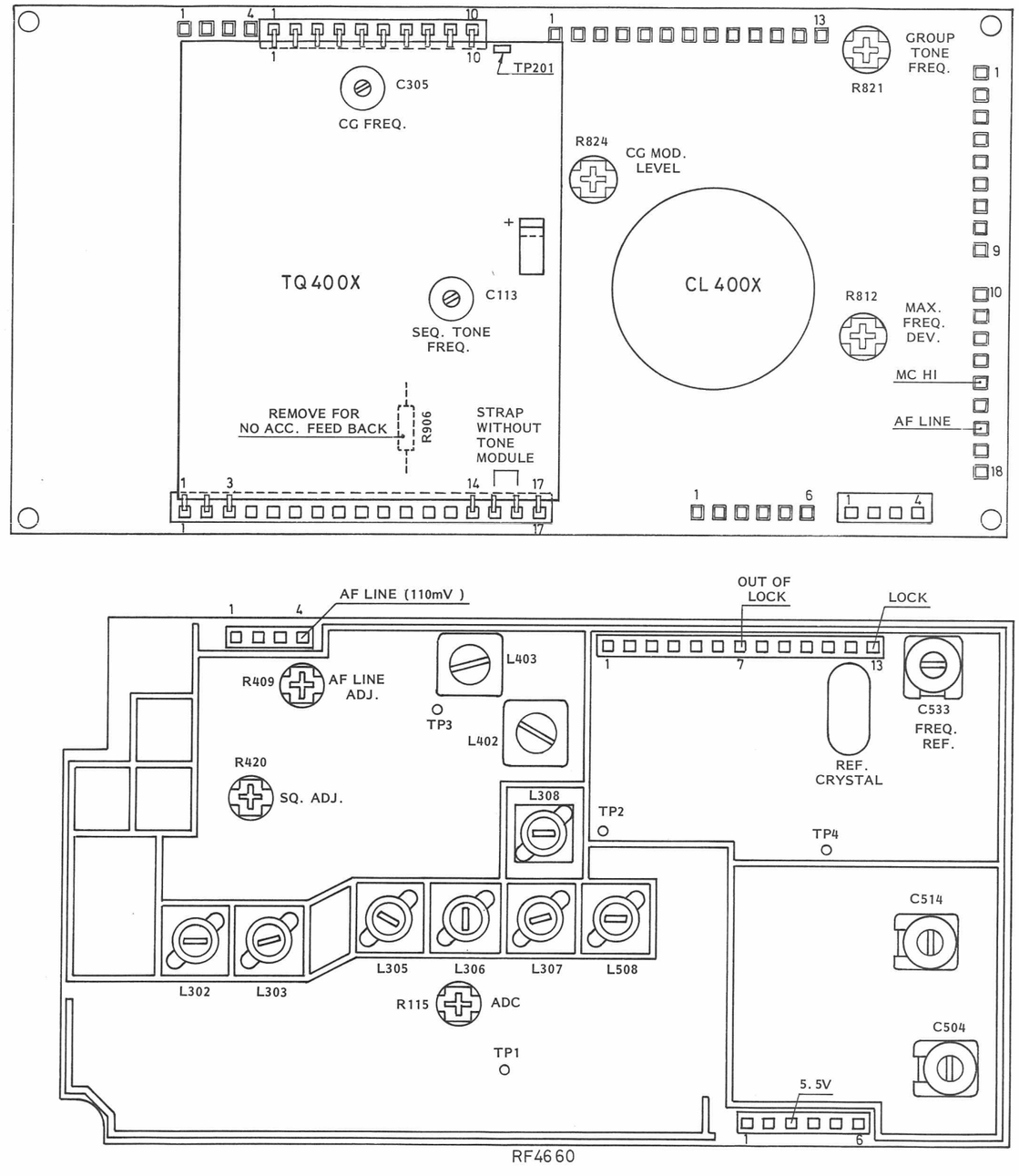
Hold the radio in upright position and key the transmitter.

Adjust the distance between the radio and the signal strength indicator for a clear indication of signal pick-up.

Adjust by cutting to length for maximum signal strength.
The adjustment is sensitive to proximity effects and the hand's position. Check current drain which should not exceeding 1 A.

Mount antenna cap.

Note:
If a signal strength indicator D37 is not available a diode probe with a signal pickup wire and a multimeter or a deviation meter with a signal strength meter can be used to measure the radiated power.

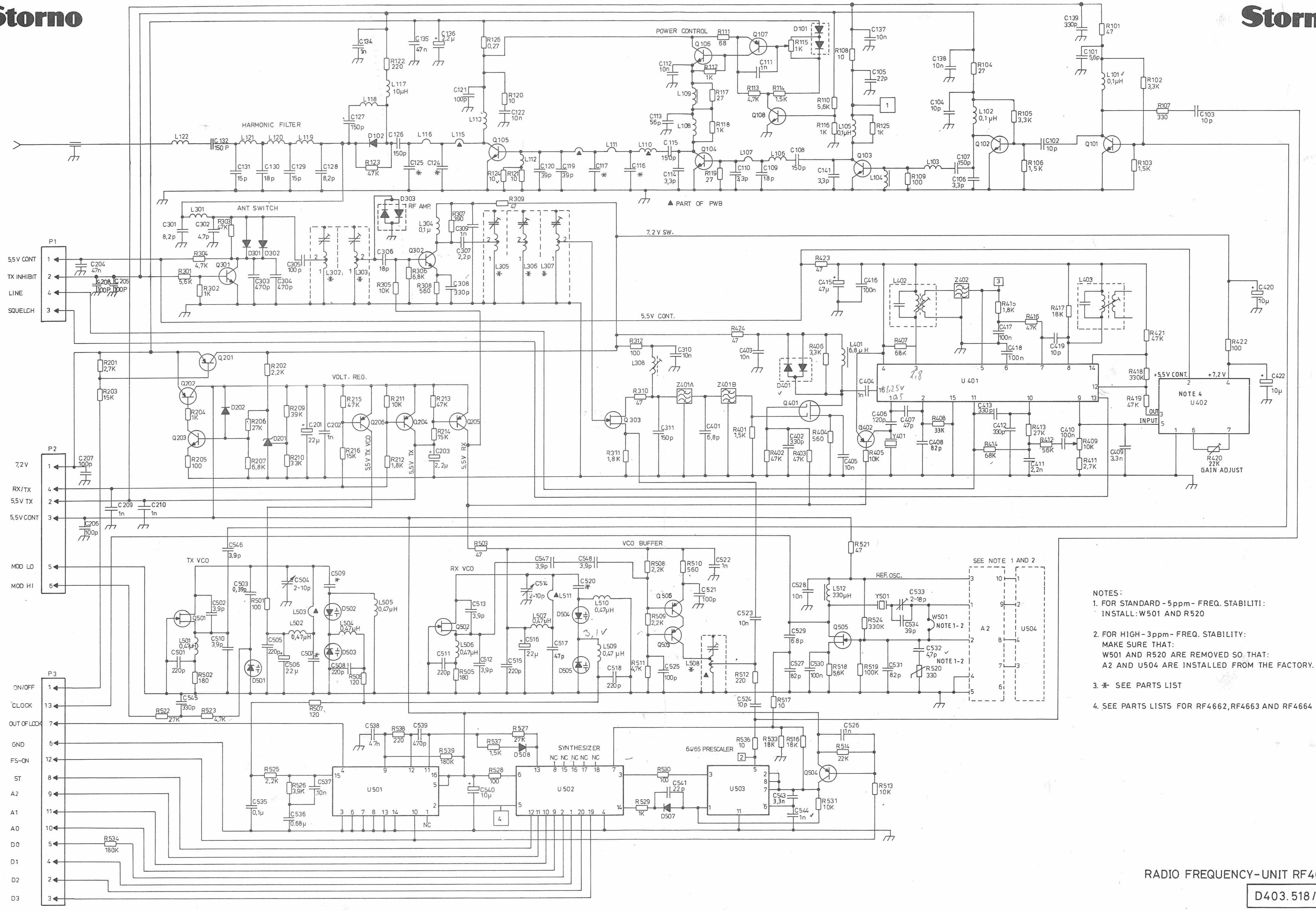


RF4660

TEST POINTS & ADJUSTABLE COMPONENTS
TX400X,CL400X,RF4660

D403.465/2

Storno



NOTES:

1. FOR STANDARD - 5ppm - FREQ. STABILITI: INSTALL: W501 AND R520
2. FOR HIGH - 3ppm - FREQ. STABILITY: MAKE SURE THAT: W501 AND R520 ARE REMOVED SO THAT: A2 AND U504 ARE INSTALLED FROM THE FACTORY.
3. * SEE PARTS LIST
4. SEE PARTS LISTS FOR RF4662, RF4663 AND RF4664

RADIO FREQUENCY-UNIT RF4660

D403.518/2

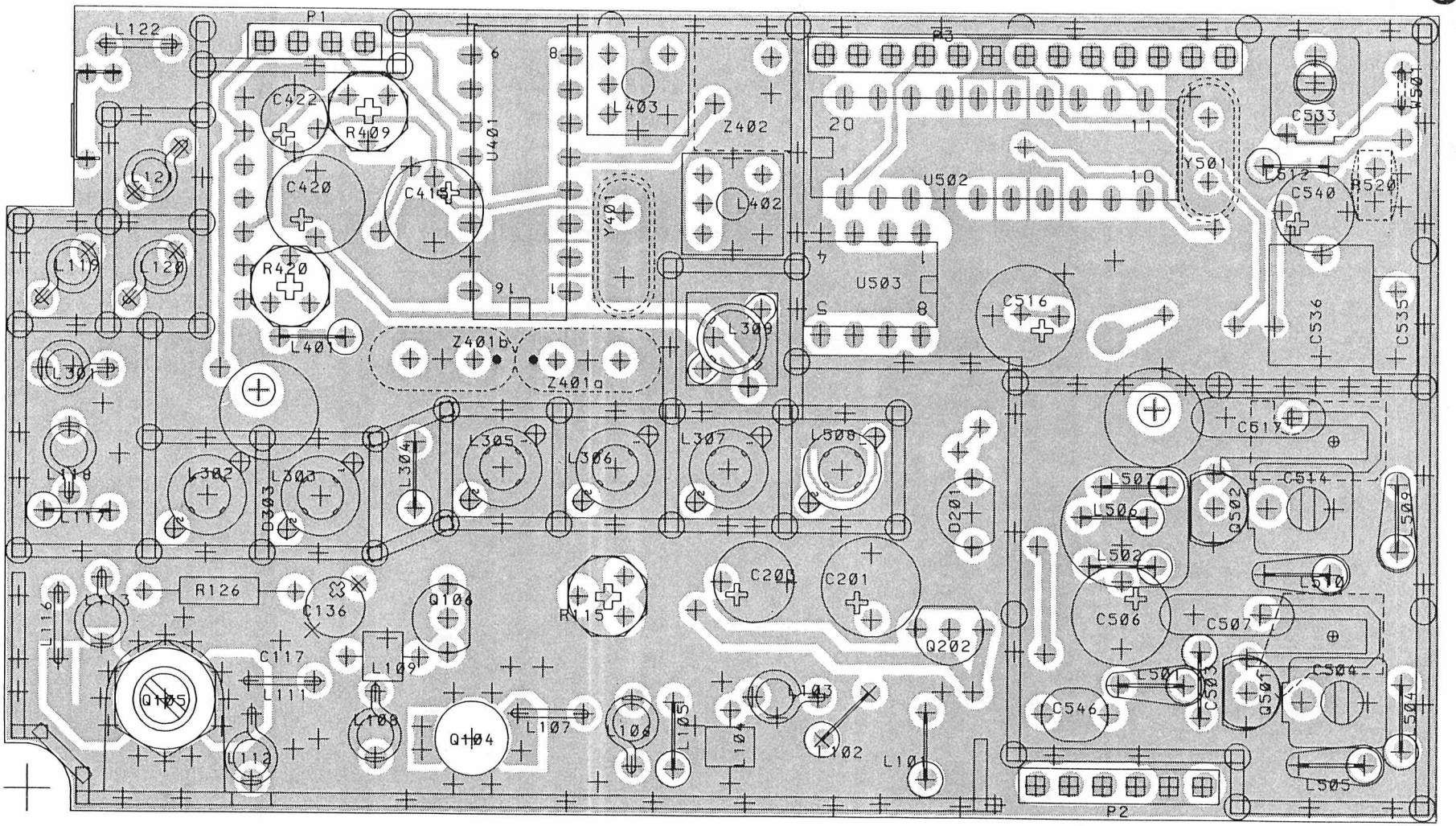
AUTOMATIC VERSION (SEE CHAPTER 2b)

- ADJUSTMENT PROCEDURE
- TEST POINTS AND ADJUSTABLE COMPONENTS

RF BOARD 4660

- ELECTRICAL DIAGRAMS
- COMPONENT LAYOUTS
- PARTS LISTS

Storno



	MODULE CODE NO.	MOUNTED BOARD CODE NO.
25 kHz	J707801G1	M905468G1
25 kHz	J707801G4	M905468G2
20 kHz	J707801G2	M905468G1
20 kHz	J707801G5	M905468G2
12.5 kHz	J707801G3	M905468G3
12.5 kHz	J707801G6	M905468G4

SEE PARTS LISTS

RADIO FREQUENCY UNIT RF4660

COMPONENT LAY-OUT

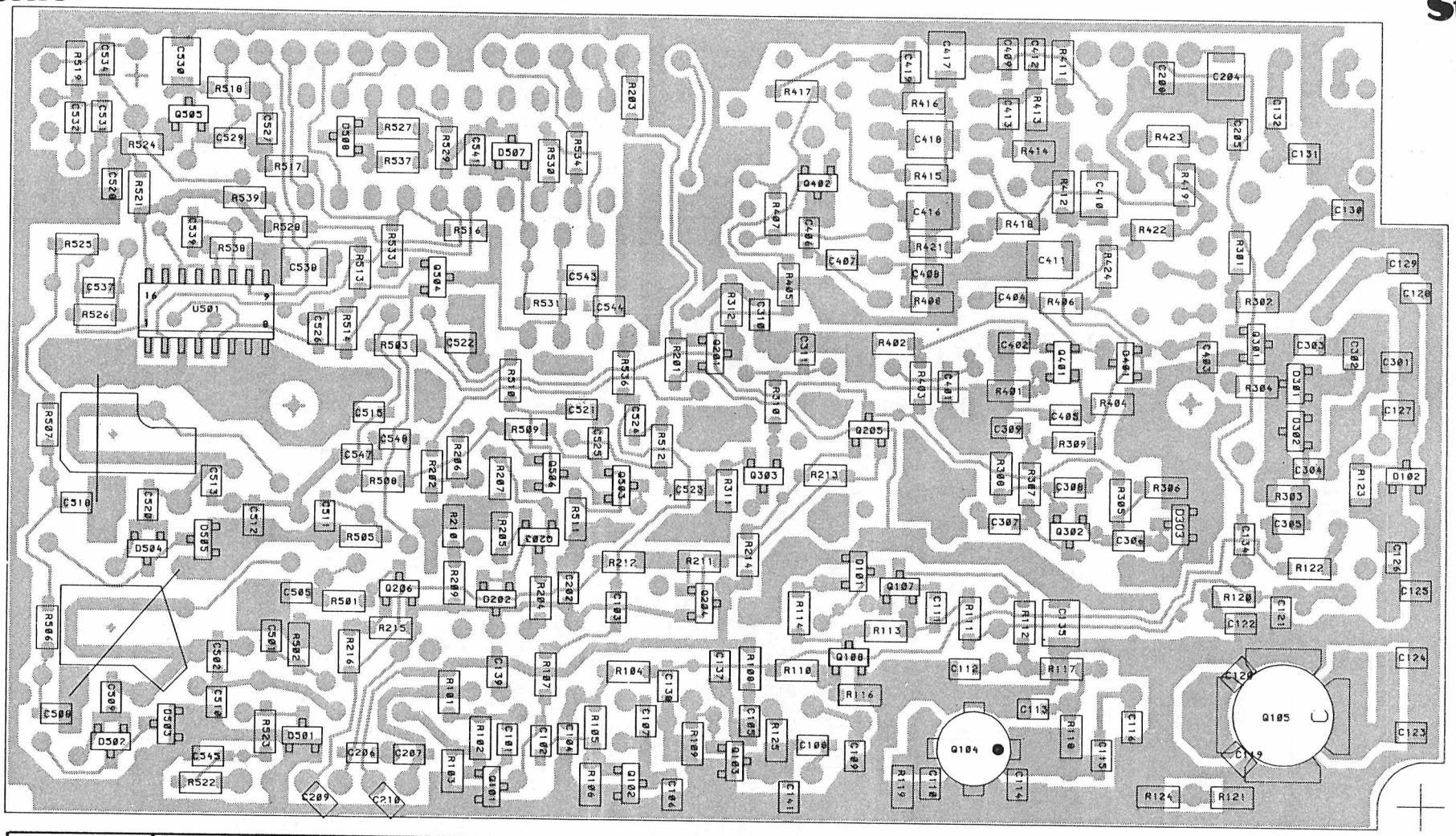
COMPONENT SIDE

REV. 2

D403.463/4

Storno

Storno



	MODULE CODE NO.	MOUNTED BOARD CODE NO.
25 kHz	J707801G1	M905468G1
25 kHz	J707801G4	M905468G2
20 kHz	J707801G2	M905468G1
20 kHz	J707801G5	M905468G2
12.5 kHz	J707801G3	M905468G3
12.5 kHz	J707801G6	M905468G4

SEE PARTS LISTS

RADIO FREQUENCY UNIT RF4660

COMPONENT LAY-OUT

CHIP SIDE

REV. 2

D403.462/4

ITEM NUMBER:	DESCRIPTION:
M905468G1	RF4660HI 470-430 MHZ, 25/20 KHZ CH. SPAC.
M905468G2	RF4660LO 440-400 MHZ, 25/20 KHZ CH. SPAC.
M905468G3	RF4660HI 470-430 MHZ, 12.5 KHZ CH. SPAC.
M905468G4	RF4660LO 440-400 MHZ, 12.5 KHZ CH. SPAC.

P A R T S L I S T : - FOR REVISION 2

CIRCUIT POSITION		COMPONENT ITEM NUMBER		COMPONENT DESCRIPTION	WHERE APPLIED:
A002		L855339G1		CPNT BD. F.TEMP. COMP. 1	-G3/-G4
C000		A700007P65		CAP CER NPO 150P 5% 50V 4	ALL
C101		J707436P10		CAP CER 5,6PF 50V 1	ALL
C102		J707436P13		CAP CER 10PF 50V 1	ALL
C103		J707436P13		CAP CER 10PF 50V 1	ALL
C104		J707436P13		CAP CER 10PF 50V 1	ALL
C105		J707436P29		CAP CER 22PF 50V 1	ALL
C106		J707436P7		CAP CER 3,3PF 50V 1	ALL
C107		J707436P65		CAP CER 150PF 50V 1	ALL
C108		J707436P65		CAP CER 150PF 50V 1	ALL
C109	*	J707809P16	*	CAP CER NPO 18P 5% 50V 1	ALL
C110		J707436P7		CAP CER 3,3PF 50V 1	ALL
C111		J707438P5		CAP CER 1NF 50V 1	ALL
C112		J707438P14		CAP CER 10NF 50V 1	ALL
C113		J707436P49		CAP CER 56PF 50V 1	ALL
C114		J707436P7		CAP CER 3,3PF 50V 1	ALL
C115		J707436P65		CAP CER 150PF 50V 1	ALL
C116		J707809P16		CAP CER 18PF 50V 1	-G1/-G3
OR:					
C116		J707809P17		CAP CER 22PF 50V 1	-G2/-G4
C117		J707809P22		CAP CER 56PF 50V 1	-G1/-G3
OR:					
C117		J707809P23		CAP CER 68PF 50V 1	-G2/-G4
C119		J707809P20		CAP CER 39PF 50V 1	ALL
C120		J707809P20		CAP CER 39PF 50V 1	ALL
C121		J707436P61		CAP CER 100PF 50V 1	ALL
C122		J707438P14		CAP CER 10NF 50V 1	ALL
C124		J707809P20		CAP CER 39PF 50V 1	-G1/-G3
OR:					
C124		J707809P21		CAP CER 47PF 50V 1	-G2/-G4
C125		J707809P16		CAP CER 18PF 50V 1	-G1/-G3
OR:					
C125		J707809P18		CAP CER 27PF 50V 1	-G2/-G4
C126		J707436P65		CAP CER 150PF 50V 1	ALL
C127		J707436P65		CAP CER 150PF 50V 1	ALL
C128		J707809P12		CAP CER 8,2PF 50V 1	ALL
C129		J707809P15		CAP CER 15PF 50V 1	ALL
C130		J707809P16		CAP CER 18PF 50V 1	ALL
C131		J707809P15		CAP CER 15PF 50V 1	ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:	
C132	J707809P27	CAP CER 150PF 50V	1	ALL
C134	J707438P5	CAP CER 1NF 50V	1	ALL
C135	J707438P22	CAP CER 47NF 50V	1	ALL
C136	J707353P5	CAP ELEC 2,2 UF 50V	1	ALL
C137	J707438P14	CAP CER 10NF 50V	1	ALL
C138	J707438P14	CAP CER 10NF 50V	1	ALL
C139	J707436P73	CAP CER 330PF 50V	1	ALL
C141	J707436P7	CAP CER 3,3PF 50V	1	ALL
C201	J707444P8	CAP TA 22 UF 16V	1	ALL
C202	J707438P5	CAP CER 1NF 50V	1	ALL
C203	J707444P5	CAP TA 2,2 UF 35V	1	ALL
C204	J707438P22	CAP CER 47NF 50V	1	ALL
C205	J707436P61	CAP CER 100PF 50V	1	ALL
C206	J707436P61	CAP CER 100PF 50V	1	ALL
C207	J707436P61	CAP CER 100PF 50V	1	ALL
C208	J707436P61	CAP CER 100PF 50V	1	ALL
C209	A700058P5	CAP CER 1N0 10% X4	1	ALL
C210	A700058P5	CAP CER 1N0 10% X4	1	ALL
C301	J707436P12	CAP CER 8,2PF 50V	1	ALL
C302	J707436P9	CAP CER 4,7PF 50V	1	ALL
C303	J707436P77	CAP CER 470PF 50V	1	ALL
C304	J707436P77	CAP CER 470PF 50V	1	ALL
C305	J707436P61	CAP CER 100PF 50V	1	ALL
C306	J707436P25	CAP CER 18PF 50V	1	ALL
C307	J707436P5	CAP CER 2,2PF 50V	1	ALL
C308	J707436P73	CAP CER 330PF 50V	1	ALL
C309	J707438P5	CAP CER 1NF 50V	1	ALL
C310	J707438P14	CAP CER 10NF 50V	1	ALL
C311	J707436P65	CAP CER 150PF 50V	1	ALL
C401	J707436P11	CAP CER 6,8PF 50V	1	ALL
C402	J707436P73	CAP CER 330PF 50V	1	ALL
C403	J707438P14	CAP CER 10NF 50V	1	ALL
C404	J707438P5	CAP CER 1NF 50V	1	ALL
C405	J707438P14	CAP CER 10NF 50V	1	ALL
C406	J707436P63	CAP CER 120PF 50V	1	ALL
C407	J707436P45	CAP CER 47PF 50V	1	ALL
C408	J707436P57	CAP CER 82PF 50V	1	ALL
C409	J707438P8	CAP CER 3,3NF 50V	1	ALL
C410	J707438P26	CAP CER 100NF 50V	1	ALL
C411	J707436P93	CAP CER 2,2NF 50V	1	ALL
C412	J707436P73	CAP CER 330PF 50V	1	ALL
C413	J707436P73	CAP CER 330PF 50V	1	ALL
C415	J707444P9	CAP TA 47 UF 6,3V	1	ALL
C416	J707438P26	CAP CER 100NF 50V	1	ALL
C417	J707438P26	CAP CER 100NF 50V	1	ALL
C418	J707438P26	CAP CER 100NF 50V	1	ALL
C419	J707436P13	CAP CER 10PF 50V	1	ALL
C420	J707444P7	CAP TA 10 UF 16V	1	ALL
C422	J707444P7	CAP TA 10 UF 16V	1	ALL
C501	J707436P69	CAP CER 220PF 50V	1	ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
C502	J707436P8	CAP CER 3,9PF 50V	1 ALL
C503	J707483P3	CAP PHEN 0,39PF 500V	1 ALL
C504	J707475P2	CAP VAR 2 - 10 PF	1 ALL
C505	J707436P69	CAP CER 220PF 50V	1 ALL
C506	J707444P8	CAP TA 22 UF 16V	1 ALL
C507	J707870P20	CAP CER 39PF 50V	1 -G1/-G3
OR:			
C507	J707870P21	CAP CER 47PF 50V	1 -G2/-G4
C508	J707436P69	CAP CER 220PF 50V	1 ALL
C509	J707436P9	CAP CER 4,7PF 50V	1 ALL
OR:			ALL
C509	J707436P10	CAP CER 5,6PF 50V	1 ALL
C510	J707436P8	CAP CER 3,9PF 50V	1 ALL
C511	J707436P69	CAP CER 220PF 50V	1 ALL
C512	J707436P8	CAP CER 3,9PF 50V	1 ALL
C513	J707436P8	CAP CER 3,9PF 50V	1 ALL
C514	J707475P2	CAP VAR 2 - 10 PF	1 ALL
C515	J707436P69	CAP CER 220PF 50V	1 ALL
C516	J707444P8	CAP TA 22 UF 16V	1 ALL
C517	J707870P21	CAP CER 47PF 50V	1 ALL
C518	J707436P69	CAP CER 220PF 50V	1 ALL
C520	J707436P9	CAP CER 4,7PF 50V	1 -G1/-G3
OR:			
C520	J707436P10	CAP CER 5,6PF 50V	1 -G2/-G4
C521	J707436P61	CAP CER 100PF 50V	1 ALL
C522	J707438P5	CAP CER 1NF 50V	1 ALL
C523	J707438P14	CAP CER 10NF 50V	1 ALL
C524	J707436P13	CAP CER 10PF 50V	1 ALL
C525	J707436P61	CAP CER 100PF 50V	1 ALL
C526	J707438P5	CAP CER 1NF 50V	1 ALL
C527	J707436P57	CAP CER 82PF 50V	1 ALL
C528	J707438P14	CAP CER 10NF 50V	1 ALL
C529	J707436P53	CAP CER 68PF 50V	1 ALL
C530	J707438P26	CAP CER 100NF 50V	1 ALL
C531	J707436P57	CAP CER 82PF 50V	1 ALL
C532	J707436P9	CAP CER 4,7PF 50V	1 ALL
C533	J707475P1	CAP VAR 2 - 18 PF	1 ALL
C534	J707436P41	CAP CER 39PF 50V	1 ALL
C535	J707412P9	CAP PYES 100N 10% 63V	1 ALL
C536	J707612P2	CAP POL 0,68 UF 100V	1 ALL
C537	J707438P14	CAP CER 10NF 50V	1 ALL
C538	J707438P22	CAP CER 47NF 50V	1 ALL
C539	J707436P77	CAP CER 470PF 50V	1 ALL
C540	J707444P7	CAP TA 10 UF 16V	1 ALL
C541	J707436P29	CAP CER 22PF 50V	1 ALL
C543	J707438P8	CAP CER 3,3NF 50V	1 ALL
C544	J707438P5	CAP CER 1NF 50V	1 ALL
C545	J707436P73	CAP CER 330PF 50V	1 ALL
C546	J707870P8	CAP CER 3,9PF 50V	1 ALL
C547	J707436P8	CAP CER 3,9PF 50V	1 ALL
C548	J707436P8	CAP CER 3,9PF 50V	1 ALL
D101	J707389P1	DIO SI BAV 99	1 ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:	
D102	J707391P1	DIO SI BAT 18	1	ALL
D201	J707448P1	DIO REF TL431 CLP	1	ALL
D202	J707390P1	DIO SI BAV 74	1	ALL
D301	J707391P1	DIO SI BAT 18	1	ALL
D302	J707391P1	DIO SI BAT 18	1	ALL
D303	J707389P1	DIO SI BAV 99	1	ALL
D401	J707389P1	DIO SI BAV 99	1	ALL
D501	J707769P1	DIO VAR CAP BBY 31	1	ALL
D502	J707769P1	DIO VAR CAP BBY 31	1	ALL
D503	J707769P1	DIO VAR CAP BBY 31	1	ALL
D504	J707769P1	DIO VAR CAP BBY 31	1	ALL
D505	J707769P1	DIO VAR CAP BBY 31	1	ALL
D507	J707390P1	DIO SI BAV 74	1	ALL
D508	J707390P1	DIO SI BAV 74	1	ALL
L101	A700024P1	COIL FIX 100NH 10%	1	ALL
L102	J707486P1	COIL FIX 100NH	1	ALL
L103	J707426P3	COIL FIX 3 1/2 WIND.	1	ALL
L104	J707339G1	COIL FIX ASM	1	ALL
L105	J707486P1	COIL FIX 100NH	1	ALL
L106	J707426P2	COIL FIX 2 1/2 WIND.	1	ALL
L107	J707256P2	COIL FIX	1	ALL
L108	J707426P3	COIL FIX 3 1/2 WIND.	1	ALL
L109	J707339G1	COIL FIX ASM	1	ALL
L111	J707256P2	COIL FIX	1	ALL
L112	J707426P1	COIL FIX 1 1/2 WIND.	1	ALL
L113	J707426P1	COIL FIX 1 1/2 WIND.	1	ALL
L116	J707256P2	COIL FIX	1	ALL
L117	J707486P4	COIL,RF,FIXED 10 UH	1	ALL
L118	J707426P7	COIL FIX 7 1/2 WIND.	1	ALL
L119	J707426P2	COIL FIX 2 1/2 WIND.	1	ALL
L120	J707426P1	COIL FIX 1 1/2 WIND.	1	ALL
L121	J707426P1	COIL FIX 1 1/2 WIND.	1	ALL
L122	J707256P2	COIL FIX	1	ALL
L301	J707426P2	COIL FIX 2 1/2 WIND.	1	ALL
L302	J707816P5	COIL HELICAL	1	-G1/-G3
OR:				
L302	J707816P3	COIL HELICAL	1	-G2/-G4
L303	J707816P5	COIL HELICAL	1	-G1/-G3
OR:				
L303	J707816P3	COIL HELICAL	1	-G2/-G4
L304	J707486P1	COIL FIX 100NH	1	ALL
L305	J707816P6	COIL HELICAL	1	-G1/-G3
OR:				
L305	J707816P4	COIL HELICAL	1	-G2/-G4
L306	J707816P5	COIL HELICAL	1	-G1/-G3
OR:				
L306	J707816P3	COIL HELICAL	1	-G2/

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
L307	J707816P6	COIL HELICAL	1 -G1/-G3
OR:			
L307	J707816P4	COIL HELICAL	1 -G2/-G4
L308	J707422P3	COIL RF VAR	1 ALL
L401	J707486P3	COIL,RF,FIXED 6.8 UH	1 ALL
L402	J707431P1	COIL VAR 455 KHZ	1 ALL
L403	J707431P1	COIL VAR 455 KHZ	1 ALL
L501	J707486P6	COIL FIX 0,47 UH	1 ALL
L502	J707486P6	COIL FIX 0,47 UH	1 ALL
L504	J707486P6	COIL FIX 0,47 UH	1 ALL
L505	J707486P6	COIL FIX 0,47 UH	1 ALL
L506	J707486P6	COIL FIX 0,47 UH	1 ALL
L507	J707486P6	COIL FIX 0,47 UH	1 ALL
L508	J707816P6	COIL HELICAL	1 -G1/-G3
OR:			
L508	J707816P4	COIL HELICAL	1 -G2/-G4
L509	J707486P6	COIL FIX 0,47 UH	1 ALL
L510	J707486P6	COIL FIX 0,47 UH	1 ALL
L512	J707486P5	COIL FIX 330 UH	1 ALL
P001	J707350P4	PLG 4-PIN	1 ALL
P002	J707350P6	PLG 6-PIN	1 ALL
P003	J707350P13	PLG 13-PIN	1 ALL
Q101	J707388P1	TSTR BFR 53	1 ALL
Q102	J707388P1	TSTR BFR 53	1 ALL
Q103	J707388P1	TSTR BFR 53	1 ALL
Q104	J707763P1	TSTR NPN RF MFR 627	1 ALL
Q105	A702448P1	TSTR (2N5945) , RF POWER	1 ALL
Q106	J707673P1	TSTR NPN SI BC 368	1 ALL
Q107	J707387P1	TSTR BCW 30	1 ALL
Q108	J707386P1	TSTR BCW 32	1 ALL
Q201	J707387P1	TSTR BCW 30	1 ALL
Q202	J707435P1	TSTR BC 369	1 ALL
Q203	J707386P1	TSTR BCW 32	1 ALL
Q204	J707432P1	TSTR BCX 18	1 ALL
Q205	J707387P1	TSTR BCW 30	1 ALL
Q206	J707387P1	TSTR BCW 30	1 ALL
Q301	J707386P1	TSTR BCW 32	1 ALL
Q302	J707771P1	TSTR BFR 93	1 ALL
Q303	J707770P1	FLD EFF BF 4416A	1 ALL
Q401	J707433P1	FLD EFF BF 989	1 ALL
Q402	J707387P1	TSTR BCW 30	1 ALL
Q501	J707817P1	FLD EFF J309	1 ALL
Q502	J707817P1	FLD EFF J309	1 ALL
Q503	J707430P1	TSTR BF 569	1 ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:	
Q504	J707387P1	TSTR BCW 30	1	ALL
Q505	J707419P1	TSTR JFET SI BF 511	1	ALL
Q506	J707430P1	TSTR BF 569	1	ALL
R101	J707385P470	RES MFILM 47 OHM 0,125W	1	ALL
R102	J707385P332	RES MFILM 3,3K OHM 0,125W	1	ALL
R103	J707385P152	RES MFILM 1,5K OHM 0,125W	1	ALL
R104	J707385P270	RES MFILM 27 OHM 0,125W	1	ALL
R105	J707385P332	RES MFILM 3,3K OHM 0,125W	1	ALL
R106	J707385P152	RES MFILM 1,5K OHM 0,125W	1	ALL
R107	J707385P331	RES MFILM 330 OHM 0,125W	1	ALL
R108	J707385P100	RES MFILM 10 0HM 0,125W	1	ALL
R109	J707385P101	RES MFILM 100 OHM 0,125W	1	ALL
R110	J707385P562	RES MFILM 5,6K OHM 0,125W	1	ALL
R111	J707385P680	RES MFILM 68 OHM 0,125W	1	ALL
R112	J707385P102	RES MFILM 1K OHM 0,125W	1	ALL
R113	J707385P472	RES MFILM 4,7K OHM 0,125W	1	ALL
R114	J707385P152	RES MFILM 1,5K OHM 0,125W	1	ALL
R115	J707478P4	RES VAR 1K OHM 0,05W	1	ALL
R116	J707385P102	RES MFILM 1K OHM 0,125W	1	ALL
R117	J707385P270	RES MFILM 27 OHM 0,125W	1	ALL
R118	J707385P102	RES MFILM 1K OHM 0,125W	1	ALL
R119	J707385P270	RES MFILM 27 OHM 0,125W	1	ALL
R120	J707385P100	RES MFILM 10 0HM 0,125W	1	ALL
R121	J707385P100	RES MFILM 10 0HM 0,125W	1	ALL
R122	J707385P221	RES MFILM 220 OHM 0,125W	1	ALL
R123	J707385P473	RES MFILM 47K OHM 0,125W	1	ALL
R124	J707385P100	RES MFILM 10 0HM 0,125W	1	ALL
R125	J707385P102	RES MFILM 1K OHM 0,125W	1	ALL
R126	J707945P1	RES WW 0,27 OHM	1	ALL
R201	J707385P272	RES MFILM 2,7K OHM 0,125W	1	ALL
R202	J707385P222	RES MFILM 2,2K OHM 0,125W	1	ALL
R203	J707385P153	RES MFILM 15K OHM 0,125W	1	ALL
R204	J707385P102	RES MFILM 1K OHM 0,125W	1	ALL
R205	J707385P101	RES MFILM 100 OHM 0,125W	1	ALL
R206	J707385P273	RES MFILM 27K OHM 0,125W	1	ALL
R207	J707385P682	RES MFILM 6,8K OHM 0,125W	1	ALL
R209	J707385P393	RES MFILM 39K OHM 0,125W	1	ALL
R210	J707385P333	RES MFILM 33K OHM 0,125W	1	ALL
R211	J707385P103	RES MFILM 10K OHM 0,125W	1	ALL
R212	J707385P182	RES MFILM 1,8K OHM 0,125W	1	ALL
R213	J707385P473	RES MFILM 47K OHM 0,125W	1	ALL
R214	J707385P153	RES MFILM 15K OHM 0,125W	1	ALL
R215	J707385P473	RES MFILM 47K OHM 0,125W	1	ALL
R216	J707385P153	RES MFILM 15K OHM 0,125W	1	ALL
R301	J707385P562	RES MFILM 5,6K OHM 0,125W	1	ALL
R302	J707385P102	RES MFILM 1K OHM 0,125W	1	ALL
R303	J707385P473	RES MFILM 47K OHM 0,125W	1	ALL
R304	J707385P472	RES MFILM 4,7K OHM 0,125W	1	ALL
R305	J707385P103	RES MFILM 10K OHM 0,125W	1	ALL
R306	J707385P682	RES MFILM 6,8K OHM 0,125W	1	ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
R307	J707385P391	RES MFILM 390 OHM 0,125W	1 ALL
R308	J707385P561	RES MFILM 560 OHM 0,125W	1 ALL
R309	J707385P470	RES MFILM 47 OHM 0,125W	1 ALL
R310	J707385P470	RES MFILM 47 OHM 0,125W	1 ALL
R311	J707385P182	RES MFILM 1,8K OHM 0,125W	1 ALL
R312	J707385P101	RES MFILM 100 OHM 0,125W	1 ALL
R401	J707385P152	RES MFILM 1,5K OHM 0,125W	1 ALL
R402	J707385P473	RES MFILM 47K OHM 0,125W	1 ALL
R403	J707385P473	RES MFILM 47K OHM 0,125W	1 ALL
R404	J707385P561	RES MFILM 560 OHM 0,125W	1 ALL
R405	J707385P103	RES MFILM 10K OHM 0,125W	1 ALL
R406	J707385P332	RES MFILM 3,3K OHM 0,125W	1 ALL
R407	J707385P683	RES MFILM 68K OHM 0,125W	1 ALL
R408	J707385P333	RES MFILM 33K OHM 5% 0,125W	1 ALL
R409	J707478P10	RES VAR 10K OHM 0,05W	1 ALL
R411	J707385P272	RES MFILM 2,7K OHM 0,125W	1 ALL
R412	J707385P563	RES MFILM 56K OHM 0,125W	1 ALL
R413	J707385P273	RES MFILM 27K OHM 0,125W	1 ALL
R414	J707385P683	RES MFILM 68K OHM 0,125W	1 ALL
R415	J707385P182	RES MFILM 1,8K OHM 0,125W	1 ALL
R416	J707385P473	RES MFILM 47K OHM 0,125W	1 ALL
R417	J707385P183	RES MFILM 18K OHM 0,125W	1 ALL
R418	J707385P334	RES MFILM 330K 0HM 0,125W	1 ALL
R419	J707385P473	RES MFILM 47K OHM 0,125W	1 ALL
R420	J707478P12	RES VAR 22K OHM 0,05W	1 ALL
R421	J707385P473	RES MFILM 47K OHM 0,125W	1 ALL
R422	J707385P101	RES MFILM 100 OHM 0,125W	1 ALL
R423	J707385P470	RES MFILM 47 OHM 0,125W	1 ALL
R424	J707385P470	RES MFILM 47 OHM 0,125W	1 ALL
R501	J707385P101	RES MFILM 100 OHM 0,125W	1 ALL
R502	J707385P181	RES MFILM 180 OHM 0,125W	1 ALL
R503	J707385P470	RES MFILM 47 OHM 0,125W	1 ALL
R505	J707385P181	RES MFILM 180 OHM 0,125W	1 ALL
R506	J707385P121	RES MFILM 120 OHM 0,125W	1 ALL
R507	J707385P121	RES MFILM 120 OHM 0,125W	1 ALL
R508	J707385P222	RES MFILM 2,2K OHM 0,125W	1 ALL
R509	J707385P222	RES MFILM 2,2K OHM 0,125W	1 ALL
R510	J707385P561	RES MFILM 560 OHM 0,125W	1 ALL
R511	J707385P472	RES MFILM 4,7K OHM 0,125W	1 ALL
R512	J707385P221	RES MFILM 220 OHM 0,125W	1 ALL
R513	J707385P103	RES MFILM 10K OHM 0,125W	1 ALL
R514	J707385P223	RES MFILM 22K OHM 0,125W	1 ALL
R516	J707385P183	RES MFILM 18K OHM 0,125W	1 ALL
R517	J707385P100	RES MFILM 10 0HM 0,125W	1 ALL
R518	J707385P562	RES MFILM 5,6K OHM 0,125W	1 ALL
R519	J707385P104	RES MFILM 100K OHM 0,125W	1 ALL
R520	J707406P1	RES NTC 330 0HM	1 -G1/-G2
R521	J707385P470	RES MFILM 47 OHM 0,125W	1 ALL
R522	J707385P273	RES MFILM 27K OHM 0,125W	1 ALL
R523	J707385P472	RES MFILM 4,7K OHM 0,125W	1 ALL
R524	J707385P334	RES MFILM 330K 0HM 0,125W	1 ALL
R525	J707385P222	RES MFILM 2,2K OHM 0,125W	1 ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
R526	J707385P392	RES MFILM 3,9K OHM 0,125W	1 ALL
R527	J707385P273	RES MFILM 27K OHM 0,125W	1 ALL
R528	J707385P101	RES MFILM 100 OHM 0,125W	1 ALL
R529	J707385P102	RES MFILM 1K OHM 0,125W	1 ALL
R530	J707385P101	RES MFILM 100 OHM 0,125W	1 ALL
R531	J707385P103	RES MFILM 10K OHM 0,125W	1 ALL
R533	J707385P183	RES MFILM 18K OHM 0,125W	1 ALL
R534	J707385P184	RES MFILM 180K OHM 0,125W	1 ALL
R536	J707385P100	RES MFILM 10 0HM 0,125W	1 ALL
R537	J707385P152	RES MFILM 1,5K OHM 0,125W	1 ALL
R538	J707385P221	RES MFILM 220 OHM 0,125W	1 ALL
R539	J707385P184	RES MFILM 180K OHM 0,125W	1 ALL
U401	J707449P1	INT CKT IF - AMP MC3357	1 ALL
U501	J707434P2	INT CKT DIG MUX 4053/S016	1 ALL
U502	J707337P1	INT CKT , MC145146	1 ALL
U503	J707374P2	INT CKT PLL ECL SP8718	1 ALL
U504	L855471G1	INT CKT. RES. NETW.	1 -G3/-G4
W501	A700134P9	WIRE , JMPR	1 -G1/-G2
Y501	J707019P3	X-TAL 6,400000 MHZ, 5PPM	1 ALL
OR :			
Y501	J707019P4	X-TAL 6,500000 MHZ, 5PPM	1 ALL
0002	M9-----P1R2	PW BD., REVISION NO.: 2	1 ALL
0003	K805392P1	SHIELD, METAL-	1 ALL
0004	J706804P2	WASH,INSULATION	1 ALL
0006	J706281P6	CORE	1 ALL
0007	J707976P1	NUT HEX	1 ALL
0008	L855385P1	SPRING ANTENNA	1 ALL
0009	J707257P1	TUNING SLUG "SHORT" L=4MM,	6 -G2/-G4
OR:			
0009	J707257P2	TUNING SLUG "LONG" L=6MM,	6 -G1/-G3
0010	J707841P1	HEAT SINK,TINNED	1 ALL
0011	J707887P1	COV MACH.	3 ALL
0012	J707808P1	SPRING	3 ALL
0013	J708124P1	INSULATOR	1 -G3/-G4
0014	A700136P7	SLVG, INS EL Ø9.5 X 0.64 MM	0.02M ALL
0015	A700136P5	SLVG, INS EL Ø4.7 X 0.51 MM	0.05M ALL
0022	A701648P2	SIL RUBB SEALANT RTV-162	2.0G ALL
0023	J706647P1	SILICONE OIL QZ 13	1.0G ALL
0024	J708465P1	SOLDER BISMUTH/TIN/LEAD	1.0G ALL
0026	K805540P2	SCREEN VCO	1 ALL
0027	K805540P1	SCREEN VCO	1 ALL
0028	A700133P17	WIRE Ø=0.500MM	1.0G ALL

ITEM NUMBER DESCRIPTION

J707801G1 R F 4 6 6 2 H , 25 KHZ CHANN. SPACING

P A R T S L I S T :

CIRCUIT POSITION		COMPONENT ITEM NUMBER		COMPONENT DESCRIPTION	QUANTITY TOTAL
A001		M905468G1		CPNT BD RF4660H	1
U402	*	M905766G1	*	SQ 4002 , MICRO MODULE	1
Z401		J707310P1		FLT 21,4MHZ	1
Z403		J707446P1		FLT 455KHZ	1
0002		J706804P2		WASHER INSULATION-	2

ITEM NUMBER	DESCRIPTION
J707801G4	R F 4 6 6 2 L , 25 KHZ CHANN. SPACING

P A R T S L I S T :

CIRCUIT POSITION		COMPONENT ITEM NUMBER		COMPONENT DESCRIPTION	QUANTITY TOTAL
A001		M905468G2		CPNT BD RF4660L	1
U402	*	M905766G1	*	SQ 4002 , MICRO MODULE	1
Z401		J707310P1		FLT 21,4MHZ	1
Z403		J707446P1		FLT 455KHZ	1
0002		J706804P2		WASHER INSULATION-	2

ITEM NUMBER DESCRIPTION

J707801G2 R F 4 6 6 3 H , 20 KHZ CHANN. SPACING

P A R T S L I S T :

CIRCUIT POSITION		COMPONENT ITEM NUMBER		COMPONENT DESCRIPTION	QUANTITY TOTAL
A001		M905468G1		CPNT BD RF4660H	1
U402	*	M905766G1	*	SQ 4002 , MICRO MODULE	1
Z401		J707310P2		FLT 21,4MHZ	1
Z403		J707446P3		FLT 455KHZ	1
0002		J706804P2		WASHER INSULATION	2

ITEM NUMBER DESCRIPTION

J707801G5 R F 4 6 6 3 L , 20 KHZ CHANN. SPACING

P A R T S L I S T :

CIRCUIT POSITION		COMPONENT ITEM NUMBER		COMPONENT DESCRIPTION	QUANTITY TOTAL
A001		M905468G2		CPNT BD RF4660L	1
U402	*	M905766G1	*	SQ 4002 , MICRO MODULE	1
Z401		J707310P2		FLT 21,4MHZ	1
Z403		J707446P3		FLT 455KHZ	1
0002		J706804P2		WASHER INSULATION-	2

ITEM NUMBER	DESCRIPTION
J707801G3	R F 4 6 6 4 H, 12,5 KHZ CHAN. SPACING

P A R T S L I S T :

CIRCUIT POSITION		COMPONENT ITEM NUMBER		COMPONENT DESCRIPTION	QUANTITY TOTAL
A001		M905468G3		CPNT BD. RF4660H, 3PPM STABILITY	1
U402	*	M905766G2	*	SQ 4003 , MICRO MODULE	1
Z401		J707310P3		FLT 21,4MHZ	1
Z402		J707446P4		FLT 455KHZ	1
0002		J706804P2		WASHER INSULATING-	2

ITEM NUMBER	DESCRIPTION
J707801G6	R F 4 6 6 4 L , 12.5 KHZ CHAN. SPACING

P A R T S L I S T :

CIRCUIT POSITION		COMPONENT ITEM NUMBER		COMPONENT DESCRIPTION	QUANTITY TOTAL
A001		M905468G4		CPNT BD. RF4660L ,- 3PPM STABILITY	1
U402	*	M905766G2	*	SQ 4003 , MICRO MODULE	1
Z401		J707310P3		FLT 21,4 MHZ	1
Z402		J707446P4		FLT 455 KHZ	1
0002		J706804P2		WASHER INSULATING-	2

ITEM NUMBER:	DESCRIPTION:
M905468G1	RF4660HI 470-430 MHZ, 25/20 KHZ CH. SPAC.
M905468G2	RF4660LO 440-400 MHZ, 25/20 KHZ CH. SPAC.
M905468G3	RF4660HI 470-430 MHZ, 12.5 KHZ CH. SPAC.
M905468G4	RF4660LO 440-400 MHZ, 12.5 KHZ CH. SPAC.

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
0003	K805392G1	SHLD MET	ALL
0004	J706804P2	WASH,INSULATION	ALL
0006	J706281P6	CORE	ALL
0007	J707976P1	NUT HEX	ALL
0008	L855385P1	SPRING ANTENNA	ALL
0009	J707257P1	TUNING SLUG "SHORT" L=4MM,	M905468G2 /-G4
0009	J707257P1	TUNING SLUG "SHORT" L=4MM,	M905468G2 /-G4
0009	J707257P1	TUNING SLUG "SHORT" L=4MM,	M905468G2 /-G4
0009	J707257P1	TUNING SLUG "SHORT" L=4MM,	M905468G2 /-G4
0009	J707257P1	TUNING SLUG "SHORT" L=4MM,	M905468G2 /-G4
0009	J707257P1	TUNING SLUG "SHORT" L=4MM,	M905468G2 /-G4
0009	J707257P2	TUNING SLUG "LONG" L=6MM,	M905468G1 /-G3
0009	J707257P2	TUNING SLUG "LONG" L=6MM,	M905468G1 /-G3
0009	J707257P2	TUNING SLUG "LONG" L=6MM,	M905468G1 /-G3
0009	J707257P2	TUNING SLUG "LONG" L=6MM,	M905468G1 /-G3
0009	J707257P2	TUNING SLUG "LONG" L=6MM,	M905468G1 /-G3
0009	J707257P2	TUNING SLUG "LONG" L=6MM,	M905468G1 /-G3
0010	J707841G1	HEAT SINK,TINNED	ALL
0011	J707887G1	COV MACH.	ALL
0011	J707887G1	COV MACH.	ALL
0011	J707887G1	COV MACH.	ALL
0012	J707808P1	SPRING	ALL
0012	J707808P1	SPRING	ALL
0012	J707808P1	SPRING	ALL
0013	J708124P1	INSULATOR	M905468G3 /-G4
* 0014	* A700136P7	* SLVG INS EL Ø9.5 X 0.64MM	
* 0015	* A700136P5	* SLVG INS EL Ø4.7 X 0.51MM	
* 0022	* A701648P2	* SIL RUBB SEALANT RTV-162	
* 0023	* J706647P1	* SILICONE OIL QZ 13	
* 0024	* J708465P1	* SOLDER BISMUTH/TIN/LEAD	
* 0026	* K805540P2	* SCREEN VCO	
* 0027	* K805540P1	* SCREEN VCO	
* 0028	* A700133P17	* WIRE 0,500 DIA	
A002	L855339G1	CPNT BD. F.TEMP. COMP.	M905468G3 /-G4
* C000	* A700007P65	* CAP CER NPO 150P 5% 50V	* ALL
C101	J707436P10	CAP CER 5,6PF 50V	ALL
C102	J707436P13	CAP CER 10PF 50V	ALL
C103	J707436P13	CAP CER 10PF 50V	ALL
C104	J707436P13	CAP CER 10PF 50V	ALL
C105	J707436P29	CAP CER 22PF 50V	ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
C106	J707436P7	CAP CER 3,3PF 50V	ALL
C107	J707436P65	CAP CER 150PF 50V	ALL
C108	J707436P65	CAP CER 150PF 50V	ALL
C109	J707436P25	CAP CER 18PF 50V	ALL
C110	J707436P7	CAP CER 3,3PF 50V	ALL
C111	J707438P5	CAP CER 1NF 50V	ALL
C112	J707438P14	CAP CER 10NF 50V	ALL
C113	J707436P49	CAP CER 56PF 50V	ALL
C114	J707436P7	CAP CER 3,3PF 50V	ALL
C115	J707436P65	CAP CER 150PF 50V	ALL
C116	J707809P16	CAP CER 18PF 50V	M905468G1 /-G3
C116	J707809P17	CAP CER 22PF 50V	M905468G2 /-G4
C117	J707809P22	CAP CER 56PF 50V	M905468G1 /-G3
C117	J707809P23	CAP CER 68PF 50V	M905468G2 /-G4
C119	J707809P20	CAP CER 39PF 50V	ALL
C120	J707809P20	CAP CER 39PF 50V	ALL
C121	J707436P61	CAP CER 100PF 50V	ALL
C122	J707438P14	CAP CER 10NF 50V	ALL
C124	J707809P20	CAP CER 39PF 50V	M905468G1 /-G3
C124	J707809P21	CAP CER 47PF 50V	M905468G2 /-G4
C125	J707809P16	CAP CER 18PF 50V	M905468G1 /-G3
C125	J707809P18	CAP CER 27PF 50V	M905468G2 /-G4
C126	J707436P65	CAP CER 150PF 50V	ALL
C127	J707436P65	CAP CER 150PF 50V	ALL
C128	J707809P12	CAP CER 8,2PF 50V	ALL
C129	J707809P15	CAP CER 15PF 50V	ALL
C130	J707809P16	CAP CER 18PF 50V	ALL
C131	J707809P15	CAP CER 15PF 50V	ALL
C132	J707809P27	CAP CER 150PF 50V	ALL
C134	J707438P5	CAP CER 1NF 50V	ALL
C135	J707438P22	CAP CER 47NF 50V	ALL
C136	J707353P5	CAP ELEC 2,2 UF 50V	ALL
C137	J707438P14	CAP CER 10NF 50V	ALL
C138	J707438P14	CAP CER 10NF 50V	ALL
C139	J707436P73	CAP CER 330PF 50V	ALL
C141	J707436P7	CAP CER 3,3PF 50V	ALL
C201	J707444P8	CAP TA 22 UF 16V	ALL
C202	J707438P5	CAP CER 1NF 50V	ALL
C203	J707444P5	CAP TA 2,2 UF 35V	ALL
C204	J707438P22	CAP CER 47NF 50V	ALL
C205	J707436P61	CAP CER 100PF 50V	ALL
C206	J707436P61	CAP CER 100PF 50V	ALL
C207	J707436P61	CAP CER 100PF 50V	ALL
C208	J707436P61	CAP CER 100PF 50V	ALL
* C209	* A700058P5	* CAP CER 1N0 10% X4	* ALL
* C210	* A700058P5	* CAP CER 1N0 10% X4	* ALL
C301	J707436P12	CAP CER 8,2PF 50V	ALL
C302	J707436P9	CAP CER 4,7PF 50V	ALL
C303	J707436P77	CAP CER 470PF 50V	ALL
C304	J707436P77	CAP CER 470PF 50V	ALL
C305	J707436P61	CAP CER 100PF 50V	ALL
C306	J707436P25	CAP CER 18PF 50V	ALL
C307	J707436P5	CAP CER 2,2PF 50V	ALL
C308	J707436P73	CAP CER 330PF 50V	ALL
C309	J707438P5	CAP CER 1NF 50V	ALL
C310	J707438P14	CAP CER 10NF 50V	ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
C311	J707436P65	CAP CER 150PF 50V	ALL
C401	J707436P11	CAP CER 6,8PF 50V	ALL
C402	J707436P73	CAP CER 330PF 50V	ALL
C403	J707438P14	CAP CER 10NF 50V	ALL
C404	J707438P5	CAP CER 1NF 50V	ALL
C405	J707438P14	CAP CER 10NF 50V	ALL
C406	J707436P63	CAP CER 120PF 50V	ALL
C407	J707436P45	CAP CER 47PF 50V	ALL
C408	J707436P63	CAP CER 120PF 50V	ALL
C409	J707438P8	CAP CER 3,3NF 50V	ALL
C410	J707438P26	CAP CER 100NF 50V	ALL
C411	J707436P93	CAP CER 2,2NF 50V	ALL
C412	J707436P73	CAP CER 330PF 50V	ALL
C413	J707436P73	CAP CER 330PF 50V	ALL
C415	J707444P9	CAP TA 47 UF 6,3V	ALL
C416	J707438P26	CAP CER 100NF 50V	ALL
C417	J707438P26	CAP CER 100NF 50V	ALL
C418	J707438P26	CAP CER 100NF 50V	ALL
C419	J707436P13	CAP CER 10PF 50V	ALL
C420	J707444P7	CAP TA 10 UF 16V	ALL
C422 *	J707444P7 *	CAP TA 10 UF 16V *	ALL
C501	J707436P69	CAP CER 220PF 50V	ALL
C502	J707436P8	CAP CER 3,9PF 50V	ALL
C503	J707483P3	CAP PHEN 0,39PF 500V	ALL
C504	J707475P2	CAP VAR 2 - 10 PF	ALL
C505	J707436P69	CAP CER 220PF 50V	ALL
C506	J707444P8	CAP TA 22 UF 16V	ALL
C507	J707870P20	CAP CER 39PF 50V	M905468G1 /-G3
C507	J707870P21	CAP CER 47PF 50V	M905468G2 /-G4
C508	J707436P69	CAP CER 220PF 50V	ALL
C509	J707436P10	CAP CER 5,6PF 50V	M905468G2 /-G4
C509	J707436P9	CAP CER 4,7PF 50V	M905468G1 /-G3
C510	J707436P8	CAP CER 3,9PF 50V	ALL
C511	J707436P69	CAP CER 220PF 50V	ALL
C512	J707436P8	CAP CER 3,9PF 50V	ALL
C513	J707436P8	CAP CER 3,9PF 50V	ALL
C514	J707475P2	CAP VAR 2 - 10 PF	ALL
C515	J707436P69	CAP CER 220PF 50V	ALL
C516	J707444P8	CAP TA 22 UF 16V	ALL
*	*	*	*
C517	J707870P21	CAP CER 47PF 50V	* ALL
C518	J707436P69	CAP CER 220PF 50V	ALL
C520	J707436P10	CAP CER 5,6PF 50V	M905468G2 /-G4
C520	J707436P9	CAP CER 4,7PF 50V	M905468G1 /-G3
C521	J707436P61	CAP CER 100PF 50V	ALL
C522	J707438P5	CAP CER 1NF 50V	ALL
C523	J707438P14	CAP CER 10NF 50V	ALL
C524	J707436P13	CAP CER 10PF 50V	ALL
C525	J707436P61	CAP CER 100PF 50V	ALL
C526	J707438P5	CAP CER 1NF 50V	ALL
C527	J707436P57	CAP CER 82PF 50V	ALL
C528	J707438P14	CAP CER 10NF 50V	ALL
C529	J707436P53	CAP CER 68PF 50V	ALL
C530	J707438P26	CAP CER 100NF 50V	ALL
C531	J707436P57	CAP CER 82PF 50V	ALL
C532	J707436P9	CAP CER 4,7PF 50V	ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
C533	J707475P1	CAP VAR 2 - 18 PF	ALL
C534	J707436P41	CAP CER 39PF 50V	ALL
C535	J707412P9	CAP PYES 100N 10% 63V	ALL
C536	J707612P2	CAP POL 0,68 UF 100V	ALL
C537	J707438P14	CAP CER 10NF 50V	ALL
C538	J707438P22	CAP CER 47NF 50V	ALL
C539	J707436P77	CAP CER 470PF 50V	ALL
C540	J707444P7	CAP TA 10 UF 16V	ALL
C541	J707436P29	CAP CER 22PF 50V	ALL
C543	J707438P8	CAP CER 3,3NF 50V	ALL
C544	J707438P5	CAP CER 1NF 50V	ALL
C545	J707436P73	CAP CER 330PF 50V	ALL
C546	J707870P8	CAP CER 3,9PF 50V	ALL
C547	J707436P8	CAP CER 3,9PF 50V	ALL
C548	J707436P8	CAP CER 3,9PF 50V	ALL
D101	J707389P1	DIO SI BAV 99	ALL
D102	J707391P1	DIO SI BAT 18	ALL
D201	J707448P1	DIO REF TL431 CLP	ALL
D202	J707390P1	DIO SI BAV 74 *	ALL
D301	J707391P1	DIO SI BAT 18	ALL
D302	J707391P1	DIO SI BAT 18	ALL
* D303	* J707389P1	* DIO SI BAV 99	* ALL
D401	J707389P1	DIO SI BAV 99	ALL
D501	J707769P1	DIO VAR CAP BBY 31	ALL
D502	J707769P1	DIO VAR CAP BBY 31	ALL
D503	J707769P1	DIO VAR CAP BBY 31	ALL
D504	J707769P1	DIO VAR CAP BBY 31	ALL
D505	J707769P1	DIO VAR CAP BBY 31	ALL
D507	J707390P1	DIO SI BAV 74 *	ALL
D508	J707390P1	DIO SI BAV 74 *	ALL
L101	J707486P1	COIL FIX 100NH	ALL
L102	J707486P1	COIL FIX 100NH	ALL
L103	J707426P3	COIL FIX 3 1/2 WIND.	ALL
L104	J707339G1	COIL FIX ASM	ALL
L105	J707486P1	COIL FIX 100NH	ALL
L106	J707426P2	COIL FIX 2 1/2 WIND.	ALL
L107	J707256P2	COIL FIX	ALL
L108	J707426P3	COIL FIX 3 1/2 WIND.	ALL
L109	J707339G1	COIL FIX ASM	ALL
L111	J707256P2	COIL FIX	ALL
L112	J707426P1	COIL FIX 1 1/2 WIND.	ALL
L113	J707426P1	COIL FIX 1 1/2 WIND.	ALL
L116	J707256P2	COIL FIX	ALL
L117	J707486P4	COIL,RF,FIXED 10 UH	ALL
L118	J707426P7	COIL FIX 7 1/2 WIND.	ALL
L119	J707426P2	COIL FIX 2 1/2 WIND.	ALL
L120	J707426P1	COIL FIX 1 1/2 WIND.	ALL
L121	J707426P1	COIL FIX 1 1/2 WIND.	ALL
L122	J707256P2	COIL FIX	ALL
L301	J707426P2	COIL FIX 2 1/2 WIND.	ALL
L302	J707816P3	COIL HELICAL	M905468G2 /-G4
L302	J707816P5	COIL HELICAL	M905468G1 /-G3
L303	J707816P3	COIL HELICAL	M905468G2 /-G4
L303	J707816P5	COIL HELICAL	M905468G1 /-G3

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
L304	J707486P1	COIL FIX 100NH	ALL
L305	J707816P4	COIL HELICAL	M905468G2 /-G4
L305	J707816P6	COIL HELICAL	M905468G1 /-G3
L306	J707816P3	COIL HELICAL	M905468G2 /-G4
L306	J707816P5	COIL HELICAL	M905468G1 /-G3
L307	J707816P4	COIL HELICAL	M905468G2 /-G4
L307	J707816P6	COIL HELICAL	M905468G1 /-G3
L308	J707422P3	COIL RF VAR	ALL
L401	J707486P3	COIL,RF,FIXED 6.8 UH	ALL
L402	J707431P1	COIL VAR 455 KHZ	ALL
L403	J707431P1	COIL VAR 455 KHZ	ALL
L501	J707486P6	COIL FIX 0,47 UH	ALL
L502	J707486P6	COIL FIX 0,47 UH	ALL
L504	J707486P6	COIL FIX 0,47 UH	ALL
L505	J707486P6	COIL FIX 0,47 UH	ALL
L506	J707486P6	COIL FIX 0,47 UH	ALL
L507	J707486P6	COIL FIX 0,47 UH	ALL
L508	J707816P4	COIL HELICAL	M905468G2 /-G4
L508	J707816P6	COIL HELICAL	M905468G1 /-G3
L509	J707486P6	COIL FIX 0,47 UH	ALL
L510	J707486P6	COIL FIX 0,47 UH	ALL
L512	J707486P5	COIL FIX 330 UH	ALL
P001 *	J707350P4	PLG 4-PIN	ALL
P002 *	J707350P6	PLG 6-PIN	ALL
P003 *	J707350P13	PLG 13-PIN	ALL
Q101	J707388P1	TSTR BFR 53	ALL
Q102	J707388P1	TSTR BFR 53	ALL
Q103	J707388P1	TSTR BFR 53	ALL
Q104	J707763P1	TSTR NPN RF MFR 627	ALL
Q105	A702448P1	TSTR (2N5945) , RF POWER	ALL
Q106	J707673P1	TSTR NPN SI BC 368	ALL
Q107	J707387P1	TSTR BCW 30	ALL
Q108	J707386P1	TSTR BCW 32	ALL
Q201	J707387P1	TSTR BCW 30	ALL
Q202	J707435P1	TSTR BC 369	ALL
Q203	J707386P1	TSTR BCW 32	ALL
Q204	J707432P1	TSTR BCX 18	ALL
Q205	J707387P1	TSTR BCW 30	ALL
Q206	J707387P1	TSTR BCW 30	ALL
Q301	J707386P1	TSTR BCW 32	ALL
Q302	J707771P1	TSTR BFR 93	ALL
Q303	J707770P1	FLD EFF BF 4416A	ALL
Q401	J707433P1	FLD EFF BF 989	ALL
Q402	J707387P1	TSTR BCW 30	ALL
Q501	J707817P1	FLD EFF J309	ALL
Q502	J707817P1	FLD EFF J309	ALL
Q503	J707430P1	TSTR BF 569	ALL
Q504	J707387P1	TSTR BCW 30	ALL
Q505	J707419P1	TSTR JFET SI BF 511	ALL
Q506	J707430P1	TSTR BF 569	ALL
R101	J707385P470	RES MFILM 47 OHM 0,125W	ALL
R102	J707385P332	RES MFILM 3,3K OHM 0,125W	ALL
R103	J707385P152	RES MFILM 1,5K OHM 0,125W	ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
R104	J707385P270	RES MFILM 27 OHM 0,125W	ALL
R105	J707385P332	RES MFILM 3,3K OHM 0,125W	ALL
R106	J707385P152	RES MFILM 1,5K OHM 0,125W	ALL
R107	J707385P331	RES MFILM 330 OHM 0,125W	ALL
R108	J707385P100	RES MFILM 10 0HM 0,125W	ALL
R109	J707385P101	RES MFILM 100 OHM 0,125W	ALL
R110	J707385P562	RES MFILM 5,6K OHM 0,125W	ALL
R111	J707385P680	RES MFILM 68 OHM 0,125W	ALL
R112	J707385P102	RES MFILM 1K OHM 0,125W	ALL
R113	J707385P472	RES MFILM 4,7K OHM 0,125W	ALL
R114	J707385P152	RES MFILM 1,5K OHM 0,125W	ALL
R115	J707478P4	RES VAR 1K OHM 0,05W	ALL
R116	J707385P102	RES MFILM 1K OHM 0,125W	ALL
R117	J707385P270	RES MFILM 27 OHM 0,125W	ALL
R118	J707385P102	RES MFILM 1K OHM 0,125W	ALL
R119	J707385P270	RES MFILM 27 OHM 0,125W	ALL
R120	J707385P100	RES MFILM 10 0HM 0,125W	ALL
R121	J707385P100	RES MFILM 10 0HM 0,125W	ALL
R122	J707385P221	RES MFILM 220 OHM 0,125W	ALL
R123	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R124	J707385P100	RES MFILM 10 0HM 0,125W	ALL
R125	J707385P102	RES MFILM 1K OHM 0,125W	ALL
R126	J707945P1	RES WW 0,27 OHM	ALL
R201	J707385P272	RES MFILM 2,7K OHM 0,125W	ALL
R202	J707385P222	RES MFILM 2,2K OHM 0,125W	ALL
R203	J707385P153	RES MFILM 15K OHM 0,125W	ALL
R204	J707385P102	RES MFILM 1K OHM 0,125W	ALL
R205	J707385P101	RES MFILM 100 OHM 0,125W	ALL
R206	J707385P273	RES MFILM 27K OHM 0,125W	ALL
R207	J707385P682	RES MFILM 6,8K OHM 0,125W	ALL
R209	J707385P393	RES MFILM 39K OHM 0,125W	ALL
R210	J707385P333	RES MFILM 33K OHM 0,125W	ALL
R211	J707385P103	RES MFILM 10K OHM 0,125W	ALL
R212	J707385P182	RES MFILM 1,8K OHM 0,125W	ALL
R213	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R214	J707385P153	RES MFILM 15K OHM 0,125W	ALL
R215	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R216	J707385P153	RES MFILM 15K OHM 0,125W	ALL
R301	J707385P562	RES MFILM 5,6K OHM 0,125W	ALL
R302	J707385P102	RES MFILM 1K OHM 0,125W	ALL
R303	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R304	J707385P472	RES MFILM 4,7K OHM 0,125W	ALL
R305	J707385P103	RES MFILM 10K OHM 0,125W	ALL
R306	J707385P682	RES MFILM 6,8K OHM 0,125W	ALL
R307	J707385P391	RES MFILM 390 OHM 0,125W	ALL
R308	J707385P561	RES MFILM 560 OHM 0,125W	ALL
R309	J707385P470	RES MFILM 47 OHM 0,125W	ALL
R310	J707385P470	RES MFILM 47 OHM 0,125W	ALL
R311	J707385P182	RES MFILM 1,8K OHM 0,125W	ALL
R312	J707385P101	RES MFILM 100 OHM 0,125W	ALL
R401	J707385P152	RES MFILM 1,5K OHM 0,125W	ALL
R402	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R403	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R404	J707385P561	RES MFILM 560 OHM 0,125W	ALL
R405	J707385P103	RES MFILM 10K OHM 0,125W	ALL
R406	J707385P332	RES MFILM 3,3K OHM 0,125W	ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
R407	J707385P683	RES MFILM 68K OHM 0,125W	ALL
R408	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R409	J707478P10	RES VAR 10K OHM 0,05W	ALL
R411	J707385P272	RES MFILM 2,7K OHM 0,125W	ALL
R412	J707385P563	RES MFILM 56K OHM 0,125W	ALL
R413	J707385P273	RES MFILM 27K OHM 0,125W	ALL
R414	J707385P683	RES MFILM 68K OHM 0,125W	ALL
R415	J707385P182	RES MFILM 1,8K OHM 0,125W	ALL
R416	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R417	J707385P183	RES MFILM 18K OHM 0,125W	ALL
R418	J707385P334	RES MFILM 330K 0HM 0,125W	ALL
R419	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R420	J707478P12 *	RES VAR 22K OHM 0,05W *	ALL
R421	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R422	J707385P101	RES MFILM 100 OHM 0,125W	ALL
R423	J707385P470	RES MFILM 47 OHM 0,125W	ALL
R424	J707385P470	RES MFILM 47 OHM 0,125W	ALL
R501	J707385P101	RES MFILM 100 OHM 0,125W	ALL
R502	J707385P181	RES MFILM 180 OHM 0,125W	ALL
R503	J707385P470	RES MFILM 47 OHM 0,125W	ALL
R505	J707385P181	RES MFILM 180 OHM 0,125W	ALL
R506	J707385P121	RES MFILM 120 OHM 0,125W	ALL
R507	J707385P121	RES MFILM 120 OHM 0,125W	ALL
R508	J707385P222	RES MFILM 2,2K OHM 0,125W	ALL
R509	J707385P222	RES MFILM 2,2K OHM 0,125W	ALL
R510	J707385P561	RES MFILM 560 OHM 0,125W	ALL
R511	J707385P472	RES MFILM 4,7K OHM 0,125W	ALL
R512	J707385P221	RES MFILM 220 OHM 0,125W	ALL
R513	J707385P103	RES MFILM 10K OHM 0,125W	ALL
R514	J707385P223	RES MFILM 22K OHM 0,125W	ALL
R516	J707385P183	RES MFILM 18K OHM 0,125W	ALL
R517	J707385P100	RES MFILM 10 0HM 0,125W	ALL
R518	J707385P562	RES MFILM 5,6K OHM 0,125W	ALL
R519	J707385P104	RES MFILM 100K OHM 0,125W	ALL
R520	J707406P1	RES NTC 330 0HM	M905468G1 /-G2
R521	J707385P470	RES MFILM 47 OHM 0,125W	ALL
R522	J707385P273	RES MFILM 27K OHM 0,125W	ALL
R523	J707385P472	RES MFILM 4,7K OHM 0,125W	ALL
R524	J707385P334	RES MFILM 330K 0HM 0,125W	ALL
R525	J707385P222	RES MFILM 2,2K OHM 0,125W	ALL
R526	J707385P392	RES MFILM 3,9K OHM 0,125W	ALL
R527	J707385P273	RES MFILM 27K OHM 0,125W	ALL
R528	J707385P101	RES MFILM 100 OHM 0,125W	ALL
R529	J707385P102	RES MFILM 1K OHM 0,125W	ALL
R530	J707385P101	RES MFILM 100 OHM 0,125W	ALL
R531	J707385P103	RES MFILM 10K OHM 0,125W	ALL
R533	J707385P153	RES MFILM 15K OHM 0,125W	ALL
R534	J707385P184	RES MFILM 180K OHM 0,125W	ALL
R536	J707385P100	RES MFILM 10 0HM 0,125W	ALL
R537	J707385P152	RES MFILM 1,5K OHM 0,125W	ALL
R538	J707385P221	RES MFILM 220 OHM 0,125W	ALL
R539	J707385P184	RES MFILM 180K OHM 0,125W	ALL
U401	J707449P1	INT CKT IF - AMP MC3357	ALL
U501	J707434P2	INT CKT DIG MUX 4053/S016	ALL
U502	J707337P1	INT CKT , MC145146	ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
U503	J707374P2	INT CKT PLL ECL SP8718	ALL
U504	L855471G1	INT CKT. RES. NETW.	M905468G3 /-G4
W501	A700134P9	WIRE , JMPR	M905468G1 /-G2
Y501	J707019P3	X-TAL 6,4MHZ 5PPM	ALL

ITEM NUMBER:	DESCRIPTION:
M905468G1	RF4660HI 470-430 MHZ, 25/20 KHZ CH. SPAC.
M905468G2	RF4660LO 440-400 MHZ, 25/20 KHZ CH. SPAC.
M905468G3	RF4660HI 470-430 MHZ, 12.5 KHZ CH. SPAC.
M905468G4	RF4660LO 440-400 MHZ, 12.5 KHZ CH. SPAC.

P A R T S L I S T :

CIRCUIT POSITION		COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
0003	*	K805392P1	SHLD MET	ALL
0004		J706804P2	WASH,INSULATION	ALL
0006		J706281P6	CORE	ALL
0007		J707976P1	NUT HEX	ALL
0008		L855385P1	SPRING ANTENNA	ALL
0009		J707257P1	TUNING SLUG "SHORT" L=4MM,	M905468G2 /-G4
0009		J707257P1	TUNING SLUG "SHORT" L=4MM,	M905468G2 /-G4
0009		J707257P1	TUNING SLUG "SHORT" L=4MM,	M905468G2 /-G4
0009		J707257P1	TUNING SLUG "SHORT" L=4MM,	M905468G2 /-G4
0009		J707257P1	TUNING SLUG "SHORT" L=4MM,	M905468G2 /-G4
0009		J707257P1	TUNING SLUG "SHORT" L=4MM,	M905468G2 /-G4
0009		J707257P2	TUNING SLUG "LONG" L=6MM,	M905468G1 /-G3
0009		J707257P2	TUNING SLUG "LONG" L=6MM,	M905468G1 /-G3
0009		J707257P2	TUNING SLUG "LONG" L=6MM,	M905468G1 /-G3
0009		J707257P2	TUNING SLUG "LONG" L=6MM,	M905468G1 /-G3
0009		J707257P2	TUNING SLUG "LONG" L=6MM,	M905468G1 /-G3
0009		J707257P2	TUNING SLUG "LONG" L=6MM,	M905468G1 /-G3
0010	*	J707841P1	HEAT SINK,TINNED	ALL
0011	*	J707887P1	COV MACH.	ALL: 3PCS*
0012		J707808P1	SPRING	ALL: 3PCS*
0013		J708124P1	INSULATOR	M905468G3 /-G4
0014		A700136P7	SLVG INS EL Ø9.5 X 0.64MM	ALL: 0.02M
0015		A700136P5	SLVG INS EL Ø4.7 X 0.51MM	ALL: 0.05M
0022		A701648P2	SIL RUBB SEALANT RTV-162	ALL: 2.0G
0023		J706647P1	SILICONE OIL QZ 13	ALL: 1.0G
0024		J708465P1	SOLDER BISMUTH/TIN/LEAD	ALL: 1.0G
0026		K805540P2	SCREEN VCO	ALL: 1PC
0027		K805540P1	SCREEN VCO	ALL: 1PC
0028		A700133P17	WIRE Ø=0.500MM	ALL: 1.0G
A002		L855339G1	CPNT BD. F.TEMP. COMP.	M905468G3 /-G4
C000		A700007P65	CAP CER NPO 150P 5% 50V	ALL: 4PCS
C101		J707436P10	CAP CER 5,6PF 50V	ALL
C102		J707436P13	CAP CER 10PF 50V	ALL
C103		J707436P13	CAP CER 10PF 50V	ALL
C104		J707436P13	CAP CER 10PF 50V	ALL
C105		J707436P29	CAP CER 22PF 50V	ALL
C106		J707436P7	CAP CER 3,3PF 50V	ALL
C107		J707436P65	CAP CER 150PF 50V	ALL
C108		J707436P65	CAP CER 150PF 50V	ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
C109	J707436P25	CAP CER 18PF 50V	ALL
C110	J707436P7	CAP CER 3,3PF 50V	ALL
C111	J707438P5	CAP CER 1NF 50V	ALL
C112	J707438P14	CAP CER 10NF 50V	ALL
C113	J707436P49	CAP CER 56PF 50V	ALL
C114	J707436P7	CAP CER 3,3PF 50V	ALL
C115	J707436P65	CAP CER 150PF 50V	ALL
C116	J707809P16	CAP CER 18PF 50V	M905468G1 /-G3
C116	J707809P17	CAP CER 22PF 50V	M905468G2 /-G4
C117	J707809P22	CAP CER 56PF 50V	M905468G1 /-G3
C117	J707809P23	CAP CER 68PF 50V	M905468G2 /-G4
C119	J707809P20	CAP CER 39PF 50V	ALL
C120	J707809P20	CAP CER 39PF 50V	ALL
C121	J707436P61	CAP CER 100PF 50V	ALL
C122	J707438P14	CAP CER 10NF 50V	ALL
C124	J707809P20	CAP CER 39PF 50V	M905468G1 /-G3
C124	J707809P21	CAP CER 47PF 50V	M905468G2 /-G4
C125	J707809P16	CAP CER 18PF 50V	M905468G1 /-G
C125	J707809P18	CAP CER 27PF 50V	M905468G2 /-G4
C126	J707436P65	CAP CER 150PF 50V	ALL
C127	J707436P65	CAP CER 150PF 50V	ALL
C128	J707809P12	CAP CER 8,2PF 50V	ALL
C129	J707809P15	CAP CER 15PF 50V	ALL
C130	J707809P16	CAP CER 18PF 50V	ALL
C131	J707809P15	CAP CER 15PF 50V	ALL
C132	J707809P27	CAP CER 150PF 50V	ALL
C134	J707438P5	CAP CER 1NF 50V	ALL
C135	J707438P22	CAP CER 47NF 50V	ALL
C136	J707353P5	CAP ELEC 2,2 UF 50V	ALL
C137	J707438P14	CAP CER 10NF 50V	ALL
C138	J707438P14	CAP CER 10NF 50V	ALL
C139	J707436P73	CAP CER 330PF 50V	ALL
C141	J707436P7	CAP CER 3,3PF 50V	ALL
C201	J707444P8	CAP TA 22 UF 16V	ALL
C202	J707438P5	CAP CER 1NF 50V	ALL
C203	J707444P5	CAP TA 2,2 UF 35V	ALL
C204	J707438P22	CAP CER 47NF 50V	ALL
C205	J707436P61	CAP CER 100PF 50V	ALL
C206	J707436P61	CAP CER 100PF 50V	ALL
C207	J707436P61	CAP CER 100PF 50V	ALL
C208	J707436P61	CAP CER 100PF 50V	ALL
C209	A700058P5	CAP CER 1N0 10% X4	ALL
C210	A700058P5	CAP CER 1N0 10% X4	ALL
C301	J707436P12	CAP CER 8,2PF 50V	ALL
C302	J707436P9	CAP CER 4,7PF 50V	ALL
C303	J707436P77	CAP CER 470PF 50V	ALL
C304	J707436P77	CAP CER 470PF 50V	ALL
C305	J707436P61	CAP CER 100PF 50V	ALL
C306	J707436P25	CAP CER 18PF 50V	ALL
C307	J707436P5	CAP CER 2,2PF 50V	ALL
C308	J707436P73	CAP CER 330PF 50V	ALL
C309	J707438P5	CAP CER 1NF 50V	ALL
C310	J707438P14	CAP CER 10NF 50V	ALL
C311	J707436P65	CAP CER 150PF 50V	ALL
C401	J707436P11	CAP CER 6,8PF 50V	ALL
C402	J707436P73	CAP CER 330PF 50V	ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
C403	J707438P14	CAP CER 10NF 50V	ALL
C404	J707438P5	CAP CER 1NF 50V	ALL
C405	J707438P14	CAP CER 10NF 50V	ALL
C406	J707436P63	CAP CER 120PF 50V	ALL
C407	J707436P45	CAP CER 47PF 50V	ALL
C408	J707436P57 * *	CAP CER 82PF 50V	ALL
C409	J707438P8	CAP CER 3,3NF 50V	ALL
C410	J707438P26	CAP CER 100NF 50V	ALL
C411	J707436P93	CAP CER 2,2NF 50V	ALL
C412	J707436P73	CAP CER 330PF 50V	ALL
C413	J707436P73	CAP CER 330PF 50V	ALL
C415	J707444P9	CAP TA 47 UF 6,3V	ALL
C416	J707438P26	CAP CER 100NF 50V	ALL
C417	J707438P26	CAP CER 100NF 50V	ALL
C418	J707438P26	CAP CER 100NF 50V	ALL
C419	J707436P13	CAP CER 10PF 50V	ALL
C420	J707444P7	CAP TA 10 UF 16V	ALL
C422	J707444P7	CAP TA 10 UF 16V	ALL
C501	J707436P69	CAP CER 220PF 50V	ALL
C502	J707436P8	CAP CER 3,9PF 50V	ALL
C503	J707483P3	CAP PHEN 0,39PF 500V	ALL
C504	J707475P2	CAP VAR 2 - 10 PF	ALL
C505	J707436P69	CAP CER 220PF 50V	ALL
C506	J707444P8	CAP TA 22 UF 16V	ALL
C507	J707870P20	CAP CER 39PF 50V	M905468G1 /-G3
C507	J707870P21	CAP CER 47PF 50V	M905468G2 /-G4
C508	J707436P69	CAP CER 220PF 50V	ALL
C509	J707436P10	CAP CER 5,6PF 50V	M905468G2 /-G4
C509	J707436P9	CAP CER 4,7PF 50V	M905468G1 /-G3
C510	J707436P8	CAP CER 3,9PF 50V	ALL
C511	J707436P69	CAP CER 220PF 50V	ALL
C512	J707436P8	CAP CER 3,9PF 50V	ALL
C513	J707436P8	CAP CER 3,9PF 50V	ALL
C514	J707475P2	CAP VAR 2 - 10 PF	ALL
C515	J707436P69	CAP CER 220PF 50V	ALL
C516	J707444P8	CAP TA 22 UF 16V	ALL
C517	J707870P21	CAP CER 47PF 50V	ALL
C518	J707436P69	CAP CER 220PF 50V	ALL
C520	J707436P10	CAP CER 5,6PF 50V	M905468G2 /-G4
C520	J707436P9	CAP CER 4,7PF 50V	M905468G1 /-G3
C521	J707436P61	CAP CER 100PF 50V	ALL
C522	J707438P5	CAP CER 1NF 50V	ALL
C523	J707438P14	CAP CER 10NF 50V	ALL
C524	J707436P13	CAP CER 10PF 50V	ALL
C525	J707436P61	CAP CER 100PF 50V	ALL
C526	J707438P5	CAP CER 1NF 50V	ALL
C527	J707436P57	CAP CER 82PF 50V	ALL
C528	J707438P14	CAP CER 10NF 50V	ALL
C529	J707436P53	CAP CER 68PF 50V	ALL
C530	J707438P26	CAP CER 100NF 50V	ALL
C531	J707436P57	CAP CER 82PF 50V	ALL
C532	J707436P9	CAP CER 4,7PF 50V	ALL
C533	J707475P1	CAP VAR 2 - 18 PF	ALL
C534	J707436P41	CAP CER 39PF 50V	ALL
C535	J707412P9	CAP PYES 100N 10% 63V	ALL
C536	J707612P2	CAP POL 0,68 UF 100V	ALL

CIRCUIT POSITION		COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
C537		J707438P14	CAP CER 10NF 50V	ALL
C538		J707438P22	CAP CER 47NF 50V	ALL
C539		J707436P77	CAP CER 470PF 50V	ALL
C540		J707444P7	CAP TA 10 UF 16V	ALL
C541		J707436P29	CAP CER 22PF 50V	ALL
C543		J707438P8	CAP CER 3,3NF 50V	ALL
C544		J707438P5	CAP CER 1NF 50V	ALL
C545		J707436P73	CAP CER 330PF 50V	ALL
C546		J707870P8	CAP CER 3,9PF 50V	ALL
C547		J707436P8	CAP CER 3,9PF 50V	ALL
C548		J707436P8	CAP CER 3,9PF 50V	ALL
D101		J707389P1	DIO SI BAV 99	ALL
D102		J707391P1	DIO SI BAT 18	ALL
D201		J707448P1	DIO REF TL431 CLP	ALL
D202		J707390P1	DIO SI BAV 74	ALL
D301		J707391P1	DIO SI BAT 18	ALL
D302		J707391P1	DIO SI BAT 18	ALL
D303		J707389P1	DIO SI BAV 99	ALL
D401		J707389P1	DIO SI BAV 99	ALL
D501		J707769P1	DIO VAR CAP BBY 31	ALL
D502		J707769P1	DIO VAR CAP BBY 31	ALL
D503		J707769P1	DIO VAR CAP BBY 31	ALL
D504		J707769P1	DIO VAR CAP BBY 31	ALL
D505		J707769P1	DIO VAR CAP BBY 31	ALL
D507		J707390P1	DIO SI BAV 74	ALL
D508		J707390P1	DIO SI BAV 74	ALL
L101	*	A700024P1	COIL FIX 100NH 10%	ALL
L102		J707486P1	COIL FIX 100NH	ALL
L103		J707426P3	COIL FIX 3 1/2 WIND.	ALL
L104		J707339G1	COIL FIX ASM	ALL
L105		J707486P1	COIL FIX 100NH	ALL
L106		J707426P2	COIL FIX 2 1/2 WIND.	ALL
L107		J707256P2	COIL FIX	ALL
L108		J707426P3	COIL FIX 3 1/2 WIND.	ALL
L109		J707339G1	COIL FIX ASM	ALL
L111		J707256P2	COIL FIX	ALL
L112		J707426P1	COIL FIX 1 1/2 WIND.	ALL
L113		J707426P1	COIL FIX 1 1/2 WIND.	ALL
L116		J707256P2	COIL FIX	ALL
L117		J707486P4	COIL,RF,FIXED 10 UH	ALL
L118		J707426P7	COIL FIX 7 1/2 WIND.	ALL
L119		J707426P2	COIL FIX 2 1/2 WIND.	ALL
L120		J707426P1	COIL FIX 1 1/2 WIND.	ALL
L121		J707426P1	COIL FIX 1 1/2 WIND.	ALL
L122		J707256P2	COIL FIX	ALL
L301		J707426P2	COIL FIX 2 1/2 WIND.	ALL
L302		J707816P3	COIL HELICAL	M905468G2 /-G4
L302		J707816P5	COIL HELICAL	M905468G1 /-G3
L303		J707816P3	COIL HELICAL	M905468G2 /-G4
L303		J707816P5	COIL HELICAL	M905468G1 /-G3
L304		J707486P1	COIL FIX 100NH	ALL
L305		J707816P4	COIL HELICAL	M905468G2 /-G4
L305		J707816P6	COIL HELICAL	M905468G1 /-G3
L306		J707816P3	COIL HELICAL	M905468G2 /-G4

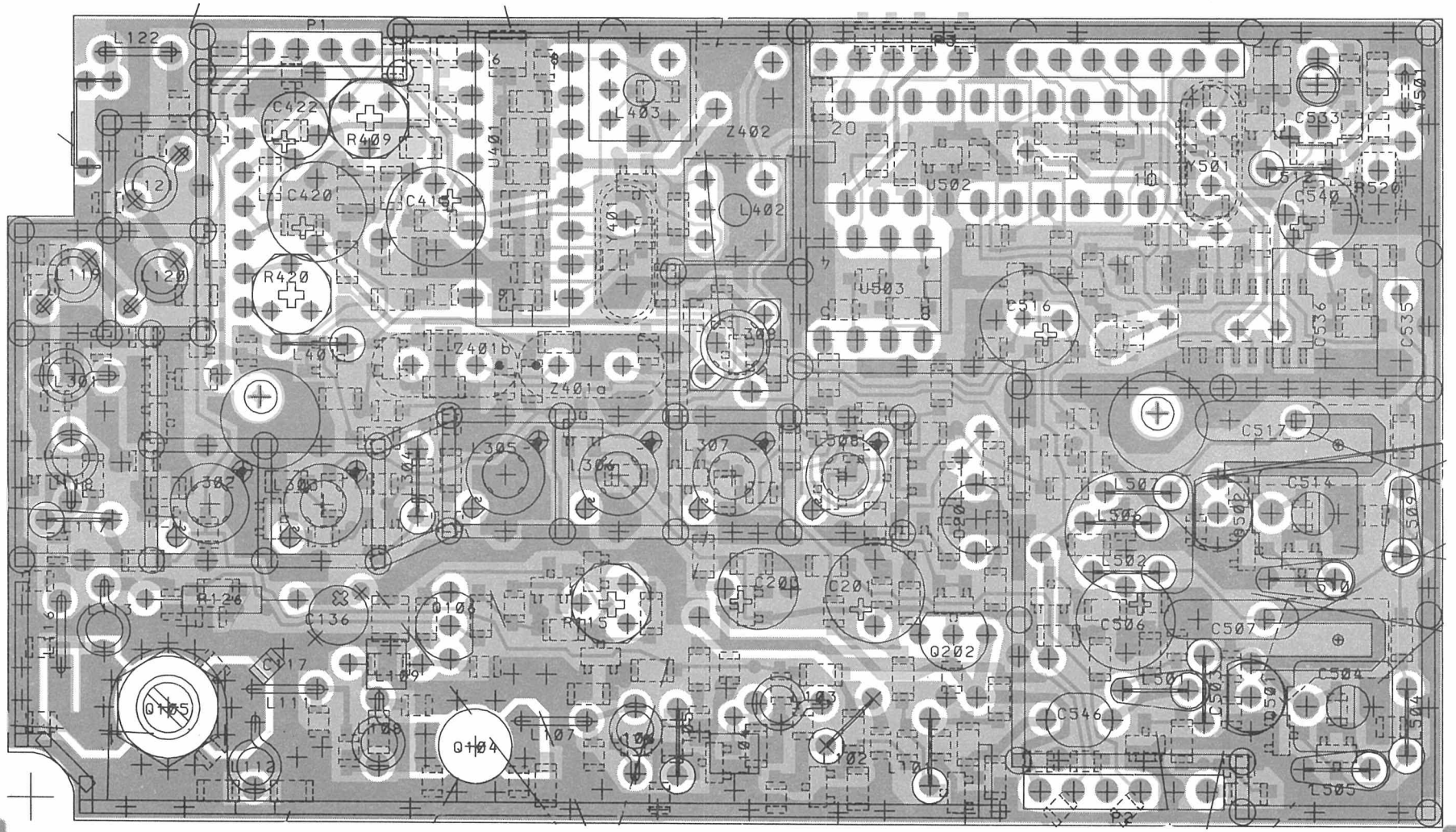
CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
L306	J707816P5	COIL HELICAL	M905468G1 /-G3
L307	J707816P4	COIL HELICAL	M905468G2 /-G4
L307	J707816P6	COIL HELICAL	M905468G1 /-G3
L308	J707422P3	COIL RF VAR	ALL
L401	J707486P3	COIL,RF,FIXED 6.8 UH	ALL
L402	J707431P1	COIL VAR 455 KHZ	ALL
L403	J707431P1	COIL VAR 455 KHZ	ALL
L501	J707486P6	COIL FIX 0,47 UH	ALL
L502	J707486P6	COIL FIX 0,47 UH	ALL
L504	J707486P6	COIL FIX 0,47 UH	ALL
L505	J707486P6	COIL FIX 0,47 UH	ALL
L506	J707486P6	COIL FIX 0,47 UH	ALL
L507	J707486P6	COIL FIX 0,47 UH	ALL
L508	J707816P4	COIL HELICAL	M905468G2 /-G4
L508	J707816P6	COIL HELICAL	M905468G1 /-G3
L509	J707486P6	COIL FIX 0,47 UH	ALL
L510	J707486P6	COIL FIX 0,47 UH	ALL
L512	J707486P5	COIL FIX 330 UH	ALL
P001	J707350P4	PLG 4-PIN	ALL
P002	J707350P6	PLG 6-PIN	ALL
P003	J707350P13	PLG 13-PIN	ALL
Q101	J707388P1	TSTR BFR 53	ALL
Q102	J707388P1	TSTR BFR 53	ALL
Q103	J707388P1	TSTR BFR 53	ALL
Q104	J707763P1	TSTR NPN RF MFR 627	ALL
Q105	A702448P1	TSTR (2N5945) , RF POWER	ALL
Q106	J707673P1	TSTR NPN SI BC 368	ALL
Q107	J707387P1	TSTR BCW 30	ALL
Q108	J707386P1	TSTR BCW 32	ALL
Q201	J707387P1	TSTR BCW 30	ALL
Q202	J707435P1	TSTR BC 369	ALL
Q203	J707386P1	TSTR BCW 32	ALL
Q204	J707432P1	TSTR BCX 18	ALL
Q205	J707387P1	TSTR BCW 30	ALL
Q206	J707387P1	TSTR BCW 30	ALL
Q301	J707386P1	TSTR BCW 32	ALL
Q302	J707771P1	TSTR BFR 93	ALL
Q303	J707770P1	FLD EFF BF 4416A	ALL
Q401	J707433P1	FLD EFF BF 989	ALL
Q402	J707387P1	TSTR BCW 30	ALL
Q501	J707817P1	FLD EFF J309	ALL
Q502	J707817P1	FLD EFF J309	ALL
Q503	J707430P1	TSTR BF 569	ALL
Q504	J707387P1	TSTR BCW 30	ALL
Q505	J707419P1	TSTR JFET SI BF 511	ALL
Q506	J707430P1	TSTR BF 569	ALL
R101	J707385P470	RES MFILM 47 OHM 0,125W	ALL
R102	J707385P332	RES MFILM 3,3K OHM 0,125W	ALL
R103	J707385P152	RES MFILM 1,5K OHM 0,125W	ALL
R104	J707385P270	RES MFILM 27 OHM 0,125W	ALL
R105	J707385P332	RES MFILM 3,3K OHM 0,125W	ALL
R106	J707385P152	RES MFILM 1,5K OHM 0,125W	ALL
R107	J707385P331	RES MFILM 330 OHM 0,125W	ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
R108	J707385P100	RES MFILM 10 0HM 0,125W	ALL
R109	J707385P101	RES MFILM 100 OHM 0,125W	ALL
R110	J707385P562	RES MFILM 5,6K OHM 0,125W	ALL
R111	J707385P680	RES MFILM 68 OHM 0,125W	ALL
R112	J707385P102	RES MFILM 1K OHM 0,125W	ALL
R113	J707385P472	RES MFILM 4,7K OHM 0,125W	ALL
R114	J707385P152	RES MFILM 1,5K OHM 0,125W	ALL
R115	J707478P4	RES VAR 1K OHM 0,05W	ALL
R116	J707385P102	RES MFILM 1K OHM 0,125W	ALL
R117	J707385P270	RES MFILM 27 OHM 0,125W	ALL
R118	J707385P102	RES MFILM 1K OHM 0,125W	ALL
R119	J707385P270	RES MFILM 27 OHM 0,125W	ALL
R120	J707385P100	RES MFILM 10 0HM 0,125W	ALL
R121	J707385P100	RES MFILM 10 0HM 0,125W	ALL
R122	J707385P221	RES MFILM 220 OHM 0,125W	ALL
R123	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R124	J707385P100	RES MFILM 10 0HM 0,125W	ALL
R125	J707385P102	RES MFILM 1K OHM 0,125W	ALL
R126	J707945P1	RES WW 0,27 OHM	ALL
R201	J707385P272	RES MFILM 2,7K OHM 0,125W	ALL
R202	J707385P222	RES MFILM 2,2K OHM 0,125W	ALL
R203	J707385P153	RES MFILM 15K OHM 0,125W	ALL
R204	J707385P102	RES MFILM 1K OHM 0,125W	ALL
R205	J707385P101	RES MFILM 100 OHM 0,125W	ALL
R206	J707385P273	RES MFILM 27K OHM 0,125W	ALL
R207	J707385P682	RES MFILM 6,8K OHM 0,125W	ALL
R209	J707385P393	RES MFILM 39K OHM 0,125W	ALL
R210	J707385P333	RES MFILM 33K OHM 0,125W	ALL
R211	J707385P103	RES MFILM 10K OHM 0,125W	ALL
R212	J707385P182	RES MFILM 1,8K OHM 0,125W	ALL
R213	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R214	J707385P153	RES MFILM 15K OHM 0,125W	ALL
R215	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R216	J707385P153	RES MFILM 15K OHM 0,125W	ALL
R301	J707385P562	RES MFILM 5,6K OHM 0,125W	ALL
R302	J707385P102	RES MFILM 1K OHM 0,125W	ALL
R303	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R304	J707385P472	RES MFILM 4,7K OHM 0,125W	ALL
R305	J707385P103	RES MFILM 10K OHM 0,125W	ALL
R306	J707385P682	RES MFILM 6,8K OHM 0,125W	ALL
R307	J707385P391	RES MFILM 390 OHM 0,125W	ALL
R308	J707385P561	RES MFILM 560 OHM 0,125W	ALL
R309	J707385P470	RES MFILM 47 OHM 0,125W	ALL
R310	J707385P470	RES MFILM 47 OHM 0,125W	ALL
R311	J707385P182	RES MFILM 1,8K OHM 0,125W	ALL
R312	J707385P101	RES MFILM 100 OHM 0,125W	ALL
R401	J707385P152	RES MFILM 1,5K OHM 0,125W	ALL
R402	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R403	J707385P473	RES MFILM 47K OHM 0,125W	ALL
R404	J707385P561	RES MFILM 560 OHM 0,125W	ALL
R405	J707385P103	RES MFILM 10K OHM 0,125W	ALL
R406	J707385P332	RES MFILM 3,3K OHM 0,125W	ALL
R407	J707385P683	RES MFILM 68K OHM 0,125W	ALL
R408	J707385P333 * *	RES MFILM 33K 5% 0,125W	ALL
R409	J707478P10	RES VAR 10K OHM 0,05W	ALL
R411	J707385P272	RES MFILM 2,7K OHM 0,125W	ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER			COMPONENT DESCRIPTION	WHERE APPLIED:
R412	J707385P563			RES MFILM 56K OHM 0,125W	ALL
R413	J707385P273			RES MFILM 27K OHM 0,125W	ALL
R414	J707385P683			RES MFILM 68K OHM 0,125W	ALL
R415	J707385P182			RES MFILM 1,8K OHM 0,125W	ALL
R416	J707385P473			RES MFILM 47K OHM 0,125W	ALL
R417	J707385P183			RES MFILM 18K OHM 0,125W	ALL
R418	J707385P334			RES MFILM 330K 0HM 0,125W	ALL
R419	J707385P473			RES MFILM 47K OHM 0,125W	ALL
R420	J707478P12			RES VAR 22K OHM 0,05W	ALL
R421	J707385P473			RES MFILM 47K OHM 0,125W	ALL
R422	J707385P101			RES MFILM 100 OHM 0,125W	ALL
R423	J707385P470			RES MFILM 47 OHM 0,125W	ALL
R424	J707385P470			RES MFILM 47 OHM 0,125W	ALL
R501	J707385P101			RES MFILM 100 OHM 0,125W	ALL
R502	J707385P181			RES MFILM 180 OHM 0,125W	ALL
R503	J707385P470			RES MFILM 47 OHM 0,125W	ALL
R505	J707385P181			RES MFILM 180 OHM 0,125W	ALL
R506	J707385P121			RES MFILM 120 OHM 0,125W	ALL
R507	J707385P121			RES MFILM 120 OHM 0,125W	ALL
R508	J707385P222			RES MFILM 2,2K OHM 0,125W	ALL
R509	J707385P222			RES MFILM 2,2K OHM 0,125W	ALL
R510	J707385P561			RES MFILM 560 OHM 0,125W	ALL
R511	J707385P472			RES MFILM 4,7K OHM 0,125W	ALL
R512	J707385P221			RES MFILM 220 OHM 0,125W	ALL
R513	J707385P103			RES MFILM 10K OHM 0,125W	ALL
R514	J707385P223			RES MFILM 22K OHM 0,125W	ALL
R516	J707385P183			RES MFILM 18K OHM 0,125W	ALL
R517	J707385P100			RES MFILM 10 0HM 0,125W	ALL
R518	J707385P562			RES MFILM 5,6K OHM 0,125W	ALL
R519	J707385P104			RES MFILM 100K OHM 0,125W	ALL
R520	J707406P1			RES NTC 330 0HM	M905468G1 /-G2
R521	J707385P470			RES MFILM 47 OHM 0,125W	ALL
R522	J707385P273			RES MFILM 27K OHM 0,125W	ALL
R523	J707385P472			RES MFILM 4,7K OHM 0,125W	ALL
R524	J707385P334			RES MFILM 330K 0HM 0,125W	ALL
R525	J707385P222			RES MFILM 2,2K OHM 0,125W	ALL
R526	J707385P392			RES MFILM 3,9K OHM 0,125W	ALL
R527	J707385P273			RES MFILM 27K OHM 0,125W	ALL
R528	J707385P101			RES MFILM 100 OHM 0,125W	ALL
R529	J707385P102			RES MFILM 1K OHM 0,125W	ALL
R530	J707385P101			RES MFILM 100 OHM 0,125W	ALL
R531	J707385P103			RES MFILM 10K OHM 0,125W	ALL
R533	J707385P183	*	*	RES MFILM 18K OHM 0,125W	ALL
R534	J707385P184			RES MFILM 180K OHM 0,125W	ALL
R536	J707385P100			RES MFILM 10 0HM 0,125W	ALL
R537	J707385P152			RES MFILM 1,5K OHM 0,125W	ALL
R538	J707385P221			RES MFILM 220 OHM 0,125W	ALL
R539	J707385P184			RES MFILM 180K OHM 0,125W	ALL
U401	J707449P1			INT CKT IF - AMP MC3357	ALL
U501	J707434P2			INT CKT DIG MUX 4053/S016	ALL
U502	J707337P1			INT CKT , MC145146	ALL
U503	J707374P2			INT CKT PLL ECL SP8718	ALL
U504	L855471G1			INT CKT. RES. NETW.	M905468G3 /-G4
W501	A700134P9			WIRE , JMPR	M905468G1 /-G2

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
Y501	J707019P3	X-TAL 6,400000 MHZ, 5PPM	ALL
OR :			
Y501	J707019P4	X-TAL 6,500000 MHZ, 5PPM	ALL

Storno



	MODULE CODE NO.	MOUNTED BOARD CODE NO.
25 kHz	J707942G1	M905652G1
20 kHz	J707942G2	M905652G1
12.5 kHz	J707942G3	M905652G1

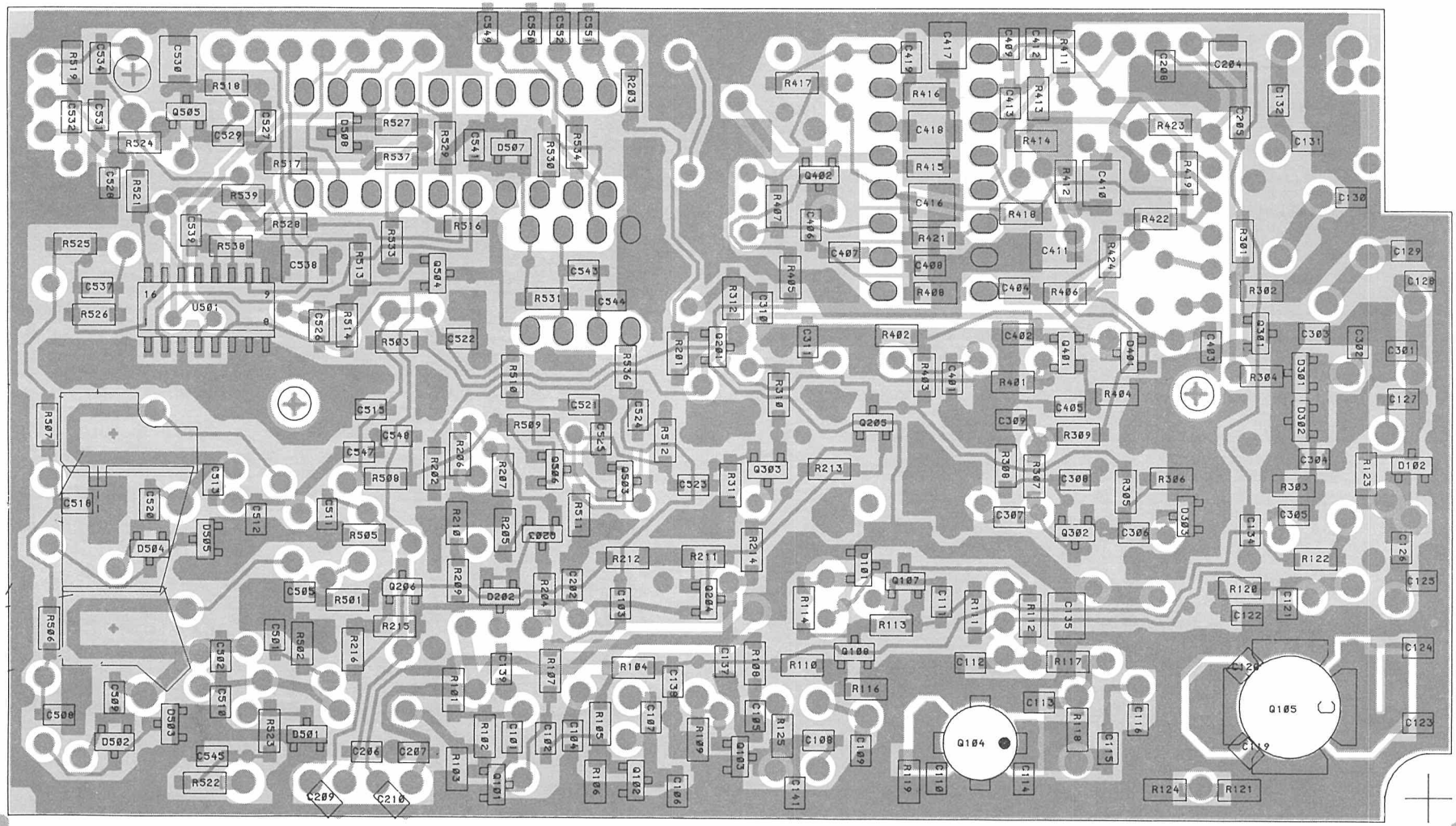
SEE PARTS LISTS

RADIO FREQUENCY UNIT RF4660
COMPONENT LAYOUT
CHIP SIDE

REV. 3

D404.126

Storno



	MODULE CODE NO.	MOUNTED BOARD CODE NO.
25 kHz	J707942G1	M905652G1
20 kHz	J707942G2	M905652G1
12.5 kHz	J707942G3	M905652G1

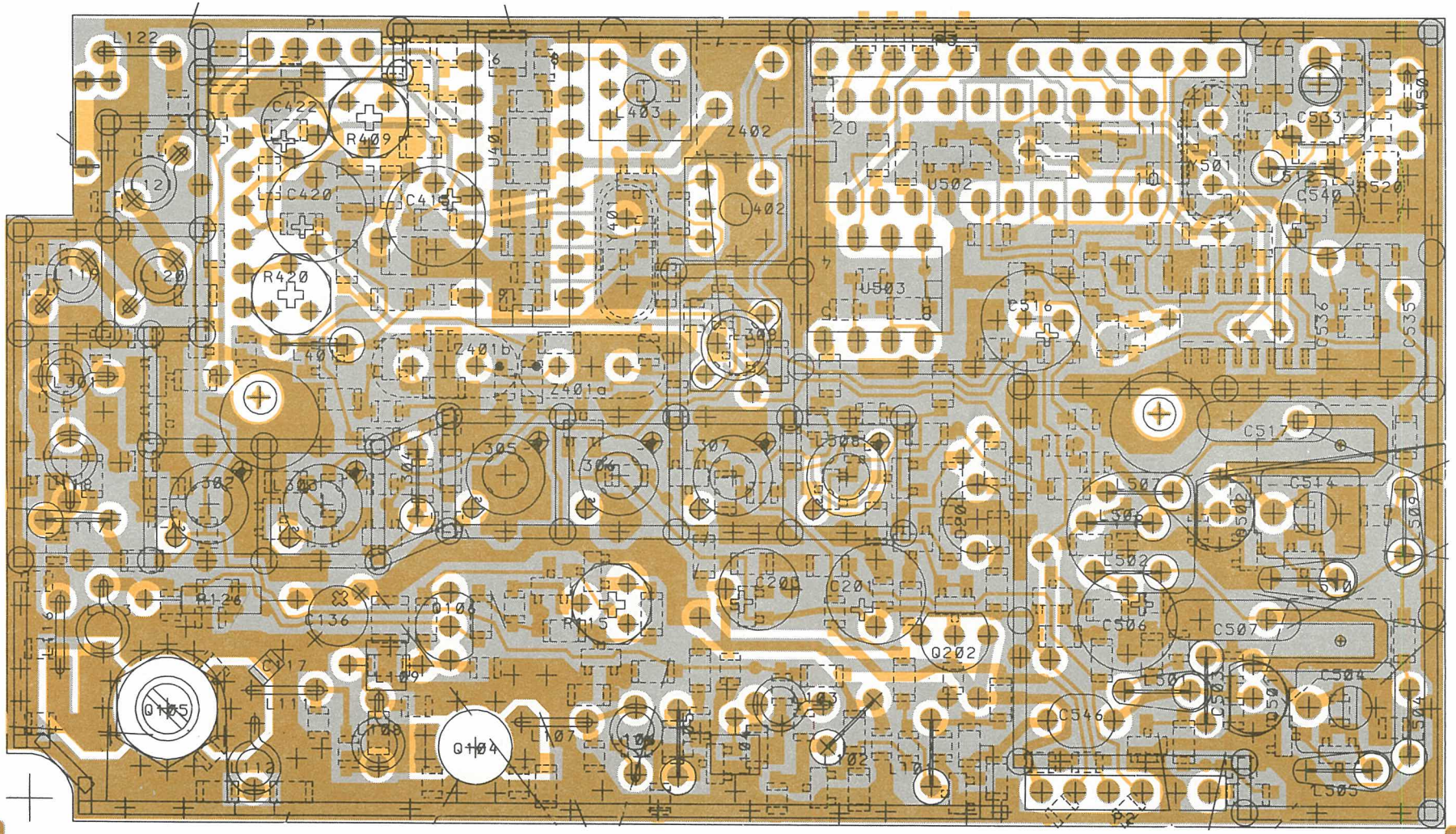
SEE PARTS LISTS

RADIO FREQUENCY UNIT RF4660
COMPONENT LAYOUT
COMPONENT SIDE

REV. 3

D404.125

Storno



	MODULE CODE NO.	MOUNTED BOARD CODE NO.
25 kHz	J707942G1	M905652G1
20 kHz	J707942G2	M905652G1
12.5 kHz	J707942G3	M905652G1

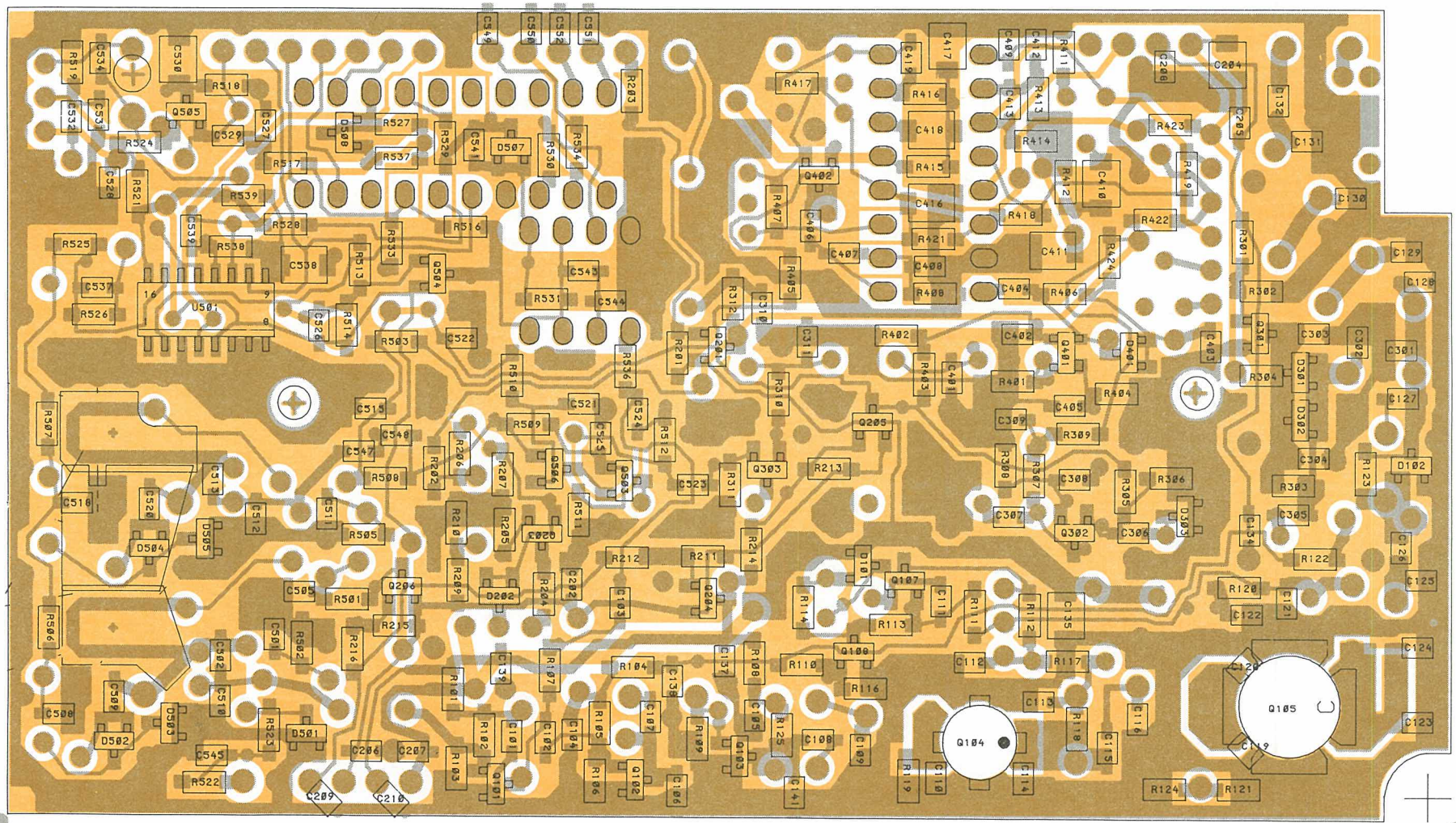
SEE PARTS LISTS

RADIO FREQUENCY UNIT RF4660
COMPONENT LAYOUT
CHIP SIDE

REV. 3

D404.126

Storno



	MODULE CODE NO.	MOUNTED BOARD CODE NO.
25 kHz	J707942G1	M905652G1
20 kHz	J707942G2	M905652G1
12.5 kHz	J707942G3	M905652G1

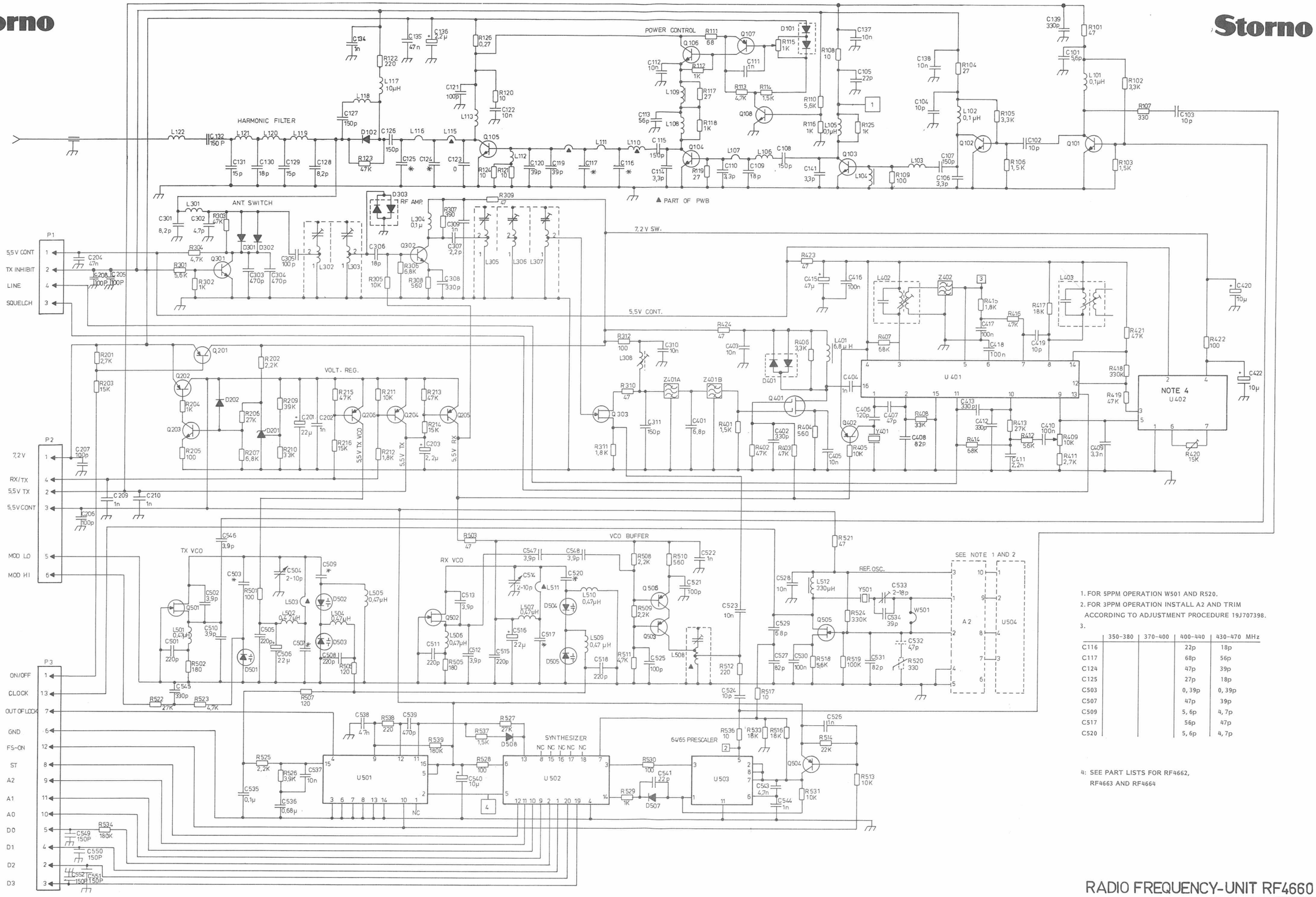
SEE PARTS LISTS

RADIO FREQUENCY UNIT RF4660
COMPONENT LAYOUT
COMPONENT SIDE

REV. 3

D404.125

Storno



Storno

1. FOR 5PPM OPERATION W501 AND R520.
2. FOR 3PPM OPERATION INSTALL A2 AND TRIM ACCORDING TO ADJUSTMENT PROCEDURE 19J707398.
3.

	350-380	370-400	400-440	430-470 MHz
C116			22p	18p
C117			68p	56p
C124			47p	39p
C125			27p	18p
C503			0, 39p	0, 39p
C507			47p	39p
C509			5, 6p	4, 7p
C517			56p	47p
C520			5, 6p	4, 7p

4: SEE PART LISTS FOR RF4662, RF4663 AND RF4664

RADIO FREQUENCY-UNIT RF4660
REV.G D404.128

ITEM NUMBER:	DESCRIPTION:
M905468G1	RF4660HI 470-430 MHZ, 25/20 KHZ CH. SPAC.
M905468G2	RF4660LO 440-400 MHZ, 25/20 KHZ CH. SPAC.
M905468G3	RF4660HI 470-430 MHZ, 12.5 KHZ CH. SPAC.
M905468G4	RF4660LO 440-400 MHZ, 12.5 KHZ CH. SPAC.

P A R T S L I S T : - FOR REVISION 3

CIRCUIT POSITION		COMPONENT ITEM NUMBER		COMPONENT DESCRIPTION	WHERE APPLIED:
A002		L855339G1		CPNT BD. F.TEMP. COMP.	1 -G3/-G4
C101		J707436P10		CAP CER 5,6PF 50V	1 ALL
C102		J707436P13		CAP CER 10PF 50V	1 ALL
C103		J707436P13		CAP CER 10PF 50V	1 ALL
C104		J707436P13		CAP CER 10PF 50V	1 ALL
C105		J707436P29		CAP CER 22PF 50V	1 ALL
C106		J707436P7		CAP CER 3,3PF 50V	1 ALL
C107		J707436P65		CAP CER 150PF 50V	1 ALL
C108		J707436P65		CAP CER 150PF 50V	1 ALL
C109	*	J707809P16	*	CAP CER NPO 18P 5% 50V	1 ALL
C110		J707436P7		CAP CER 3,3PF 50V	1 ALL
C111		J707438P5		CAP CER 1NF 50V	1 ALL
C112		J707438P14		CAP CER 10NF 50V	1 ALL
C113		J707436P49		CAP CER 56PF 50V	1 ALL
C114		J707436P7		CAP CER 3,3PF 50V	1 ALL
C115		J707436P65		CAP CER 150PF 50V	1 ALL
C116		J707809P16		CAP CER 18PF 50V	1 -G1/-G3
OR:					
C116		J707809P17		CAP CER 22PF 50V	1 -G2/-G4
C117		J707809P22		CAP CER 56PF 50V	1 -G1/-G3
OR:					
C117		J707809P23		CAP CER 68PF 50V	1 -G2/-G4
C119		J707809P20		CAP CER 39PF 50V	1 ALL
C120		J707809P20		CAP CER 39PF 50V	1 ALL
C121		J707436P61		CAP CER 100PF 50V	1 ALL
C122		J707438P14		CAP CER 10NF 50V	1 ALL
C124		J707809P20		CAP CER 39PF 50V	1 -G1/-G3
OR:					
C124		J707809P21		CAP CER 47PF 50V	1 -G2/-G4
C125		J707809P16		CAP CER 18PF 50V	1 -G1/-G3
OR:					
C125		J707809P18		CAP CER 27PF 50V	1 -G2/-G4
C126		J707436P65		CAP CER 150PF 50V	1 ALL
C127		J707436P65		CAP CER 150PF 50V	1 ALL
C128		J707809P12		CAP CER 8,2PF 50V	1 ALL
C129		J707809P15		CAP CER 15PF 50V	1 ALL
C130		J707809P16		CAP CER 18PF 50V	1 ALL
C131		J707809P15		CAP CER 15PF 50V	1 ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
C132	J707809P27	CAP CER 150PF 50V	1 ALL
C134	J707438P5	CAP CER 1NF 50V	1 ALL
C135	J707438P22	CAP CER 47NF 50V	1 ALL
C136	J707353P5	CAP ELEC 2,2 UF 50V	1 ALL
C137	J707438P14	CAP CER 10NF 50V	1 ALL
C138	J707438P14	CAP CER 10NF 50V	1 ALL
C139	J707436P73	CAP CER 330PF 50V	1 ALL
C141	J707436P7	CAP CER 3,3PF 50V	1 ALL
C201	J707444P8	CAP TA 22 UF 16V	1 ALL
C202	J707438P5	CAP CER 1NF 50V	1 ALL
C203	J707444P5	CAP TA 2,2 UF 35V	1 ALL
C204	J707438P22	CAP CER 47NF 50V	1 ALL
C205	J707436P61	CAP CER 100PF 50V	1 ALL
C206	J707436P61	CAP CER 100PF 50V	1 ALL
C207	J707436P61	CAP CER 100PF 50V	1 ALL
C208	J707436P61	CAP CER 100PF 50V	1 ALL
C209	A700058P5	CAP CER 1N0 10% X4	1 ALL
C210	A700058P5	CAP CER 1N0 10% X4	1 ALL
C301	J707436P12	CAP CER 8,2PF 50V	1 ALL
C302	J707436P9	CAP CER 4,7PF 50V	1 ALL
C303	J707436P77	CAP CER 470PF 50V	1 ALL
C304	J707436P77	CAP CER 470PF 50V	1 ALL
C305	J707436P61	CAP CER 100PF 50V	1 ALL
C306	J707436P25	CAP CER 18PF 50V	1 ALL
C307	J707436P5	CAP CER 2,2PF 50V	1 ALL
C308	J707436P73	CAP CER 330PF 50V	1 ALL
C309	J707438P5	CAP CER 1NF 50V	1 ALL
C310	J707438P14	CAP CER 10NF 50V	1 ALL
C311	J707436P65	CAP CER 150PF 50V	1 ALL
C401	J707436P11	CAP CER 6,8PF 50V	1 ALL
C402	J707436P73	CAP CER 330PF 50V	1 ALL
C403	J707438P14	CAP CER 10NF 50V	1 ALL
C404	J707438P5	CAP CER 1NF 50V	1 ALL
C405	J707438P14	CAP CER 10NF 50V	1 ALL
C406	J707436P63	CAP CER 120PF 50V	1 ALL
C407	J707436P45	CAP CER 47PF 50V	1 ALL
C408	J707436P57	CAP CER 82PF 50V	1 ALL
C409	J707438P8	CAP CER 3,3NF 50V	1 ALL
C410	J707438P26	CAP CER 100NF 50V	1 ALL
C411	J707436P93	CAP CER 2,2NF 50V	1 ALL
C412	J707436P73	CAP CER 330PF 50V	1 ALL
C413	J707436P73	CAP CER 330PF 50V	1 ALL
C415	J707444P9	CAP TA 47 UF 6,3V	1 ALL
C416	J707438P26	CAP CER 100NF 50V	1 ALL
C417	J707438P26	CAP CER 100NF 50V	1 ALL
C418	J707438P26	CAP CER 100NF 50V	1 ALL
C419	J707436P13	CAP CER 10PF 50V	1 ALL
C420	J707444P7	CAP TA 10 UF 16V	1 ALL
C422	J707444P7	CAP TA 10 UF 16V	1 ALL
C501	J707436P69	CAP CER 220PF 50V	1 ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
C502	J707436P8	CAP CER 3,9PF 50V	1 ALL
C503	J707483P3	CAP PHEN 0,39PF 500V	1 ALL
C504	J707475P2	CAP VAR 2 - 10 PF	1 ALL
C505	J707436P69	CAP CER 220PF 50V	1 ALL
C506	J707444P8	CAP TA 22 UF 16V	1 ALL
C507	J707870P20	CAP CER 39PF 50V	1 -G1/-G3
OR:			
C507	J707870P21	CAP CER 47PF 50V	1 -G2/-G4
C508	J707436P69	CAP CER 220PF 50V	1 ALL
C509	J707436P9	CAP CER 4,7PF 50V	1 -G1/-G3
OR:			
C509	J707436P10	CAP CER 5,6PF 50V	1 -G2/-G4
C510	J707436P8	CAP CER 3,9PF 50V	1 ALL
C511	J707436P69	CAP CER 220PF 50V	1 ALL
C512	J707436P8	CAP CER 3,9PF 50V	1 ALL
C513	J707436P8	CAP CER 3,9PF 50V	1 ALL
C514	J707475P2	CAP VAR 2 - 10 PF	1 ALL
C515	J707436P69	CAP CER 220PF 50V	1 ALL
C516	J707444P8	CAP TA 22 UF 16V	1 ALL
C517	J707870P21	CAP CER 47PF 50V	1 -G1/-G3
OR:			
C517	J707870P22	CAP CER 56PF 50V	1 -G2/-G4
C518	J707436P69	CAP CER 220PF 50V	1 ALL
C520	J707436P9	CAP CER 4,7PF 50V	1 -G1/-G3
OR:			
C520	J707436P10	CAP CER 5,6PF 50V	1 -G2/-G4
C521	J707436P61	CAP CER 100PF 50V	1 ALL
C522	J707438P5	CAP CER 1NF 50V	1 ALL
C523	J707438P14	CAP CER 10NF 50V	1 ALL
C524	J707436P13	CAP CER 10PF 50V	1 ALL
C525	J707436P61	CAP CER 100PF 50V	1 ALL
C526	J707438P5	CAP CER 1NF 50V	1 ALL
C527	J707436P57	CAP CER 82PF 50V	1 ALL
C528	J707438P14	CAP CER 10NF 50V	1 ALL
C529	J707436P53	CAP CER 68PF 50V	1 ALL
C530	J707438P26	CAP CER 100NF 50V	1 ALL
C531	J707436P57	CAP CER 82PF 50V	1 ALL
C532	J707436P9	CAP CER 4,7PF 50V	1 ALL
C533	J707475P1	CAP VAR 2 - 18 PF	1 ALL
C534	J707436P41	CAP CER 39PF 50V	1 ALL
C535	J707412P9	CAP PYES 100N 10% 63V	1 ALL
C536	J707612P2	CAP POL O,68 UF 100V	1 ALL
C537	J707438P14	CAP CER 10NF 50V	1 ALL
C538	J707438P22	CAP CER 47NF 50V	1 ALL
C539	J707436P77	CAP CER 470PF 50V	1 ALL
C540	J707444P7	CAP TA 10 UF 16V	1 ALL
C541	J707436P29	CAP CER 22PF 50V	1 ALL
C543	J707438P8	CAP CER 3,3NF 50V	1 ALL
C544	J707438P5	CAP CER 1NF 50V	1 ALL
C545	J707436P73	CAP CER 330PF 50V	1 ALL
C546	J707870P8	CAP CER 3,9PF 50V	1 ALL
C547	J707436P8	CAP CER 3,9PF 50V	1 ALL
C548	J707436P8	CAP CER 3,9PF 50V	1 ALL
C549	A700007P65	CAP CER NPO 150P 5% 50V	1 ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
C550	A700007P65	CAP CER NPO 150P 5% 50V	1 ALL
C551	A700007P65	CAP CER NPO 150P 5% 50V	1 ALL
C552	A700007P65	CAP CER NPO 150P 5% 50V	1 ALL
D101	J707389P1	DIO SI BAV 99	1 ALL
D102	J707391P1	DIO SI BAT 18	1 ALL
D201	J707448P1	DIO REF TL431 CLP	1 ALL
D202	J707390P1	DIO SI BAV 74	1 ALL
D301	J707391P1	DIO SI BAT 18	1 ALL
D302	J707391P1	DIO SI BAT 18	1 ALL
D303	J707389P1	DIO SI BAV 99	1 ALL
D401	J707389P1	DIO SI BAV 99	1 ALL
D501	J707769P1	DIO VAR CAP BBY 31	1 ALL
D502	J707769P1	DIO VAR CAP BBY 31	1 ALL
D503	J707769P1	DIO VAR CAP BBY 31	1 ALL
D504	J707769P1	DIO VAR CAP BBY 31	1 ALL
D505	J707769P1	DIO VAR CAP BBY 31	1 ALL
D507	J707390P1	DIO SI BAV 74	1 ALL
D508	J707390P1	DIO SI BAV 74	1 ALL
L101	A700024P1	COIL FIX 100NH 10%	1 ALL
L102	J707486P1	COIL FIX 100NH	1 ALL
L103	J707426P3	COIL FIX 3 1/2 WIND.	1 ALL
L104	J707339G1	COIL FIX ASM	1 ALL
L105	J707486P1	COIL FIX 100NH	1 ALL
L106	J707426P2	COIL FIX 2 1/2 WIND.	1 ALL
L107	J707256P2	COIL FIX	1 ALL
L108	J707426P3	COIL FIX 3 1/2 WIND.	1 ALL
L109	J707339G1	COIL FIX ASM	1 ALL
L111	J707256P2	COIL FIX	1 ALL
L112	J707426P1	COIL FIX 1 1/2 WIND.	1 ALL
L113	J707426P1	COIL FIX 1 1/2 WIND.	1 ALL
L116	J707256P2	COIL FIX	1 ALL
L117	J707486P4	COIL,RF,FIXED 10 UH	1 ALL
L118	J707426P7	COIL FIX 7 1/2 WIND.	1 ALL
L119	J707426P2	COIL FIX 2 1/2 WIND.	1 ALL
L120	J707426P1	COIL FIX 1 1/2 WIND.	1 ALL
L121	J707426P1	COIL FIX 1 1/2 WIND.	1 ALL
L122	J707256P2	COIL FIX	1 ALL
L301	J707426P2	COIL FIX 2 1/2 WIND.	1 ALL
L302	J707816P5	COIL HELICAL	1 -G1/-G3
OR:			
L302	J707816P3	COIL HELICAL	1 -G2/-G4
L303	J707816P5	COIL HELICAL	1 -G1/-G3
OR:			
L303	J707816P3	COIL HELICAL	1 -G2/-G4
L304	J707486P1	COIL FIX 100NH	1 ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
L305	J707816P6	COIL HELICAL	1 -G1/-G3
OR:			
L305	J707816P4	COIL HELICAL	1 -G2/-G4
L306	J707816P5	COIL HELICAL	1 -G1/-G3
OR:			
L306	J707816P3	COIL HELICAL	1 -G2/-G4
L307	J707816P6	COIL HELICAL	1 -G1/-G3
OR:			
L307	J707816P4	COIL HELICAL	1 -G2/-G4
L308	J707422P3	COIL RF VAR	1 ALL
L401	J707486P3	COIL,RF,FIXED 6.8 UH	1 ALL
L402	J707431P1	COIL VAR 455 KHZ	1 ALL
L403	J707431P1	COIL VAR 455 KHZ	1 ALL
L501	J707486P6	COIL FIX 0,47 UH	1 ALL
L502	J707486P6	COIL FIX 0,47 UH	1 ALL
L504	J707486P6	COIL FIX 0,47 UH	1 ALL
L505	J707486P6	COIL FIX 0,47 UH	1 ALL
L506	J707486P6	COIL FIX 0,47 UH	1 ALL
L507	J707486P6	COIL FIX 0,47 UH	1 ALL
L508	J707816P6	COIL HELICAL	1 -G1/-G3
OR:			
L508	J707816P4	COIL HELICAL	1 -G2/-G4
L509	J707486P6	COIL FIX 0,47 UH	1 ALL
L510	J707486P6	COIL FIX 0,47 UH	1 ALL
L512	J707486P5	COIL FIX 330 UH	1 ALL
P001	J707350P4	PLG 4-PIN	1 ALL
P002	J707350P6	PLG 6-PIN	1 ALL
P003	J707350P13	PLG 13-PIN	1 ALL
Q101	J707388P1	TSTR BFR 53	1 ALL
Q102	J707388P1	TSTR BFR 53	1 ALL
Q103	J707388P1	TSTR BFR 53	1 ALL
Q104	J707763P1	TSTR NPN RF MFR 627	1 ALL
Q105	A702448P1	TSTR (2N5945) , RF POWER	1 ALL
Q106	J707673P1	TSTR NPN SI BC 368	1 ALL
Q107	J707387P1	TSTR BCW 30	1 ALL
Q108	J707386P1	TSTR BCW 32	1 ALL
Q201	J707387P1	TSTR BCW 30	1 ALL
Q202	J707435P1	TSTR BC 369	1 ALL
Q203	J707386P1	TSTR BCW 32	1 ALL
Q204	J707432P1	TSTR BCX 18	1 ALL
Q205	J707387P1	TSTR BCW 30	1 ALL
Q206	J707387P1	TSTR BCW 30	1 ALL
Q301	J707386P1	TSTR BCW 32	1 ALL
Q302	J707771P1	TSTR BFR 93	1 ALL
Q303	J707770P1	FLD EFF BF 4416A	1 ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:	
Q401	J707433P1	FLD EFF BF 989	1	ALL
Q402	J707387P1	TSTR BCW 30	1	ALL
Q501	J707817P1	FLD EFF J309	1	ALL
Q502	J707817P1	FLD EFF J309	1	ALL
Q503	J707430P1	TSTR BF 569	1	ALL
Q504	J707387P1	TSTR BCW 30	1	ALL
Q505	J707419P1	TSTR JFET SI BF 511	1	ALL
Q506	J707430P1	TSTR BF 569	1	ALL
R101	J707385P470	RES MFILM 47 OHM 0,125W	1	ALL
R102	J707385P332	RES MFILM 3,3K OHM 0,125W	1	ALL
R103	J707385P152	RES MFILM 1,5K OHM 0,125W	1	ALL
R104	J707385P270	RES MFILM 27 OHM 0,125W	1	ALL
R105	J707385P332	RES MFILM 3,3K OHM 0,125W	1	ALL
R106	J707385P152	RES MFILM 1,5K OHM 0,125W	1	ALL
R107	J707385P331	RES MFILM 330 OHM 0,125W	1	ALL
R108	J707385P100	RES MFILM 10 0HM 0,125W	1	ALL
R109	J707385P101	RES MFILM 100 OHM 0,125W	1	ALL
R110	J707385P562	RES MFILM 5,6K OHM 0,125W	1	ALL
R111	J707385P680	RES MFILM 68 OHM 0,125W	1	ALL
R112	J707385P102	RES MFILM 1K OHM 0,125W	1	ALL
R113	J707385P472	RES MFILM 4,7K OHM 0,125W	1	ALL
R114	J707385P152	RES MFILM 1,5K OHM 0,125W	1	ALL
R115	J707478P4	RES VAR 1K OHM 0,05W	1	ALL
R116	J707385P102	RES MFILM 1K OHM 0,125W	1	ALL
R117	J707385P270	RES MFILM 27 OHM 0,125W	1	ALL
R118	J707385P102	RES MFILM 1K OHM 0,125W	1	ALL
R119	J707385P270	RES MFILM 27 OHM 0,125W	1	ALL
R120	J707385P100	RES MFILM 10 0HM 0,125W	1	ALL
R121	J707385P100	RES MFILM 10 0HM 0,125W	1	ALL
R122	J707385P221	RES MFILM 220 OHM 0,125W	1	ALL
R123	J707385P473	RES MFILM 47K OHM 0,125W	1	ALL
R124	J707385P100	RES MFILM 10 0HM 0,125W	1	ALL
R125	J707385P102	RES MFILM 1K OHM 0,125W	1	ALL
R126	J707945P1	RES WW 0,27 OHM	1	ALL
R201	J707385P272	RES MFILM 2,7K OHM 0,125W	1	ALL
R202	J707385P222	RES MFILM 2,2K OHM 0,125W	1	ALL
R203	J707385P153	RES MFILM 15K OHM 0,125W	1	ALL
R204	J707385P102	RES MFILM 1K OHM 0,125W	1	ALL
R205	J707385P101	RES MFILM 100 OHM 0,125W	1	ALL
R206	J707385P273	RES MFILM 27K OHM 0,125W	1	ALL
R207	J707385P682	RES MFILM 6,8K OHM 0,125W	1	ALL
R209	J707385P393	RES MFILM 39K OHM 0,125W	1	ALL
R210	J707385P333	RES MFILM 33K OHM 0,125W	1	ALL
R211	J707385P103	RES MFILM 10K OHM 0,125W	1	ALL
R212	J707385P182	RES MFILM 1,8K OHM 0,125W	1	ALL
R213	J707385P473	RES MFILM 47K OHM 0,125W	1	ALL
R214	J707385P153	RES MFILM 15K OHM 0,125W	1	ALL
R215	J707385P473	RES MFILM 47K OHM 0,125W	1	ALL
R216	J707385P153	RES MFILM 15K OHM 0,125W	1	ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
R301	J707385P562	RES MFILM 5,6K OHM 0,125W	1 ALL
R302	J707385P102	RES MFILM 1K OHM 0,125W	1 ALL
R303	J707385P473	RES MFILM 47K OHM 0,125W	1 ALL
R304	J707385P472	RES MFILM 4,7K OHM 0,125W	1 ALL
R305	J707385P103	RES MFILM 10K OHM 0,125W	1 ALL
R306	J707385P682	RES MFILM 6,8K OHM 0,125W	1 ALL
R307	J707385P391	RES MFILM 390 OHM 0,125W	1 ALL
R308	J707385P561	RES MFILM 560 OHM 0,125W	1 ALL
R309	J707385P470	RES MFILM 47 OHM 0,125W	1 ALL
R310	J707385P470	RES MFILM 47 OHM 0,125W	1 ALL
R311	J707385P182	RES MFILM 1,8K OHM 0,125W	1 ALL
R312	J707385P101	RES MFILM 100 OHM 0,125W	1 ALL
R401	J707385P152	RES MFILM 1,5K OHM 0,125W	1 ALL
R402	J707385P473	RES MFILM 47K OHM 0,125W	1 ALL
R403	J707385P473	RES MFILM 47K OHM 0,125W	1 ALL
R404	J707385P561	RES MFILM 560 OHM 0,125W	1 ALL
R405	J707385P103	RES MFILM 10K OHM 0,125W	1 ALL
R406	J707385P332	RES MFILM 3,3K OHM 0,125W	1 ALL
R407	J707385P683	RES MFILM 68K OHM 0,125W	1 ALL
R408	J707385P333	RES MFILM 33K OHM 5% 0,125W	1 ALL
R409	J707478P10	RES VAR 10K OHM 0,05W	1 ALL
R411	J707385P272	RES MFILM 2,7K OHM 0,125W	1 ALL
R412	J707385P563	RES MFILM 56K OHM 0,125W	1 ALL
R413	J707385P273	RES MFILM 27K OHM 0,125W	1 ALL
R414	J707385P683	RES MFILM 68K OHM 0,125W	1 ALL
R415	J707385P182	RES MFILM 1,8K OHM 0,125W	1 ALL
R416	J707385P473	RES MFILM 47K OHM 0,125W	1 ALL
R417	J707385P183	RES MFILM 18K OHM 0,125W	1 ALL
R418	J707385P334	RES MFILM 330K 0HM 0,125W	1 ALL
R419	J707385P473	RES MFILM 47K OHM 0,125W	1 ALL
R420	J707478P12	RES VAR 22K OHM 0,05W	1 ALL
R421	J707385P473	RES MFILM 47K OHM 0,125W	1 ALL
R422	J707385P101	RES MFILM 100 OHM 0,125W	1 ALL
R423	J707385P470	RES MFILM 47 OHM 0,125W	1 ALL
R424	J707385P470	RES MFILM 47 OHM 0,125W	1 ALL
R501	J707385P101	RES MFILM 100 OHM 0,125W	1 ALL
R502	J707385P181	RES MFILM 180 OHM 0,125W	1 ALL
R503	J707385P470	RES MFILM 47 OHM 0,125W	1 ALL
R505	J707385P181	RES MFILM 180 OHM 0,125W	1 ALL
R506	J707385P121	RES MFILM 120 OHM 0,125W	1 ALL
R507	J707385P121	RES MFILM 120 OHM 0,125W	1 ALL
R508	J707385P222	RES MFILM 2,2K OHM 0,125W	1 ALL
R509	J707385P222	RES MFILM 2,2K OHM 0,125W	1 ALL
R510	J707385P561	RES MFILM 560 OHM 0,125W	1 ALL
R511	J707385P472	RES MFILM 4,7K OHM 0,125W	1 ALL
R512	J707385P221	RES MFILM 220 OHM 0,125W	1 ALL
R513	J707385P103	RES MFILM 10K OHM 0,125W	1 ALL
R514	J707385P223	RES MFILM 22K OHM 0,125W	1 ALL
R516	J707385P183	RES MFILM 18K OHM 0,125W	1 ALL
R517	J707385P100	RES MFILM 10 0HM 0,125W	1 ALL
R518	J707385P562	RES MFILM 5,6K OHM 0,125W	1 ALL
R519	J707385P104	RES MFILM 100K OHM 0,125W	1 ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
R520	J707406P1	RES NTC 330 0HM	1 -G1/-G2
R521	J707385P470	RES MFILM 47 OHM 0,125W	1 ALL
R522	J707385P273	RES MFILM 27K OHM 0,125W	1 ALL
R523	J707385P472	RES MFILM 4,7K OHM 0,125W	1 ALL
R524	J707385P334	RES MFILM 330K 0HM 0,125W	1 ALL
R525	J707385P222	RES MFILM 2,2K OHM 0,125W	1 ALL
R526	J707385P392	RES MFILM 3,9K OHM 0,125W	1 ALL
R527	J707385P273	RES MFILM 27K OHM 0,125W	1 ALL
R528	J707385P101	RES MFILM 100 OHM 0,125W	1 ALL
R529	J707385P102	RES MFILM 1K OHM 0,125W	1 ALL
R530	J707385P101	RES MFILM 100 OHM 0,125W	1 ALL
R531	J707385P103	RES MFILM 10K OHM 0,125W	1 ALL
R533	J707385P183	RES MFILM 18K OHM 0,125W	1 ALL
R534	J707385P184	RES MFILM 180K OHM 0,125W	1 ALL
R536	J707385P100	RES MFILM 10 0HM 0,125W	1 ALL
R537	J707385P152	RES MFILM 1,5K OHM 0,125W	1 ALL
R538	J707385P221	RES MFILM 220 OHM 0,125W	1 ALL
R539	J707385P184	RES MFILM 180K OHM 0,125W	1 ALL
U401	J707449P1	INT CKT IF - AMP MC3357	1 ALL
U501	J707434P2	INT CKT DIG MUX 4053/S016	1 ALL
U502	J707337P1	INT CKT , MC145146	1 ALL
U503	J707374P2	INT CKT PLL ECL SP8718	1 ALL
U504	L855471G1	INT CKT. RES. NETW.	1 -G3/-G4
W501	A700134P9	WIRE , JMPR	1 -G1/-G2
Y501	J707019P3	X-TAL 6,400000 MHZ, 5PPM	1 ALL
OR :			
Y501	J707019P4	X-TAL 6,500000 MHZ, 5PPM	1 ALL
0002	M9-----P1R3	PW BD., REVISION NO.:3	1 ALL
0003	K805392P1	SHIELD, METAL-	1 ALL
0004	J706804P2	WASH,INSULATION	1 ALL
0006	J706281P6	CORE	1 ALL
0007	J707976P1	NUT HEX	1 ALL
0008	L855385P1	SPRING ANTENNA	1 ALL
0009	J707257P1	TUNING SLUG "SHORT" L=4MM,	6 -G2/-G4
OR:			
0009	J707257P2	TUNING SLUG "LONG" L=6MM,	6 -G1/-G3
0010	J707841P1	HEAT SINK,TINNED	1 ALL
0011	J707887P1	COV MACH.	3 ALL
0012	J707808P1	SPRING	3 ALL
0013	J708124P1	INSULATOR	1 -G3/-G4
0014	J707921P4	SLVG, HEAT SHRINK, PYOL CLEAR	0.02M ALL
0015	J707921P2	SLVG, HEAT SHRINK, PYOL CLEAR	0.05M ALL
0022	A701648P2	SIL RUBB SEALANT RTV-162	2.0G ALL
0023	J706647P1	SILICONE OIL QZ 13	1.0G ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
0024	J708465P1	SOLDER BISMUTH/TIN/LEAD	1.0G ALL
0026	K805540P2	SCREEN VCO	1 ALL
0027	K805540P1	SCREEN VCO	1 ALL
0028	A700133P17	WIRE Ø=0.500MM	1.0G ALL
0029	J707278G1	SHIELD PLATE	1 ALL

ITEM NUMBER:	DESCRIPTION:
M905468G1	RF4660HI 470-430 MHZ, 25/20 KHZ CH. SPAC.
M905468G2	RF4660LO 440-400 MHZ, 25/20 KHZ CH. SPAC.
M905468G3	RF4660HI 470-430 MHZ, 12.5 KHZ CH. SPAC.
M905468G4	RF4660LO 440-400 MHZ, 12.5 KHZ CH. SPAC.

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION		WHERE APPLIED:
A002	L855339G1	CPNT BD. F.TEMP. COMP.	1	-G3/-G4
*	*	*	*	
C101	J707436P10	CAP CER 5,6PF 50V	1	ALL
C102	J707436P13	CAP CER 10PF 50V	1	ALL
C103	J707436P13	CAP CER 10PF 50V	1	ALL
C104	J707436P13	CAP CER 10PF 50V	1	ALL
C105	J707436P29	CAP CER 22PF 50V	1	ALL
C106	J707436P7	CAP CER 3,3PF 50V	1	ALL
C107	J707436P65	CAP CER 150PF 50V	1	ALL
C108	J707436P65	CAP CER 150PF 50V	1	ALL
C109	J707436P25	CAP CER 18PF 50V	1	ALL
C110	J707436P7	CAP CER 3,3PF 50V	1	ALL
C111	J707438P5	CAP CER 1NF 50V	1	ALL
C112	J707438P14	CAP CER 10NF 50V	1	ALL
C113	J707436P49	CAP CER 56PF 50V	1	ALL
C114	J707436P7	CAP CER 3,3PF 50V	1	ALL
C115	J707436P65	CAP CER 150PF 50V	1	ALL
C116	J707809P16	CAP CER 18PF 50V	1	-G1/-G3
OR:				
C116	J707809P17	CAP CER 22PF 50V	1	-G2/-G4
C117	J707809P22	CAP CER 56PF 50V	1	-G1/-G3
OR:				
C117	J707809P23	CAP CER 68PF 50V	1	-G2/-G4
C119	J707809P20	CAP CER 39PF 50V	1	ALL
C120	J707809P20	CAP CER 39PF 50V	1	ALL
C121	J707436P61	CAP CER 100PF 50V	1	ALL
C122	J707438P14	CAP CER 10NF 50V	1	ALL
C124	J707809P20	CAP CER 39PF 50V	1	-G1/-G3
OR:				
C124	J707809P21	CAP CER 47PF 50V	1	-G2/-G4
C125	J707809P16	CAP CER 18PF 50V	1	-G1/-G3
OR:				
C125	J707809P18	CAP CER 27PF 50V	1	-G2/-G4
C126	J707436P65	CAP CER 150PF 50V	1	ALL
C127	J707436P65	CAP CER 150PF 50V	1	ALL
C128	J707809P12	CAP CER 8,2PF 50V	1	ALL
C129	J707809P15	CAP CER 15PF 50V	1	ALL
C130	J707809P16	CAP CER 18PF 50V	1	ALL
C131	J707809P15	CAP CER 15PF 50V	1	ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:	
C132	J707809P27	CAP CER 150PF 50V	1	ALL
C134	J707438P5	CAP CER 1NF 50V	1	ALL
C135	J707438P22	CAP CER 47NF 50V	1	ALL
C136	J707353P5	CAP ELEC 2,2 UF 50V	1	ALL
C137	J707438P14	CAP CER 10NF 50V	1	ALL
C138	J707438P14	CAP CER 10NF 50V	1	ALL
C139	J707436P73	CAP CER 330PF 50V	1	ALL
C141	J707436P7	CAP CER 3,3PF 50V	1	ALL
C201	J707444P8	CAP TA 22 UF 16V	1	ALL
C202	J707438P5	CAP CER 1NF 50V	1	ALL
C203	J707444P5	CAP TA 2,2 UF 35V	1	ALL
C204	J707438P22	CAP CER 47NF 50V	1	ALL
C205	J707436P61	CAP CER 100PF 50V	1	ALL
C206	J707436P61	CAP CER 100PF 50V	1	ALL
C207	J707436P61	CAP CER 100PF 50V	1	ALL
C208	J707436P61	CAP CER 100PF 50V	1	ALL
C209	A700058P5	CAP CER 1N0 10% X4	1	ALL
C210	A700058P5	CAP CER 1N0 10% X4	1	ALL
C301	J707436P12	CAP CER 8,2PF 50V	1	ALL
C302	J707436P9	CAP CER 4,7PF 50V	1	ALL
C303	J707436P77	CAP CER 470PF 50V	1	ALL
C304	J707436P77	CAP CER 470PF 50V	1	ALL
C305	J707436P61	CAP CER 100PF 50V	1	ALL
C306	J707436P25	CAP CER 18PF 50V	1	ALL
C307	J707436P5	CAP CER 2,2PF 50V	1	ALL
C308	J707436P73	CAP CER 330PF 50V	1	ALL
C309	J707438P5	CAP CER 1NF 50V	1	ALL
C310	J707438P14	CAP CER 10NF 50V	1	ALL
C311	J707436P65	CAP CER 150PF 50V	1	ALL
C401	J707436P11	CAP CER 6,8PF 50V	1	ALL
C402	J707436P73	CAP CER 330PF 50V	1	ALL
C403	J707438P14	CAP CER 10NF 50V	1	ALL
C404	J707438P5	CAP CER 1NF 50V	1	ALL
C405	J707438P14	CAP CER 10NF 50V	1	ALL
C406	J707436P63	CAP CER 120PF 50V	1	ALL
C407	J707436P45	CAP CER 47PF 50V	1	ALL
C408	J707436P57	CAP CER 82PF 50V	1	ALL
C409	J707438P8	CAP CER 3,3NF 50V	1	ALL
C410	J707438P26	CAP CER 100NF 50V	1	ALL
C411	J707436P93	CAP CER 2,2NF 50V	1	ALL
C412	J707436P73	CAP CER 330PF 50V	1	ALL
C413	J707436P73	CAP CER 330PF 50V	1	ALL
C415	J707444P9	CAP TA 47 UF 6,3V	1	ALL
C416	J707438P26	CAP CER 100NF 50V	1	ALL
C417	J707438P26	CAP CER 100NF 50V	1	ALL
C418	J707438P26	CAP CER 100NF 50V	1	ALL
C419	J707436P13	CAP CER 10PF 50V	1	ALL
C420	J707444P7	CAP TA 10 UF 16V	1	ALL
C422	J707444P7	CAP TA 10 UF 16V	1	ALL
C501	J707436P69	CAP CER 220PF 50V	1	ALL

	CIRCUIT POSITION		COMPONENT ITEM NUMBER		COMPONENT DESCRIPTION		WHERE APPLIED:
	C502		J707436P8		CAP CER 3,9PF 50V		1 ALL
	C503		J707483P3		CAP PHEN 0,39PF 500V		1 ALL
	C504		J707475P2		CAP VAR 2 - 10 PF		1 ALL
	C505		J707436P69		CAP CER 220PF 50V		1 ALL
	C506		J707444P8		CAP TA 22 UF 16V		1 ALL
	C507		J707870P20		CAP CER 39PF 50V		1 -G1/-G3
	OR:						
	C507		J707870P21		CAP CER 47PF 50V		1 -G2/-G4
	C508		J707436P69		CAP CER 220PF 50V		1 ALL
	C509		J707436P9		CAP CER 4,7PF 50V		1 -G1/-G3
	OR:						
	C509		J707436P10		CAP CER 5,6PF 50V		1 -G2/-G4
	C510		J707436P8		CAP CER 3,9PF 50V		1 ALL
	C511		J707436P69		CAP CER 220PF 50V		1 ALL
	C512		J707436P8		CAP CER 3,9PF 50V		1 ALL
	C513		J707436P8		CAP CER 3,9PF 50V		1 ALL
	C514		J707475P2		CAP VAR 2 - 10 PF		1 ALL
	C515		J707436P69		CAP CER 220PF 50V		1 ALL
	C516		J707444P8		CAP TA 22 UF 16V		1 ALL
	C517		J707870P21		CAP CER 47PF 50V	*	1 -G1/-G3
	OR:						
*	C517	*	J707870P22	*	CAP CER 56PF 50V	*	1 -G2/-G4
	C518		J707436P69		CAP CER 220PF 50V		1 ALL
	C520		J707436P9		CAP CER 4,7PF 50V		1 -G1/-G3
	OR:						
	C520		J707436P10		CAP CER 5,6PF 50V		1 -G2/-G4
	C521		J707436P61		CAP CER 100PF 50V		1 ALL
	C522		J707438P5		CAP CER 1NF 50V		1 ALL
	C523		J707438P14		CAP CER 10NF 50V		1 ALL
	C524		J707436P13		CAP CER 10PF 50V		1 ALL
	C525		J707436P61		CAP CER 100PF 50V		1 ALL
	C526		J707438P5		CAP CER 1NF 50V		1 ALL
	C527		J707436P57		CAP CER 82PF 50V		1 ALL
	C528		J707438P14		CAP CER 10NF 50V		1 ALL
	C529		J707436P53		CAP CER 68PF 50V		1 ALL
	C530		J707438P26		CAP CER 100NF 50V		1 ALL
	C531		J707436P57		CAP CER 82PF 50V		1 ALL
	C532		J707436P9		CAP CER 4,7PF 50V		1 ALL
	C533		J707475P1		CAP VAR 2 - 18 PF		1 ALL
	C534		J707436P41		CAP CER 39PF 50V		1 ALL
	C535		J707412P9		CAP PYES 100N 10% 63V		1 ALL
	C536		J707612P2		CAP POL 0,68 UF 100V		1 ALL
	C537		J707438P14		CAP CER 10NF 50V		1 ALL
	C538		J707438P22		CAP CER 47NF 50V		1 ALL
	C539		J707436P77		CAP CER 470PF 50V		1 ALL
	C540		J707444P7		CAP TA 10 UF 16V		1 ALL
	C541		J707436P29		CAP CER 22PF 50V		1 ALL
	C543		J707438P8		CAP CER 3,3NF 50V		1 ALL
	C544		J707438P5		CAP CER 1NF 50V		1 ALL
	C545		J707436P73		CAP CER 330PF 50V		1 ALL
	C546		J707870P8		CAP CER 3,9PF 50V		1 ALL
	C547		J707436P8		CAP CER 3,9PF 50V		1 ALL
	C548		J707436P8		CAP CER 3,9PF 50V		1 ALL
*	C549	*	A700007P65	*	CAP CER NPO 150P 5% 50V	*	1 ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
* C550	* A700007P65	* CAP CER NPO 150P 5% 50V	* 1 ALL
* C551	* A700007P65	* CAP CER NPO 150P 5% 50V	* 1 ALL
* C552	* A700007P65	* CAP CER NPO 150P 5% 50V	* 1 ALL
D101	J707389P1	DIO SI BAV 99	1 ALL
D102	J707391P1	DIO SI BAT 18	1 ALL
D201	J707448P1	DIO REF TL431 CLP	1 ALL
D202	J707390P1	DIO SI BAV 74	1 ALL
D301	J707391P1	DIO SI BAT 18	1 ALL
D302	J707391P1	DIO SI BAT 18	1 ALL
D303	J707389P1	DIO SI BAV 99	1 ALL
D401	J707389P1	DIO SI BAV 99	1 ALL
D501	J707769P1	DIO VAR CAP BBY 31	1 ALL
D502	J707769P1	DIO VAR CAP BBY 31	1 ALL
D503	J707769P1	DIO VAR CAP BBY 31	1 ALL
D504	J707769P1	DIO VAR CAP BBY 31	1 ALL
D505	J707769P1	DIO VAR CAP BBY 31	1 ALL
D507	J707390P1	DIO SI BAV 74	1 ALL
D508	J707390P1	DIO SI BAV 74	1 ALL
L101	A700024P1	COIL FIX 100NH 10%	1 ALL
L102	J707486P1	COIL FIX 100NH	1 ALL
L103	J707426P3	COIL FIX 3 1/2 WIND.	1 ALL
L104	J707339G1	COIL FIX ASM	1 ALL
L105	J707486P1	COIL FIX 100NH	1 ALL
L106	J707426P2	COIL FIX 2 1/2 WIND.	1 ALL
L107	J707256P2	COIL FIX	1 ALL
L108	J707426P3	COIL FIX 3 1/2 WIND.	1 ALL
L109	J707339G1	COIL FIX ASM	1 ALL
L111	J707256P2	COIL FIX	1 ALL
L112	J707426P1	COIL FIX 1 1/2 WIND.	1 ALL
L113	J707426P1	COIL FIX 1 1/2 WIND.	1 ALL
L116	J707256P2	COIL FIX	1 ALL
L117	J707486P4	COIL,RF,FIXED 10 UH	1 ALL
L118	J707426P7	COIL FIX 7 1/2 WIND.	1 ALL
L119	J707426P2	COIL FIX 2 1/2 WIND.	1 ALL
L120	J707426P1	COIL FIX 1 1/2 WIND.	1 ALL
L121	J707426P1	COIL FIX 1 1/2 WIND.	1 ALL
L122	J707256P2	COIL FIX	1 ALL
L301	J707426P2	COIL FIX 2 1/2 WIND.	1 ALL
L302	J707816P5	COIL HELICAL	1 -G1/-G3
OR:			
L302	J707816P3	COIL HELICAL	1 -G2/-G4
L303	J707816P5	COIL HELICAL	1 -G1/-G3
OR:			
L303	J707816P3	COIL HELICAL	1 -G2/-G4
L304	J707486P1	COIL FIX 100NH	1 ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
L305	J707816P6	COIL HELICAL	1 -G1/-G3
OR:			
L305	J707816P4	COIL HELICAL	1 -G2/-G4
L306	J707816P5	COIL HELICAL	1 -G1/-G3
OR:			
L306	J707816P3	COIL HELICAL	1 -G2/-G4
L307	J707816P6	COIL HELICAL	1 -G1/-G3
OR:			
L307	J707816P4	COIL HELICAL	1 -G2/-G4
L308	J707422P3	COIL RF VAR	1 ALL
L401	J707486P3	COIL,RF,FIXED 6.8 UH	1 ALL
L402	J707431P1	COIL VAR 455 KHZ	1 ALL
L403	J707431P1	COIL VAR 455 KHZ	1 ALL
L501	J707486P6	COIL FIX 0,47 UH	1 ALL
L502	J707486P6	COIL FIX 0,47 UH	1 ALL
L504	J707486P6	COIL FIX 0,47 UH	1 ALL
L505	J707486P6	COIL FIX 0,47 UH	1 ALL
L506	J707486P6	COIL FIX 0,47 UH	1 ALL
L507	J707486P6	COIL FIX 0,47 UH	1 ALL
L508	J707816P6	COIL HELICAL	1 -G1/-G3
OR:			
L508	J707816P4	COIL HELICAL	1 -G2/-G4
L509	J707486P6	COIL FIX 0,47 UH	1 ALL
L510	J707486P6	COIL FIX 0,47 UH	1 ALL
L512	J707486P5	COIL FIX 330 UH	1 ALL
P001	J707350P4	PLG 4-PIN	1 ALL
P002	J707350P6	PLG 6-PIN	1 ALL
P003	J707350P13	PLG 13-PIN	1 ALL
Q101	J707388P1	TSTR BFR 53	1 ALL
Q102	J707388P1	TSTR BFR 53	1 ALL
Q103	J707388P1	TSTR BFR 53	1 ALL
Q104	J707763P1	TSTR NPN RF MFR 627	1 ALL
Q105	A702448P1	TSTR (2N5945) , RF POWER	1 ALL
Q106	J707673P1	TSTR NPN SI BC 368	1 ALL
Q107	J707387P1	TSTR BCW 30	1 ALL
Q108	J707386P1	TSTR BCW 32	1 ALL
Q201	J707387P1	TSTR BCW 30	1 ALL
Q202	J707435P1	TSTR BC 369	1 ALL
Q203	J707386P1	TSTR BCW 32	1 ALL
Q204	J707432P1	TSTR BCX 18	1 ALL
Q205	J707387P1	TSTR BCW 30	1 ALL
Q206	J707387P1	TSTR BCW 30	1 ALL
Q301	J707386P1	TSTR BCW 32	1 ALL
Q302	J707771P1	TSTR BFR 93	1 ALL
Q303	J707770P1	FLD EFF BF 4416A	1 ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:	
Q401	J707433P1	FLD EFF BF 989	1	ALL
Q402	J707387P1	TSTR BCW 30	1	ALL
Q501	J707817P1	FLD EFF J309	1	ALL
Q502	J707817P1	FLD EFF J309	1	ALL
Q503	J707430P1	TSTR BF 569	1	ALL
Q504	J707387P1	TSTR BCW 30	1	ALL
Q505	J707419P1	TSTR JFET SI BF 511	1	ALL
Q506	J707430P1	TSTR BF 569	1	ALL
R101	J707385P470	RES MFILM 47 OHM 0,125W	1	ALL
R102	J707385P332	RES MFILM 3,3K OHM 0,125W	1	ALL
R103	J707385P152	RES MFILM 1,5K OHM 0,125W	1	ALL
R104	J707385P270	RES MFILM 27 OHM 0,125W	1	ALL
R105	J707385P332	RES MFILM 3,3K OHM 0,125W	1	ALL
R106	J707385P152	RES MFILM 1,5K OHM 0,125W	1	ALL
R107	J707385P331	RES MFILM 330 OHM 0,125W	1	ALL
R108	J707385P100	RES MFILM 10 0HM 0,125W	1	ALL
R109	J707385P101	RES MFILM 100 OHM 0,125W	1	ALL
R110	J707385P562	RES MFILM 5,6K OHM 0,125W	1	ALL
R111	J707385P680	RES MFILM 68 OHM 0,125W	1	ALL
R112	J707385P102	RES MFILM 1K OHM 0,125W	1	ALL
R113	J707385P472	RES MFILM 4,7K OHM 0,125W	1	ALL
R114	J707385P152	RES MFILM 1,5K OHM 0,125W	1	ALL
R115	J707478P4	RES VAR 1K OHM 0,05W	1	ALL
R116	J707385P102	RES MFILM 1K OHM 0,125W	1	ALL
R117	J707385P270	RES MFILM 27 OHM 0,125W	1	ALL
R118	J707385P102	RES MFILM 1K OHM 0,125W	1	ALL
R119	J707385P270	RES MFILM 27 OHM 0,125W	1	ALL
R120	J707385P100	RES MFILM 10 0HM 0,125W	1	ALL
R121	J707385P100	RES MFILM 10 0HM 0,125W	1	ALL
R122	J707385P221	RES MFILM 220 OHM 0,125W	1	ALL
R123	J707385P473	RES MFILM 47K OHM 0,125W	1	ALL
R124	J707385P100	RES MFILM 10 0HM 0,125W	1	ALL
R125	J707385P102	RES MFILM 1K OHM 0,125W	1	ALL
R126	J707945P1	RES WW 0,27 OHM	1	ALL
R201	J707385P272	RES MFILM 2,7K OHM 0,125W	1	ALL
R202	J707385P222	RES MFILM 2,2K OHM 0,125W	1	ALL
R203	J707385P153	RES MFILM 15K OHM 0,125W	1	ALL
R204	J707385P102	RES MFILM 1K OHM 0,125W	1	ALL
R205	J707385P101	RES MFILM 100 OHM 0,125W	1	ALL
R206	J707385P273	RES MFILM 27K OHM 0,125W	1	ALL
R207	J707385P682	RES MFILM 6,8K OHM 0,125W	1	ALL
R209	J707385P393	RES MFILM 39K OHM 0,125W	1	ALL
R210	J707385P333	RES MFILM 33K OHM 0,125W	1	ALL
R211	J707385P103	RES MFILM 10K OHM 0,125W	1	ALL
R212	J707385P182	RES MFILM 1,8K OHM 0,125W	1	ALL
R213	J707385P473	RES MFILM 47K OHM 0,125W	1	ALL
R214	J707385P153	RES MFILM 15K OHM 0,125W	1	ALL
R215	J707385P473	RES MFILM 47K OHM 0,125W	1	ALL
R216	J707385P153	RES MFILM 15K OHM 0,125W	1	ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
R301	J707385P562	RES MFILM 5,6K OHM 0,125W	1 ALL
R302	J707385P102	RES MFILM 1K OHM 0,125W	1 ALL
R303	J707385P473	RES MFILM 47K.OHM 0,125W	1 ALL
R304	J707385P472	RES MFILM 4,7K OHM 0,125W	1 ALL
R305	J707385P103	RES MFILM 10K OHM 0,125W	1 ALL
R306	J707385P682	RES MFILM 6,8K OHM 0,125W	1 ALL
R307	J707385P391	RES MFILM 390 OHM 0,125W	1 ALL
R308	J707385P561	RES MFILM 560 OHM 0,125W	1 ALL
R309	J707385P470	RES MFILM 47 OHM 0,125W	1 ALL
R310	J707385P470	RES MFILM 47 OHM 0,125W	1 ALL
R311	J707385P182	RES MFILM 1,8K OHM 0,125W	1 ALL
R312	J707385P101	RES MFILM 100 OHM 0,125W	1 ALL
R401	J707385P152	RES MFILM 1,5K OHM 0,125W	1 ALL
R402	J707385P473	RES MFILM 47K OHM 0,125W	1 ALL
R403	J707385P473	RES MFILM 47K OHM 0,125W	1 ALL
R404	J707385P561	RES MFILM 560 OHM 0,125W	1 ALL
R405	J707385P103	RES MFILM 10K OHM 0,125W	1 ALL
R406	J707385P332	RES MFILM 3,3K OHM 0,125W	1 ALL
R407	J707385P683	RES MFILM 68K OHM 0,125W	1 ALL
R408	J707385P333	RES MFILM 33K OHM 5% 0,125W	1 ALL
R409	J707478P10	RES VAR 10K OHM 0,05W	1 ALL
R411	J707385P272	RES MFILM 2,7K OHM 0,125W	1 ALL
R412	J707385P563	RES MFILM 56K OHM 0,125W	1 ALL
R413	J707385P273	RES MFILM 27K OHM 0,125W	1 ALL
R414	J707385P683	RES MFILM 68K OHM 0,125W	1 ALL
R415	J707385P182	RES MFILM 1,8K OHM 0,125W	1 ALL
R416	J707385P473	RES MFILM 47K OHM 0,125W	1 ALL
R417	J707385P183	RES MFILM 18K OHM 0,125W	1 ALL
R418	J707385P334	RES MFILM 330K OHM 0,125W	1 ALL
R419	J707385P473	RES MFILM 47K OHM 0,125W	1 ALL
R420	J707478P12	RES VAR 22K OHM 0,05W	1 ALL
R421	J707385P473	RES MFILM 47K OHM 0,125W	1 ALL
R422	J707385P101	RES MFILM 100 OHM 0,125W	1 ALL
R423	J707385P470	RES MFILM 47 OHM 0,125W	1 ALL
R424	J707385P470	RES MFILM 47 OHM 0,125W	1 ALL
R501	J707385P101	RES MFILM 100 OHM 0,125W	1 ALL
R502	J707385P181	RES MFILM 180 OHM 0,125W	1 ALL
R503	J707385P470	RES MFILM 47 OHM 0,125W	1 ALL
R505	J707385P181	RES MFILM 180 OHM 0,125W	1 ALL
R506	J707385P121	RES MFILM 120 OHM 0,125W	1 ALL
R507	J707385P121	RES MFILM 120 OHM 0,125W	1 ALL
R508	J707385P222	RES MFILM 2,2K OHM 0,125W	1 ALL
R509	J707385P222	RES MFILM 2,2K OHM 0,125W	1 ALL
R510	J707385P561	RES MFILM 560 OHM 0,125W	1 ALL
R511	J707385P472	RES MFILM 4,7K OHM 0,125W	1 ALL
R512	J707385P221	RES MFILM 220 OHM 0,125W	1 ALL
R513	J707385P103	RES MFILM 10K OHM 0,125W	1 ALL
R514	J707385P223	RES MFILM 22K OHM 0,125W	1 ALL
R516	J707385P183	RES MFILM 18K OHM 0,125W	1 ALL
R517	J707385P100	RES MFILM 10 OHM 0,125W	1 ALL
R518	J707385P562	RES MFILM 5,6K OHM 0,125W	1 ALL
R519	J707385P104	RES MFILM 100K OHM 0,125W	1 ALL

	CIRCUIT POSITION		COMPONENT ITEM NUMBER		COMPONENT DESCRIPTION	WHERE APPLIED:
	R520		J707406P1		RES NTC 330 0HM	1 -G1/-G2
	R521		J707385P470		RES MFILM 47 OHM 0,125W	1 ALL
	R522		J707385P273		RES MFILM 27K OHM 0,125W	1 ALL
	R523		J707385P472		RES MFILM 4,7K OHM 0,125W	1 ALL
	R524		J707385P334		RES MFILM 330K 0HM 0,125W	1 ALL
	R525		J707385P222		RES MFILM 2,2K OHM 0,125W	1 ALL
	R526		J707385P392		RES MFILM 3,9K OHM 0,125W	1 ALL
	R527		J707385P273		RES MFILM 27K OHM 0,125W	1 ALL
	R528		J707385P101		RES MFILM 100 OHM 0,125W	1 ALL
	R529		J707385P102		RES MFILM 1K OHM 0,125W	1 ALL
	R530		J707385P101		RES MFILM 100 OHM 0,125W	1 ALL
	R531		J707385P103		RES MFILM 10K OHM 0,125W	1 ALL
	R533	*	J707385P183	*	RES MFILM 18K OHM 0,125W	1 ALL
	R534		J707385P184		RES MFILM 180K OHM 0,125W	1 ALL
	R536		J707385P100		RES MFILM 10 0HM 0,125W	1 ALL
	R537		J707385P152		RES MFILM 1,5K OHM 0,125W	1 ALL
	R538		J707385P221		RES MFILM 220 OHM 0,125W	1 ALL
	R539		J707385P184		RES MFILM 180K OHM 0,125W	1 ALL
	U401		J707449P1		INT CKT IF - AMP MC3357	1 ALL
	U501		J707434P2		INT CKT DIG MUX 4053/S016	1 ALL
	U502		J707337P1		INT CKT , MC145146	1 ALL
	U503		J707374P2		INT CKT PLL ECL SP8718	1 ALL
	U504		L855471G1		INT CKT. RES. NETW.	1 -G3/-G4
	W501		A700134P9		WIRE , JMPR	1 -G1/-G2
	Y501		J707019P3		X-TAL 6,400000 MHZ, 5PPM	1 ALL
	OR :					
	Y501		J707019P4		X-TAL 6,500000 MHZ, 5PPM	1 ALL
*	0002	*	M9-----P1R3	*	PW BD., REVISION NO.:3	1 ALL
	0003		K805392P1		SHIELD, METAL-	1 ALL
	0004		J706804P2		WASH,INSULATION	1 ALL
	0006		J706281P6		CORE	1 ALL
	0007		J707976P1		NUT HEX	1 ALL
	0008		L855385P1		SPRING ANTENNA	1 ALL
	0009		J707257P1		TUNING SLUG "SHORT" L=4MM,	6 -G2/-G4
	OR:					
	0009		J707257P2		TUNING SLUG "LONG" L=6MM,	6 -G1/-G3
	0010		J707841P1		HEAT SINK,TINNED	1 ALL
	0011		J707887P1		COV MACH.	3 ALL
	0012		J707808P1		SPRING	3 ALL
	0013		J708124P1		INSULATOR	1 -G3/-G4
	0014	*	J707921P4	*	SLVG, HEAT SHRINK, PYOL CLEAR	0.02M ALL
	0015	*	J707921P2	*	SLVG, HEAT SHRINK, PYOL CLEAR	0.05M ALL
	0022		A701648P2		SIL RUBB SEALANT RTV-162	2.0G ALL
	0023		J706647P1		SILICONE OIL QZ 13	1.0G ALL

	CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	WHERE APPLIED:
	0024	J708465P1	SOLDER BISMUTH/TIN/LEAD	1.0G ALL
	0026	K805540P2	SCREEN VCO	1 ALL
	0027	K805540P1	SCREEN VCO	1 ALL
	0028	A700133P17	WIRE Ø=0.500MM	1.0G ALL
*	0029	* J707278G1	* SHIELD PLATE	* 1 ALL