STORNOMATIC 6000
PRM6662D15N
TECHNICAL
MANUAL

Service Coordination.

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PRM6662D15N TECHNICAL MANUAL

ADDITIONAL MANUAL:
OPERATION AND INSTALLATION

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TECHNICAL SPECIFICATIONS

PRM6662D15

Frequency range
Transmit: 453 - 457.475 MHz
Receive: 463 - 467.475 MHz

Number of channels
180

Channel separation
25 kHz

Operating mode
Duplex

Duplex separation
10 MHz

Radio unit dimensions

Height:	51 mm
Width:	180 mm
Depth:	185 mm

Control head dimensions

	CB	CB/MT
Height	60 mm	60 mm
Width	188 mm	188 mm
Depth	13 mm	49 mm

Temperature range
Functional: $-25^{\circ}C$ to $+55^{\circ}C$
Storage: $-40^{\circ}C$ to $+70^{\circ}C$

RECEIVER

Frequency range
463 - 467.475 MHz

RF sensitivity, 20 dB SINAD CEPT
1.0 uV e.m.f.

Field strength levels for scanning detection
Selectable on control head
1 uV e.m.f.
or 3.2 uV e.m.f.
or 10 uV e.m.f.

Co-channel rejection
less than 8 dB

Adjacent channel selectivity
greater than 70 dB

Intermodulation rejection
greater than 67 dB

Intermodulation response rejection
greater than 70 dB

Blocking
greater than 90 dB/1 uV

Spurious emission
Radiated: Less than 2 nW
Conducted: Less than -57 dBm

AF output power
7 W

AF harmonic distorsion
Less than 3%

Volume control range
8 steps covering approx. 40 dB

TRANSMITTER

Frequency range
453 - 457.475 MHz

RF power output

Standard:	15 W ±1.5 dB
Medium power:	1.5 W ±3 dB
Low power:	0.15 W ±3 dB

Maximum frequency deviation
±4.7 kHz

Adjacent channel power
-70 dB

Spurious emission

Radiated:	0.2 uW
Conducted:	0.2 uW

Harmonic distorsion in transmission
Less than 3%

RF carrier rise/decay time
Less than 6 ms

POWER SUPPLY

Battery voltage
10.8 - 15.6 V

Current drain

Off:	<20 mA
Stand-by:	<0.5 A
Receive (5 W)	<1 A
Transmit (15 W)	<5 A

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ADJUSTMENT PROCEDURE

MEASURING INSTRUMENTS

INSTRUMENTS

The following instruments are necessary in order to perform a complete adjustment of a STORNOMATIC 6000 radiotelephone.

AF Voltmeter	Zi $\geq$ Mohm	(AVM)
DC Voltmeter	Ri = 20 Kohm/V	(VM1)
DC Voltmeter	Ri $\geq$ 1 Mohm	(VM2)
DC Amperemeter	0 - 1A/0 - 10 A	
RF Generator	10 - 470 MHz	(SG)
RF Wattmeter	450 - 470 MHz/0 - 20 W	(RFW)
Deviationmeter	450 - 470 MHZ	(DEVM)
Frequency counter	0.4 - 512 MHz	(FC)
Distortionmeter	Psophometric	(DM)
DC Power Supply	10 - 15 V/0 - 6 A	
AF Generator	0.1 - 10 kHz	(AFG)
AF-Dummy load	16 ohm/10 W	
RF Probe	Part no. 95.0059-00	(RFP)
Trimming tool	Part no. 17.0053-00	
CL Board adaptor	Part no. 95D5011-00	
Test instrument	SE6001	
or		
Service Box	DK/N w. code plug	J709551P1
Service Box	S/SF w. code plug	J709551P2
Interface Box	SE6002 Part no. 95D5014-00	

GENERAL NOTES

During test and adjustment DC power (13.2 V) must be connected and the radio turned on in SERVICE MODE.
Refer to SERVICE MODE FUNCTIONS for operating instructions.

CF6002 TESTPOINTS

TP	VOLTAGE
1	8.0

CONNECTOR	PIN	SIGNAL/VOLTAGE
J201	9	13.2 V Battery
J201	6	Transmitter modulation
J201	1	PA Sense; Transmitter on= 4.5 V
J201	5	RX Line 100 mV RMS
J201	8	Receiver Signal Strength Indicator
J701	9	5.1 V

VOLTAGE REGULATOR

Connect the DC power supply to the radio and set the voltage to 13.2 V.

Turn the radio ON in SERVICE MODE.
Read the current drain
Requirement: I<1.0 A
Connect the voltmeter to TP5.
Check the voltage for being +8.5 V.
Connect the voltmeter to J704 pin 24.
Check the voltage for being +5 V.
Connect the voltmeter to J701 pin 9.
Remove the CL600x board and reinstall it with adaptor 95D5011-00 in upright position.
Adjust R951 on CF600x for 5.1 V ±0.05 V.
Connect the voltmeter to TP1 on the CF6002.
Check the voltage for being +8 V.
Reinstall CL600x to its normal position.

RECEIVER ADJUSTMENT

SYNTHETISIZER REFERENCE OSCILLATOR

Connect a frequency counter to TP7.
Adjust L650 for 8.062500 MHz.
Connect the frequency counter to TP8.
Check the frequency for being 8.062500 MHz.
Connect a voltmeter (Ri ≥1 Mohm) to TP9.
Select channel 95.
Adjust C601 until the voltage goes high; (+8.4 V)
High voltage indicates that the synthesizer loop is locked.
Connect the voltmeter to TP10.
Adjust C601 for 4.5 V
Connect the voltmeter to TP9.
Check that the voltage is still high.
Select channel 1 and channel 180 and check that the voltage is high on both channels.
This check ensures that the synthesizer is capable of locking on all channels.

IF AMPLIFIER ADJUSTMENT (455 kHz)

Connect the signal generator to TP3 through a 4.7 pF capacitor.
Set the signal generator frequency to 45.0000 MHz, the output to 25 mV and turn the modulation off.
Connect an AF Voltmeter (Zi ≥1 Mohm) to the

AF line output, J201 pin 5.
Adjust C413 for minimum AF Voltage.
Connect a frequency counter to TP11.
Adjust C413 for 455.000 kHz.
Turn the signal generator modulation (1 kHz) on and set the deviation to ±3 kHz.
Set R416 to its fully clockwise position.
Adjust L408 for maximum AF voltage.
Connect a DC voltmeter to TP4.
Turn the signal generator modulation off.
Reduce the signal generator output until the DC voltage reading is decreasing proportionally.
Adjust L407 for maximum DC voltage.

IF FREQUENCY (45 MHz)

Connect a signal generator to TP2 through a 1 nF capacitor.
Set the signal generator frequency to 45.000 MHz the output to 7.5uV and turn the modulation off.
Connect a DC Voltmeter to TP4.
Adjust L306, L403, L405 and L404 for max. DC voltage.
Set the signal generator frequency to 45.006 MHz.
Adjust L404 and L405 for maximum DC voltage.
Set the signal generator frequency to 44.995 MHz.
Adjust L403 for maximum DC voltage.

IF SENSITIVITY CHECK

Connect a signal generator to TP2 through a 1nF capacitor.
Set the signal generator frequency to 45.000 MHz and the modulation to 1 KHz and ±3 kHz deviation.
Connect a distortion meter to the AF line output, J201 pin 5.
Adjust the signal generator output for 20 dB SINAD.
Read the signal generator output.
Requirement: less than 1.5 uV.

IMPORTANT : NO DEEMPHASIS

RECEIVER INJECTION FREQUENCY

Select channel 81.
Connect the RF probe and voltmeter to C322-C323.
Adjust C321 and C323 for maximum DC voltage.

Connect the frequency counter to C322-C323.
Adjust L650 for 510.00000 MHz.

RECEIVER FRONT-END

Select channel 82 (465.025 MHz)
Connect the signal generator to the antenna connector.
Set the signal generator frequency to 465.025 MHz and turn the modulation off.
Connect a voltmeter to TP4.
Adjust the signal generator output to 7.5uV.
Adjust C314, C312, C310 and L306 for for max. DC voltage.
Reduce the signal generator output as the sensitivity increases and repeat the adjustment until no further improvement is possible.
Connect the DC voltmeter to TP1.
Adjust C321 and C323 for maximum DC voltage.
Turn the signal generator modulation on.
Adjust the signal generator output to 1 mV, the modulation to 4 kHz and ±3 kHz deviation.

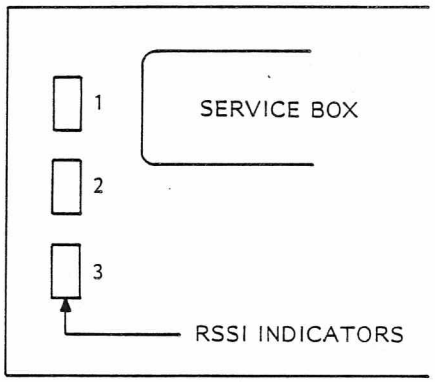
Connect the AF voltmeter to the AF line output, J201 pin 5.
Adjust R717 for minimum AF voltage.
Adjust the signal generator modulation to 1 kHz and ±3 kHz deviation.
Adjust R416 for 100 mV r.m.s AF voltage.

RECEIVER SENSITIVITY.

Measure 20 dB psophmetric SINAD on channel 1 (463.0000 MHz), Channel 81 (465.0000 MHz) and channel 180 (467.4750 MHz).
Requirement: Better than 0.8uV e.m.f.

RECEIVER AF OUTPUT POWER

Connect a signal generator to the antenna connector.
Select channel 81 (465.0000 MHz).
Set the signal generator frequency to 465.0000 MHz, the output to 1 mV, the modulation to 1 kHz and ±3 kHz deviation.
Connect a 16 ohm load (10 W) between the loudspeaker LS1 output (J701 pin 23) and LS2 output (J701 pin 24).
Connect an AF voltmeter across the AF load.
Set the volume to maximum (8).
Read the AF voltage.



Requirement: at least 9.8 V (6 W).

RADIO SIGNAL STRENGTH (RSSI) INDICATOR

Connect the signal generator to the antenna connector.
Turn the modulation off.
Select channel 82 (465.0250 MHz)
Set the signal generator frequency to 465.0250 MHz.

Adjust the signal generator output to 10uV (20 dB/uV) e.m.f.
Turn R701 fully clockwise and then counter clockwise until the RSSI indicator 3 just turns on.

Adjust the signal generator output to 3.16 uV (10 dB/uV). e.m.f.
Turn R707 fully counterclockwise and then clockwise until RSSI indicator 2 just turns on.

Adjust the signal generator output to 0.8 uV (-2 dB/uV) e.m.f.
Turn R711 fully counterclockwise and then clockwise until RSSI indicator 1 just turns on.

TRANSMITTER ADJUSTMENT

Unless otherwise noted all transmitter adjustments and checks are performed with the transmitter keyed and connected to a dummy load or RF wattmeter.

TX VOLTAGE CHECK

Connect a DC voltmeter to TP12.
Check the voltage for being +8.5 V.
Connect the voltmeter to TP13.
Check the voltage for being +9.1 V.

TX SYNTHESIZER

Before adjusting the TX synthesizer the RX synthesizer must be checked for proper operation, refer to RECEIVER SYNTHESIZER.

Select channel 95 (455.3500 MHz)
Connect a frequency counter to TP14.
Select LOW POWER (0.15 W)
Adjust L503 for 13.75000 MHz.
Connect a DC voltmeter (Ri $\geq$1 Mohm) to TP9.
Adjust C577 until the voltage goes high (+7.9 V).
High voltage at TP9 indicates that the synthesizer

loop is locked.
Connect the DC voltmeter to TP16.
Adjust C577 for 4.5 V.
Connect the frequency counter to TP15.
Adjust L503 for 455.3500 MHz.
Connect the DC voltmeter to TP9.
Select channel 1 (453.0000 MHz) and channel 180 (457.4750 MHz) and check the voltage for being high on both channels. This check ensures that the TX synthesizer is capable of locking on all channels.

TX EXCITER AND POWER AMPLIFIER

Select channel 81 (455.0000 MHz).
Select low power.
Adjust R109 for 150 mW output.
Select medium power.
Adjust R103 for 1.5 W output.
Select high power.
Adjust R111 for 15 W output.

The following adjustment should only be performed after replacement of components in the power amplifier.

On channel 81 (455.0000 MHz) adjust L115 by bending it with an insulated tool for minimum current consumption while maintaining 15 W output (readjust R111).
Requirement: I $\leq$ 4.5 A (Typical 4.2 A).

TRANSMITTER MODULATION

Connect a signal sampler to antenna connector.
Connect a deviation meter through an attenuator and a signal generator to the signal sampler.
Select channel 81 (455.0000 MHz).
Select low power and 4 kHz ON.
Set the signal generator frequency to 465.0000 MHz, the output to 1 mV, the modulation to 4 kHz and ±300 Hz deviation.
Connect an AF voltmeter to U701 pin 10.
Note the AF voltage (0 dB).
Set the signal generator modulation frequency to 4.2 kHz and then 3.8 kHz.
Measure the AF voltage (0 - 6 dB attenuation).
Set the signal generator modulation frequency to 5.0 kHz and then 3.4 kHz.
Measure the AF voltage (attenuation at least 20 dB).
Set the modulation frequency to 4 kHz.
Adjust R721 for ±300 Hz frequency deviation as measured on the deviation meter.

Connect the AF generator to the TX line input, J701 pin 22 and turn it on.
Turn 4 kHz OFF.
Set the AF generator to 1 kHz and 1 V.
Adjust R726 for ±5 kHz deviation.

AGC CIRCUIT ADJUSTMENT

Mount CL600x in upright position by means of CL-board adaptor 95D5011-00 for access to the adjustment potentiometers.
Connect the AF generator to HS MIC, J701 pin 19.
Set the generator frequency to 1 kHz and the output to 100 mV.
Turn HS MIC on.
Turn R512 completely "anticlockwise".
Adjust R504 for ±3.5 kHz deviation
Increase the AF generator output to 200 mV.
Adjust R512 for ±4 kHz deviation.

CURRENT CONSUMPTION

Check the current consumption under the following conditions:

Receive; AF muted	: 0.5 A
Receive; AF = 6 W	: 1.2 A
Transmit 0.15 W	: 1.5 A
Transmit 1.5 W	: 2.5 A
Transmit 15 W:	: 4.5 A

DUPLEX FILTER

The duplex filter is factory adjusted to the receiver and transmitter pass-band and must not be readjusted.

RECEIVER

INSTRUMENT	TEST SETUP	TESTPOINT	ADJUST/CHECK	VALUE
VM1		TP5	CHECK	+8.5 V
VM1		J704-24	CHECK	+5V
VM1		J701-9	R951	5.5 V
VM1		TP7	CHECK	+8
FC		TP8	L650	8.06250 MHz
VM2		TP9	C601	+8.4 V (HIGH)
VM2		TP10	C601	4.5 V
SG	45 MHz/unmodulated	TP3		
AVM		J201-5	C413	Min. AF Voltage
FC		TP11	C413	455.000 kHz
SG	45 MHz/1 kHz/3 kHz R416 max.	TP3		
AVM		J201-5	L408	Max. AF Voltage
SG	45 MHz/umodulated	TP3		
VM1		TP4	L407	Max. voltage
SG	45 MHz/unmodulated Input 7.5 uV	TP2	L306, L503 L405, L404	
VM1		TP4		Max. voltage
SG	45.006 MHz/unmodulated Input 7.5 uV	TP2	L404, L405	
VM1		TP4		Max. voltage
SG	44.995 MHz/unmodulated Input 7.5 uV	TP2	L403	
VM1		TP4		Max. voltage
SG	45 MHz/1 kHz/3 kHz	TP2	Check	1.5 uV SINAD
DM			J201-5	
RPF + Vm	CH81	C322-C323	C321, C323	Max. voltage
FC	CH81	C322-C323	L850	510.0000 MHz
	CH82			
SQ	465.025 MHz/unmodulated 7.5 uV	ANT	C314, C312, C310 L360	
VM1		TP4		Max. voltage
VM1		TP1	C321, C323	Max. voltage

RECEIVER

INSTRUMENT	TEST SETUP	TESTPOINT	ADJUST/CHECK	VALUE
	CH82			
SG	465.025 MHz/4 kHz/3 kHz	ANT		
AVM		J201-5	R717	Min. voltage
SG	465.025 MHz/1 kHz/3 kHz	ANT		
AVM		J201-5	R416	100 mV r.m.s.
SG	CH01			
	463.0000 MHz/1 kHz/3 kHz	ANT	Check	
	CH81			20 dB SINAD
	465.0000 MHz/1 kHz/3 kHz	ANT	Check	
				0.8uV e.m.f.
	CH180			
	467.4750 MHz/1 kHz/3 kHz	ANT	Check	
SG	CH81/VOL=8			
	465.0000 MHz/1kHz/3 kHz	ANT		
	1 mV			
16 ohm		J701-23/J701-24		
AVM		J701-23/J701-24		>9.8 V (6 W)
SG	CH82			
	465.0250 MHz/unmodulated	ANT	R701	RSSI (3) = ON
	10 uV e.m.f.			
	3.16 uV e.m.f.		R707	RSSI (2) = ON
	0.8 uV		R711	RSSI (1) = ON

TRANSMITTER

INSTRUMENT	TEST SETUP	TESTPOINT	ADJUST/CHECK	VALUE
VM1		TP12	Check	+8.5 V
VM1		TP13	Check	+9.1 V
	CH95 455.3500 MHz/0.15 W			
RFW		ANT		
FC		TP14	L503	13.7500 MHz
VM2		TP9	C577	+7.9 V (HIGH)
VM2		TP16	C577	4.5 V
FC		TP15	L503	455.3500 MHz
	CH01 453.0000 MHz CH180 457.4750 MHz			
VM2		TP9	Check	+7.9 V (HIGH)
	CH81 455.0000 MHz			
RFW	Low Power	ANT	R109	0.15 W
	Med. power		R103	1.5 W
	High power		R111	15 W
	CH81			
DEVM	455.0000 MHz 0.15 W/4 kHz ON	ANT	R721	±300 Hz
SG	465.0000 MHz/4 Hz/300 Hz 1 mV	J301		
AFM		U701-10	Check	Reading= 0dB
	465.0000 MHz/4.2 kHz/300 Hz	J301	Check	Reading=0-6 dB
	465.0000 MHz/3.8 kHz/300 Hz	J301	Check	Reading=0-6 dB
	465.0000 MHz/5.0 kHz/300 Hz	J301	Check	Reading=-20 dB
	465.0000 MHz/3.4 kHz/300 Hz	J301	Check	Reading=-20 dB
AFG	1 kHz 4 kHz OFF	J701-22	R726	±5 kHz
AFG	1 kHz 4 kHz OFF	J701-19	R504	±3 kHz
AFG	1 kHz 4 kHz OFF	J701-19	R512	±4 kHz

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TEST POINTS

RF6662D15

TEST POINTS/POINTS TEST/MESSPUNKTE	
TP1	Front-end mixer injection level Niveau d'injection du mélangeur d'étage d'entrée Einspeiseniveau des Endstufemischers
TP2	45 MHz X-tal filter input Entrée du filtre á quartz de 45 MHz 45 MHz Kristallfiltereingang
TP3	X-tal filter output Sortie du filtre á quartz Kristallfilterausgang
TP4	RSSI detector DC input Entrée c. c. du détecteur RSSI Gleichspannungseingang des RSSI-Detektor
TP5	8, 5 Volt RX (Récepteur/Empfangen)
TP6	44. 545 MHz oscillator output Sortie de l'oscillateur de 44, 545 MHz 44, 545 MHz Oszillatorausgang
TP7	8. 0625 MHz ref-oscillator output Sortie de l'oscillateur de référence de 8, 0625 MHz 8, 062 MHz Referenzoszillatorausgang
TP8	Checking of 8. 0625 MHz frequency Contrôle de la fréquence de 8, 0625 MHz 8, 062 MHz Frequenzcontrolle
TP9	Lock detector Détecteur de verrouillage "Lock"-Detektor
TP10	RX VCO tuning voltage Tension d'accord du VCO du récepteur RX VCO Abstimmungsspannung
TP11	Second mixer (455 kHz) output Sortie du second mélangeur (455 kHz) Ausgang des Zweiten Mischers (455 kHz)
TP12	8. 5 Volt TX (Emetteur/Sender)
TP13	9. 1 Volt TX (Emetteur/Sender)
TP14	13. 75 MHz ref-oscillator output Sortie de l'oscillateur de référence de 13, 75 MHz 13, 75 MHz Referenzoszillatorausgang
TP15	TX VCO RF-output Sortie RF du VCO de l'émetteur RF-Ausgang des TX VCO's
TP16	TX VCO Tuning voltage Tension d'accord du VCO de l'émetteur TX VCO Abstimmungsspannung
TP17	Exciter RF-input Entrée RF de l'excitateur RF-Eingang des Steuersenders
TP18	Front-end filter output Sortie du filtre d'entrée Ausgang des Endstufefilters

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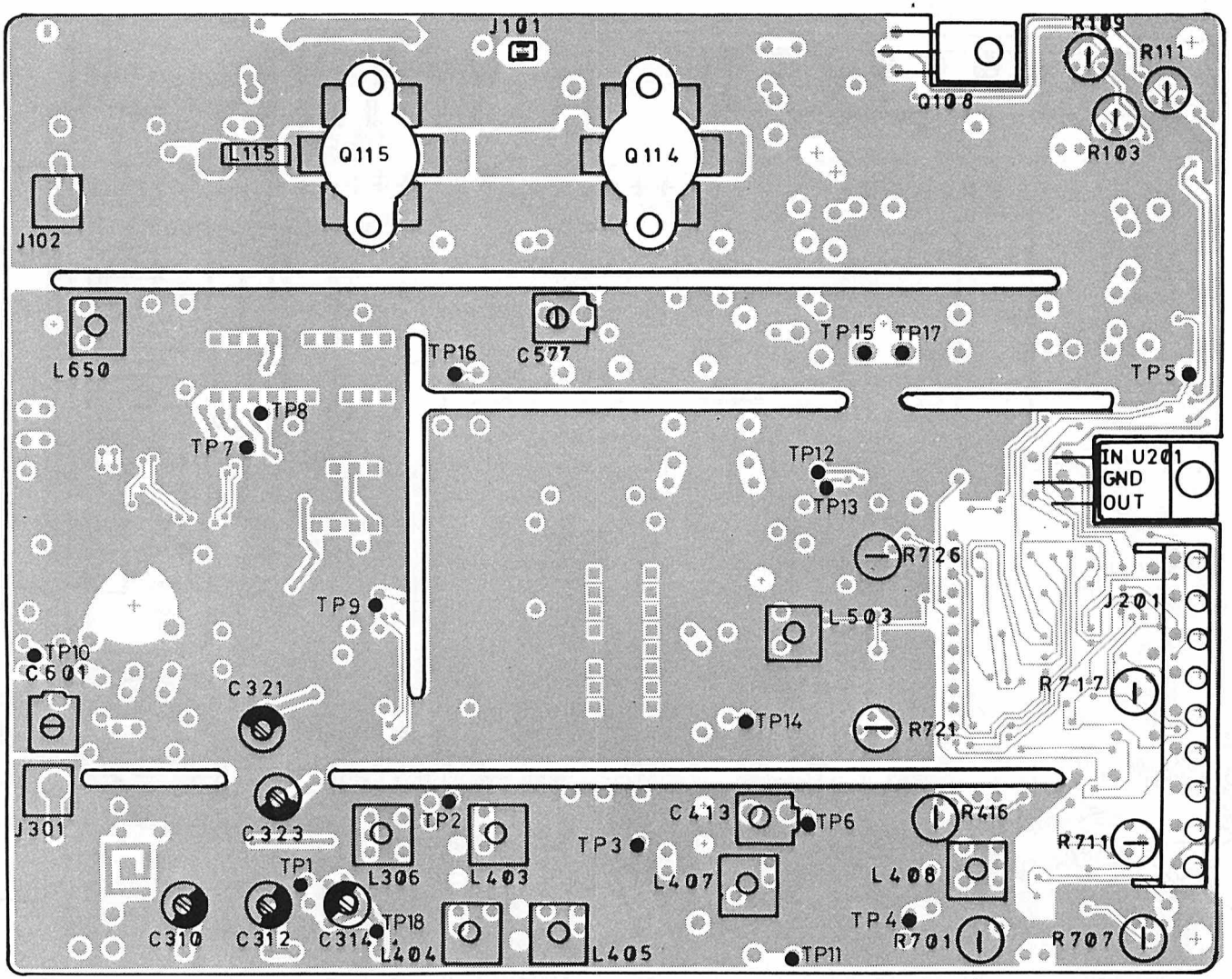

ADJUSTABLE COMPONENTS AND TEST POINTS
RF BOARD 6662
PWB REV. 3

M405.211/3

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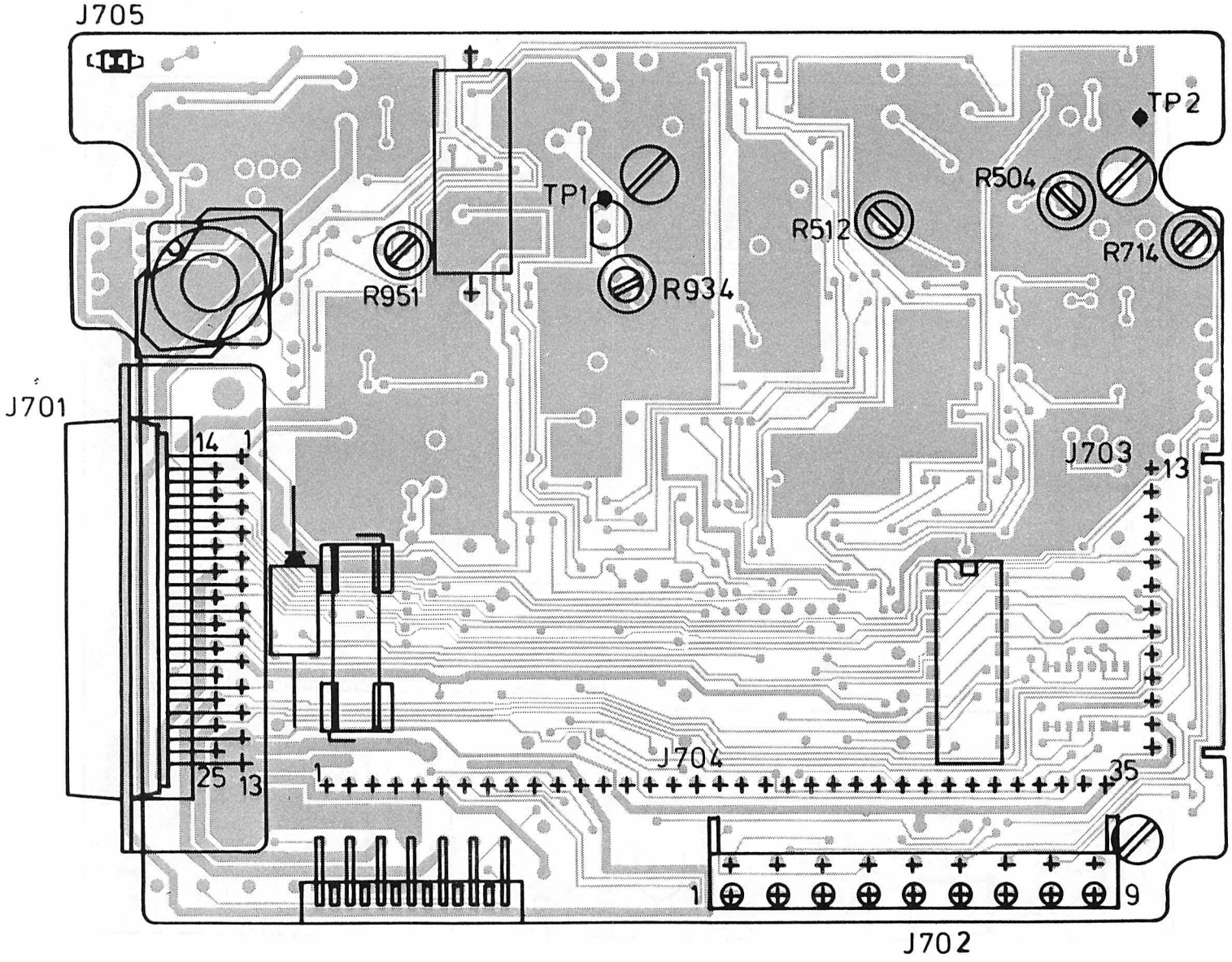

ADJUSTABLE COMPONENTS AND TEST POINTS
CF BOARD 6002
PWB REV. 3

M405.212/3

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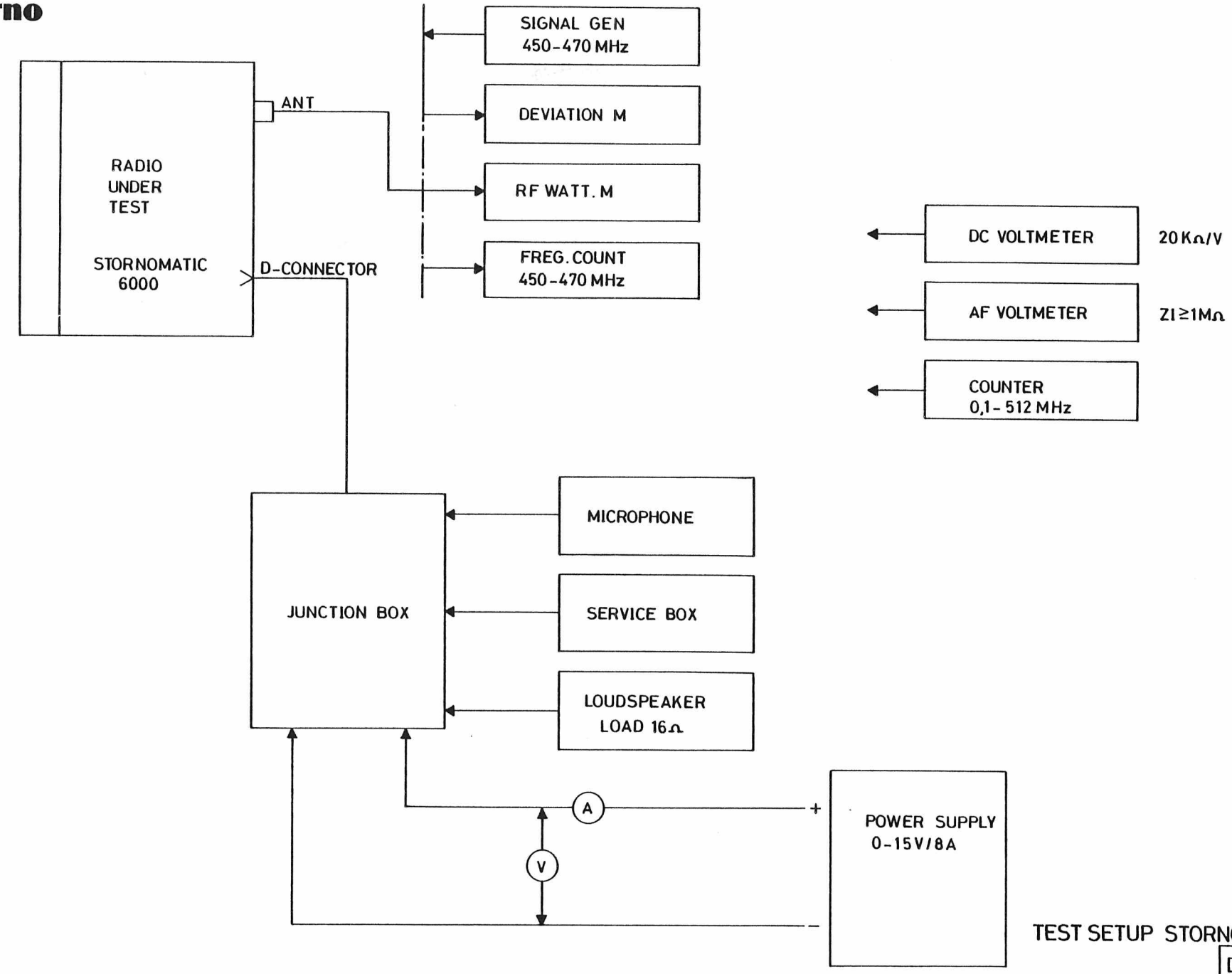

TEST SETUP STORNOMATIC 6000

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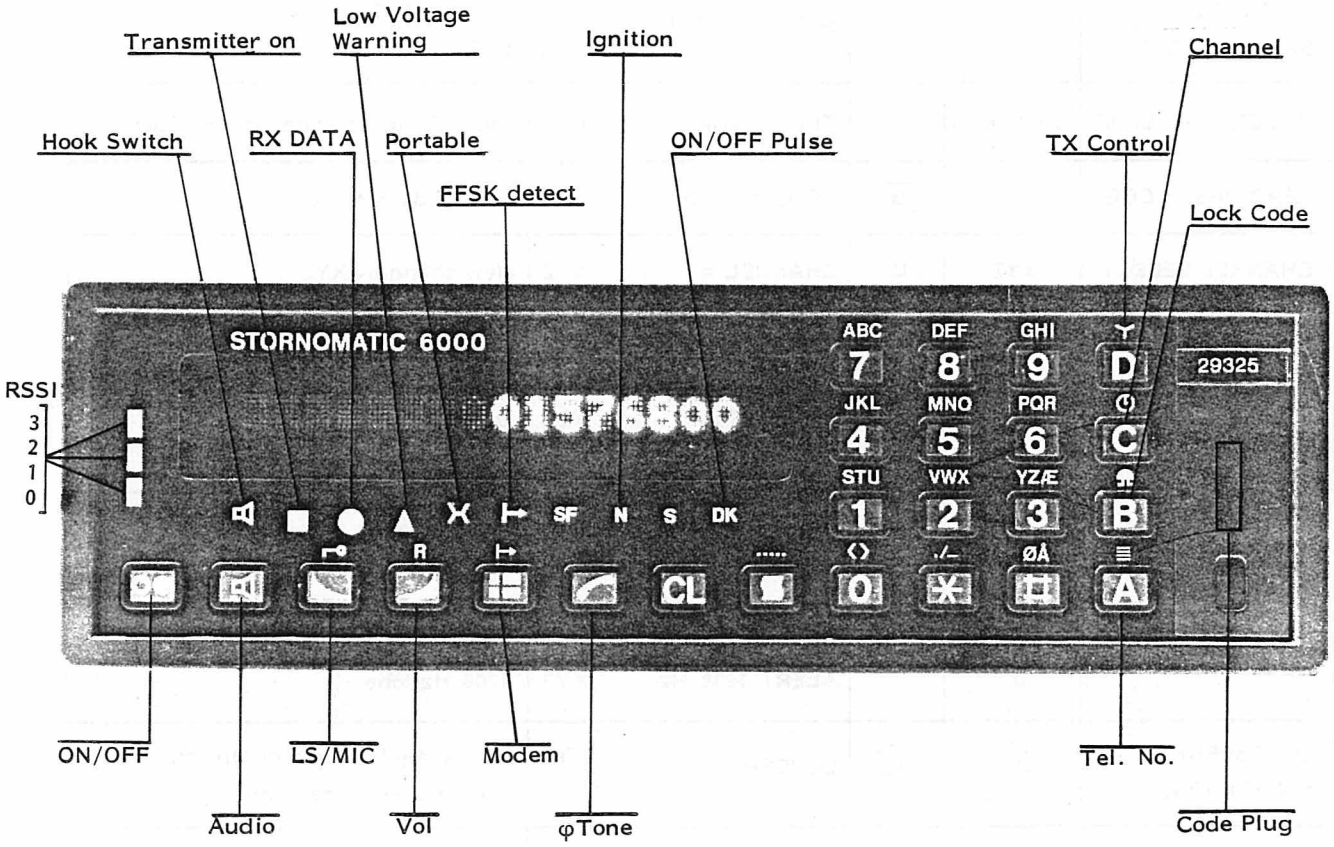
SERVICE MODE FUNCTIONS



Servicebox (DK/N/S/SF): 1:1

SERVICE MODE

During test and adjustment the STORNOMATIC 6000 the radio should be operated in Service mode.

A Service Box with code plug is used to invoke the service mode.

If the radio has its own control connected the service box can be connected in the junction box connector CB2 and it must then be strapped to address 21. If the radio has no control connected the service box must be strapped to address 20.

To invoke service mode connect the service box and turn the radio on.

Insert the code plug in the service box.

The radio responds with display: SERVICE MODE

FUNCTION	ENTER	PRESS	DISPLAY		REMARKS
TURN ON			5 6 7 8 9 0		Normal operation of the radio Display= Telephone number of radio
ACTIVATE SERVICE MODE			SERVICE MODE	8 1	INSERT CODE PLUG Default channel= 81
PROGRAM TEL. NO	ZXXXXXX	A	TEL NO LOAD	8 1	Store 7-digit number in EEPROM
READ PASS CODE		B	CODE = XXXX	8 1	Pass code read out
CHANNEL SELECT	XYZ	C	CHANNEL =	XYZ	New channel= XYZ
TRANSMITTER ON/OFF	1 2 3 0	D	TX ON . 15 W TX ON 1.5 W TX ON 15 W TX OFF	XYZ XYZ XYZ	Maximum transmit time= 30 sec. If ext. PTT button is used transmitter is continously ON
AUDIO PATCH SELECT	0 1 2 3 4		AUDIO MUTE HANDSFREE HANDSET ALERT 600 Hz ALERT 1200 Hz	XYZ XYZ XYZ XYZ XYZ	Audio muted Enable Handsfree audio path Enable Handset audio path 600 Hz alert tone 1200 Hz tone
LOUDSPEAKER MICROPHONE	0 1		LOUDSP = MIC	XYZ XYZ	Handsfree Microphone direction Loudspeaker direction
VOLUME SELECT	0 1 2 3 4 5 6 7		VOLUME = 0 VOLUME = 1 VOLUME = 2 VOLUME = 3 VOLUME = 4 VOLUME = 5 VOLUME = 6 VOLUME = 7	XYZ XYZ XYZ XYZ XYZ XYZ XYZ XYZ	Lowest volume level Highest volume level
MODEM	0 1		MODEM OFF MODEM ON	XYZ XYZ	FFSK Modem off FFSK Modem on
4 kHz PILOT TONE	0 1		4 kHz OFF 4 kHz ON	XYZ XYZ	

GENERAL SERVICE MODE REMARKS:

1: STATUS CHECK OF A FUNCTION - PRESS THE APPROPRIATE BUTTON FOR DISPLAY OF STATUS E.G. TEL. NO - PRESS [A] - DISPLAY: NUM = 5512104.

2: ACTUAL CHANNEL NUMBER IS ALWAYS DISPLAYED RIGHTMOST: XYZ

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PROGRAMMING INSTRUCTIONS

The Stornomatic 6000 personality data are programmed in a 2048 x 8 bit EE-PROM (Electrical Eraseable Programmable Read Only Memory).
The EEPROM is divided into the following main areas:

Address	000_H - 013_H:	Personality data
Address	014_H - $7CF_H$:	Short number library
Address	$7D0_H$ - $7D5_H$:	Accounting data
Address	$7D6_H$ - $7DB_H$:	Lock data
Address	$7DC_H$ -$7DF_H$:	NMT System data
Address	$7EO_H$ - $7EF_H$:	Spare

TELEPHONE NUMBER

The Telephone number consists of seven digits which are programmed in BCD code as follows:

ADDRESS (HEX)	DATA	
	High nibble	Low nibble
00	1. digit	2. digit
01	3. digit	4. digit
02	5. digit	6. digit
03	7. digit	0_H

The SERVICE MODE PROGRAM has a programming facility for entering the telephone number:

1. Turn the radio on with a Service box connected
2. Enter the telephone number (7 digits)
3. Press button (A)

USER PROGRAMMING

For programming of user functions as short number library, password, lock code, rate and currency, refer to OPERATING INSTRUCTIONS.

PERSONALITY PROM MAP

ADDRESS	DATA
000 001 002 003	7 digit telephone number
004	User function flags program 00_H
005	Time out timer
006	Keypad
007	Language
008	Currency
009 013	SPARE (00_H)
014 027	START OF SHORT No. 1. Byte 1. No. Last Byte 1. No.
028 7CF	END OF SHORT No. Last Byte 99. No.
7D0	RATE x 100
7D1	RATE x 10
7D2	RATE x 0.01
7D3	ACCUMULATED TIME x 256 n
7D4	x 10 n
7D5	x 1 min.
7D6	LOCK CODE
7D7	PASSWORD: No. of digits (0 = No password)
7D8	1. digit
7D9	2. digit
7DA	3. digit
7DB	4. digit
7DC	COUNTRY — NMT SYSTEM DATA PROGRAMMED BY SYSTEM
7DD	Y1Y2
7DE	ROAMING
7DF	RANDOM CHANNEL
7E0 7FF	SPARE (00_H)

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CHAPITRE
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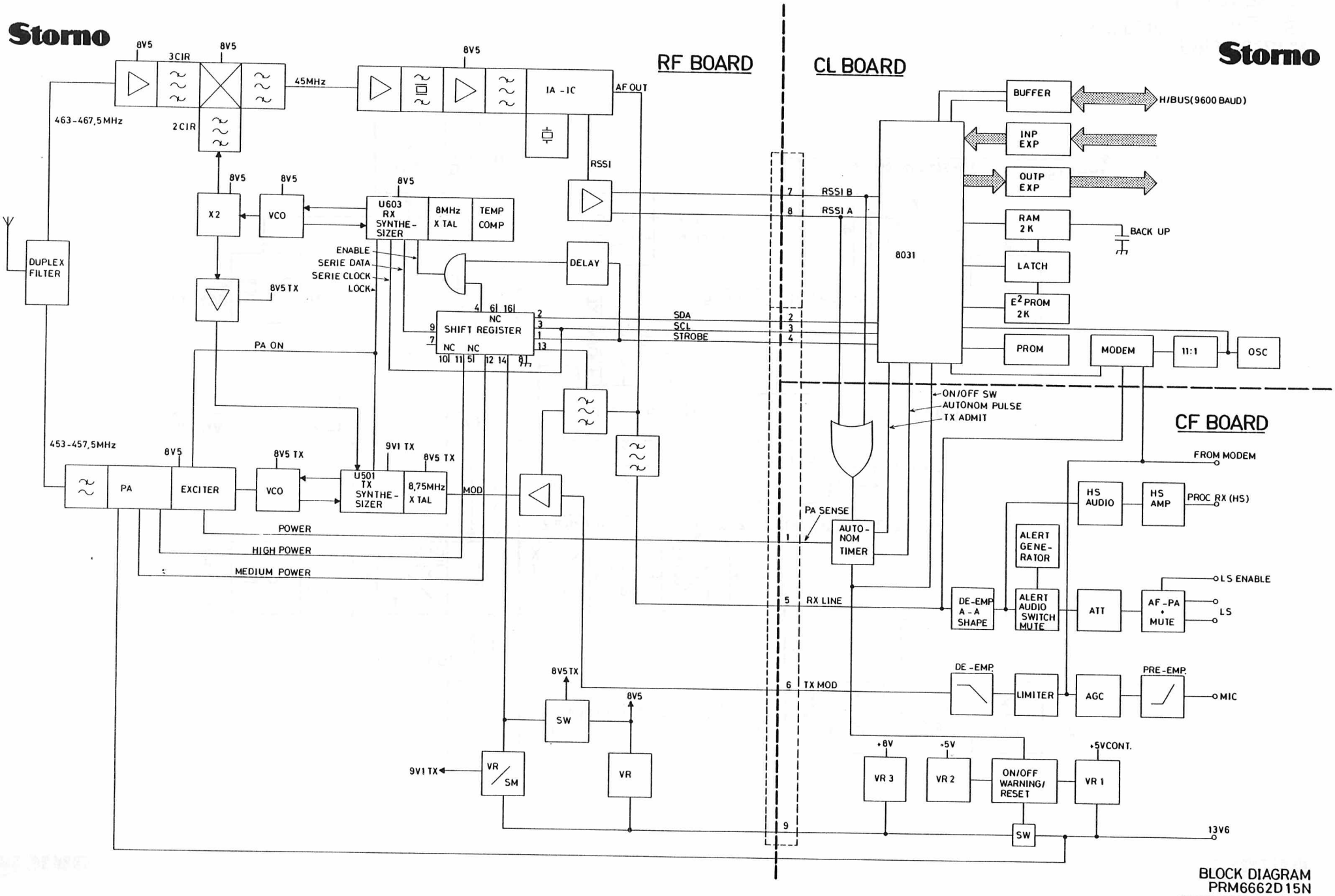
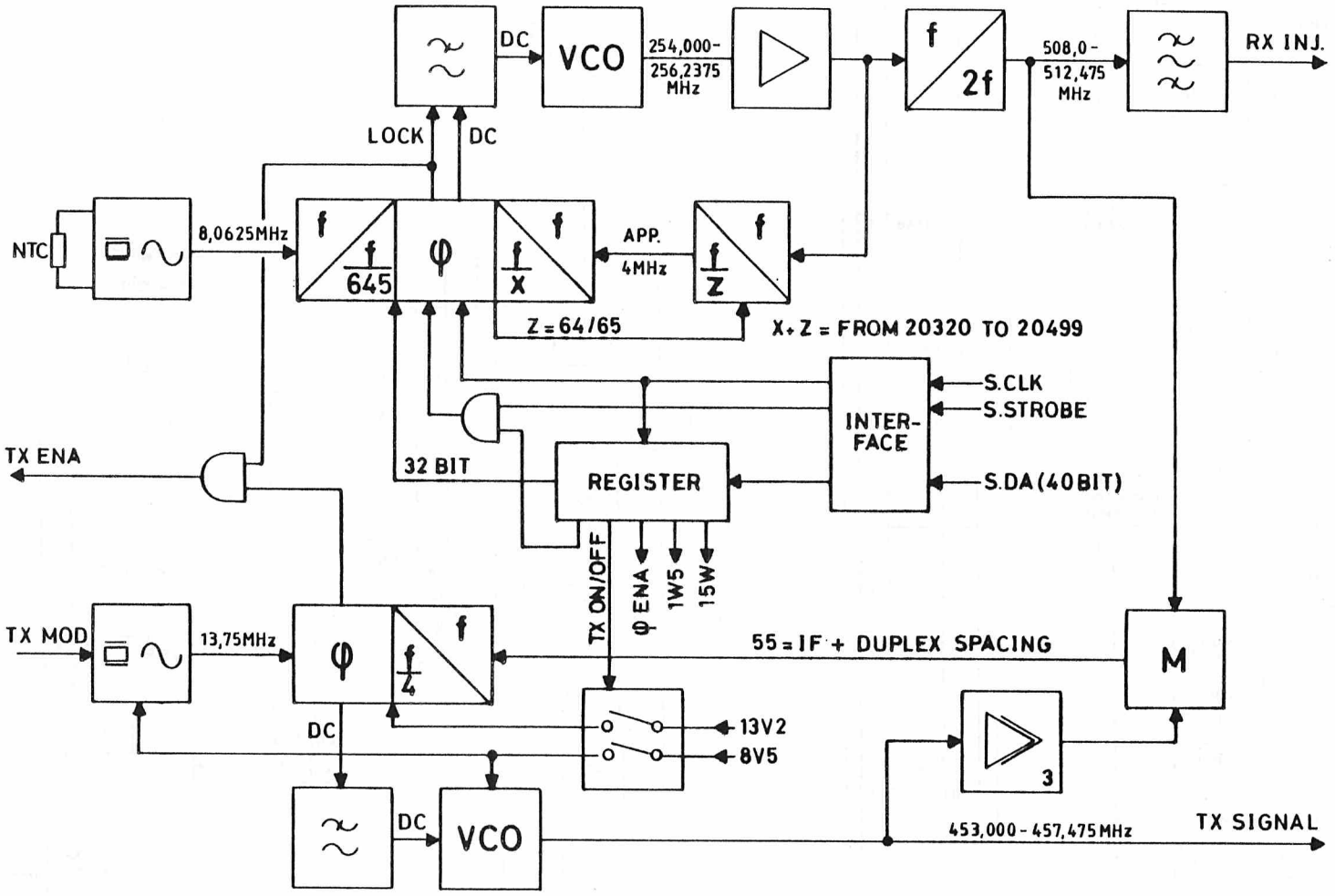


BLOCK DIAGRAM
PRM6662D15N

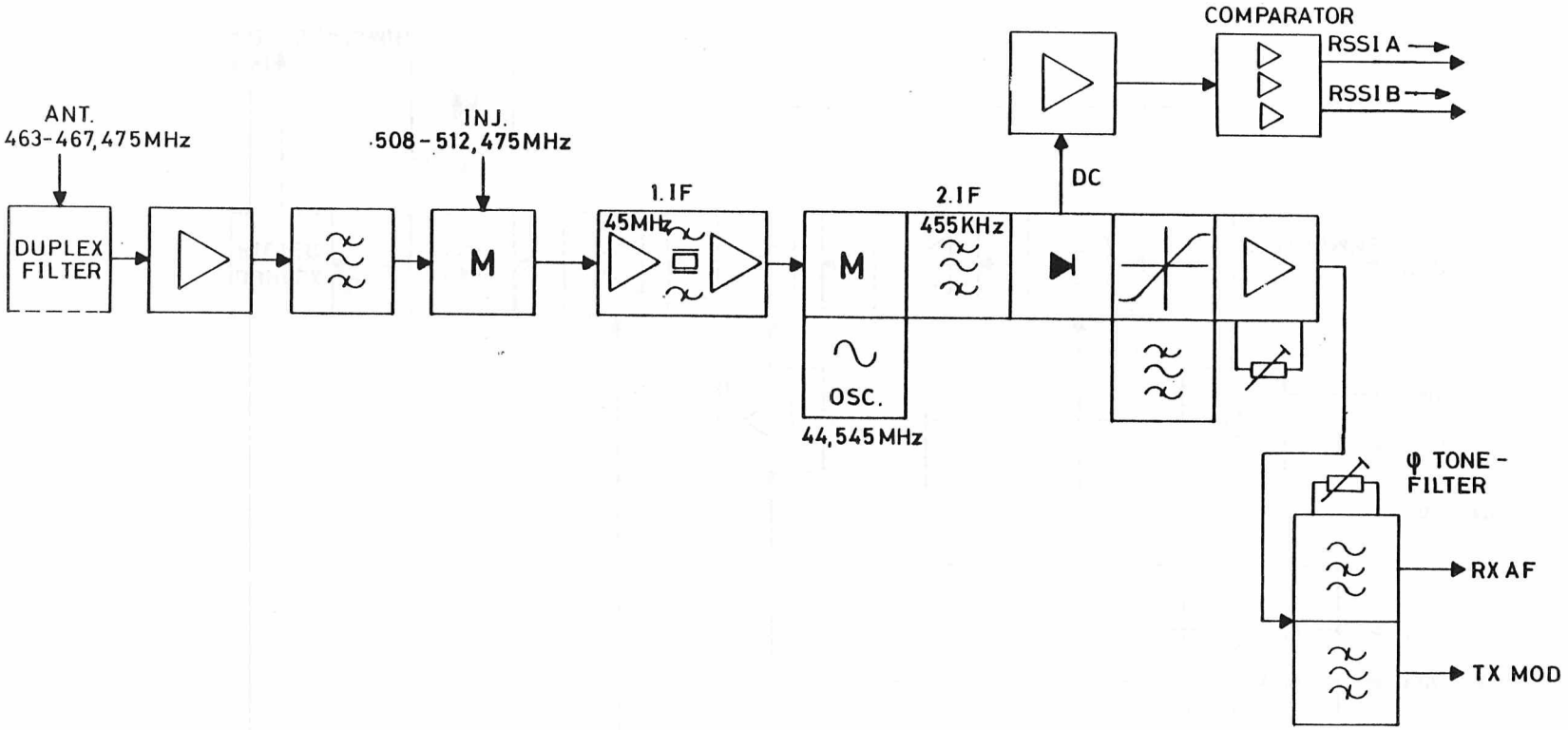
D404.030/2

Storno



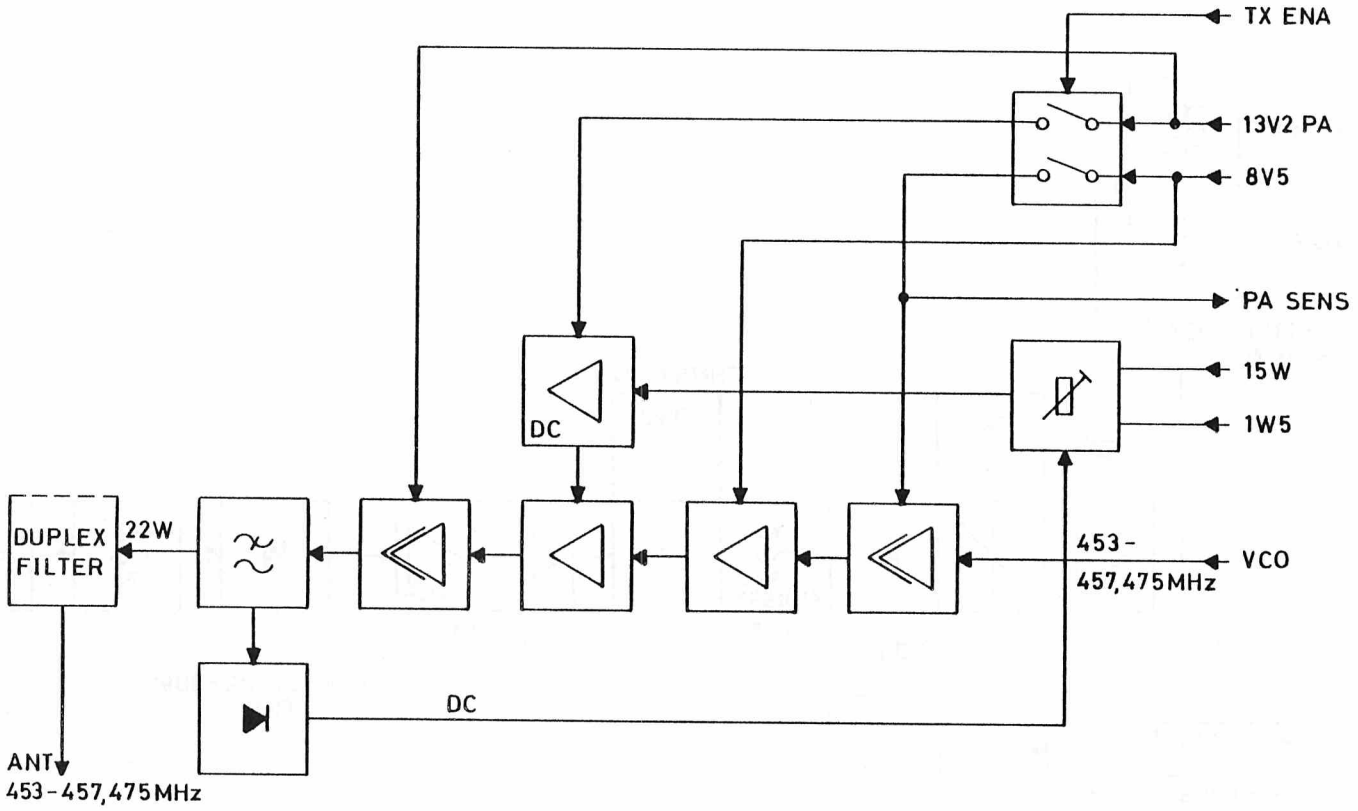
PRM6662D15N
BLOCK DIAGRAM SYNTHESE
D404.039/3

Storno



PRM6662D15N
BLOCK DIAGRAM RX
D404.040/3

Storno

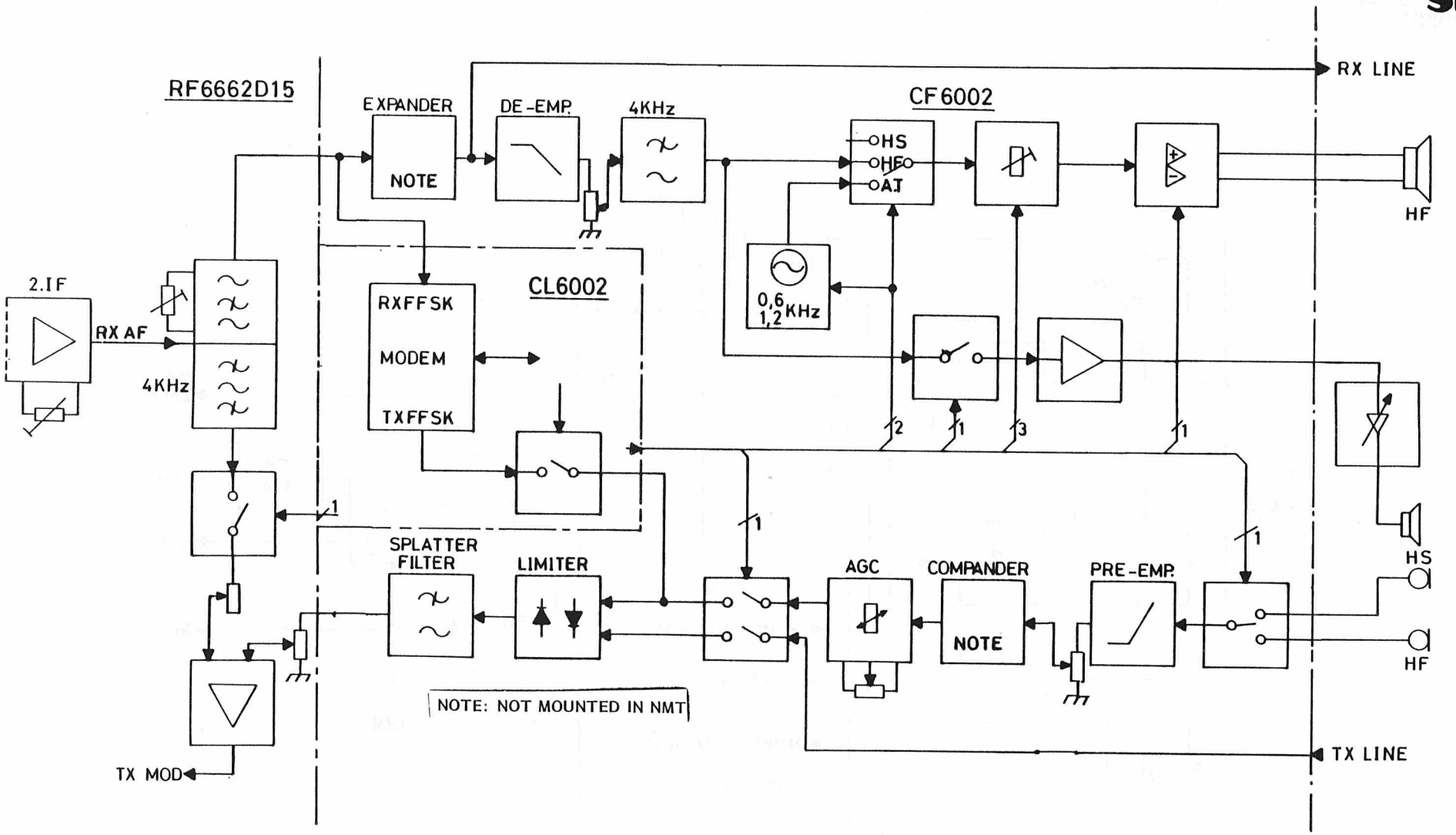


PRM6662D15N
BLOCK DIAGRAM TX

D404.041

Storno

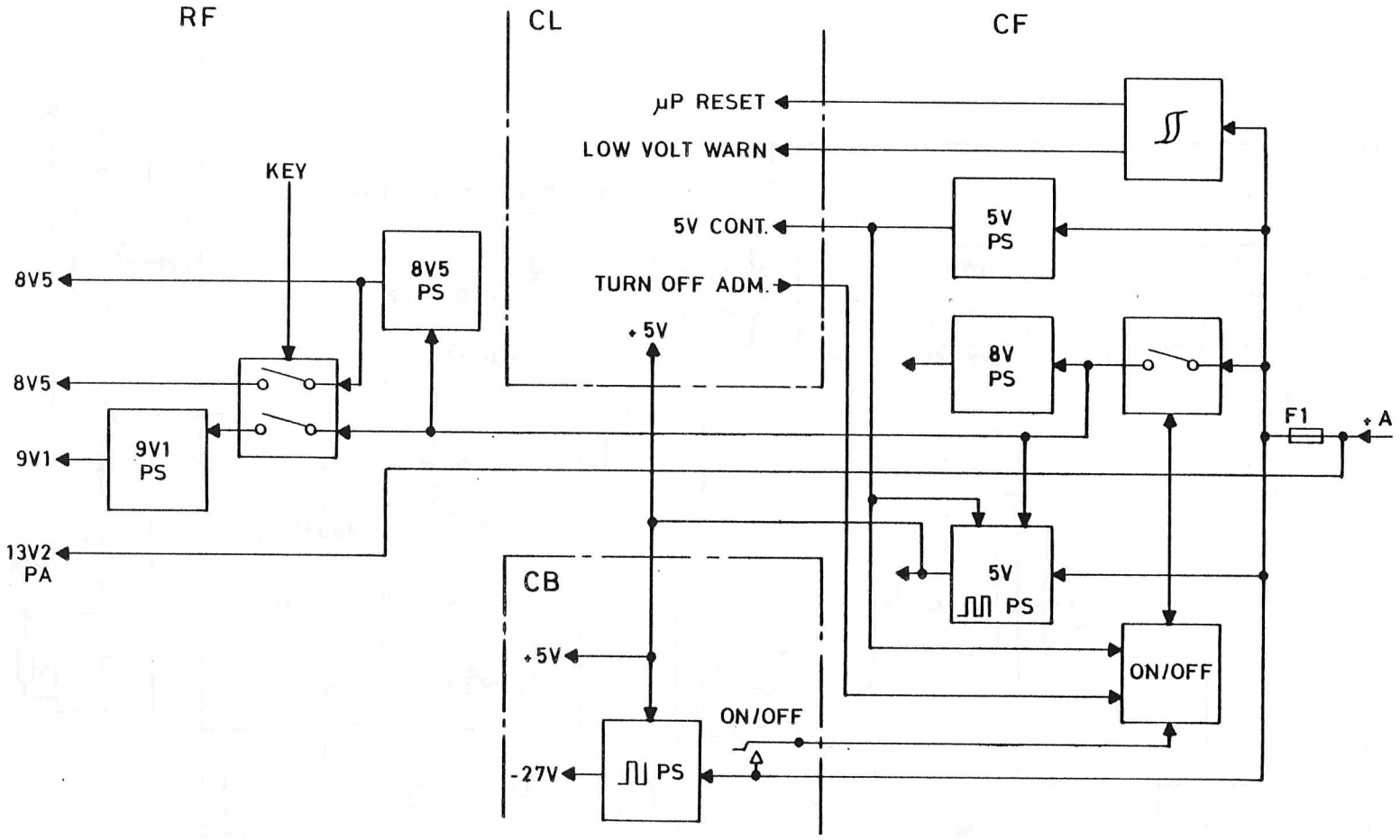
Storno



PRM6662D15N
BLOCK DIAGRAM AF SIGNALS

D404.042/2

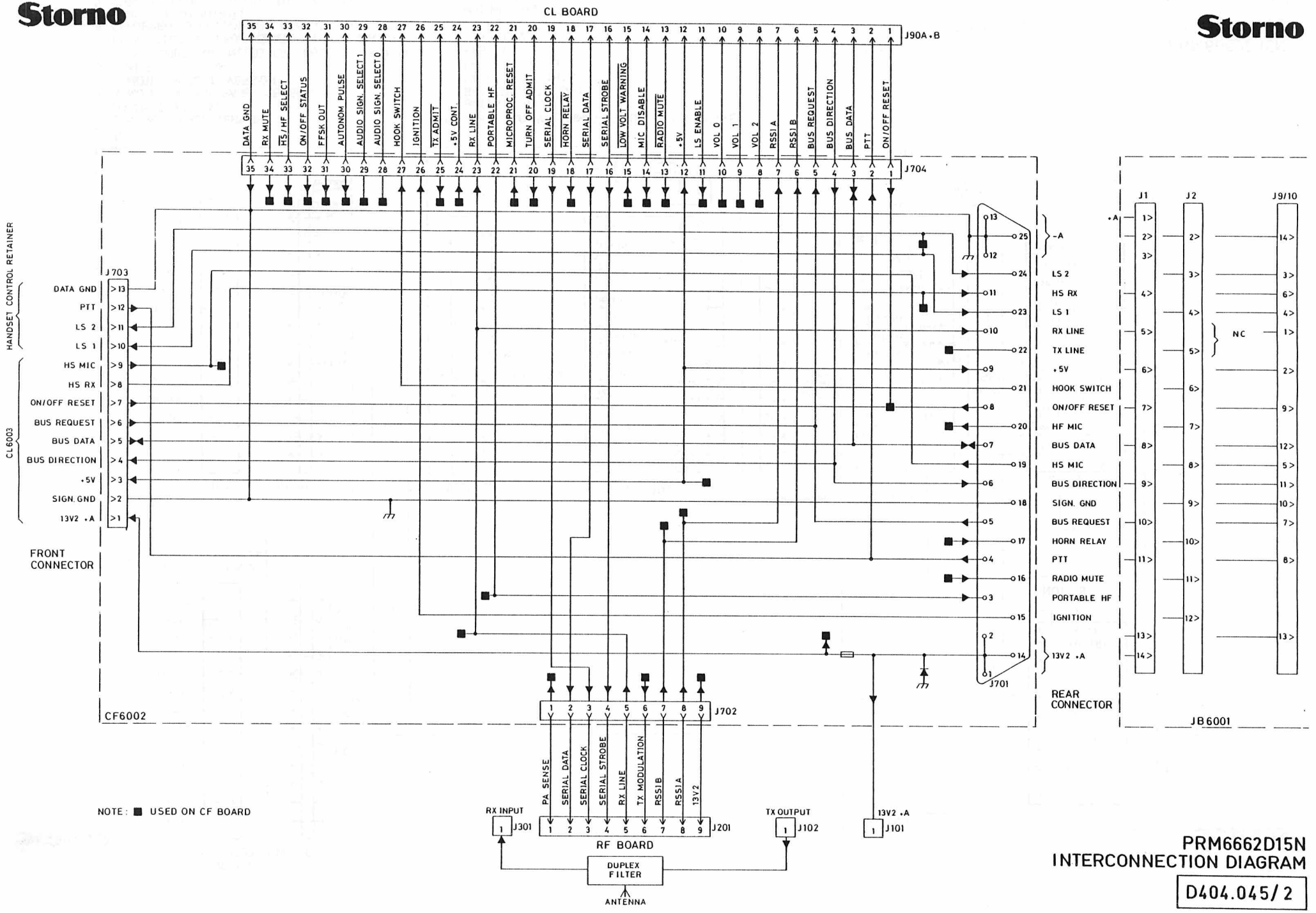
Storno



PRM6662D15N
BLOCK DIAGRAM POWER SUPPLY

D404.044

Storno



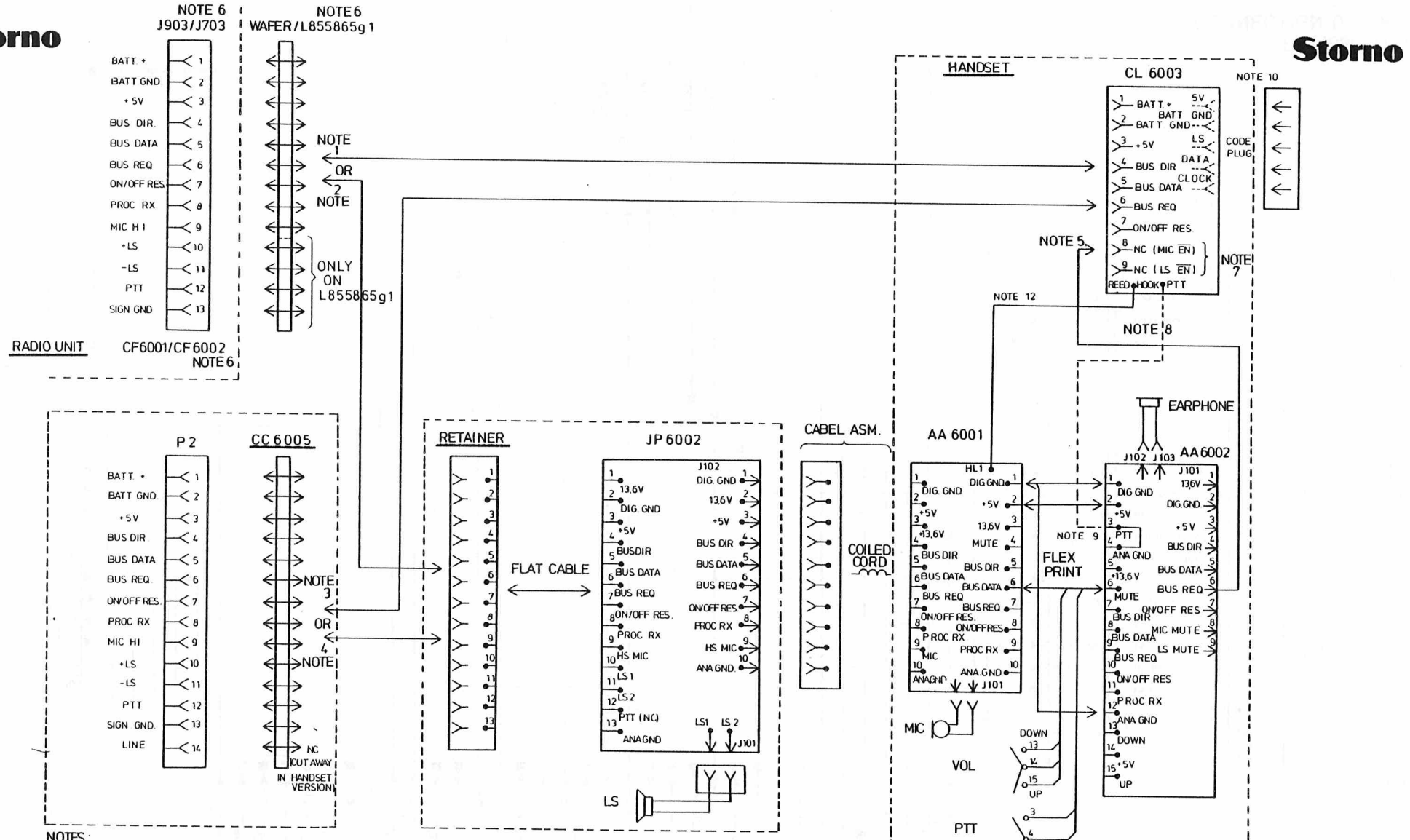
NOTE: ■ USED ON CF BOARD

Storno

PRM6662D15N
INTERCONNECTION DIAGRAM

D404.045/2

Storno



NOTES:

1. CONTROL PANEL VERSION.
2. HANDSET VERSION.
3. REMOTE CONTROL PANEL VERSION.
4. REMOTE HANDSET VERSION.
5. HANDSET VERSION.
6. J703, CF6002 AND FN6003 ARE USED IN THE NMT.
7. ONLY ACTIVE ON CL6003 BOARD IN NMT VERSION.
8. SOLDERED TO CL 6003 AND AA6002 IN STANDARD VERSION (NOT IN NMT.).
9. STRAPPED IN NMT VERSION. CUT THE WIRE IF PTT OR PRIVACY FUNCTION IS WANTED.
10. CODE PLUG ONLY USED IN CODE PLUG VERSION.
11. THE FOLLOWING NAMES STANDS FOR THE SAME:
    BATT.+ ~ 13.6V
    BATT.GND~ DIG. GND.
    MIC.$\overline{EN}$ ~ MIC. MUTE
    LS $\overline{EN}$ ~ LS MUTE
    +LS ~ LS1
    -LS ~ LS2
    SIGN. GND. ~ ANA. GND.
    MIC. HI ~ HS MIC ..
12. WIRE FOR HOOK SWITCH. SOLDERED ON CL 6003 AND AA6001.

PRM6662D15N
INTERCONNECTION DIAGRAM CB/RADIO

D404.046/2

CHAPTER
CHAPITRE
KAPITEL

5

Storno

5

CHAPTER
CHAPITRE
KAPITEL

RF6662D15

RADIO FREQUENCY BOARD

RECEIVER

The encircled numbers in the text refer to the numbered parts on the electrical drawing. The receiver is a dual conversation superheterodyne receiver with first IF on 45 MHz and second IF on 455 kHz. The injection is made by a synthesizer.

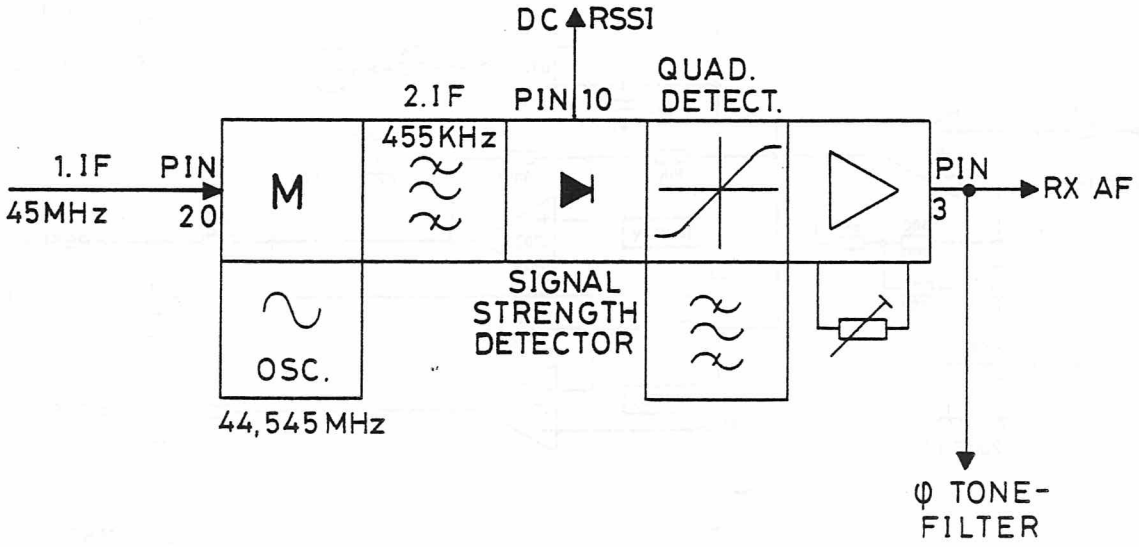
① RECEIVER FRONT-END AND FIRST IF

The front-end consists of a grounded emitter bipolar transistor RF amplifier Q301, a three resonator filter, a JFET mixer Q302, and a junction buffer amplifier Q401, which makes a constant load to the mixer and impedance matching to the crystal filter. The signal at the output of the three resonator filter is measured at test point TP18. There is used lower side injection, filtered by a two resonator bandpass filter. The crystal filter output is measured at TP3.

The injection level on front-end mixer is measured at test point TP1. These resonators, and the three in the front-end, are made by a printed coil and a variable capacitor for tuning. The RF bandwidth (3 dB) is approx. 12 MHz. The rest of the selectivity is made by the duplex filter, which is a bandpass type. The first IF frequency is 45 MHz, measured at test point TP2.

The output from the two stage monolithic crystal filter is fed to a dual gate MOSFET amplifier. The purpose is to overcome the noise figure of the following stages while providing a constant load to the crystal filter with varying signal levels.

② SECOND IF AND DEMODULATOR



U401 BLOCK DIAGRAM

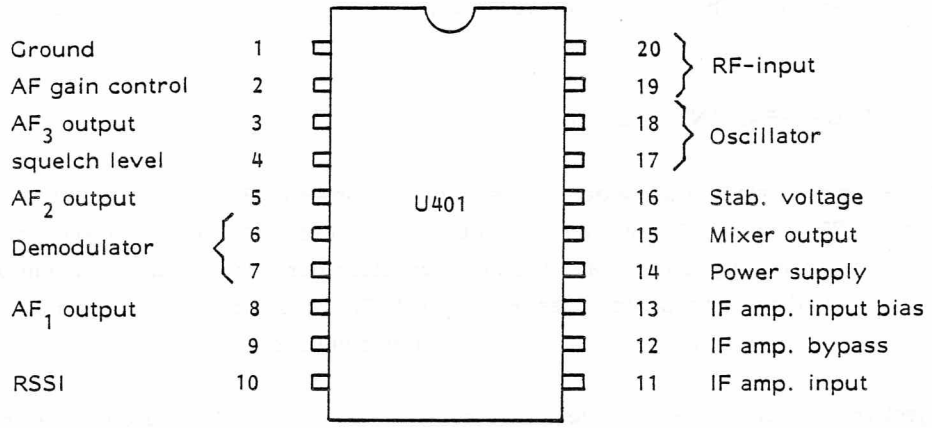
The second IF is build around an IC which includes crystal controlled second oscillator, active mixer, 455 kHz limiter amplifier, signal strength indicator and quadrature detector.

The output of the signal strength detector is used for the RSSI (Received Signal Strength Indicator is a DC voltage output dependent on the receiver input level). The DC input to the RSSI detector is measured at TP4.

The output from the crystal oscillator (44.545 MHz) is measured at TP6.

The output from the second mixer (455 kHz, second IF) is measured at TP11.

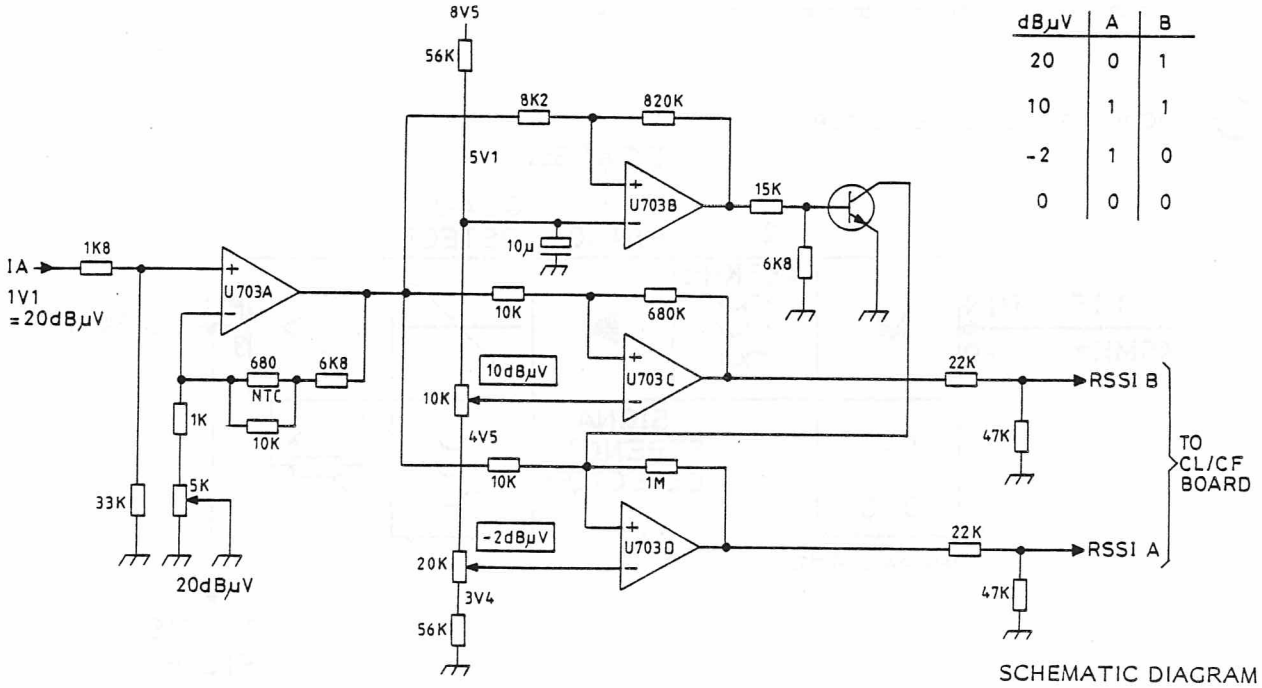
The selectivity of the 455 kHz IF amplifier is made by a ceramic filter (Z402).



U401 PIN CONFIGURATION

③ RSSI DETECTOR

The output from the RSSI detector is a two bit logic output in Gray-code. The RSSI detector consists of quad operational amplifiers, one transistor and some passive components.



dBµV	A	B
20	0	1
10	1	1
-2	1	0
0	0	0

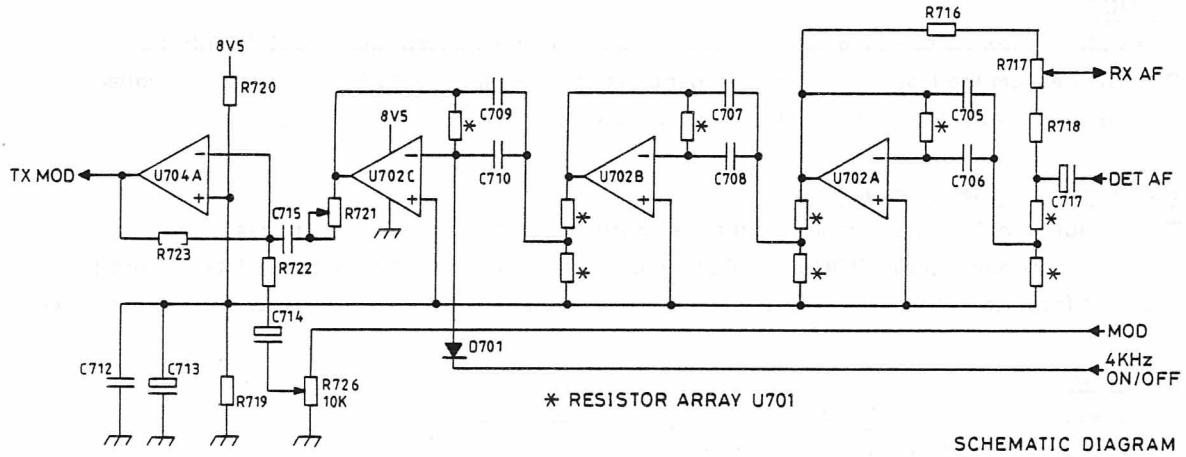
SCHEMATIC DIAGRAM

The RSSI gets a DC-signal from the IA-IC, which is proportional to the antenna signal level. The DC-voltage is amplified in the first OP-AMP (703A). Then the voltage is supplied to the other 3 OP-AMP's (703B, 703C, 703D), which are coupled as comparators. The treshold voltages for these comparators are generated by a simple voltage divider. The three levels are adjusted so that shifts occurs at antenna levels on:

-2 dB/uV emf.
+10 dB/uV emf.
+20 dB/uV emf.

(4) 4 KHz BANDPASS FILTER

The supervisory signal of 4 kHz is picked up at the discriminator output (U401, pin 3) and fed to the modulation amplifier through a bandpass filter. This filter is designed with three operational amplifiers (U702A, U702B, U702C), a thick film resistor array (U701) and six capacitors (C705.....C710). The three stage stagger tuned filter need no tuning.



The first stage of the filter also works as a notch filter for the 4 kHz signal. The output signal of U702A is in counter phase to the input signal of DET AF and is levelled over the potentiometer R717.

SYNTHESIZER CIRCUIT

Because of the duplex operation, the synthesizer is split up in two phase locked loops. The RX-FS is a real frequency synthesizer, and the TX phase locked loop (TX-PLL) makes a constant frequency offset to the RX injection.

RX FREQUENCY SYNTHESIZER

The basic synthesizer is a narrow band single loop system with low power dual modulus prescaling. A low noise voltage controlled oscillator (VCO) is locked to a temperature compensated crystal controlled oscillator. A circuit disables the transmitter, when synthesizer is out of lock.

(5) Reference oscillator

The overall frequency stability of the radio is set by this oscillator. It is a Colpitts configuration using a bipolar transistor (Q651) and a fundamental mode crystal (Y601), working on 8.0625 MHz serial resonans. The temperature stability of the frequency is analogly compensated by three NTC's (R658-R659-R662). The frequency is fine-tuned by an RF coil (L650). The output from the reference oscillator is measured at TP7.

The output signal is buffered with a grounded base amplifier (Q650) and then fed to the reference divider in the synthesizer chip (U603, pin 2).

(6) RX VCO

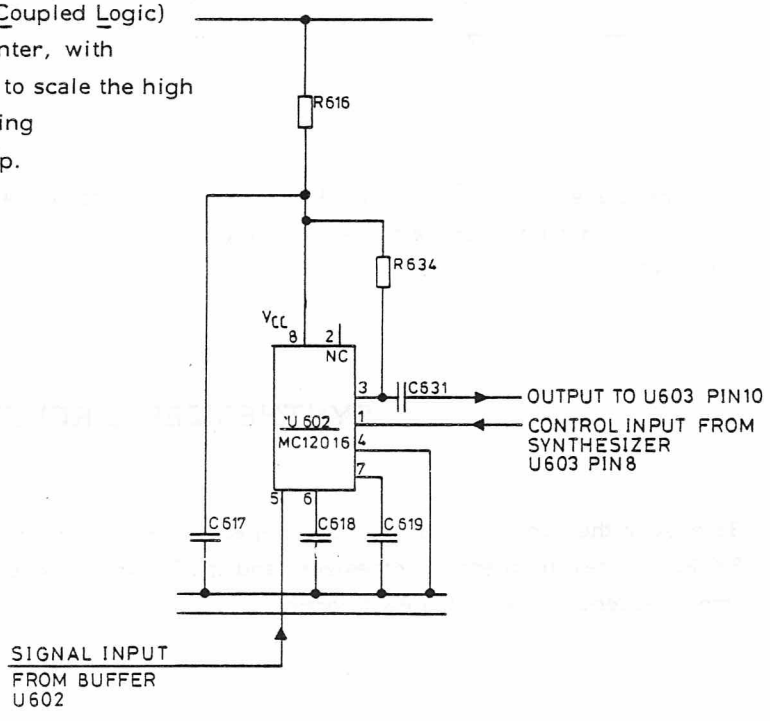
The VCO is a low noise FET oscillator (Q601) tuned by one varicap diode (D601) with the DC-voltage from the loop filter. The frequency is from 254 to 256.250 MHz. The tuning voltage coming from the analog switch U605 is measured at TP10.

(7) Buffer and Frequency doubler

The output signal passes through a buffer amplifier (Q602)and from there it goes through a frequency doubler (Q603, D602a, D602b)) and a buffer amplifier (Q604) to the TX-PLL and the receiver front-end. From the emitter of the doubler a part of the signal goes back to the prescaler.

(8) Prescaler

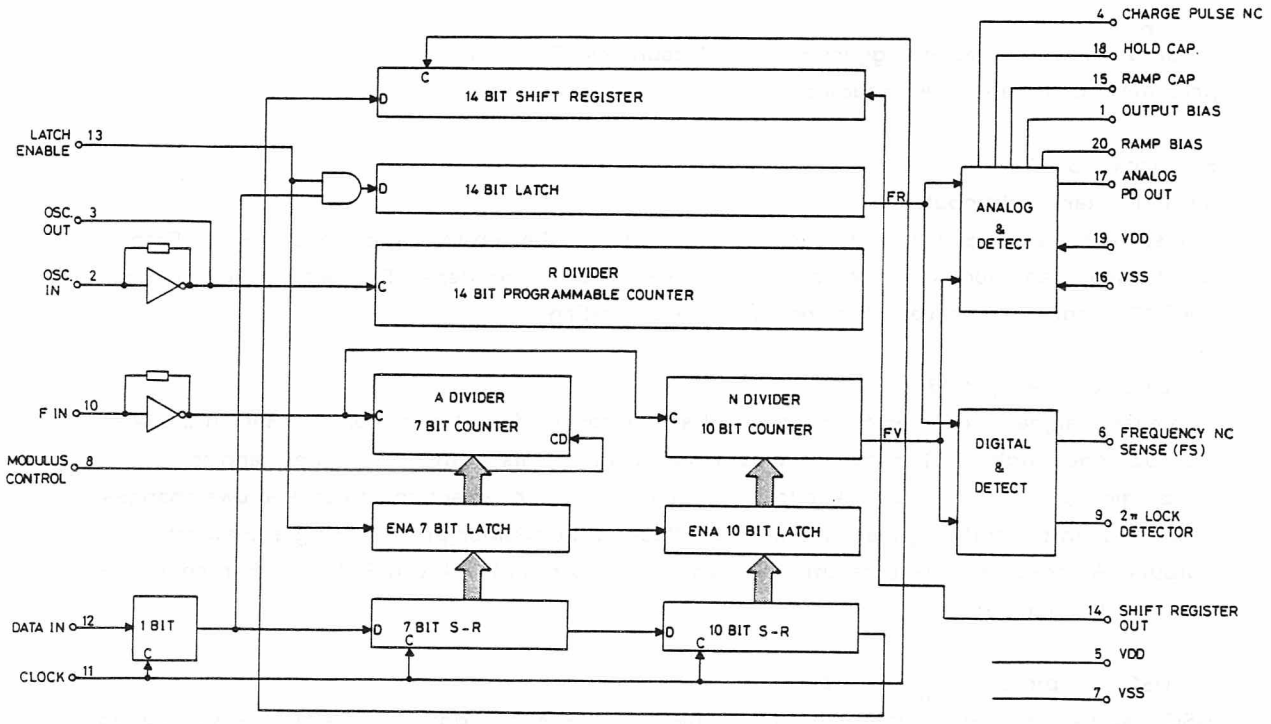
The prescaler is an ECL (Emitter Coupled Logic) dual modulus 64/65 frequency counter, with low power consumption. It is used to scale the high VCO frequency down to the operating range of the CMOS synthesizer chip.



⑨ Synthesizer

The synthesizer chip contains:

Reference divider (by 1 to 16383).
Variable divide by N (N = 1 to 1023).
Variable divide by A (swallow by 1 to 127).
Sample and hold phase detector.
Digital frequency detector.
Out of lock detector.
Dual modulus control.
Serial data loading.
Internal 31 bit latch.



BLOCK DIAGRAM U603

1. Data in - pin 12

The Data is presented on the Data input at the time of the positive clock transition. The Data input provides programming information for the 10 bit + N counter, the 7 bit + A counter, the 14 bit + R counter, and the 1 control bit. The N counter and A counter are latched when the control bit is low and the enable line is high. All counters are latched when the control bit is high and the enable line is high.

2. Lock detect - pin 9

Output B Series Drive Capability.

The output will be high during lock and go low to indicate a non-lock condition. The non-lock condition may be nearly a continuous low or pulses to low. The frequency and duration of the non-lock pulses will be the same as either polarity of the freqyency sense output.

3. Modulus control - pin 8

Signal generated by the on chip control logic circuitry for controlling an external dual modulus prescaler. The modulus control level will be low at the beginning of a count cycle and will remain low until the ÷A counter has counted down from its programmed value. At this time, modulus control goes high and remains high until the ÷N counter has counted the rest of the way down from its programmed value (N - A additional counts since both ÷N and ÷A are counting down during the first portion of the cycle). Modulus control is then set back low, the counters preset to their respective programmed values, and the above sequence repeated. This provides for a total programmable divide value (N_T) = N.P + A where P + 1 and P represent the dual modulus prescaler divide values respectively for low and high modulus control levels; N the number programmed into the ÷N counter and A the number programmed into the ÷A counter.

4. F_{in} - pin 10

Input to the positive edge triggers ÷N and ÷A counters. F_{in} is derived from the dual modulus prescaler (U602) and is AC coupled.

5. Clock - pin 11

Shift register clock input.

The serial clock comes from the microprocessor U907 on the control logic board CL6002. Each low-to-high transition clocks one bit into the on-chip shift registers. The data is presented on the DATA input at the time of the positive clock transition.

6. Latch enable - pin 13

The enable signal is derived from the serial strobe coming from the microprocessor on the board CL6002. When high ("1") transfers contents of the shift register into the latches, and to the programmable counter inputs. Whe low ("0") inhibits the above action and thus allows changes to be made in the shift register data without affecting the counter programming and switch outputs. An on-chip pull-up establishes a continuously high level forn ENABLE when no external signal is applied.

7. OSC_{out} - pin 3, OSC_{in} - pin 2

OSC_{in} serves as input for the externally-generated reference signal. This signal is AC coupled to OSC_{in}.

8. Ramp cap - pin 15

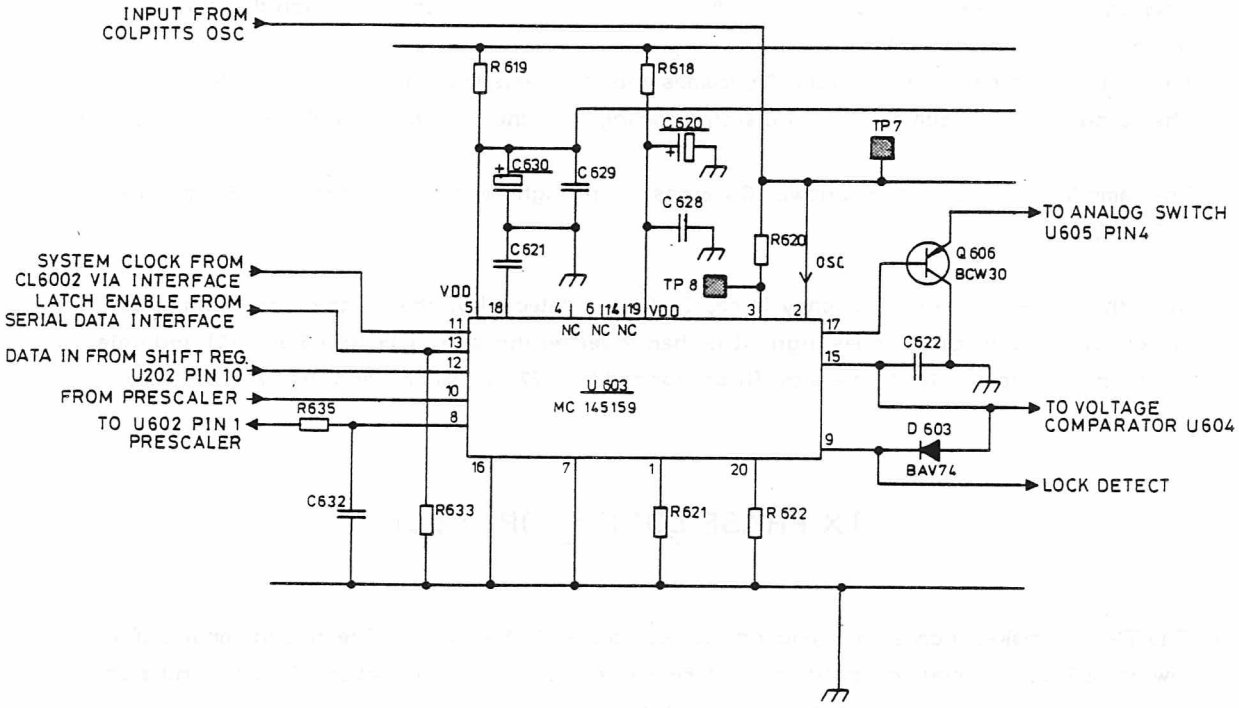
This is the external connection for the ramp capacity C622 for the sample and hold circuit.

9. Analog PD out (Ramp) - pin 17

In lock, this output delivers DC voltage to the RX VCO.

When out of lock, the ramp voltage passes through the loop filter before being fed into the RX VCO.

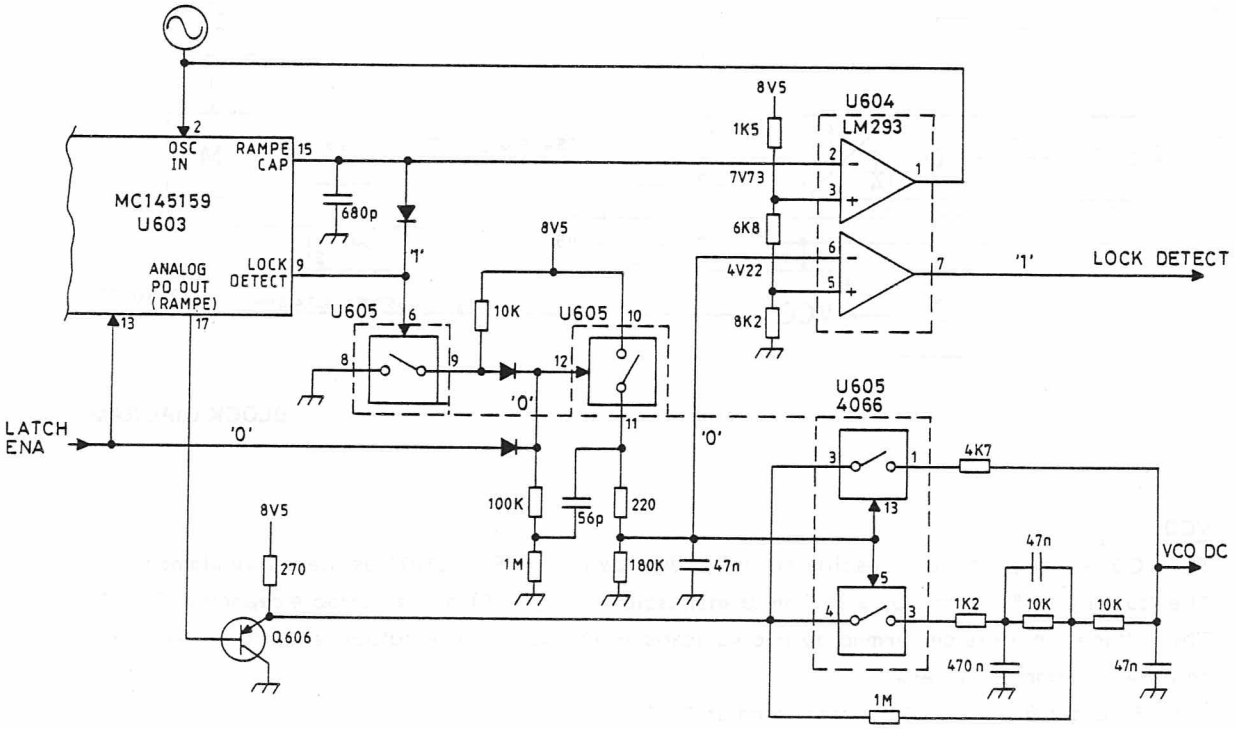
The frequency information comes from the CL6002 via the internal serial bus, and is loaded into the latches as a 32 bit block. This data sets up the counter ratios for generating the right output frequency. The phase detector compares the divided frequencies and controls the VCO through an external charge pump and the loop filter.



The reference frequency of 8.0625 MHz is checked at TP8.

(10) Loop filter

The loop filter is a normal passive filter with a narrow bandwidth, so that the output noise performance is set by the VCO only. Two bilateral switches (U604, U605) are used to bypass some of the loop components to speed up the lock in time of the synthesizer.



SCHEMATIC RX SYNTHESE

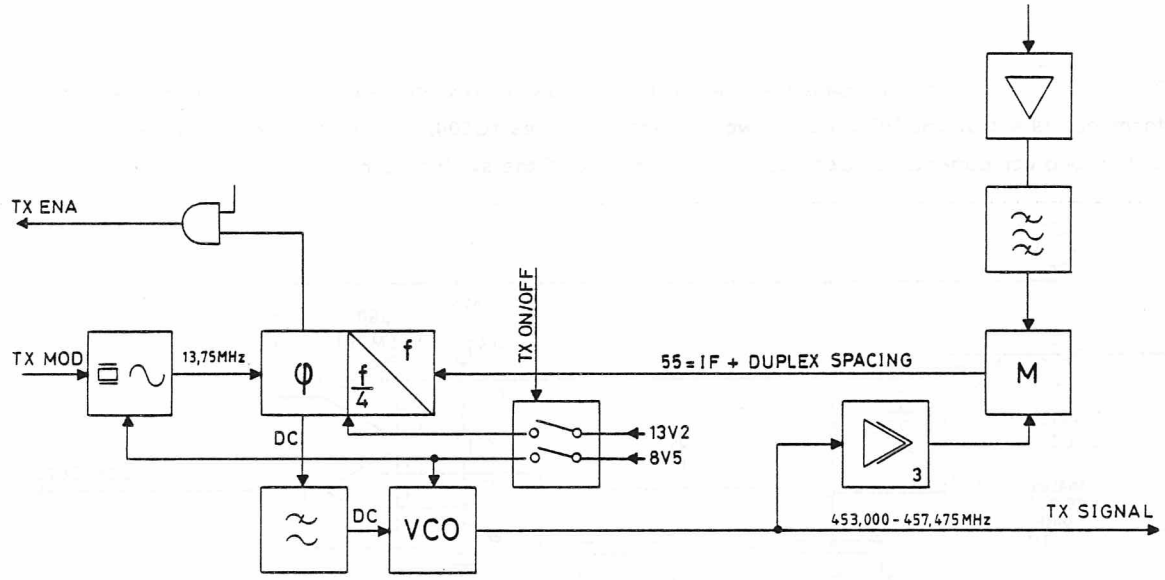
The RX Synthesis has no build-in saw tooth ramp, it is done by an external circuitry.
When the synthesizer is out of lock (pin 9 = "0"), a low voltage passes through the diode D603 and discharges the capacitor C622.
The voltage at comparator U604 pin 2 becomes app. the same than at pin 3, about 7 V.
The output pin 1 of U604 disables the signal coming from the reference oscillator (at U603 pin 2).

The ramp VCO at the emitter follower Q606 passes through the fast loop filter (U605 pin 2 and 4) to RX VCO.

When the wanted channel frequency is reached, it is detected by the synthesizer and the lock detect output (U603 pin 9) goes high. It is then inverted through U605 (pin 6 and 12) and delayed. It switches the loop filter to the slow filter, formed by R627 (1 Mohm) and the 47 n capacitor.

TX PHASE LOCK LOOP (PLL)

The TX-PLL makes a constant frequency off-set to the RX-FS output. The circuit consist of a low noise VCO, 3 isolation amplifiers, reference oscillator with modulation, 1 buffer and a chip with divide by 4, phase detector and loop filter.



BLOCK DIAGRAM

(11) VCO

The VCO is a clapp-type LC oscillator with a dual gate MOSFET (Q507) as the active element.
The "tuning coil" is made by a 95 Ohm transmission line (W570) and a variable capacitor (C577).
The voltage tuning is performed by two varicaps (D502-D503). The output is fed to the exciter and the isolation amplifiers.
The RF output from the VCO is measured at TP15.

⑫ Isolation amplifiers

The three isolation amplifiers Q505, Q506 and Q504 are neccessary to avoid that the RX-injection signal passes through the mixer and causes spurious at the TX output.

⑬ Mixer

Q503 is a bipolar with base injection. The output (55 MHz), which is the difference between the RX injection and the VCO output, goes to the counter in the chip U501, pin 15.

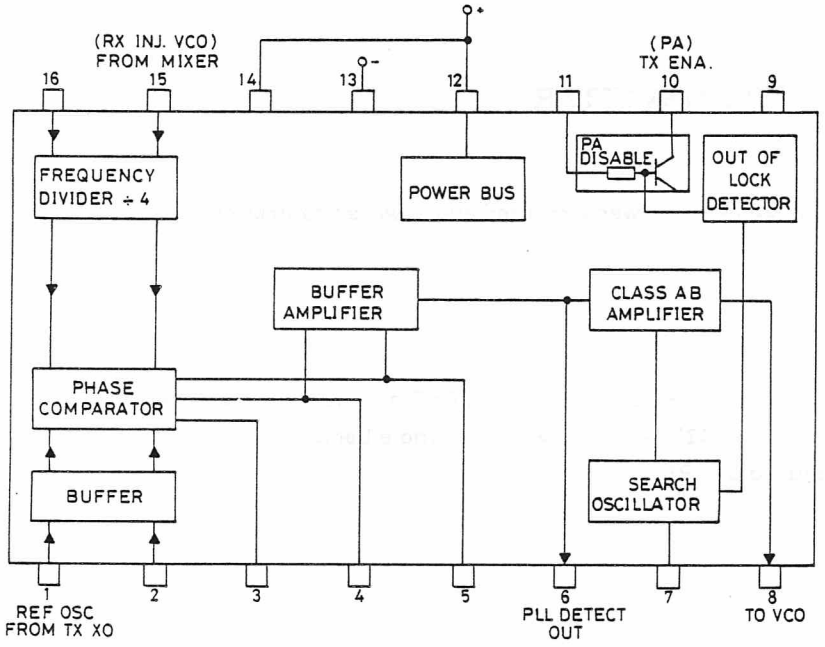
⑭ Reference oscillator

It is a Colpitts configuration using a bipolar transistor (Q502) and a fundamental crystal (13.75 MHz, serial resonans). A coil (L503) is used for fine tuning of the frequency. A varicap (D501) tunes the modulation. The frequency deviation from the oscillator shall only be 1/4 of the TX modulation because of the divide by four. The oscillator output is measured at TP14.

⑮ Divider, phase detector, loop filter

U501 is a multi-function device used in the phase locked circuitry of the UHF transmitter. The device has the following functions:

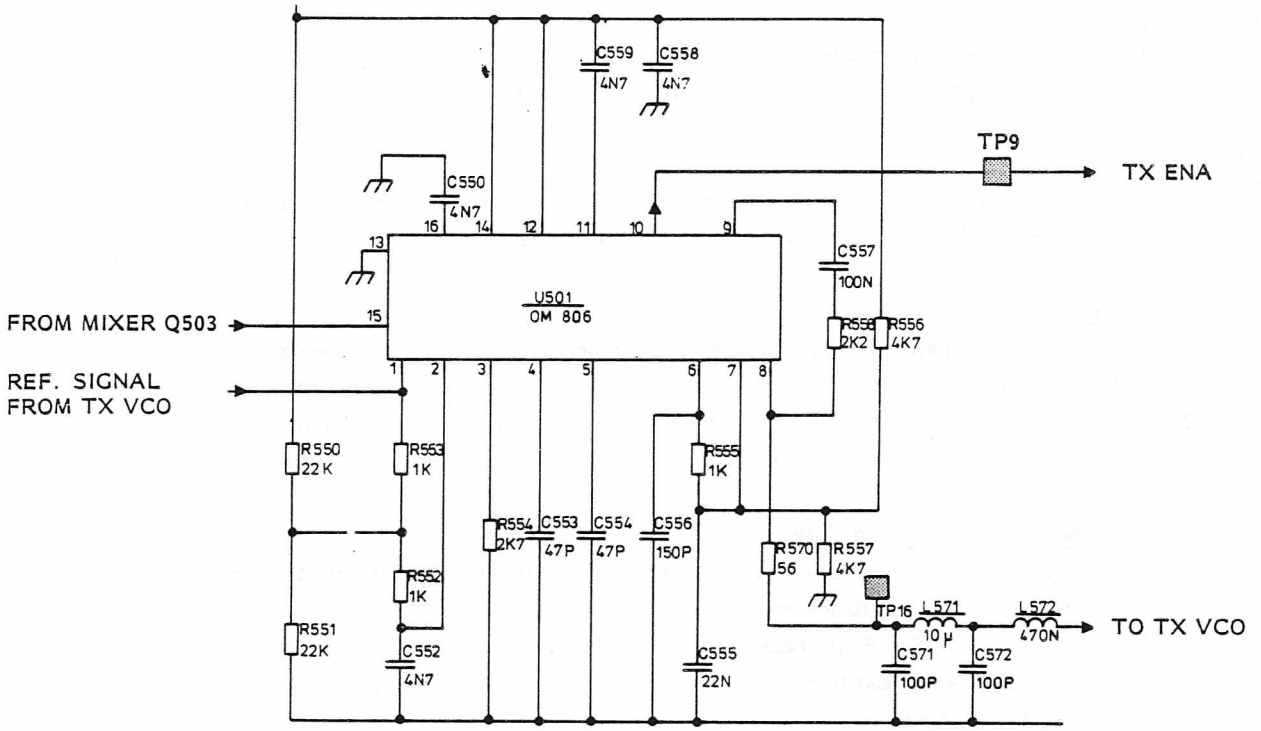
- A Divide-By-Four frequency Divider
- a phase Comparator
- Buffer Amplifier
- a VCO Drive Amplifier
- an Out-Of-Lock detection circuit for shutting down the transmitter Power Amplifier
- a Search Oscillator.



1, 2 Reference Oscillator input
3 Phase Detector current sink
4, 5 Phase detector output
6 Buffered phase detector output
7 Feedback for out of lock oscillator
8 VCO Drive point
9 Oscillation detector input
10 PA Control
11 Integration capacitor
12, 14 Supply
13 Ground
15. 16 Divider input

U501, BLOCK DIAGRAM AND PINNING.

The signal from the mixer is divided by 4 and thereafter phase comparated with the reference signal. The DC-output is fed to the VCO through a normal passive loop filter with a bandwidth about 500 kHz, which means that the RX injection sets the noise level. An out of lock indicator de-activate the PA-stage during an unlocked condition. The tuning voltage to the VCO is measured at TP16.



LOOP FILTER (500 kHz)

The lock detect signal is measured at TP9.

TRANSMITTER

The transmitter stage consists of an exciter, a power amplifier and a power controller circuit.

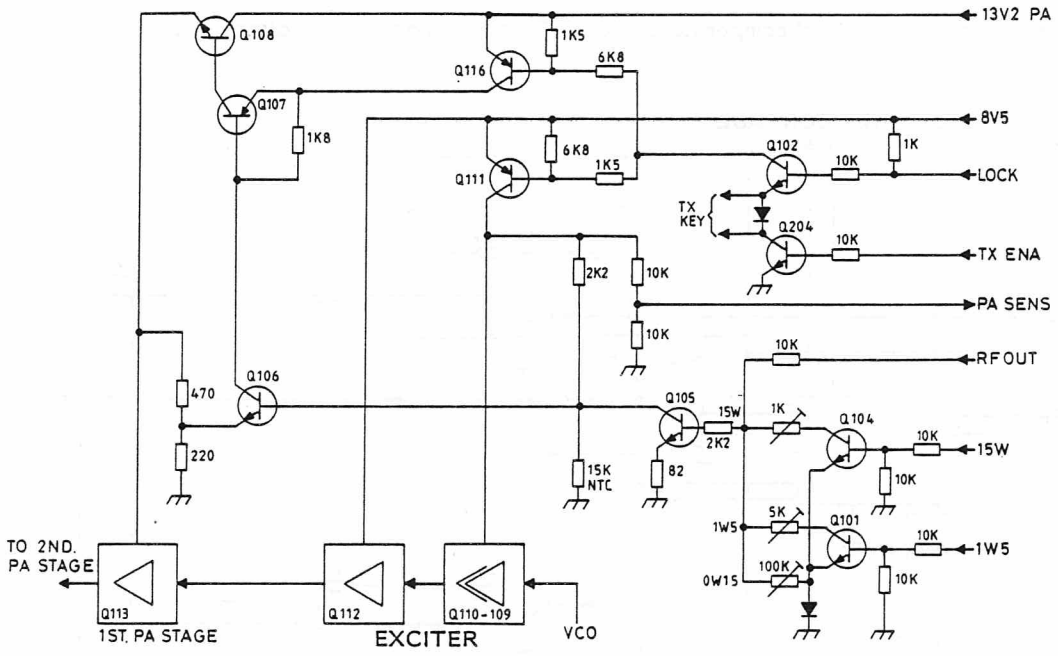
(16) EXCITER

The exciter amplifies the TX-PLL output from +3 dBm to about +27 dBm. It is made by three wideband amplifier stages (Q109, Q110, Q112), which covers the whole band.
The RF-input to the exciter is measured at TP17.

(17) POWER AMPLIFIER

The PA is made as a three stage amplifier (Q113, Q114, Q115) with a nominal output power level of 22 Watt. It is connected to the duplex filter through a lowpass filter. In full duplex operation the power amplifier can work at VSWR < 6:1 a 25^{o}C and battery voltage up to 15.6 V. The DC collector supply on the first stage can be regulated by the power controller circuit and thereby the output power can be reduced by 10 and 20 dB.

(18) POWER CONTROLLER CIRCUIT



SCHEMATIC

There is incorporated a directional coupler for minimizing the influence on output power level caused by changes in PA output VSWR. A small part of the RF output power signal is detected and used as reference for a DC amplifier. The output of this amplifier is used for regulating the first stage of the PA. This keeps the output power constant against variations in supply voltage and temperature. The circuit includes a temperature sensor (NTC). This NTC circuit will turn down the output power by approx. 3 dB if the internal temperature is higher than 85-90^{o}C. The three power levels are adjusted by three potentiometers.

REGULATOR CIRCUITS

(19) VOLTAGE REGULATORS

There are three different voltages on the RF-board:

8.5 Volt
8.5 Volt TX is measured at TP12
9.1 Volt TX is measured at TP13

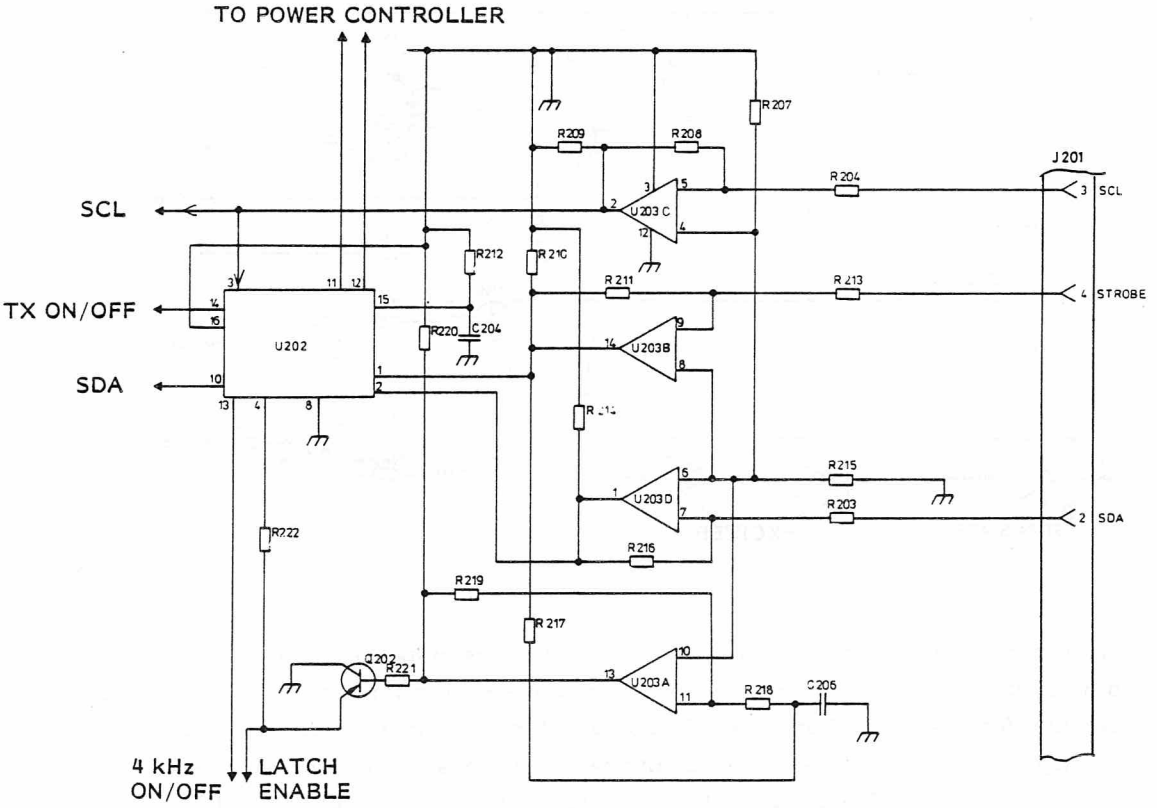
8.5 Volt:
This voltage is made by a regulator IC (U201) and is used for all the receiver circuits and the interface.

8.5 Volt TX:
This is not a real regulator, but only a switch circuit controlled by the CL6002. (Q203 drived from Q204). This voltage is used in exciter and TX-PLL.

9.1 Volt TX:
This is a simple zener stabilized voltage made for the TX-PLL chip. It follows the 8.5 Volt TX, (Q201, D504).

(20) SERIAL INTERFACE

This circuit consists of quad comperators and an 8 bit shift and store register (U202).



The three comparators are used as level shifters from 5 V to 8.5 V for the inputs:

- Serial clock
- Serial data
- Strobe

The comparators are coupled with hysteresis for max. noise immunity. The parallel outputs from the shift register are used to control:

- 3 power levels
- TX ON/OFF
- 4 kHz bandpass filter ON/OFF
- Synthesizer enable.

The serial out goes to the RX synthesizer chip for loading frequency information.
If the CL only need to change the parallel output, the fourth comparator (U203A) is making a time delay on the strobe, so that one of the parallel outputs can disable the synthesizer enable input.

Storno

NOTE		
COMP.	M905810G1	M905810G2
R664	56	100
Y601	8,0625MHz	8,0500MHz

Storno

TEST POINTS/POINTS TEST/MESSPUNKTE	
TP1	Front-end mixer injection level Niveau d'injection du mélangeur d'étage d'entrée Einspeiseniveau des Endstufemischers
TP2	45 MHz X-tal filter input Entrée du filtre à quartz de 45 MHz 45 MHz Kristallfiltereingang
TP3	X-tal filter output Sortie du filtre à quartz Kristallfilterausgang
TP4	RSSI detector DC input Entrée c.c. du détecteur RSSI Gleichspannungseingang des RSSI-Detektor
TP6	44,545 MHz oscillator output Sortie de l'oscillateur de 44,545 MHz 44,545 MHz Oszillatorausgang
TP7	8.0625 MHz ref-oscillator output Sortie de l'oscillateur de référence de 8,0625 MHz 8,062 MHz Referenzoszillatorausgang
TP8	Checking of 8.0625 MHz frequency Contrôle de la fréquence de 8,0625 MHz 8,062 MHz Frequenzcontrolle
TP10	RX VCO tuning voltage Tension d'accord du VCO du récepteur RX VCO Abstimmungsspannung
TP11	Second mixer (455 kHz) output Sortie du second mélangeur (455 kHz) Ausgang des Zweiten Mischers (455 kHz)
TP18	Front-end filter output Sortie du filtre d'entrée Ausgang des Endstufefilters

* PART OF PWB.

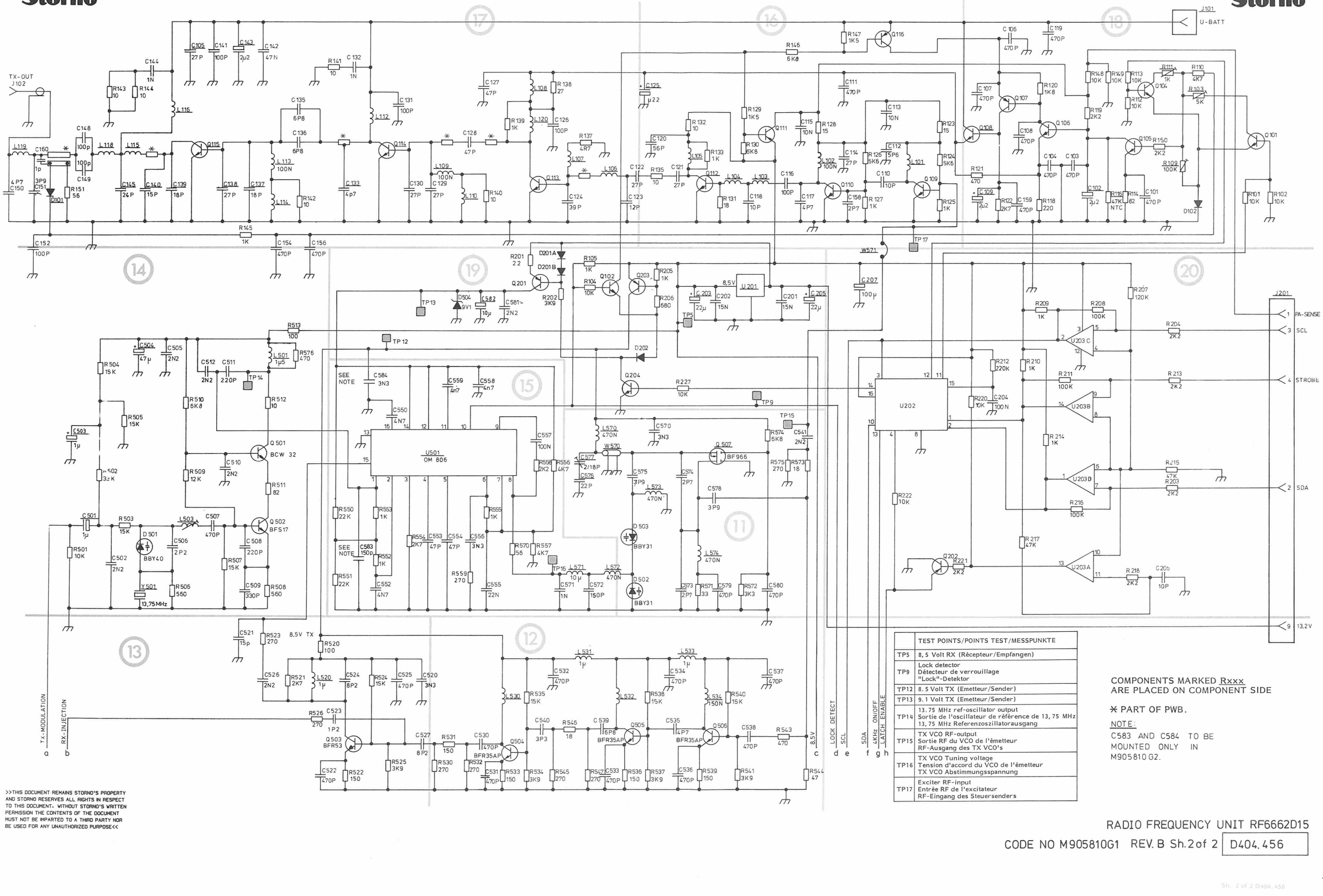
COMPONENTS MARKED RXXX ARE PLACED ON COMPONENT SIDE.

RADIO FREQUENCY UNIT RF6662D15

REV. B CODE NO. M905810G1 Sh.1of 2 D404.456

Storno

Storno



	TEST POINTS/POINTS TEST/MESSPUNKTE
TP5	8,5 Volt RX (Récepteur/Empfangen)
TP9	Lock detector Détecteur de verrouillage "Lock"-Detektor
TP12	8.5 Volt TX (Emetteur/Sender)
TP13	9.1 Volt TX (Emetteur/Sender)
TP14	13.75 MHz ref-oscillator output Sortie de l'oscillateur de référence de 13,75 MHz 13,75 MHz Referenzoszillatorausgang
TP15	TX VCO RF-output Sortie RF du VCO de l'émetteur RF-Ausgang des TX VCO's
TP16	TX VCO Tuning voltage Tension d'accord du VCO de l'émetteur TX VCO Abstimmungsspannung
TP17	Exciter RF-input Entrée RF de l'excitateur RF-Eingang des Steuersenders

COMPONENTS MARKED Rxxx
ARE PLACED ON COMPONENT SIDE

✳ PART OF PWB.

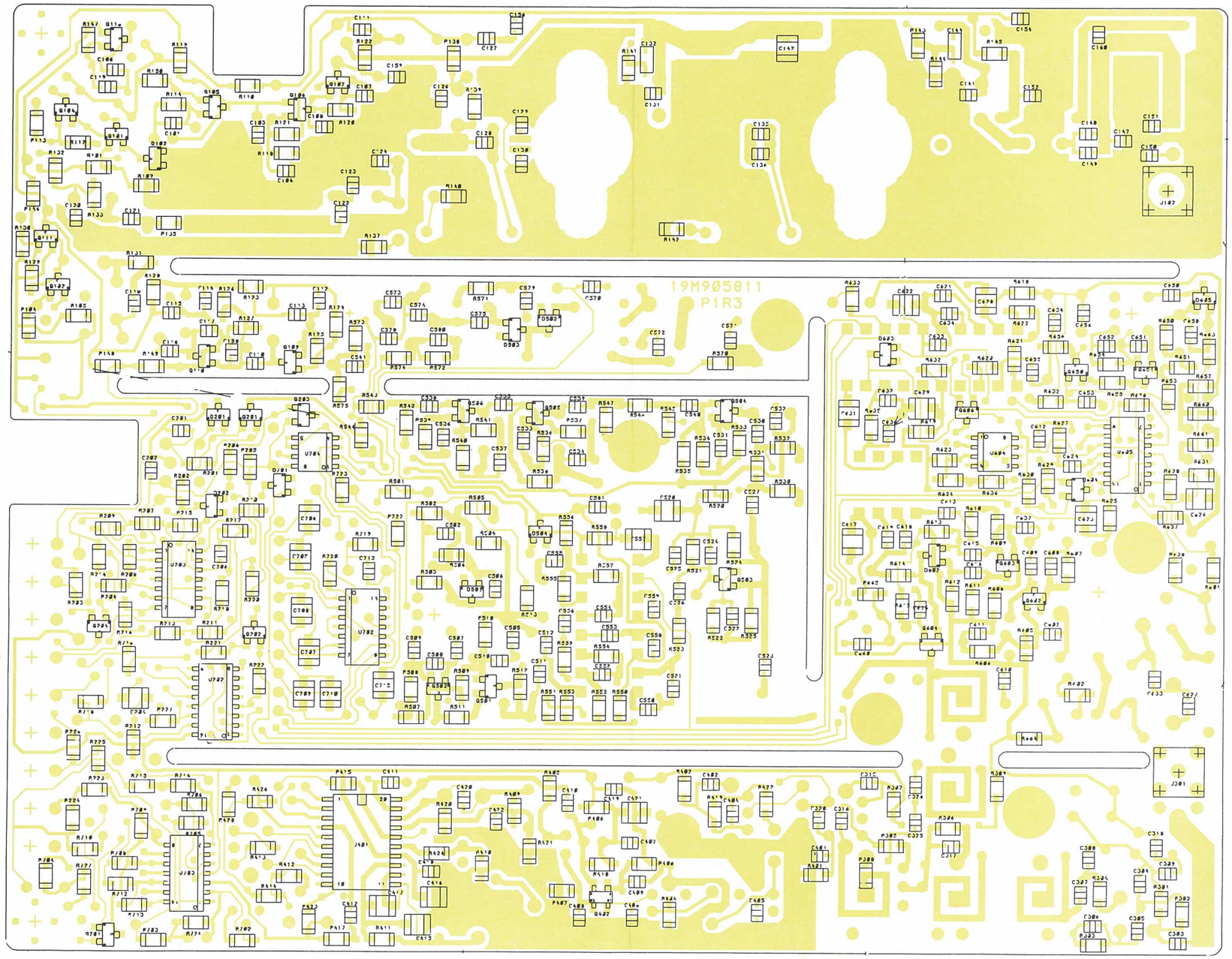
NOTE:
C583 AND C584 TO BE MOUNTED ONLY IN M905810G2.

RADIO FREQUENCY UNIT RF6662D15

CODE NO M905810G1 REV. B Sh. 2 of 2 D404.456

Storno

Storno

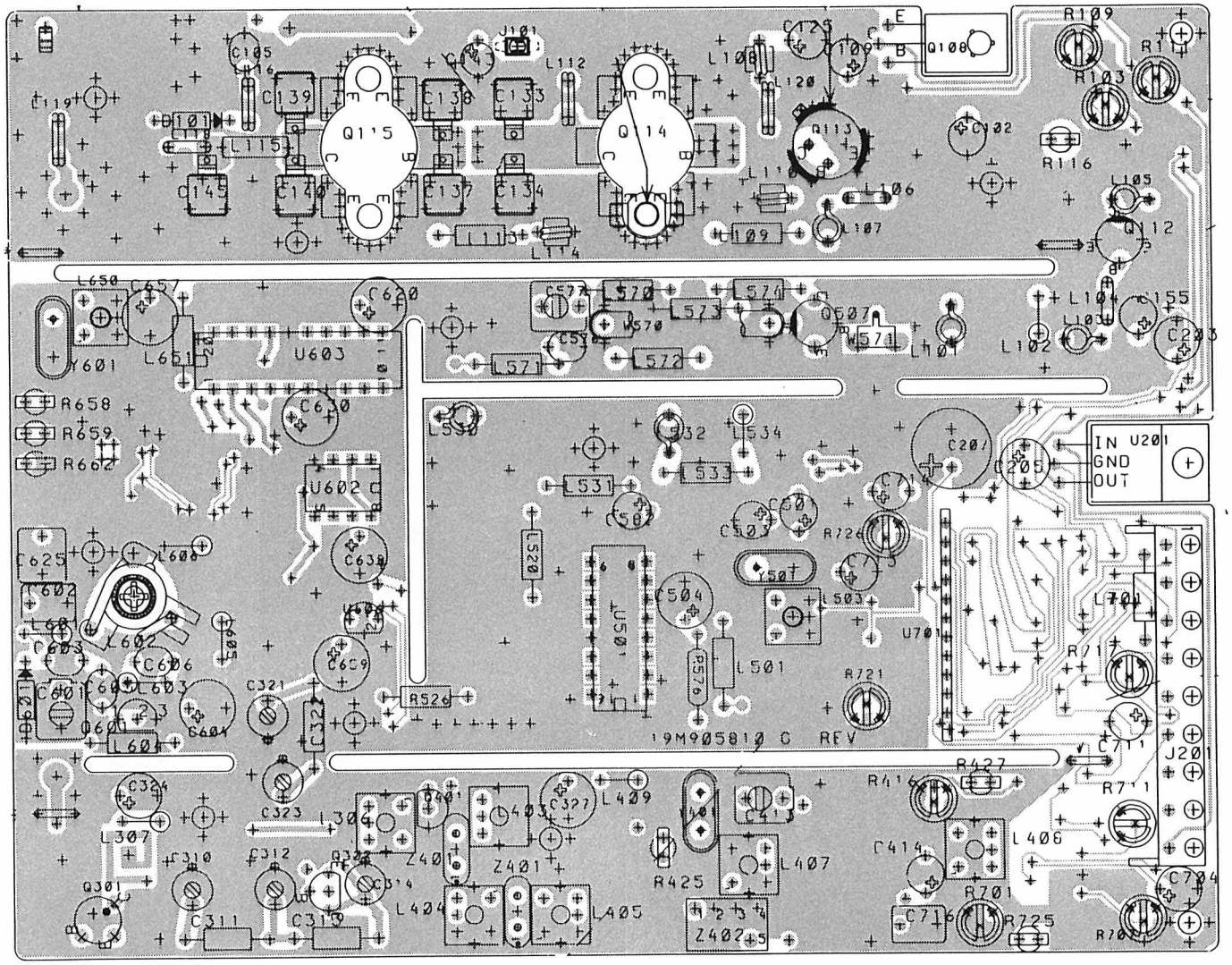


RADIO FREQUENCY RF6662D15
COMPONENT LAYOUT - CHIP SIDE

CODE NO. M905810G1 REV. 3 D404.458

Storno

Storno



RADIO FREQUENCY RF6662D15
COMPONENT LAYOUT - COMPONENT SIDE

CODE NO. M905810G1 REV. 3 D404.457

Pos.	Code No.	Description	Qt.
C101	J707436P77	CAP CER NPO 470P 5% 50V	1
C102	J707444P5	CAP TA SOL 2U2 20% 35V	1
C103	J707436P77	CAP CER NPO 470P 5% 50V	1
C104	J707436P77	CAP CER NPO 470P 5% 50V	1
C105	A700235P18	CAP CER N150 27P 5% 50V	1
C106	J707436P77	CAP CER NPO 470P 5% 50V	1
C107	J707436P77	CAP CER NPO 470P 5% 50V	1
C108	J707436P77	CAP CER NPO 470P 5% 50V	1
C109	J707444P5	CAP TA SOL 2U2 20% 35V	1
C110	J707436P13	CAP CER NPO 10P 5% 50V	1
C111	J707436P77	CAP CER NPO 470P 5% 50V	1
C112	J707436P10	CAP CER NPO 5P6.25P 50V	1
C113	J707438P14	CAP CER CL2 10N 10% 50V	1
C114	J707436P33	CAP CER NPO 27P 5% 50V	1
C115	J707438P14	CAP CER CL2 10N 10% 50V	1
C116	J707436P61	CAP CER NPO 100P 5% 50V	1
C117	J707436P9	CAP CER NPO 4P7,25P 50V	1
C118	J707436P13	CAP CER NPO 10P 5% 50V	1
C119	J707436P77	CAP CER NPO 470P 5% 50V	1
C120	J707436P49	CAP CER NPO 56P 5% 50V	1
C121	J707436P33	CAP CER NPO 27P 5% 50V	1
C122	J707436P33	CAP CER NPO 27P 5% 50V	1
C123	J707436P17	CAP CER NPO 12P 5% 50V	1
C124	J707436P41	CAP CER NPO 39P 5% 50V	1
C125	J707444P2	CAP TA SOL 0U22 20% 35V	1
C126	J707436P61	CAP CER NPO 100P 5% 50V	1
C127	J707436P45	CAP CER NPO 47P 5% 50V	1
C128	J707436P45	CAP CER NPO 47P 5% 50V	1
C129	J707436P33	CAP CER NPO 27P 5% 50V	1
C130	J707436P33	CAP CER NPO 27P 5% 50V	1
C131	J707436P61	CAP CER NPO 100P 5% 50V	1
C132	J707436P85	CAP CER NPO 1N0 5% 50V	1
C133	A700006P1	CAP PTFE 4P7 10% 100V	1
C135	J707436P11	CAP CER NPO 6P8.25% 50V	1
C136	J707436P11	CAP CER NPO 6P8.25% 50V	1
C137	A700006P14	CAP MICA 18P 5% 100V	1

Storno

Pos.	Code No.	Description	Qt.
C138	A700006P19	CAP MICA 27P 5% 100V	1
C139	A700006P14	CAP MICA 18P 5% 100V	1
C140	A700006P11	CAP MICA 15P 5% 100V	1
C141	J707436P61	CAP CER NPO 100P 5% 50V	1
C142	J707438P22	CAP CER CL2 47N 10% 50V	1
C143	J707353P5	CAP ELECT 2U2 20% 50V	1
C144	J707436P85	CAP CER NPO 1N0 5% 50V	1
C145	A700006P18	CAP MICA 24P 5% 100V	1
C148	J707436P61	CAP CER NPO 100P 5% 50V	1
C149	J707436P61	CAP CER NPO 100P 5% 50V	1
C150	J707436P9	CAP CER NPO 4P7,25P 50V	1
C151	J707436P8	CAP CER NPO 3P9,25P 50V	1
C152	J707436P61	CAP CER NPO 100P 5% 50V	1
C154	J707436P77	CAP CER NPO 470P 5% 50V	1
C156	J707436P77	CAP CER NPO 470P 5% 50V	1
C158	J707436P6	CAP CER NPO 2P7,25P 50V	1
C159	J707436P77	CAP CER NPO 470P 5% 50V	1
C160	J707436P1	CAP CER NPO 1P0.25P 50V	1
C201	J707438P16	CAP CER CL2 15N 10% 50V	1
C202	J707438P16	CAP CER CL2 15N 10% 50V	1
C203	J707444P8	CAP TA SOL 22U 20% 16V	1
C204	J707438P26	CAP CER CL2 100N 10% 50V	1
C205	J707444P8	CAP TA SOL 22U 20% 16V	1
C206	J707436P13	CAP CER NPO 10P 5% 50V	1
C207	J706005P4	CAP ELECT 100U +100-10%	1
C303	J707436P61	CAP CER NPO 100P 5% 50V	1
C304	J707438P3	CAP CER CL2 470P 10% 50V	1
C305	J707436P69	CAP CER NPO 220P 5% 50V	1
C306	J707438P3	CAP CER CL2 470P 10% 50V	1
C307	J707438P3	CAP CER CL2 470P 10% 50V	1
C308	J707436P12	CAP CER NPO 8P2.25P 50V	1
C309	J707438P3	CAP CER CL2 470P 10% 50V	1
C310	J708287P1	CAP VAR CER 3.3/8P 63V	1
C311	J707483P14	CAP PHEN 0P27 10% 500V	1
C312	J708287P1	CAP VAR CER 3.3/8P 63V	1
C313	J707483P2	CAP PHEN 0P33 5% 500V	1

Pos.	Code No.	Description	Qt.
C314	J708287P1	CAP VAR CER 3.3/8P 63V	1
C315	J707438P3	CAP CER CL2 470P 10% 50V	1
C316	J707436P13	CAP CER NPO 10P 5% 50V	1
C317	J707438P5	CAP CER CL2 1N 10% 50V	1
C318	J707438P3	CAP CER CL2 470P 10% 50V	1
C320	J707436P37	CAP CER NPO 33P 5% 50V	1
C321	J708287P1	CAP VAR CER 3.3/8P 63V	1
C322	A700013P5	CAP PHEN 0P22 5% 500V	1
C323	J708287P1	CAP VAR CER 3.3/8P 63V	1
C324	J707444P7	CAP TA SOL 10U 20% 16V	1
C325	J707436P1	CAP CER NPO 1P0.25P 50V	1
C326	J707436P1	CAP CER NPO 1P0.25P 50V	1
C327	J707444P8	CAP TA SOL 22U 20% 16V	1
C401	J707438P8	CAP CER CL2 3N3 10% 50V	1
C402	J707438P8	CAP CER CL2 3N3 10% 50V	1
C404	J707436P9	CAP CER NPO 4P7,25P 50V	1
C405	J707436P10	CAP CER NPO 5P6.25P 50V	1
C406	J707436P9	CAP CER NPO 4P7,25P 50V	1
C407	J707438P8	CAP CER CL2 3N3 10% 50V	1
C408	J707436P77	CAP CER NPO 470P 5% 50V	1
C409	J707438P8	CAP CER CL2 3N3 10% 50V	1
C410	J707438P7	CAP CER CL2 2N2 10% 50V	1
C411	J707438P7	CAP CER CL2 2N2 10% 50V	1
C412	J707438P14	CAP CER CL2 10N 10% 50V	1
C413	J706003P2	CAP VAR FILM 2.0/18P 200V	1
C414	J707444P4	CAP TA SOL 1U 20% 35V	1
C415	J707438P26	CAP CER CL2 100N 10% 50V	1
C416	J707438P26	CAP CER CL2 100N 10% 50V	1
C417	J707438P26	CAP CER CL2 100N 10% 50V	1
C418	J707438P8	CAP CER CL2 3N3 10% 50V	1
C419	J707438P8	CAP CER CL2 3N3 10% 50V	1
C421	J707438P26	CAP CER CL2 100N 10% 50V	1
C422	J707436P13	CAP CER NPO 10P 5% 50V	1
C501	J707444P4	CAP TA SOL 1U 20% 35V	1
C502	J707438P7	CAP CER CL2 2N2 10% 50V	1
C503	J707444P4	CAP TA SOL 1U 20% 35V	1

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Pos.	Code No.	Description	Qt.
C504	J707444P17	CAP TA SOL 47U 20% 10V	1
C505	J707438P7	CAP CER CL2 2N2 10% 50V	1
C506	J707436P5	CAP CER NPO 2P2.25P 50V	1
C507	J707438P3	CAP CER CL2 470P 10% 50V	1
C508	J707436P69	CAP CER NPO 220P 5% 50V	1
C509	J707436P73	CAP CER NPO 330P 5% 50V	1
C510	J707438P7	CAP CER CL2 2N2 10% 50V	1
C511	J707436P69	CAP CER NPO 220P 5% 50V	1
C512	J707438P7	CAP CER CL2 2N2 10% 50V	1
C520	J707438P22	CAP CER CL2 47N 10% 50V	1
C521	J707436P21	CAP CER NPO 15P 5% 50V	1
C522	J707438P3	CAP CER CL2 470P 10% 50V	1
C523	J707436P2	CAP CER NPO 1P2,25% 50V	1
C524	J707436P12	CAP CER NPO 8P2.25P 50V	1
C525	J707438P3	CAP CER CL2 470P 10% 50V	1
C526	J707438P7	CAP CER CL2 2N2 10% 50V	1
C527	J707436P12	CAP CER NPO 8P2.25P 50V	1
C530	J707438P3	CAP CER CL2 470P 10% 50V	1
C531	J707438P3	CAP CER CL2 470P 10% 50V	1
C532	J707438P3	CAP CER CL2 470P 10% 50V	1
C533	J707438P3	CAP CER CL2 470P 10% 50V	1
C534	J707438P3	CAP CER CL2 470P 10% 50V	1
C535	J707436P9	CAP CER NPO 4P7,25P 50V	1
C536	J707438P3	CAP CER CL2 470P 10% 50V	1
C537	J707438P3	CAP CER CL2 470P 10% 50V	1
C538	J707438P3	CAP CER CL2 470P 10% 50V	1
C539	J707436P11	CAP CER NPO 6P8.25% 50V	1
C540	J707436P7	CAP CER NPO 3P3,25P 50V	1
C541	J707438P7	CAP CER CL2 2N2 10% 50V	1
C550	J707438P10	CAP CER CL2 4N7 10% 50V	1
C552	J707438P10	CAP CER CL2 4N7 10% 50V	1
C553	J707436P45	CAP CER NPO 47P 5% 50V	1
C554	J707436P45	CAP CER NPO 47P 5% 50V	1
C555	J707438P18	CAP CER CL2 22N 10% 50V	1
C556	J707438P8	CAP CER CL2 3N3 10% 50V	1
C557	J707438P26	CAP CER CL2 100N 10% 50V	1

Pos.	Code No.	Description	Qt.
C558	J707438P10	CAP CER CL2 4N7 10% 50V	1
C559	J707438P10	CAP CER CL2 4N7 10% 50V	1
C570	J707436P61	CAP CER NPO 100P 5% 50V	1
C571	J707438P5	CAP CER CL2 1N 10% 50V	1
C572	J707436P61	CAP CER NPO 100P 5% 50V	1
C573	J707436P6	CAP CER NPO 2P7,25P 50V	1
C574	J707436P6	CAP CER NPO 2P7,25P 50V	1
C575	J707436P8	CAP CER NPO 3P9,25P 50V	1
C576	A700235P17	CAP CER N150 22P 5% 50V	1
C577	J706003P2	CAP VAR FILM 2.0/18P 200V	1
C578	J707436P8	CAP CER NPO 3P9,25P 50V	1
C579	J707438P3	CAP CER CL2 470P 10% 50V	1
C580	J707438P3	CAP CER CL2 470P 10% 50V	1
C581	J707438P7	CAP CER CL2 2N2 10% 50V	1
C582	J707444P7	CAP TA SOL 10U 20% 16V	1
C601	J706003P1	CAP VAR FILM 1.8/10P 200V	1
C602	J707412P7	CAP PYES 47N 10% 63V	1
C603	A700235P11	CAP CER N150 6P8.25P 50V	1
C604	J707444P17	CAP TA SOL 47U 20% 10V	1
C605	A700235P7	CAP CER N150 3P3.25P 50V	1
C606	A700235P9	CAP CER N150 4P7.25P 50V	1
C607	J707436P6	CAP CER NPO 2P7,25P 50V	1
C608	J707438P3	CAP CER CL2 470P 10% 50V	1
C609	J707436P37	CAP CER NPO 33P 5% 50V	1
C610	J707438P3	CAP CER CL2 470P 10% 50V	1
C611	J707438P3	CAP CER CL2 470P 10% 50V	1
C612	J707438P3	CAP CER CL2 470P 10% 50V	1
C613	J707436P4	CAP CER NPO 1P8,25P 50V	1
C614	J707438P3	CAP CER CL2 470P 10% 50V	1
C615	J707438P3	CAP CER CL2 470P 10% 50V	1
C616	J707436P65	CAP CER NPO 150P 5% 50V	1
C617	J707438P22	CAP CER CL2 47N 10% 50V	1
C618	J707438P5	CAP CER CL2 1N 10% 50V	1
C619	J707438P14	CAP CER CL2 10N 10% 50V	1
C620	J707444P6	CAP TA SOL 4U7 20% 35V	1
C621	J707436P65	CAP CER NPO 150P 5% 50V	1

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Pos.	Code No.	Description	Qt.
C622	J707436P81	CAP CER NPO 680P 5% 500V	1
C623	J707438P22	CAP CER CL2 47N 10% 50V	1
C624	J707436P49	CAP CER NPO 56P 5% 50V	1
C625	J707412P13	CAP PYES 470N 10% 63V	1
C626	J707438P22	CAP CER CL2 47N 10% 50V	1
C628	J707438P26	CAP CER CL2 100N 10% 50V	1
C629	J707438P26	CAP CER CL2 100N 10% 50V	1
C630	J707444P6	CAP TA SOL 4U7 20% 35V	1
C631	J707438P14	CAP CER CL2 10N 10% 50V	1
C632	J707436P25	CAP CER NPO 18P 5% 50V	1
C633	J707436P9	CAP CER NPO 4P7,25P 50V	1
C634	J707436P61	CAP CER NPO 100P 5% 50V	1
C635	J707436P21	CAP CER NPO 15P 5% 50V	1
C637	J707436P10	CAP CER NPO 5P6.25P 50V	1
C638	J707444P8	CAP TA SOL 22U 20% 16V	1
C650	J707436P77	CAP CER NPO 470P 5% 50V	1
C651	J707436P67	CAP CER NPO 180P 5% 50V	1
C652	J707436P69	CAP CER NPO 220P 5% 50V	1
C653	J707438P7	CAP CER CL2 2N2 10% 50V	1
C654	J707436P69	CAP CER NPO 220P 5% 50V	1
C655	J707438P5	CAP CER CL2 1N 10% 50V	1
C656	J707438P7	CAP CER CL2 2N2 10% 50V	1
C657	J707444P4	CAP TA SOL 1U 20% 35V	1
C658	J707436P45	CAP CER NPO 47P 5% 50V	1
C704	J707444P7	CAP TA SOL 10U 20% 16V	1
C705	J707363P11	CAP CER NPO 2N2 2% 50V	1
C706	J707363P11	CAP CER NPO 2N2 2% 50V	1
C707	J707363P11	CAP CER NPO 2N2 2% 50V	1
C708	J707363P11	CAP CER NPO 2N2 2% 50V	1
C709	J707363P11	CAP CER NPO 2N2 2% 50V	1
C710	J707363P11	CAP CER NPO 2N2 2% 50V	1
C711	J707444P5	CAP TA SOL 2U2 20% 35V	1
C712	J707436P77	CAP CER NPO 470P 5% 50V	1
C713	J707444P17	CAP TA SOL 47U 20% 10V	1
C714	J707444P7	CAP TA SOL 10U 20% 16V	1
C715	J707438P26	CAP CER CL2 100N 10% 50V	1

Pos.	Code No.	Description	Qt.
C716	J707412P10	CAP PYES 150N 10% 63V	1
D101	A700047P3	DIO SI SIG 1N6263	1
D102	J707389P1	DIO SI SIG BAV 99	1
D201	J707389P1	DIO SI SIG BAV 99	1
D202	J707390P1	DIO SI SIG BAV 74	1
D501	J707397P1	DIO SI CAP BBY 40	1
D502	J707769P1	DIO SI CAP BBY 31	1
D503	J707769P1	DIO SI CAP BBY 31	1
D504	J707459P8	DIO SI ZENR 9V1 5% 0,2W	1
D601	J706007P1	DIO SI CAP BB 505B	1
D602	J707390P1	DIO SI SIG BAV 74	1
D603	J707390P1	DIO SI SIG BAV 74	1
D604	J707390P1	DIO SI SIG BAV 74	1
D605	J707397P1	DIO SI CAP BBY 40	1
D606	J707459P11	DIO SI ZENR 2V7 5% 0,2W	1
D701	J707389P1	DIO SI SIG BAV 99	1
J101	A701883P4	CONT EL	1
J102	J709105P1	CONN COAX SMB RECP FEM	1
J201	J707064P109	CONN PWB FEM 09-CKT	1
J301	J709105P1	CONN COAX SMB RECP FEM	1
L101	K805627G2	COIL RF FIXED 2 1/2T	1
L102	J707486P1	COIL RF FIX 0.1UH 10%	1
L103	K805627G1	COIL RF FIXED 1 1/2T	1
L104	J707256P2	COIL FIX	1
L105	K805627G3	COIL RF FIXED 3 1/2T	1
L106	J707256P1	COIL FIX	1
L107	K805627G1	COIL RF FIXED 1 1/2T	1
L108	J707339G1	COIL FIX ASM	1
L109	A700024P1	COIL RF FIX 0.1UH 10%	1
L110	J707339G1	COIL FIX ASM	1
L112	A701237P1	COIL	1
L113	A700024P1	COIL RF FIX 0.1UH 10%	1
L114	J707339G1	COIL FIX ASM	1
L115	J708845P1	COIL	1
L116	A701237P1	COIL	1
L118	J707256P2	COIL FIX	1

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Pos.	Code No.	Description	Qt.
L119	A701237P1	COIL	1
L120	A701237P1	COIL	1
L306	J708428P2	COIL RF VAR 45 MHZ	1
L307	J707486P11	COIL RF FIX 2,2UH 10%	1
L403	K805570G2	COIL ASM	1
L404	K805570G1	COIL ASM	1
L405	J708428P1	COIL RF VAR 45 MHZ	1
L407	J707431P2	COIL RF VAR 455KHZ 25%	1
L408	J707431P2	COIL RF VAR 455KHZ 25%	1
L409	J707486P2	COIL RF FIX 3.3UH 10%	1
L501	A700024P15	COIL RF FIX 1.5UH 10%	1
L503	K805194G6	COIL ASM	1
L520	A700024P13	COIL RF FIX 1.0UH 10%	1
L530	K805627G2	COIL RF FIXED 2 1/2T	1
L531	A700024P13	COIL RF FIX 1.0UH 10%	1
L532	K805627G2	COIL RF FIXED 2 1/2T	1
L533	A700024P13	COIL RF FIX 1.0UH 10%	1
L534	J707486P15	COIL RF FIX 0.15UH 10%	1
L570	A700024P9	COIL RF FIX 0.47UH 10%	1
L571	A700024P25	COIL RF FIX 10.0UH 10%	1
L572	A700024P9	COIL RF FIX 0.47UH 10%	1
L573	A700024P9	COIL RF FIX 0.47UH 10%	1
L574	A700024P9	COIL RF FIX 0.47UH 10%	1
L601	J707486P16	COIL RF FIX 1.0UH 10%	1
L602	L855671P1	COIL RADIO FREQUENCY	1
L603	J707486P16	COIL RF FIX 1.0UH 10%	1
L604	A700024P13	COIL RF FIX 1.0UH 10%	1
L605	J707486P15	COIL RF FIX 0.15UH 10%	1
L606	J707486P18	COIL RF FIX 0.68UH 10%	1
L650	K805194G4	COIL ASM	1
L651	A700024P15	COIL RF FIX 1.5UH 10%	1
L701	A700024P13	COIL RF FIX 1.0UH 10%	1
Q101	J707386P1	TSTR NPN SI BCW 32	1
Q102	J707386P1	TSTR NPN SI BCW 32	1
Q104	J707386P1	TSTR NPN SI BCW 32	1
Q105	J707386P1	TSTR NPN SI BCW 32	1

Pos.	Code No.	Description	Qt.
Q106	J707386P1	TSTR NPN SI BCW 32	1
Q107	J707387P1	TSTR PNP SI BCW 30	1
Q108	J708406P1	TSTR SI NPN BD 233	1
Q109	J707388P1	TSTR NPN SI BFR 53	1
Q110	J707388P1	TSTR NPN SI BFR 53	1
Q111	J707432P1	TSTR PNP SI BCX 18	1
Q112	A701940P1	TSTR NPN SI RF-PWR 0.4W	1
Q113	A700066P2	TSTR NPN SI RF-PWR 2W	1
Q114	J708557P1	TSTR NPN SI RF-PWR 12W	1
Q115	J708556P1	TSTR NPN SI RF-PWR 28W	1
Q116	J707387P1	TSTR PNP SI BCW 30	1
Q201	J707432P1	TSTR PNP SI BCX 18	1
Q202	J707387P1	TSTR PNP SI BCW 30	1
Q203	J707432P1	TSTR PNP SI BCX 18	1
Q204	J707386P1	TSTR NPN SI BCW 32	1
Q301	J706011P2	TSTR NPN SI BFR 91A	1
Q302	J708315P1	TSTR JFET SI 2N5245	1
Q401	J707817P1	TSTR JFET SI J 309	1
Q402	J707433P1	TSTR MFET SI BF 989	1
Q501	J707418P1	TSTR NPN SI BFS 17	1
Q502	J707418P1	TSTR NPN SI BFS 17	1
Q503	J707388P1	TSTR NPN SI BFR 53	1
Q504	J707771P1	TSTR NPN SI BFR 35 AP	1
Q505	J707771P1	TSTR NPN SI BFR 35 AP	1
Q506	J707771P1	TSTR NPN SI BFR 35 AP	1
Q507	J709161P1	TSTR MFET SI BF 966	1
Q601	J707817P1	TSTR JFET SI J 309	1
Q602	J707771P1	TSTR NPN SI BFR 35 AP	1
Q603	J707388P1	TSTR NPN SI BFR 53	1
Q604	J708318P1	TSTR PNP SI BFT 92	1
Q606	J707387P1	TSTR PNP SI BCW 30	1
Q650	J707418P1	TSTR NPN SI BFS 17	1
Q651	J707418P1	TSTR NPN SI BFS 17	1
Q701	J707386P1	TSTR NPN SI BCW 32	1
R000	A700019P33	RES DEPC 47OR 5% 1/4W	1
R101	J707385P103	RES MFILM 1OK 5% 1/8W	1

Storno

Pos.	Code No.	Description	Qt.
R102	J707385P103	RES MFILM 1OK 5% 1/8W	1
R103	J708538P4	RES VAR CER 5K 20% 0,5W	1
R104	J707385P103	RES MFILM 1OK 5% 1/8W	1
R105	J707385P102	RES MFILM 1KO 5% 1/8W	1
R109	J708538P8	RES VAR CER 100K 20% 0,5W	1
R110	J707385P472	RES MFILM 4K7 5% 1/8W	1
R111	J708538P2	RES VAR CER 1K 20% 0,5W	1
R112	J707385P103	RES MFILM 1OK 5% 1/8W	1
R113	J707385P103	RES MFILM 1OK 5% 1/8W	1
R114	J707385P820	RES MFILM 82R 5% 1/8W	1
R116	J707406P5	RES THERM NTC 47K 10%	1
R118	J707385P221	RES MFILM 22OR 5% 1/8W	1
R119	J707385P222	RES MFILM 2K2 5% 1/8W	1
R120	J707385P182	RES MFILM 1K8 5% 1/8W	1
R121	J707385P471	RES MFILM 47OR 5% 1/8W	1
R122	J707385P272	RES MFILM 2K7 5% 1/8W	1
R123	J707385P150	RES MFILM 15R 5% 1/8W	1
R124	J707385P562	RES MFILM 5K6 5% 1/8W	1
R125	J707385P102	RES MFILM 1KO 5% 1/8W	1
R126	J707385P562	RES MFILM 5K6 5% 1/8W	1
R127	J707385P102	RES MFILM 1KO 5% 1/8W	1
R128	J707385P150	RES MFILM 15R 5% 1/8W	1
R129	J707385P152	RES MFILM 1K5 5% 1/8W	1
R130	J707385P682	RES MFILM 6K8 5% 1/8W	1
R131	J707385P180	RES MFILM 18R 5% 1/8W	1
R132	J707385P100	RES MFILM 10R 5% 1/8W	1
R133	J707385P102	RES MFILM 1KO 5% 1/8W	1
R135	J707385P100	RES MFILM 10R 5% 1/8W	1
R137	J707385P947	RES MFILM 4R7 20% 1/8W	1
R138	J707385P270	RES MFILM 27R 5% 1/8W	1
R139	J707385P102	RES MFILM 1KO 5% 1/8W	1
R140	J707385P100	RES MFILM 10R 5% 1/8W	1
R141	J707385P100	RES MFILM 10R 5% 1/8W	1
R142	J707385P100	RES MFILM 10R 5% 1/8W	1
R143	J707385P100	RES MFILM 10R 5% 1/8W	1
R144	J707385P100	RES MFILM 10R 5% 1/8W	1

Pos.	Code No.	Description	Qt.
R145	J707385P102	RES MFILM 1K0 5% 1/8W	1
R146	J707385P682	RES MFILM 6K8 5% 1/8W	1
R147	J707385P152	RES MFILM 1K5 5% 1/8W	1
R148	J707385P103	RES MFILM 10K 5% 1/8W	1
R149	J707385P103	RES MFILM 10K 5% 1/8W	1
R150	J707385P222	RES MFILM 2K2 5% 1/8W	1
R151	J707385P560	RES MFILM 56R 5% 1/8W	1
R201	J707385P220	RES MFILM 22R 5% 1/8W	1
R202	J707385P392	RES MFILM 3K9 5% 1/8W	1
R203	J707385P222	RES MFILM 2K2 5% 1/8W	1
R204	J707385P222	RES MFILM 2K2 5% 1/8W	1
R205	J707385P102	RES MFILM 1K0 5% 1/8W	1
R206	J707385P681	RES MFILM 680R 5% 1/8W	1
R207	J707385P124	RES MFILM 120K 5% 1/8W	1
R208	J707385P104	RES MFILM 100K 5% 1/8W	1
R209	J707385P102	RES MFILM 1K0 5% 1/8W	1
R210	J707385P102	RES MFILM 1K0 5% 1/8W	1
R211	J707385P104	RES MFILM 100K 5% 1/8W	1
R212	J707385P224	RES MFILM 220K 5% 1/8W	1
R213	J707385P222	RES MFILM 2K2 5% 1/8W	1
R214	J707385P102	RES MFILM 1K0 5% 1/8W	1
R215	J707385P473	RES MFILM 47K 5% 1/8W	1
R216	J707385P104	RES MFILM 100K 5% 1/8W	1
R217	J707385P473	RES MFILM 47K 5% 1/8W	1
R218	J707385P222	RES MFILM 2K2 5% 1/8W	1
R220	J707385P103	RES MFILM 10K 5% 1/8W	1
R221	J707385P222	RES MFILM 2K2 5% 1/8W	1
R222	J707385P103	RES MFILM 10K 5% 1/8W	1
R223	J707385P223	RES MFILM 22K 5% 1/8W	1
R224	J707385P473	RES MFILM 47K 5% 1/8W	1
R225	J707385P223	RES MFILM 22K 5% 1/8W	1
R226	J707385P473	RES MFILM 47K 5% 1/8W	1
R227	J707385P103	RES MFILM 10K 5% 1/8W	1
R301	J707385P222	RES MFILM 2K2 5% 1/8W	1
R302	J707385P681	RES MFILM 680R 5% 1/8W	1
R303	J707385P560	RES MFILM 56R 5% 1/8W	1

Storno

Pos.	Code No.	Description	Qt.
R304	J707385P270	RES MFILM 27R 5% 1/8W	1
R305	J707385P100	RES MFILM 10R 5% 1/8W	1
R306	J707385P272	RES MFILM 2K7 5% 1/8W	1
R307	J707385P101	RES MFILM 100R 5% 1/8W	1
R309	J707385P947	RES MFILM 4R7 20% 1/8W	1
R401	J707385P820	RES MFILM 82R 5% 1/8W	1
R402	J707385P470	RES MFILM 47R 5% 1/8W	1
R404	J707385P472	RES MFILM 4K7 5% 1/8W	1
R405	J707385P103	RES MFILM 10K 5% 1/8W	1
R406	J707385P470	RES MFILM 47R 5% 1/8W	1
R407	J707385P153	RES MFILM 15K 5% 1/8W	1
R408	J707385P471	RES MFILM 470R 5% 1/8W	1
R409	J707385P471	RES MFILM 470R 5% 1/8W	1
R410	J707385P273	RES MFILM 27K 5% 1/8W	1
R411	J707385P152	RES MFILM 1K5 5% 1/8W	1
R412	J707385P392	RES MFILM 3K9 5% 1/8W	1
R413	J707385P153	RES MFILM 15K 5% 1/8W	1
R414	J707385P103	RES MFILM 10K 5% 1/8W	1
R415	J707385P104	RES MFILM 100K 5% 1/8W	1
R416	J708538P7	RES VAR CER 50K 20% 0,5W	1
R417	J707385P333	RES MFILM 33K 5% 1/8W	1
R418	J707385P820	RES MFILM 82R 5% 1/8W	1
R419	J707385P332	RES MFILM 3K3 5% 1/8W	1
R420	J707385P562	RES MFILM 5K6 5% 1/8W	1
R421	J707385P562	RES MFILM 5K6 5% 1/8W	1
R422	J707385P900	RES MFILM OR 5% 1/8W JUMP	1
R423	J707385P182	RES MFILM 1K8 5% 1/8W	1
R424	J707385P104	RES MFILM 100K 5% 1/8W	1
R425	J707406P5	RES THERM NTC 47K 10%	1
R426	J707385P393	RES MFILM 39K 5% 1/8W	1
R427	J707406P3	RES THERM NTC 15K 10%	1
R428	J707385P100	RES MFILM 10R 5% 1/8W	1
R501	J707385P103	RES MFILM 10K 5% 1/8W	1
R502	J707385P333	RES MFILM 33K 5% 1/8W	1
R503	J707385P153	RES MFILM 15K 5% 1/8W	1
R504	J707385P153	RES MFILM 15K 5% 1/8W	1

Pos.	Code No.	Description	Qt.
R505	J707385P153	RES MFILM 15K 5% 1/8W	1
R506	J707385P561	RES MFILM 560R 5% 1/8W	1
R507	J707385P153	RES MFILM 15K 5% 1/8W	1
R508	J707385P561	RES MFILM 560R 5% 1/8W	1
R509	J707385P123	RES MFILM 12K 5% 1/8W	1
R510	J707385P682	RES MFILM 6K8 5% 1/8W	1
R511	J707385P820	RES MFILM 82R 5% 1/8W	1
R512	J707385P100	RES MFILM 10R 5% 1/8W	1
R513	J707385P101	RES MFILM 100R 5% 1/8W	1
R520	J707385P101	RES MFILM 100R 5% 1/8W	1
R521	J707385P272	RES MFILM 2K7 5% 1/8W	1
R522	J707385P151	RES MFILM 150R 5% 1/8W	1
R523	J707385P271	RES MFILM 270R 5% 1/8W	1
R524	J707385P153	RES MFILM 15K 5% 1/8W	1
R525	J707385P392	RES MFILM 3K9 5% 1/8W	1
R526	A700019P30	RES DEPC 270R 5% 1/4W	1
R530	J707385P271	RES MFILM 270R 5% 1/8W	1
R531	J707385P151	RES MFILM 150R 5% 1/8W	1
R532	J707385P271	RES MFILM 270R 5% 1/8W	1
R533	J707385P151	RES MFILM 150R 5% 1/8W	1
R534	J707385P392	RES MFILM 3K9 5% 1/8W	1
R535	J707385P153	RES MFILM 15K 5% 1/8W	1
R536	J707385P151	RES MFILM 150R 5% 1/8W	1
R537	J707385P392	RES MFILM 3K9 5% 1/8W	1
R538	J707385P153	RES MFILM 15K 5% 1/8W	1
R539	J707385P151	RES MFILM 150R 5% 1/8W	1
R540	J707385P153	RES MFILM 15K 5% 1/8W	1
R541	J707385P392	RES MFILM 3K9 5% 1/8W	1
R543	J707385P471	RES MFILM 470R 5% 1/8W	1
R544	J707385P470	RES MFILM 47R 5% 1/8W	1
R545	J707385P271	RES MFILM 270R 5% 1/8W	1
R546	J707385P180	RES MFILM 18R 5% 1/8W	1
R547	J707385P271	RES MFILM 270R 5% 1/8W	1
R550	J707385P223	RES MFILM 22K 5% 1/8W	1
R551	J707385P223	RES MFILM 22K 5% 1/8W	1
R552	J707385P102	RES MFILM 1K0 5% 1/8W	1

Storno

Pos.	Code No.	Description	Qt.
R553	J707385P102	RES MFILM 1K0 5% 1/8W	1
R554	J707385P272	RES MFILM 2K7 5% 1/8W	1
R555	J707385P102	RES MFILM 1K0 5% 1/8W	1
R556	J707385P472	RES MFILM 4K7 5% 1/8W	1
R557	J707385P472	RES MFILM 4K7 5% 1/8W	1
R558	J707385P222	RES MFILM 2K2 5% 1/8W	1
R559	J707385P271	RES MFILM 270R 5% 1/8W	1
R570	J707385P560	RES MFILM 56R 5% 1/8W	1
R571	J707385P330	RES MFILM 33R 5% 1/8W	1
R572	J707385P332	RES MFILM 3K3 5% 1/8W	1
R573	J707385P180	RES MFILM 18R 5% 1/8W	1
R574	J707385P682	RES MFILM 6K8 5% 1/8W	1
R575	J707385P271	RES MFILM 270R 5% 1/8W	1
R601	J707385P103	RES MFILM 10K 5% 1/8W	1
R602	J707385P561	RES MFILM 560R 5% 1/8W	1
R605	J707385P332	RES MFILM 3K3 5% 1/8W	1
R606	J707385P102	RES MFILM 1K0 5% 1/8W	1
R607	J707385P820	RES MFILM 82R 5% 1/8W	1
R608	J707385P332	RES MFILM 3K3 5% 1/8W	1
R609	J707385P222	RES MFILM 2K2 5% 1/8W	1
R610	J707385P121	RES MFILM 120R 5% 1/8W	1
R611	J707385P121	RES MFILM 120R 5% 1/8W	1
R612	J707385P471	RES MFILM 470R 5% 1/8W	1
R613	J707385P471	RES MFILM 470R 5% 1/8W	1
R614	J707385P102	RES MFILM 1K0 5% 1/8W	1
R615	J707385P101	RES MFILM 100R 5% 1/8W	1
R618	J707385P100	RES MFILM 10R 5% 1/8W	1
R619	J707385P100	RES MFILM 10R 5% 1/8W	1
R620	J707385P103	RES MFILM 10K 5% 1/8W	1
R621	J707385P224	RES MFILM 220K 5% 1/8W	1
R622	J707385P393	RES MFILM 39K 5% 1/8W	1
R623	J707385P152	RES MFILM 1K5 5% 1/8W	1
R624	J707385P682	RES MFILM 6K8 5% 1/8W	1
R625	J707385P184	RES MFILM 180K 5% 1/8W	1
R626	J707385P221	RES MFILM 220R 5% 1/8W	1
R627	J707385P105	RES MFILM 1M0 10% 1/8W	1

Pos.	Code No.	Description	Qt.
R628	J707385P105	RES MFILM 1MO 10% 1/8W	1
R629	J707385P104	RES MFILM 100K 5% 1/8W	1
R630	J707385P103	RES MFILM 10K 5% 1/8W	1
R631	J707385P103	RES MFILM 10K 5% 1/8W	1
R632	J707385P271	RES MFILM 270R 5% 1/8W	1
R633	J707385P104	RES MFILM 100K 5% 1/8W	1
R635	J707385P100	RES MFILM 10R 5% 1/8W	1
R636	J707385P822	RES MFILM 8K2 5% 1/8W	1
R637	J707385P122	RES MFILM 1K2 5% 1/8W	1
R638	J707385P472	RES MFILM 4K7 5% 1/8W	1
R650	J707385P222	RES MFILM 2K2 5% 1/8W	1
R651	J707385P153	RES MFILM 15K 5% 1/8W	1
R652	J707385P682	RES MFILM 6K8 5% 1/8W	1
R653	J707385P123	RES MFILM 12K 5% 1/8W	1
R654	J707385P561	RES MFILM 560R 5% 1/8W	1
R655	J707385P820	RES MFILM 82R 5% 1/8W	1
R656	J707385P102	RES MFILM 1KO 5% 1/8W	1
R657	J707385P184	RES MFILM 180K 5% 1/8W	1
R658	J707406P5	RES THERM NTC 47K 10%	1
R659	J707406P4	RES THERM NTC 2K2 10%	1
R660	J707385P473	RES MFILM 47K 5% 1/8W	1
R661	J707385P123	RES MFILM 12K 5% 1/8W	1
R662	J707406P6	RES THERM NTC 470K 10%	1
R663	J707385P333	RES MFILM 33K 5% 1/8W	1
R701	J708538P4	RES VAR CER 5K 20% 0,5W	1
R702	J707385P102	RES MFILM 1KO 5% 1/8W	1
R703	J707385P682	RES MFILM 6K8 5% 1/8W	1
R704	J707385P823	RES MFILM 82K 5% 1/8W	1
R705	J707385P822	RES MFILM 8K2 5% 1/8W	1
R706	J707385P824	RES MFILM 820K 5% 1/8W	1
R707	J708538P5	RES VAR CER 10K 20% 0,5W	1
R708	J707385P103	RES MFILM 10K 5% 1/8W	1
R709	J707385P105	RES MFILM 1MO 10% 1/8W	1
R710	J707385P563	RES MFILM 56K 5% 1/8W	1
R711	J708538P6	RES VAR CER 20K 20% 0,5W	1
R712	J707385P103	RES MFILM 10K 5% 1/8W	1

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Pos.	Code No.	Description	Qt.
R713	J707385P684	RES MFILM 680K 5% 1/8W	1
R714	J707385P153	RES MFILM 15K 5% 1/8W	1
R715	J707385P682	RES MFILM 6K8 5% 1/8W	1
R716	J707385P222	RES MFILM 2K2 5% 1/8W	1
R717	J708538P4	RES VAR CER 5K 20% 0,5W	1
R718	J707385P222	RES MFILM 2K2 5% 1/8W	1
R719	J707385P472	RES MFILM 4K7 5% 1/8W	1
R720	J707385P472	RES MFILM 4K7 5% 1/8W	1
R721	J708538P7	RES VAR CER 50K 20% 0,5W	1
R722	J707385P562	RES MFILM 5K6 5% 1/8W	1
R723	J707385P104	RES MFILM 100K 5% 1/8W	1
R724	J707385P103	RES MFILM 10K 5% 1/8W	1
R725	J707406P2	RES THERM NTC 680R 10%	1
R726	J708538P5	RES VAR CER 10K 20% 0,5W	1
R727	J707385P562	RES MFILM 5K6 5% 1/8W	1
U201	J708333P3	IC LIN VR FIX 2685	1
U202	J707243P1	IC DIG REG 4094 CMOS	1
U203	J708503P1	IC LIN CMPAR LM 239	1
U401	J708676P1	IC LIN FM-RX TBB 2469G	1
U501	J708694P1	IC PLL SYN OM 806	1
U602	J707374P5	IC PLL PRESC ECL 8717-270	1
U603	B800902P1	IC CMOS SYNTHESIZER	1
U604	J708503P3	IC LIN CMPAR LM 293	1
U605	J707434P3	IC DIG SW 4066 CMOS	1
U701	M905794G1	INT RES ARRAY ASM	1
U702	J708660P1	IC DIG OP-AMP 074	1
U703	J708165P1	IC LIN OP-AMP 224	1
U704	J708165P3	IC LIN OP-AMP 258	1
W101	J708716P1	STRAP	1
W570	L855743G1	COIL ASM	1
W571	A701093P1	STRAP	1
Y401	J708426P1	CRYSTAL UNIT 44.545MHZ	1
Y501	J708424P5	CRYSTAL UNIT 13.750 MHZ	1
Y601	J708424P3	CRYSTAL UNIT 8.0625 MHZ	1
Z401	J708330P1	FLTR CRY 45.0	1
Z402	J707308P1	FLTR CER 455K+/-10KHZ	1

Storno

Pos.	Code No.	Description	Qt.
0002	M905811P1R2	BD PW	1
0006	J708478P1	HEAT SINK	1
0011	J708561P3	COIL FIXED	4

Pos.	Code No.	Description	Qt.

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CHAPTER
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CF6002

COMMON FUNCTION BOARD

The encircled numbers in the text refer to the numbered parts on the electrical drawing.

POWER REGULATOR

The power regulator comprises three parts:

+5 V continuous
+8 V
+5 V switch mode

(1) +5 V CONT SUPPLY

+5 V CONT is made by C901, C902, C903, D904 and U901.
U901 is a 5 V voltage regulator with an extreme low power consumption. The voltage is used to power the ON/OFF circuit, the battery voltage warning circuit and as a reference for the +5 V switch mode.

The capacitors are used as decoupling. D904 ia a polarity protection.

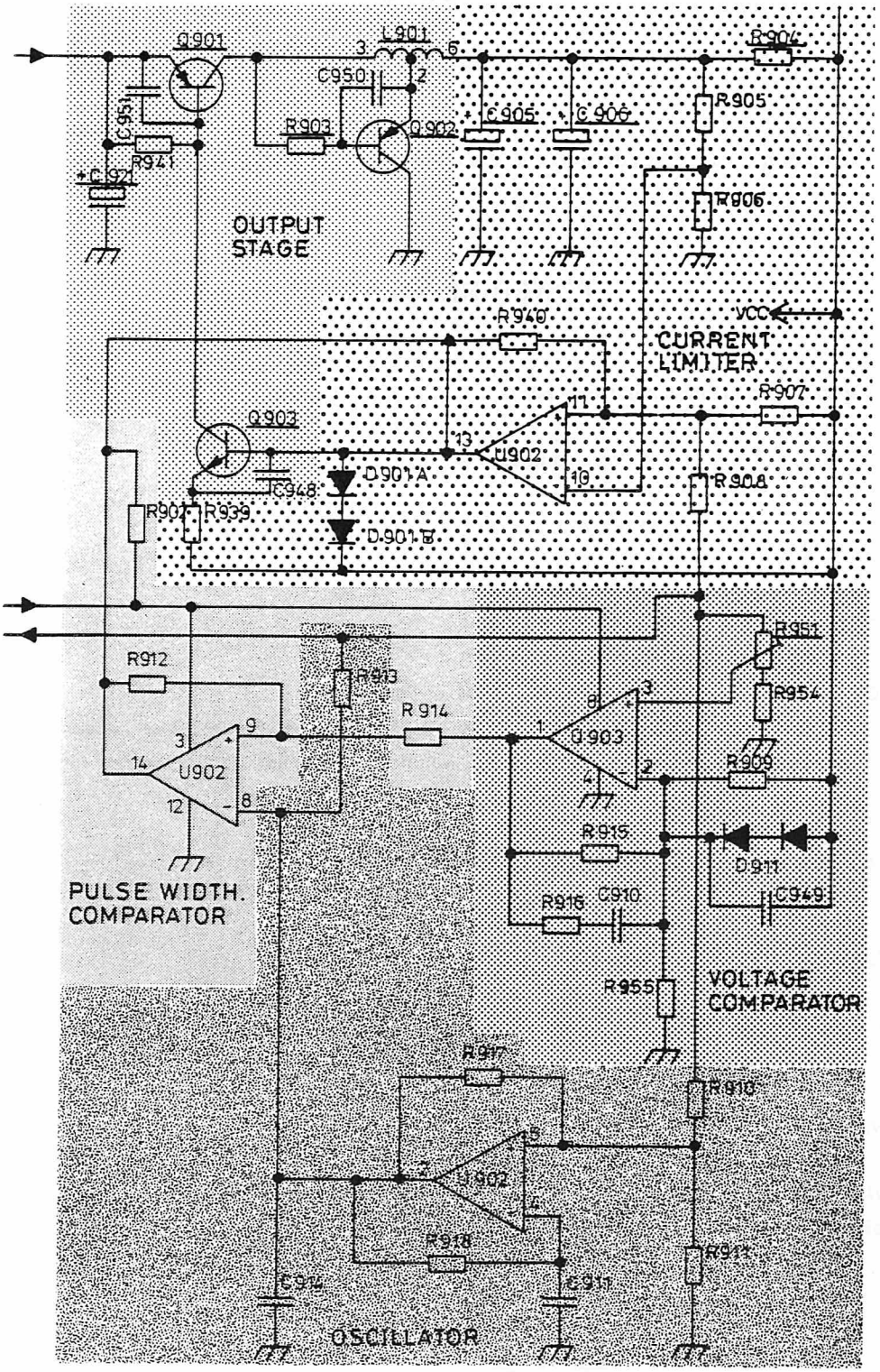
(2) +8 V SUPPLY

+8 V is supplying all the audio amplifiers. It is made by U906, C915, C916 and C917.

(3) +5 V SWITCH MODE

The switch mode supply is built up with pulse-width regulation.
It contains five parts:

1. Oscillator
2. Voltage comparator
3. Pulse-width comparator
4. Output stage
5. Current limiter


Q901
L901
C950
R904
C905
C906
R905
R903
Q902
C951
R941
C921
R906
OUTPUT STAGE
R940
VCC
CURRENT LIMITER
R907
Q903
U902
D901A
C948
R908
R902
R939
D901B
R951
R912
R913
R914
R954
U902
Q903
R909
R915
D911
R916
C910
C949
PULSE WIDTH. COMPARATOR
R955
VOLTAGE COMPARATOR
R917
R910
Q902
R918
R911
C914
C911
OSCILLATOR

Oscillator

The oscillator contains R910, R911, R913, R917, R918, C911, C914 and U902A. It is coupled as a square wave multi-vibrator. R913 and C914 deform the output signal to an approximated sawtooth.

Voltage Comparator

The voltage comparator compares the output voltage with the reference voltage. It contains R909, R915, R916, R951, R954, R955, C910, D911 and U903A.

It is possible to adjust the output voltage on R951. D911 protects the logic circuits against over-voltage in the upstart.

Pulse Width Comparator

The comparator U902B works with R902, R912 and R914. It compares the signal from the voltage comparator and the oscillator. The output is a square wave where the duty cycle depends on the differens between the reference and the output voltage.

Output Stage

The parts: Q901, Q902, Q903, R903, R939, C905, C906, C921 and L901 are the output stage. When the output from U902B is "1", Q901 is opened and a current flows through L901 to the output. When Q901 closes Q902 will work as a flyback diode so that the accumulated energy in L901 will supply the output.

Current Limiter

The current limiter is made with U902C, R904, R905, R906, R907, R908 and R940.

When the voltage over R904 increases to the voltage over R905, the U902C will take the base voltage from Q903 and therefore limits the output current.

ON/OFF LOGIC

(4) The ON/OFF LOGIC contains the on/off-Flip-Flop U905 and different timing circuits.

(5) SWITCH-ON SEQUENCE

From the control box comes a 1.2 V pulse from the on/off button. Q907 will shift so that the collector goes to ground. After a delay time, caused by R950 and C918, U907 triggers U905. The shift on U905 causes a pulse on "µP RESET". The length of the reset pulse depends on R942 and C919. U907 will shift immediately and switch on the +5 V switch mode supply.

SWITCH-OFF SEQUENCE

The switch-off sequence will follow one of the following procedures:

1. A signal from the on/off button or from the autonomous timer.
2. An off command from "TURN OFF ADMIT".
3. An order from the voltage warning.

Signal from On/Off Button or Autonomous Timer

From the control box a 1.2 V pulse comes from the on/off button. This causes a "high" on on/off pulse and shift the on/off Flip-Flop. The microprocessor will detect the "high" on on/off pulse, and run a switch-off procedure. The microprocessor will return a high on "Turn off admit". This "high" will reset the on/off flip-flop, discharge C908 through R926, reset the microprocessor and turn off the switch mode supply.

If there comes no order to turn off from the microprocessor it will turn off after a delay time depending on R922 and C908.

Signal from Turn Off Admit

It is possible for the microprocessor to switch-off the radio via the "TURN OFF ADMIT". A "1" clears the flip-flop and turns off the switch-mode supply independent of all other states.

Signal from Voltage Warning Circuit

If the main supply warning circuit (U904, pin 7) is "0", a warning to the microprocessor is given. (Ubat $\leq$10.4 V).
But if the main supply decreases to approximately 7.5 V, U904 pin 1 goes "low". This will reset the on/off flip-flop. It will also prevent C105 from being discharged. If 904 pin 1 goes "low" then U907 pin 2 also goes low. This will switch off Q101 and Q100 and prevent C105 from being discharged quickly.

When the main supply increases again to 8 V within 5 sec. the radio will turn on again the following way: U904 pin 1 goes "high" and after a while U907 pin 2 goes "high" depending on R102 and C104. This will clock the "high" on U905 pin 5 out on Q (U905 pin 1) and set the on/off flip-flop (that means turn on the radio). When the on/off flip-flop is set Q (U905 pin 13) will go "high" and reset the "power failure flip-flop".

AUTONOM TIMER

(6) The autonomous timer have some control functions and switches-off the radio if some illegal functions are detected.

WATCH-DOG

Under normal conditions the microprocessor generates a 10 Hz square wave signal to the "watch-dog". It is R601, D601, C601, C602 and U101.

The "watch-dog" integrates the square wave to a DEG i.e. a "0" on U101 pin 9 and 10. If the 10 Hz signal stays away, the output shifts to "1". This gives a "1" at the "ON/OFF RESET" and switchs the radio off.

When a conversation takes place the following logical statement is to find:

"RSSI" = "1"
"PA-SENSE" = "1"
"TX-ADMIT" = "0"

If the received signal stays away the "RSSI" shifts to "0". This causes a "0" on "MASTER RESET" pin 12 on U604. When "MR" have been "0" in 30 sec. the output "Q" of 905, pin 3 shifts to "1" and turns off the radio.

The situation where "PA-SENSE" is "1" and "TX-ADMIT" is "1" causes a "1" on "ON/OFF-RESET" and turns the radio off.

RX-AUDIOPROCESSOR

The RX-AUDIOPROCESSOR contains the following parts.

De-emphaser.
3 kHz low-pass filter.
Switch and PROC-RX amplifier.
Alert generator and analog switch.
Attenuator and power amplifier.

(7) DE-EMPHASER

The de-emphaser is an inverting amplifier where the feed-back parts R704 and C703 are deemphasing parts as well.

(8) 3 kHz LOW-PASS FILTER

The 3 kHz low-pass filter is of 6th. order.

(9) SWITCH AND PROC-RX

The signal from the 3 kHz filter (U701D, pin 14) is transferred to the buffer amplifier via the analog switch U703. When "HF/HS SELECT" or "RX MUTE" are "1" Q701 will switch-off the signal. U702 is able to drive a microtelephone via C718.

(10) ALERT GENERATOR

The alert generator is a square-wave generator where the frequence depends on C605 and all resistors. If C606 is coupled parallel the frequency is the half. As alert signal the triangle on U602D is used. U602C is coupled as an isolation amplifier with C607 as a DC-isolator. The analog switch have this function table:

Inputs		
A1	A0	Channel ON
L	L	Y0A - ZA Y1B - ZB
L	H	Y1A - ZA Y1B - ZB
H	L	Y2A - ZA Y2B - ZB
H	H	Y3A - ZA Y3B - ZB

The data input A0 is identical to "AUDIO SIGNAL SELECT 0" and A1 is identical to "AUDIO SIGNAL SELECT 1".

The audio signal functions are as follows:

ASS 1	ASS 0	Function
0	0	VOICE OPERATED HANDSFREE
0	1	NORMAL RX SIGNAL
1	0	ALERT TONE 1200 Hz
1	1	ALERT TONE 600 Hz

(11) ATTENUATOR

U801 is an analog switch (multiplexer) with 8 inputs. The resistors are coupled as a step attenuator where R801 to R808 is a voltage divider. The actual volume depends of the set-up on VOL 0, VOL 1 and VOL 2.

(12) POWER AMPLIFIER

The power amplifier is a bridge coupled amplifier with an enable input which is connected to "LS ENSABLE" on J704, pin 11. The gain depends on R814, R815 and R816.

TX-AUDIOPROCESSOR

The TX-AUDIOPROCESSOR contains five different circuits:

- Microphone switch
- Pre-emphasing
- Automatic Gain Control
- Limiter
- Lowpass filter

(13) MICROPHONE SWITCH

There are three inputs:

1. "HS MIC", handset microphone
2. "HF MIC", handsfree microphone
3. "HF/HS SELECT"

When "HF/HS SELECT" is "0" the "HS MIC" is selected. R545 is pulled to GND and therefore Q510 is opened. That means that R544 is supplied with 8 V from Q510's collector. R544 is supplying the "HS MIC" amplifier with power. In this case the "HF MIC" is disabled. When "HF/HS SELECT" is "1" the "HF MIC" is selected. There is +5 V on Q509's base and Q508 is now opened. R501 is now supplied with +8 V from Q508's collector and therefore the "HF MIC" amplifier is powered. "HS MIC" is now disabled.

(14) PRE-EMPHASER

The pre-emphaser is build up with C501, C526, R502, R503 and U501B.
U501B is coupled as an inverting amplifier with an input impedance at nearly 0 ohm. The Pre-emphasing is made by R502 and C501 or C526. It depends on the "HF/HS SELECT"-mode.
R502 and the actual capacitor is coupled as a high-pass filter with a -3 dB cut-off at approx. 10 kHz.
R503 is setting the gain in U501B. The output signal from U501B can be adjusted on U504.

(15) AUTOMATIC GAIN CONTROL

U501A is coupled as an inverting amplifier with a gain of approx. 11 dB. When the voltage on U501A pin 1 increases to more than the voltage on U501C pin 9 the output voltage on U501C pin 8 will increase and charge C504.

When the voltage on C504 is high enough the Q501 will work as a linear resistor. R509 and Q501 will behave as a voltage divider and attenuate the analog signal.
When "MIKE DISABLE" is "1" the analog switch U703A will switch off the microphone signal.
It is possible to adjust the max. output signal on R512. C502, R505 and R509 is a 100 Hz high-pass filter.

(16) LIMITER

Normally D503A and B are open. But, when the voltage on U501D pin 14 decreases to 1.94 V, D503B will be blocked. When the voltage on U501D pin 14 increases to 5.16 V, D503A will block the signal.

U501D is an inverting amplifier with a high frequency cut at 6 kHz. The amplifier has three input signals:

1. Microphone
2. FFSK from the CL-board
3. An input for external equipment on J701 pin 22, "TX-LINE".

The microphone signal comes from the AGC via the analog switch U703A and R517. The FFSK comes from the CL-board via R516.

The input signal for external equipment goes through C527, R515 and the analog switch U703B. When "MIKE DISABLE" is "1" the signal is switched off.

⑰ 3 kHz FILTER

This filter is a 4th order lowpass 3 kHz filter. It is a filter with Butterworth characteristic. R524 and C527 from a 200 Hz high pass filter.

Storno

Rear Conn. | Front Conn | logic | RX

TO R544

J701: 1 BATT+ · 2 BATT+ PORTABLE HANDSFREE · 3 PTT · 4 BUS REQUEST · 5 BUS DIRECTION · 6 BUS DATA · 7 ON/OFF RESET · 8 PROC RX (HS) · 11 GND · 12 GND · 13 BATT+ · 14 SIGN GND · 18 MIC (HS) · 19 LS 1 · 23 TX LINE · 22 GND · 25 RADIO MUTE OUT · 15 HORN RELAY OUT · 17 +5 · 9 HOOK SW · 21 IGNITION · 15 LS 2 (HF) · 24 MIC · 20

J705: 1 SIGN GND · 13 PTT · 12 LS 1 · 10 MIC (HS) · 9 BATT+ (FUSED) · 1 DATA GND · 2 +5 · 3 BUS DIRECTION · 4 BUS DATA · 5 BUS REQUEST · 6 ON/OFF RESET · 7 PROC RX (HS) · 8 LS 2 · 11

J703: 2 PTT · 3 BUS DATA · 4 BUS DIRECTION · 5 BUS REQUEST · 22 PORTABLE HANDSFREE · 35 SIG GND · 26 IGNITION · 27 HOOK SW · 18 HORN RELAY · 13 RADIO MUTE · 15 LOW VOLT WARN · 21 µP RESET · 24 +5V CONT · 20 TURN OFF ADM. · 32 ON/OFF PULSE · 1 ON/OFF RESET · 30 AUTON. PULSE · 25 TX ADMIT · 12 +5 · 6 RSSI B · 7 RSSI A · 16 SER. STROBE · 19 SER. CLOCK · 17 SER. DATA

J704: 1 PA-SENSE · 2 SER DATA · 3 SER CLOCK · 4 SER STROBE · 7 RSSI B · 8 RSSI A · 9 13.6V SW

J702

C931 100p · C409 100p · R731 100R · R730 100R · C411 100p · C425 33n · C428 100p · C424 33n · C429 100p · C415 100p · C952 330µ · D902 · C927 100pF · C926 100pF · C932 100p · F401 · C934 10n · R732 100R · C933 100p · C720 1µ · R727 22K · R728 22K · C613 100n · C416 100p · D607A · D607B · C612 100p · D904 · C423 10n · C421 10n · C923 10n · C925 100pF · U901 · C901 10µ · C902 100n · C903 100n · +5V CONT

C408 100p · C417 10n · C930 100p · C412 100p · C419 100p · C404 100p · C422 100p · C414 10n · C410 100p · C924 10n · C413 10n · C418 10n · C928 100p · C403 100p · C929 10n · C407 10n · C426 100n · C427 100p

Q401 · R405 560 · R404 1K8 · Q402 · R406 1K5 · R407 4K7 · VCC

Q403 · R409 560 · R408 1K8 · Q404 · R410 1K5 · R411 4K7 · VCC

RSSI A+B · R107 220K · C101 10µ · U504 · MR · Q · C609 15n · R622 120K · R100 56K · D101 · TX-ADMIT · R115 270K · C111 100n · C100 100p · U907 · U100 · PA-SENS · R109 10K · C109 47n · C102 100p · +5V CONT

D601A · D601B · C601 10µ · R601 180K · C602 10µ · U101

R111 22R · U101 · C110 100n · +5V CONT · R952 150K · R953 10K · C922 4µ7 · +5VCONT · R942 120K · R948 10K · C918 1µ · C919 µ1 · R949 4K7 · R950 120K · U907 · Q907 · 100p C937 · R947 10K · R956 4K7 · VCC · +5V CONT · U100 · R114 100K · Q102 · R113 100K · R101 22K · C103 100n · U101 · R108 2K2 · C108 10n · R110 4K7 · U905 A · RESET · GND · C943 100p · C947 100p · D903 · C946 100p · R945 4K7 · C945 100p · Q908 · R946 4K7 · R925 4K7 · R922 4K7 · R926 22 · C908 10µ · U905 B · R106 270K · C105 47µ · R105 390K · R112 180K · C106 100p · R104 56K · Q100 · C107 100p · Q101 · R103 56K

D100 · C104 100n · R102 100K · R929 4K7 · R943 580K · U904 · R944 680K · R927 4K7 · R931 82K · R937 39K · C912 100p · R938 100K · R934 10K · R933 22K · R932 12K · C913 100p

L902 100µ · C920 µ1 · C904 100p · R901 10K · R919 560R · R921 560R · Q904 · Q905 · R923 5K6

Q901 · C951 100p · R941 220 · C952 100µ · L901 · C950 100p · R903 4R7 · U902 · C905 47µ · C906 47µ · R904 R22 · R905 6K8 · R905 100K · Q903 · C948 100p · D901A · D901B · R902 4K7 · R939 22 · R940 470K · R907 2K2 · R908 220K · R912 220K · R913 15K · R914 8K2 · U902 · U903 · R951 10K · R954 27K · R909 1K5 · D911 · C949 100p · R915 470K · R916 2K7 · C910 100n · R955 10K · R910 8K2 · R917 820K · U902 · R918 56K · C911 56p · R911 56K · C914 680p

U906 78L08 · C917 100n · C916 100n · C915 10µ · +8V · TP1 · C909 47µ

NOTE:
COMPONENTS MARKED RXXX ARE PLACED ON COMPONENT SIDE.

REV. C
CODE NO. M905820G1

COMMON FUNCTION CF6002
Sh.1of 2 D404.455/2

Storno

Storno

J701 MIC HF 20, LS 2 24, PORTABLE/HANDSFREE 3, PROC RX (HS) 11, TX LINE 22, PROC RX (HF) 10, MIC HS 19
J702 RX LINE 5, TX MOD 6
J703 MIC HS 9
J704 18
J704 MIKE DISABLE 14, FFSK OUT 31, FFSK IN (RX LINE) 23, HF/HS SELECT 33, RX MUTE 34, AUDIO SIGNAL SELECT 1 29, AUDIO SIGNAL SELECT 0 28, VOL 2 8, VOL 1 9, VOL 0 10, LS ENABLE 11
J701 +13.6 V 1, LS 1 23

NOTE 1

NOTE1
* G2 ONLY
□ G1 R503 = 100k
G2 R503 = 150k
○ R548, R703, R729 IS ONLY A PART OF G1

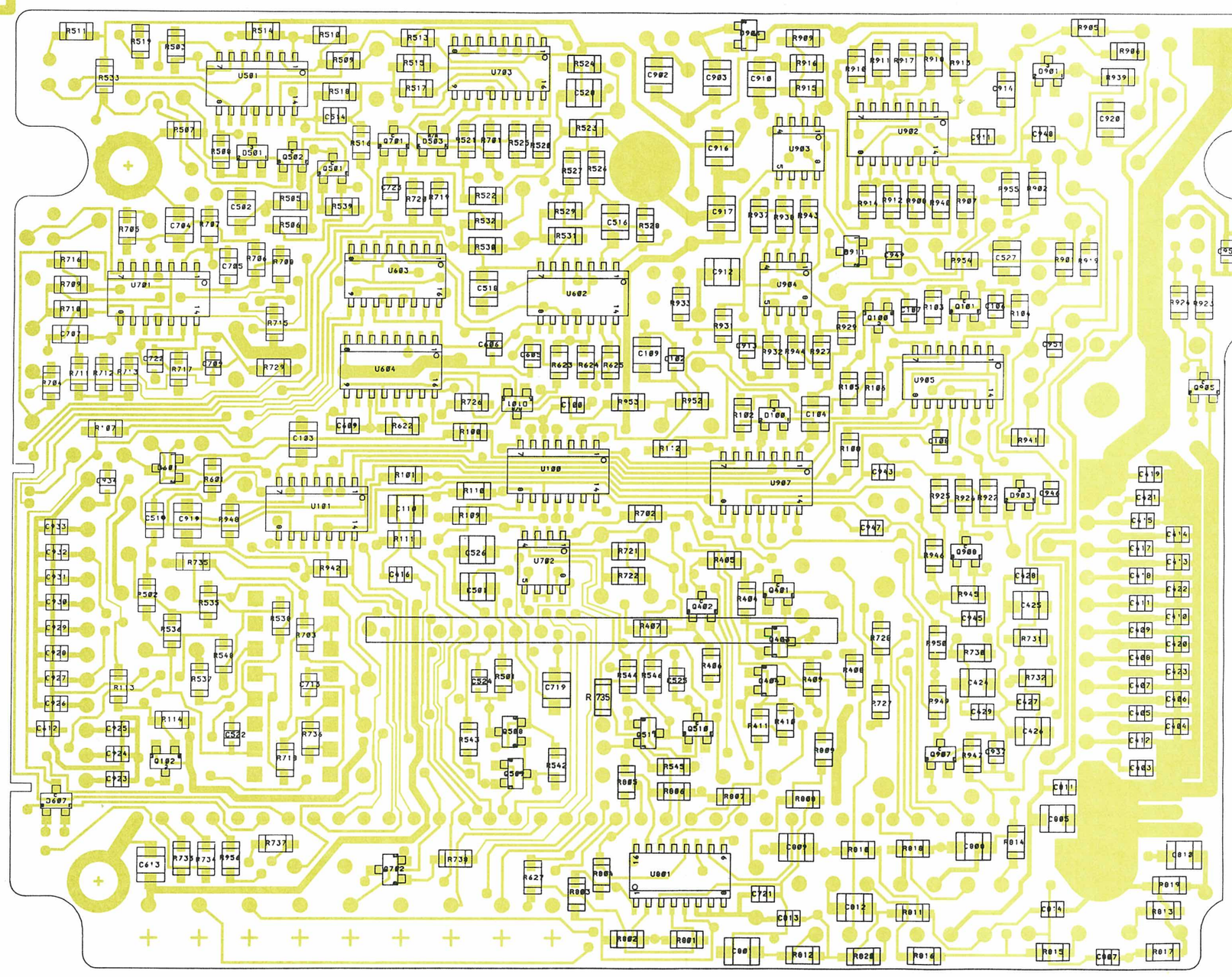
NOTE:
COMPONENTS MARKED RXXX ARE PLACED ON COMPONENT SIDE.

COMMON FUNCTION CF6002

REV. C CODE NO M905820G1 Sh.2of2 D404 455/2

Storno

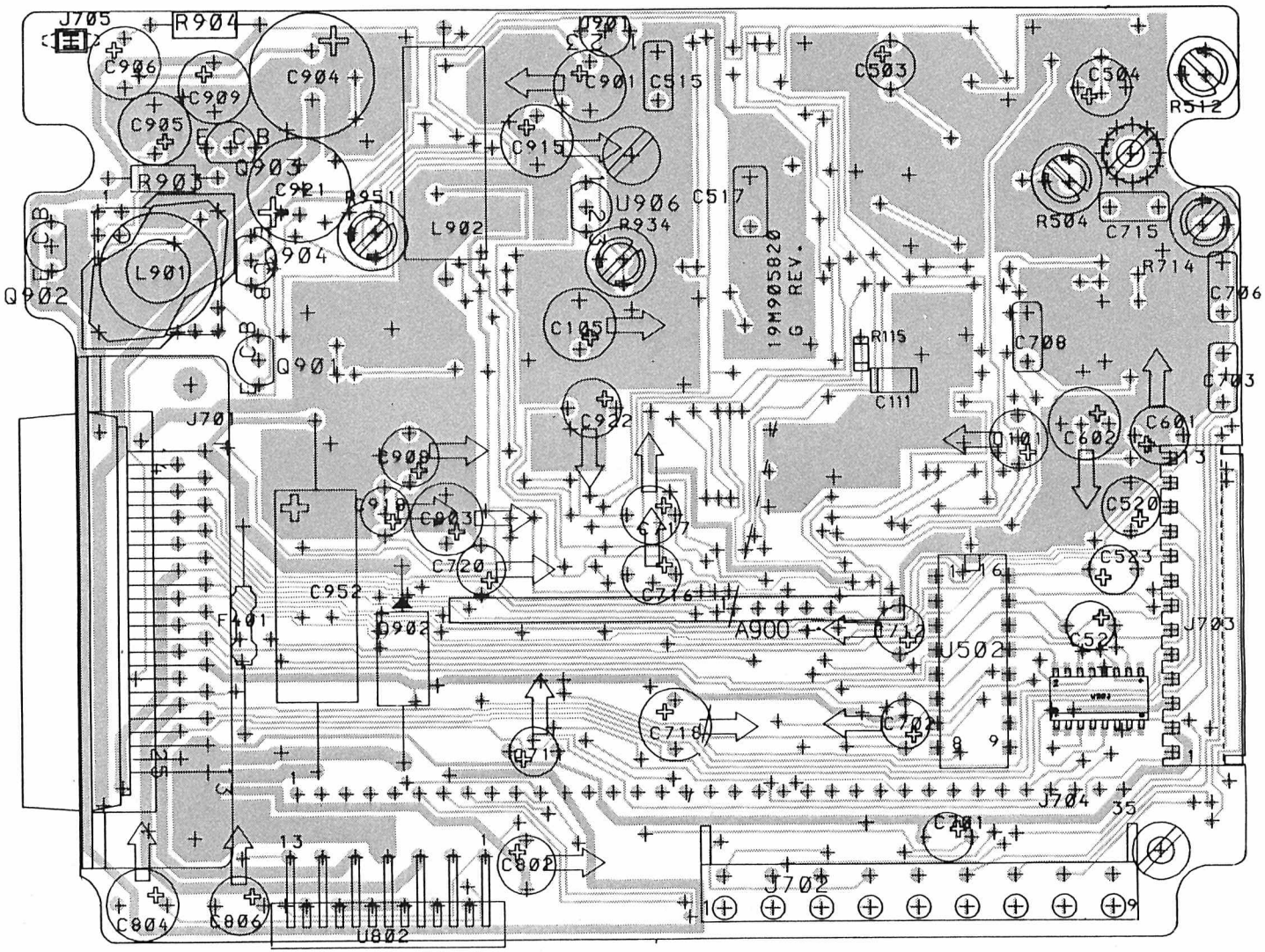
Storno



COMMON FUNCTION CF6002
COMPONENT LAYOUT-CHIP SIDE

CODE NO. M905820G1 REV. 3 D404.431/2

Storno



COMMON FUNCTION CF6002
COMPONENT LAYOUT-COMPONENT SIDE
CODE NO. M905820G1 REV. 3 D404.432/2

Storno

Pos.	Code No.	Description	Qt.
C100	J707436P62	CAP CER NPO 100P 10% 50V	1
C101	J707444P7	CAP TA SOL 10U 20% 16V	1
C102	J707436P62	CAP CER NPO 100P 10% 50V	1
C103	J707438P26	CAP CER CL2 100N 10% 50V	1
C104	J707438P26	CAP CER CL2 100N 10% 50V	1
C105	J707444P9	CAP TA SOL 47U 20% 6V	1
C106	J707436P62	CAP CER NPO 100P 10% 50V	1
C107	J707436P62	CAP CER NPO 100P 10% 50V	1
C108	J707438P14	CAP CER CL2 10N 10% 50V	1
C109	J707438P22	CAP CER CL2 47N 10% 50V	1
C110	J707438P26	CAP CER CL2 100N 10% 50V	1
C111	J707438P26	CAP CER CL2 100N 10% 50V	1
C403	J707436P62	CAP CER NPO 100P 10% 50V	1
C404	J707436P62	CAP CER NPO 100P 10% 50V	1
C405	J707436P62	CAP CER NPO 100P 10% 50V	1
C406	J707436P62	CAP CER NPO 100P 10% 50V	1
C407	J707438P14	CAP CER CL2 10N 10% 50V	1
C408	J707436P62	CAP CER NPO 100P 10% 50V	1
C409	J707436P62	CAP CER NPO 100P 10% 50V	1
C410	J707436P62	CAP CER NPO 100P 10% 50V	1
C411	J707436P62	CAP CER NPO 100P 10% 50V	1
C412	J707436P62	CAP CER NPO 100P 10% 50V	1
C413	J707438P14	CAP CER CL2 10N 10% 50V	1
C414	J707438P14	CAP CER CL2 10N 10% 50V	1
C415	J707436P62	CAP CER NPO 100P 10% 50V	1
C416	J707436P62	CAP CER NPO 100P 10% 50V	1
C417	J707438P14	CAP CER CL2 10N 10% 50V	1
C418	J707438P14	CAP CER CL2 10N 10% 50V	1
C419	J707436P62	CAP CER NPO 100P 10% 50V	1
C420	J707436P62	CAP CER NPO 100P 10% 50V	1
C421	J707438P14	CAP CER CL2 10N 10% 50V	1
C422	J707436P62	CAP CER NPO 100P 10% 50V	1
C423	J707438P14	CAP CER CL2 10N 10% 50V	1
C424	J707438P20	CAP CER CL2 33N 10% 50V	1
C425	J707438P20	CAP CER CL2 33N 10% 50V	1
C426	J707438P26	CAP CER CL2 100N 10% 50V	1

Storno

Pos.	Code No.	Description	Qt.
C427	J707436P62	CAP CER NPO 100P 10% 50V	1
C428	J707436P62	CAP CER NPO 100P 10% 50V	1
C429	J707436P62	CAP CER NPO 100P 10% 50V	1
C501	J707438P26	CAP CER CL2 100N 10% 50V	1
C502	J707438P26	CAP CER CL2 100N 10% 50V	1
C503	J707444P2	CAP TA SOL 0U22 20% 35V	1
C504	J707444P6	CAP TA SOL 4U7 20% 35V	1
C514	J707436P69	CAP CER NPO 220P 5% 50V	1
C515	J707412P2	CAP PYES 6N8 10% 63V	1
C516	J707436P93	CAP CER NPO 2N2 5% 50V	1
C517	J707412P7	CAP PYES 47N 10% 63V	1
C518	J707436P93	CAP CER NPO 2N2 5% 50V	1
C519	J707363P11	CAP CER NPO 2N2 2% 50V	1
C524	J707438P14	CAP CER CL2 10N 10% 50V	1
C525	J707438P14	CAP CER CL2 10N 10% 50V	1
C526	J707438P26	CAP CER CL2 100N 10% 50V	1
C527	J707438P26	CAP CER CL2 100N 10% 50V	1
C528	J707438P22	CAP CER CL2 47N 10% 50V	1
C601	J707444P7	CAP TA SOL 10U 20% 16V	1
C602	J707444P7	CAP TA SOL 10U 20% 16V	1
C605	J707438P16	CAP CER CL2 15N 10% 50V	1
C606	J707438P16	CAP CER CL2 15N 10% 50V	1
C609	J707438P16	CAP CER CL2 15N 10% 50V	1
C612	J707436P62	CAP CER NPO 100P 10% 50V	1
C613	J707438P26	CAP CER CL2 100N 10% 50V	1
C701	J707444P4	CAP TA SOL 1U 20% 35V	1
C702	J707444P4	CAP TA SOL 1U 20% 35V	1
C703	J707412P3	CAP PYES 10N 10% 63V	1
C704	J707436P93	CAP CER NPO 2N2 5% 50V	1
C705	J707436P85	CAP CER NPO 1N0 5% 50V	1
C706	J707412P2	CAP PYES 6N8 10% 63V	1
C707	J707436P85	CAP CER NPO 1N0 5% 50V	1
C708	J707412P3	CAP PYES 10N 10% 63V	1
C709	J707436P77	CAP CER NPO 470P 5% 50V	1
C715	J707412P5	CAP PYES 22N 10% 63V	1
C716	J707444P7	CAP TA SOL 10U 20% 16V	1

Pos.	Code No.	Description	Qt.
C717	J707444P7	CAP TA SOL 10U 20% 16V	1
C718	J707444P9	CAP TA SOL 47U 20% 6V	1
C719	J707438P26	CAP CER CL2 100N 10% 50V	1
C720	J707444P4	CAP TA SOL 1U 20% 35V	1
C721	J707438P10	CAP CER CL2 4N7 10% 50V	1
C722	J707436P62	CAP CER NPO 100P 10% 50V	1
C723	J707436P62	CAP CER NPO 100P 10% 50V	1
C801	J707438P26	CAP CER CL2 100N 10% 50V	1
C802	J707444P7	CAP TA SOL 10U 20% 16V	1
C803	J707444P8	CAP TA SOL 22U 20% 16V	1
C804	J707444P8	CAP TA SOL 22U 20% 16V	1
C805	J707438P26	CAP CER CL2 100N 10% 50V	1
C806	J707444P6	CAP TA SOL 4U7 20% 35V	1
C807	J707436P73	CAP CER NPO 330P 5% 50V	1
C808	J707438P26	CAP CER CL2 100N 10% 50V	1
C809	J707438P26	CAP CER CL2 100N 10% 50V	1
C810	J707438P26	CAP CER CL2 100N 10% 50V	1
C811	J707436P62	CAP CER NPO 100P 10% 50V	1
C812	J707438P26	CAP CER CL2 100N 10% 50V	1
C813	J707436P62	CAP CER NPO 100P 10% 50V	1
C814	J707436P62	CAP CER NPO 100P 10% 50V	1
C901	J707444P7	CAP TA SOL 10U 20% 16V	1
C902	J707438P26	CAP CER CL2 100N 10% 50V	1
C903	J707438P26	CAP CER CL2 100N 10% 50V	1
C904	J706005P9	CAP ELECT 100U +100-10%	1
C905	J707444P9	CAP TA SOL 47U 20% 6V	1
C906	J707444P9	CAP TA SOL 47U 20% 6V	1
C908	J707444P7	CAP TA SOL 10U 20% 16V	1
C909	J707444P9	CAP TA SOL 47U 20% 6V	1
C910	J707438P26	CAP CER CL2 100N 10% 50V	1
C911	J707436P49	CAP CER NPO 56P 5% 50V	1
C912	J707438P26	CAP CER CL2 100N 10% 50V	1
C913	J707436P62	CAP CER NPO 100P 10% 50V	1
C914	J707436P82	CAP CER NPO 680P 10% 50V	1
C915	J707444P7	CAP TA SOL 10U 20% 16V	1
C916	J707438P26	CAP CER CL2 100N 10% 50V	1

Storno

Pos.	Code No.	Description	Qt.
C917	J707438P26	CAP CER CL2 100N 10% 50V	1
C918	J707444P4	CAP TA SOL 1U 20% 35V	1
C919	J707438P26	CAP CER CL2 100N 10% 50V	1
C920	J707438P26	CAP CER CL2 100N 10% 50V	1
C921	J706005P9	CAP ELECT 100U +100-10%	1
C922	J707444P6	CAP TA SOL 4U7 20% 35V	1
C923	J707438P14	CAP CER CL2 10N 10% 50V	1
C924	J707438P14	CAP CER CL2 10N 10% 50V	1
C925	J707436P62	CAP CER NPO 100P 10% 50V	1
C926	J707436P62	CAP CER NPO 100P 10% 50V	1
C927	J707436P62	CAP CER NPO 100P 10% 50V	1
C928	J707436P62	CAP CER NPO 100P 10% 50V	1
C929	J707438P14	CAP CER CL2 10N 10% 50V	1
C930	J707436P62	CAP CER NPO 100P 10% 50V	1
C931	J707436P62	CAP CER NPO 100P 10% 50V	1
C932	J707436P62	CAP CER NPO 100P 10% 50V	1
C933	J707436P62	CAP CER NPO 100P 10% 50V	1
C934	J707438P14	CAP CER CL2 10N 10% 50V	1
C937	J707436P62	CAP CER NPO 100P 10% 50V	1
C943	J707436P62	CAP CER NPO 100P 10% 50V	1
C945	J707436P62	CAP CER NPO 100P 10% 50V	1
C946	J707436P62	CAP CER NPO 100P 10% 50V	1
C947	J707436P62	CAP CER NPO 100P 10% 50V	1
C948	J707436P62	CAP CER NPO 100P 10% 50V	1
C949	J707436P62	CAP CER NPO 100P 10% 50V	1
C950	J707436P62	CAP CER NPO 100P 10% 50V	1
C951	J707436P62	CAP CER NPO 100P 10% 50V	1
C952	J706024P7	CAP ELECT 330U+50-10% 25V	1
D100	J707390P1	DIO SI SIG BAV 74	1
D101	J708681P1	DIO SI SIG BAW 56	1
D501	J707389P1	DIO SI SIG BAV 99	1
D503	J708681P1	DIO SI SIG BAV 56	1
D601	J707389P1	DIO SI SIG BAV 99	1
D607	J707390P1	DIO SI SIG BAV 74	1
D901	J707389P1	DIO SI SIG BAV 99	1
D902	J708407P1	DIO SI SUPPR 1N6277 18V	1

Pos.	Code No.	Description	Qt.
D903	J707390P1	DIO SI SIG BAV 74	1
D904	J708681P1	DIO SI SIG BAW 56	1
D911	J707389P1	DIO SI SIG BAV 99	1
F401	J707468P8	FUSE CTG 2.0A F	1
J701	J708471P213	CONN MULTI RECP 25-WAY	1
J702	J707064P109	CONN PWB FEM 09-CKT	1
J703	A700041P87	CONN PWB FEM 13 CKT	1
J704	J708925P3	CONN PT PIN L-19,25 & 36	
J705	A701883P4	CONT EL	1
L901	K805640G1	COIL ASM	1
L902	J709229P1	COIL RF FIX 100UH 10%	1
Q100	J707387P1	TSTR PNP SI BCW 30	1
Q101	J707386P1	TSTR NPN SI BCW 32	1
Q102	J707387P1	TSTR PNP SI BCW 30	1
Q401	J707429P1	TSTR NPN SI BCX 20	1
Q402	J707387P1	TSTR PNP SI BCW 30	1
Q403	J707429P1	TSTR NPN SI BCX 20	1
Q404	J707387P1	TSTR PNP SI BCW 30	1
Q501	J707386P1	TSTR NPN SI BCW 32	1
Q502	J707386P1	TSTR NPN SI BCW 32	1
Q508	J707387P1	TSTR PNP SI BCW 30	1
Q509	J707386P1	TSTR NPN SI BCW 32	1
Q510	J707387P1	TSTR PNP SI BCW 30	1
Q511	J707386P1	TSTR NPN SI BCW 32	1
Q701	J707386P1	TSTR NPN SI BCW 32	1
Q901	J707435P1	TSTR PNP SI BC 369	1
Q902	J707435P1	TSTR PNP SI BC 369	1
Q903	J707673P1	TSTR NPN SI BC 368	1
Q904	J707435P1	TSTR PNP SI BC 369	1
Q905	J707386P1	TSTR NPN SI BCW 32	1
Q907	J707386P1	TSTR NPN SI BCW 32	1
Q908	J707387P1	TSTR PNP SI BCW 30	1
R100	J707385P563	RES MFILM 56K 5% 1/8W	1
R101	J707385P223	RES MFILM 22K 5% 1/8W	1
R102	J707385P104	RES MFILM 100K 5% 1/8W	1
R103	J707385P563	RES MFILM 56K 5% 1/8W	1

Pos.	Code No.	Description	Qt.
R104	J707385P563	RES MFILM 56K 5% 1/8W	1
R105	J707385P394	RES MFILM 390K 5% 1/8W	1
R106	J707385P274	RES MFILM 270K 5% 1/8W	1
R107	J707385P224	RES MFILM 220K 5% 1/8W	1
R108	J707385P222	RES MFILM 2K2 5% 1/8W	1
R109	J707385P103	RES MFILM 10K 5% 1/8W	1
R110	J707385P472	RES MFILM 4K7 5% 1/8W	1
R111	J707385P220	RES MFILM 22R 5% 1/8W	1
R112	J707385P184	RES MFILM 180K 5% 1/8W	1
R113	J707385P104	RES MFILM 100K 5% 1/8W	1
R114	J707385P104	RES MFILM 100K 5% 1/8W	1
R115	J707385P274	RES MFILM 270K 5% 1/8W	1
R404	J707385P182	RES MFILM 1K8 5% 1/8W	1
R405	J707385P561	RES MFILM 560R 5% 1/8W	1
R406	J707385P152	RES MFILM 1K5 5% 1/8W	1
R407	J707385P472	RES MFILM 4K7 5% 1/8W	1
R408	J707385P182	RES MFILM 1K8 5% 1/8W	1
R409	J707385P561	RES MFILM 560R 5% 1/8W	1
R410	J707385P152	RES MFILM 1K5 5% 1/8W	1
R411	J707385P472	RES MFILM 4K7 5% 1/8W	1
R501	J707385P681	RES MFILM 680R 5% 1/8W	1
R502	J707385P682	RES MFILM 6K8 5% 1/8W	1
R503	J707385P104	RES MFILM 100K 5% 1/8W	1
R504	J708538P3	RES VAR CER 2K 20% 0,5W	1
R505	J707385P153	RES MFILM 15K 5% 1/8W	1
R506	J707385P104	RES MFILM 100K 5% 1/8W	1
R507	J707385P153	RES MFILM 15K 5% 1/8W	1
R508	J707385P682	RES MFILM 6K8 5% 1/8W	1
R509	J707385P122	RES MFILM 1K2 5% 1/8W	1
R510	J707385P103	RES MFILM 10K 5% 1/8W	1
R511	J707385P153	RES MFILM 15K 5% 1/8W	1
R512	J708538P3	RES VAR CER 2K 20% 0,5W	1
R513	J707385P104	RES MFILM 100K 5% 1/8W	1
R514	J707385P103	RES MFILM 10K 5% 1/8W	1
R515	J707385P153	RES MFILM 15K 5% 1/8W	1
R516	J707385P154	RES MFILM 150K 5% 1/8W	1

Pos.	Code No.	Description	Qt.
R517	J707385P153	RES MFILM 15K 5% 1/8W	1
R518	J707385P124	RES MFILM 120K 5% 1/8W	1
R519	J707385P103	RES MFILM 10K 5% 1/8W	1
R520	J707385P392	RES MFILM 3K9 5% 1/8W	1
R521	J707385P123	RES MFILM 12K 5% 1/8W	1
R522	J707385P272	RES MFILM 2K7 5% 1/8W	1
R523	J707385P222	RES MFILM 2K2 5% 1/8W	1
R524	J707385P183	RES MFILM 18K 5% 1/8W	1
R525	J707385P910	RES MFILM 1RO 20% 1/8W	1
R526	J707385P183	RES MFILM 18K 5% 1/8W	1
R527	J707385P103	RES MFILM 10K 5% 1/8W	1
R528	J707385P103	RES MFILM 10K 5% 1/8W	1
R529	J707385P682	RES MFILM 6K8 5% 1/8W	1
R530	J707385P682	RES MFILM 6K8 5% 1/8W	1
R531	J707385P332	RES MFILM 3K3 5% 1/8W	1
R532	J707385P103	RES MFILM 10K 5% 1/8W	1
R533	J707385P102	RES MFILM 1KO 5% 1/8W	1
R539	J707385P104	RES MFILM 100K 5% 1/8W	1
R542	J707385P332	RES MFILM 3K3 5% 1/8W	1
R543	J707385P103	RES MFILM 10K 5% 1/8W	1
R544	J707385P681	RES MFILM 680R 5% 1/8W	1
R545	J707385P103	RES MFILM 10K 5% 1/8W	1
R546	J707385P332	RES MFILM 3K3 5% 1/8W	1
R548	J707385P910	RES MFILM 1RO 20% 1/8W	1
R601	J707385P184	RES MFILM 180K 5% 1/8W	1
R622	J707385P124	RES MFILM 120K 5% 1/8W	1
R623	J707385P473	RES MFILM 47K 5% 1/8W	1
R624	J707385P224	RES MFILM 220K 5% 1/8W	1
R625	J707385P683	RES MFILM 68K 5% 1/8W	1
R627	J707385P272	RES MFILM 2K7 5% 1/8W	1
R701	J707385P104	RES MFILM 100K 5% 1/8W	1
R702	J707385P220	RES MFILM 22R 5% 1/8W	1
R703	J707385P272	RES MFILM 2K7 5% 1/8W	1
R704	J707385P104	RES MFILM 100K 5% 1/8W	1
R705	J707385P473	RES MFILM 47K 5% 1/8W	1
R706	J707385P473	RES MFILM 47K 5% 1/8W	1

Storno

Pos.	Code No.	Description	Qt.
R707	J707385P223	RES MFILM 22K 5% 1/8W	1
R708	J707385P123	RES MFILM 12K 5% 1/8W	1
R709	J707385P273	RES MFILM 27K 5% 1/8W	1
R710	J707385P103	RES MFILM 10K 5% 1/8W	1
R711	J707385P333	RES MFILM 33K 5% 1/8W	1
R712	J707385P333	RES MFILM 33K 5% 1/8W	1
R713	J707385P153	RES MFILM 15K 5% 1/8W	1
R714	J708538P3	RES VAR CER 2K 20% 0,5W	1
R715	J707385P103	RES MFILM 10K 5% 1/8W	1
R716	J707385P103	RES MFILM 10K 5% 1/8W	1
R717	J707385P103	RES MFILM 10K 5% 1/8W	1
R719	J707385P272	RES MFILM 2K7 5% 1/8W	1
R720	J707385P822	RES MFILM 8K2 5% 1/8W	1
R721	J707385P153	RES MFILM 15K 5% 1/8W	1
R722	J707385P123	RES MFILM 12K 5% 1/8W	1
R726	J707385P104	RES MFILM 100K 5% 1/8W	1
R727	J707385P223	RES MFILM 22K 5% 1/8W	1
R728	J707385P223	RES MFILM 22K 5% 1/8W	1
R729	J707385P910	RES MFILM 1RO 20% 1/8W	1
R730	J707385P101	RES MFILM 100R 5% 1/8W	1
R731	J707385P101	RES MFILM 100R 5% 1/8W	1
R732	J707385P101	RES MFILM 100R 5% 1/8W	1
R733	J707385P103	RES MFILM 10K 5% 1/8W	1
R734	J707385P103	RES MFILM 10K 5% 1/8W	1
R735	J707385P910	RES MFILM 1RO 20% 1/8W	1
R739	J707385P101	RES MFILM 100R 5% 1/8W	1
R801	J707385P472	RES MFILM 4K7 5% 1/8W	1
R802	J707385P822	RES MFILM 8K2 5% 1/8W	1
R803	J707385P153	RES MFILM 15K 5% 1/8W	1
R804	J707385P273	RES MFILM 27K 5% 1/8W	1
R805	J707385P473	RES MFILM 47K 5% 1/8W	1
R806	J707385P823	RES MFILM 82K 5% 1/8W	1
R807	J707385P154	RES MFILM 150K 5% 1/8W	1
R808	J707385P332	RES MFILM 3K3 5% 1/8W	1
R809	J707385P563	RES MFILM 56K 5% 1/8W	1
R810	J707385P332	RES MFILM 3K3 5% 1/8W	1

Pos.	Code No.	Description	Qt.
R811	J707385P104	RES MFILM 100K 5% 1/8W	1
R812	J707385P104	RES MFILM 100K 5% 1/8W	1
R813	J707385P563	RES MFILM 56K 5% 1/8W	1
R814	J707385P104	RES MFILM 100K 5% 1/8W	1
R815	J707385P272	RES MFILM 2K7 5% 1/8W	1
R816	J707385P104	RES MFILM 100K 5% 1/8W	1
R817	J707385P182	RES MFILM 1K8 5% 1/8W	1
R818	J707385P927	RES MFILM 2R7 20% 1/8W	1
R819	J707385P927	RES MFILM 2R7 20% 1/8W	1
R820	J707385P683	RES MFILM 68K 5% 1/8W	1
R901	J707385P103	RES MFILM 10K 5% 1/8W	1
R902	J707385P472	RES MFILM 4K7 5% 1/8W	1
R903	A700019P9	RES DEPC 4R7 5% 1/4W	1
R904	J708429P1	RES MFILM 0,22R 10% 0,2W	1
R905	J707385P682	RES MFILM 6K8 5% 1/8W	1
R906	J707385P104	RES MFILM 100K 5% 1/8W	1
R907	J707385P222	RES MFILM 2K2 5% 1/8W	1
R908	J707385P224	RES MFILM 220K 5% 1/8W	1
R909	J707385P152	RES MFILM 1K5 5% 1/8W	1
R910	J707385P822	RES MFILM 8K2 5% 1/8W	1
R911	J707385P563	RES MFILM 56K 5% 1/8W	1
R912	J707385P224	RES MFILM 220K 5% 1/8W	1
R913	J707385P153	RES MFILM 15K 5% 1/8W	1
R914	J707385P822	RES MFILM 8K2 5% 1/8W	1
R915	J707385P474	RES MFILM 470K 5% 1/8W	1
R916	J707385P272	RES MFILM 2K7 5% 1/8W	1
R917	J707385P824	RES MFILM 820K 5% 1/8W	1
R918	J707385P563	RES MFILM 56K 5% 1/8W	1
R919	J707385P561	RES MFILM 560R 5% 1/8W	1
R922	J707385P274	RES MFILM 270K 5% 1/8W	1
R923	J707385P562	RES MFILM 5K6 5% 1/8W	1
R924	J707385P561	RES MFILM 560R 5% 1/8W	1
R925	J707385P472	RES MFILM 4K7 5% 1/8W	1
R926	J707385P101	RES MFILM 100R 5% 1/8W	1
R927	J707385P472	RES MFILM 4K7 5% 1/8W	1
R929	J707385P472	RES MFILM 4K7 5% 1/8W	1

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Pos.	Code No.	Description	Qt.
R931	J707385P823	RES MFILM 82K 5% 1/8W	1
R932	J707385P123	RES MFILM 12K 5% 1/8W	1
R933	J707385P223	RES MFILM 22K 5% 1/8W	1
R934	J708538P5	RES VAR CER 10K 20% 0,5W	1
R937	J707385P393	RES MFILM 39K 5% 1/8W	1
R938	J707385P104	RES MFILM 100K 5% 1/8W	1
R939	J707385P220	RES MFILM 22R 5% 1/8W	1
R940	J707385P474	RES MFILM 470K 5% 1/8W	1
R941	J707385P221	RES MFILM 220R 5% 1/8W	1
R942	J707385P124	RES MFILM 120K 5% 1/8W	1
R943	J707385P684	RES MFILM 680K 5% 1/8W	1
R944	J707385P684	RES MFILM 680K 5% 1/8W	1
R945	J707385P472	RES MFILM 4K7 5% 1/8W	1
R946	J707385P472	RES MFILM 4K7 5% 1/8W	1
R947	J707385P103	RES MFILM 10K 5% 1/8W	1
R948	J707385P103	RES MFILM 10K 5% 1/8W	1
R949	J707385P472	RES MFILM 4K7 5% 1/8W	1
R950	J707385P124	RES MFILM 120K 5% 1/8W	1
R951	J708538P5	RES VAR CER 10K 20% 0,5W	1
R952	J707385P154	RES MFILM 150K 5% 1/8W	1
R953	J707385P103	RES MFILM 10K 5% 1/8W	1
R954	J707385P273	RES MFILM 27K 5% 1/8W	1
R955	J707385P103	RES MFILM 10K 5% 1/8W	1
R956	J707385P472	RES MFILM 4K7 5% 1/8W	1
U100	J708786P3	IC DIG GATE 74HC02	1
U101	J708786P1	IC DIG GATE 74HC132	1
U501	J708165P1	IC LIN OP-AMP 224	1
U503	J707437P2	CAP CER CL2 680P 20% 50V	1
U602	J708165P1	IC LIN OP-AMP 224	1
U603	J707434P4	IC DIG MUX 4052 CMOS	1
U604	J707331P3	IC DIG CNTR 4060 CMOS	1
U701	J708165P1	IC LIN OP-AMP 224	1
U702	J707859P2	IC LIN OP-AMP 1458	1
U703	J707434P2	IC DIG MUX 4053 CMOS	1
U801	J707434P1	IC DIG MUX 4051 CMOS	1
U802	J709055P1	IC LIN AF-AMP 1515	1

Pos.	Code No.	Description	Qt.
U901	J707837P1	IC LIN VR FIX 2931	1
U902	J708503P1	IC LIN CMPAR LM 239	1
U903	J707859P1	IC LIN OP-AMP 4558	1
U904	J708503P3	IC LIN CMPAR LM293	1
U905	J707242P1	IC DIG CMOS 4013	1
U906	J706031P2	IC LIN VR FIX 78L08AC	1
U907	J709322P1	IC DIG,S-TRIG 40106	1

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Pos.	Code No.	Description	Qt.

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CL6002

CONTROL LOGIC BOARD

MICROPROCESSOR 8031, U907

The control logic board CL6002 is controlled by a single-component 8-bit microprocessor 8031. The microprocessor contains a volatile 128 x 8 read/ write data memory; 32 I/O lines; two 16-bit timer/event counters; a five-source, two-priority-level nested, interrupt structure; serial I/O port for either multiprocessor communications, I/O expansion, or full duplex UART; and on-chip oscillator and clock circuits.
The microprocessor is operated at a clock frequency of 11.132 MHz from the crystal Y901.

8031/8051/8751 Family Pin Description

V_{SS}
Circuit ground potential.

V_{CC}
+5V power supply during operation, programming and verification.

PORT 0
Port 0 is an 8-bit open drain bidirectional I/O port. It is also the multiplexed low-order address and data bus when using external memory. It is used for data input and output during programming and verification.
Port 0 can sink/source two TTL loads.

PORT 1
Port 1 is an 8-bit quasi-bidirectional I/O port. It is used for the low-order address byte during programming and verification. Port 1 can sink/source one TTL load.

PORT 2
Port 2 is an 8-bit quasi-bidirectional I/O port. It also emits the high-order address byte when accessing external memory. It is used for the high-order address and the control signals during programming and verification. Port 2 can sink/source one TTL load.

PORT 3
Port 3 is an 8-bit quasi-bidirectional I/O port. It also contains the interrupt, timer, serial port and $\overline{RD}$ and $\overline{WR}$ pins that are used by various options. The output latch corresponding to a secondary function must be programmed to a one (1) for that function to operate. Port 3 can sink/ source one TTL load. The secondary functions are assigned to the pins of Port 3, as follows:

- RXD/data (P3.0). Serial port's receiver data input (asynchronous) or data input/output (synchronous).
- TXD/clock (P3.1). Serial port's transmitter data output (asynchronous) or clock output (synchronous).

- $\overline{INT0}$ (P3.2). Interrupt 0 input or gate control input for counter 0.
- $\overline{INT1}$ (P3.3). Interrupt 1 input or gate control input for counter 1.
- T0 (P3.4). Input to counter 0.
- T1 (P3.5). Input to counter 1.
- $\overline{WR}$ (P3.6). The write control signal latches the data byte from Port 0 into the External Data Memory.
- $\overline{RD}$ (P3.7). The read control signal enables External Data Memory to Port 0.

RST/V_{PD}
A low to high transition on this pin (at approximately 3 V) resets the microprocessor. If V_{PD} is held within its spec (approximately +5 V), while V_{CC} drops below spec, V_{PD} will provide standby power to the RAM. When V_{PD} is low, the RAM's current is drawn from V_{CC}. A small internal resistor permits power-on reset using only a capacitor connected to V_{CC}.

ALE/$\overline{PROG}$
Provides Address Latch Enable output used for latching the address into external memory during normal operation. Receives the program pulse input during EPROM programming.

$\overline{PSEN}$
The Program Store Enable output is a control signal that enables the external Program Memory to the bus during normal fetch operations.

$\overline{EA}$/VDD
When held at a TTL high level, the processor executes instructions from the internal ROM/EPROM when the PC is less than 4096. When held at a TTL low level, the processor fetches all instructions from external Program Memory.
The pin also receives the 21 V EPROM programming supply voltage.

XTAL1
Input to the oscillator's high gain amplifier. A crystal or external source can be used.

XTAL2
Output from the oscillator's amplifier. Required when a crystal is used.

ADDRESS LATCH, U904

U904 is an Address Latch. The latch appears transparent to data (i.e., the outputs change asynchronously) when Latch Enable is high. When Latch Enable goes low, data meeting the set-up time become latched.
The Output Enable input does not affect the state of the latches, but when Output Enable is high, all outputs are forced to the high-impedance state. Data may thus be latched even when the device is not selected.

RAM, U906

U906 is a 2K x 8-bit CMOS static Random Access Memory (RAM) with $\overline{OE}$ for fast memory access and $\overline{CE}$ for minimum stand-by current.
Under normal conditions D901 will be off. When V_{cc} is +4 V, Q901 will turn off and the RAM will be backed-up by +5 V cont. through D901.

The RAM is write protected when a power failure occurs. Whe the power is critical, a "high" (taken from +5 V cont.) will occur on u-reset (J90A+B, pin 21). This will result in a "high" (this "high" will follow the V_{cc} until the V_{cc} reaches 2 V) on U914A, pin 7, which disables the RAM. If V_{cc} is less than 4 V, Q903 will turn off and Q905 will turn on to prevent Q904 to turn on. R924 will then clamp CE on U906 to "high".

EEPROM, U905

U905 is a 5-volt 2048 x 8-bit Electrically Erasable Programmable Read Only Memory (EEPROM). High voltage programming is optional. The package is a dual-in-line.
When V_{CC} is below 3.0 V (V_{WI}), write-cycles to the device will automatically be inhibited. During power-up, the device automatically prevents any write operation for a period between 5 and 20 ms after V_{CC} reaches the V_{WI} level.
A $\overline{WE}$ pulse of less than 20 ns will not initiate a write-cycle.

EPROMS, U903 - U902

U903/902 are N-channel Mos Ultra-violet Erasable and Electrically Programmable Read-Only-Memories (EPROM), in a dual-in-line package. Together they comprise 48K x 8 bit, one containing 16K and the other containing 34K. The two EPROMs contain the program as such of the radio. During Read operation the V_{cc} power supply must be 5 V ±5% and the V_{pp} voltage must equal V_{cc}.

DUAL DECODER, U914

U9014A-B form a dual 1-of-4 address decoder which is used for selecting memory and IN/OUT ports.

INPUT EXPANDER, U901

U901 is a tri-state octal D-type latch serving as an input expander.

OUTPUT EXPANDERS, U908 - U909

U908 - U909 are octal 3-state non-inverting Dtype flip-flops serving as output expanders. Data meeting the set-up time is clocked to the outputs with the rising edge of the clock. The Output Enable input does not affect the states of the flip-flops, but when Output Enable is high, the outputs are forced to the high-impedance state. Data may thus be stored even when the device is not selected.

MODEM, U912

The FX409 (U912) is a single chip CMOS LSI circuit which operates as a 1200 baud FFSK modem. The mark and space frequencies are 1200 Hz and 1800 Hz phase continuous and the frequency transitions occur at the zero crossing point.
Transmitter and receiver will work independently, thus providing full duplex operation at 1200 baud. The baud rate, transmit mark and space frequencies, TX synchronisation and RX synchronisation are all derived from a on-chip crystal oscillator for high stability and an external 1.008 MHz crystal is required for this purpose.
Q906 and Q907 are only used as inverters.

Modem Enable and Disable

The Modem (U912) is always Enabled. This is necessary, because TX-clock is used as time reference by the microprocessor, U907.

A "high" on P17 (U907 pin 8) will disable the FFSK out by shorting it to Ground, using Q902.

The clock pulses from the Modem clocks the "high" or "low" from the microprocessor U907 to Q902.

A "high" on P17 (U907) will disable FFSK out and a "low" will enable FFSK out.

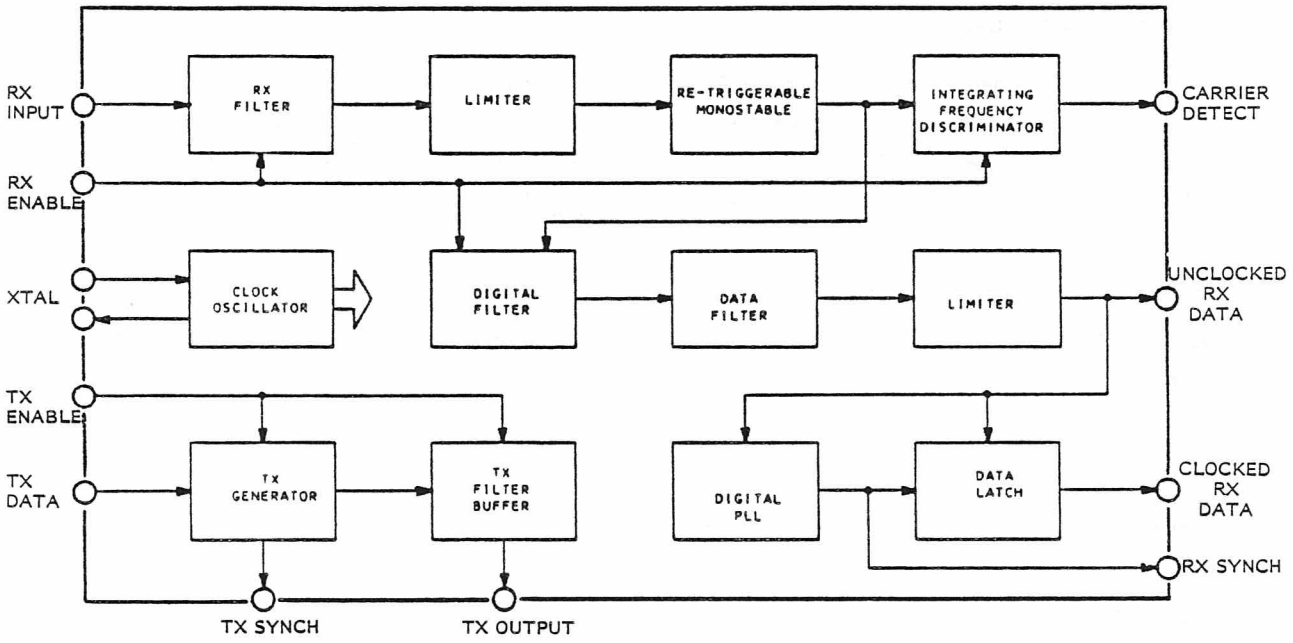
Modem amplifier

The modem needs an FFSK input between 100 mV RMS and 1 V RMS, optimum input level= 500 mV RMS.

The level on the RX Line is 50 mV RMS.

A high input impedance amplifier Q909, using boot strap, provides the modem (U912) with the optimum level (500 mV RMS).

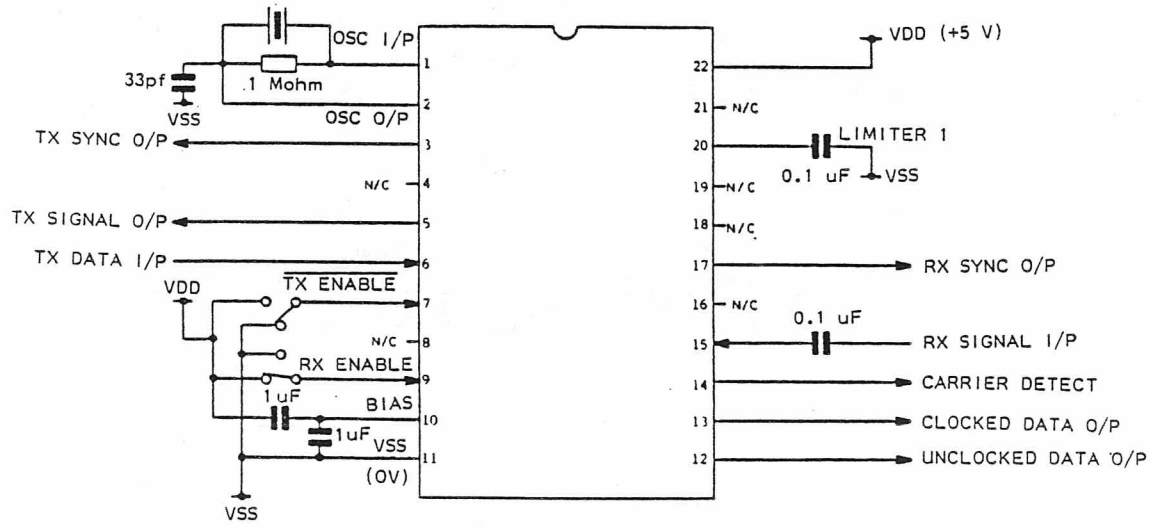
The modem amplifier, multiplies by 10.



INTERNAL BLOCK DIAGRAM FX409 FFSK MODEM

Pin Description	Function
1. OSC. IN 2. OSC. OUT	See FX409 External component diagram.
3. TX SYNC OUT	A 1200 Hz square wave used to synchronise the input of logical data and transmission of the FFSK signal (see TX timing diagram).
4. N/C	Leave open circuit.
5. TX SIG OUT	With transmitter disabled this pin is high-Z tri-state. When transmitter is enabled this pin outputs the 1200/1800 Hz (140 step pseudosine wave) FFSK signal.
6. DATA IN	Serial logic data to be transmitted, synchronised by the "TX SYNC OUT", is presented to this pin. (See TX timing diagram).
7. $\overline{\text{TX ENABLE}}$	A logical 1 applied to this input will put the transmitter into powersave whilst forcing "TX SYNC OUT" to logic 1 and "TX Signal Out" to

Pin Description	Function cont.
	tri-state. A logic 0 will enable the transmitter (see TX timing diagram). Note this input should be tied to either VSS or VDD.
8. N/C	Leave open circuit.
9. RX ENABLE	A logical 0 applied to this input will put the receiver into powersave whilst forcing "Clocked Data Out", "Unclocked Data Out", and "Carrier Detect" to logic 0. A logic 1 will enable the receiver (see timing diagram). "Rx Sync Out" may be logic 1 or 0 during powersave. Note this input should be tied to VSS or VDD.
10. BIAS	Provides bias internally and should be decoupled externally to VSS and VDD by two capacitors. (See FX409 External Component diagram).
11. VSS	0 Volts.
12. UNCLOCKED DATA O/P	This pin outputs recovered asynchronous serial data from the receiver.
13. CLOCKED DATA O/P	This pin outputs recovered synchronous serial data from the receiver and is internally latched out by a recovered clock appearing on the "RX Sync Out" pin. (See timing diagram).
14. CARRIER DETECT	This pin will output a logical 1 when FFSK data is being received (see Carrier Detect Output Characteristics)
15. RX SIGNAL I/P	This is the FFSK signal input pin for the receiver.
16. N/C	Leave open circuit.
17. RX SYNC OUT	This is a flywheel 1200 Hz squarewave output which upon presentation of an FFSK data signal is synchronised internally to this incoming data. (See "RX Synchronisation Performance" graph.).
18. N/C	Leave open circuit.
19. N/C	Leave open circuit.
20. LIMITER 1	Limiter decoupling (See external component diagram).
21. N/C	Leave open circuit.
22. VDD	Nominal +5 volts.



NOTE 1) TX & RX SHOWN "ENABLED"
2) PINS MARKED N/C SHOULD BE LEFT OPEN CIRCUIT
3) ALL CAPACITORS 20% TOLERANCE, VALUES SUBJECT TO CHARACTERISATION

D FLIP-FLOP, U915

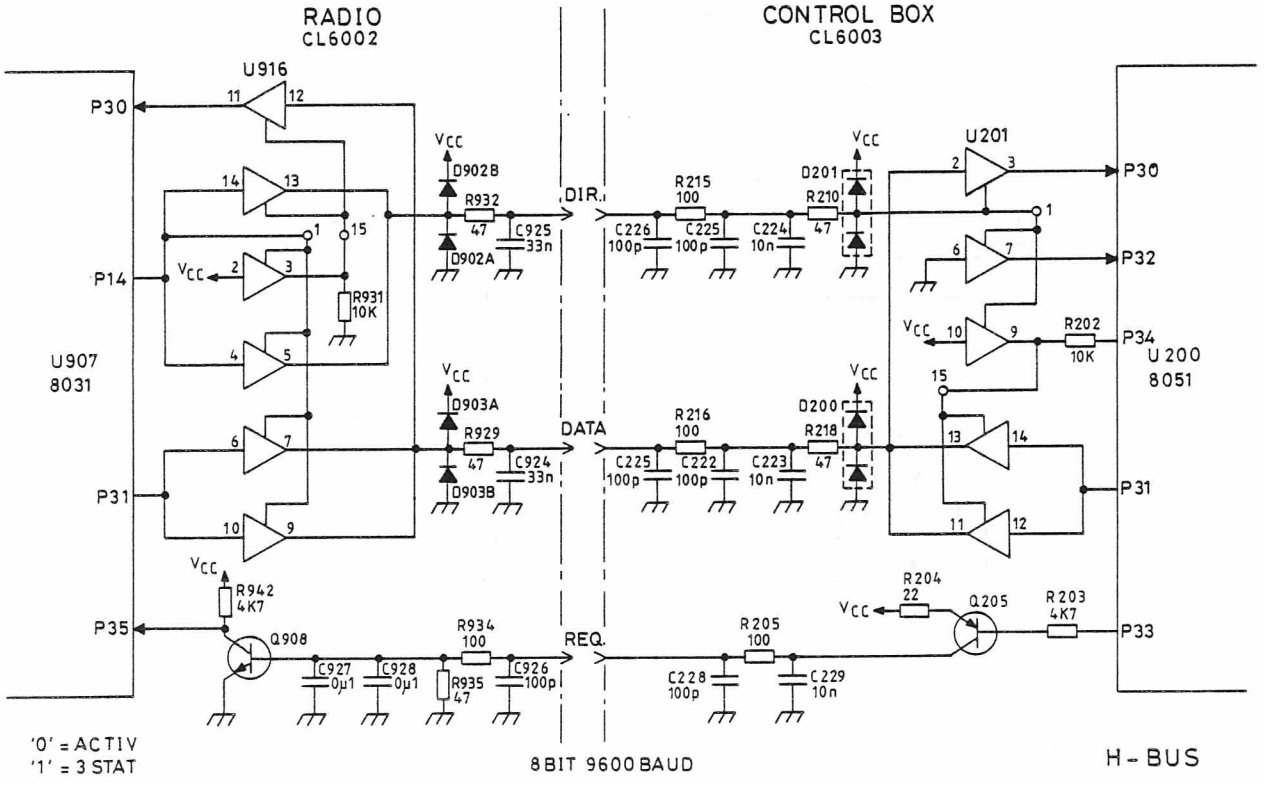
The D flip-flop is used for control of TX-data from the Modem.

3-STATE BUFFER, U916

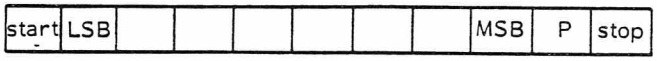
U916 is a Hex non-inverting buffer with 3-state outputs, and a high current source and sink capability.
U916 is an interface for the H-bus.
R929, R932, C924 and C925 prevent noise to disturb the BUS DATA signalling.
D903 and D902 prevent destruction of U916 if the input signal goes out of the 40097 input range.
Q908 and the RC-filter form the REQ-line.

H-BUS DATA SIGNALLING

The H-bus is a low-impedance bus with tri-state outputs.
The master controls the bus by controlling the DIRECTION-line (DIR). When the master activates DIR, this indicates to all the slaves, that the next byte on the DATA-line contains the address of the slave that the master wants to communicate with. Every module on the bus must read this byte, and the one who recognizes its own address must activate its local output enable line and continue to collect all bytes arriving, untill the master complements DIR, and then it must transmit the appropriate response.



BYTE-FORMAT ON THE BUS



Each byte sent on the bus contains a start-bit (low), 8 data-bits (LSB first), a parity-bit (even) and a stop-bit (high).

The H-bus is operating at a speed of 9.625 baud, thus taking about 1.1 ms to transfer each byte.

PIN ALLOCATION OF CONNECTORS J90A+B

1	Master Reset: Out: Gives a message to the radio that it will be reset.
2	PTT: In: Push to talk.
3	H-Bus data: In/Out: H-Bus data in and out controlled by H-Bus DIR.
4	H-Bus DIR: Out: Indicates the direction of the H-Bus signalling.
5	H-Bus REQ: In: Tells that there is another radio wanting to send data.
6	RSSI-B, In: Indicates the field strength of the incoming radio signal.
7	RSSI-A: In: Indicate the field strength of the incoming radio signal.
8, 9, 10	VOL2, VOL1, VOL0: Out: Indicate the volume of the loudspeaker in 8 steps.
11	LS ENABLE: Out: Loudspeaker on/off.
12	+5 (Vcc): Provides the CL6002 with power.
13	Radio Mute: Out: Mutes the radio.
14	Mike Enable: Out: Enables the microphone after PTT.
15	LOW VOLT WARN: In: Indicates that the Vcc is critical.
16	SERIAL STROBE: Out: Indicates that seriel data to the synthesizer are finished.
17	SER DATA: Out: Loads the synthesizer with data.
18	Horn Relay: Out: Makes it possible to beep with the horn when someone calls.
19	SER CLOCK: Out: Clocks seriel data into the shift register.
20	TURN OFF ADMIT: Out: Indicates that the uP is ready to turn the radio off.
21	uP-RESET: In: Resets the microprocessor.
22	$\overline{\text{PORTABLE}}$: In: Resets the microprocessor.
23	(RX line) FSSK RX: In: Receive data from the base station.
24	+5 V cont.: In: Constant 5 V supply. Used to back-up the RAM when Vcc is gone.
25	TX ADMIT: Out: Starts up the transmitter.
26	IGNITION (RXD): In: Indicates whether the car has ignition on or off.
27	HOOK SW (TXD): In:
28	AUDIO SELECT 0: Out: Select the audio direction.
29	AUDIO SELECT 1: Out: Select the audio direction.
30	Autonom pulse: Out:
31	FFSK TX: Out: Sends data to the base station.
32	ON/OFF Pulse: In: Indicates that the radio is in on or off mode.
33	HS/HF Select: Out: Selects handsfree or handset.
34	RX Mute: Out: Mutes the receiver.
35	GND: Ground.

Storno

Storno

NOTES:

1 PREPARED FOR OTHER TYPES OF EPROMS

2 PREPARED FOR CMOS DESIGN

COMPONENTS MARKED RXXX 100K ARE PLACED ON NO SOLDERING SIDE

CONTROL LOGIC CL6002

CODE NO. M905824G1 REV. B

D404. 399

Storno

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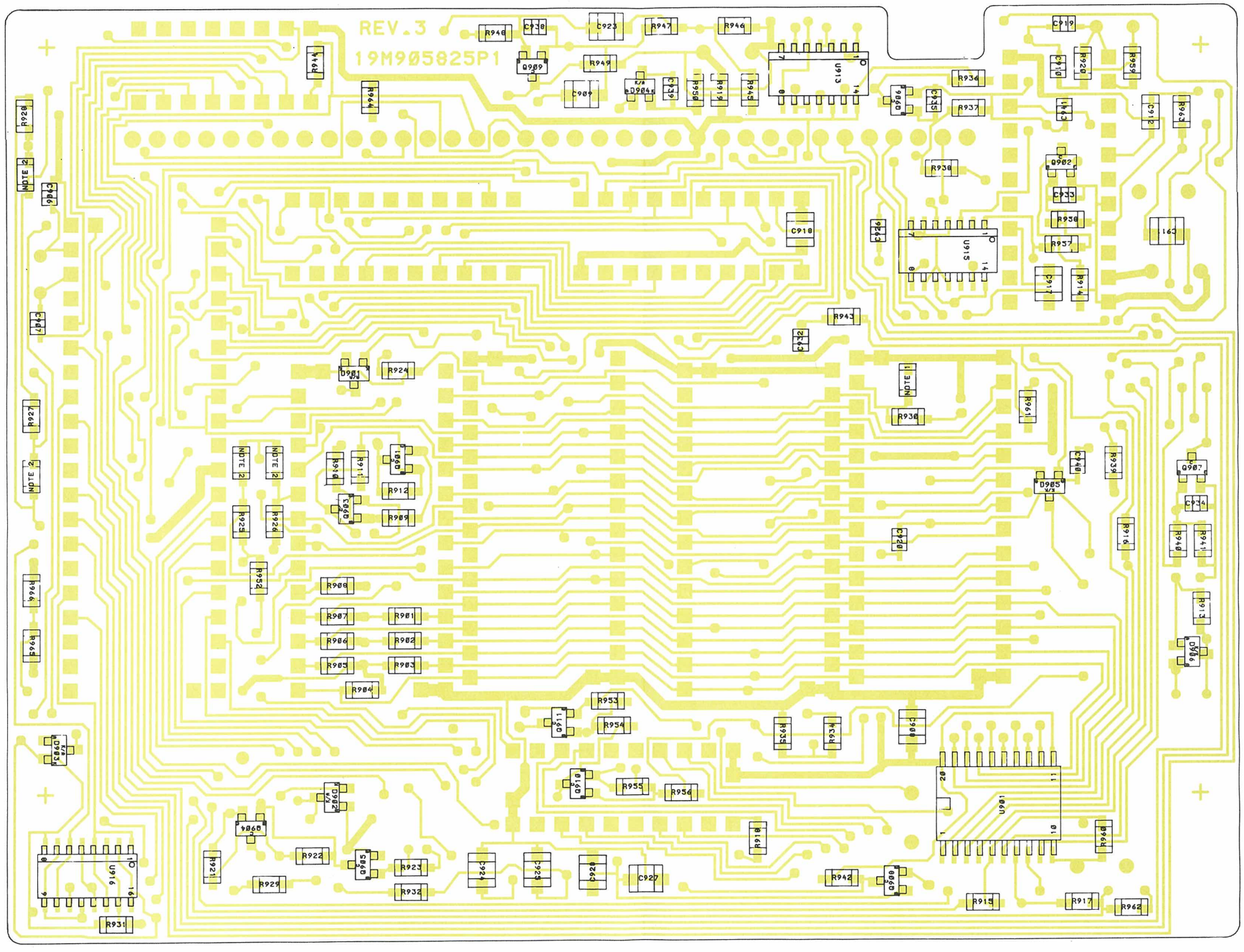

NOTES:

1. PREPARED FOR OTHER TYPE OF EPROMS.
2. PREPARED FOR CMOS DESIGN.

CONTROL LOGIC CL6002

COMPONENT LAYOUT CHIP-SIDE

REV. 3 CODE NO. M905824G1 D404. 401

Storno

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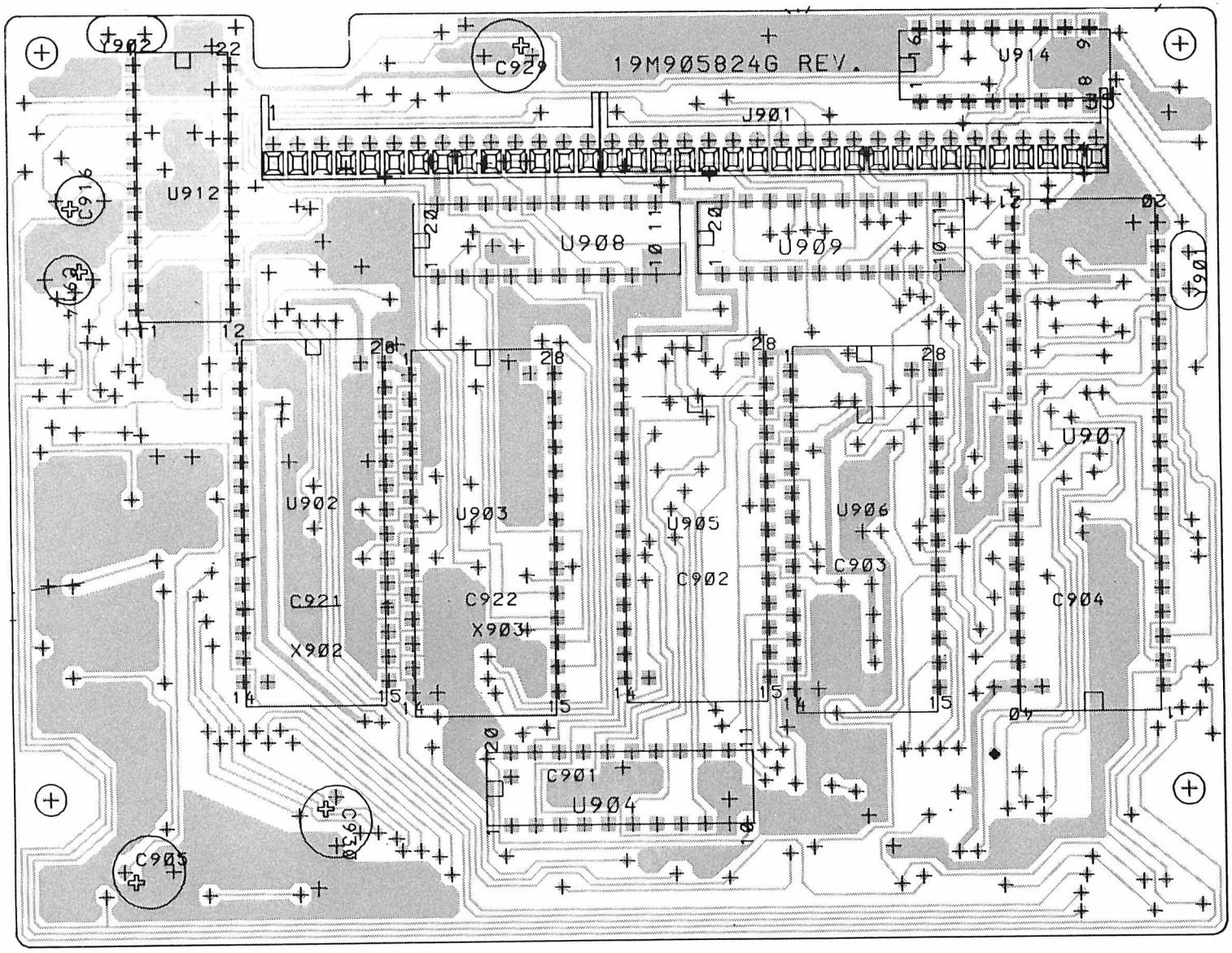

CONTROL LOGIC CL6002

COMPONENT LAYOUT COMPONENT-SIDE

REV. 3 CODE NO. M905824G1 D404.400

Pos.	Code No.	Description	Qt.
C901	L855507G1	CAP THICK FILM	1
C902	L855508G1	CAP THICK FILM	1
C903	L855508G1	CAP THICK FILM	1
C904	M905719G1	CAP THICK FILM	1
C905	J707444P9	CAP TA SOL 47U 20% 6V	1
C906	J707436P53	CAP CER NPO 68P 5% 50V	1
C907	J707436P37	CAP CER NPO 33P 5% 50V	1
C908	J707438P26	CAP CER CL2 100N 10% 50V	1
C909	J707438P26	CAP CER CL2 100N 10% 50V	1
C910	J707436P33	CAP CER NPO 27P 5% 50V	1
C911	J707438P26	CAP CER CL2 100N 10% 50V	1
C912	J707436P83	CAP CER NPO 820P 5% 50V	1
C914	J707444P4	CAP TA SOL 1U 20% 35V	1
C916	J707444P4	CAP TA SOL 1U 20% 35V	1
C917	J707438P26	CAP CER CL2 100N 10% 50V	1
C918	J707438P26	CAP CER CL2 100N 10% 50V	1
C919	J707436P53	CAP CER NPO 68P 5% 50V	1
C920	J707438P14	CAP CER CL2 10N 10% 50V	1
C921	L855508G1	CAP THICK FILM	1
C922	L855508G1	CAP THICK FILM	1
C923	J707438P26	CAP CER CL2 100N 10% 50V	1
C926	J707436P61	CAP CER NPO 100P 5% 50V	1
C927	J707438P26	CAP CER CL2 100N 10% 50V	1
C928	J707438P26	CAP CER CL2 100N 10% 50V	1
C929	J707444P9	CAP TA SOL 47U 20% 6V	1
C930	J707444P9	CAP TA SOL 47U 20% 6V	1
C932	J707438P5	CAP CER CL2 1N 10% 50V	1
C933	J707436P61	CAP CER NPO 100P 5% 50V	1
C934	J707436P61	CAP CER NPO 100P 5% 50V	1
C935	J707436P61	CAP CER NPO 100P 5% 50V	1
C938	J707436P61	CAP CER NPO 100P 5% 50V	1
C939	J707436P61	CAP CER NPO 100P 5% 50V	1
C940	J707436P61	CAP CER NPO 100P 5% 50V	1
C941	J707436P61	CAP CER NPO 100P 5% 50V	1
D901	J708681P1	DIO SI SIG BAW 56	1
D902	J707389P1	DIO SI SIG BAV 99	1

Storno

Pos.	Code No.	Description	Qt.
D903	J707389P1	DIO SI SIG BAV 99	1
D904	J707389P1	DIO SI SIG BAV 99	1
D905	J707390P1	DIO SI SIG BAV 74	1
D906	J707390P1	DIO SI SIG BAV 74	1
J002	J708925P1	CONN PT PIN L-9,7	1
J90A	J708673P14	CONN PWB FEM 14 CKT	1
J90B	J708673P21	CONN PWB FEM 21-CKT	1
Q901	J707387P1	TSTR PNP SI BCW 30	1
Q902	J707386P1	TSTR NPN SI BCW 32	1
Q903	J707386P1	TSTR NPN SI BCW 32	1
Q904	J706311P1	TSTR BSV 52	1
Q905	J707386P1	TSTR NPN SI BCW 32	1
Q906	J707386P1	TSTR NPN SI BCW 32	1
Q907	J707386P1	TSTR NPN SI BCW 32	1
Q908	J707386P1	TSTR NPN SI BCW 32	1
Q909	J707386P1	TSTR NPN SI BCW 32	1
Q910	J706311P1	TSTR BSV 52	1
Q911	J707387P1	TSTR PNP SI BCW 30	1
R901	J707385P103	RES MFILM 10K 5% 1/8W	1
R902	J707385P103	RES MFILM 10K 5% 1/8W	1
R903	J707385P103	RES MFILM 10K 5% 1/8W	1
R904	J707385P103	RES MFILM 10K 5% 1/8W	1
R905	J707385P103	RES MFILM 10K 5% 1/8W	1
R906	J707385P103	RES MFILM 10K 5% 1/8W	1
R907	J707385P103	RES MFILM 10K 5% 1/8W	1
R908	J707385P103	RES MFILM 10K 5% 1/8W	1
R909	J707385P392	RES MFILM 3K9 5% 1/8W	1
R910	J707385P821	RES MFILM 820R 5% 1/8W	1
R911	J707385P102	RES MFILM 1KO 5% 1/8W	1
R912	J707385P103	RES MFILM 10K 5% 1/8W	1
R913	J707385P223	RES MFILM 22K 5% 1/8W	1
R914	J707385P105	RES MFILM 1MO 10% 1/8W	1
R915	J707385P103	RES MFILM 10K 5% 1/8W	1
R916	J707385P103	RES MFILM 10K 5% 1/8W	1
R917	J707385P103	RES MFILM 10K 5% 1/8W	1
R918	J707385P103	RES MFILM 10K 5% 1/8W	1

Pos.	Code No.	Description	Qt.
R919	J707385P982	RES MFILM 8R2 5% 1/8W	1
R920	J707385P105	RES MFILM 1MO 10% 1/8W	1
R921	J707385P103	RES MFILM 10K 5% 1/8W	1
R922	J707385P273	RES MFILM 27K 5% 1/8W	1
R923	J707385P474	RES MFILM 470K 5% 1/8W	1
R924	J707385P222	RES MFILM 2K2 5% 1/8W	1
R925	J707385P900	RES MFILM OR 5% 1/8W JUMP	1
R926	J707385P900	RES MFILM OR 5% 1/8W JUMP	1
R927	J707385P900	RES MFILM OR 5% 1/8W JUMP	1
R928	J707385P900	RES MFILM OR 5% 1/8W JUMP	1
R929	J707385P470	RES MFILM 47R 5% 1/8W	1
R930	J707385P900	RES MFILM OR 5% 1/8W JUMP	1
R931	J707385P103	RES MFILM 10K 5% 1/8W	1
R932	J707385P470	RES MFILM 47R 5% 1/8W	1
R934	J707385P101	RES MFILM 100R 5% 1/8W	1
R935	J707385P470	RES MFILM 47R 5% 1/8W	1
R936	J707385P103	RES MFILM 10K 5% 1/8W	1
R937	J707385P103	RES MFILM 10K 5% 1/8W	1
R938	J707385P103	RES MFILM 10K 5% 1/8W	1
R939	J707385P103	RES MFILM 10K 5% 1/8W	1
R940	J707385P103	RES MFILM 10K 5% 1/8W	1
R941	J707385P103	RES MFILM 10K 5% 1/8W	1
R942	J707385P472	RES MFILM 4K7 5% 1/8W	1
R943	J707385P823	RES MFILM 82K 5% 1/8W	1
R944	J707385P472	RES MFILM 4K7 5% 1/8W	1
R945	J707385P184	RES MFILM 180K 5% 1/8W	1
R946	J707385P393	RES MFILM 39K 5% 1/8W	1
R947	J707385P223	RES MFILM 22K 5% 1/8W	1
R948	J707385P391	RES MFILM 390R 5% 1/8W	1
R949	J707385P472	RES MFILM 4K7 5% 1/8W	1
R950	J707385P103	RES MFILM 10K 5% 1/8W	1
R952	J707385P471	RES MFILM 470R 5% 1/8W	1
R953	J707385P472	RES MFILM 4K7 5% 1/8W	1
R954	J707385P472	RES MFILM 4K7 5% 1/8W	1
R955	J707385P472	RES MFILM 4K7 5% 1/8W	1
R956	J707385P472	RES MFILM 4K7 5% 1/8W	1

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Pos.	Code No.	Description	Qt.
R957	J707385P103	RES MFILM 10K 5% 1/8W	1
R958	J707385P103	RES MFILM 10K 5% 1/8W	1
R959	J707385P222	RES MFILM 2K2 5% 1/8W	1
R960	J707385P103	RES MFILM 10K 5% 1/8W	1
R961	J707385P103	RES MFILM 10K 5% 1/8W	1
R962	J707385P103	RES MFILM 10K 5% 1/8W	1
R963	J707385P272	RES MFILM 2K7 5% 1/8W	1
R964	J707385P222	RES MFILM 2K2 5% 1/8W	1
R965	J707385P222	RES MFILM 2K2 5% 1/8W	1
R966	J707385P222	RES MFILM 2K2 5% 1/8W	1
U901	J708790P3	IC DIG LTH 74HC573 HSCMOS	1
U902	J709290G1	PROGRAM MEMORY	1
U903	J709290G2	PROGRAM MEMORY	1
U904	J707880P1	IC DIG LTH 74HC373 HSCMOS	1
U905	J708345P2	IC PROM EE 2816A NMOS	1
U906	J708092P1	IC RAM STAT 2KX8,250NS CM	1
U907	J707894P2	IC UP 8-BIT 8031 NMOS	1
U908	J707880P2	IC DIG FF-D 74HC374 HSCMO	1
U909	J707880P2	IC DIG FF-D 74HC374 HSCMO	1
U912	J708744P1	IC MODEM FX 409	1
U913	J708786P2	IC DIG GATE 74HC00	1
U914	J708089P2	IC,DIG,DEC0 74HC139	1
U915	J707242P1	IC DIG CMOS 4013	1
U916	J707489P2	IC DIG BUFR 40097 CMOS	1
X902	J706356P310	SOC IC-PRF 28 CKT	1
X903	J706356P109	SOC IC L-PRF 28 CKT	1
Y901	J709008P2	CRYSTAL UNIT 11.132MHZ	1
Y902	J709224P1	CRYSTAL UNIT QUARTZ 1.008	1
0002	M905825P1R3	BD PW	1
0011	J706804P1	WASH INS XTAL WASH	1
0012	J706804P1	WASH INS XTAL WASH	1

CHAPTER
CHAPITRE
KAPITEL

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8

CHAPTER
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CL6003

CONTROL LOGIC BOARD

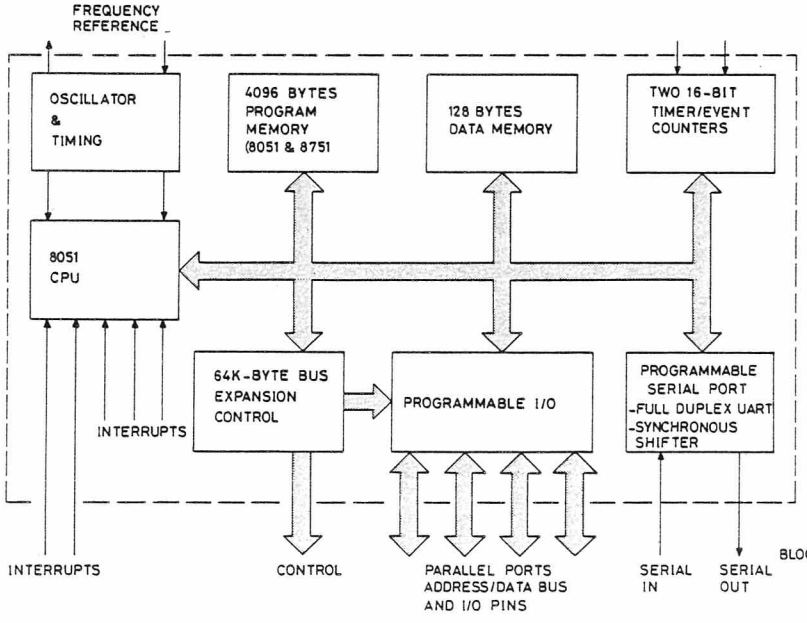
The CL6003 is used as the controller in the Control Panel as well as in the Handset Control in the 6000 mobile program. A microprocessor controls all general functions of the CL.

The serial communication between the CL and the main controller in the radiopart is handled by a H-bus (Hybrid bus).
By commands from the keyborad different functions defined by main software in the radio can be controlled. Different information to the user will be displayed on a 16 position dot matrix Vacuum Flourescent Display and 13 symbols light emitting diodes on the front.
It is possible to insert a code plug device in the control box for service purpose where personality information can be stored.
The backlight is controlled by a light sensitive switch.
The CL6003 is on a single PWB and contains the following circuits:

- Microprocessor
- H-bus interface
- VFD driver unit
- Voltage tripler
- Filament voltage
- Light sensitive switch for backlight
- Backlight
- Symbols drive
- On/off-reset circuit
- H-bus address designation
- Connector system

MICROPROCESSOR

The central part of the control logic is an 8 bit Nmos microprocessor (8051) in a 40 pin dual-in-line package (U200).
The 8051 contains a non-volatile 4k x 8 read-only program memory, a volatile 128 x 8 read/write data memory, 32 I/O lines, and on-chip oscillator.
The clock frequency of the crystal, Y200, driving the microprocessor through pin 18 and 19 is 11.132 MHz.



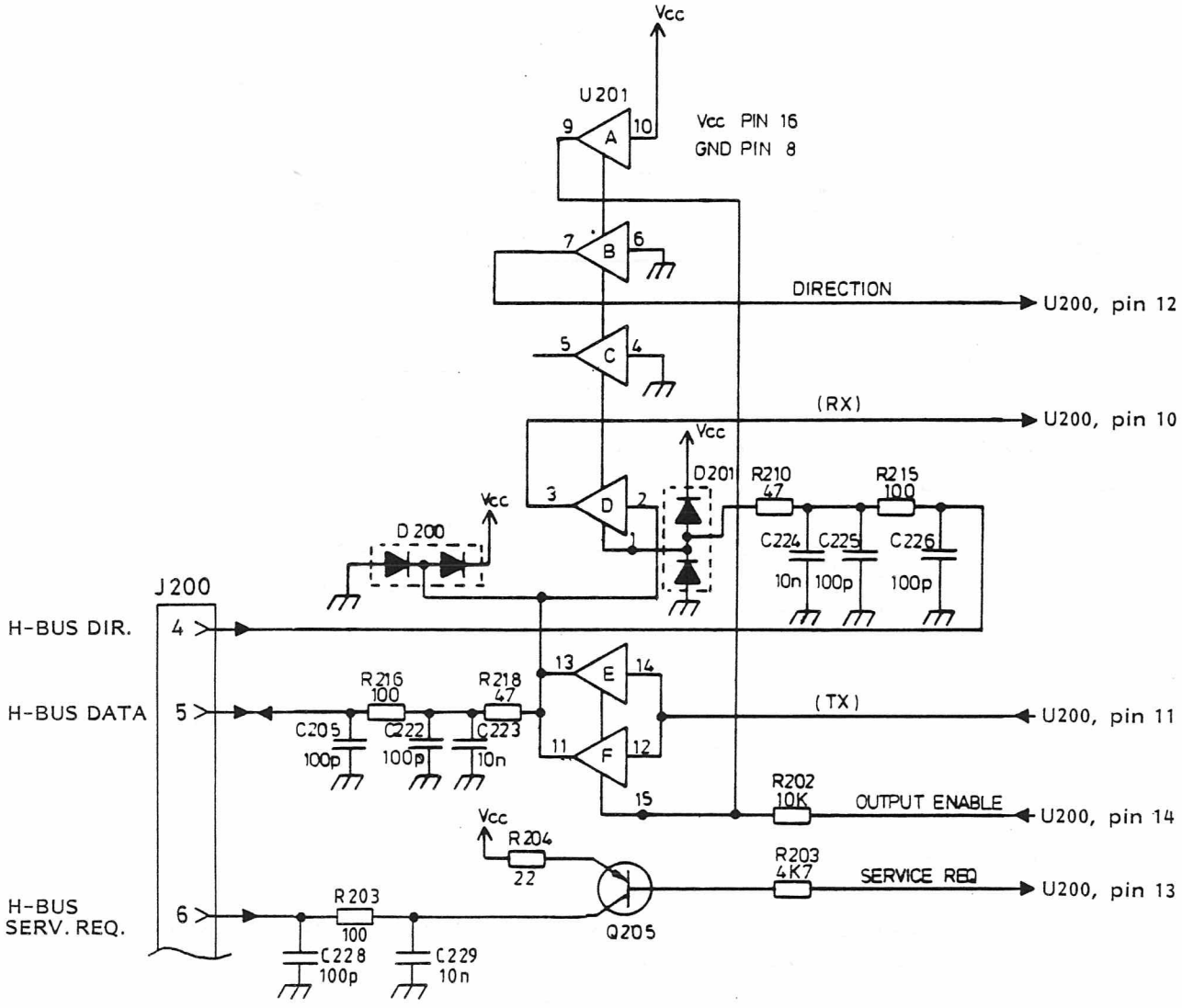
BLOCK DIAGRAM MICROPROCESSOR 8051
D404.031

Microprocessor port connections

Name	Port.pin	Function
	P0.0	Backlighting disable
	P0.1	PTT input (low = activated)
	P0.2	Hook switch input (low = off hook)
	P0.3	LED indicator C
	P0.4	LED indicator B
	P0.5	LED indicator 9
	P0.6	LED indicator A
	P0.7	LED indicator 8
	P1.0	Keypad row input 0
	P1.1	Keypad row input 1
	P1.2	Keypad row input 2
	P1.3	Keypad row input 3
	P1.4	EEPROM serial clock
	P1.5	EEPROM serial data
	P1.6	EEPROM CS (chip select/programming handshake)
	P1.7	VFD character (grid) serial clock
	P2.0	LED indicator serial clock
	P2.1	VFD dot serial clock
	P2.2	Keypad column output 0
	P2.3	Keypad column output 1
	P2.4	Keypad column output 2
	P2.5	Keypad column output 3
	P2.6	Keypad column output 4
	P2.7	Keypad column output 5
RXD	P3.0	UART receiver data
TXD	P3.1	UART transmitter data
INT0	P3.2	H-bus DIRECTION line
INT1	P3.3	H-bus SERVICE REQUEST line
	P3.4	H-bus tri-state control
	P3.5	Common serial data output
	P3.6	Mic. enable
	P3.7	LS enable

H-BUS INTERFACE

The on-chip UART on the microprocessor (pin 10-14) is used to handle the serial communication on the H-bus.
The external interface, U201, together with 1 interrupt and 2 control lines constitute the H-bus interface.



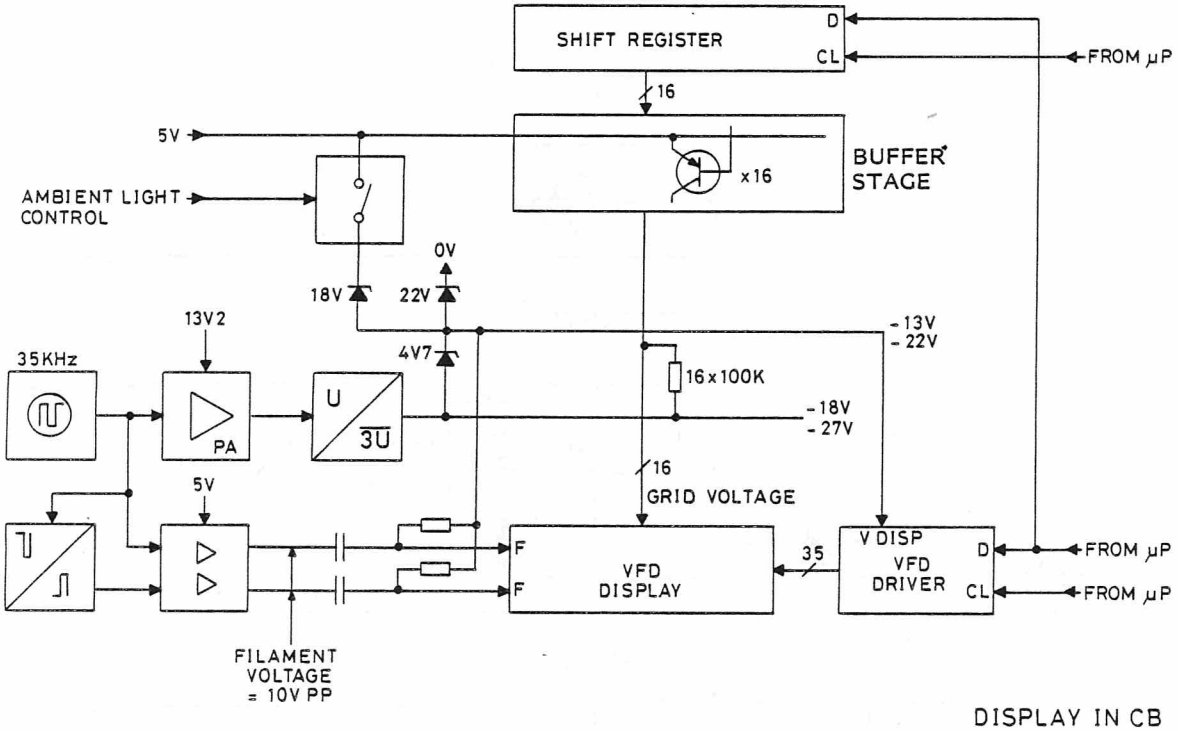
VFD DRIVER UNIT

The Vacuum Flourescent Display driver unit consists of an anode drive unit and a grid drive unit.
To drive the 35 anodes in the 5 x 7 dot-matrix on the display a high voltage display driver has been inserted (U101).
The interface to the microprocessor comprises a serial data line and a serial clock line.
The grid drive consists of two 8 bit shift registers (U205/U206) whose 16 outputs are buffered by 16 transistors to the display grids.

The input data to the two shift registers (pin 7) are controlled by the microprocessor in a serial way.

The shift registers (clocked by a low-to-high transition) are used for driving the character select circuitry. A character is turned "on" by a logical "0" in the corresponding shift register bit.

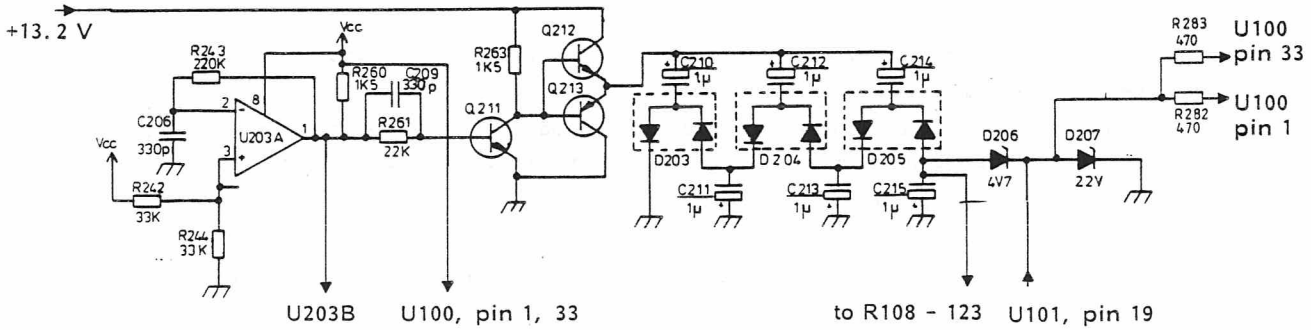
The first bit clocked into the display driver is dot no. 35 followed by the others in descending order, and the first character loaded into the driver is the leftmost.



DISPLAY IN CB

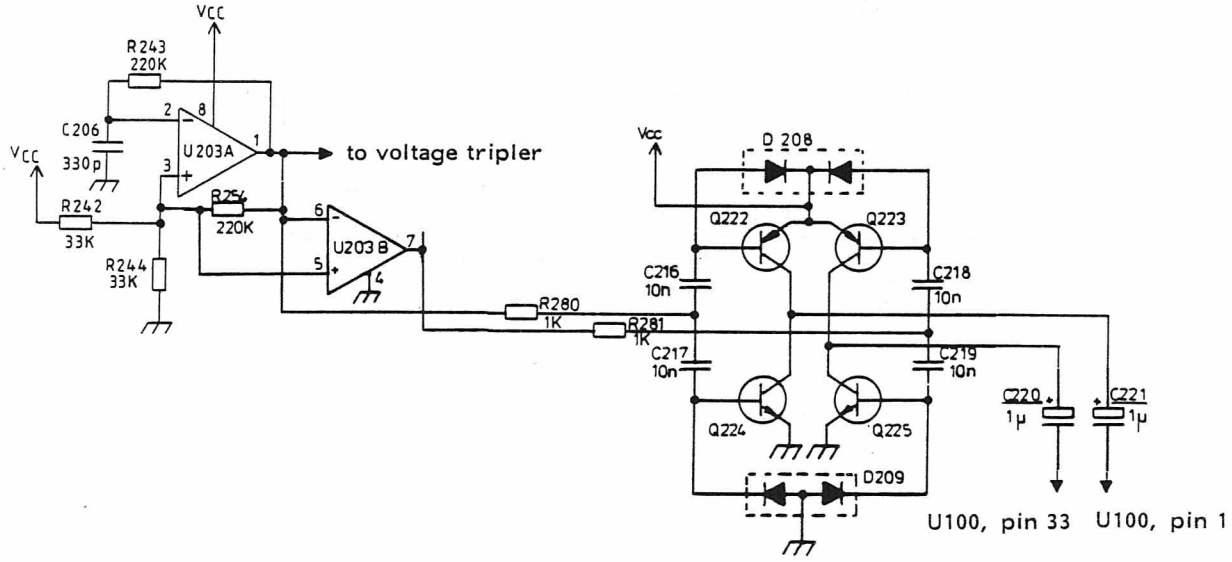
VOLTAGE TRIPLER

The purpose of the voltage tripler is to deliver sufficient voltage to the VFD, pins 1 and 33.
It consists of an astable multivibrator, U203A, running at a frequency about 35 kHz.
The squarewave is amplified and boosted by Q211, Q212, Q213.
Then the voltage is tripled by the arrangement around D203, D204, D205.
The purpose of D206 is to create catode bias voltage to the VFD, and D207 stabilizes the display voltage.



FILAMENT VOLTAGE

The squarewave formed by U203A is amplified by U203B and delivered to a symmetrical booster bridge (Q222, Q223, Q224, Q225). The output from this bridge is "floating" because of the capacitors C220, C221 and supplies the filament on the VFD (pin 1, 33) with a peak-to-peak voltage about -5 V and +5 V.

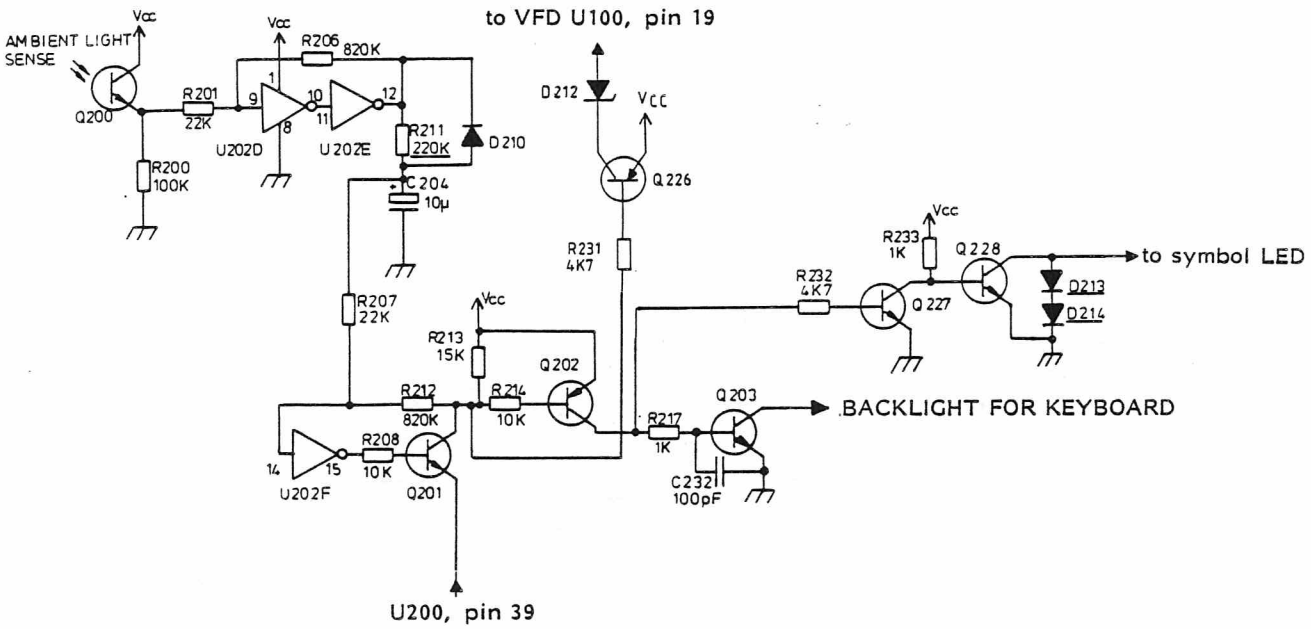


LIGHT SENSITIVE SWITCH FOR BACKLIGHT

This unit consists of a photo transistor (Q200) which is connected to a Schmitt trigger circuit.
The purpose of this circuit is to create a well defined threshold level of the light.
The Schmitt trigger is made of two inverter gates (U202 D-E). The ratio between R201 and R206 determinates the Schmitt trigger level.
The output of this Schmitt trigger is delayed by R211 and C204. The purpose of the delay is to prevent flashing of the backlight caused by quick changes in the ambient light.
The time constant of this RC network is so determinated that the total delay time, from the ambient light changes to the backlight reaction, is about 2 seconds.
D210 causes the T.on (backlight on) to be about 0 seconds, but T.off will be 2 seconds.

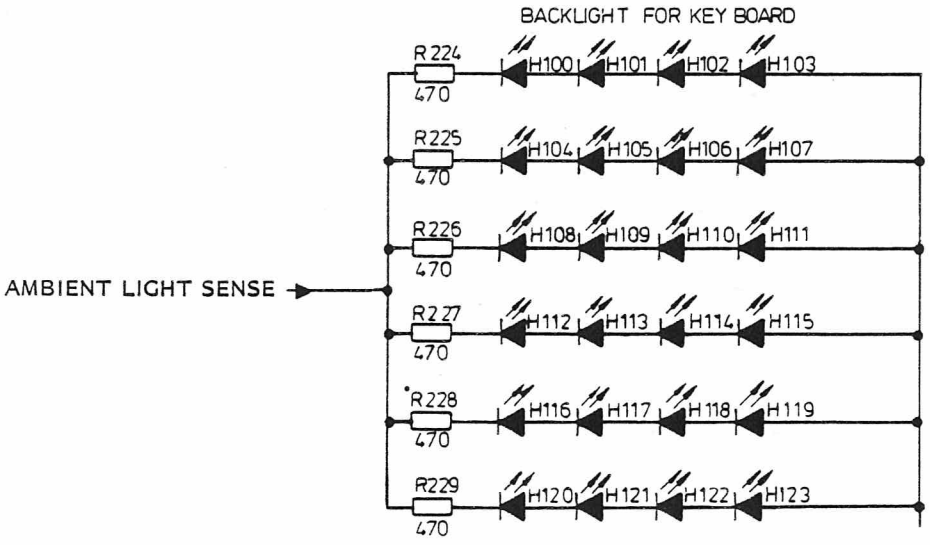
The following Schmitt trigger is equivalent to the first circuit except that the last gate is replaced by a transistor, Q201, and its purpose being to create a defined shift.
It is possible to disable the circuit by putting the emitter of Q201 to a high level from the microprocessor's pin 39.
The output is followed by two amplifier stages, Q202-Q203, to switch the light.

The output of Q201 is used by Q226 to dim the VFD display intensity determinated by D212. The output of Q202 is used, by the help of Q227/Q228 and D213/D214, to dim the symbol LED's.



BACKLIGHT

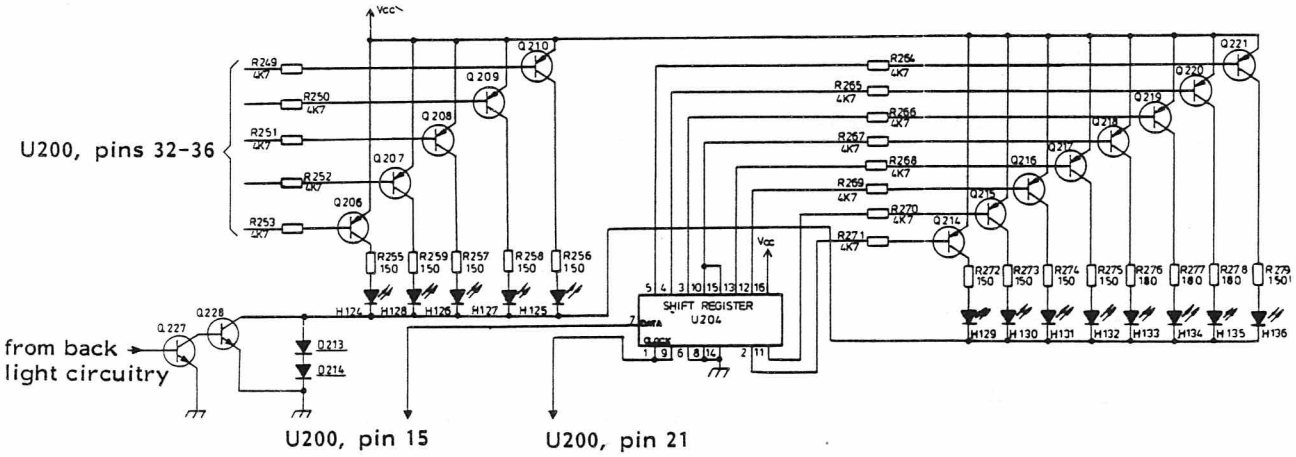
The backlight consists of 24 miniature LED diodes which are placed under the 24 keyboard buttons.



SYMBOLS DRIVE

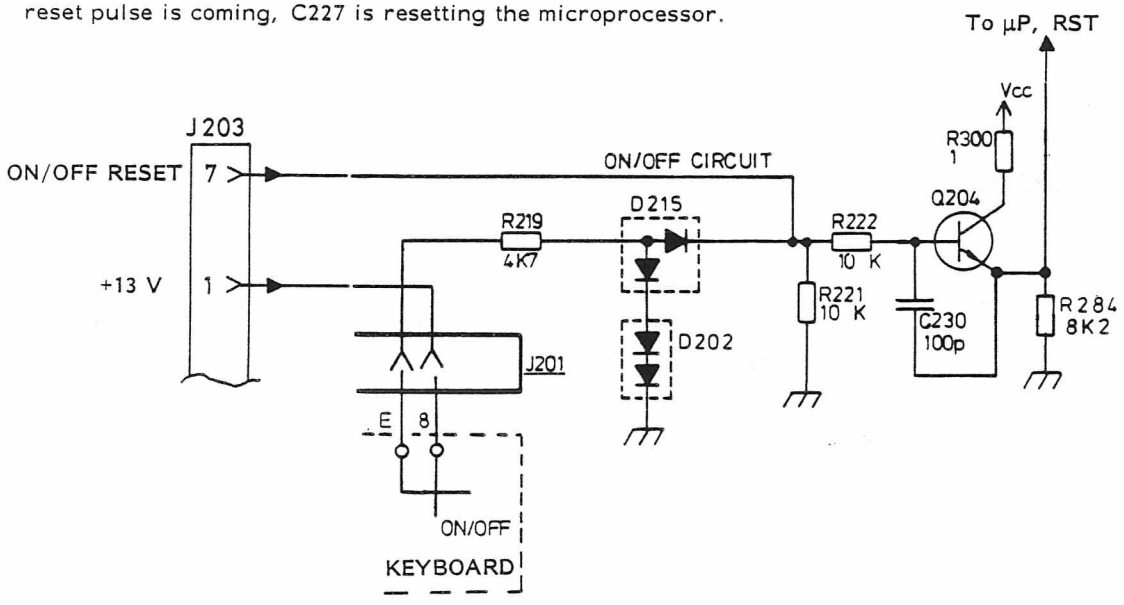
The CL board contains 13 LED-indicators whose functions are to light up symbols.
Eight diodes are connected to a shift register (U204) and buffer stages. A serial data line and serial clock is supplying the shift register with the right information.
Another five diodes are connected direct to the microprocessor port 0 pins 3-7 via a buffer stage.

The buffer stages are in all 13 positions a transistor.
When the backlight is turned on a voltage drop about the two diodes D213-D214 causes the supply voltage to all the diodes to decrease thus creating a dimming function on the symbols.



ON/OFF-RESET CIRCUIT

The purpose of the on/off reset circuit is to deliver an on/off pulse to the on/off circuit in the radio part and to reset the microprocessor.
A high pulse from the keyboard switch is regulated by two diodes, D202, to on/off line level (1.2 V). The 1.2 V is going to the on/off circuit on the radio part which turns the +5 V to the CL board on and resets the whole radio.
The reset pulse (+5 V) returns to CL6003 from the radio and turns Q204 on. This resets the microprocessor (pin 9). In the time between the +5 V power supply is going on and the reset pulse is coming, C227 is resetting the microprocessor.



H-BUS ADDRESS DESIGNATION

A diode, D211, between the backlight on/off pin and one of the keyboard pins will determine which of the pre-coded adresses will be used for control box identification. The diode is connected with a strap to the backlight pin. There should be no more than one strap present. It is included that not connecting any strap at all is an address, too.
(See addressing instructions, drawing D404.167).

CONNECTOR SYSTEM

All connections to the CL board are made by 3 connectors except in the handset control, where the hook switch is connected into the PWB, pin 37. It is also possible to insert a PTT switch on the board at pin 38.
Below is shown a list of the signals available on the connectors.

J203, Connectors for the radio (remote or local):
On/off reset line
GND
+13.2 V
+5 V
H-bus data, request and direction

J203, RX and TX (audio select)
Mic. enable and LS enable, pins 8 and 9, are 2 control outputs. They are active low, i.e. logical "0" means "on".
1 ohm resistors, R285, R286 are inserted for the handset control only.

J202, Code plug connector
+5 V
GND
Serial data
Serial clock
Chip select

The EEPROM in the (removable) code plug contains 16 x 16 bits. It has a serial interface with a data and a clock line plus a chip select pin, which, during erase and write operations, also acts as a handshake line.

J201, Keyboard connector
A connector where the keyboard foil is inserted

PTT and Hook Switch
These are 2 active low inputs. The bounce time for the switches should be less than 9.0 ms in order to avoid multiple on/off telegrams generated from a single activation.

TECHNICAL SPECIFICATIONS

ELECTRICAL

The C1 PWB is supplied from the radio with two voltages.

Supply voltage 1
10.8-15.6 V DC (13.2 V nom.)

Current drain 1
170 mA (Backlight off)

Supply voltage 2
+5 V ±5%

Current drain 2
250 mA (Symbols off)

NOTE:
Every symbol LED is drawing about 20 mA each on the +5 V supply.

H-BUS CONTROL SIGNALS

Maximum input
Lo voltage: (1.0 V)

Minimum input
Hi voltage: (3.2 V)

Maximum outputs
Lo voltage: (0.4 V)

OUTPUT

On/off signal: J203 pin 7 (active High)
Hi voltage >1.2 V
Lo voltage <0.2 V

Audio select: (active Low)
Mic. enable J203 pin 8 <0.2 V
LS enable J203 pin 9 <0.2 V

(These signals are only present in the handset control)

INPUT

Hook Switch for handset control version
Connecting H12 to GND: handset on hook

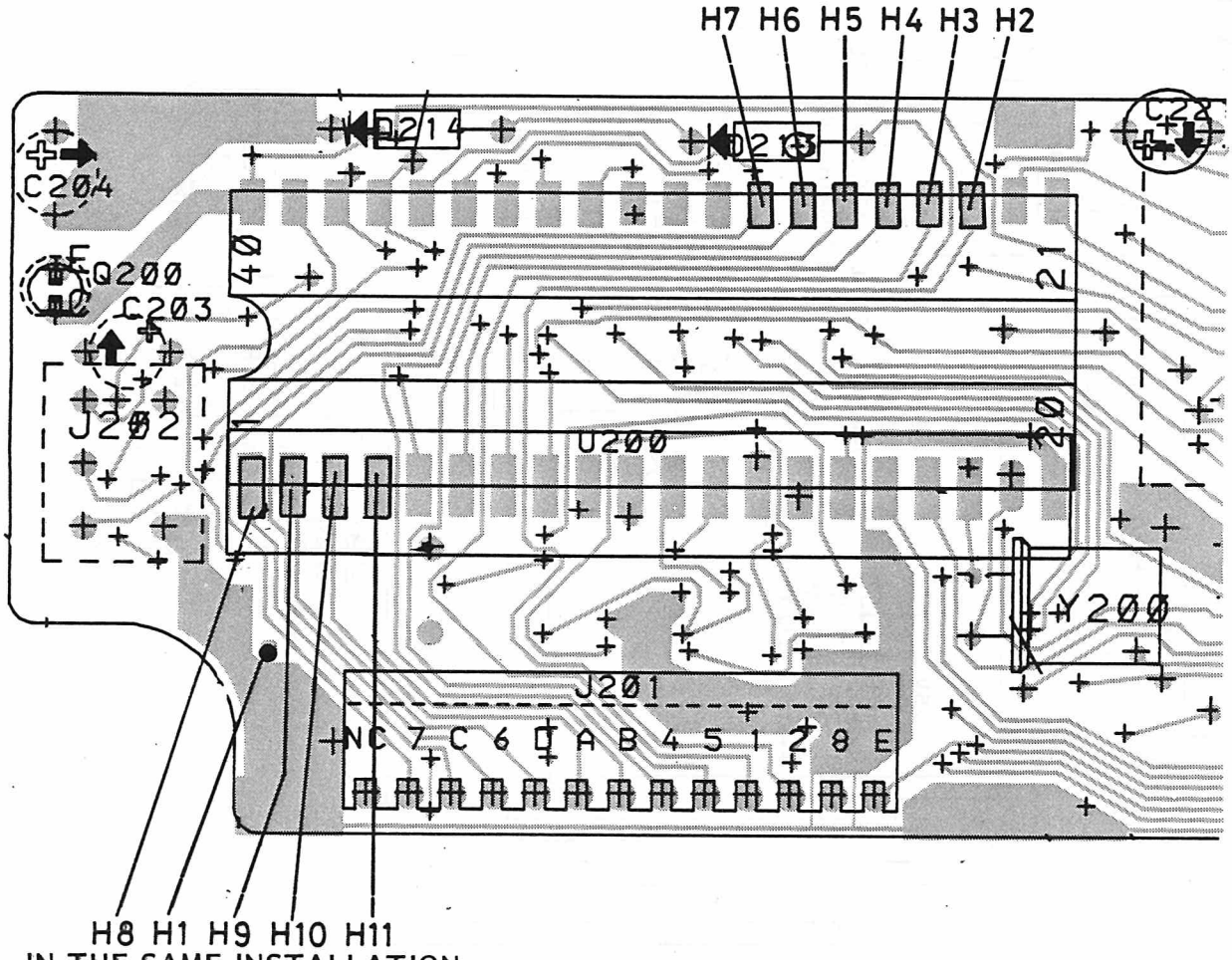
PTT
Connecting H13 to GND: PTT on (active Lo)

ENVIRONMENTAL

Temperature range
Operation -25°C to +60°C
Storage -40°C to +70°C

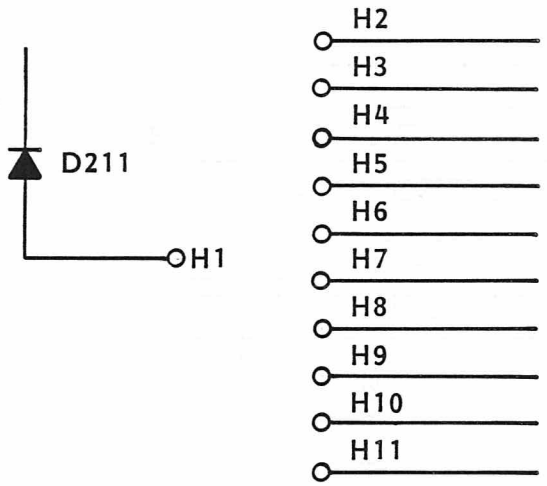
Mechanical dimensions
Length x Width x Heigth: 184 x 57 x 28

Weight
280 g



IN THE SAME INSTALLATION:

- ONE BOX AT LEAST MUST HAVE ADDR. 20H, WHICH MEANS NO STRAP.
- TWO BOXES MUST NOT HAVE THE SAME ADDRESS.



WHEN THE CONTROL HEAD IS USED AS SERVICE INSTRUMENT CONNECT H1 TO H2.

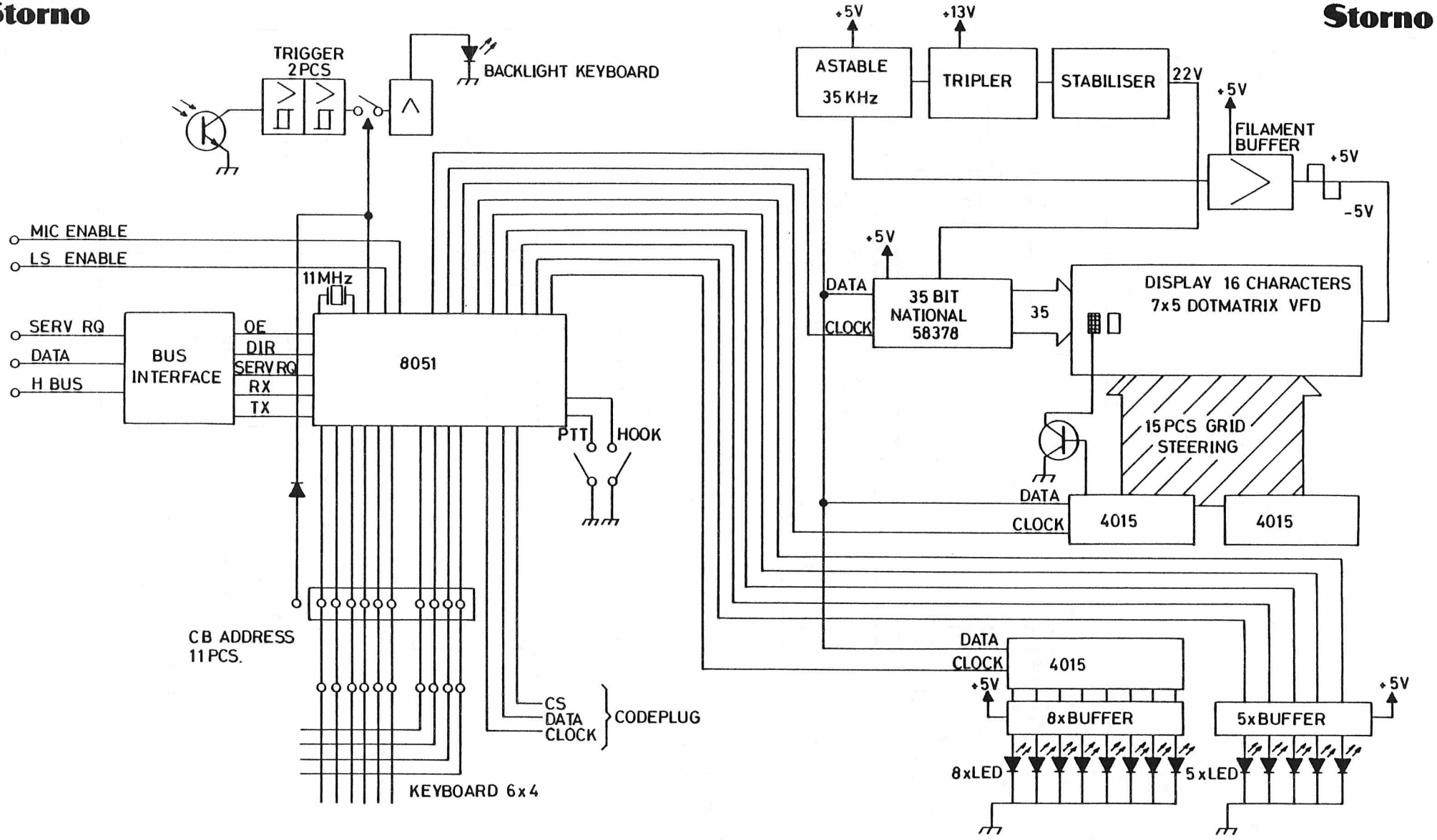
CB ADDRESS	H-BUS ADDRESS
NO STRAP	20H
H2	21H
H3	22H
H4	23H
H5	24H
H6	25H
H7	26H
H8	27H
H9	28H
H10	29H
H11	2AH

ADDRESSING INSTRUCTIONS H-BUS ON CL6003

D404.167/2

Storno

Storno



BLOCK DIAGRAM CL6003

D404.032

Storno

Storno

AMBIENT LIGHT SENSE

BACKLIGHT FOR KEY BOARD

SHIFT REGISTER U204

SHIFT REGISTER U205

SHIFT REGISTER U206

U10.1 DRIVER FOR DISPLAY

U100 DISPLAY

U200 µP8051

DIRECTION

(RX)

(TX)

OUTPUT ENABLE

SERVICE REQ

CB ADDRESS NOTE

ONLY PRESENT IN 19M905980G3

CODE PLUG

RESISTORS ONLY PRESENT IN 19M905980 G2

INPUT FOR HOOK SWITCH

INPUT FOR PTT

ON/OFF CIRCUIT

KEYBOARD

ON/OFF

NOT PART OF CL.

NOTE:
THE CB. ADDRESS ON THE H-BUS IS MADE IN ACCORDANCE WITH INSTRUCTION 19J709257.
DEFAULT ADDRESS IS NO STRAP. (i.e. 20H)

CODE NO. M905980G1 - PANEL CONTROL
CODE NO. M905980G2 - HANDSET CONTROL
CODE NO. M905980G3 - PANEL CONTROL WITH CODE PLUG

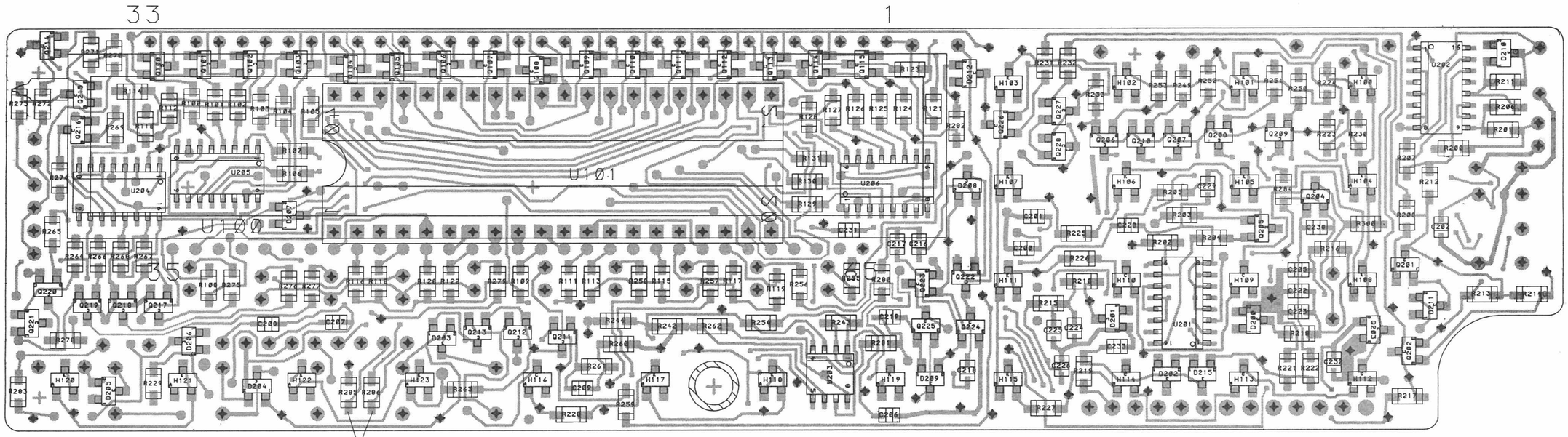
COMPONENTS MARKED Rxxx
ARE PLACED ON COMPONENT SIDE

CONTROL LOGIC CL6003

D404.036/2

Storno

Storno



CODE NO. M905980G1 - PANEL CONTROL

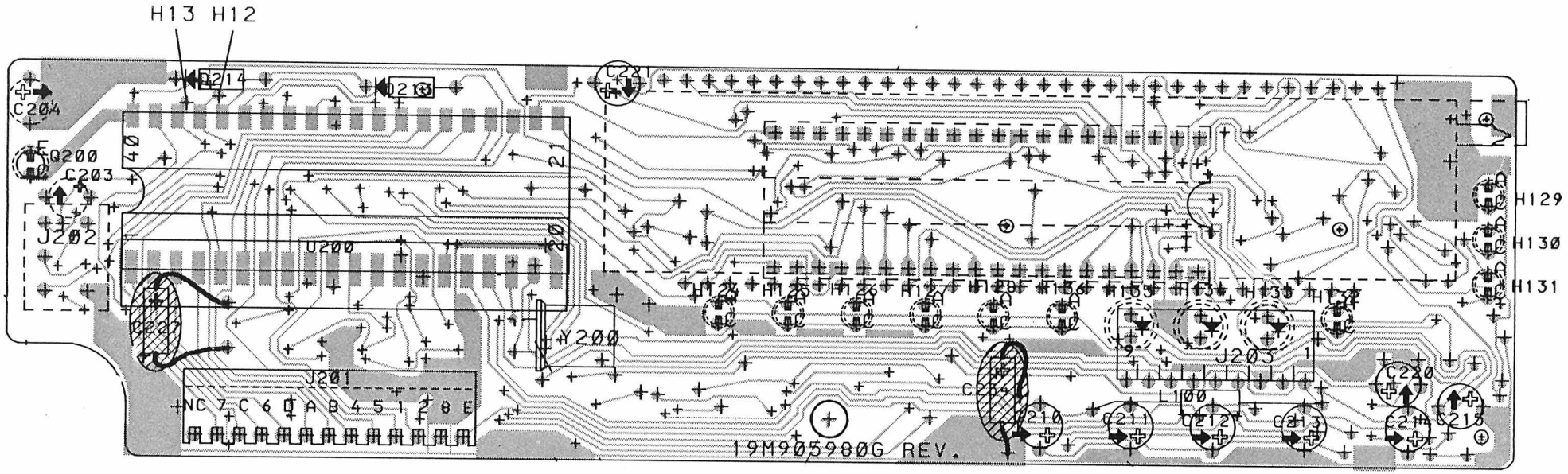
CODE NO. M905980G2 - HANDSET CONTROL

CODE NO. M905980G3 - PANEL CONTROL WITH CODE PLUG

CONTROL LOGIC CL6003
COMPONENT LAYOUT - CHIP SIDE

D404.159

Storno



CODE NO. M905980G1 - PANEL CONTROL

CODE NO. M905980G2 - HANDSET CONTROL

CODE NO. M905980G3 - PANEL CONTROL WITH CODE PLUG

CONTROL LOGIC CL6003
COMPONENT LAYOUT - COMPONENT SIDE

D404.158

ITEM NUMBER	DESCRIPTION
M905980G1	CL 6003, FOR PANEL CONTROL
M905980G2	CL 6003, F. HANDSET CONTROL, W. HOOK-SW
M905980G3	CL 6003, F. PANEL CONTROL,WITH CODE-PLU
J709394G1	SUB ASM.: U200,- U-PROC., PROGRAMMED-

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY	
C200	J707436P53	CAP CER NPO 68P 5% 50V	1	ALL
C201	J707436P37	CAP CER NPO 33P 5% 50V	1	ALL
C202	J707438P5	CAP CER CL2 1N 10% 50V	1	ALL
C203	J707444P17	CAP TA SOL 47U 20% 10V	1	ALL
C204	J707444P7	CAP TA SOL 10U 20% 16V	1	ALL
C205	J707436P61	CAP CER NPO 100P 5% 50V	1	ALL
C206	J707438P2	CAP CER CL2 330P 10% 50V	1	ALL
C207	J707436P61	CAP CER NPO 100P 5% 50V	1	ALL
C208	J707436P61	CAP CER NPO 100P 5% 50V	1	ALL
C209	J707438P2	CAP CER CL2 330P 10% 50V	1	ALL
C210	J707444P4	CAP TA SOL 1U 20% 35V	1	ALL
C211	J707444P4	CAP TA SOL 1U 20% 35V	1	ALL
C212	J707444P4	CAP TA SOL 1U 20% 35V	1	ALL
C213	J707444P4	CAP TA SOL 1U 20% 35V	1	ALL
C214	J707444P4	CAP TA SOL 1U 20% 35V	1	ALL
C215	J707444P4	CAP TA SOL 1U 20% 35V	1	ALL
C216	J707438P14	CAP CER CL2 10N 10% 50V	1	ALL
C217	J707438P14	CAP CER CL2 10N 10% 50V	1	ALL
C218	J707438P14	CAP CER CL2 10N 10% 50V	1	ALL
C219	J707438P14	CAP CER CL2 10N 10% 50V	1	ALL
C220	J707444P4	CAP TA SOL 1U 20% 35V	1	ALL
C221	J707444P4	CAP TA SOL 1U 20% 35V	1	ALL
C222	J707436P61	CAP CER NPO 100P 5% 50V	1	ALL
C223	J707438P14	CAP CER CL2 10N 10% 50V	1	ALL
C224	J707438P14	CAP CER CL2 10N 10% 50V	1	ALL
C225	J707436P61	CAP CER NPO 100P 5% 50V	1	ALL
C226	J707436P61	CAP CER NPO 100P 5% 50V	1	ALL
C227	B800650P16	CAP TA SOL 10U 20% 10V	1	ALL
C228	J707436P61	CAP CER NPO 100P 5% 50V	1	ALL
C229	J707438P14	CAP CER CL2 10N 10% 50V	1	ALL
C230	J707436P61	CAP CER NPO 100P 5% 50V	1	ALL
C231	J707436P61	CAP CER NPO 100P 5% 50V	1	ALL
C232	J707436P61	CAP CER NPO 100P 5% 50V	1	ALL
C233	J707436P61	CAP CER NPO 100P 5% 50V	1	ALL
C234	B800650P28	CAP TA SOL 4U7 10% 20V	1	ALL
C235	J707438P26	CAP CER CL2 100N 10% 50V	1	ALL
D200	J707389P1	DIO SI SIG BAV 99	1	ALL
D201	J707389P1	DIO SI SIG BAV 99	1	ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER		COMPONENT DESCRIPTION	QUANTITY	
D202	J707389P1		DIO SI SIG BAV 99	1	ALL
D203	J707389P1		DIO SI SIG BAV 99	1	ALL
D204	J707389P1		DIO SI SIG BAV 99	1	ALL
D205	J707389P1		DIO SI SIG BAV 99	1	ALL
D206	J707459P1		DIO SI ZENR 4V7 5% 0,2W	1	ALL
D207	J707459P9		DIO SI ZENR 22V 5% 0,2W	1	ALL
D208	J707390P1		DIO SI SIG BAV 74	1	ALL
D209	J708681P1		DIO SI SIG BAW 56	1	ALL
D210	J707389P1		DIO SI SIG BAV 99	1	ALL
D211	J707389P1		DIO SI SIG BAV 99	1	ALL
D212	J707459P9		DIO SI ZENR 22V 5% 0,2W	1	ALL
D213	J709122P1		DIO SI SIG 1N4150	1	ALL
D214	J709122P1		DIO SI SIG 1N4150	1	ALL
D215	J708681P1		DIO SI SIG BAW 56	1	ALL
H100	J708405P1		DIO OPTO ELEC GREEN, CQV 233	1	ALL
H101	J708405P1		DIO OPTO ELEC GREEN, CQV 233	1	ALL
H102	J708405P1		DIO OPTO ELEC GREEN, CQV 233	1	ALL
H103	J708405P1		DIO OPTO ELEC GREEN, CQV 233	1	ALL
H104	J708405P1		DIO OPTO ELEC GREEN, CQV 233	1	ALL
H105	J708405P1		DIO OPTO ELEC GREEN, CQV 233	1	ALL
H106	J708405P1		DIO OPTO ELEC GREEN, CQV 233	1	ALL
H107	J708405P1		DIO OPTO ELEC GREEN, CQV 233	1	ALL
H108	J708405P1		DIO OPTO ELEC GREEN, CQV 233	1	ALL
H109	J708405P1		DIO OPTO ELEC GREEN, CQV 233	1	ALL
H110	J708405P1		DIO OPTO ELEC GREEN, CQV 233	1	ALL
H111	J708405P1		DIO OPTO ELEC GREEN, CQV 233	1	ALL
H112	J708405P1		DIO OPTO ELEC GREEN, CQV 233	1	ALL
H113	J708405P1		DIO OPTO ELEC GREEN, CQV 233	1	ALL
H114	J708405P1		DIO OPTO ELEC GREEN, CQV 233	1	ALL
H115	J708405P1		DIO OPTO ELEC GREEN, CQV 233	1	ALL
H116	J708405P1		DIO OPTO ELEC GREEN, CQV 233	1	ALL
H117	J708405P1		DIO OPTO ELEC GREEN, CQV 233	1	ALL
H118	J708405P1		DIO OPTO ELEC GREEN, CQV 233	1	ALL
H119	J708405P1		DIO OPTO ELEC GREEN, CQV 233	1	ALL
H120	J708405P1		DIO OPTO ELEC GREEN, CQV 233	1	ALL
H121	J708405P1		DIO OPTO ELEC GREEN, CQV 233	1	ALL
H122	J708405P1		DIO OPTO ELEC GREEN, CQV 233	1	ALL
H123	J708405P1		DIO OPTO ELEC GREEN, CQV 233	1	ALL
H124	J708000P7	*	DIO OPTO ELEC YELL.,LG3130-L	1	ALL
H125	J708000P7	*	DIO OPTO ELEC YELL.,LG3130-L	1	ALL
H126	J708000P7	*	DIO OPTO ELEC YELL.,LG3130-L	1	ALL
H127	J708000P7	*	DIO OPTO ELEC YELL.,LG3130-L	1	ALL
H128	J708000P6	*	DIO OPTO ELEC YELL.,LY3140-L	1	ALL
H129	J708000P7	*	DIO OPTO ELEC YELL.,LG3130-L	1	ALL
H130	J708000P7	*	DIO OPTO ELEC YELL.,LG3130-L	1	ALL
H131	J708000P7	*	DIO OPTO ELEC YELL.,LG3130-L	1	ALL
H132	J708000P7	*	DIO OPTO ELEC YELL.,LG3130-L	1	ALL
H133	J709312P3		DIO OPTO, YELL., HLMP-3850	1	ALL
H134	J709312P2		DIO OPTO, GREEN, HLMP-3950	1	ALL
H135	J709312P1		DIO OPTO, RED, HLMP-3750	1	ALL
H136	J708000P7	*	DIO OPTO ELEC YELL.,LG3130-L	1	ALL

CONT.D ON NEXT PAGE: PAGE 3

CIRCUIT POSITION	COMPONENT ITEM NUMBER		COMPONENT DESCRIPTION	QUANTITY	
J201	J708541P13		CONN PWB FEMALE 13-WAY	1	ALL
J202	M906043P1		CONNECTOR HOUSING, FEMALE	1	F.:-G3
J203	J708776G1		CONNECTOR MODIFIED	1	ALL
L100	A700024P34	*	COIL RF FIX 56UH 10%	1	ALL
Q100	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q101	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q102	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q103	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q104	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q105	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q106	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q107	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q108	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q109	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q110	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q111	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q112	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q113	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q114	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q115	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q200	J708525P1		TSTR OPTO SFH 309	1	ALL
Q201	J707386P1		TSTR NPN SI BCW 32	1	ALL
Q202	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q203	J707429P1		TSTR NPN SI BCX 20	1	ALL
Q204	J707386P1		TSTR NPN SI BCW 32	1	ALL
Q205	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q206	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q207	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q208	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q209	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q210	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q211	J707386P1		TSTR NPN SI BCW 32	1	ALL
Q212	J707386P1		TSTR NPN SI BCW 32	1	ALL
Q213	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q214	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q215	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q216	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q217	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q218	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q219	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q220	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q221	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q222	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q223	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q224	J707386P1		TSTR NPN SI BCW 32	1	ALL
Q225	J707386P1		TSTR NPN SI BCW 32	1	ALL
Q226	J707387P1		TSTR PNP SI BCW 30	1	ALL
Q227	J707386P1		TSTR NPN SI BCW 32	1	ALL
Q228	J707429P1		TSTR NPN SI BCX 20	1	ALL
R100	J707385P103		RES MFILM 10K 5% 1/8W	1	ALL
R101	J707385P103		RES MFILM 10K 5% 1/8W	1	ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY	
R102	J707385P103	RES MFILM 10K 5% 1/8W	1	ALL
R103	J707385P103	RES MFILM 10K 5% 1/8W	1	ALL
R104	J707385P103	RES MFILM 10K 5% 1/8W	1	ALL
R105	J707385P103	RES MFILM 10K 5% 1/8W	1	ALL
R106	J707385P103	RES MFILM 10K 5% 1/8W	1	ALL
R107	J707385P103	RES MFILM 10K 5% 1/8W	1	ALL
R108	J707385P104	RES MFILM 100K 5% 1/8W	1	ALL
R109	J707385P104	RES MFILM 100K 5% 1/8W	1	ALL
R110	J707385P104	RES MFILM 100K 5% 1/8W	1	ALL
R111	J707385P104	RES MFILM 100K 5% 1/8W	1	ALL
R112	J707385P104	RES MFILM 100K 5% 1/8W	1	ALL
R113	J707385P104	RES MFILM 100K 5% 1/8W	1	ALL
R114	J707385P104	RES MFILM 100K 5% 1/8W	1	ALL
R115	J707385P104	RES MFILM 100K 5% 1/8W	1	ALL
R116	J707385P104	RES MFILM 100K 5% 1/8W	1	ALL
R117	J707385P104	RES MFILM 100K 5% 1/8W	1	ALL
R118	J707385P104	RES MFILM 100K 5% 1/8W	1	ALL
R119	J707385P104	RES MFILM 100K 5% 1/8W	1	ALL
R120	J707385P104	RES MFILM 100K 5% 1/8W	1	ALL
R121	J707385P104	RES MFILM 100K 5% 1/8W	1	ALL
R122	J707385P104	RES MFILM 100K 5% 1/8W	1	ALL
R123	J707385P104	RES MFILM 100K 5% 1/8W	1	ALL
R124	J707385P103	RES MFILM 10K 5% 1/8W	1	ALL
R125	J707385P103	RES MFILM 10K 5% 1/8W	1	ALL
R126	J707385P103	RES MFILM 10K 5% 1/8W	1	ALL
R127	J707385P103	RES MFILM 10K 5% 1/8W	1	ALL
R128	J707385P103	RES MFILM 10K 5% 1/8W	1	ALL
R129	J707385P103	RES MFILM 10K 5% 1/8W	1	ALL
R130	J707385P103	RES MFILM 10K 5% 1/8W	1	ALL
R131	J707385P103	RES MFILM 10K 5% 1/8W	1	ALL
R200	J707385P104	RES MFILM 100K 5% 1/8W	1	ALL
R201	J707385P223	RES MFILM 22K 5% 1/8W	1	ALL
R202	J707385P103	RES MFILM 10K 5% 1/8W	1	ALL
R203	J707385P472	RES MFILM 4K7 5% 1/8W	1	ALL
R204	J707385P220	RES MFILM 22R 5% 1/8W	1	ALL
R205	J707385P101	RES MFILM 100R 5% 1/8W	1	ALL
R206	J707385P824	RES MFILM 820K 5% 1/8W	1	ALL
R207	J707385P223	RES MFILM 22K 5% 1/8W	1	ALL
R208	J707385P103	RES MFILM 10K 5% 1/8W	1	ALL
R210	J707385P470	RES MFILM 47R 5% 1/8W	1	ALL
R211	J707385P224	RES MFILM 220K 5% 1/8W	1	ALL
R212	J707385P824	RES MFILM 820K 5% 1/8W	1	ALL
R213	J707385P153	RES MFILM 15K 5% 1/8W	1	ALL
R214	J707385P103	RES MFILM 10K 5% 1/8W	1	ALL
R215	J707385P101	RES MFILM 100R 5% 1/8W	1	ALL
R216	J707385P101	RES MFILM 100R 5% 1/8W	1	ALL
R217	J707385P102	RES MFILM 1K0 5% 1/8W	1	ALL
R218	J707385P470	RES MFILM 47R 5% 1/8W	1	ALL
R219	J707385P472	RES MFILM 4K7 5% 1/8W	1	ALL
R221	J707385P103	RES MFILM 10K 5% 1/8W	1	ALL
R222	J707385P103	RES MFILM 10K 5% 1/8W	1	ALL
R223	J707385P124 * *	RES MFILM 120K 5% 1/8W	1	ALL
R224	J707385P471	RES MFILM 470R 5% 1/8W	1	ALL

CIRCUIT POSITION	COMPONENT ITEM NUMBER			COMPONENT DESCRIPTION	QUANTITY	
R225	J707385P471			RES MFILM 470R 5% 1/8W	1	ALL
R226	J707385P471			RES MFILM 470R 5% 1/8W	1	ALL
R227	J707385P471			RES MFILM 470R 5% 1/8W	1	ALL
R228	J707385P471			RES MFILM 470R 5% 1/8W	1	ALL
R229	J707385P471			RES MFILM 470R 5% 1/8W	1	ALL
R230	J707385P124	*	*	RES MFILM 120K 5% 1/8W	1	ALL
R231	J707385P472			RES MFILM 4K7 5% 1/8W	1	ALL
R232	J707385P472			RES MFILM 4K7 5% 1/8W	1	ALL
R233	J707385P102			RES MFILM 1K0 5% 1/8W	1	ALL
R242	J707385P333			RES MFILM 33K 5% 1/8W	1	ALL
R243	J707385P224			RES MFILM 220K 5% 1/8W	1	ALL
R244	J707385P333			RES MFILM 33K 5% 1/8W	1	ALL
R249	J707385P472			RES MFILM 4K7 5% 1/8W	1	ALL
R250	J707385P472			RES MFILM 4K7 5% 1/8W	1	ALL
R251	J707385P472			RES MFILM 4K7 5% 1/8W	1	ALL
R252	J707385P472			RES MFILM 4K7 5% 1/8W	1	ALL
R253	J707385P472			RES MFILM 4K7 5% 1/8W	1	ALL
R254	J707385P224			RES MFILM 220K 5% 1/8W	1	ALL
R255	J707385P151			RES MFILM 150R 5% 1/8W	1	ALL
R256	J707385P151			RES MFILM 150R 5% 1/8W	1	ALL
R257	J707385P151			RES MFILM 150R 5% 1/8W	1	ALL
R258	J707385P151			RES MFILM 150R 5% 1/8W	1	ALL
R259	J707385P151			RES MFILM 150R 5% 1/8W	1	ALL
R260	J707385P152			RES MFILM 1K5 5% 1/8W	1	ALL
R261	J707385P223			RES MFILM 22K 5% 1/8W	1	ALL
R262	J707385P152			RES MFILM 1K5 5% 1/8W	1	ALL
R263	J707385P152			RES MFILM 1K5 5% 1/8W	1	ALL
R264	J707385P472			RES MFILM 4K7 5% 1/8W	1	ALL
R265	J707385P472			RES MFILM 4K7 5% 1/8W	1	ALL
R266	J707385P472			RES MFILM 4K7 5% 1/8W	1	ALL
R267	J707385P472			RES MFILM 4K7 5% 1/8W	1	ALL
R268	J707385P472			RES MFILM 4K7 5% 1/8W	1	ALL
R269	J707385P472			RES MFILM 4K7 5% 1/8W	1	ALL
R270	J707385P472			RES MFILM 4K7 5% 1/8W	1	ALL
R271	J707385P472			RES MFILM 4K7 5% 1/8W	1	ALL
R272	J707385P151			RES MFILM 150R 5% 1/8W	1	ALL
R273	J707385P151			RES MFILM 150R 5% 1/8W	1	ALL
R274	J707385P151			RES MFILM 150R 5% 1/8W	1	ALL
R275	J707385P151			RES MFILM 150R 5% 1/8W	1	ALL
R276	J707385P181			RES MFILM 180R 5% 1/8W	1	ALL
R277	J707385P181			RES MFILM 180R 5% 1/8W	1	ALL
R278	J707385P181			RES MFILM 180R 5% 1/8W	1	ALL
R279	J707385P151			RES MFILM 150R 5% 1/8W	1	ALL
R280	J707385P102			RES MFILM 1K0 5% 1/8W	1	ALL
R281	J707385P102			RES MFILM 1K0 5% 1/8W	1	ALL
R282	J707385P471			RES MFILM 470R 5% 1/8W	1	ALL
R283	J707385P471			RES MFILM 470R 5% 1/8W	1	ALL
R284	J707385P822			RES MFILM 8K2 5% 1/8W	1	ALL
R285	J707385P910			RES MFILM 1R0 20% 1/8W	1	F.:-G2
R286	J707385P910			RES MFILM 1R0 20% 1/8W	1	F.:-G2
R300	J707385P910			RES MFILM 1R0 20% 1/8W	1	ALL

CONT.D ON NEXT PAGE: PAGE 6

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY	
U100	J708896P1	DISPLAY,FLOURESC.-,16-SD-01Z	1	ALL
U101	J708897P1	IC DRV VFD 58348	1	ALL
U200	J709394G1	INT CKT., U-PROC., PRGRMD.-	1	(SEE BELOW)
U201	J708791P1	IC, DIG BUFR 74HC367, HSCMOS	1	ALL
U202	J708356P1	IC, DIG BUFR 4049, CMOS	1	ALL
U203	J708503P3	IC, LIN CMPAR LM 293	1	ALL
U204	J709016P1	IC, DIG REG HC4015, HSCMOS	1	ALL
U205	J709016P1	IC, DIG REG HC4015, HSCMOS	1	ALL
U206	J709016P1	IC, DIG REG HC4015, HSCMOS	1	ALL
Y200	J709008P2	CRYSTAL UNIT 11.132MHZ	1	ALL
0002	M9-----P1R1	BD PW., REVISION NO.1	(1)	ALL
0008	A702455P1	NUT, SELF CLINCHING	1	
0009	J707938P2	TAPE,NPR 0.8X6.35	0.006	M
0010	M906060P1	LIGHT SEPARATOR	1	
0011	J709373G1	SHIELD ASM	1	
0013	J708296P3	SLV INS ELEC PTFE CL R	0.016	M
0017	J706922P6	TAPE PRESSURE SENSITIVE	0.06	M
0018	J708296P3	SLEEV.,INSUL.-,ELEC PFTE CL	0.012	M
0019	J708296P3	SLEEV.,INSUL.-,ELEC PFTE CL	0.018	M
0020	J708413P2	SLV SIL RUBB. NAT.	0.006	M
U200 :	J709394G1 :	IC, MODIF. BY PROGRAMM. :		
0002	J707894P3	IC,U-PROC.,8-BIT,C8051H NMOS	1	

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AA6001

AUDIO AMPLIFIER

The AA6001 is the microphone board in the handset used with NMT 6000 and CQM6000. The board is part of the connections between the retainer and volume control board AA6002, and contains decouplingt capacitors. The red relay for the hook switch is mounted on this board.

The AA6001 contains two functions:

- Microphone amplifier
- Microphone mute circuit.

The microphone mute circuit mutes the signal depending on the voltage at MIC MUTE.

CIRCUIT DESCRIPTION

The power supply as well as the signal are fed through the same line HS MIS. This line is, connected to a supply voltage of 8 V through a 680 ohm resistor, R544, on the common function board CF6002.

When the microphone is unmuted the DC voltage at HS MIC is approx. 3 V.
R101 is source resistor for the electret microphone. The base divider resistors R103 and R104 together with R102 and emitter resistor R105 make the DC stabilisation network. The gain of the amplifier is set by the ratio R105/107. The cross-over frequencies for the amplifier response is approx. 450 Hz and 6 kHz. The low-pass function is determined by C104 and C106 together with the respective load impedances. The high-pass function is determined by C101, C102 and C103 together with the respective load impedances.

The amplifier is unmuted when Q103 is saturated through R108. The amplifier is muted when Q104 is saturated.

SPECIFICATIONS

INTERFACE

Nominal output
100 mV/1 kHz, Source res. 680 ohm

Gain
20 ±2 dB/1 kHz, Source res. 680 ohm

Dynamic range
+20 dB without clipping. Source res. 680 ohm

MIC MUTE
Amp. ON: Base drive open circuit/47 K to GND
Amp. OFF: Base drive 50 uA

Power supply
8 V, source 680 ohm

Consumption
less than 8 V, source 680 ohm

Frequency response

Relative to 1 kHz output

-3 dB low freq. 450 Hz ±100 Hz

-3 dB high freq. 6 Hz ±1 kHz

Temperature range

-25°C to +55°C

Dimensions

L x W x H: 42 mm x 32.5 mm x 1 mm

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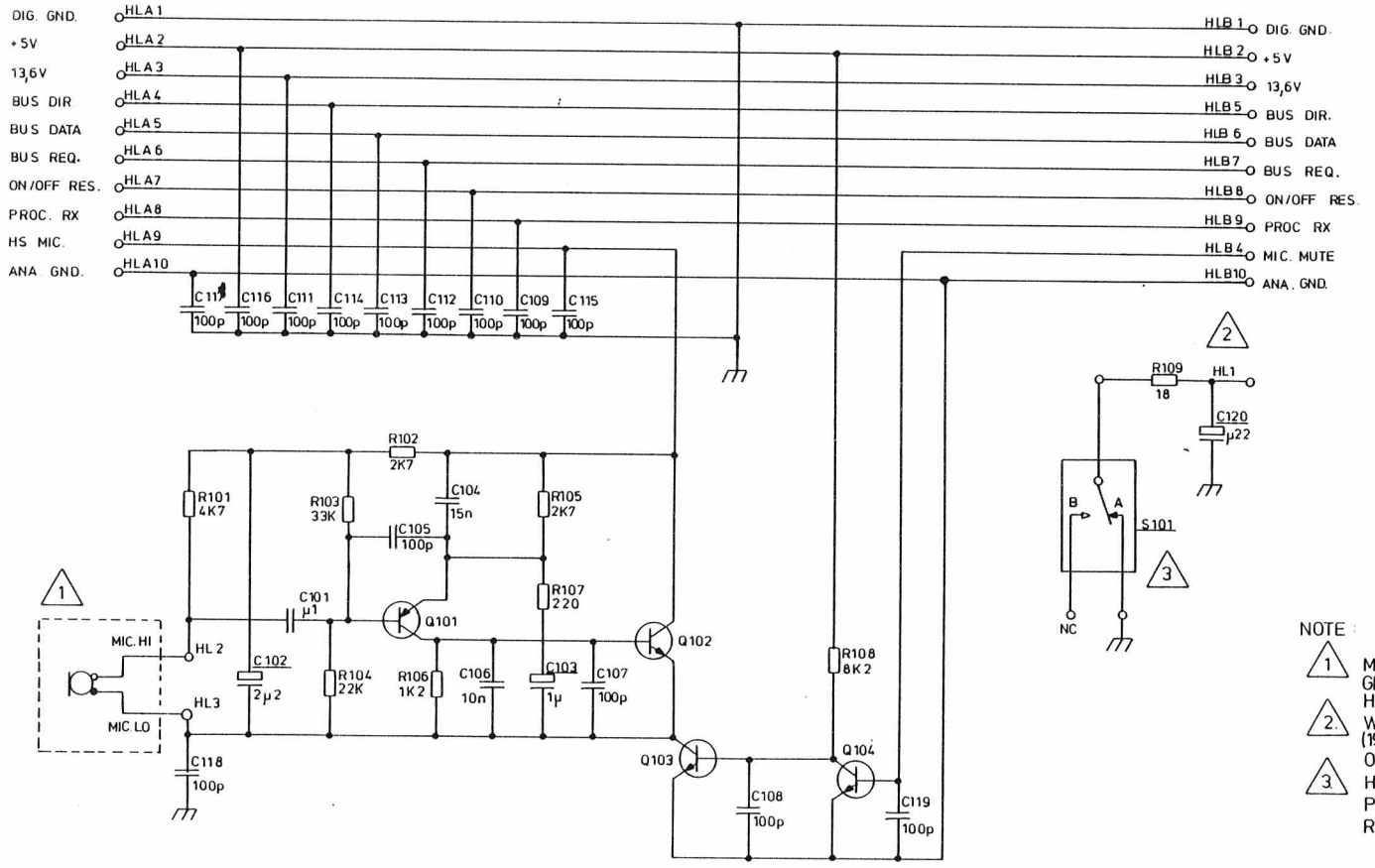

NOTE :

1. MIC. IS NOT A PART OF THIS ASSEMBLY GROUND TERMINAL IS CONNECTED TO HOUSING.
2. WIRE SOLDERED TO CL6003 BOARD, H12. (19M905982) THE WIRE IS NOT A PART OF THIS ASSEMBLY.
3. HOOK SWITCH, THE REED RELAY IS IN POSITION A, WHEN THE HANDSET IS REMOVED FROM THE RETAINER.

COMPONENTS MARKED CXXX ARE PLACED ON SOLDER SIDE.

AUDIO AMPLIFIER AA6001

CODE NO. L855895G1 REV. A D404427

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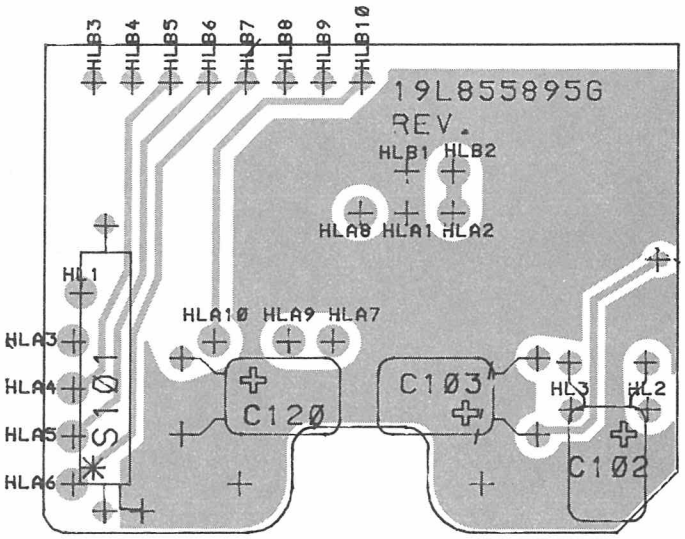
COMPONENT SIDE



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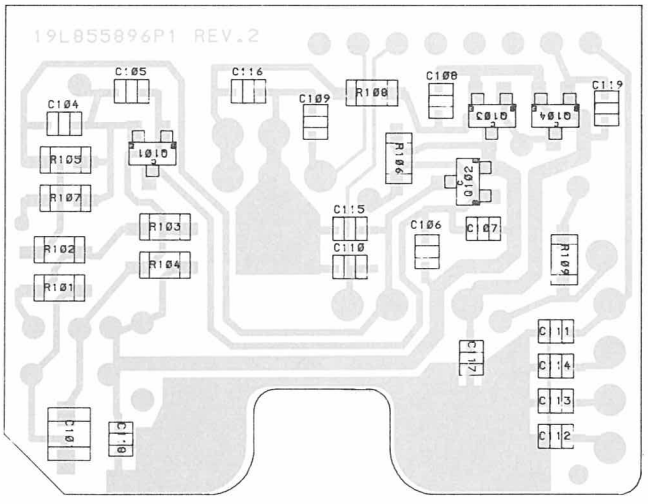
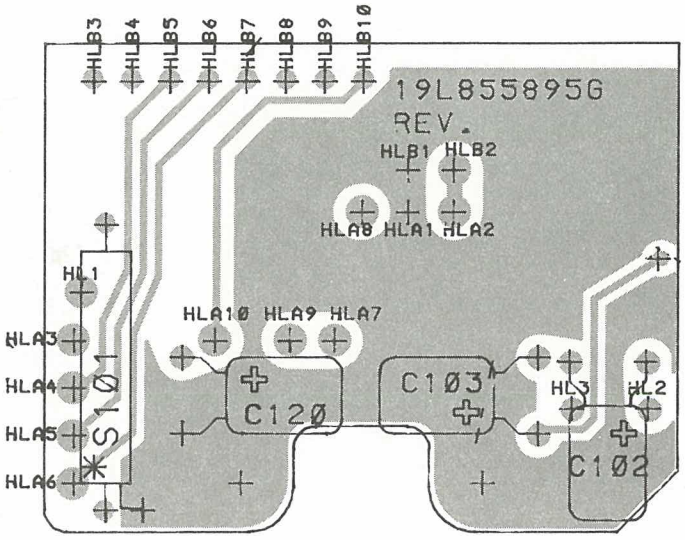


AUDIO AMPLIFIER AA6001
COMPONENT LAYOUT

CODE NO. L855895G1 REV.2 D404.428

Storno

COMPONENT SIDE



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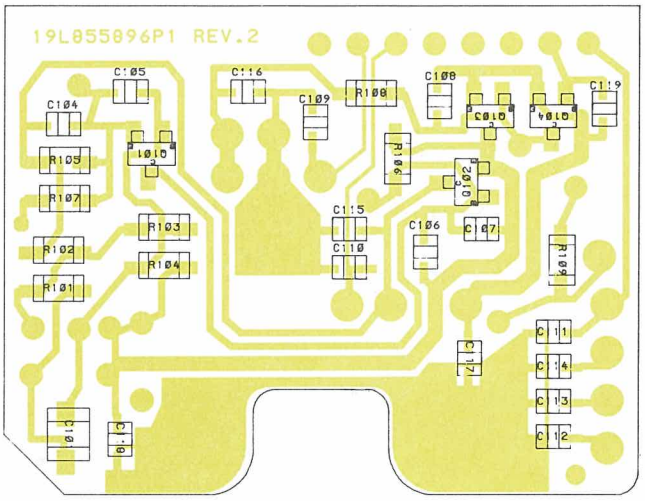

AUDIO AMPLIFIER AA6001
COMPONENT LAYOUT

CODE NO. L855895G1 REV.2 D404.428

Pos.	Code No.	Description	Qt.
00A1	L855651G1	AA 6002	1
00A2	L855895G1	AA 6001 ASM	1
00W1	J707179P10	WIRE STRD BLACK 0.055 MM	
00W2	J707179P6	WIRE STRD BLUE 0.055 MM	
00W3	J708319P2	WIRE 0.250 SQ RED	
0002	M906033P1	INTEGREATED CKT FOIL	1

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Pos.	Code No.	Description	Qt.

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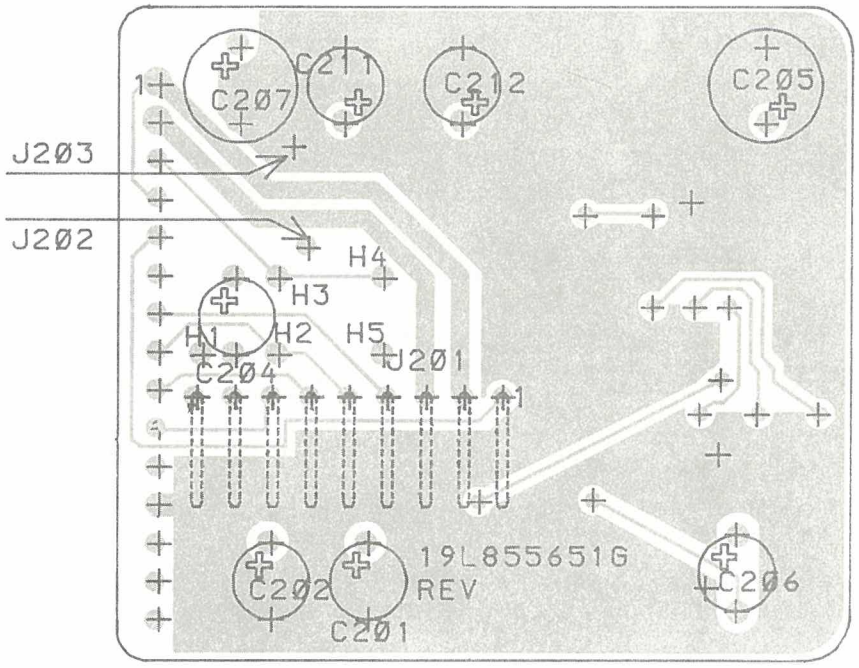
Pos.	Code No.	Description	Qt.
C101	J707438P26	CAP CER CL2 100N 10% 50V	1
C102	J707444P5	CAP TA SOL 2U2 20% 35V	1
C103	J707444P4	CAP TA SOL 1U 20% 35V	1
C104	J707438P16	CAP CER CL2 15N 10% 50V	1
C105	J707436P61	CAP CER NPO 100P 5% 50V	1
C106	J707438P14	CAP CER CL2 10N 10% 50V	1
C107	J707436P61	CAP CER NPO 100P 5% 50V	1
C108	J707436P61	CAP CER NPO 100P 5% 50V	1
C109	J707436P61	CAP CER NPO 100P 5% 50V	1
C110	J707436P61	CAP CER NPO 100P 5% 50V	1
C111	J707436P61	CAP CER NPO 100P 5% 50V	1
C112	J707436P61	CAP CER NPO 100P 5% 50V	1
C113	J707436P61	CAP CER NPO 100P 5% 50V	1
C114	J707436P61	CAP CER NPO 100P 5% 50V	1
C115	J707436P61	CAP CER NPO 100P 5% 50V	1
C116	J707436P61	CAP CER NPO 100P 5% 50V	1
C117	J707436P61	CAP CER NPO 100P 5% 50V	1
C118	J707436P61	CAP CER NPO 100P 5% 50V	1
C119	J707436P61	CAP CER NPO 100P 5% 50V	1
C120	J707444P2	CAP TA SOL 0U22 20% 35V	1
Q101	J707387P1	TSTR PNP SI BCW 30	1
Q102	J707386P1	TSTR NPN SI BCW 32	1
Q103	J707386P1	TSTR NPN SI BCW 32	1
Q104	J707386P1	TSTR NPN SI BCW 32	1
R101	J707385P472	RES MFILM 4K7 5% 1/8W	1
R102	J707385P272	RES MFILM 2K7 5% 1/8W	1
R103	J707385P333	RES MFILM 33K 5% 1/8W	1
R104	J707385P223	RES MFILM 22K 5% 1/8W	1
R105	J707385P272	RES MFILM 2K7 5% 1/8W	1
R106	J707385P122	RES MFILM 1K2 5% 1/8W	1
R107	J707385P221	RES MFILM 220R 5% 1/8W	1
R108	J707385P822	RES MFILM 8K2 5% 1/8W	1
R109	J707385P180	RES MFILM 18R 5% 1/8W	1
S101	J709492G1	SWITCH REED CUT	1
0002	L855896P1R2	BD PW	1
0011	J708296P4	SLV INS ELEC PTFE CL R	

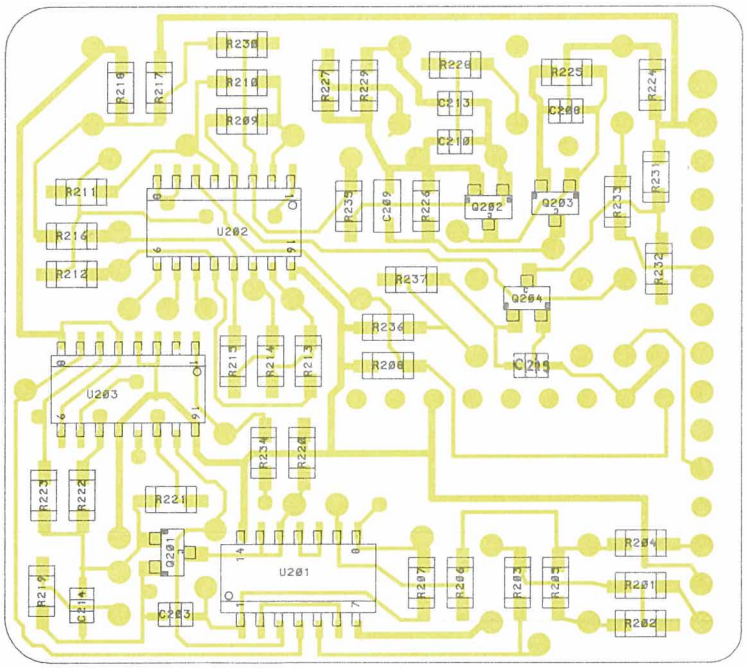
Pos.	Code No.	Description	Qt.

Storno

COMPONENT SIDE



CHIP SIDE



AUDIO AMPLIFIER AA6002
COMPONENT LAYOUT

CODE NO. L855651G1 REV. 2 D404.426

Pos.	Code No.	Description	Qt.
C201	J707444P2	CAP TA SOL 0U22 20% 35V	1
C202	J707444P2	CAP TA SOL 0U22 20% 35V	1
C203	J707438P5	CAP CER CL2 1N 10% 50V	1
C204	J707444P4	CAP TA SOL 1U 20% 35V	1
C205	J707444P8	CAP TA SOL 22U 20% 16V	1
C206	J707444P5	CAP TA SOL 2U2 20% 35V	1
C207	J707444P8	CAP TA SOL 22U 20% 16V	1
C208	J707436P75	CAP CER NPO 390P 5% 50V	1
C209	J707438P18	CAP CER CL2 22N 10% 50V	1
C210	J707436P61	CAP CER NPO 100P 5% 50V	1
C211	J707444P6	CAP TA SOL 4U7 20% 35V	1
C212	J707444P3	CAP TA SOL 0U47 20% 35V	1
C213	J707438P5	CAP CER CL2 1N 10% 50V	1
C214	J707436P61	CAP CER NPO 100P 5% 50V	1
C215	J707436P61	CAP CER NPO 100P 5% 50V	1
J201	J708925P2	CONN PT PIN L-11,7	9
J202	J708925P1	CONN PT PIN L-9,7	1
J203	J708925P1	CONN PT PIN L-9,7	1
Q201	J707386P1	TSTR NPN SI BCW 32	1
Q202	J707386P1	TSTR NPN SI BCW 32	1
Q203	J707387P1	TSTR PNP SI BCW 30	1
Q204	J707386P1	TSTR NPN SI BCW 32	1
R201	J707385P103	RES MFILM 10K 5% 1/8W	1
R202	J707385P474	RES MFILM 470K 5% 1/8W	1
R203	J707385P103	RES MFILM 10K 5% 1/8W	1
R204	J707385P101	RES MFILM 100R 5% 1/8W	1
R205	J707385P474	RES MFILM 470K 5% 1/8W	1
R206	J707385P103	RES MFILM 10K 5% 1/8W	1
R207	J707385P563	RES MFILM 56K 5% 1/8W	1
R208	J707385P223	RES MFILM 22K 5% 1/8W	1
R209	J707385P472	RES MFILM 4K7 5% 1/8W	1
R210	J707385P822	RES MFILM 8K2 5% 1/8W	1
R211	J707385P153	RES MFILM 15K 5% 1/8W	1
R212	J707385P273	RES MFILM 27K 5% 1/8W	1
R213	J707385P393	RES MFILM 39K 5% 1/8W	1
R214	J707385P473	RES MFILM 47K 5% 1/8W	1

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Pos.	Code No.	Description	Qt.
R215	J707385P183	RES MFILM 18K 5% 1/8W	1
R216	J707385P562	RES MFILM 5K6 5% 1/8W	1
R217	J707385P223	RES MFILM 22K 5% 1/8W	1
R218	J707385P223	RES MFILM 22K 5% 1/8W	1
R219	J707385P104	RES MFILM 100K 5% 1/8W	1
R220	J707385P563	RES MFILM 56K 5% 1/8W	1
R221	J707385P563	RES MFILM 56K 5% 1/8W	1
R222	J707385P563	RES MFILM 56K 5% 1/8W	1
R223	J707385P563	RES MFILM 56K 5% 1/8W	1
R224	J707385P220	RES MFILM 22R 5% 1/8W	1
R225	J707385P563	RES MFILM 56K 5% 1/8W	1
R226	J707385P471	RES MFILM 470R 5% 1/8W	1
R227	J707385P121	RES MFILM 120R 5% 1/8W	1
R228	J707385P181	RES MFILM 180R 5% 1/8W	1
R229	J707385P182	RES MFILM 1K8 5% 1/8W	1
R230	J707385P562	RES MFILM 5K6 5% 1/8W	1
R231	J707385P103	RES MFILM 10K 5% 1/8W	1
R232	J707385P473	RES MFILM 47K 5% 1/8W	1
R233	J707385P273	RES MFILM 27K 5% 1/8W	1
R234	J707385P103	RES MFILM 10K 5% 1/8W	1
R235	J707385P472	RES MFILM 4K7 5% 1/8W	1
R236	J707385P472	RES MFILM 4K7 5% 1/8W	1
R237	J707385P473	RES MFILM 47K 5% 1/8W	1
R256	J707385P683	RES MFILM 68K 5% 1/8W	1
U201	J708786P1	IC DIG GATE 74HC132	1
U202	J707434P1	IC DIG MUX 4051 CMOS	1
U203	J707331P4	IC DIG CNTR 4516 CMOS	1
0002	L855652P1R2	BD PW	1

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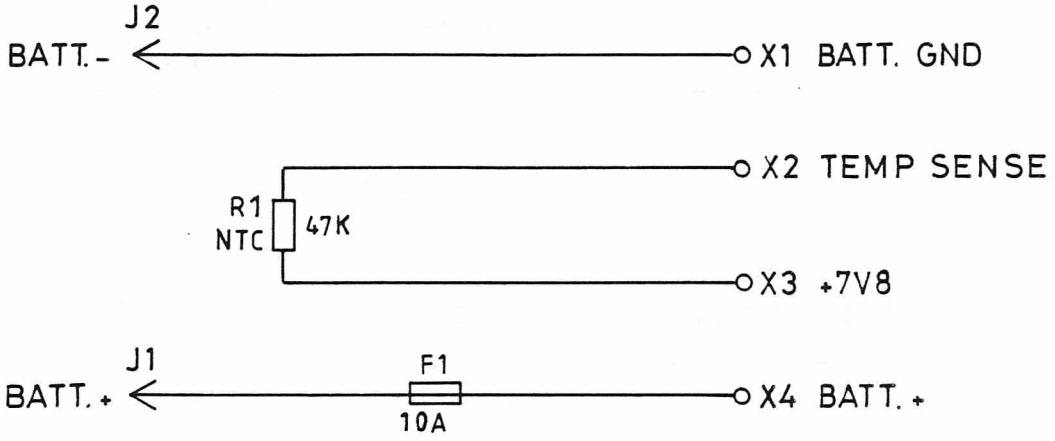

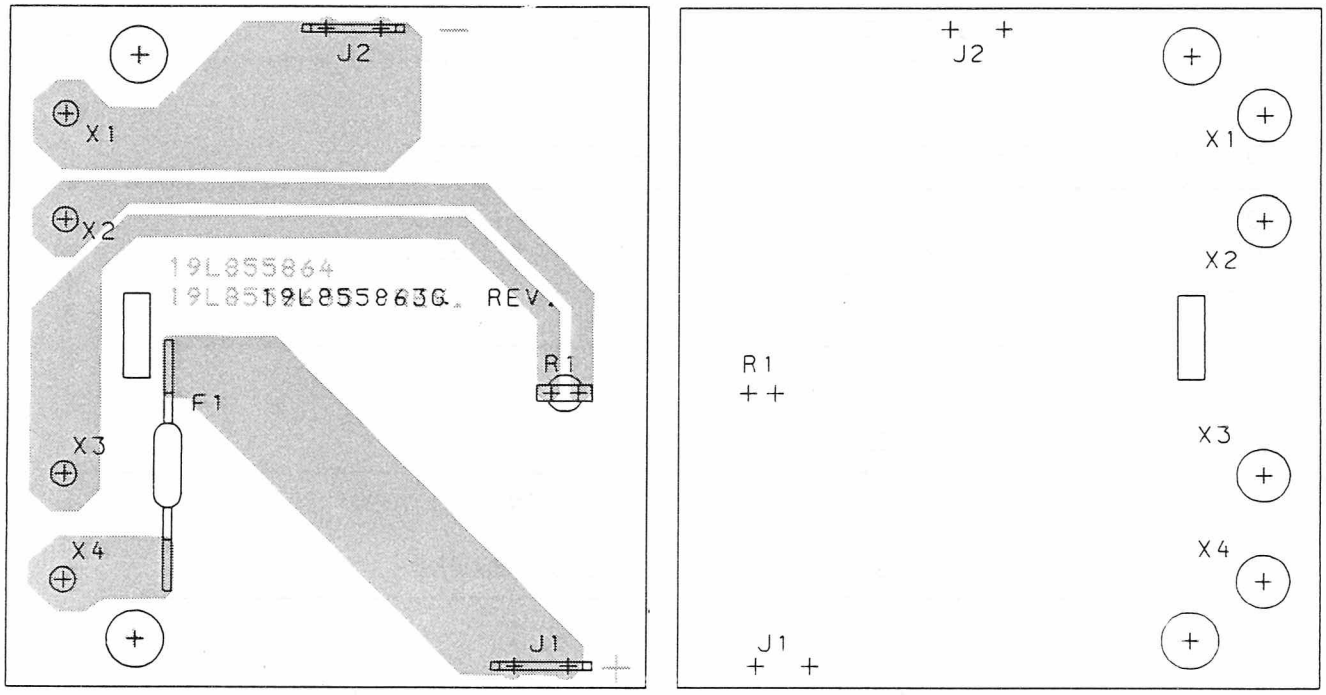

MODUL CODE NO. L855862G1 - BU6001

MODUL CODE NO. L855862G2 - BU6002

ITEM NUMBER	DESCRIPTION
L855862G1	BU 6001, NI-CD BATTERY ASM. - 13.2V 4AH
K805793G1	SUB ASM.: CASE RIVETED
K805735G1	SUB ASM.: PLATE ASM
L855863G1	SUB-SUB ASM.: COMPONENT BD ASM

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY	
0002	K805793G1	CASE, RIVETED-	1	(SEE BELOW)
0005	K805723P1	PLATE, INSULATION-	1	
0006	J709370P1	BATTERY,STOR.- NI-CD, 12V 4AH	1	
0008	K805725P1	FOAM	1	
0009	K805735G1	PLATE ASM	1	(SEE BELOW)
0010	A701932P306	SCREW FL HD SZ 2.9 X 9.5 MM	4	
0011	J709395P1	FOAM	2	
0012	K805772P1	PLATE, FOAM-	2	
0013	K805773P1	PLATE, FOAM-	2	
0002 :	K805793G1 :	CASE RIVETED :		
0002	J709196G1	CASE, PAINTED-	1	
0003	J709369P1	LATCH, TENSION-	2	
0004	J708259P104	RIVET, AL.-	4	
0005	K805722P1	BRACKET	2	
0009 :	K805735G1 :	PLATE ASM :		
A001	L855863G1	COMPONENT BD ASM	1	(SEE BELOW
0002	K805757G1	PLATE, TEXTED-	1	
A001 .	L855863G1 :	COMPONENT BD ASM., :		
F001	J707468P13	FUSE ENCLOSED LINK 10A	1	
J001	J706683P1	TERM SPADE TAB 6.3MM	1	
J002	J706683P1	TERM SPADE TAB 6.3MM	1	
R001	J707406P15	RES THERM NTC 47K 5%	1	
X001	J709212P1	CONTACT PIN	1	

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
X002	J709212P1	CONTACT PIN	1
X003	J709212P1	CONTACT PIN	1
X004	J709212P1	CONTACT PIN	1
0002	L855864P1R1	BD PW., REVISION NO.: 1	1
0008	J708296P4	SLV INS ELEC PTFE CL R	0,040 M
0009	A700032P1	WASHER LOK TOH D-2.0 MM	4

ITEM NUMBER	DESCRIPTION
L855862G2	BU 6002, NI-CD BATTERY ASM. - 13,2V 7AH
K805793G2	SUB ASM.: CASE RIVETED
K805735G2	SUB ASM.: PLATE ASM
L855863G1	SUB-SUB ASM.: COMPONENT BD ASM

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY	
0002	K805793G2	CASE, RIVETED-	1	(SEE BELOW)
0005	K805723P1	PLATE, INSULATION-	1	
0006	J709371P1	BATTERY STOR.NI CD 12V	1	
0008	K805725P1	FOAM	1	
0009	K805735G2	PLATE ASM	1	(SEE BELOW)
0010	A701932P306	SCREW FL HD SZ 2.9 X 9.5 MM	4	
0011	J709395P2	FOAM	2	
0012	K805772P2	PLATE, FOAM-	2	
0013	K805773P2	PLATE, FOAM-	2	
0002 :	K805793G2 :	CASE RIVETED :		
0002	J709196G2	CASE, PAINTED-	1	
0003	J709369P1	LATCH, TENSION-	2	
0004	J708259P104	RIVET, AL.-	4	
0005	K805722P1	BRACKET	2	
0009 :	K805735G2 :	PLATE ASM :		
A001	L855863G1	COMPONENT BD ASM	1	(SEE BELOW
0002	K805757G2	PLATE, TEXTED-	1	
A001 .	L855863G1 :	COMPONENT BD ASM., :		
F001	J707468P13	FUSE ENCLOSED LINK, 10A	1	
J001	J706683P1	TERM SPADE TAB 6.3MM	1	
J002	J706683P1	TERM SPADE TAB 6.3MM	1	
R001	J707406P15	RES THERM NTC 47K 5%		
X001	J709212P1	CONTACT PIN	1	

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
X002	J709212P1	CONTACT PIN	1
X003	J709212P1	CONTACT PIN	1
X004	J709212P1	CONTACT PIN	1
0002	L855864P1R1	BD PW., REVISION NO.: 1	1
0008	J708296P4	SLV INS ELEC PTFE CL R	0,040 M
0009	A700032P1	WASHER LOK TOH D-2.0 MM	4

POS.	CODE No.	DESCRIPTION	QT.
1	L855630G1	Chassis Asm. NMT without code plug	1
	L855630G2	Chassis Asm. NMT for handset	1
	L855630G3	Chassis Asm. CQM6000 w/o code plug	1
	L855630G4	Chassis Asm. CQM6000 with code plug	1
	L855630G5	Chassis Asm. CQM6000 for handset	1
	L855630G6	Chassis Asm. for service box w/code	1
	L855630G7	Chassis Asm. Radiocom 2000 w/o code	1
	L855630G8	Chassis Asm. Øbl-c Austria w/o code	1
	L855630G9	Chassis Asm. Øbl-c Austria for handset	1
	L855630G10	Not yet released	0
	L855630G11	Not yet released	0
	L855630G12	Not yet released	0
2	J709045P1	Label Blank	1
3	L855628G1	Keyboard Asm. Denmark/Norway	1
	L855628G2	Keyboard Asm. Sweden/Finland	1
	L855628G3	Keyboard Asm. CQM6000 Standard	1
	L855628G4	Keyboard Asm. Radiocom 2000	1
	L855628G5	Keyboard Asm. Øbl-c Austria	1
3.1	M905789P1	Frame	1
3.2	L855562P1	Cap for Button	24
3.3	K805539G1	Membrane Rubber Denmark/Norway	1
	K805539G2	Membrane Rubber Sweden/Finland	1
	K805539G3	Membrane Rubber CQM6000 Standard	1
	K805539G4	Membrane Rubber Radiocom 2000	1
3.4	K805526G1	Foil, Contact	1
3.5	k805752G1	Shield, Keyboard	1
3.6	M905792P1	Plate, Led Light	1
4	M905980G1	CL6003 for Panel Control w/o code plug	1
	M905980G2	CL6003 for handset	1
	M905980G3	CL6003 for Panel Contr.with code plug	1
4.1	M906060P1	Light Separator Rubber	1
4.2	J708896P1	Display, Flouresc. 16-SD-01Z	1
5	J709215G1	Shield Asm.	1
6	M905787G1	Housing Asm.	1
7	J709042P1	Label Type CB6XXX	1
8	L855664G2	Wafer Asm., 09 CKT for Local Contr.	1

Storno

MECHANICAL PARTS LIST

CB6XXX For LOCAL/REMOTE/HANDSET

5th.Feb.1986

MPL405.231/2

Storno

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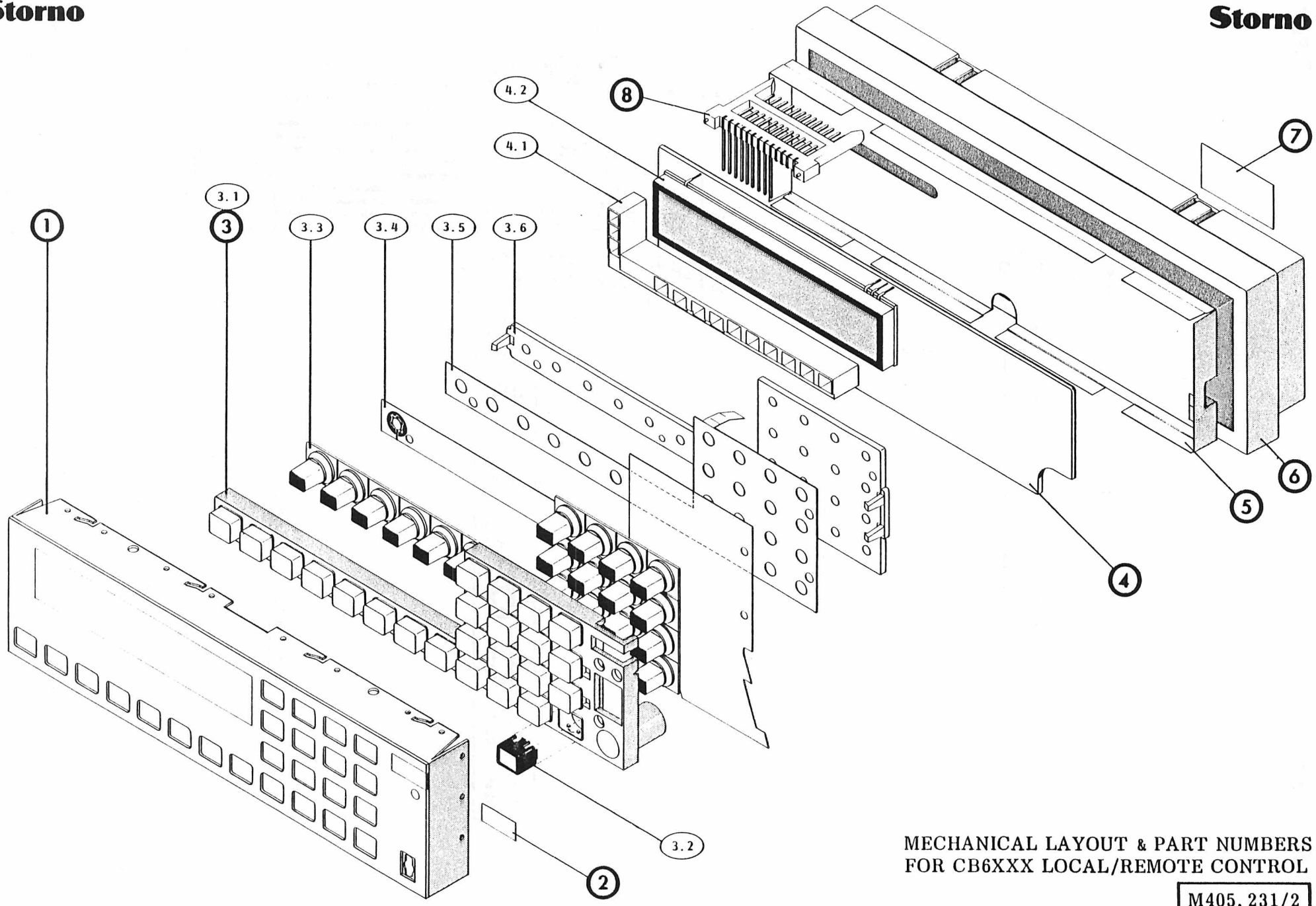
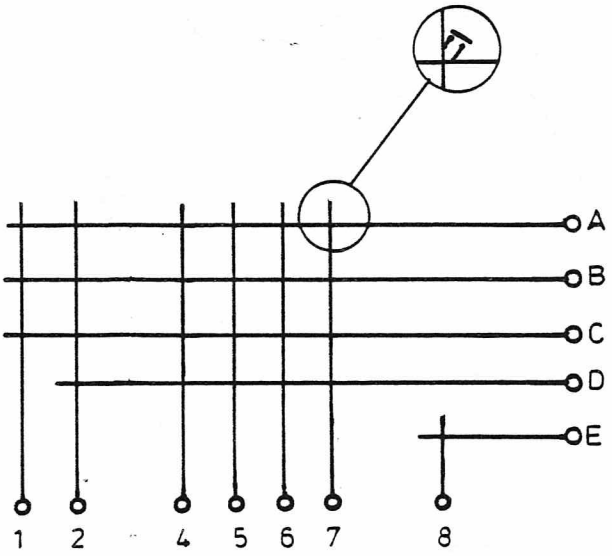


MECHANICAL LAYOUT & PART NUMBERS
FOR CB6XXX LOCAL/REMOTE CONTROL

M405. 231/2

Storno



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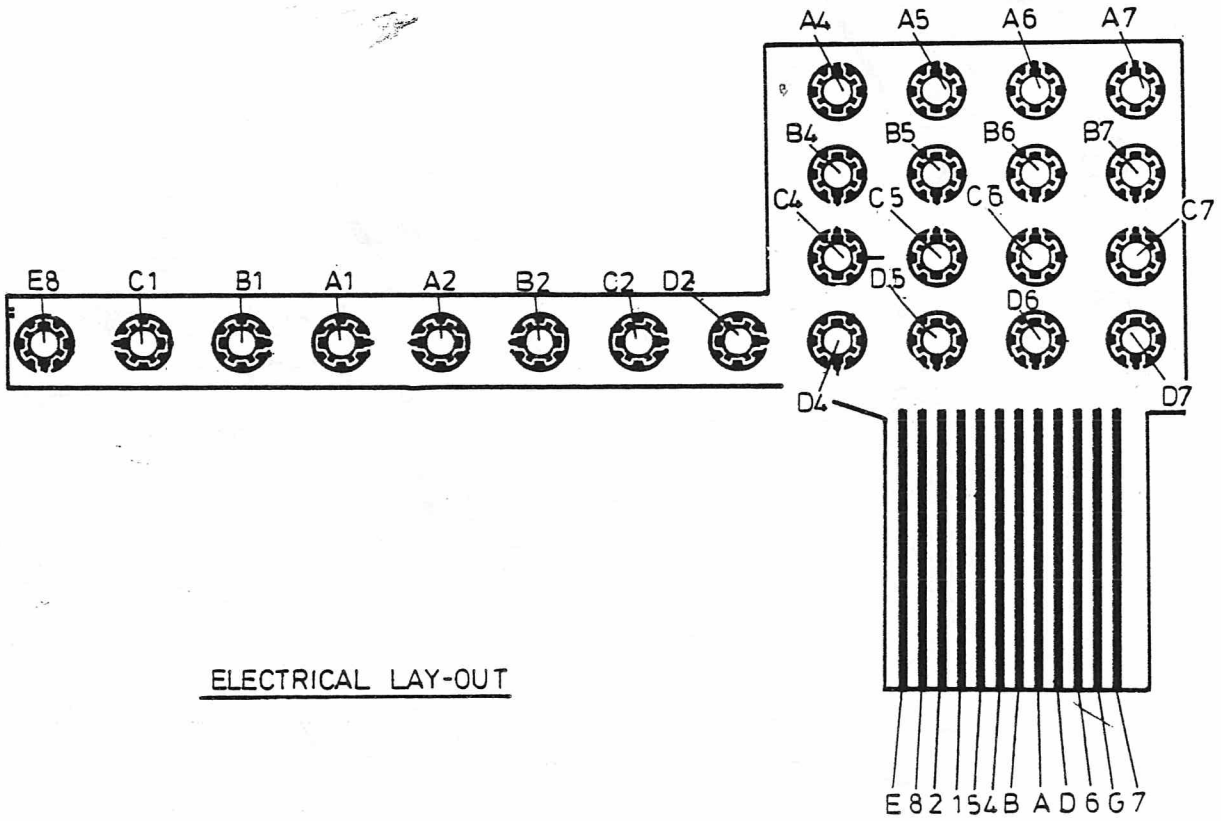


ELECTRICAL LAY-OUT

KEYBOARD MATRIX FOR CB6XXX

CODE NO. K805526G1 | D404.174

CONTROL TYPE	DESCRIPTION
CB6010DL CB6010NL CB6010SL CB6010YL	CB 6010, LOCAL CONTROL PANEL, FOR STORNOMATIC 6000 - N M T. VERSIONS: D/N AND S/Y

M A I N P A R T S L I S T :

INDEX-TABLE/ POSIT.-PREFX	COMPONENT ITEM NO.:	COMPONENT DESCRIPTION	QUANTITY	
CB6,02,005 :				
0002	M905787G1	HOUSING ASM	1	
0003	J709215G1	SHIELD ASM	1	
A: 0004	L855630G1	CHASSIS ASM	1	(SEE BELOW)
0010	L855664G2	WAFER ASM.,CONNECTOR 09 CKT	1	
CB6,03,003/-,004 :				
A: 0001	L855628G1	KEYBOARD ASM (DENMARK/NORWAY)	1	(SEE BELOW)
OR :				
A: 0001	L855628G2	KEYBOARD ASM (SWEDEN/FINLAND)	1	SEE: PAGE 2
CB6,04,004 :				
A: 0002	M905980G1	CL 6003	1	(SEE:- X404.022
CB6,05,001 :				
0001	J709045P1	LABEL BLANK	1	
0002	J709042P1	LABEL TYPE CB	1	

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
0004 :	L855630G1 :	CHASSIS ASM. :	
0002	M905785P1	FRONT, CHASSIS-	1
0003	M906145G2	FRONT, PRINTED-	1
0005	J706922P3	TAPE, PRESSURE SENSITIVE-	0,10 M
0006	J706922P3	TAPE, PRESSURE SENSITIVE-	0,050 M
0001 :	L855628G1 :	KEYBOARD ASM. (DENM./NORW.) :	
0002	M905792P1	PLATE, L E D LIGHT-	1

	CIRCUIT POSITION		COMPONENT ITEM NUMBER		COMPONENT DESCRIPTION		QUANTITY
	0003		K805526G1		FOIL, CONTACT-		1
	0004		K805539G1		MEMBRANE, CONTACT-RUBBER-		1
	0005		M905789P1		FRAME		1
	0006		L855562P1		CAP		24
*	0007	*	K805752G1	*	SHIELD, KEYBOARD-	*	1
	0001 :		L855628G2 :		KEYBOARD ASM. (SWED./FINL.) :		
	0002		M905792P1		PLATE, L E D LIGHT-		1
	0003		K805526G1		FOIL, CONTACT-		1
	0004		K805539G2		MEMBRANE, CONTACT-RUBBER-		1
	0005		M905789P1		FRAME		1
	0006		L855562P1		CAP		24
*	0007	*	K805752G1	*	SHIELD, KEYBOARD-	*	1

CONTROL TYPE	DESCRIPTION
CB6010DR CB6010NR CB6010SR CB6010YR	CB 6010, REMOTE CONTROL BOX, FOR STORNOMATIC 6000 - N M T. VERSIONS: D/N AND S/Y

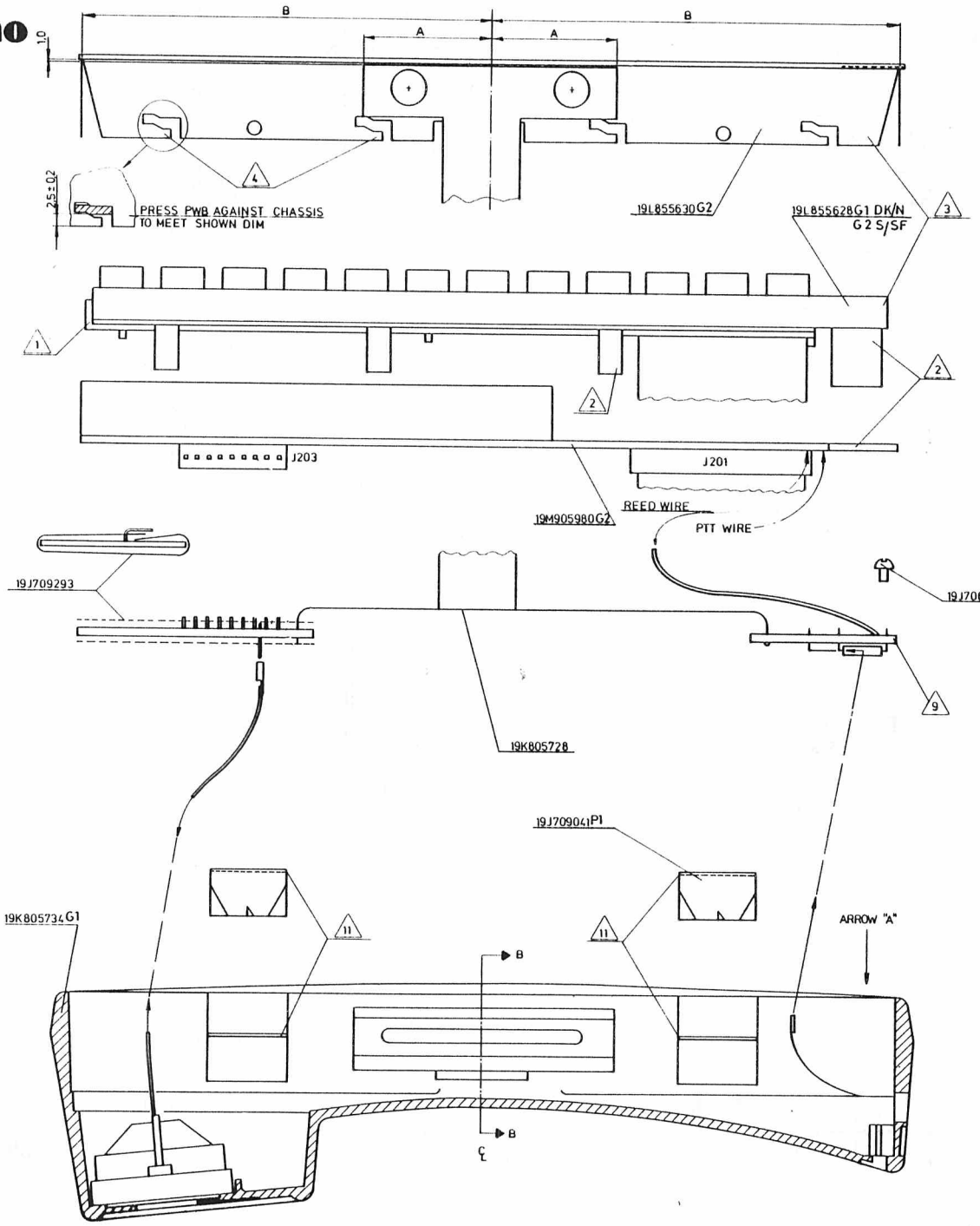
M A I N P A R T S L I S T :

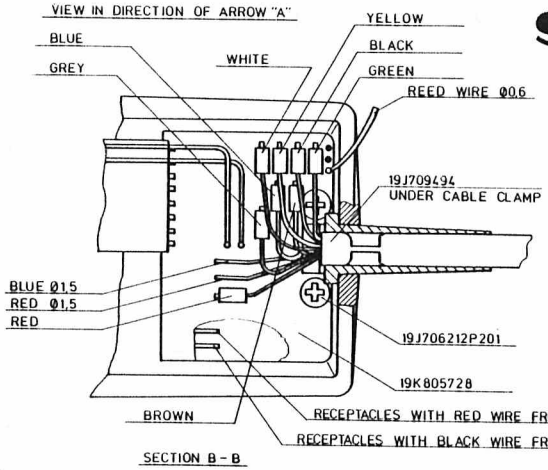
INDEX-TABLE/ POSIT.-PREFX	COMPONENT ITEM NO.	COMPONENT DESCRIPTION	QUANTITY	
CB6,02,006 :				
0002	M905787G1	HOUSING ASM	1	
0003	J709215G1	SHIELD ASM	1	
A: 0004	L855630G1	CHASSIS ASM	1	(SEE BELOW)
A: 0009	K805596G1	CC 6005 CABLE KIT	1	(SEE BELOW)
CB6,03,003/-,004 :				
A: 0001	L855628G1	KEYBOARD ASM (DENMARK/NORWAY)	1	SEE: PAGE 2
OR :				
A: 0001	L855628G2	KEYBOARD ASM (SWEDEN/FINLAND)	1	SEE: PAGE 2
CB6,04,004 :				
A: 0002	M905980G1	CL 6003	1	(SEE:- X404.022
CB6,05,001 :				
0001	J709045P1	LABEL BLANK	1	
0002	J709042P1	LABEL TYPE CB	1	

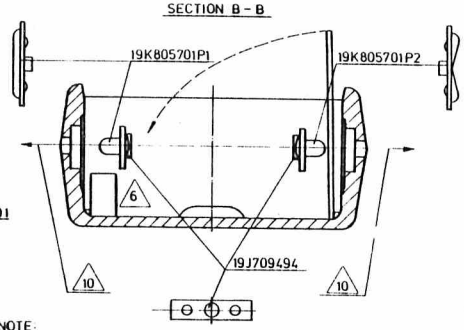
CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
0004 :	L855630G1 :	CHASSIS ASM. :	
0002	M905785P1	FRONT, CHASSIS-	1
0003	M906145G2	FRONT, PRINTED-	1
0005	J706922P3	TAPE, PRESSURE SENSITIVE-	0,10 M
0006	J706922P3	TAPE, PRESSURE SENSITIVE-	0,050 M
0009 :	K805596G1 :	CC 6005 CABLE KIT :	
P001	J708069P214	CONNECTOR FEM	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
P002	A700041P40	CONN,HSC FEM 14 CKT	1
W001	J706156P5	CA 14 CORED	3,50 M
0002	J707787P1	CONN PWB FEM RECP CLIP	14
0003	J706152P5	STRAP RET W BDL D19 NYL	2
0004	J707335P1	CLAMP LOOP 5 MM	1
0005	A700031P405	SCREW PAN HD M-3.0X5.0 MM	1
0006	J708981P1	CONNECTOR	1
0001 :	L855628G1 :	KEYBOARD ASM. (DENM./NORW.) :	
0002	M905792P1	PLATE, L E D LIGHT-	1
0003	K805526G1	FOIL, CONTACT-	1
0004	K805539G1	MEMBRANE, CONTACT-RUBBER-	1
0005	M905789P1	FRAME	1
0006	L855562P1	CAP	24
* 0007 *	K805752G1 *	SHIELD, KEYBOARD- *	1
0001 :	L855628G2 :	KEYBOARD ASM. (SWED./FINL.) :	
0002	M905792P1	PLATE, L E D LIGHT-	1
0003	K805526G1	FOIL, CONTACT-	1
0004	K805539G2	MEMBRANE, CONTACT-RUBBER-	1
0005	M905789P1	FRAME	1
0006	L855562P1	CAP	24
* 0007 *	K805752G1 *	SHIELD, KEYBOARD- *	1

Storno







NOTE:

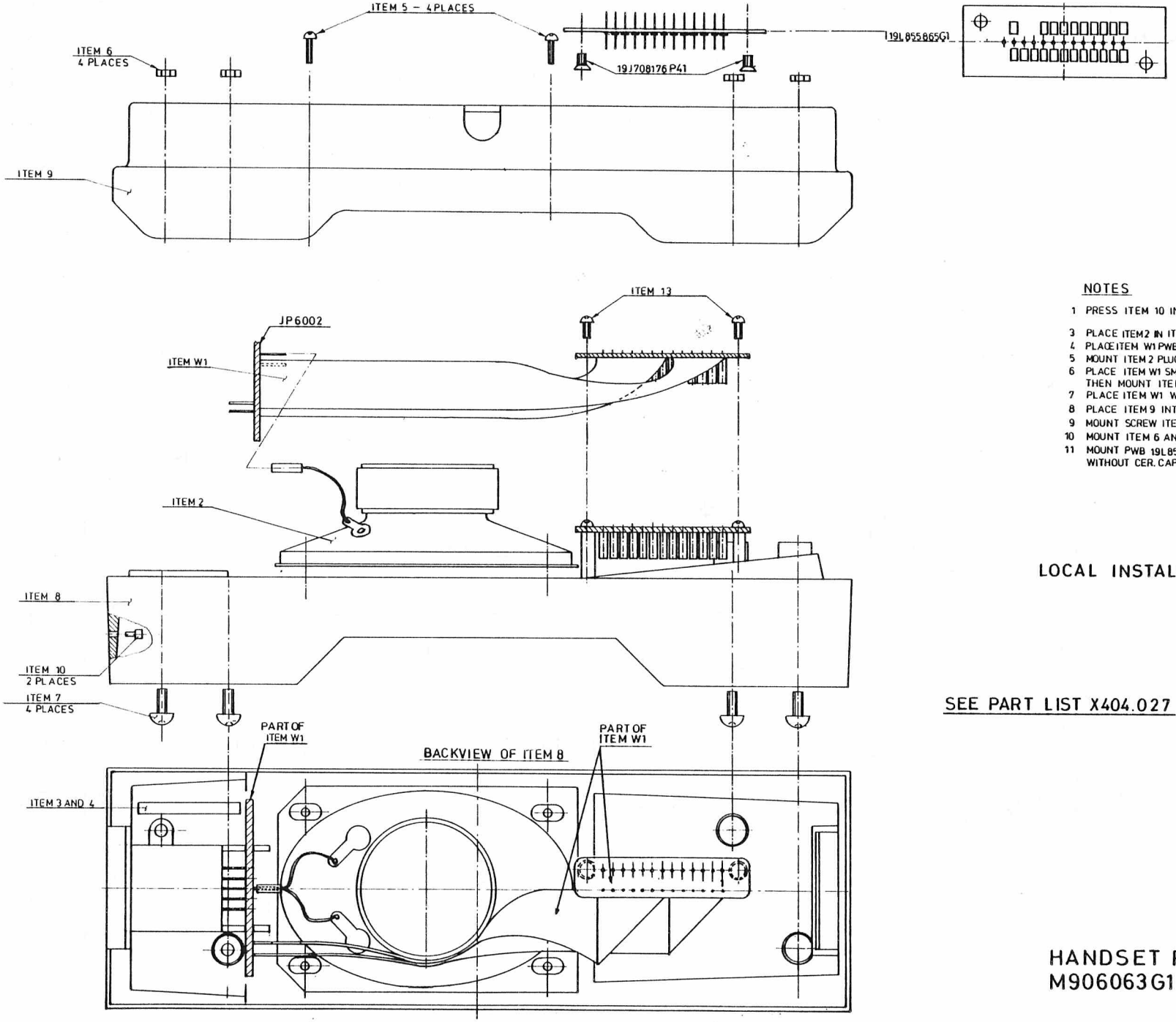
1. PLACE KEYBOARD ASM 19L855628 ON 19M905980 AND INSERT KEYBOARD TAIL INTO J201
2. BEND 4 KEYBOARD SHIELD ENDS ON PWB 19M905980
3. PUT PWB AND KEYBOARD INTO CHASSIS ASM 19L855630
4. PRESS PWB AGAINST CHASSIS AND BEND 7 TABS. DO NOT BEND THE TWO TABS ON THE OPPOSITE SIDE OF THE CHASSIS
6. USE THE INSULATION SHEET'S WING TO INSULATE REED RELAY FROM METALISED WALL.
9. MOUNT PWB AND TIGHTEN TWO SCREWS 19J706212P201.
10. PUT KEYS 19K805701P1 AND P2 INTO HANDSET'S SLOTS.
11. MOUNT 4 FASTENERS 19J709041 IN HANDSET.

13 MOUNT CHASSIS TOGETHER WITH KEYBOARD, PWB'S AND CABLING INTO HANDSET.

HANDSET ASSEMBLY
M906063G1

M405.234

Storno



Storno

NOTES

1 PRESS ITEM 10 INTO ITEM 8

3 PLACE ITEM 2 IN ITEM 8
4 PLACE ITEM W1 PWB IN GROOVE IN ITEM 8.
5 MOUNT ITEM 2 PLUGS ON PWB PINS.
6 PLACE ITEM W1 SMALL PWB ON THE SPACERS AS SHOWN THEN MOUNT ITEM 13
7 PLACE ITEM W1 WIRING AROUND LS AS SHOWN
8 PLACE ITEM 9 INTO ITEM 8.
9 MOUNT SCREW ITEM 5.
10 MOUNT ITEM 6 AND ITEM 7.
11 MOUNT PWB 19L855865 ON RADIO TURNING HOLE/PIN WITHOUT CER. CAP. AGAINST CENTER OF RADIO.

LOCAL INSTALLATION

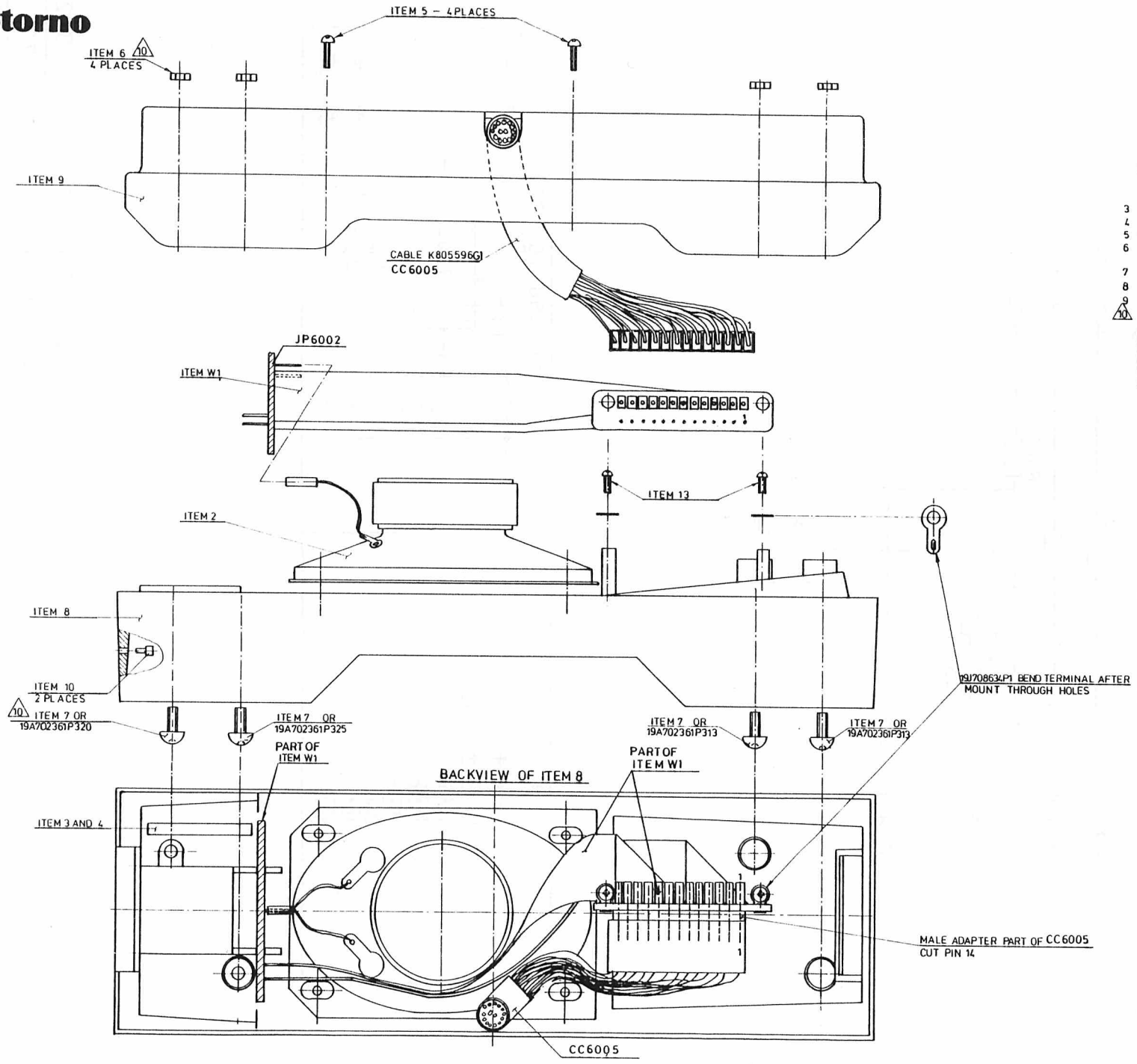
SEE PART LIST X404.027

HANDSET RETAINER ASM.
M906063G1

M405.233

Storno

Storno



NOTES

PRESS ITEM 10 INTO ITEM 8

3 PLACE ITEM 2 IN ITEM 8
4 PLACE ITEM W1 PWB IN GROOVE IN ITEM 8.
5 MOUNT ITEM 2 PLUGS ON PWB PINS.
6 PLACE ITEM W1 SMALL PWB ON THE SPACERS AS SHOWN
THEN MOUNT ITEM 13 AND 19J708634P1
7 PLACE ITEM W1 WIRING AROUND LS AS SHOWN
8 PLACE ITEM 9 INTO ITEM 8.
9 MOUNT SCREW ITEM 5
⚠10 FOR MOUNTING OF SCREWS ITEM 7 AND NUT ITEM 6 SEE BELOW

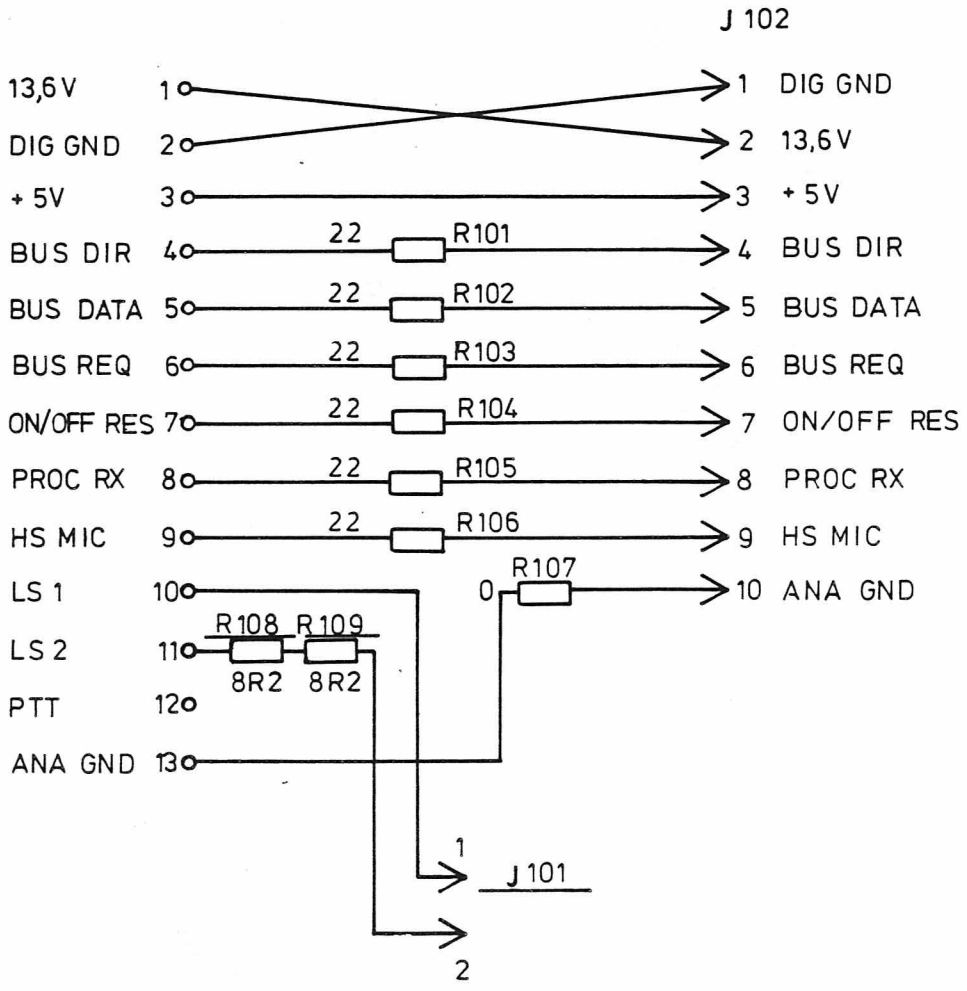
HANDSET RETAINER MOUNTED IN	USE SCREWS 19A702361	USE NUTS 19A700034	
MN 6004	P306 - 4 PCS.	P3 - 4 PCS.	
MN 6005	P311 - 2 PCS. P320 - 1 PCS. P325 - 1 PCS.	NONE	SCREWS F.C.F.O. INDEX 19J708416

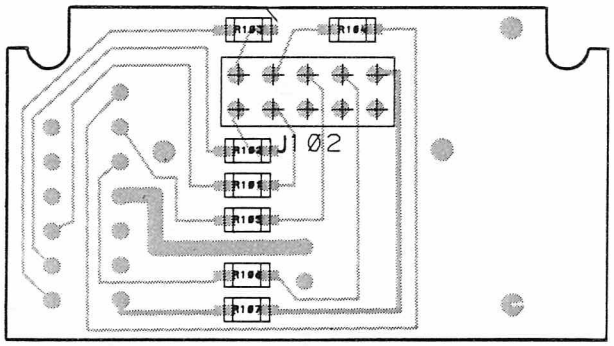
SEE PART LIST X404.028

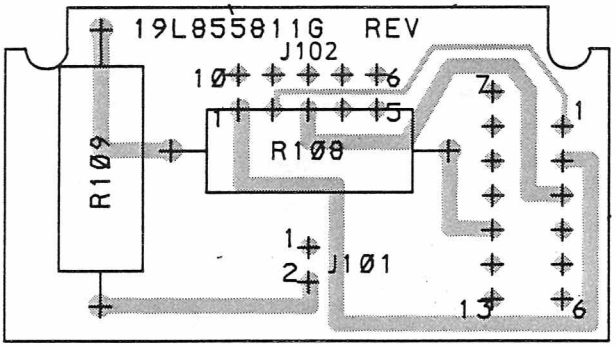
REMOTE INSTALLATION FOR
MN 6004 AND MN 6005

HANDSET RETAINER ASM.
M906063G1

M405.232



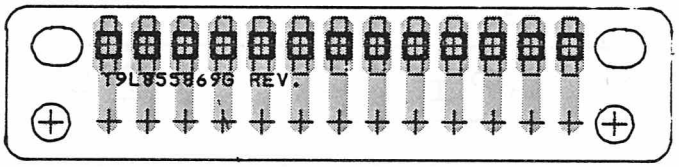




JUNCTION PANEL JP6002

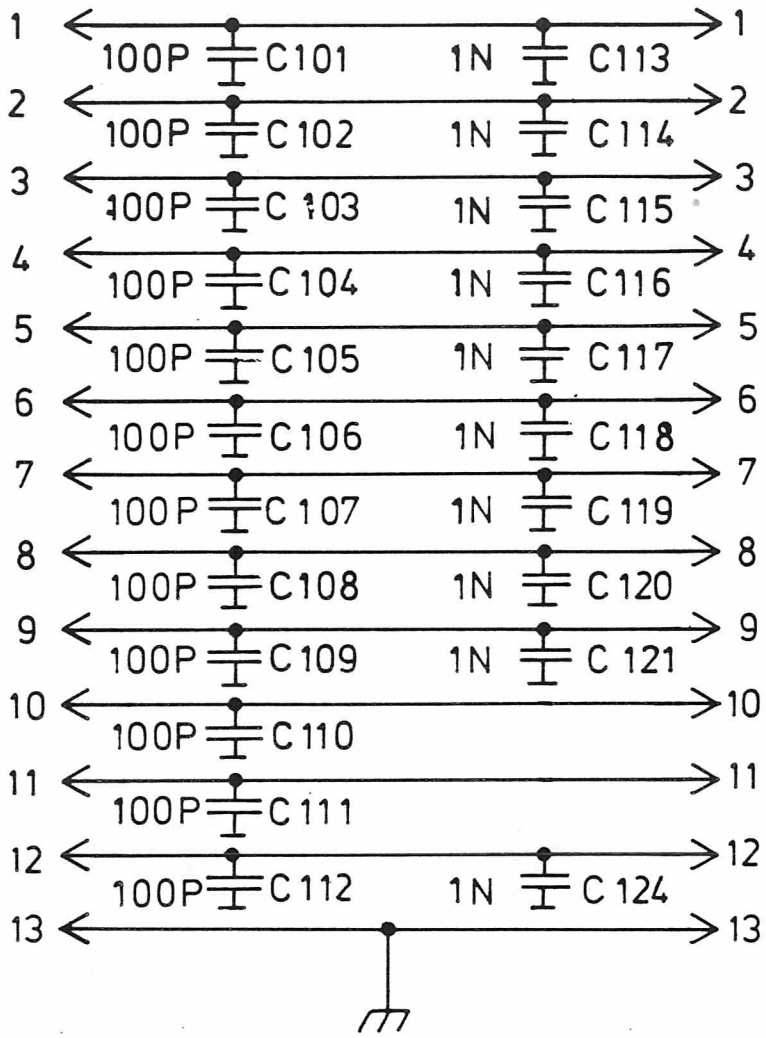
CODE NO. L855811G1 D404.172

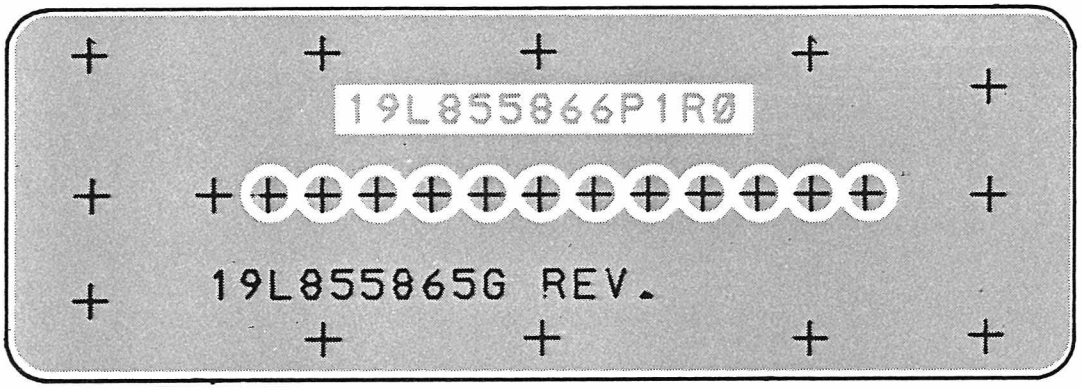
Storno

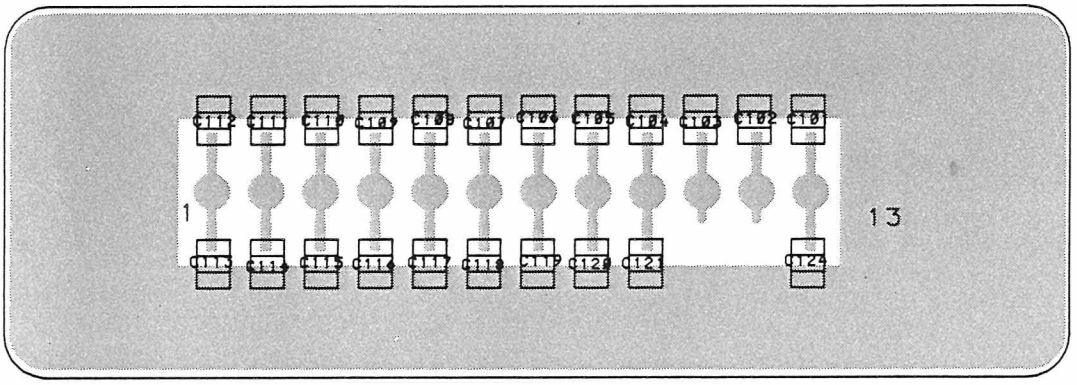


13 PIN CONNECTOR
FOR CONTROL HANDSET CB61XXX
CODE NO. L855870P1 D404.173

Storno







CONNECTOR ASSEMBLY FOR CONTROL HANDSET

CODE NO. L855865G1 D404.151

CONTROL TYPE	DESCRIPTION
CB6110DL CB6110NL CB6110SL CB6110YL	CB 6110, LOCAL HANDSET W. CONTROL PANEL F. STORNOMATIC 6000 - N M T. VERSIONS: D/N AND S/Y

M A I N P A R T S L I S T :

INDEX-TABLE/ POSIT.-PREFX	COMPONENT ITEM NO.	COMPONENT DESCRIPTION	QUANTITY	
CB6,02,007 :				
A: 0001	L855630G2	CHASSIS ASM	1	SEE: PAGE 2
A: 0002	L855865G1	CONNECTOR BD ASM	1	SEE: PAGE 2
0003	J708176P41	SCREW FLAT HD M-2.5 X 5.0 MM	2	
A: 0005	K805734G1	HANDSET LS ASM	1	SEE: PAGE 2
0006	K805701P1	SWITCH PTT	1	
0007	K805701P2	SWITCH VOLUME	1	
0008	J709041P1	FASTENER	4	
0009	J706212P201	SCREW PAN HD SZ 4.0X4.8 MM	2	
A: 0010	M906063G1	RETAINER ASM., HANDSET-	1	SEE: PAGE 3
0011	J709494P1	SPACER	3	
0012	J709293P1	INSULATION FILM	1	
CB6,03,003/-,004 :				
A: 0001	L855628G1	KEYBOARD ASM (DENMARK/NORWAY)	1	SEE: PAGE 3
OR :				
A: 0001	L855628G2	KEYBOARD ASM (SWEDEN/FINLAND)	1	SEE: PAGE 3
CB6,04,005 :				
A: 0002	M905980G2	CL 6003 WITH HOOK SWITCH	1	SEE: X404.022
A: 0003	K805728G1	AUDIO AMPLIFIER ASM.	1	SEE: X404.024
CB6,05,001 :				
0001	J709045P1	LABEL BLANK	1	
0002	J709042P1	LABEL TYPE CB	1	
0004	J709289P1	BOOKLET, USER INSTRUCTION-	1	
0005	J709083P1	BOOKLET, PROGRAM GUIDE-	1	

CONTINUED ON NEXT PAGE: PAGE 2.

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY	
0001 :	L855630G2 :	CHASSIS ASM. :		
0002	M905785P1	CHASSIS FRONT	1	
0003	M906145G1	FRONT PRINTED	1	
0005	J706922P3	TAPE PRESSURE SENSITIVE	0,10 M	
0006	J706922P3	TAPE PRESSURE SENSITIVE	0,050 M	
0002 :	L855865G1 :	CONNECTOR BOARD ASM. :		
C101	J707436P61	CAP CER NPO 100P 5% 50V	1	
C102	J707436P61	CAP CER NPO 100P 5% 50V	1	
C103	J707436P61	CAP CER NPO 100P 5% 50V	1	
C104	J707436P61	CAP CER NPO 100P 5% 50V	1	
C105	J707436P61	CAP CER NPO 100P 5% 50V	1	
C106	J707436P61	CAP CER NPO 100P 5% 50V	1	
C107	J707436P61	CAP CER NPO 100P 5% 50V	1	
C108	J707436P61	CAP CER NPO 100P 5% 50V	1	
C109	J707436P61	CAP CER NPO 100P 5% 50V	1	
C110	J707436P61	CAP CER NPO 100P 5% 50V	1	
C111	J707436P61	CAP CER NPO 100P 5% 50V	1	
C112	J707436P61	CAP CER NPO 100P 5% 50V	1	
C113	J707438P5	CAP CER CL2 1N 10% 50V	1	
C114	J707438P5	CAP CER CL2 1N 10% 50V	1	
C115	J707438P5	CAP CER CL2 1N 10% 50V	1	
C116	J707438P5	CAP CER CL2 1N 10% 50V	1	
C117	J707438P5	CAP CER CL2 1N 10% 50V	1	
C118	J707438P5	CAP CER CL2 1N 10% 50V	1	
C119	J707438P5	CAP CER CL2 1N 10% 50V	1	
C120	J707438P5	CAP CER CL2 1N 10% 50V	1	
C121	J707438P5	CAP CER CL2 1N 10% 50V	1	
C124	J707438P5	CAP CER CL2 1N 10% 50V	1	
0002	L855866P1R0	BD PW., REVISION NO.: 0	1	
0009	J708765P2	CONT PIN L=25.4 MM	13	
0005 :	K805734G1 :	HANDSET - LS ASM. :		
B001	K805733G1	LOUDSPEAKER ASM	1	SEE: PAGE 3
B002	J709442G1	MICROPHONE ASM	1	SEE: PAGE 4
W001	L855845G1	CABEL ASM	1	SEE: PAGE 4
0002	M906077G1	HANDSET, METALLIZED ASM.	1	
0003	J709195P1	FILTER	1	
0004	A701648P6	SILICONE RTV	0,001 KG	
0005	J706075P1	GROMMET	1	
0006	L855842P1	CLAMP, CABLE-	1	

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY	
0007	J709571P1	INSULATION PLATE	1	
0008	J709292P1	ADHESIVE PRESSURE TAPE	0,020 M	
0009	J709460G1	TERMINAL, SOLDER-	8	
0010	J709453P2	TERMINAL, SOLDERLESS-	2	
0011	A700136P4	SLVG INS EL D-3.2X0.51 MM	0,090 M	
0010 :	M906063G1 :	RETAINER ASM., HANDSET- :		
W001	L855720G1	CABLE ASM	1	SEE: PAGE 4
0002	K805719G1	LOUDSPEAKER ASM	1	SEE: PAGE 4
0003	J709076P1	MAGNET PERM ALNICO	1	
0004	A701748P2	TAPE PRESSURE SENSITIVE	0,005 M	
0005	J706212P101	SCREW PAN HD SZ 2.0X4.8 MM	4	
0006	A700034P3	NUT HEX M-2.5X0.45 MM	4	
0007	A702361P306	SCREW PAN HD 2.5X6.0 MM	4	
0008	M905925P1	COVER	1	
0009	M905889G1	HOUSING ASM	1	
0010	J708994P1	FASTENER	2	
0013	A701847P101	SCREW PAN HD D-2.2X4.8 MM	2	
0001 :	L855628G1 :	KEYBOARD ASM. (DENM./NORW.) :		
0002	M905792P1	PLATE, L E D LIGHT-	1	
0003	K805526G1	FOIL, CONTACT-	1	
0004	K805539G1	MEMBRANE, CONTACT-RUBBER-	1	
0005	M905789P1	FRAME	1	
0006	L855562P1	CAP	24	
* 0007	* K805752G1	* SHIELD, KEYBOARD-	* 1	
0001 :	L855628G2 :	KEYBOARD ASM. (SWED./FINL.) :		
0002	M905792P1	PLATE, L E D LIGHT-	1	
0003	K805526G1	FOIL, CONTACT-	1	
0004	K805539G2	MEMBRANE, CONTACT-RUBBER-	1	
0005	M905789P1	FRAME	1	
0006	L855562P1	CAP	24	
* 0007	* K805752G1	* SHIELD, KEYBOARD-	* 1	
B001 :	K805733G1 :	LOUDSPEAKER ASM., :		
B001	J708678P1	HANDSET REC INSERT, 220R	1	
W001	J707179P10	WIRE,STRAND.-'BLACK' 0.055MM	0,060 M	
W002	J707179P10	WIRE,STRAND.-'BLACK' 0.055MM	0,060 M	

CIRCUIT POSITION	COMPONENT ITEM NO.	COMPONENT DESCRIPTION	QUANTITY	
0002	J706286P4	CONNECTOR, PT RECEPT. 47650	2	
0003	A700136P3	SLEEVING, INS. EL D-2.0X0.51	0,0125	M
0004	A700136P3	SLEEVING, INS. EL D-2.0X0.51	0,0125	M
B002 :	J709442G1 :	MICROPHONE ASM., :		
B001	A701301P2	MICROPONE CARTRIDGE	1	
W001	J707179P2	WIRE,STRAND.-'RED' 0.055MM	0,055	M
W002	J707179P10	WIRE,STRAND.-'BLACK' 0.055MM	0,055	M
0005	J706286P4	CONNECTOR, PT RECEPT. 47650	2	
0006	A700136P3	SLEEVING, INS. EL D-2.0X0.51	0,0125	M
0007	A700136P3	SLEEVING, INS. EL D-2.0X0.51	0,0125	M
W001 :	L855845G1 :	CABLE ASM, FOR HANDSET - LS ASM :		
W001	J709341P1	CABLE, MULTI	1	
0002	M906062P1	COVER	1	
0003	M906061P1	COVER, REAR-	1	
0005	J709337P1	HOUSING, CONNECTOR- 5 POS	1	
0006	J706286P3	CONNECTOR, PT RECEPTOR-	8	
0007	J706286P2	CONNECTOR, PT RECEPTOR-	2	
0008	A701847P101	SCREW PAN HD D-2.2 X 4.8 MM	2	
0009	L855848P1	CLAMP	1	
0010	L855843P1	GROMMET	1	
W001 :	L855720G1 :	CABLE ASM, FOR HANDSET RETAINER ASM :		
00A1	L855811G1	JP 6002	1	SEE: PAGE 5
00W1	J708672P6	CABLE, RIBBON- , 06-COND.	0,125	M
00W2	J708672P7	CABLE, RIBBON- , 07-COND.	0,140	M
0002	J706434P3	CONN PWB FEM RECP	13	
0007	L855870P1R2	BD PW., REVISION NO.: 2	1	
0002 :	K805719G1 :	LOUDSPEAKER ASM, F. HANDSET RETAINER ASM		
00B1	J707712P4	LS, PERM. MAGNET 16R 3W	1	
00P1	J706286P4	CONNECTOR, PT RECEPTOR 47650	2	

CONTINUED ON LAST PAGE: PAGE 5

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
00W1	J707179P10	WIRE,STRAND.-'BLACK' 0.055MM	0.060 M
00W2	J707179P10	WIRE,STRAND.-'BLACK' 0.055MM	0.060 M
0002	A700136P3	SLEEV.G INSUL. EL D-2.4X0.51	0.025 M
00A1 :	L855811G1 :	JP 6002 :	
J101	J708925P1	CONN PT PIN L-9,7 MM	2
J102	J708925P5	CONN PT PIN L-11.7 MM	10
R101	J707385P220	RES MFILM 22R 5% 1/8W	1
R102	J707385P220	RES MFILM 22R 5% 1/8W	1
R103	J707385P220	RES MFILM 22R 5% 1/8W	1
R104	J707385P220	RES MFILM 22R 5% 1/8W	1
R105	J707385P220	RES MFILM 22R 5% 1/8W	1
R106	J707385P220	RES MFILM 22R 5% 1/8W	1
R107	J707385P900	RES MFILM 0R 5% 1/8W JUMP	1
R108	J709456P1	RES MFILM 8R2 5% 1/1W	1
R109	J709456P1	RES MFILM 8R2 5% 1/1W	1
0002	L855812P1R1	BD PW., REVISION NO.: 1	1

CONTROL TYPE	DESCRIPTION
CB6110DR CB6110NR CB6110SR CB6110YR	CB 6110, REMOTE HANDSET W. CONTROL PANEL F. STORNOMATIC 6000 - N M T. VERSIONS: D/N AND S/Y

M A I N P A R T S L I S T :

INDEX-TABLE/ POSIT.-PREFX	COMPONENT ITEM NO.	COMPONENT DESCRIPTION	QUANTITY	
CB6,02,008 :				
A: 0001	L855630G2	CHASSIS ASM	1	(SEE: BELOW)
A: 0003	K805734G1	HANDSET LS ASM	1	SEE: PAGE 2
0004	K805701P1	SWITCH PTT	1	
0005	K805701P2	SWITCH VOLUME	1	
0006	J709041P1	FASTENER	4	
0007	J706212P201	SCREW PAN HD SZ 4.0X4.8 MM	2	
0008	J709494P1	SPACER	3	
0009	J709293P1	INSULATION FILM	1	
0010	M906063G2	RETAINER ASM., HANDSET-	1	SEE: PAGE 2
CB6,03,003/-,004 :				
A: 0001	L855628G1	KEYBOARD ASM (DENMARK/NORWAY)	1	SEE: PAGE 2
OR :				
A: 0001	L855628G2	KEYBOARD ASM (SWEDEN/FINLAND)	1	SEE: PAGE 3
CB6,04,005 :				
A: 0002	M905980G2	CL 6003 WITH HOOK SWITCH	1	(SEE:- X404.022
A: 0003	K805728G1	AUDIO AMPLIFIER ASM.	1	(SEE:- X404.024
CB6,05,001 :				
0001	J709045P1	LABEL BLANK	1	
0002	J709042P1	LABEL TYPE CB	1	
0004	J709289P1	BOOKLET, USER INSTRUCTION-	1	
0005	J709083P1	BOOKLET, PROGRAM GUIDE-	1	
0001 :	L855630G2 :	CHASSIS ASM. :		
0002	M905785P1	CHASSIS FRONT	1	

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY	
0003	M906145G1	FRONT PRINTED	1	
0005	J706922P3	TAPE PRESSURE SENSITIVE	0,10 M	
0006	J706922P3	TAPE PRESSURE SENSITIVE	0,050 M	
0003 :	K805734G1 :	HANDSET - LS ASM. :		
B001	K805733G1	LOUDSPEAKER ASM	1	SEE: PAGE 3
B002	J709442G1	MICROPHONE ASM	1	SEE: PAGE 3
W001	L855845G1	CABLE ASM	1	SEE: PAGE 3
0002	M906077G1	HANDSET, METALLIZED ASM.	1	
0003	J709195P1	FILTER	1	
0004	A701648P6	SILICONE RTV	0,001 KG	
0005	J706075P1	GROMMET	1	
0006	L855842P1	CLAMP, CABLE-	1	
0007	J709571P1	INSULATION PLATE	1	
0008	J709292P1	ADHESIVE PRESSURE TAPE	0,020 M	
0009	J709460G1	TERMINAL, SOLDER-	8	
0010	J709453P2	TERMINAL, SOLDERLESS-	2	
0011	A700136P4	SLVG INS EL D-3.2X0.51 MM	0,090 M	
0010 :	M906063G2 :	RETAINER ASM., HANDSET- :		
W001	L855720G1	CABLE ASM	1	SEE: PAGE 4
0002	K805719G1	LOUDSPEAKER ASM	1	SEE: PAGE 4
0003	J709076P1	MAGNET PERM ALNICO	1	
0004	A701748P2	TAPE PRESSURE SENSITIVE	0,005 M	
0005	J706212P101	SCREW PAN HD SZ 2.0X4.8 MM	4	
0006	A700034P3	NUT HEX M-2.5X0.45 MM	4	
0007	A702361P306	SCREW PAN HD 2.5X6.0 MM	4	
0008	M905925P1	COVER	1	
0009	M905889G1	HOUSING ASM	1	
0010	J708994P1	FASTENER	2	
0013	A701847P101	SCREW PAN HD D-2.2X4.8 MM	2	
0014	A702361P320	SCREW PAN HD M-2.5 X 20.0 MM	1	
0015	A702361P325	SCREW PAN HD M-2.5 X 25.0 MM	1	
0016	J708634P1	TERMINAL, SOLDER-	2	
0017	K805596G1	CC 6005 CABLE KIT	1	SEE: PAGE 4
0001 :	L855628G1 :	KEYBOARD ASM. (DENM./NORW.) :		
0002	M905792P1	PLATE, L E D LIGHT-	1	

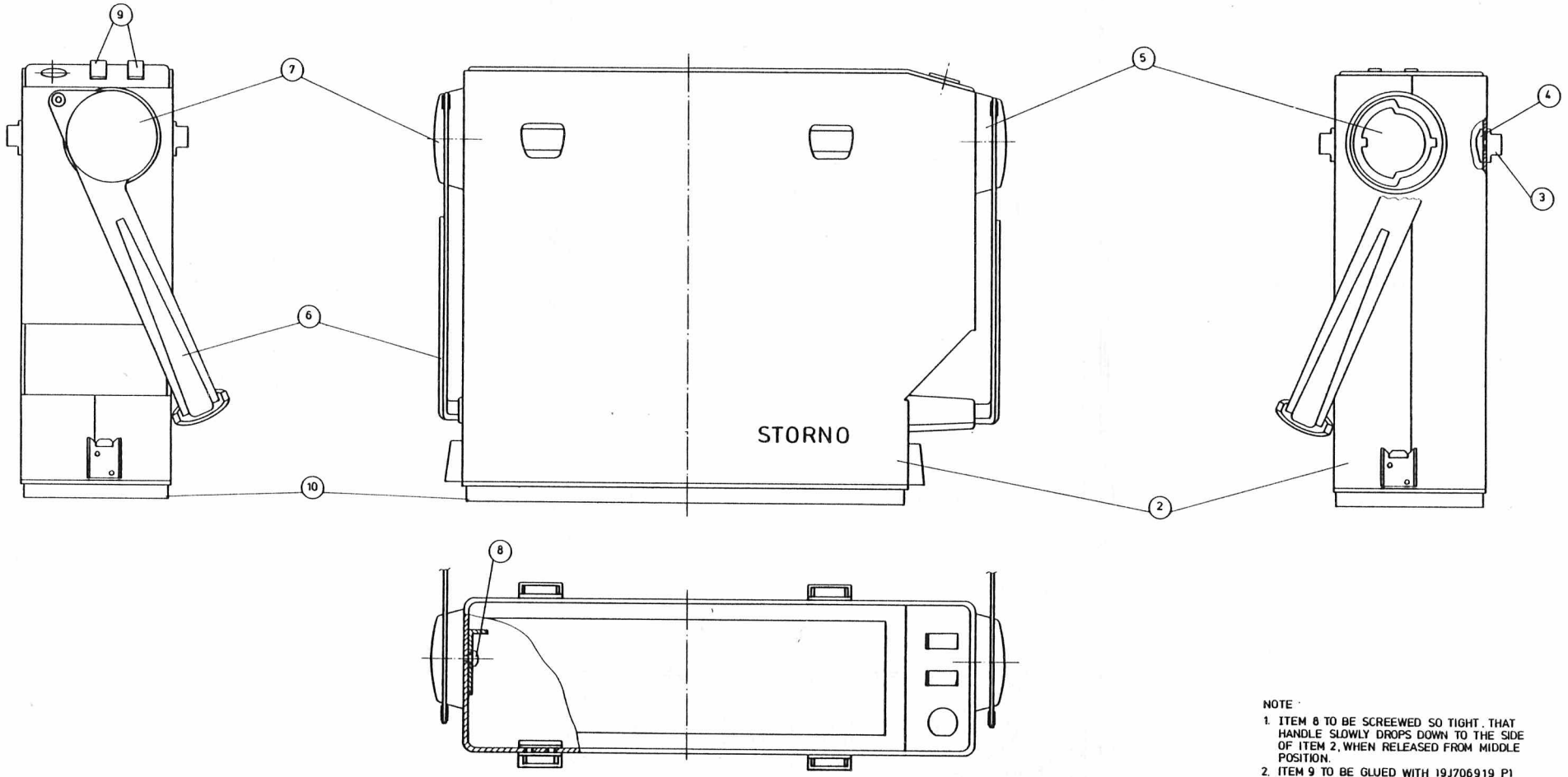
	CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
	0003	K805526G1	FOIL, CONTACT-	1
	0004	K805539G1	MEMBRANE, CONTACT-RUBBER-	1
	0005	M905789P1	FRAME	1
	0006	L855562P1	CAP	24
*	0007	* K805752G1	* SHIELD, KEYBOARD-	* 1
	0001 :	L855628G2 :	KEYBOARD ASM. (SWED./FINL.) :	
	0002	M905792P1	PLATE, L E D LIGHT-	1
	0003	K805526G1	FOIL, CONTACT-	1
	0004	K805539G2	MEMBRANE, CONTACT-RUBBER-	1
	0005	M905789P1	FRAME	1
	0006	L855562P1	CAP	24
*	0007	* K805752G1	* SHIELD, KEYBOARD-	* 1
	B001 :	K805733G1 :	LOUDSPEAKER ASM., :	
	B001	J708678P1	HANDSET REC INSERT, 220R	1
	W001	J707179P10	WIRE,STRAND.-'BLACK' 0.055MM	0,060 M
	W002	J707179P10	WIRE,STRAND.-'BLACK' 0.055MM	0,060 M
	0002	J706286P4	CONNECTOR, PT RECEPT. 47650	2
	0003	A700136P3	SLEEVING, INS. EL D-2.0X0.51	0,0125 M
	0004	A700136P3	SLEEVING, INS. EL D-2.0X0.51	0,0125 M
	B002 :	J709442G1 :	MICROPHONE ASM., :	
	B001	A701301P2	MICROPONE CARTRIDGE	1
	W001	J707179P2	WIRE,STRAND.-'RED' 0.055MM	0,055 M
	W002	J707179P10	WIRE,STRAND.-'BLACK' 0.055MM	0,055 M
	0005	J706286P4	CONNECTOR, PT RECEPT. 47650	2
	0006	A700136P3	SLEEVING, INS. EL D-2.0X0.51	0,0125 M
	0007	A700136P3	SLEEVING, INS. EL D-2.0X0.51	0,0125 M
	W001 :	L855845G1 :	CABLE ASM, FOR HANDSET - LS ASM :	
	W001	J709341P1	CABLE, MULTI	1
	0002	M906062P1	COVER	1
	0003	M906061P1	COVER, REAR-	1
	0005	J709337P1	HOUSING, CONNECTOR- 5 POS	1
	0006	J706286P3	CONNECTOR, PT RECEPTOR-	8
	0007	J706286P2	CONNECTOR, PT RECEPTOR-	2

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
0008	A701847P101	SCREW PAN HD D-2.2 X 4.8 MM	2
0009	L855848P1	CLAMP	1
0010	L855843P1	GROMMET	1
W001 :	L855720G1 :	CABLE ASM, FOR HANDSET RETAINER ASM :	
00A1	L855811G1	JP 6002	1 (SEE BELOW)
00W1	J708672P6	CABLE, RIBBON- , 06-COND.	0,125 M
00W2	J708672P7	CABLE, RIBBON- , 07-COND.	0,140 M
0002	J706434P3	CONN PWB FEM RECP	13
0007	L855870P1R2	BD PW., REVISION NO.: 2	1
0002 :	K805719G1 :	LOUDSPEAKER ASM, F. HANDSET RETAINER ASM	
00B1	J707712P4	LS, PERM. MAGNET 16R 3W	1
00P1	J706286P4	CONNECTOR, PT RECEPTOR 47650	2
00W1	J707179P10	WIRE,STRAND.-'BLACK' 0.055MM	0.060 M
00W2	J707179P10	WIRE,STRAND.-'BLACK' 0.055MM	0.060 M
0002	A700136P3	SLEEV.G,INSUL. EL D-2.4X0.51	0.025 M
0017 :	K805596G1 :	CC 6005 CABLE KIT :	
P001	J708069P214	CONNECTOR FEM	1
P002	A700041P40	CONN,HSC FEM 14 CKT	1
W001	J706156P5	CA 14 CORED	3,50 M
0002	J707787P1	CONN PWB FEM RECP CLIP	14
0003	J706152P5	STRAP RET W BDL D19 NYL	2
0004	J707335P1	CLAMP LOOP 5 MM	1
0005	A700031P405	SCREW PAN HD M-3.0X5.0 MM	1
0006	J708981P1	CONNECTOR	1
00A1 :	L855811G1 :	JP 6002 :	
J101	J708925P1	CONN PT PIN L-9,7 MM	2
J102	J708925P5	CONN PT PIN L-11.7 MM	10

CONTINUED ON LAST PAGE: PAGE 5

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
R101	J707385P220	RES MFILM 22R 5% 1/8W	1
R102	J707385P220	RES MFILM 22R 5% 1/8W	1
R103	J707385P220	RES MFILM 22R 5% 1/8W	1
R104	J707385P220	RES MFILM 22R 5% 1/8W	1
R105	J707385P220	RES MFILM 22R 5% 1/8W	1
R106	J707385P220	RES MFILM 22R 5% 1/8W	1
R107	J707385P900	RES MFILM 0R 5% 1/8W JUMP	1
R108	J709456P1	RES MFILM 8R2 5% 1/1W	1
R109	J709456P1	RES MFILM 8R2 5% 1/1W	1
0002	L855812P1R1	BD PW., REVISION NO.: 1	1

Storno



NOTE

1. ITEM 8 TO BE SCREEWED SO TIGHT, THAT HANDLE SLOWLY DROPS DOWN TO THE SIDE OF ITEM 2, WHEN RELEASED FROM MIDDLE POSITION.
2. ITEM 9 TO BE GLUED WITH 19J706919 P1 (CLEAR SILICONE RUBBER).
3. ITEM 10 TO BE GLUED WITH 19J707789 P1 (FOSS - ETH 1501).

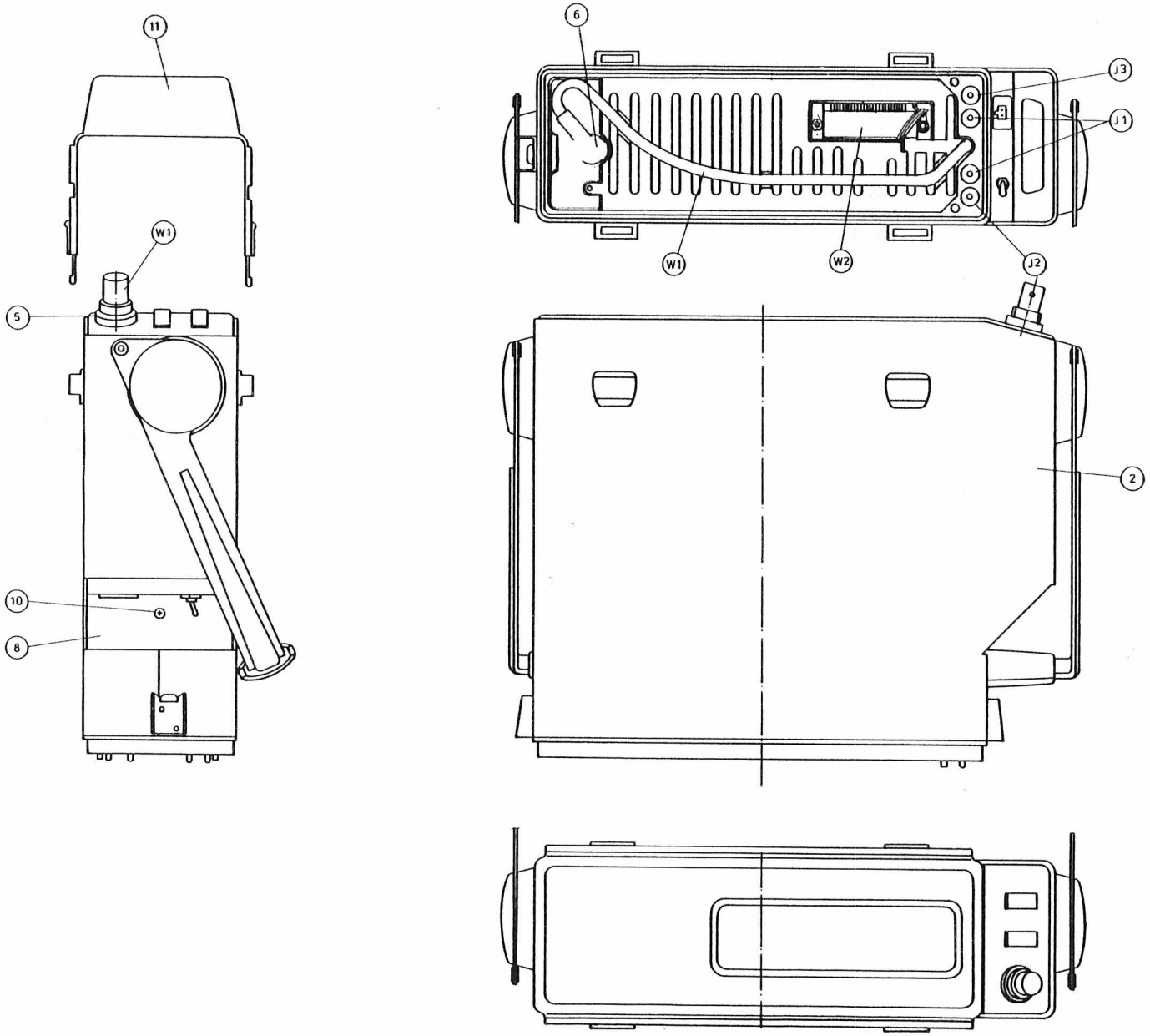
SEE PART LIST X404.099

CABINET WITH HANDLE

M906150G1

M405.235

Storno

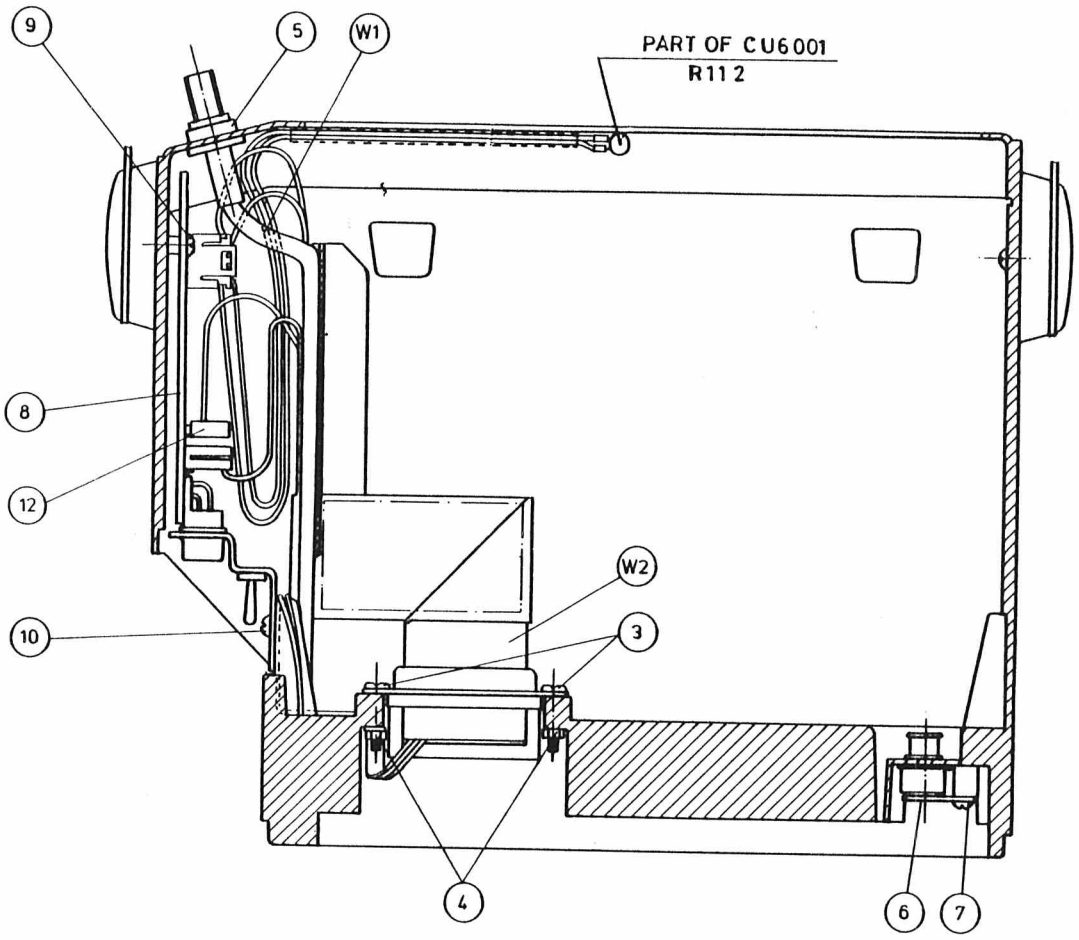


SEE PART LIST X404.099

CABINET CK6001 ASM.
M906091G1

M405.236

Storno



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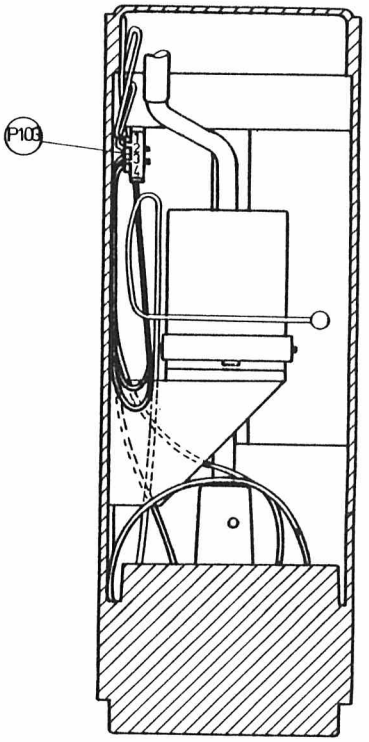
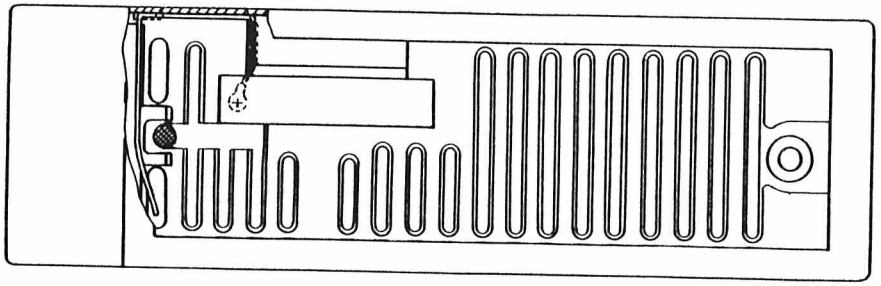




DETAIL A

SEE PART LIST X404.099

CABINET CK6001 ASSEMBLY
M906091G1

M405. 237

ITEM NUMBER	DESCRIPTION
M906091G1	CK 6001 ASM

K805749G1	SUB ASM.- W002: CABLE W CONN .
M906150G1	SUB ASM.: - CABINET WITH HANDLE .
K805741G1	CU 6001 - ASM., MNTD W. HEAT SINK .
M905853G1	SUB-SUB ASM.- A001: CPNT BD CU 6001 .

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY	
J001	J709410G1	CONTACT WITH WIRE	1	
P103	J708069P104	CONN 4 POS	1	
W003	J709613G1	WIRE WITH NTC - RESISTOR	1	
00J2	J709410G2	CONTACT WITH WIRE	1	
00J3	J709410G3	CONTACT WITH WIRE	1	
00W1	K805748G1	CABLE ANTENNA	1	
00W2	K805749G1	CABLE W CONN	1	(SEE BELOW)
0002	M906150G1	CABINET WITH HANDLE	1	(SEE BELOW)
0003	J709509P108	SCREW PH	2	
0004	A700034P3	NUT HEX M-2.5 X 0.45 MM	2	
0005	J709206G1	NUT, COATED-	1	
0006	J709526G1	BASE ANT CONN COATED	1	
0008	K805741G1	CU 6001 ASM., W. HEAT SINK	1	SEE: PAGE 2
0009	A700031P405	SCREW PAN HD M-3.0 X 5.0 MM	1	
0010	J708178P1	SCREW PAN HD M-3.0 X 5.0 MM	1	
0011	K805731P1	COVER, DUST-	1	
0012	J706849P1	CAP, WIRE-	1	

00W2 :	K805749G1 :	CABLE W CONN :	
J001	J708471P413	CONN MULTI PLUG 25-WAY	1
J002	J709096P6	CONN PWB FEMALE 26-CKT	1
J003	J708831P2	TERM SLDLS AMP 34142	1
W001	J709095P8	CABLE, RIBBON-	0.360 M

0002 :	M906150G1 :	CABINET WITH HANDLE :	
0002	K805739G1	CABINET TEXTED	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
0003	J709090P3	LOCK RIM PLASTIC FEMALE	4
0004	J709090P1	LOCK RIM LATCH	4
0005	J709236G1	HOLDER PAINTED	2
0006	K805786G1	HANDLE RIVETED	1
0007	J709094P1	WASHER HANDLE	2
0008	J706212P305	SCREW PAN HD SZ 6.0X12.7	2
0009	J709262P1	LENS	2
0010	L855836P1	GASKET CABINET	1
0008 :	K805741G1 :	CU 6001 - ASM., MNTD W. HEAT SINK :	
A001	M905853G1	CPNT BD CU 6001	1 (SEE BELOW)
* E101 *	J707961P2 *	CORE, TOR. FERR.- UI 900 *	1
* E102 *	J707961P2 *	CORE, TOR. FERR.- UI 900 *	1
J101	J708471P3	CONN MULTI RECP 25-WAY	1
J104	J708829P1	CONN POWER RECP 02-WAY	1
Q101	J706890P1	TSTR PNP SI BD 140	1
Q102	J708775P1	TSTR MFET SI BUZ 20	1
S001	A700189P1	SWITCH TOGLE, 7101G	1
W001	J707210P100	WIRE 0.220 SQ 'BLACK'	0.250 M
0002	A700031P405	SCREW PAN HD M-3.0 X 5.0 MM	2
0003	A700034P4	NUT HEX M-3.0 X 0.50 MM	2
0004	J709304G1	HEAT SINK TEXTED	1
0005	J708766P1	INSULATOR SHEET	1
0006	A700068P1	INS BUSH	1
0007	A700031P306	SCREW PAN HD M-2.5 X 6.0 MM	1
0008	A700034P3	NUT HEX M-2.5 X 0.45 MM	2
0009	J708766P2	INSULATOR	1
0010	A700031P308	SCREW PAN HD M-2.5 X 8.0 MM	1
A001 :	M905853G1 :	CPNT BD CU 6001 :	
C101	J706005P14	CAP ELECT 220U +100-10%	1
C102	J707438P26	CAP CER CL2 100N 10% 50V	1
C103	J707438P26	CAP CER CL2 100N 10% 50V	1
C104	J706005P14	CAP ELECT 220U +100-10%	1
C105	J707438P26	CAP CER CL2 100N 10% 50V	1
C106	J707444P17	CAP TA SOL 47U 20% 10V	1
C107	J707444P6	CAP TA SOL 4U7 20% 35V	1
C108	J707438P5	CAP CER CL2 1N0 10% 50V	1
C109	J707438P26	CAP CER CL2 100N 10% 50V	1

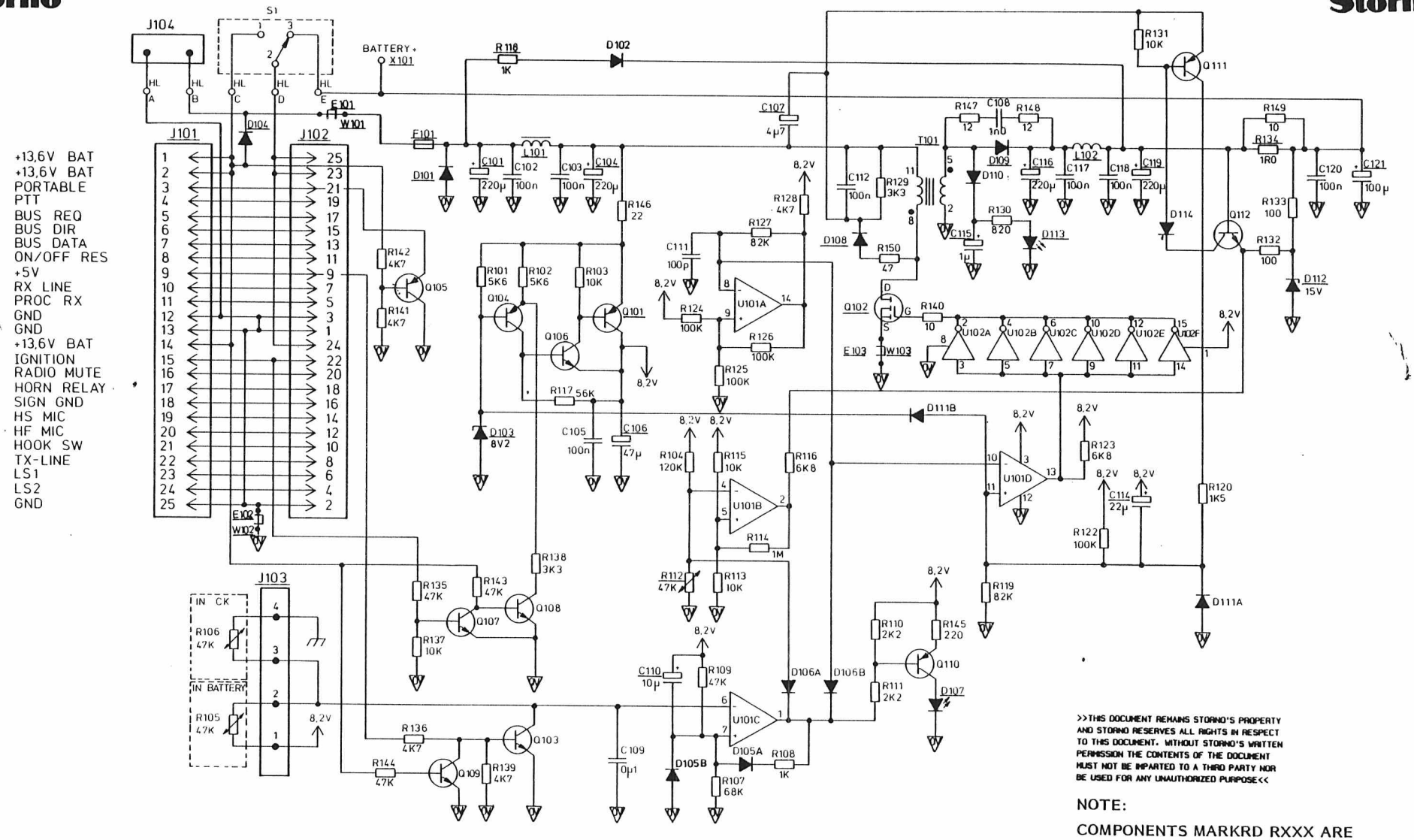
CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C110	J707444P7	CAP TA SOL 10U 20% 16V	1
C111	J707436P61	CAP CER NPO 100P 5% 50V	1
C112	J707438P26	CAP CER CL2 100N 10% 50V	1
C114	J707444P8	CAP TA SOL 22U 20% 16V	1
C115	J707444P4	CAP TA SOL 1U 20% 35V	1
C116	J706005P10	CAP ELECT 220U +100-10%	1
C117	J707438P26	CAP CER CL2 100N 10% 50V	1
C118	J707438P26	CAP CER CL2 100N 10% 50V	1
C119	J706005P10	CAP ELECT 220U +100-10%	1
C120	J707438P26	CAP CER CL2 100N 10% 50V	1
C121	J706005P9	CAP ELECT 100U +100-10%	1
D101	J706100P2	DIO SI SIG 1N4004	1
D102	J707389P1	DIO SI SIG BAV 99	1
D103	A700025P9	DIO SI ZENR 8V2 5% 0,4W	1
D104	J706100P2	DIO SI SIG 1N4004	1
D105	J707389P1	DIO SI SIG BAV 99	1
D106	J707390P1	DIO SI SIG BAV 74	1
D107	J707764P2	DIO LED ESBG 5501 , -'GREEN'-	1
D108	A700028P1	DIO SI SIG 1N4148	1
D109	J708734P1	DIO SI PWR BYV 28-100	1
D110	J707389P1	DIO SI SIG BAV 99	1
D111	J707389P1	DIO SI SIG BAV 99	1
D112	J706270P6	DIO SI ZENER 15V0 5% 0,4W	1
D113	J707764P1	DIO LED ESBR 5501 , -'RED'-	1
D114	J707389P1	DIO SI SIG BAV 99	1
E103	A700103P1	CORE, FERRITE-	1
F101	J706998P7	FUSE CTG 2.0A SLOW	1
J102	J708925P1	CONN PT PIN L-9,7	26
J103	J708068P4	CONN PWB MALE RECP 04-CKT	1
L101	K805622G1	COIL FILTER	1
L102	K805622G1	COIL FILTER	1
Q103	J707386P1	TSTR NPN SI BCW 32	1
Q104	J707387P1	TSTR PNP SI BCW 30	1
Q105	J707387P1	TSTR PNP SI BCW 30	1
Q106	J707386P1	TSTR NPN SI BCW 32	1
Q107	J707386P1	TSTR NPN SI BCW 32	1
Q108	J707386P1	TSTR NPN SI BCW 32	1
Q109	J707386P1	TSTR NPN SI BCW 32	1
Q110	J707387P1	TSTR PNP SI BCW 30	1
Q111	J707387P2	TSTR PNP SI BCW 70	1
Q112	J707386P2	TSTR NPN SI BCW 72	1
R101	J706056P44	RES DEPC 3K9 5% 1/2W	1
R102	J707385P180	RES MFILM 18R 5% 1/8W	1
R103	J707385P103	RES MFILM 10K 5% 1/8W	1
R104	J707385P124	RES MFILM 120K 5% 1/8W	1
R106	J707406P5	RES THERM NTC 47K 10%	1
R107	J707385P683	RES MFILM 68K 5% 1/8W	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
R108	J707385P102	RES MFILM 1K0 5% 1/8W	1
R109	J707385P473	RES MFILM 47K 5% 1/8W	1
R110	J707385P222	RES MFILM 2K2 5% 1/8W	1
R111	J707385P222	RES MFILM 2K2 5% 1/8W	1
R112	J707406P5	RES THERM NTC 47K 10%	1
R113	J707385P103	RES MFILM 10K 5% 1/8W	1
R114	J707385P105	RES MFILM 1M0 10% 1/8W	1
R115	J707385P103	RES MFILM 10K 5% 1/8W	1
R116	J707385P682	RES MFILM 6K8 5% 1/8W	1
R117	J707385P563	RES MFILM 56K 5% 1/8W	1
R118	J706251P37	RES DEPC 1K0 5% 1/1W	1
R119	J707385P823	RES MFILM 82K 5% 1/8W	1
R120	J707385P152	RES MFILM 1K5 5% 1/8W	1
R121	J707385P900	RES MFILM 0R0 5% 1/8W, JUMP.	1
R122	J707385P104	RES MFILM 100K 5% 1/8W	1
R123	J707385P682	RES MFILM 6K8 5% 1/8W	1
R124	J707385P104	RES MFILM 100K 5% 1/8W	1
R125	J707385P104	RES MFILM 100K 5% 1/8W	1
R126	J707385P104	RES MFILM 100K 5% 1/8W	1
R127	J707385P823	RES MFILM 82K 5% 1/8W	1
R128	J707385P472	RES MFILM 4K7 5% 1/8W	1
R129	J707385P332	RES MFILM 3K3 5% 1/8W	1
R130	J707385P821	RES MFILM 820R 5% 1/8W	1
R131	J707385P103	RES MFILM 10K 5% 1/8W	1
R132	J707385P101	RES MFILM 100R 5% 1/8W	1
R133	J707385P101	RES MFILM 100R 5% 1/8W	1
R134	J706056P1	RES DEPC 1R0 5% 1/2W	1
R135	J707385P473	RES MFILM 47K 5% 1/8W	1
R136	J707385P472	RES MFILM 4K7 5% 1/8W	1
R137	J707385P103	RES MFILM 10K 5% 1/8W	1
R138	J707385P332	RES MFILM 3K3 5% 1/8W	1
R139	J707385P472	RES MFILM 4K7 5% 1/8W	1
R140	J707385P100	RES MFILM 10R 5% 1/8W	1
R141	J707385P472	RES MFILM 4K7 5% 1/8W	1
R142	J707385P472	RES MFILM 4K7 5% 1/8W	1
R143	J707385P473	RES MFILM 47K 5% 1/8W	1
R144	J707385P473	RES MFILM 47K 5% 1/8W	1
R145	J707385P221	RES MFILM 220R 5% 1/8W	1
R146	J707385P220	RES MFILM 22R 5% 1/8W	1
R147	J707385P120	RES MFILM 12R 5% 1/8W	1
R148	J707385P120	RES MFILM 12R 5% 1/8W	1
R149	J707385P100	RES MFILM 10R 5% 1/8W	1
R150	J707385P470	RES MFILM 47R 5% 1/8W	1
T101	K805623G1	TRANSFORMER ASM.	1
U101	J708503P1	IC LIN CMPAR LM 239	1
U102	J708356P1	IC DIG BUFR 4049	1
W001	J707195P26	WIRE, BARE COPPER ANNEALED	0.00015 KG
XF01	J708025P1	HOLDER FUSE 5.0X20.0	1
XF02	J708025P1	HOLDER, FUSE- 5.0 X 20.0 MM	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
X101	J706848P1	TERMINAL, BRL D=3.18 MM	1
0002	M905854P1R2	BD PW., REVISION NO.: 2	1

Storno

Storno



NOTE:

COMPONENTS MARKRD RXXX ARE PLACED ON COMPONENT SIDE.

CODE NO. K805741G1

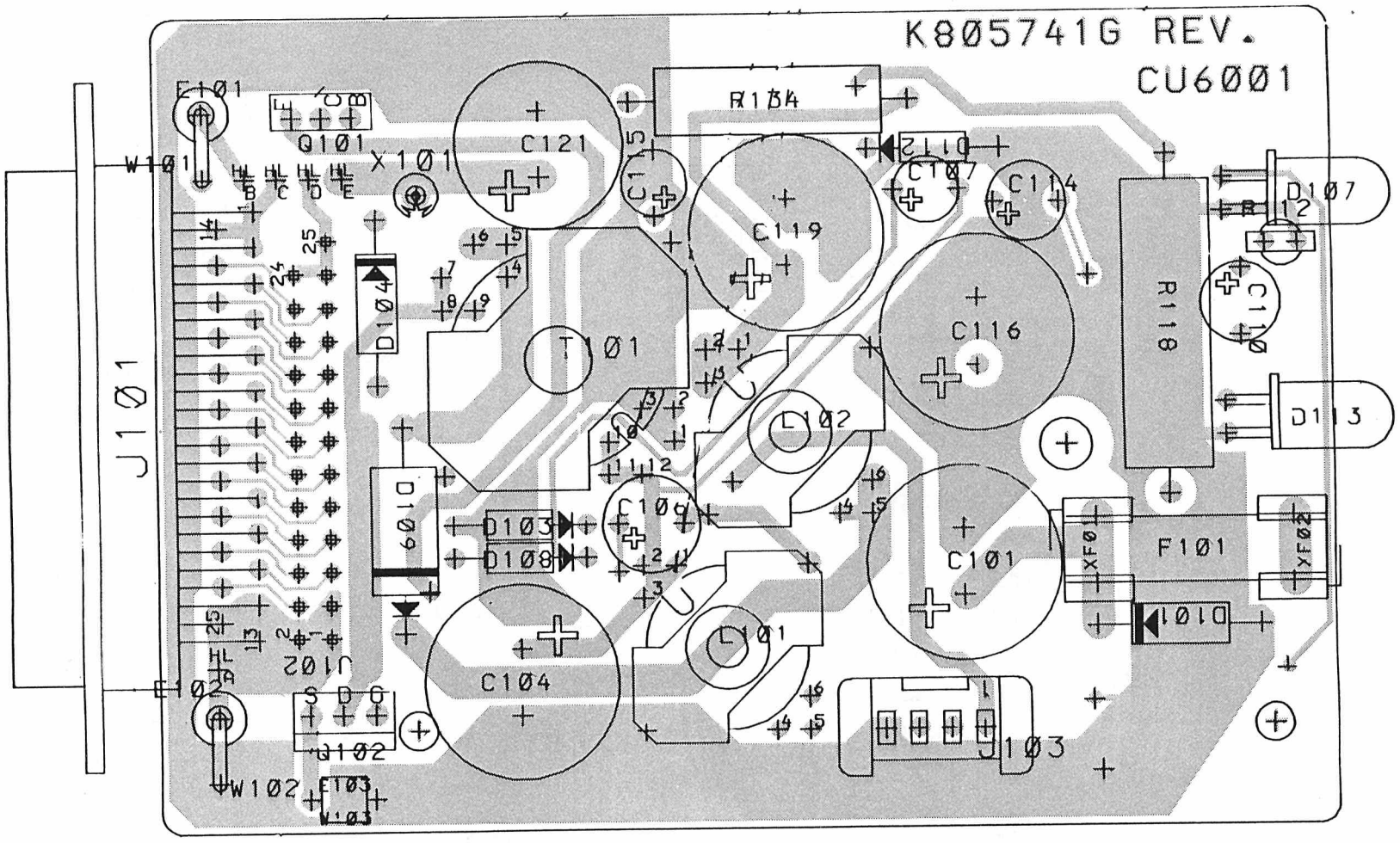
MOUNTED BOARD CODE NO. M905853G1

CHARGING UNIT CU6001

REV. A

D404.497

Storno



CODE NO. K805741G1

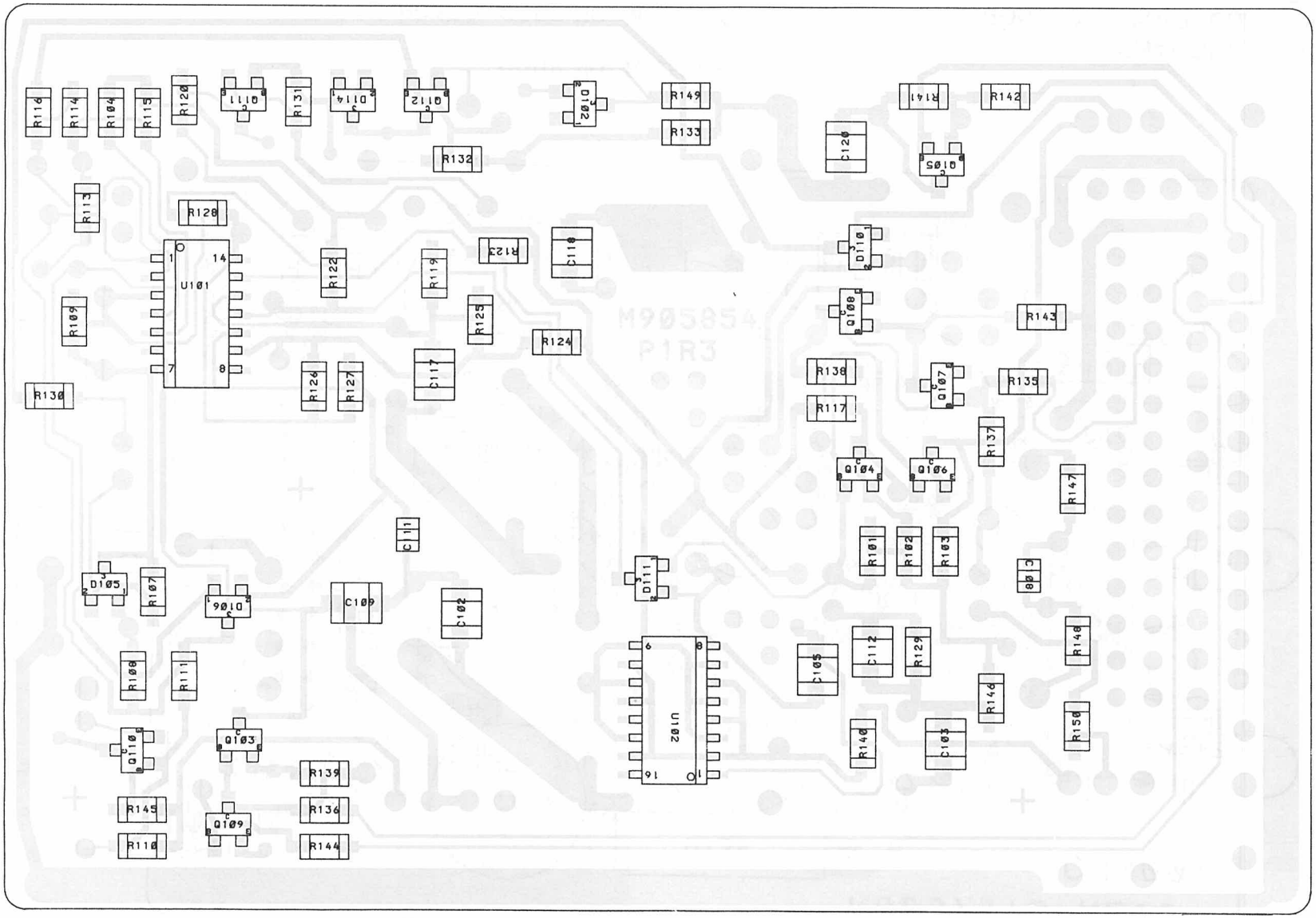
MOUNTED BOARD CODE NO. M905853G1

CHARGING UNIT CU6001
COMPONENT LAYOUT COMPONENT SIDE

REV. 3 D404.498

Storno

Storno



CODE NO. K805741G1

REV. 3

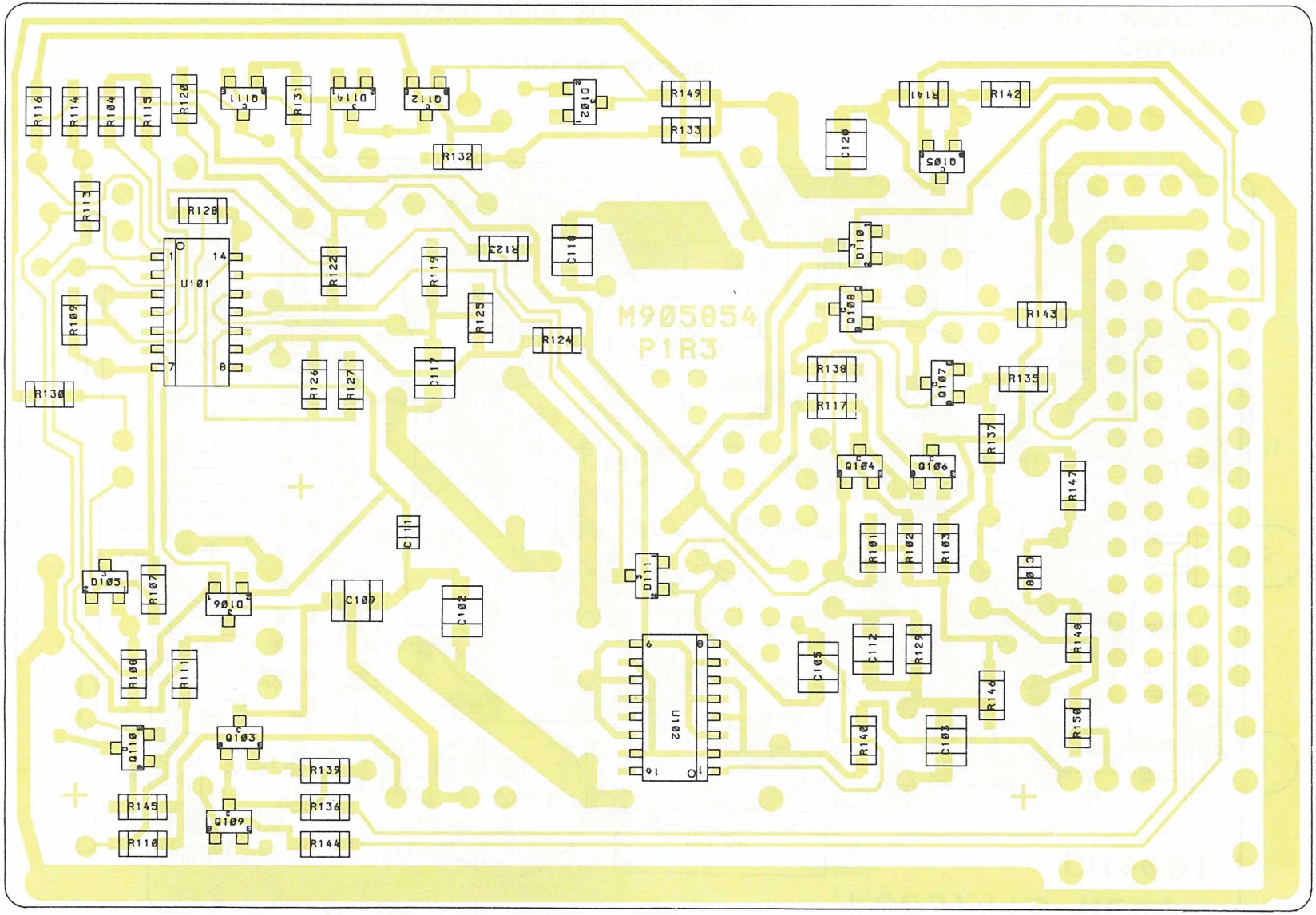
MOUNTED BOARD CODE NO. M905853G1

CHARGING UNIT CU6001
COMPONENT LAYOUT CHIP SIDE

D404.499

Storno

Storno



CODE NO. K805741G1

REV. 3

MOUNTED BOARD CODE NO. M905853G1

CHARGING UNIT CU6001
COMPONENT LAYOUT CHIP SIDE

D404.499

ITEM NUMBER	DESCRIPTION
K805741G1	CU 6001 ASM., CPNT BD. MNTD W. HEAT SINK

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
A001	M905853G1	CPNT BD CU 6001	1 (SEE BELOW)
E101	J707961P2	CORE, TOR. FERR.- UI 900	1
E102	J707961P2	CORE, TOR. FERR.- UI 900	1
J101	J708471P3	CONN MULTI RECP 25-WAY	1
J104	J708829P1	CONN POWER RECP 02-WAY	1
Q101	J706890P1	TSTR PNP SI BD 140	1
Q102	J708775P1	TSTR MFET SI BUZ 20	1
S001	A700189P1	SWITCH TOGLE, 7101G	1
W001	J707210P100	WIRE 0.220 SQ 'BLACK'	0.250 M
0002	A700031P305	SCREW PAN HD M-2.5 X 5.0 MM	2
0003	A700034P3	NUT HEX M-2.5 X 0.50 MM	2
0004	J709304G1	HEAT SINK, TEXTED-	1
0005	J708766P1	INSULATOR SHEET	1
0006	A700068P1	INS BUSH	1
0007	A700031P306	SCREW PAN HD M-2.5 X 6.0 MM	1
0008	A700034P3	NUT HEX M-2.5 X 0.45 MM	2
0009	J708766P2	INSULATOR	1
0010	A700031P308	SCREW PAN HD M-2.5 X 8.0 MM	1

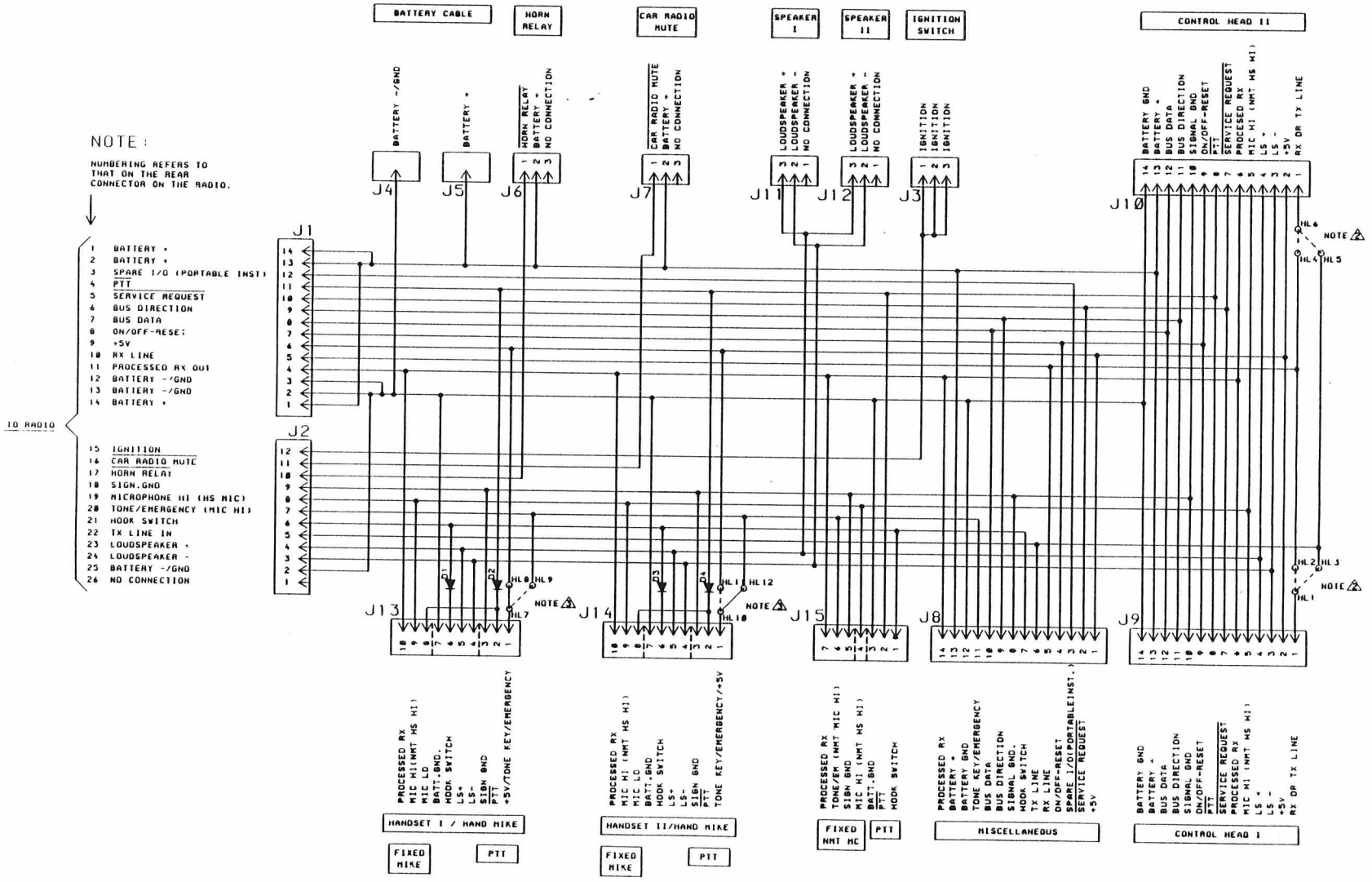
A001 :	M905853G1 :	CPNT BD CU 6001 :	
C101	J706005P14	CAP ELECT 220U +100-10%	1
C102	J707438P26	CAP CER CL2 100N 10% 50V	1
C103	J707438P26	CAP CER CL2 100N 10% 50V	1
C104	J706005P14	CAP ELECT 220U +100-10%	1
C105	J707438P26	CAP CER CL2 100N 10% 50V	1
C106	J707444P17	CAP TA SOL 47U 20% 10V	1
C107	J707444P6	CAP TA SOL 4U7 20% 35V	1
C108	J707438P5	CAP CER CL2 1N0 10% 50V	1
C109	J707438P26	CAP CER CL2 100N 10% 50V	1
C110	J707444P7	CAP TA SOL 10U 20% 16V	1
C111	J707436P61	CAP CER NPO 100P 5% 50V	1
C112	J707438P26	CAP CER CL2 100N 10% 50V	1
C114	J707444P8	CAP TA SOL 22U 20% 16V	1
C115	J707444P4	CAP TA SOL 1U 20% 35V	1
C116	J706005P10	CAP ELECT 220U +100-10%	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
C117	J707438P26	CAP CER CL2 100N 10% 50V	1
C118	J707438P26	CAP CER CL2 100N 10% 50V	1
C119	J706005P10	CAP ELECT 220U +100-10%	1
C120	J707438P26	CAP CER CL2 100N 10% 50V	1
C121	J706005P9	CAP ELECT 100U +100-10%	1
D101	J706100P2	DIO SI SIG 1N4004	1
D102	J707389P1	DIO SI SIG BAV 99	1
D103	A700025P9	DIO SI ZENR 8V2 5% 0,4W	1
D104	J706100P2	DIO SI SIG 1N4004	1
D105	J707389P1	DIO SI SIG BAV 99	1
D106	J707390P1	DIO SI SIG BAV 74	1
D107	J707764P2	DIO LED ESBG 5501 , -'GREEN'-	1
D108	A700028P1	DIO SI SIG 1N4148	1
D109	J708734P1	DIO SI PWR BYV 28-100	1
D110	J707389P1	DIO SI SIG BAV 99	1
D111	J707389P1	DIO SI SIG BAV 99	1
D112	J706270P6	DIO SI ZENER 15V0 5% 0,4W	1
D113	J707764P1	DIO LED ESBR 5501 , -'RED'-	1
D114	J707389P1	DIO SI SIG BAV 99	1
E103	A700103P1	CORE, FERRITE-	1
F101	J706998P7	FUSE CTG 2.0A SLOW	1
J102	J708925P1	CONN PT PIN L-9,7	26
J103	J708068P4	CONN PWB MALE RECP 04-CKT	1
L101	K805622G1	COIL FILTER	1
L102	K805622G1	COIL FILTER	1
Q103	J707386P1	TSTR NPN SI BCW 32	1
Q104	J707387P1	TSTR PNP SI BCW 30	1
Q105	J707387P1	TSTR PNP SI BCW 30	1
Q106	J707386P1	TSTR NPN SI BCW 32	1
Q107	J707386P1	TSTR NPN SI BCW 32	1
Q108	J707386P1	TSTR NPN SI BCW 32	1
Q109	J707386P1	TSTR NPN SI BCW 32	1
Q110	J707387P1	TSTR PNP SI BCW 30	1
Q111	J707387P2	TSTR PNP SI BCW 70	1
Q112	J707386P2	TSTR NPN SI BCW 72	1
R101	J706056P44	RES DEPC 3K9 5% 1/2W	1
R102	J707385P180	RES MFILM 18R 5% 1/8W	1
R103	J707385P103	RES MFILM 10K 5% 1/8W	1
R104	J707385P124	RES MFILM 120K 5% 1/8W	1
R106	J707406P5	RES THERM NTC 47K 10%	1
R107	J707385P683	RES MFILM 68K 5% 1/8W	1
R108	J707385P102	RES MFILM 1K0 5% 1/8W	1
R109	J707385P473	RES MFILM 47K 5% 1/8W	1
R110	J707385P222	RES MFILM 2K2 5% 1/8W	1
R111	J707385P222	RES MFILM 2K2 5% 1/8W	1
R112	J707406P15	RES THERM NTC 47K 10%	1
R113	J707385P103	RES MFILM 10K 5% 1/8W	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
R114	J707385P105	RES MFILM 1M0 10% 1/8W	1
R115	J707385P103	RES MFILM 10K 5% 1/8W	1
R116	J707385P682	RES MFILM 6K8 5% 1/8W	1
R117	J707385P563	RES MFILM 56K 5% 1/8W	1
R118	J706251P37	RES DEPC 1K0 5% 1/1W	1
R119	J707385P823	RES MFILM 82K 5% 1/8W	1
R120	J707385P152	RES MFILM 1K5 5% 1/8W	1
R121	J707385P900	RES MFILM 0R0 5% 1/8W, JUMP.	1
R122	J707385P104	RES MFILM 100K 5% 1/8W	1
R123	J707385P682	RES MFILM 6K8 5% 1/8W	1
R124	J707385P104	RES MFILM 100K 5% 1/8W	1
R125	J707385P104	RES MFILM 100K 5% 1/8W	1
R126	J707385P104	RES MFILM 100K 5% 1/8W	1
R127	J707385P823	RES MFILM 82K 5% 1/8W	1
R128	J707385P472	RES MFILM 4K7 5% 1/8W	1
R129	J707385P332	RES MFILM 3K3 5% 1/8W	1
R130	J707385P821	RES MFILM 820R 5% 1/8W	1
R131	J707385P103	RES MFILM 10K 5% 1/8W	1
R132	J707385P101	RES MFILM 100R 5% 1/8W	1
R133	J707385P101	RES MFILM 100R 5% 1/8W	1
R134	J706056P1	RES DEPC 1R0 5% 1/2W	1
R135	J707385P473	RES MFILM 47K 5% 1/8W	1
R136	J707385P472	RES MFILM 4K7 5% 1/8W	1
R137	J707385P103	RES MFILM 10K 5% 1/8W	1
R138	J707385P332	RES MFILM 3K3 5% 1/8W	1
R139	J707385P472	RES MFILM 4K7 5% 1/8W	1
R140	J707385P100	RES MFILM 10R 5% 1/8W	1
R141	J707385P472	RES MFILM 4K7 5% 1/8W	1
R142	J707385P472	RES MFILM 4K7 5% 1/8W	1
R143	J707385P473	RES MFILM 47K 5% 1/8W	1
R144	J707385P473	RES MFILM 47K 5% 1/8W	1
R145	J707385P221	RES MFILM 220R 5% 1/8W	1
R146	J707385P220	RES MFILM 22R 5% 1/8W	1
R147	J707385P120	RES MFILM 12R 5% 1/8W	1
R148	J707385P120	RES MFILM 12R 5% 1/8W	1
R149	J707385P100	RES MFILM 10R 5% 1/8W	1
R150	J707385P470	RES MFILM 47R 5% 1/8W	1
T101	K805623G1	TRANSFORMER ASM.	1
U101	J708503P1	IC LIN CMPAR LM 239	1
U102	J708356P1	IC DIG BUFR 4049	1
W001	J707195P26	WIRE, BARE COPPER ANNEALED	0.00015 KG
XF01	J708025P1	HOLDER FUSE 5.0X20.0	1
XF02	J708025P1	HOLDER FUSE 5.0X20.0	1
X101	J706848P1	TERMINAL, BRL D=3.18 MM	1
0002	M905854P1R3	BD PW., REVISION NO.: 3	1

Storno

Storno



NOTE :

1. DESIGNATIONS IN PARANTHESES REFER TO NMT APPLICATIONS ONLY.

2. NO CONNECTIONS WHEN DELIVERED FROM THE FACTORY.

3. WHEN DELIVERED FROM THE FACTORY. THE CONNECTIONS ARE AS FOLLOWS. HL7 TO HL8
HL10 TO HL12 (HL9 AND HL11 NO CONNECTION).

MOUNTED BOARD CODE NO. M905975G1

MODULE CODE NO. L855768G1

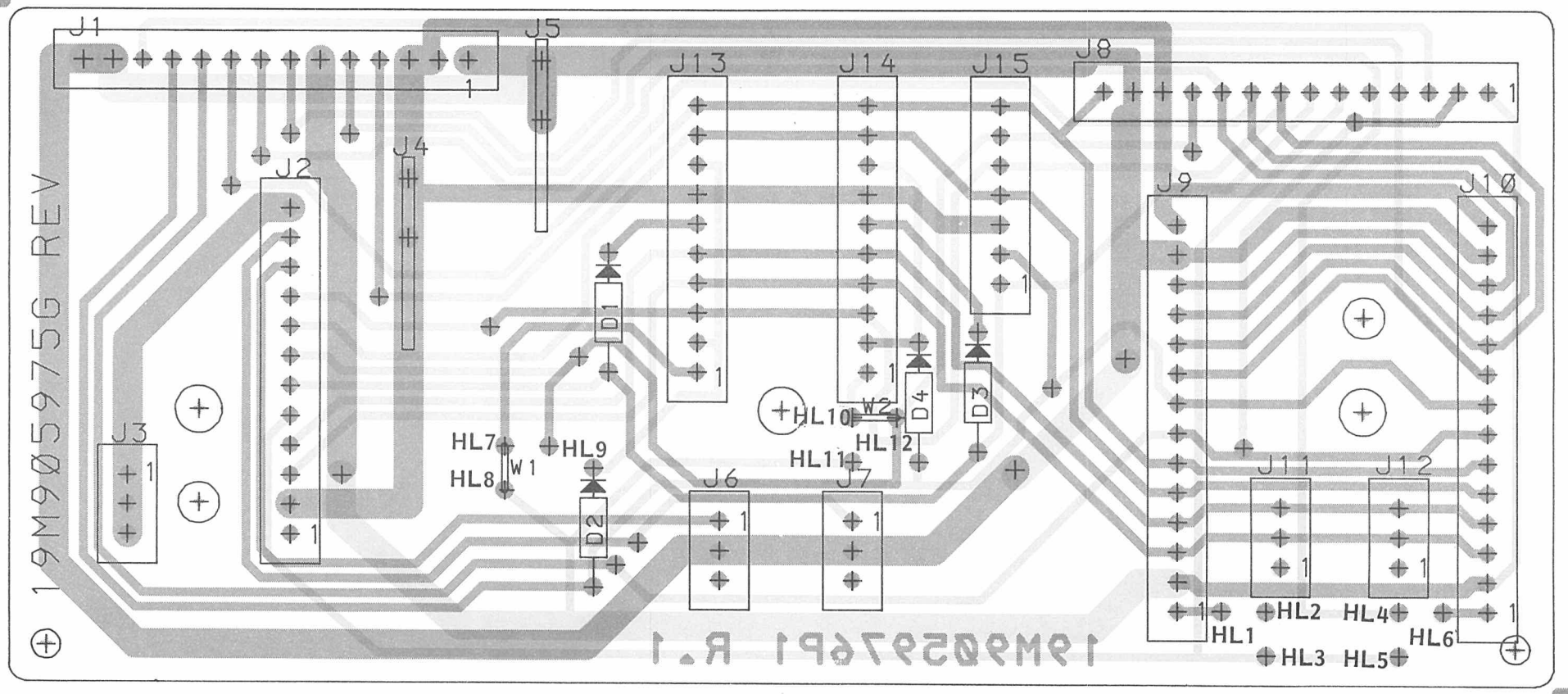
JUNCTION BOX JB6001

REV. A

D404.154/2

Storno

Storno



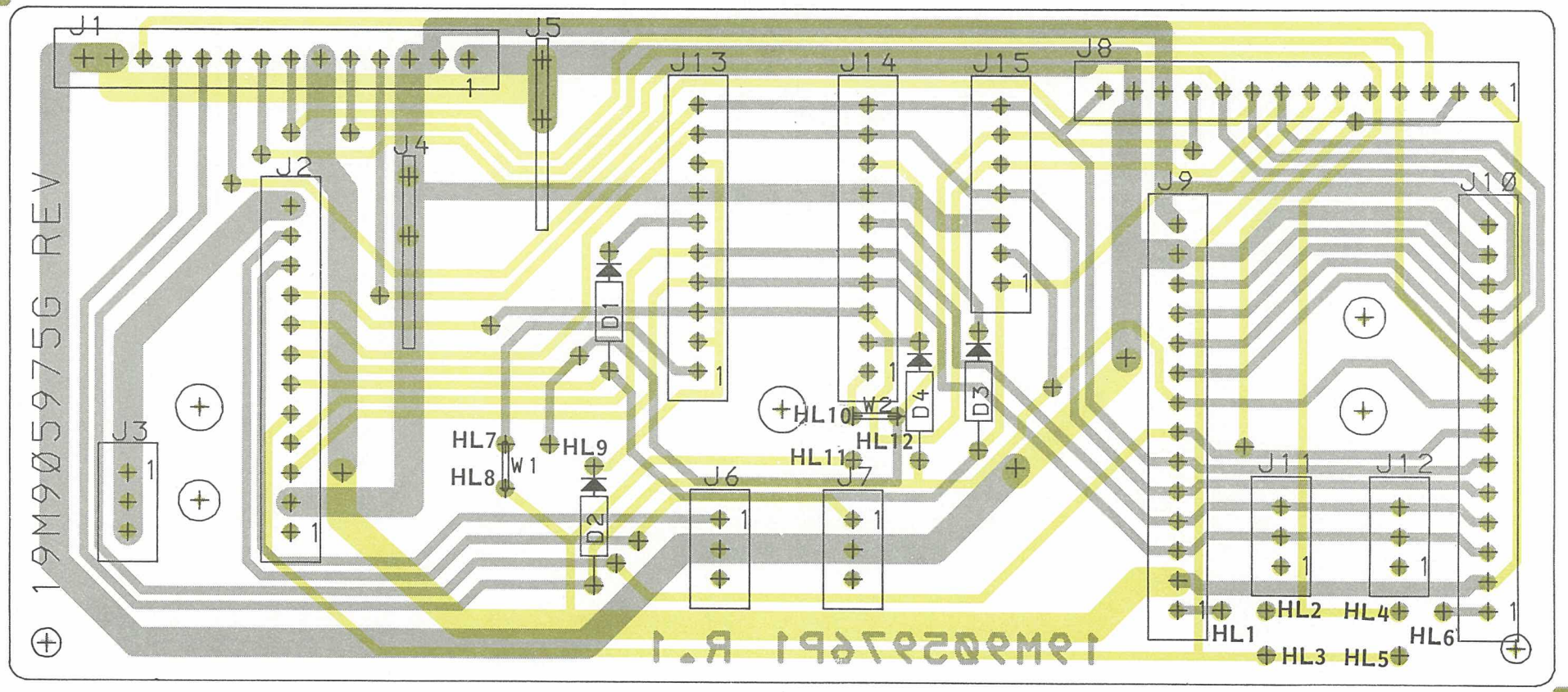
MOUNTED BOARD CODE NO. M905975G1
MODULE CODE NO. L855768G1
} JB6001

MOUNTED BOARD CODE NO. M905975G2
MODULE CODE NO. L855768G2
} JB6002

NOTE:
D3, D4, J8, J11, J14, J15 AND
W2 ONLY IN G1

JUNCTION BOX JB6001/2
COMPONENT LAYOUT
REV 1 D404. 155/2

Storno



MOUNTED BOARD CODE NO. M905975G1
MODULE CODE NO. L855768G1
} JB6001

MOUNTED BOARD CODE NO. M905975G2
MODULE CODE NO. L855768G2
} JB6002

NOTE:
D3, D4, J8, J11, J14, J15 AND W2 ONLY IN G1

JUNCTION BOX JB6001/2
COMPONENT LAYOUT
REV 1 D404. 155/2

ITEM NUMBER	DESCRIPTION
L855768G1	JB 6001
L855768G2	JB 6002

P A R T S L I S T :

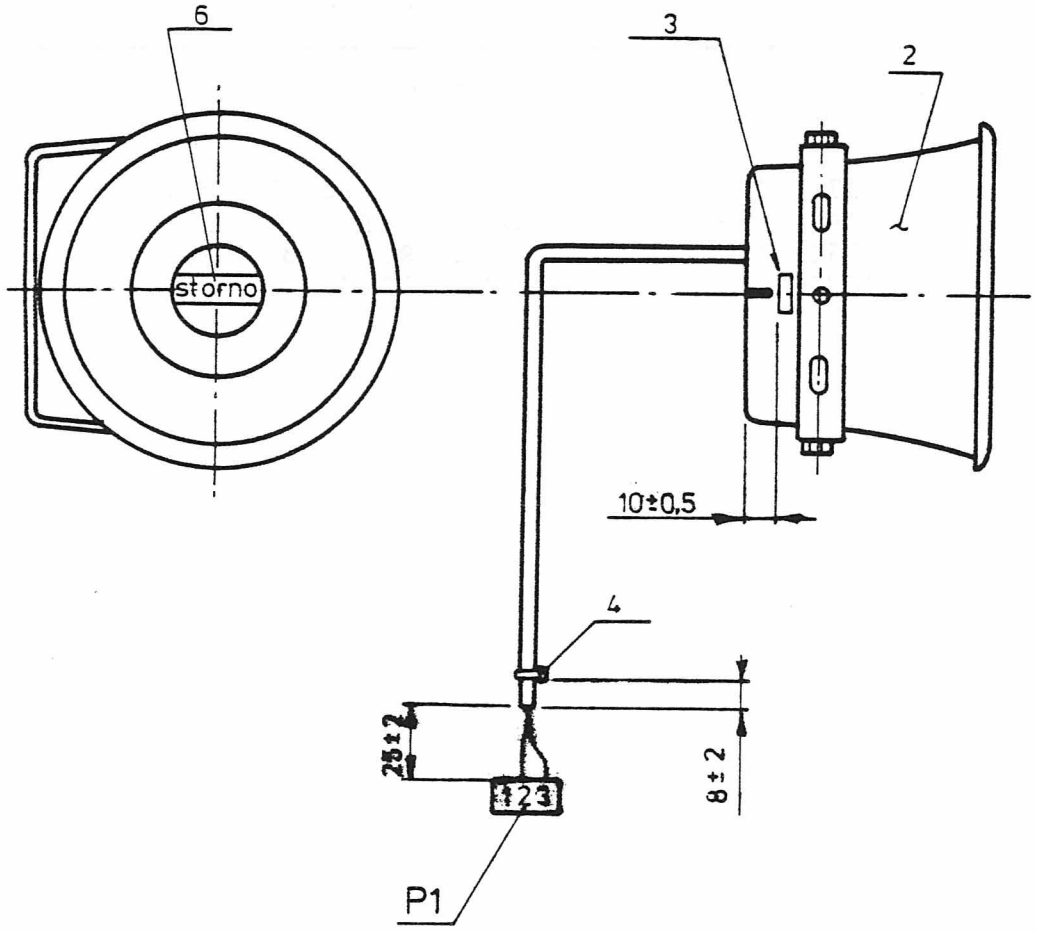
CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY	
A001	M905975G1	CPNT BD PW	1	(SEE
A001	M905975G2	CPNT BD PW	1	BELOW)
0003	K805073P1	GASKET	2	
0004	A701507P612	SCREW PAN HD SZ3.5X19.1AB	2	
0005	J706212P203	SCREW PAN HD SZ 4.0X7.9 MM	2	
0006	J706285P1	LOCKING RING	1	
0007	J706307P37	NAMEPLATE JB6001	1	G1
0007	J706307P70	NAMEPLATE JB6002	1	G2
0010	A700031P635	SCREW PAN HD M-4.0X35.0 MM	1	
0011	J709152P1	FOAM	1	
0013	K805085G1	ASM CASE	1	
0014	L855103P1	COVER	1	
A001 :	M905975G1 :	CPNT BD PW., F. JB 6001 :		
A001 :	M905975G2 :	CPNT BD PW., F. JB 6002 :		
D001	A700028P1	DIO SI SIG 1N4148	1	
D002	A700028P1	DIO SI SIG 1N4148	1	
D003	A700028P1	DIO SI SIG 1N4148	1	G1
D004	A700028P1	DIO SI SIG 1N4148	1	G1
J001	J708925P1	CONN PT PIN L=9,7 -14 PINS	1	
J002	J708925P1	CONN PT PIN L=9,7 -12 PINS	1	
J003	J708925P1	CONN PT PIN L=9,7 - 3 PINS	1	
J004	J708100P2	TERM TAB SPADE	1	
J005	J708100P2	TERM TAB SPADE	1	
J006	J708925P1	CONN PT PIN L=9,7 - 3 PINS	1	
J007	J708925P1	CONN PT PIN L=9,7 - 3 PINS	1	
J008	J708925P1	CONN PT PIN L=9,7 -12 PINS	1	G1
J009	J708925P1	CONN PT PIN L=9,7 -14 PINS	1	G1
J009	J708925P6	CONN PT PIN L=16,0-14 PINS	1	G2
J010	J708925P1	CONN PT PIN L=9,7 -14 PINS	1	
J011	J708925P1	CONN PT PIN L=9,7 - 3 PINS	1	G1
J012	J708925P1	CONN PT PIN L=9,7 - 3 PINS	1	
J013	J708925P1	CONN PT PIN L=9,7 -10 PINS	1	
J014	J708925P1	CONN PT PIN L=9,7 -10 PINS	1	G1
J015	J708925P1	CONN PT PIN L=9,7 - 7 PINS	1	G1
0002	M905976P1R1	BD PW., REVISION NO.: 1	1	

ITEM NUMBER	DESCRIPTION
L855093G2	LS 6001 ASM

K805100G2	SUB ASM.: CABLE ASM

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY	
00W1	K805100G2	CABLE ASM	1	(SEE BELOW)
0002	M905034P1	HOUSING	1	
0003	J706164P1	FILTER	1	
0004	J706165P1	BRACKET	3	
0005	J706212P202	SCREW PAN HD SZ 4.0 X 6.4 MM	3	
0006	J706299P1	LS PERM MAG 8R 6W	1	
0007	J706152P5	STRAP RET W BDL D19 NYL	1	
0008	J706076P1	WASHER SPG 1.4 X 3.3 MM	3	
0009	J706163P1	NAME PLT	1	
0010	J706307P38	NAME PLATE, LS6001 -	1	
0011	K805075G1	COVER ASM., LS901/LS6001	1	
0012	J708612	SPEC TEST		
0013	J707886P1	LABEL	1	
00W1 :	K805100G2 :	CABLE ASM., :		
P001	J708069P203	CONNECTOR FEM	1	
W001	J706156P1	CABLE	2,50 M	
0002	J706152P5	STRAP RET W BDL D19 NYL	1	



SEE PART LIST X404.178

LOUDSPEAKER ASM. LS6002

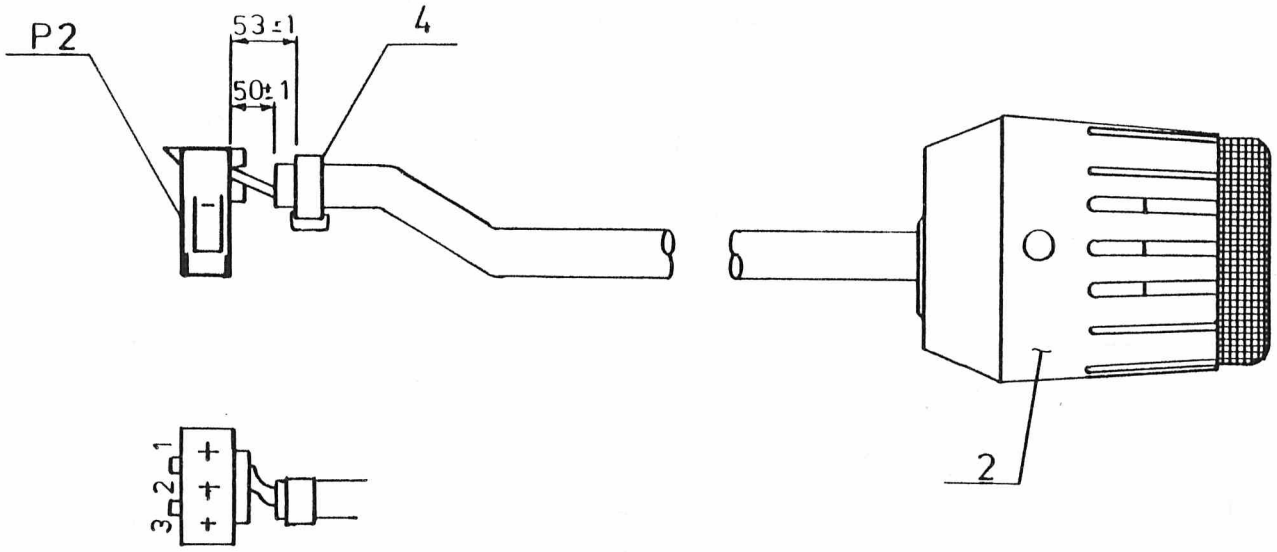
J708821G1 M405.238

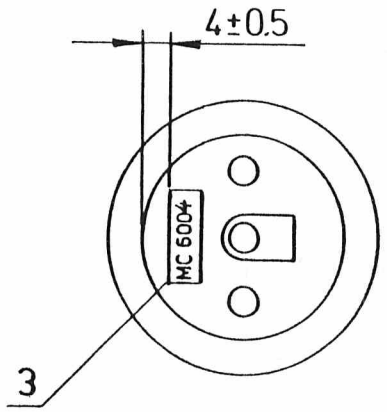
ITEM NUMBER	DESCRIPTION
J708821G1	LS 6002

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
P001	J708069P203	CONNECTOR FEM	1
0002	J707224P1	LS PERM MAG 8R 7W HORN	1
0003	J706307P46	NAME PLATE LS6002	1
0004	J706152P5	STRAP RET W BDL D19 NYL	1
0006	J707314P1	NAME PLATE	1

Storno





IEC 304 COLOR CODE	GATE NO.	REMARKS
0	1	
9	2	
SHIELD		CUT OFF

COLOR CODE IEC 304	
0	BLACK
1	BROWN
2	RED
3	ORANGE
4	YELLOW
5	GREEN
6	BLUE
7	VIOLET
8	GREY
9	WHITE

SEE PART LIST X404.098

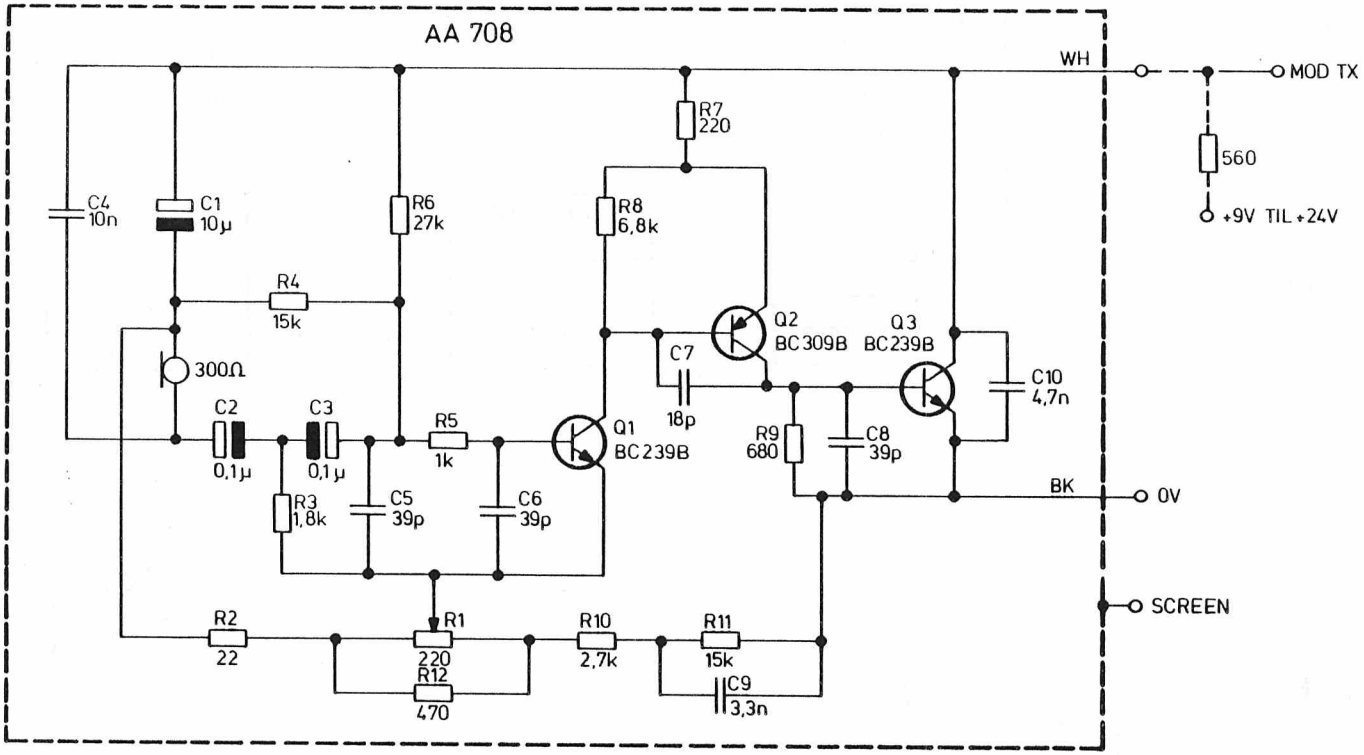
MICROPHONE ASSEMBLY MC6004

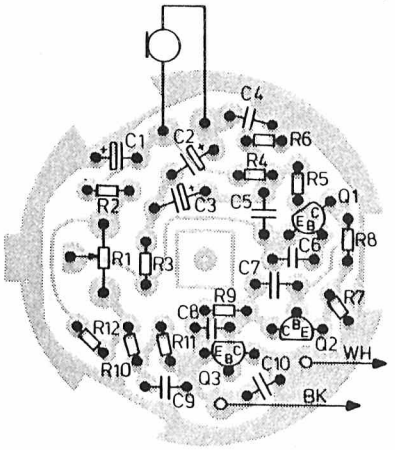
K805101G2

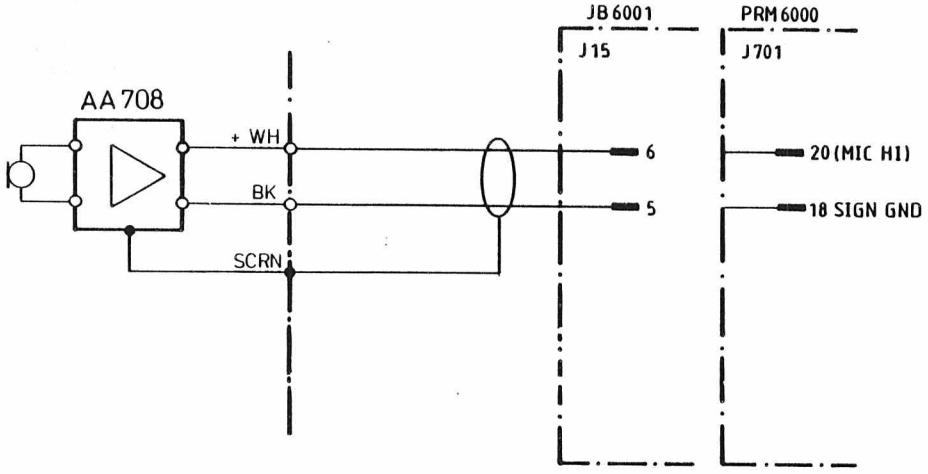
M405.229

Storno

Storno







MICROPHONE MC6004
FOR PRM6000

K805101G2 | D404.380

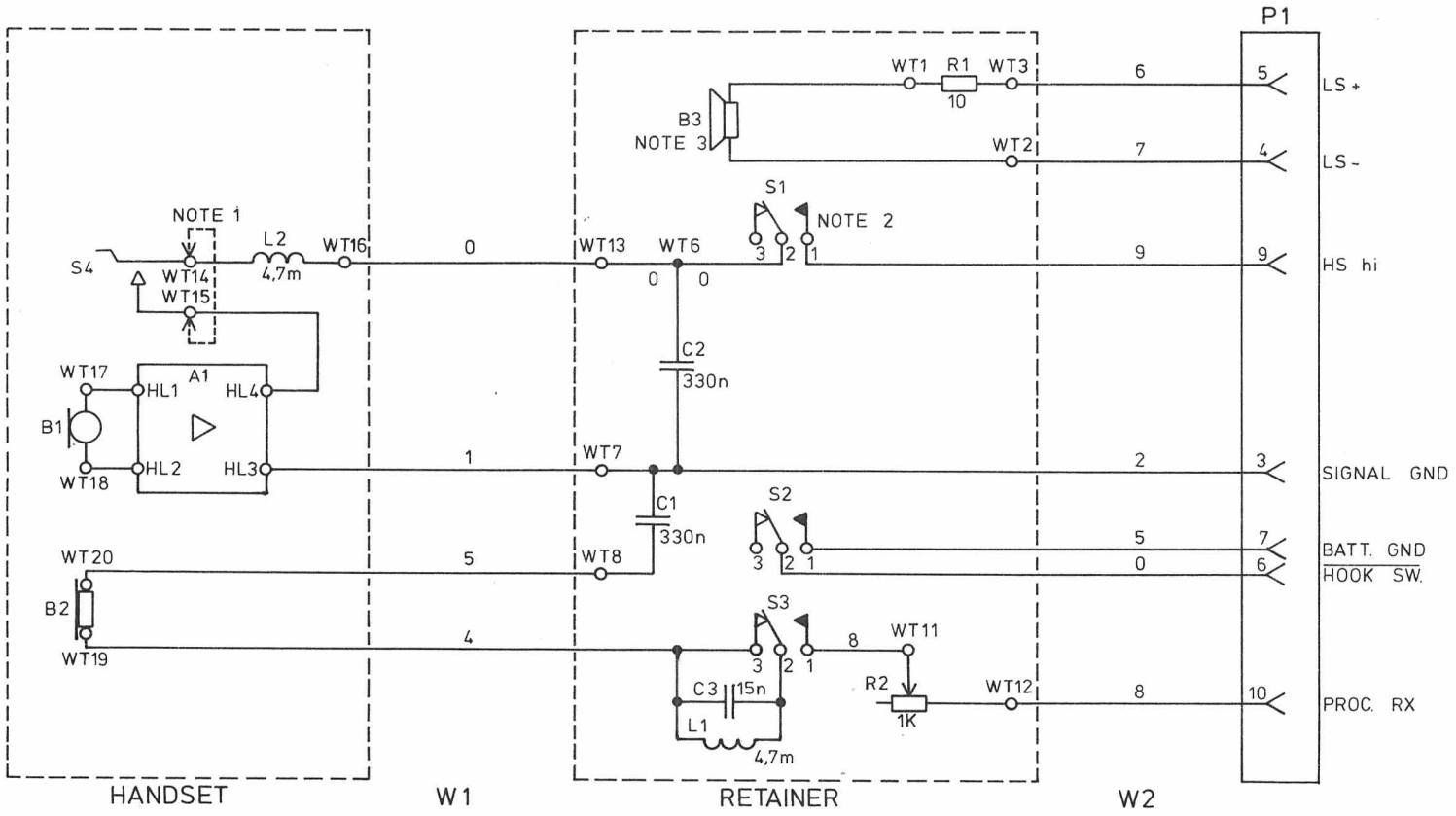
ITEM NUMBER	DESCRIPTION
K805101G2	MC 6004 ASM

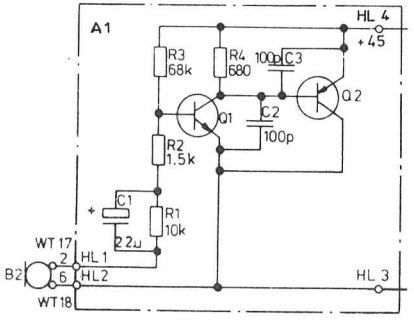
P A R T S L I S T :

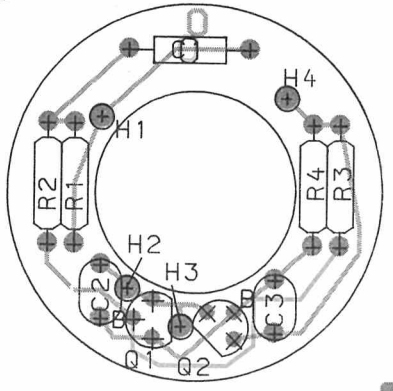
CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY	
P002	J708069P203	CONNECTOR FEM	1	
0002	J706320P2	MC 704 A	1	(SEE BELOW)
0003	J706307P40	NAMEPLATE MC6004	1	
0004	J706152P5	STRAP RET W BDL D19 NYL	1	
0002 :	J706320P2 :	MC 704 A , ASM.D :		
A001	10.4403-00	AA 708 , AUDIO AMPLIFIER	1	(SEE BELOW)
A001 :	10.4403-00 :	AA 708 , AUDIO AMPLIFIER :		
C01	73.5109-00	CAP TA SOL 10U0 20% 16V	1	
C02	73.5089-00	CAP TA SOL 0U1 20% 35V	1	
C03	73.5089-00	CAP TA SOL 0U1 20% 35V	1	
C04	74.5109-00	CAP CER PL 10N0 20V	1	
C05	74.5187-00	CAP CER 39PF 10% 25V	1	
C06	74.5187-00	CAP CER 39PF 10% 25V	1	
C07	74.5138-00	CAP CER 18PF 5% 125V	1	
C08	74.5187-00	CAP CER 39PF 10% 25V	1	
C09	76.5060-00	CAP CER 3N3 50V	1	
C10	74.5108-00	CAP CER PL 4N7 20V	1	
Q01	99.5201-00	TSTR SI NPN BC239B/C;BC549B/C	1	
Q02	99.5115-00	TSTR SI PNP BC309B/C;BC559B/C	1	
Q03	99.5201-00	TSTR SI NPN BC239B/C;BC549B/C	1	
R01	86.5076-00	RES VAR LIN 220R 20% 0,05W	1	
R02	A700019P17	RES DEPC 22R 5% 1/4W	1	
R03	A700019P40	RES DEPC 1K8 5% 1/4W	1	
R04	A700019P51	RES DEPC 15K 5% 1/4W	1	
R05	A700019P37	RES DEPC 1K0 5% 1/4W	1	
R06	A700019P54	RES DEPC 27K 5% 1/4W	1	
R07	A700019P29	RES DEPC 220R 5% 1/4W	1	
R08	A700019P47	RES DEPC 6K8 5% 1/4W	1	
R09	A700019P35	RES DEPC 680R 5% 1/4W	1	

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
R10	A700019P42	RES DEPC 2K7 5% 1/4W	1
R11	A700019P51	RES DEPC 15K 5% 1/4W	1
R12	A700019P33	RES DEPC 470R 5% 1/4W	1
003	54.0803-00	PC/SOLDERTERMINAL	1
004	186.5086-00	ELKOFLEX GL	0.10 M

Storno







COLOR CODE IEC 304	
0	BLACK
1	BROWN
2	RED
3	ORANGE
4	YELLOW
5	GREEN
6	BLUE
7	VIOLET
8	GREY
9	WHITE

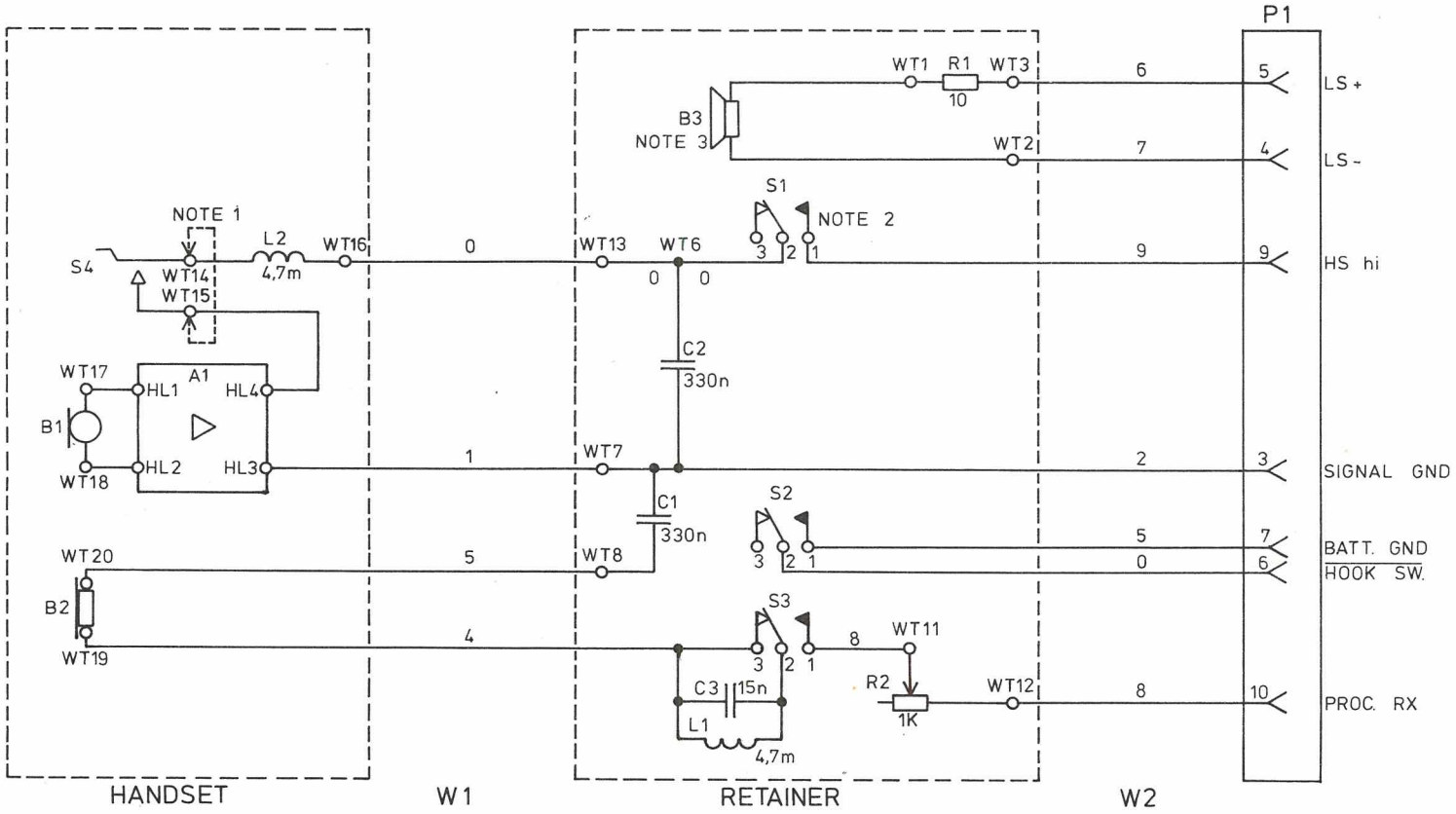
NOTE:

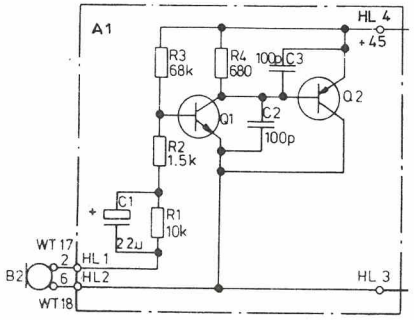
1. S4 ONLY IN MT6002
2. S1-3 SHOWN WITH HANDSET IN RETAINER
3. B3 PART OF ITEM 8.
4. IEC 304 COLOR CODES ON WIRES.

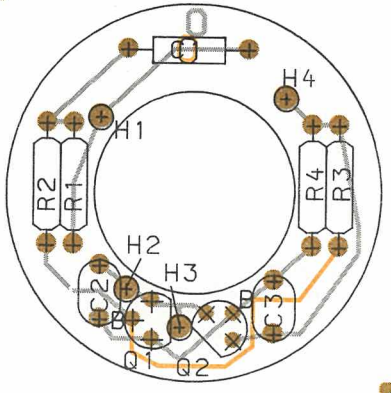
HANDSET MT6002/3

CODE NO. M905110G1/G2 D404.175

Storno







COLOR CODE IEC 304	
0	BLACK
1	BROWN
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3	ORANGE
4	YELLOW
5	GREEN
6	BLUE
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8	GREY
9	WHITE

NOTE:

1. S4 ONLY IN MT6002
2. S1-3 SHOWN WITH HANDSET IN RETAINER
3. B3 PART OF ITEM 8.
4. IEC 304 COLOR CODES ON WIRES.

HANDSET MT6002/3

CODE NO. M905110G1/G2 D404.175

ITEM NUMBER	DESCRIPTION
M906110G1	MT 6002, MICR.TELPH. W.KEY

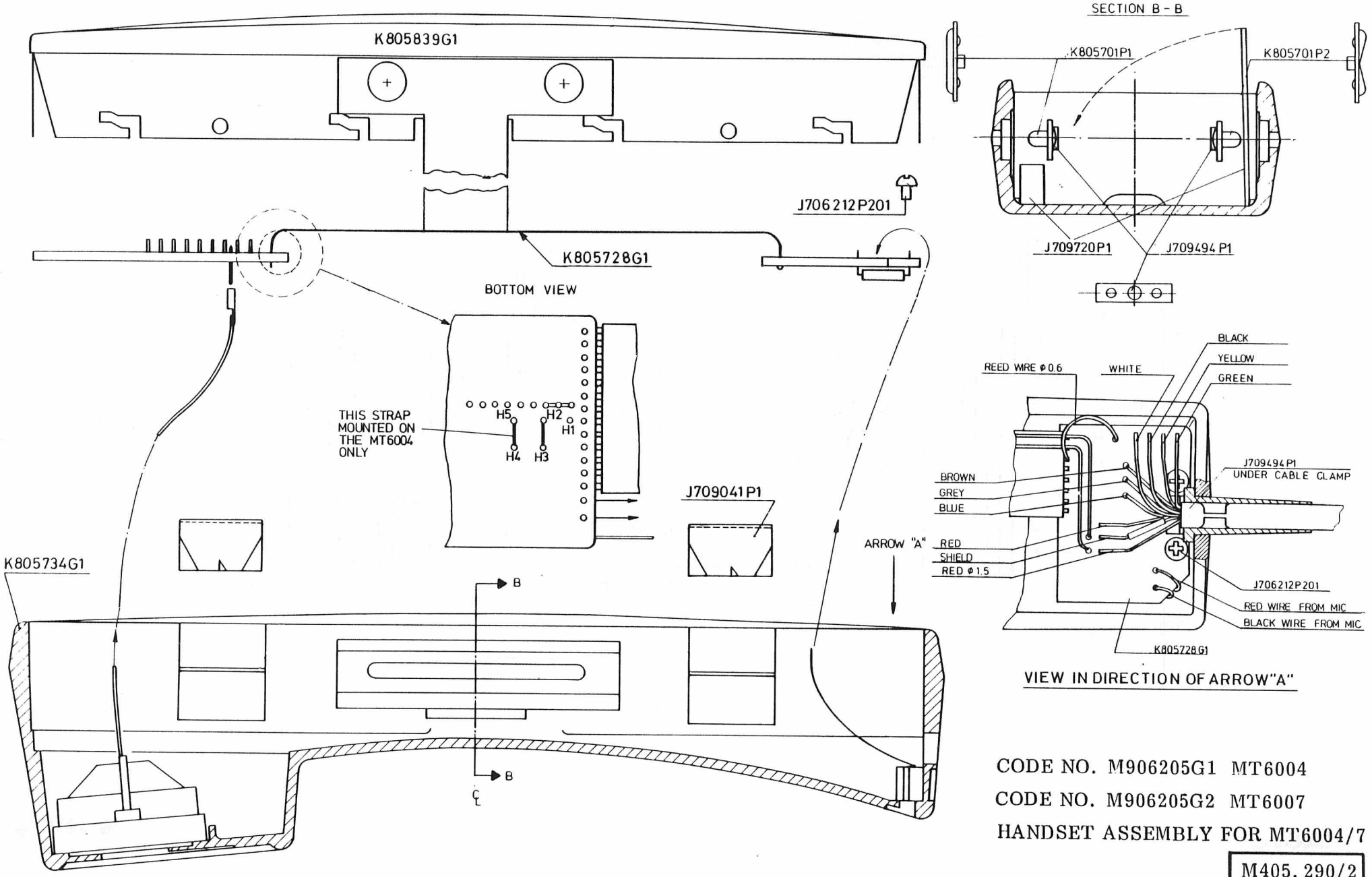
P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY	
A001	K805070G1	ASM BD PW C9MT01 / MT 600X	1	(SEE BELOW)
B001	J706194P1	MICROPHONE INS 400R	1	
B002	J706194P1	MICROPHONE INS 400R	1	
C001	J707412P12	CAP PYES 330N 10% 63V	1	
C002	J707412P12	CAP PYES 330N 10% 63V	1	
C003	A700005P8	CAP PYES 15N 10% 50V	1	
L001	J707174P1	COIL RF FIX 4700UH 10%	1	
L002	J707174P1	COIL RF FIX 4700UH 10%	1	
R001	J708851P2	RES W W 10R 10% 2W	1	
R002	J706008P1	RES VAR CERM 1K 20% 1/2W	1	
W001	J706182P1	CABLE ASSY HANDSET 6COND	1	
W002	K805030G3	CABLE ASM MT 6002	1	(SEE BELOW)
0002	J706073P1	NETTING	2	
0003	L855026P1	HOLDER	2	
0004	J706074P1	PLATE	1	
0005	J706195P1	HANDSET CASE BARE BLACK	1	
0006	A701268P6	WIRE BLUE	0.025 M	
0007	A701268P2	WIRE RED	0.025 M	
0008	J706195P3	STOWACE FOR HANDSET	1	
0009	J706202P9	NAME PLATE MT 6002	1	
0011	J707335P3	CLAMP LOOP 8 MM	1	
0012	A701268P10	WIRE BLACK	0.070 M	
0014	A701268P2	WIRE RED	0.20 M	
0017	A701268P10	WIRE BLACK	0.10 M	
0019	J706075P1	GROMMET	1	
0020	K805023P1	GROMMET	1	
0021	J706313P1	RIVET TUBR D=6.0,L=9.0	1	
0022	J706433P1	TAPE ACET WDH=12.7MM	0.10 M	
0023	A701268P8	WIRE GRAY	0.070 M	
0024	A701507P108	SCREW PAN HD SZ4.8X12.7AB	4	

A001 :	K805070G1 :	ASM BD PW C9MT01 / MT 600X :	
C001	B800650P21	CAP TA SOL 2U2 20% 15V	1
C002	A700233P1	CAP CER CL2 100P 20% 50V	1
C003	A700233P1	CAP CER CL2 100P 20% 50V	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
Q001	A700017P1	TSTR NPN SI BC 548A/B	1
Q002	A700020P1	TSTR PNP SI BC558A/B	1
R001	A700019P49	RES DEPC 10K 5% 1/4W	1
R003	A700019P57	RES DEPC 47K 5% 1/4W	1
R004	A700019P35	RES DEPC 680R 5% 1/4W	1
W001	A700184P1	RES WIRE JMPR	1
0002	L855097P1R0	BD PW., REVISION NO.: 0	1
W002 :	K805030G3 :	CABLE ASM MT 6002 :	
P001	J708069P210	CONNECTOR FEMALE	1
0002	J706152P5	STRAP RET., W. BDL D19 NYL.	1
0003	L706156P3	CABLE	2.50 M

Storno



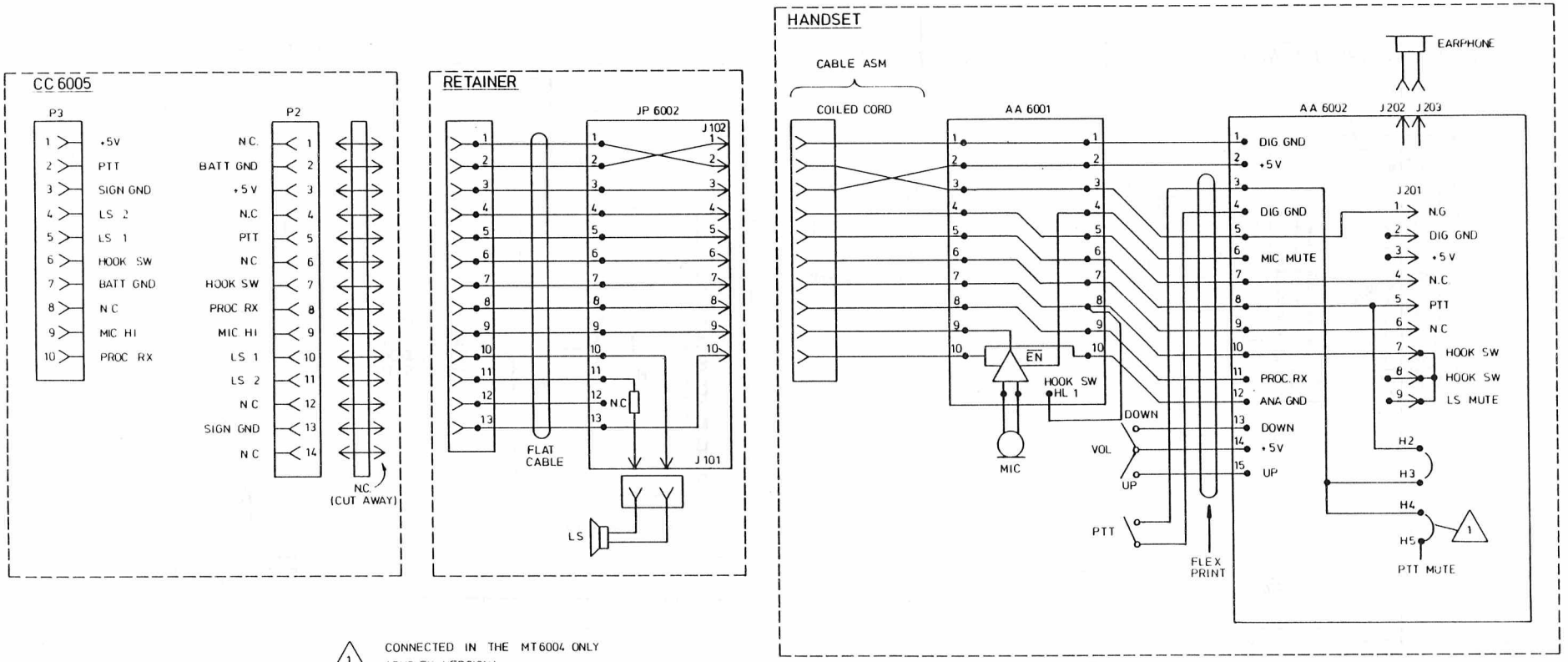
CODE NO. M906205G1 MT6004

CODE NO. M906205G2 MT6007

HANDSET ASSEMBLY FOR MT6004/7

M405. 290/2

Storno



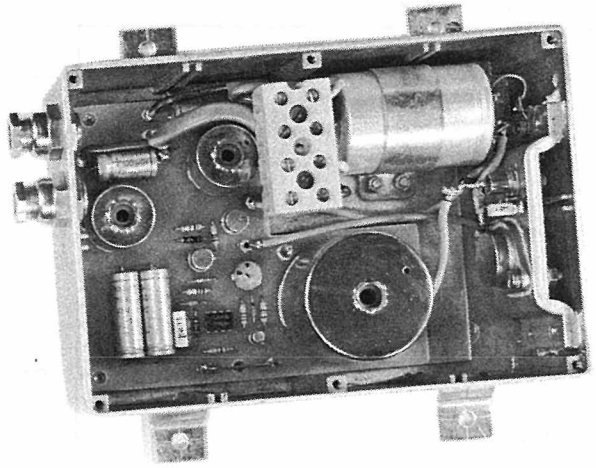
1 CONNECTED IN THE MT6004 ONLY (DUPLEX VERSION)

INTERCONNECTION DIAGRAM FOR MT6004/6007

D404.459

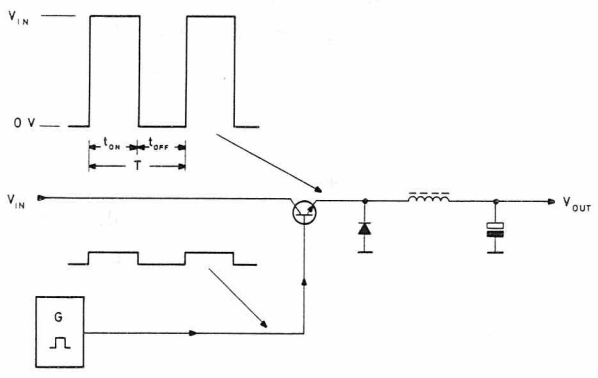
Storno

Power Supply Unit PS702



The PS702 power supply is a switching regulator for coverting a 24 V input voltage to 12 V output to supply a CQM700 radiotelephone.

The conversion from a high to a lower voltage is accomplished by alternately applying the input voltage (V_{IN}) and 0 volts (ground potential) to an LC lowpass filter, as shown below.



The output voltage will be the average value of the switched waveform. If the voltage drop across the transistor and diode is neglected, the output voltage will be:

$$V_{OUT} = V_{IN} \times \frac{t_{ON}}{T}$$

which, in the case of a symmetric square wave and a 24 V input will be:

$$24 \text{ V} \times 1/2 = 12 \text{ V}$$

In addition, there will be a small amount of ripple voltage whose fundamental frequency is the switching frequency.

Notice that the output voltage, according to the formula, is independent of the load current.

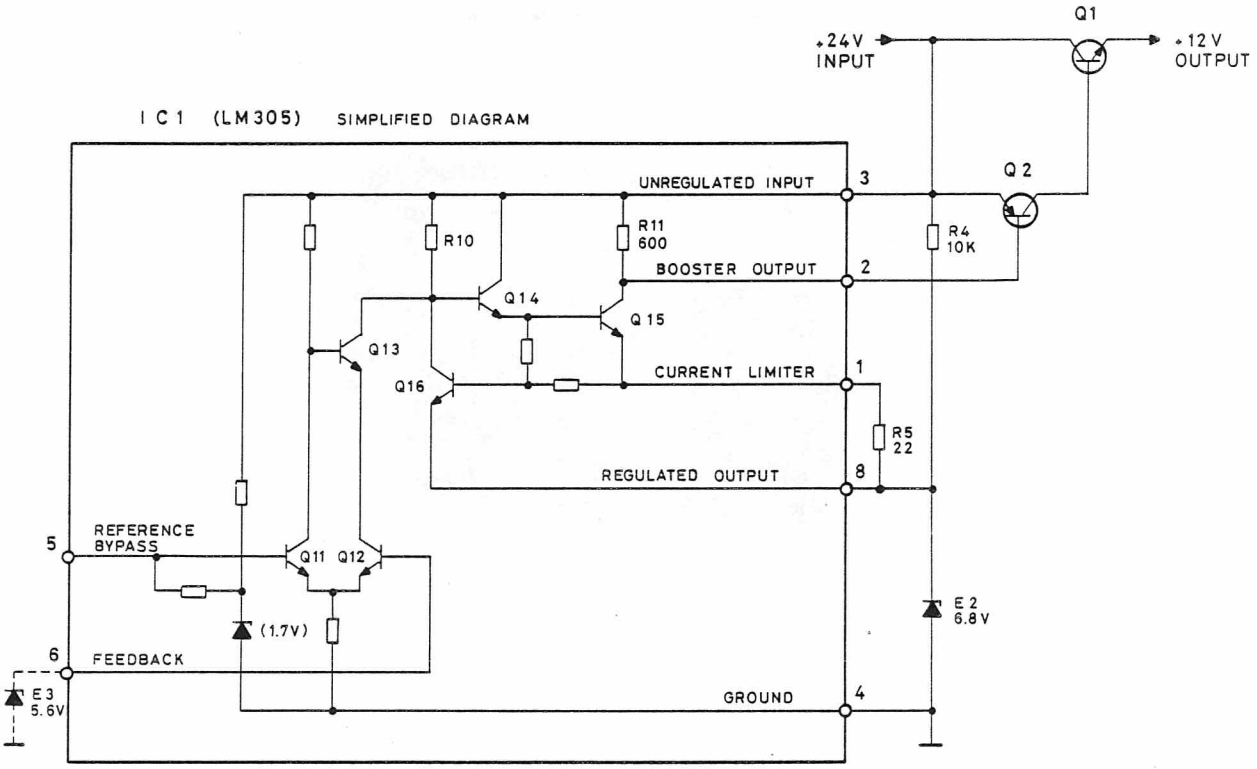
A regulating circuit monitors the output voltage and compares it to a reference voltage. The regulating circuit then accordingly regulates the ratio between ON and OFF time. Thus the output voltage is maintained at the proper level regardless of input voltage or load current.

A current regulating circuit protects the series switch transistors against being destroyed by overloads or short circuits at the power supply output.

LC filters in both the input and output circuits prevent excessive radiation of noise along the input and output leads.

Due to the switching principle the efficiency of this power supply is high, efficiency is on the order of 85%.

SWITCHING CIRCUIT



The LM305 integrated voltage regulator, IC1, drives the PNP switching transistor, Q2. An additional, NPN transistor, Q1, enables the circuit to handle the heavy currents required by the radiotelephone set (up to 8 amperes).

Q11 and Q12 make up a differential amplifier. The input from IC pin 6 is the inverting input, referred to as the feedback input. The non-inverting input, from IC pin 5, is called the reference bypass. This input is held at a potential of 1.7 V (typical value) by the internal IC circuitry. This potential is called the reference voltage.

If the voltage on input pin 6 is less positive than the reference voltage at the base of Q11, the differential amplifier turns Q13 OFF. This is how: Q11 conducts, pulling the base of Q13 LO while at the same time Q12 cuts off via emitter feedback, preventing any emitter current to flow through Q13. When Q13 goes OFF its collector is pulled up by R10, turning Q14 and Q15 ON. Notice that Q15's 600 ohm collector resistor, R11, is also the emitter-base biaing circuit for Q2, the switching transistor. Thus, when Q15 is driven ON, the collector current through R11 turns Q2 ON, as well. Q2 supplies drive to Q1, which also switches ON.

Now, if a voltage more positive than the internally generated reference voltage is applied to IC pin 6, Q12 will go ON, cutting Q11 OFF. The differential amplifier now forward biases Q13, which goes ON, turning Q14 and Q15 OFF. With no collector current through R11, Q2 loses its forward bias and switches OFF, also switching Q1 OFF.

In addition, there is a built-in current limiting feature in this circuit. Base current for Q2 flows via IC pin 2 (booster output), Q15, R5, and E2 to ground. The 22 ohm resistor R5 is called the current limiting resistor and is also the source of emitter-base bias for Q16. Whenever base current for Q2 tends to exceed the limit set by

Storno

the value of R5, Q16 will begin to draw current through R10. This reduces the bias to Q14 and Q15, creating a state of equilibrium where the amount of base drive to Q2 is determined by the value of R5.

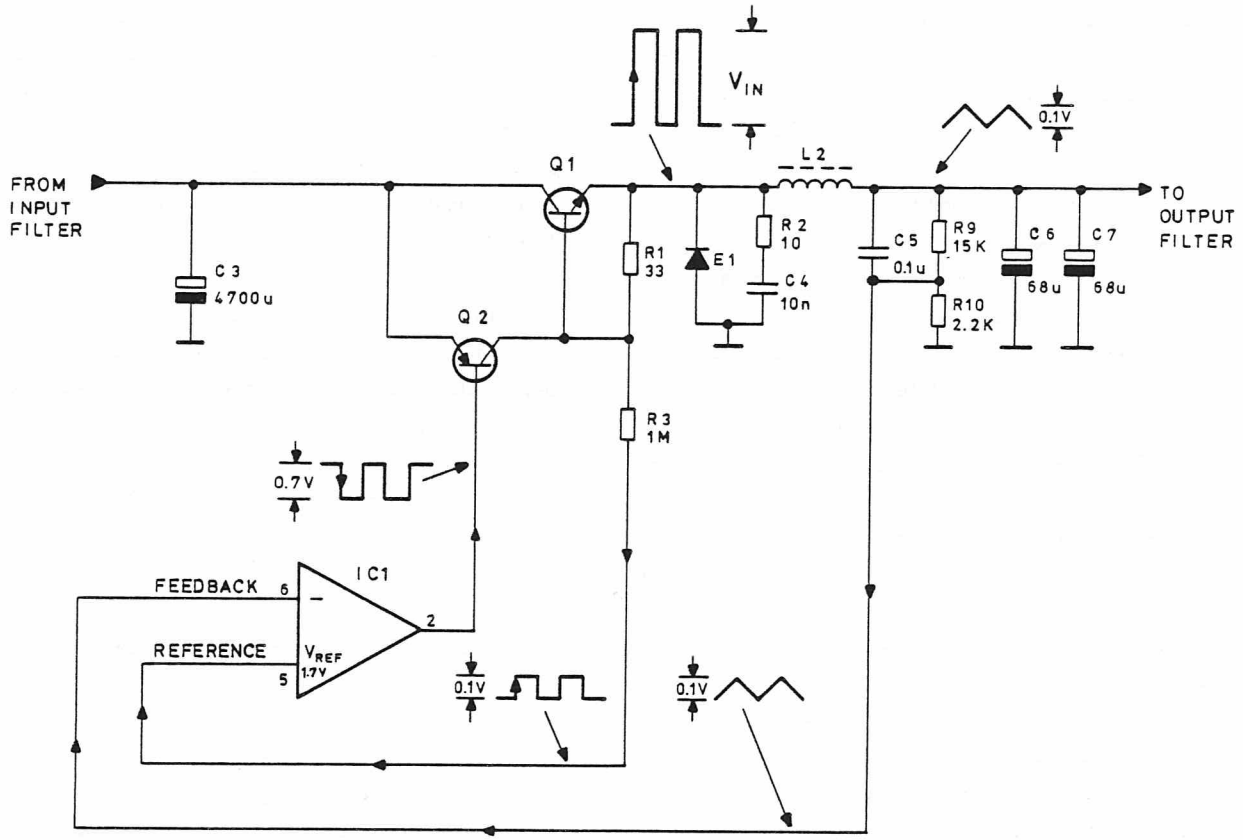
With a value of 22 ohms chosen for R5, the current will be limited to about 15 mA for temperatures within the nominal operating range.

Zener diode E2 keeps the regulated output voltage at IC pin 8 at approximately 6.8 V. E3, a 5.6 V Zener diode, is wired to IC pin 6. This ensures that the voltage to the feedback terminal cannot rise higher than the voltage at IC pin 1. Otherwise the circuit can latch up and burn out.

OSCILLATOR CIRCUIT

The integrated voltage regulator, IC1, monitors the output voltage by measuring the portion of the DC voltage that is dropped across R10. It also measures the full amplitude of the output ripple via bypass capacitor C5. Thus the instantaneous ripple amplitude adds with the sampled DC voltage at input terminal 1, pin 6 of IC1.

When power is initially to the PS702 there is no voltage at the output. Therefore there can be no bias available at pin 6 of IC1, and the internally generated reference voltage present at the noninverting input, pin 5, will then be able to drive the IC ON, which in turn drives Q2, then Q1, into conduction as well.



Storno

A positive voltage now begins building up on the collector of Q2 as well as on the emitter of Q1. A small portion of this rising voltage is fed back through resistor R3 to IC1 input terminal, pin 5. The amplitude of the feedback signal is determined by the ratio of R3 to the input impedance of the terminal. The polarity of the feedback signal is such that it causes the voltage at terminal 5 to become even more positive. This regenerative feedback therefore increases the gain of the amplifier, driving Q1 and Q2 even harder. (In fact, the amplitude of the feedback signal is sufficient to sustain oscillation in the circuit). Of course, this all happens very quickly, during the rise time of the square wave.

Meanwhile, filter capacitors C6 and C7 are charging up to the input voltage through L2 and Q1. The DC charge on these parallel capacitors is divided between R9 and R10. Remember, too, that C5 bypasses ripple voltages (including charging waveforms) around R9, directly to pin 6 of the regulator IC.

At some point the combined AC and DC voltages as seen at pin 6 of IC1 will become greater than the bias at pin 5, which bias is equal to the internal reference voltage plus the instantaneous value of the feedback signal. Now when the potential at terminal 6 has become more positive than that at terminal 5, the regulator switches state and cuts Q2 and Q1 OFF.

When this happens the magnetic field induced in coil L2 will attempt to maintain the current flow through the coil and in so doing biases catch diode E1 into forward conduction, in effect grounding the emitter of Q1. As seen at IC pin 5, the regenerative feedback via R3 is now a negative-going pulse. This, of course, is the correct polarity for driving the integrated amplifier and the switching transistors even further into cut-off.

The circuit remains cut off until C6 and C7 discharge enough so that the potential seen at pin 6 falls below that at pin 5 (the reference voltage minus the feedback signal). At this point the IC switches state again and the circuit continues in this way to oscillate at a frequency determined by the reactance of L2, the capacitances of C6 and C7, and the amplitude of the feedback signal. Feedback resistor R3 is what determines the amplitude of the feedback signal.

(It is worth mentioning here that the output voltage does not reach its full 12 V potential immediately, but in several increments governed by the oscillator excursions and the frequency of oscillation. However, once the output voltage reaches its full value, it remains constant with only a slight ripple voltage).

The amplitude of the feedback signal, typically 100 mV, determines how great a voltage excursion the oscillator circuit must self-compensate for, the ripple superimposed on the filter capacitors C6 and C7 will have essentially the same amplitude as the feedback signal voltage. With L2, C6, and C7 as circuit constants, the rate of charging the filter capacitors is also constant. Thus, if the capacitors have to charge (or discharge) to a relatively greater voltage before the oscillator switches state, it will take a longer time to do so. On the other hand, if the feedback and ripple amplitudes are relatively less, the capacitors can reach the threshold levels in less time. This is what determines the frequency of oscillation.

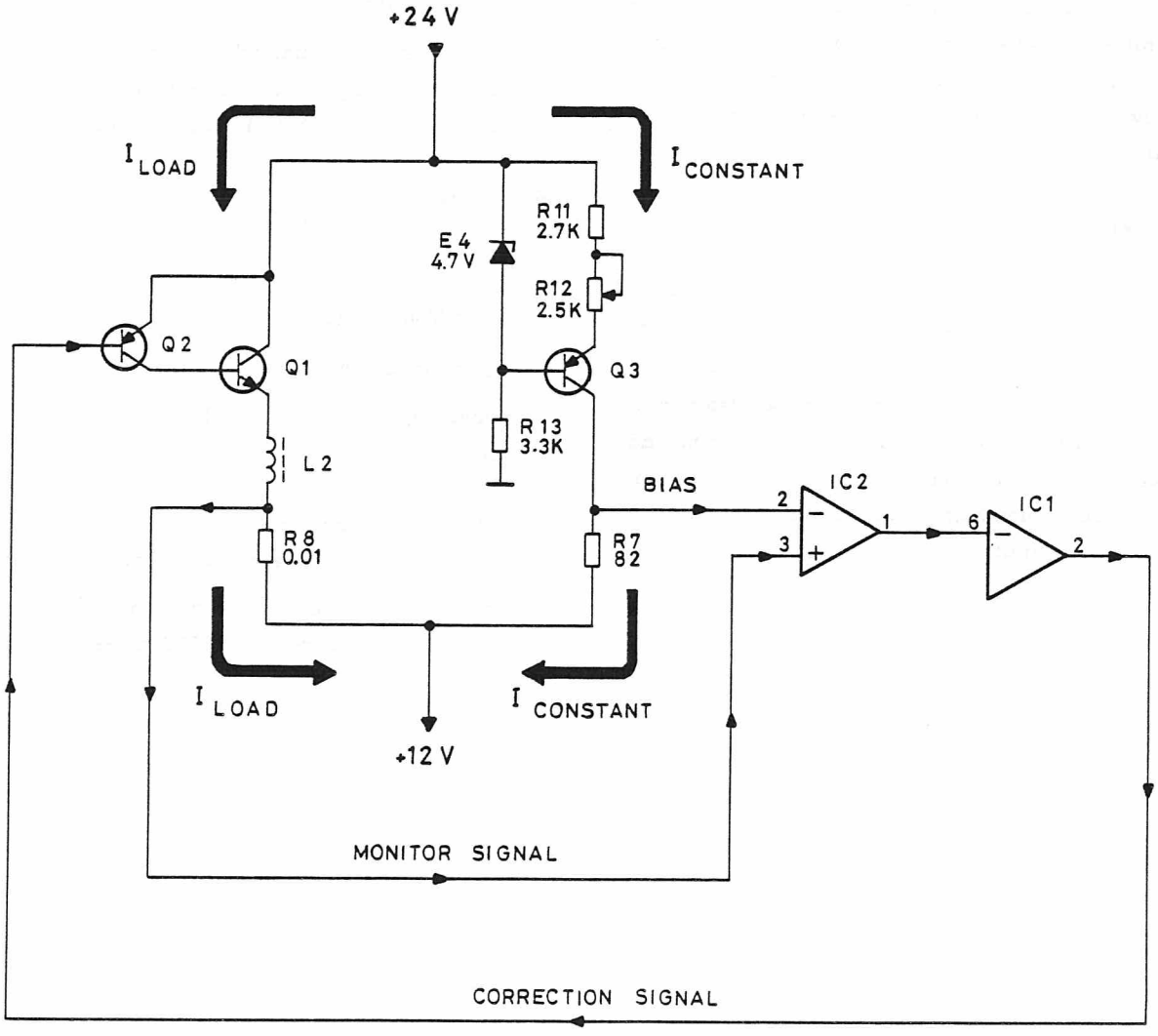
The oscillator frequency is approximately 25 kHz. This frequency was chosen as a compromise between efficiency, which improves with lowering frequency, and the necessity of ensuring against radiating undesired signals that would fall within the audible range.

An RC network consisting of R2 and C10, accros catch diode E1, is a damping circuit used to attenuate switching transients that appear across E1. As explained earlier, E1 conducts heavily when Q1 is turned OFF. Right as Q1 goes ON again, E1 will still conduct because of its inherent reverse recovery time. The diode will thus act as a short circuit and a strong surge will pass from C3 through Q1 and E1. When all the charge stored in the catch diode is removed, the diode no longer conducts and pulse transients arise. At this point the damping circuit must handle the surge transients. This current surge, with its attendant transients, is the main cause of RF noise generated in the power supply.

OUTPUT CURRENT LIMITER CIRCUIT

Output current limiting is performed by comparator IC2. It compares the voltage drop across the 0,01 ohm resistor, R8, to the 82 ohm resistor, R7. Resistor R7 is in series with the constant current generator, Q3, and there will therefore be a uniform voltage drop across the resistor. On the other hand, resistor R8 is in series with the output load, so the voltage drop across R8 will depend upon the varying load conditions.

As long as the load current remains below a certain limit the voltage drop across R8 will be less than that across R7, and IC2 is held OFF.



Storno

When the load current increases, so does the voltage drop across R8, and if the current surpasses the set limit the voltage across R8 becomes greater than the voltage across R7. Now just the opposite condition exists: IC2 goes ON, driving IC1 OFF, which in turn switches Q2 and Q1 OFF, as well.

The maximum allowable load current before limiting will take place is set by adjusting potentiometer R12. Since R12 is in the emitter circuit of the constant current generator, Q3, its setting determines the voltage drop across R7.

Battery Protection

A double fuse box with two 5A fuses must be inserted in the leads from the battery and the vehicle chassis, one fuse in the battery lead and one in the chassis lead. It is not necessary to fuse the connections between power supply and CQM700 equipment.

SERVICING

A good practice to observe when servicing the PS702 is to load the output with a 50 ohm, 15W resistor or a suitable rheostat. Otherwise, if allowed to operate unloaded, the oscillator runs irregularly. This is a normal phenomenon and has no bad effect on the power supply, but it could be misleading when checking the performance of a unit.

Technical Specifications

Supply Voltage

minimum:	21.0 V
nominal:	27.2 V
maximum:	32.0 V

Output Voltage

minimum:	10.5 V
maximum:	16.0 V

Output Load

for output voltage > 10.5 V: 8 A min.

Output Ripple Voltage

< 50 mV p.p.

Current Consumption

27.2 V supply, unloaded output:	10 mA
21.0 V supply, 8.0 A output load:	5.8 A
27.2 V supply, 8.0 A output load:	4.6 A

Efficiency

for I_L > 0.5 A: 87%

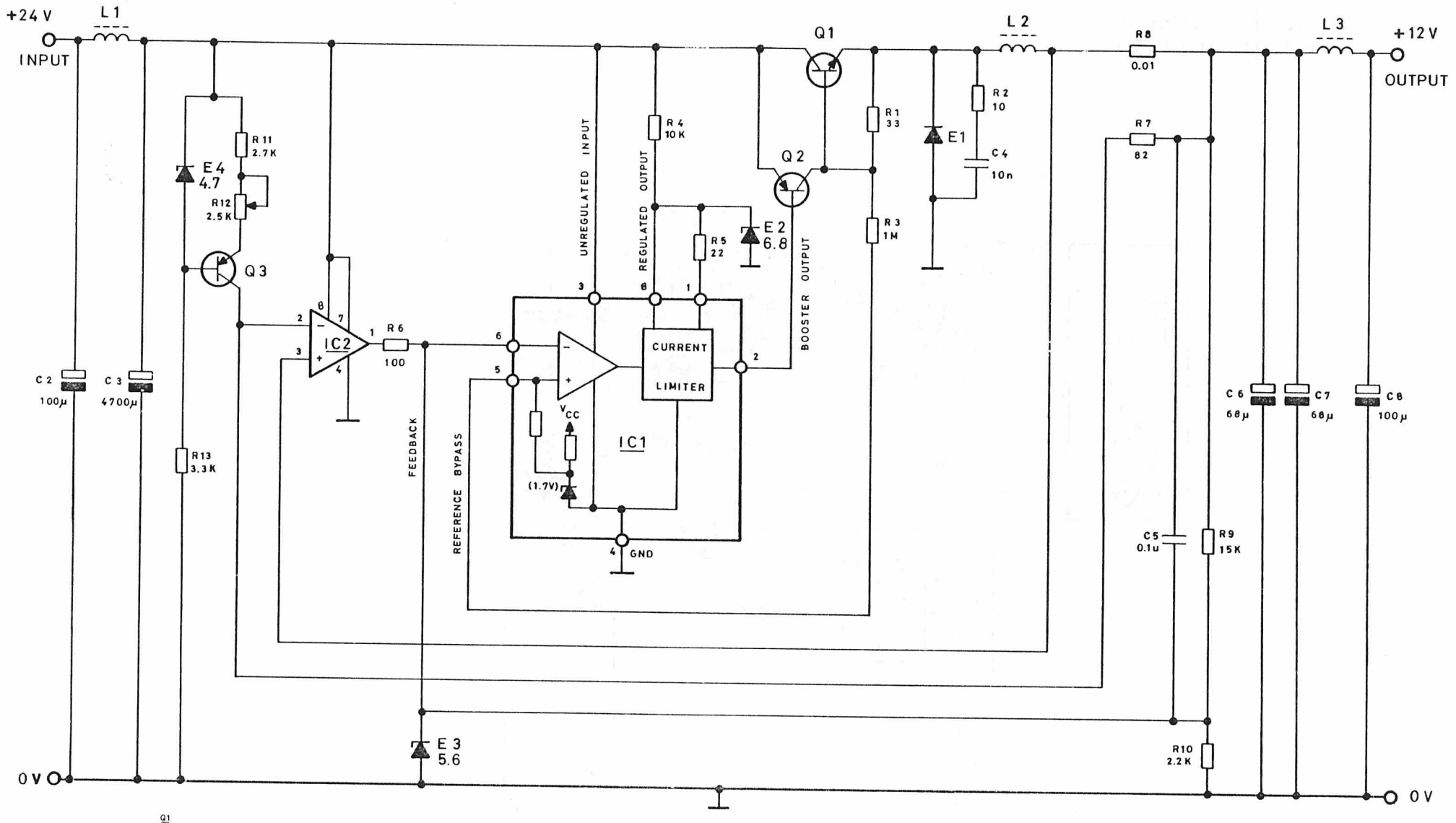
Ambient Temperature Range

(for continuous duty at 8 A)

operating range:	-25°C to +40°C
functioning range:	-25°C to +80°C

(for intermittent duty,
average load ≤ 4A and duty period ≤ 20 min.)

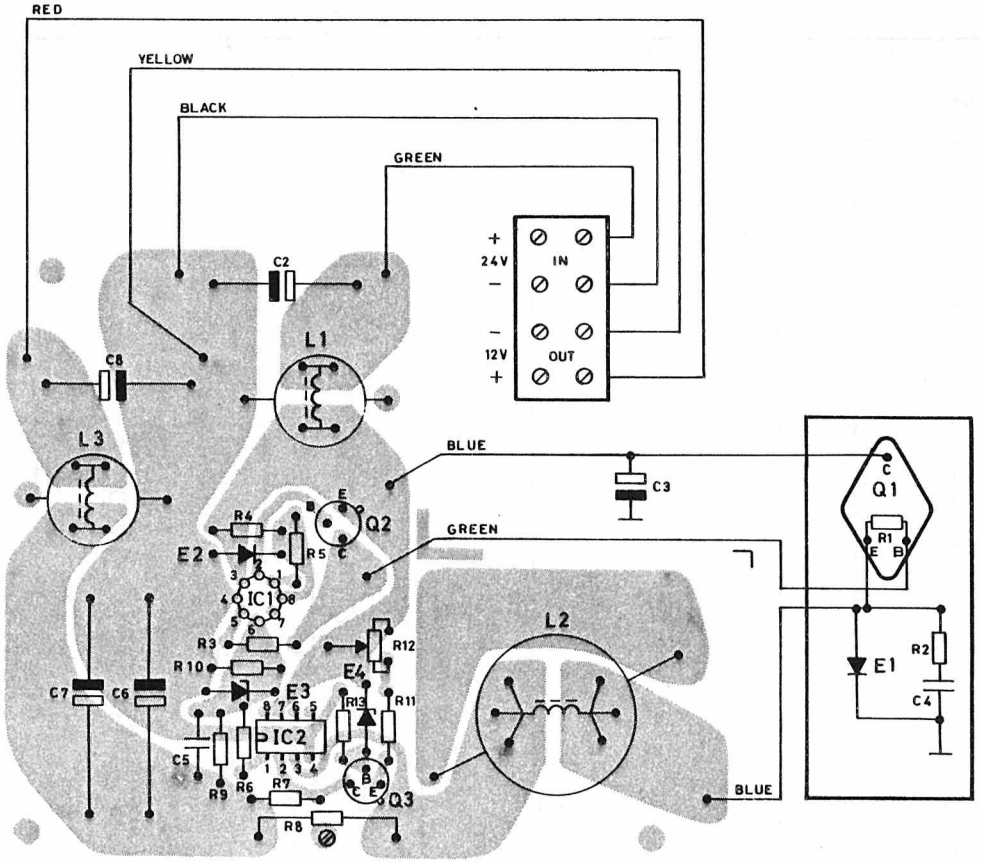
operating range:	-25°C to +60°C
functioning range:	-25°C to +80°C



POWER SUPPLY PS702

D401.870/2

Storno



POWER SUPPLY
STRØMFORSYNING

PS702

D402.096

ITEM NUMBER	DESCRIPTION
10.2918-00	PS 702
15.0186-00	SUBASSEMBLY (PS702)
15.0187-00	SUBASSEMBLY (PS702)
15.0188-00	SUB-SUBASSEMBLY (PS702)

P A R T S L I S T :

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY	
A01	15.0186-00	SUBASSEMBLY (PS702)	1	(SEE BELOW)
A02	15.0187-00	SUBASSEMBLY (PS702)	1	SEE: PAGE 2
0	A700031P408	SCREW PAN HD M-3.0X8.0	8	
0	A700034P4	NUT HEX M-3.0X0.50	4	
0	J706076P5	WASHER SPG 3.0X6.4	8	
0	J708543P2	WASHER	4	
0	J708564P1	WASHER	4	
0	J708565P1	GASKET	2	
0	11.1012-00	CABINET, DRILLED-	1	
0	11.1013-00	PLATE, CONNECTION-	2	
A	17.0076-00	KIT, MOUNTING-	1	
0	20052-03008	SCREW 3X8 FLAT H-POZ	4	
0	38.5006-01	CABLE SEALING GLAND	1	
0	51.0796-00	LABEL, TYPE-	1	
0	51.0806-00	LABEL	1	
0	51.0992-00	LABEL	1	

A01 :	15.0186-00 :	SUBASSEMBLY (PS702) :	
C04	74.5109-00	CAP CER PL 10N 20% 63V	1
D01	99.5289-00	DIODE PWR SI BYX 50-200R	1
Q01	99.5261-00	TSTR NPN SI BDY 91 / 2N5039	1
R01	A700019P19	RES DEPC 33R 5% 1/4W	1
R02	A700019P13	RES DEPC 10R 5% 1/4W	1
W	18.0767-00	WIRING, FLEX.-	1
0	A700034P4	NUT HEX M-3.0X0.50	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY	
0	A700035P410	SCREW FLAT HD M-3.0X10.0	1	
0	J706076P4	WASHER SPG 2.5X5.9	1	
0	J706076P5	WASHER SPG 3.0X6.4	1	
0	J706076P7	WASHER SPG 5.0X10.5	1	
0	20022-04015	SCREW K-K 4X15 MM DIN 798	2	
0	2401-090043	WASH. UDST 9X4,3X1,0 MM	2	
0	34.5009-00	SOLDER LUG	1	
0	34.5019-00	SOLDER LUG	1	
0	34.5033-00	SOLDER LUG	1	
0	43.5005-00	INSULATOR, STAND OFF-	1	
0	59.0041-00	PLATE, HEAT SINK-	1	
0	59.5007-00	BUSHING, INSUL.-	2	
0	99.5018-00	WASHER, MICA-	1	
A02 :	15.0187-00 :	SUBASSEMBLY (PS702) :		
A03	15.0188-00	SUBASSEMBLY	1	(SEE BELOW
C03	73.5155-00	CAP ELEC 4700U -10+50% 40V	1	
W	18.0768-00	WIRING, FLEX.-	1	
0	A700031P420	SCREW PAN HD M-3.0X20.0	2	
0	A700034P4	NUT HEX M-3.0X0.50	2	
0	A700035P406	SCREW FLAT HD M-3.0X6.0	9	
0	J706076P5	WASHER SPG 3.0X6.4	2	
0	11.1014-00	PLATE, MOUNT.-	1	
0	20052-03008	SCREW 3X8 FLAT H-POZ	4	
0	31.0002-04	SPACER, THREADED-	2	
0	32.0429-00	PLATE, INSUL.-	1	
0	38.5023-00	BRACKET	1	
0	42.5024-00	TERMINAL	1	
A03 :	15.0188-00 :	SUBASSEMBLY :		
C02	73.5071-00	CAP ELEC 100U -10 + 50% 35V	1	
C05	76.5091-00	CAP PYES FL 0U1 20% 100V	1	
C06	73.5154-00	CAP ELEC ELKO 68U 20% 16V	1	
C07	73.5154-00	CAP ELEC ELKO 68U 20% 16V	1	
C08	73.5071-00	CAP ELEC 100U -10 + 50% 35V	1	

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY
D02	99.5146-00	DIODE, ZENER- 6V8 5% 1/4W	1
D03	99.5114-00	DIODE, ZENER- 5V6 5% 1/4W	1
D04	99.5224-00	DIODE, ZENER- 4V7 5% 1/4W	1
L01	61.1235-00	COIL, FILTER-	1
L02	61.1236-00	COIL, FILTER-	1
L03	61.1237-00	COIL, FILTER-	1
Q02	99.5215-00	TSTR PNP SI 2N2905A	1
Q03	99.5251-00	TSTR PNP SI BC307A/B, BC557	1
R03	80.5085-00	RES. DEPC 1M OHM 5% O,1W	1
R04	A700019P49	RES DEPC 10K 5% 1/4W	1
R05	A700019P17	RES DEPC 22R 5% 1/4W	1
R06	A700019P25	RES DEPC 100R 5% 1/4W	1
R07	A700019P24	RES DEPC 82R 5% 1/4W	1
R08	J706037P1	RES WIRE 0R01,/1.0 .64, 35MM	0,001 KG
R09	A700019P51	RES DEPC 15K 5% 1/4W	1
R10	A700019P41	RES DEPC 2K2 5% 1/4W	1
R11	A700019P42	RES DEPC 2K7 5% 1/4W	1
R12	86.5043-00	RES VAR LIN 2K5 20% 0,1W	1
R13	A700019P43	RES DEPC 3K3 5% 1/4W	1
R1?	A700019P73	RES DEPC 1M0 5% 1/4W	1
U01	14.5054-00	IC LIN VOLT. REG. SG 305	1
U02	14.5070-00	IC LIN VOLT. COMP. LM 311 N	1
0	54.0663-00	PW BOARD, RIVETED-	1

Storno

POWER SUPPLY UNIT

C9PS04

The C9PS04 is a mains operated power supply for the Stornophone 900 radiotelephone. The unit consists of a mains transformer, a rectifier, a smothing filter, a switching regulator, and an output filter. The unit will supply 13.6 V stabilized DC when connected to a 220 V/240 V AC outlet.

CIRCUIT DESCRIPTION

POWER TRANSFORMER

The power transformer is wound on a toroide core and has three windings, a 220/240 V primary and two 24 V secondary.
The 2 secondary windings are connected in parallel to the rectifier (D5) which gives the DC to the switching circuit.

SWITCHING REGULATOR

The switching circuit is built as a normal switching mode regulator with constant switching frequency, approximately 32 kHz, and variable duty cycle. The actual switching function is performed by the transistor configuration Q2, Q3, Q4 and the fly-back diode D4, which clamps the input of L-C filter L2-C8 to ground potential in that portion of the cycle where the switching transistors are off and D4 is forced to conduct by the energy from the collapsing field of L2.

The output voltage across C8 is sensed by IC1a and compared to the reference voltage across D2-D3. The resulting signal is amplified by IC1b which is driving Q2 and in turn Q3 and Q4.

Output current limiting is achieved by monitoring the voltage drop across R17 and feed this voltage to IC1d. The IC1d output is 'OR-ed' with the voltage control signal at the IC1a output and therefore overrides the control voltage when the output current goes excessively high.

The two filters, C2-L1-C3, and C8-L3-C9, are ripple-transient filters on the input and output and their function is to ensure that the inherent switching noise does not exceed acceptable limits on the input and output terminals, and the cables as well.

STRAPPING BOARD

The strapping board contains the output connector and is assembled to the cabinet and a printed board with soldered and riveted terminals:

-3 terminals connecting the mains transformer primary windings and the mains connection.
-1 terminal connecting the screen for the mains transformer.
-1 terminal connecting the mains transformer screen to cabinet.
-2 terminals connecting the output from the switching circuit to the output connector assembled to the cabinet.

TECHNICAL SPECIFICATIONS

Mains Voltage
220/240 V AC +12/-12%; 50-60 Hz

Power Consumption
Approx. 15 mA, 0 Amp load
Approx. 500 mA, 7 Amp load

Output Voltage
13,6 V DC ±2,0 V

Output Current
Maximum 7 A (short circuit protected)

Output Voltage Ripple
Less than 100 mV pp (peak to peak)

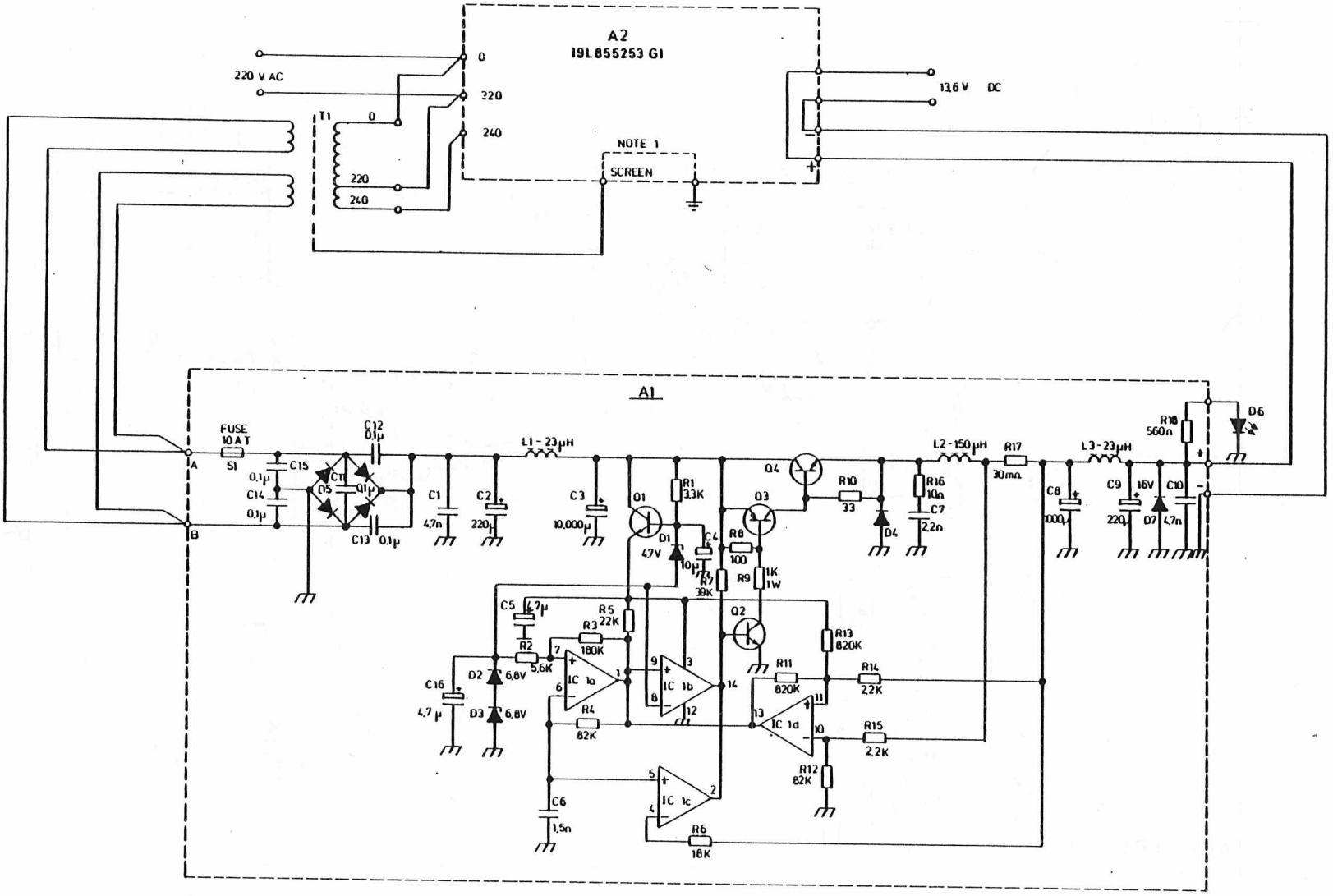
Switching Frequency
Approx. 32 kHz

Temperature Range
$-25^{o}C$ to $+55^{o}C$

Dimensions
L = 240 mm, W = 185 mm, H = 85 mm

Weight
4,5 kg

Storno



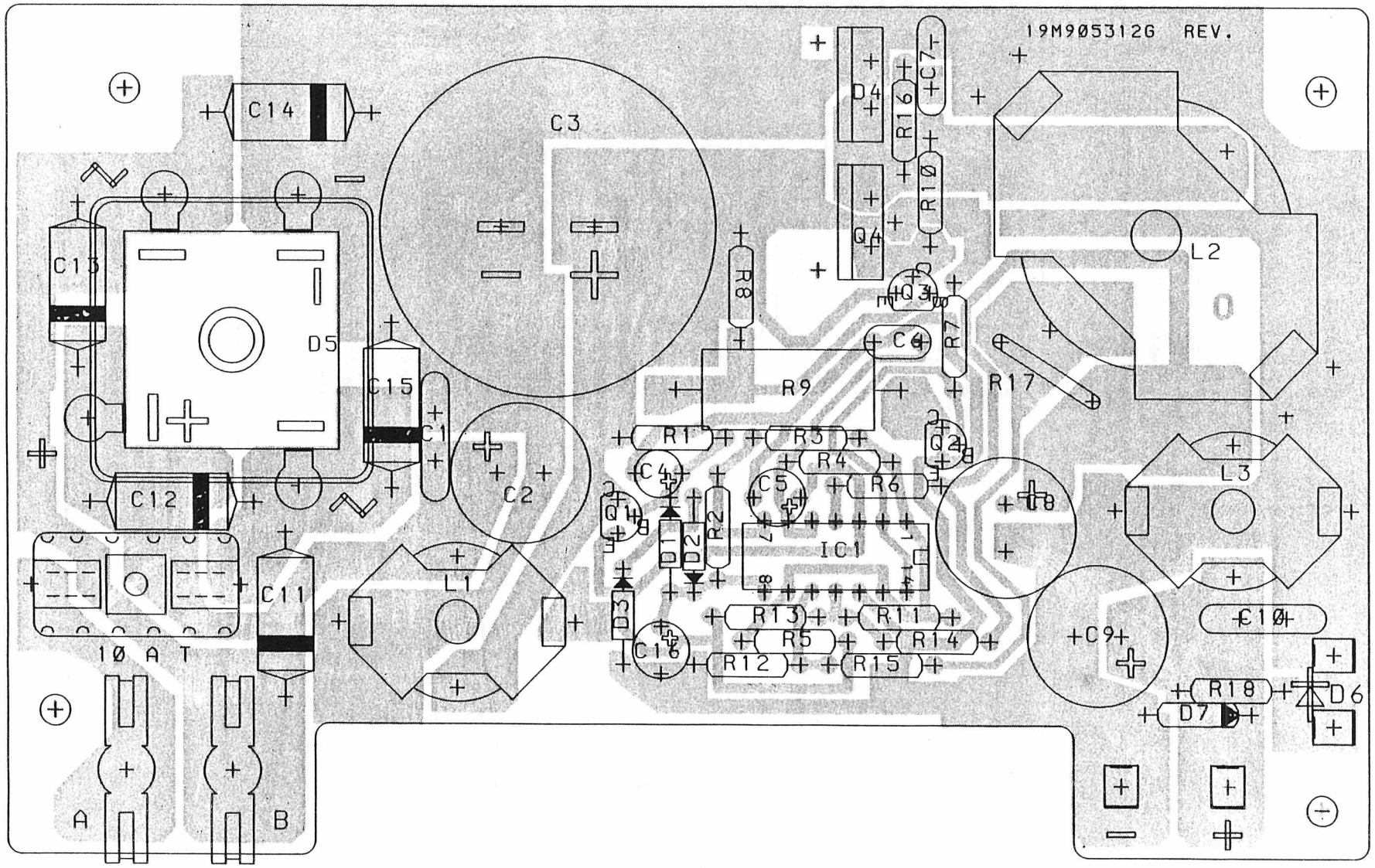
NOTE 1
CONNECTION IN G2 ONLY

MOUNTED BOARD
CODE NO.
A1 19M905312 G1
A1 19M905312 G2

POWER SUPPLY C9PS04

D403.261

Storno



POWER SUPPLY C9PS04
COMPONENT LAYOUT

D403.262

ITEM NUMBER	DESCRIPTION
M905344G1	C9PS04

M905312G1	A1 : SUB ASM., CPNT BD PW PS 904
L855253G1	A2 : SUB ASM., CPNT BD PW

P A R T S L I S T :

	CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
	A1	M905312G1	ASM BD PW PS 904	1
*	A2	L855253G1	ASM BD PW	1
	D6	J706136P2	DIO OPTO	1
	T1	J706961P1	TRANSFORMER MAINS 270VA	1
	002	L855258G1	CHASSIS ASM	1
	003	J707114G1	CA PWR	1
	004	J707114G2	CA PWR	1
	006	L855270P1	COVER	1
*	007	J707001G1	KIT	1
	008	K805244G1	HT SK	1
	009	J706982P1	WASHER	2
	010	J706961P2	MTG DISC J706961P1	1
	011	J706992P1	SPACER	4
	013	J706999P1	INS PLT	1
	015	J706921P1	RETAINER	1
	016	J707000P1	NP	1
	017	J706961P3	MTG WASHER, RUBB.	2
	018	K805023P1	GROMMET	1
	019	J706968P1	CABLE ASSY POWER 2-COND	1
	021	J706902P1	CLAMP, CA	1
	022	J706902P2	CLAMP, CA	1

	ITEM NUMBER	DESCRIPTION	
A01 :	M905312G1 :	ASM BD PW., PS 904 :	
C01	A700001P11	CAP CER 4,7NF 50V	1
C02	J706005P14	CAP ELEC 220U 40V	1
C03	J706957P2	CAP ELECT 10.000MF 40V	1
C04	A701534P4	CAP TA SOL 1U 20% 35V	1
C05	A701534P6	CAP TA SOL 4U7 20% 35V	1
C06	A700234P2	CAP PYES 1N5 10% 50V	1
C07	A700233P9	CAP CER 2N2 10% 50V	1
C08	J706005P7	CAP ELEC 1000U 16V	1
C09	J706005P10	CAP ELEC 220U 25V	1
C10	A700001P11	CAP CER 4,7NF 50V	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
C11	J706959P1	CAP PYES 0.1UF 100V	1
C12	J706959P1	CAP PYES 0.1UF 100V	1
C13	J706959P1	CAP PYES 0.1UF 100V	1
C14	J706959P1	CAP PYES 0.1UF 100V	1
C15	J706959P1	CAP PYES 0.1UF 100V	1
C16	A701534P6	CAP TA SOL 4U7 20% 35V	1
D1	A700025P5	DIO SI ZENR 4V7 5% 0,4W	1
D2	A700025P8	DIO SI ZENR 6V8 5% 0,4W	1
D3	A700025P8	DIO SI ZENR 6V8 5% 0,4W	1
D4	J706023P1	DIO SI PWR BYW 29-50	1
D5	J707044P1	DIO	1
D7	J706030P4	DIO SI ZENR 16V 5% 1W	1
L1	K805252G1	ASM COIL, 23 UH	1
L2	K805253G1	ASM COIL, 150 UH	1
L3	K805252G1	ASM COIL, 23 UH	1
Q1	A700017P1	TSTR NPN SI BC 548A/B	1
Q2	A700017P1	TSTR NPN SI BC 548A/B	1
Q3	A700026P1	TSTR PNP SI BC 369	1
Q4	J706015P1	TSTR NPN SI D44H8	1
R01	A700019P43	RES DEPC 3K3 5% 1/4W	1
R02	A700019P46	RES DEPC 5K6 5% 1/4W	1
R03	A700019P64	RES DEPC 180K 5% 1/4W	1
R04	A700019P60	RES DEPC 82K 5% 1/4W	1
R05	A700019P53	RES DEPC 22K 5% 1/4W	1
R06	A700019P52	RES DEPC 18K 5% 1/4W	1
R07	A700019P56	RES DEPC 39K 5% 1/4W	1
R08	A700019P25	RES DEPC 100R 5% 1/4W	1
R09	J706251P37	RES DEPC 1K0 5% 1/1W	1
R10	A700019P19	RES DEPC 33R 5% 1/4W	1
R11	A700019P72	RES DEPC 820K 5% 1/4W	1
R12	A700019P60	RES DEPC 82K 5% 1/4W	1
R13	A700019P72	RES DEPC 820K 5% 1/4W	1
R14	A700019P41	RES DEPC 2K2 5% 1/4W	1
R15	A700019P41	RES DEPC 2K2 5% 1/4W	1
R16	A700019P13	RES DEPC 10R 5% 1/4W	1
R17	J706891P1	RES CONST 0.030 OHM	1
R18	A700019P34	RES DEPC 560R 5% 1/4W	1
S1	J706998P13	FUSE CTG 10.0A	1
U1	J706018P1	IC LIN CMPAR 3302	1
008	J706903P1	FZ HLR	1
009	J706904P1	TERM SLD RLN 2689002	2
010	J706973P1	TERM,SLD 2.3 SQ HOLE	4
011	J706977P1	TERM SLD D 5 BEND	4
012	A700068P1	INS BUSH	2
013	A700115P3	INSULATOR PLATE	2
014	K805245P1	HOLDER	1

CIRCUIT POSITION	COMPONENT ITEM NUMBER	COMPONENT DESCRIPTION	QUANTITY TOTAL
		MECHANICAL PARTS:	
	A700031P305	SCREW PAN HD M 2.5X5.0	2
	A700031P310	SCREW PAN HD M 2.5X10.0	2
	A700031P406	SCREW PAN HD M 3.0X6.0	0
	A700031P413	SCREW PAN HD M 3.0X13.0	2
	A700032P5	WASHER LOK TOH D 3.0	3
	A700033P7	WASHER LOK TOH D 4.0	1
	A700034P6	NUT	1
	A700034P7	NUT	1
	A700036P406	SCREW PAN HD M 3.0X6.0	0
	A701502P1	BMPR	4
	A701847P205	SCREW THR FORM	2
	J706076P5	WASHER SPG 3.0X6.4	4