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T885 Receiver

UHF FM 800-960MHz

(M885-00)

Issue A

TECHNICAL INFORMATION

Any enquiries regarding this Manual or the equipment it describes should be addressed in the first instance to your nearest approved Tait Dealer or Service Centre. Further technical assistance may be obtained from the Product Support Group, Tait Electronics Ltd, at the above address.

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This Manual contains general, technical and servicing information on the T885 receiver.

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Date Of Issue

IPN M885-00 T885 Service Manual (All Versions)

Provisional Issue published October 1990
Issue A published January 1992

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SECTION 1 GENERAL INFORMATION

1.1 INTRODUCTION

The T885 is a high performance FM base station receiver designed for single or multichannel operation in the 800 to 960MHz frequency range.

The receiver is a dual conversion superhet with a synthesised local oscillator. The first IF is 45MHz, allowing exceptionally high spurious signal rejection to be achieved in the receiver front end. The second IF section (455kHz) combines amplitude limiting and detection within a single integrated circuit. It also drives a noise level detector for gating the audio output. RSSI is also used to drive a carrier mute for audio output gating.

The audio section delivers a minimum of +10dBm to a 600 ohm balanced output, and 1W to a local monitor speaker. A flat or de-emphasised audio response is link selectable.

The synthesiser frequency is programmed via an EPROM which is attached to a separate plug-in memory board. A DIP switch on the memory PCB allows fast single channel selection from a multichannel programmed EPROM, but for true multichannel capability the EPROM must be addressed separately via an additional D-range plug at the rear of the set.

All components except those on the VCO and memory boards are mounted on a single PCB. This is secured to a die-cast chassis which is divided into compartments to individually shield each section of circuitry. Access to both sides of the main PCB is obtained by removing each of the two chassis lids. There is provision within the chassis to mount small option PCB's.

The front panel controls include gate sensitivity, line level, monitor volume and a mute disable switch. This switch disables the mute (squelch) signal to the monitor amplifier as an aid to servicing.

1.2 SPECIFICATIONS

1.2.1 INTRODUCTION

The performance figures given are minimum figures, unless otherwise indicated, for equipment tuned with the maximum switching band and operating at standard room temperature (+22°C to +28°C).

Where applicable, the test methods used to obtain the following performance figures are those described in the EIA specification. However, there are several parameters for which performance according to the CEPT specification is given.

Details of test methods and the conditions which apply for Type Approval testing in all countries can be obtained from Tait Electronics Ltd.

1.2.2 GENERAL

Frequency Range	.. 800-960MHz
Type	.. dual conversion superheterodyne
Frequency Increment	.. 12.5kHz
Switching Range	.. 6MHz
Number Of Channels:	
Standard	.. 1
Optional	.. 8
Internally Selectable	.. 128
Supply Voltage:	
Operating Voltage	.. 10.8 to 16V DC
Standard Test Voltage	.. 13.8V DC
Polarity	.. negative earth only
Polarity Protection	.. crowbar diode
Supply Current:	
Standby	.. 400mA
Full Audio	.. 800mA
Input Impedance	.. 50 ohms
Operating Temperature Range	.. -30°C to +60°C
Frequency Stability:	
Standard Version	.. ±1.5ppm, -30°C to +60°C
Very High Stability Option	.. ±1ppm, 0°C to +60°C
Signal Strength Indicator (optional)	.. -115dBm to -75dBm, 0 to 5V at 10dB/V
Dimensions:	
Height	.. 191mm
Width	.. 60mm
Length	.. 322mm
Weight	.. 2.2kg

1.2.3 RF SECTION

IF Amplifiers:

Frequencies	.. 45MHz and 455kHz
Bandwidths-	
Narrow Band (NB)	.. 7.5kHz
Wide Band (WB)	.. 15kHz
Ultra-Wide Band (UWB)	.. 30kHz

Sensitivity:

Single Channel (NB & WB)	.. -117dBm
Single Channel (UWB)	.. -114dBm
Bandspread (12dB Sinad) (NB & WB)	.. -115dBm
Bandspread (12dB Sinad) (UWB)	.. -112dBm

Signal+Noise To Noise Ratio:

RF Level -107dBm	.. 24dB
RF Level -83dBm (NB)	.. 45dB (CEPT) typical
RF Level -57dBm (WB)	.. 50dB (EIA) typical
RF Level -57dBm (UWB)	.. 45dB (EIA) typical

Selectivity:

Narrow Band (±12.5kHz)	.. 80dB (CEPT) typical
Wide Band (±25kHz)	.. 85dB
Ultra-Wide Band	.. 90dB

Offset Selectivity (Canada only)	.. 20dB
Spurious Response Attenuation	.. 100dB

Intermodulation Response Attenuation:

Narrow Band	.. 80dB (2 & 4 channels) typical
Wide Band	.. 80dB
Ultra-Wide Band	.. 80dB

Blocking	.. 100dB
Co-channel Rejection	.. 6dB
Amplitude Characteristic	.. 3dB

Spurious Emissions:

Conducted	.. -90dBm to 4GHz
Radiated	.. -57dBm to 1GHz -47dBm to 4GHz

1.2.4 AUDIO SECTION

Outputs Available	.. line and monitor
Frequency Response	.. flat or de-emphasised (link selectable)

Flat Response (15kHz IF BW):

Bandwidth	.. 67 to 3400Hz
Response	.. within +1, -2dB of output level at 1kHz

De-emphasised Response:

CTCSS Band-	
Bandwidth	.. 67 to 260Hz
Response	.. within +1, -2dB of output level at 100Hz
Speech Band-	
Bandwidth	.. 300 to 3400Hz
Response	.. within +1, -3dB of a 6dB/octave de-emphasis characteristic (ref. 1kHz)

Line Output:

Power	.. adjustable to +10dBm
Load Impedance	.. 600 ohms
Distortion	.. 2%

Monitor Output:

Power	.. 1W
Speaker Impedance	.. 3.5 ohms
Distortion	.. 3%

Mute Operation (Gate)

Systems Available .. noise mute and carrier mute

Noise Mute:

Operating Range	.. 6-20dB sinad
Hysteresis	.. 1.5 to 6dB
Threshold	.. adjustable to -105dBm
Opening Time	.. 20ms
Closing Time	.. 50ms

Carrier Mute (Optional):

Operating Range	.. -115 to -70dBm
Hysteresis	.. 2 to 10dB
Opening Time	.. 5ms
Closing Time	.. 50ms

1.3 VERSIONS

Description	T885 Versions									
	10	12	14	15	17	20	22	24	25	27
800-880MHz	++	++	++	++	++					
850-960MHz						++	++	++	++	++
30kHz IF Bandwidth			++					++		
15kHz IF Bandwidth	++	++				++	++			
7.5kHz IF Bandwidth				++	++				++	++
1.5ppm TCXO	++		++	++		++		++	++	
1.0ppm TCXO		++			++		++			++

SECTION 2 CIRCUIT OPERATION

2.1 INTRODUCTION

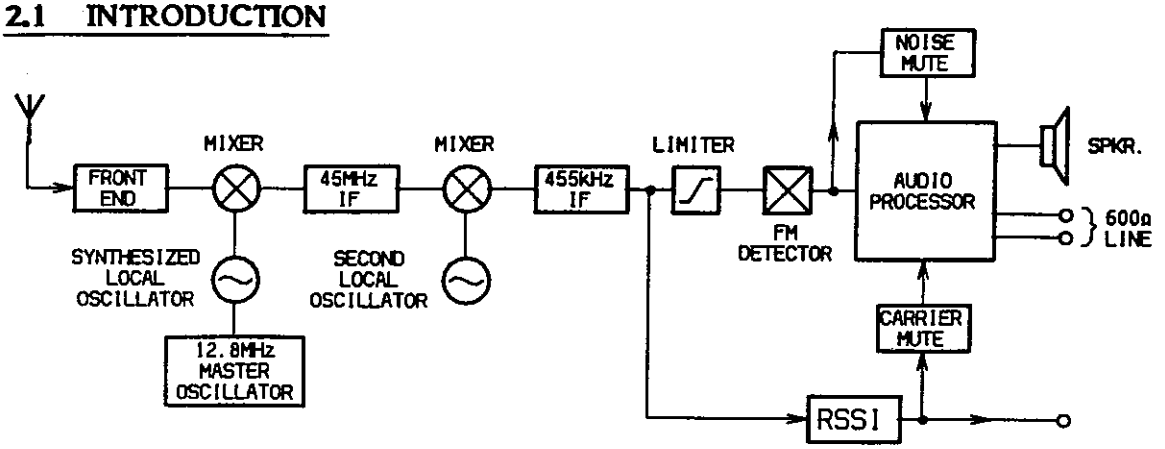


Figure 1 High Level Block Diagram

The T885 receiver consists of a number of distinct stages: the front end, mixer, synthesised local oscillator, IF, audio processor, mute (squelch), regulator circuits and received signal strength indicator (RSSI). These stages are clearly identifiable in Figure 1. Refer to the Circuit Diagrams at the rear of the Manual for further detail.

2.2 RECEIVER FRONT END

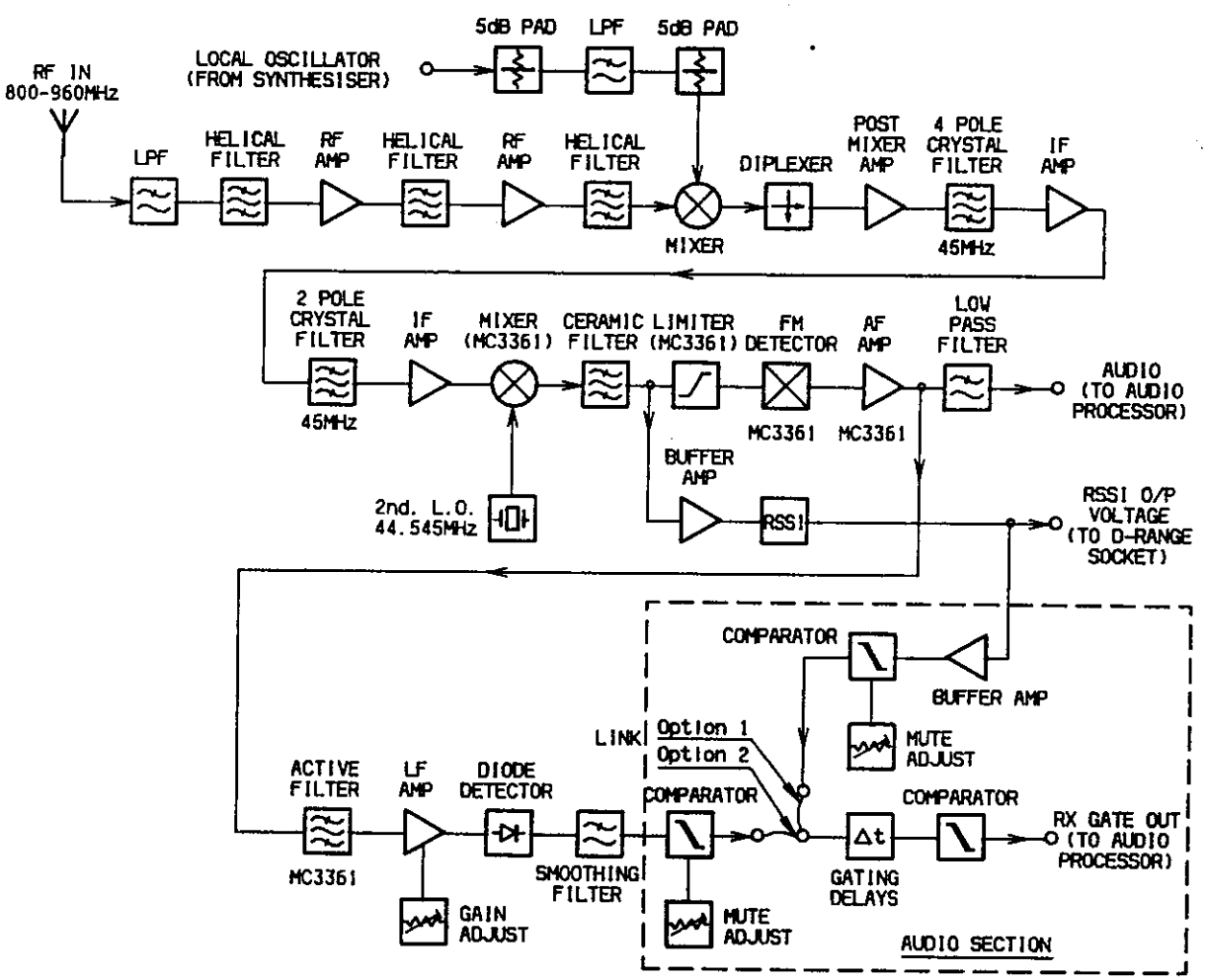


Figure 2 Front End, IF and Mute Block Diagram

The incoming signal from the N-type antenna socket is fed through a 7-pole, low pass filter with a cut frequency of approximately 1.1GHz. This low loss filter (typically less than 0.5dB over 800-960MHz) provides excellent immunity to interference from high frequency signals.

The signal is then further filtered, using a high performance helical resonator (#H1) which provides exceptional image rejection. This is followed by two stages of amplification (Q300, Q303) and filtering (#H2, (#H3) before being presented to the mixer. The gain per stage is 5dB, while the loss per helical is 2dB.

Each sub-block within the front end has been designed with 50 ohm terminations for ease of testing and fault finding. The overall gain from the antenna socket to the mixer input varies from 0-4dB.

2.3 MIXER (Refer to Figure 2.)

IC300 is a low level mixer requiring a local oscillator (LO) drive level of +7dBm (nominal). The voltage controlled oscillator (VCO) generates a level of +20dBm (typical) and this is fed to the mixer via two 5dB attenuator pads and an LPF. A diplexer terminates the IF port of the mixer in a good 50 ohms, thus preventing unnecessary intermodulation distortion.

2.4 IF CIRCUITRY (Refer to Figure 2.)

Losses in the mixer are made up for in a tuned, common gate, post mixer amplifier (Q304). Several stages of amplification and filtering are employed in the IF circuitry. The first crystal filter is a 4-pole device (&XF300) which is matched into 50 ohms on both its input and output ports. This stage is followed by a common base amplifier (Q305) whose output is matched into a 2-pole crystal filter (&XF301). The signal is then amplified using a high gain MOSFET amplifier (Q306) before being mixed down to 455kHz with the second local oscillator (44.545MHz).

The 455kHz signal is filtered using a 6-pole ceramic filter (&XF302) before being limited and detected. Q307 provides a buffered 455kHz output for use with the optional RF level detector (RSSI).

The second IF mixer, limiter and detector is in a 16-pin IC (IC301). Quadrature detection is employed, using L321, and the recovered audio on pin 9 of IC301 is typically 1V p-p for 60% system deviation.

2.5 NOISE MUTE (SQUELCH) (Refer to Figure 2.)

The noise mute operates on the detected noise outside the audio bandwidth. An operational amplifier in IC301 is used as an active band pass filter centred on 70kHz to filter out audio components. The noise spectrum is then further amplified in a variable gain, two stage amplifier (Q308 & Q309) with additional filtering. The noise is then rectified (D300) and filtered to produce a DC voltage proportional to the noise amplitude. The lowest average DC voltage corresponds to a high RF signal strength and the highest DC voltage corresponds to no signal at the RF input.

The rectified noise voltage is compared with a threshold voltage set up on RV100, the front panel mute potentiometer. Hysteresis is introduced by the feedback resistor (R106) to prevent the received message from being chopped when the average noise voltage is close to the threshold. R111 and R110 determine the mute opening and closing times. The mute control signal at pin 7 of IC100 is used

to disable the speaker and line audio outputs. The speaker output can be separately enabled for test purposes by operating the front panel mute disable switch, SW100.

The mute control line is available on pad 101 (Rx gate out) for control of external circuitry. A high (9V) on pad 101 indicates that the audio is disabled and a low (0V) indicates that a signal above the mute threshold level is being received.

The audio can also be disabled using the "Rx-disable" inputs, pads 100 or 113, having connected the "Rx-disable" link between pins 1 & 2 of PL100. An adjustable time delay (RV101) is provided on these lines. In order to disable the audio, either pad must be pulled to 0V.

The red front panel LED (D102) indicates the status of the mute circuit. When a signal above the mute threshold is received, the LED is illuminated. A relay with undedicated contacts is provided (RL100) for transmitter keying or other functions and this can be operated from the mute line by linking PL102.

2.6 CARRIER MUTE (Refer to Figure 2.)

A high level carrier mute facility is also available when the RSSI option is fitted. The RSSI (refer to Section 2.10) provides a DC voltage proportional to the signal strength. This voltage is compared with a preset level, set up on RV104, and may be linked into the mute timing circuit using PL104. PL104 selects either the noise mute or the carrier mute. From this point both mute circuits operate in the same manner, using common circuitry.

2.7 AUDIO PROCESSOR

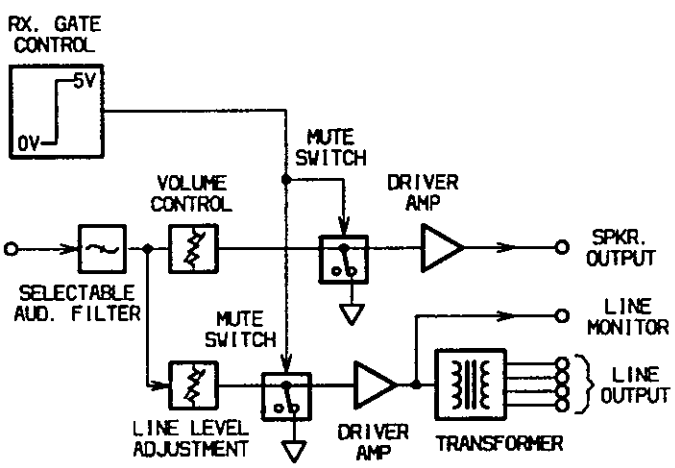


Figure 3 Audio Processor Block Diagram

The recovered audio on pin 9 of IC301 is processed in a third order elliptic active filter to give the required response. Linking (PL101 & PL103) is available to give either a flat or de-emphasised audio response, with de-emphasis giving a 6dB/octave roll off. The output of IC101 is split to provide separate paths for the speaker and line outputs.

The speaker volume is set using the front panel volume knob (RV103) and the line level is set using the recessed potentiometer (RV102). The signals are passed to audio drive amplifiers IC102 and IC103. Under muted conditions the inputs of these amplifiers are shunted to ground via transistors Q105 and Q106 respectively.

The audio output of IC102 has a DC component which is removed by C122, and this then drives a speaker directly. The output of IC103 is fed into a line transformer to provide a balanced 2-wire or 4-wire, 600 ohm output.

2.8 POWER SUPPLY AND REGULATOR

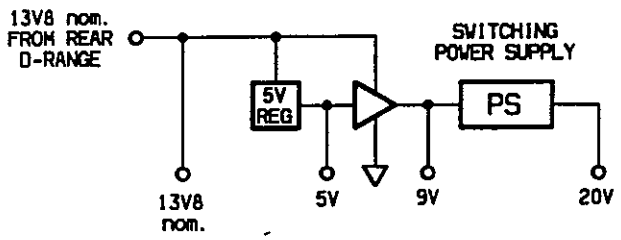


Figure 4 Power Supply and Regulator Block Diagram

The T885 is designed to operate off a 10.8-16V DC supply (13.8V nominal). A 5.3V regulator (IC202) runs directly off the 13.8V rail, driving much of the synthesiser circuitry. This is used as the reference for a DC amplifier (IC201, Q200 & Q201) which provides a medium current capability 9V supply. A switching power supply, based on Q202 and Q203, runs off the 9V supply and provides a low current capability +20V supply. This is used to drive the synthesiser loop filter (IC4), giving a VCO control voltage of up to 20V. The 13.8V supply drives both output audio amplifiers without additional regulation.

2.9 SYNTHESISED LOCAL OSCILLATOR

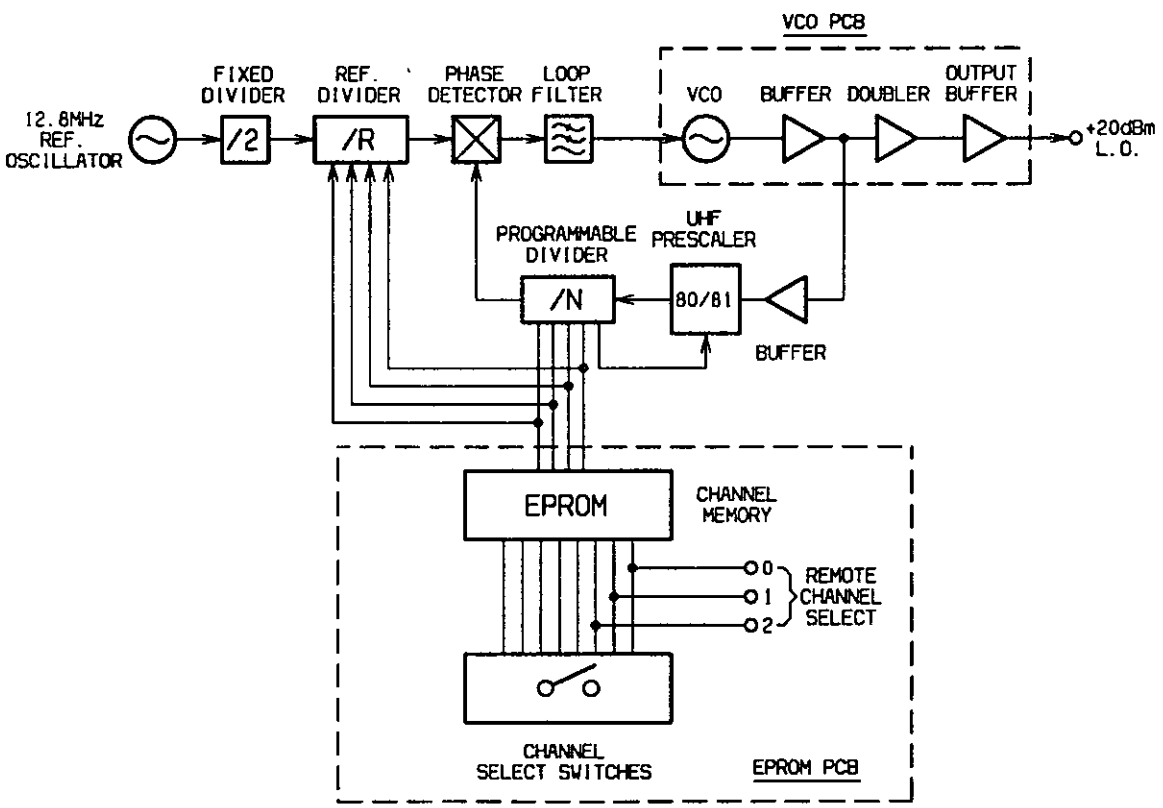


Figure 5 Synthesiser Block Diagram

The synthesiser employs a phase-locked loop (PLL) to lock a VCO to a given reference frequency.

A master oscillator at 12.8MHz (=IC2) is buffered, divided by two and then divided down to 12.5kHz within the synthesiser IC (IC3). A buffered output of the VCO is fed to a programmable divider, comprising a UHF prescaler (IC1) and a divider internal to IC3. These two signals are applied to the phase detectors in IC3.

A digital phase detector (PDB) provides rapid coarse tuning of the VCO until the phase error is within the range of the high gain sample and hold detector (PDA). The phase detector outputs are passed through an active loop filter (IC4a) which produces a DC voltage between 0 and 20V to tune the VCO. This VCO control line is further filtered to attenuate noise and spurs. As the control line voltage increases, the VCO frequency also increases.

The division ratio of the programmable divider is stored within EPROM memory (IC1). Up to 128 frequencies can be stored within the memory and are addressable using the internal DIP switches. Three of the address lines are also available for external frequency control via an extra D-range connector at the rear of the chassis. A change of state of any of these three lines (CH SEL 0-2) commences a programming cycle during which the frequency data in the EPROM is down-loaded to a divider within IC3. 32 bits of data are loaded in eight 4-bit words.

The VCO transistor (Q1) operates in a common source configuration and uses a low loss transmission line resonator (&TL1). The transmission line is used in a two port configuration with varicaps positioned at one end. The VCO control voltage from the loop filter (IC4a) is applied to the varicaps (D1 & D2) to facilitate tuning. The VCO output is coupled into a cascode amplifier stage (Q2 & Q3) which gives a +10dBm (nom.) output. This output is used to drive the divider buffer for the UHF prescaler which is a divide by 80/81, giving 12.5kHz channel increments, and is also used to drive a doubler (Q4). The final frequency is then applied to a further amplifier stage (Q5) via a 3dB pad. The output level from the VCO is +20dBm. The doubler and output stages Q4 & Q5 incorporate two notch filters to reduce $\frac{1}{2}$f.

The VCO is modulated by superimposing the audio signal onto the control voltage and by phase modulating the reference signal.

The VCO frequency spans from either 755-835MHz or 805-915MHz according to version. The VCO is tuned to 45MHz below the desired receive frequency to produce a 45MHz IF signal on the output of the mixer.

2.10 RECEIVED SIGNAL STRENGTH INDICATOR (RSSI)

(Refer to Figure 6 and the Circuit Diagram at the rear of this Manual.)

The RSSI option PCB plugs directly into the main PCB (support circuitry being fitted as standard). It is fitted to the T885 whenever receiver signal strength monitoring is required, e.g. trunking or voting. Its function is to provide a DC voltage proportional to the signal level at the receiver input.

The variable gain stage (Q1A) is a common emitter amplifier with its emitter grounded and the AGC control loop voltage applied to its base. Since the AGC loop will maintain a constant signal level at the collector, the gain of Q1 must be proportional to the incoming 455kHz signal level. The gain of Q1 is linearly proportional to its collector current which itself is exponentially related to the base-emitter voltage. Thus there is a logarithmic relationship between the base-emitter voltage and the gain. The circuit therefore produces a feedback voltage, and an output voltage, logarithmically related to the RF input signal.

The AGC loop is followed by a DC amplifier which provides level shifting, temperature compensation and gain to give a nominal 1V/10dB at the RSSI output. RV301 on the main PCB is used to set the RSSI voltage to a fixed value at a given RF input signal strength.

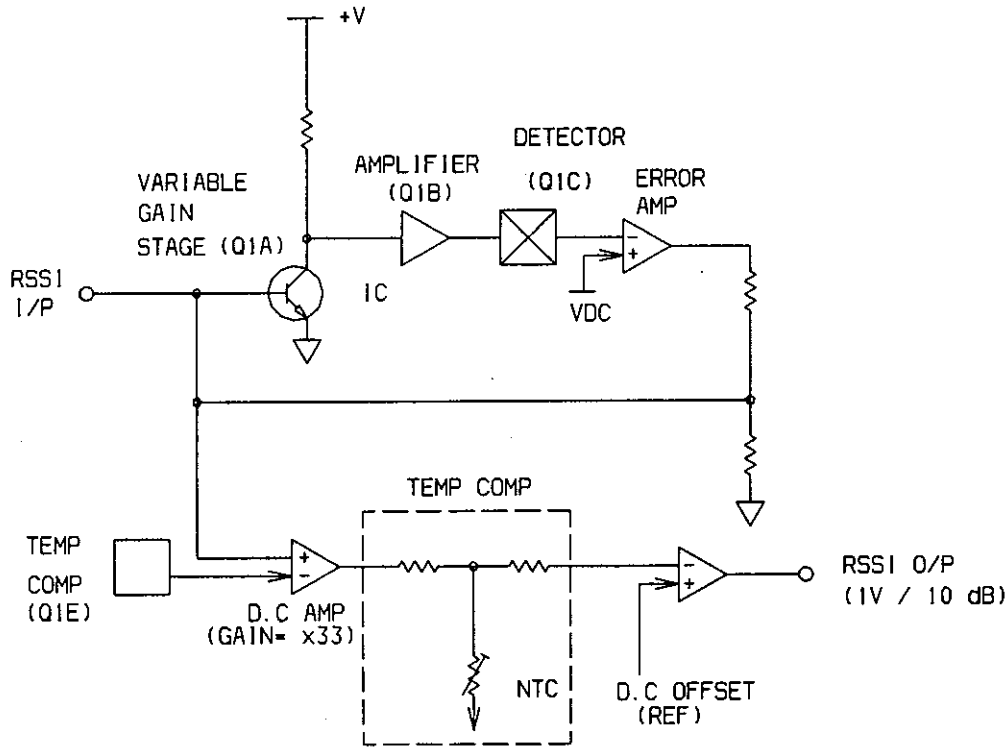


Figure 6 RSSI Block Diagram

SECTION 3 INTRODUCTION TO SERVICING

3.1 GENERAL

3.1.1 NOTES

If further information is required about the T885 or this Manual, it may be obtained from Tait Electronics Ltd or accredited agents. When requesting this information, please quote either the equipment serial number or works order number (found on a label at the back of the set). In the case of the Service Manual quote the Tait Internal Part Number (IPN) and Issue, and for Circuit Diagrams quote the 'Title' and 'Issue'.

CAUTION: CMOS DEVICES

This equipment contains CMOS Devices which are susceptible to damage from static charges. Care when handling these devices is essential. For correct handling procedures refer to manufacturers' data books covering CMOS devices, e.g. Philips Data Handbook Covering CMOS Devices; Motorola CMOS Data Book Section 5 (Handling Procedures), etc.

3.1.2 TECHNICAL INSTRUCTIONS (TI's)

From time to time TI's are issued by Tait Electronics Engineering Division. These TI's may be used to update equipment or information, or to meet specific operational requirements.

3.2 MECHANICAL

3.2.1 POZIDRIV RECESS HEAD SCREWS

Pozidriv recess head screws are the preferred standard on all Tait manufactured equipment. The very real advantages of this type of screw will not be realised unless the correct screwdrivers are used by servicing personnel.

3.3 COMPONENT REPLACEMENT

3.3.1 LEADED COMPONENTS

Whenever components are removed from or fitted to the PCB, care must be taken to avoid damage to the track. The two satisfactory methods of removing components from PTH PCB's are detailed below.

Note: The first method requires the use of a desoldering station, e.g. Philips SBC 314 or Pace MBT-100E.

3.3.1.1 Desoldering Iron Method

Place the tip over the lead and, as the solder starts to melt, move the tip in a circular motion.

Start the suction and continue the movement until 3 or 4 circles have been completed.

Remove the tip while continuing suction to ensure that all solder is removed from the joint, then stop the suction.

Before pulling the lead out, ensure it is not stuck to the plating.

If the lead is still not free, resolder the joint and try again.

Note: The desoldering iron does not usually have enough heat to desolder leads from the ground plane. Additional heat may be applied by holding a soldering iron on the tip of the desoldering iron (this may require some additional help).

3.3.1.2 Component Cutting Method

Cut the leads on the component side of the PCB.

Heat the solder joint sufficiently to allow easy removal of the lead by drawing it out from the component side: do not use undue force.

Fill the hole with solder and then clear with solderwick.

3.3.2 SURFACE MOUNT DEVICES

CAUTION: **Surface mount devices (SMD's) require special storage, handling, removal and replacement techniques.**

This equipment should be serviced only by an approved Tait Dealer or Service Centre equipped with the necessary facilities.

Repairs attempted with incorrect equipment or by untrained personel may result in permanent damage. If in doubt, contact Tait Electronics Ltd or your nearest Tait Branch or Subsidiary.

SECTION 4 INITIAL TUNING & ADJUSTMENT

4.1 INTRODUCTION

The full tuning and adjustment procedure is as follows:

- channel programming
- channel selection
- selecting required audio links
- synthesiser alignment
- receiver front end and IF alignment
- noise mute adjustment
- setting line output level
- setting monitor output level
- setting up the RSSI
- carrier level mute adjustment.

These operations are described more fully in the following Sections.

4.2 CHANNEL PROGRAMMING

Up to 128 channel frequencies can be stored in the EPROM memory (IC1). Each channel can be addressed using the bank of 8 switches (SW1). The most significant bit of this switch is set according to the type of EPROM fitted:

ON = 27C16
OFF = 27C64

Up to 8 channels may be addressed externally when the optional extra rear D-range connector is fitted.

Programming is accomplished by using an IBM* PC, a PROM programmer and the PGM800 software package. For a full description of the programming procedure, refer to the T800 Programming Handbook.

*IBM is a registered trademark of International Business Machines.

4.3 DIP SWITCH CODES FOR CHANNEL ADDRESSES

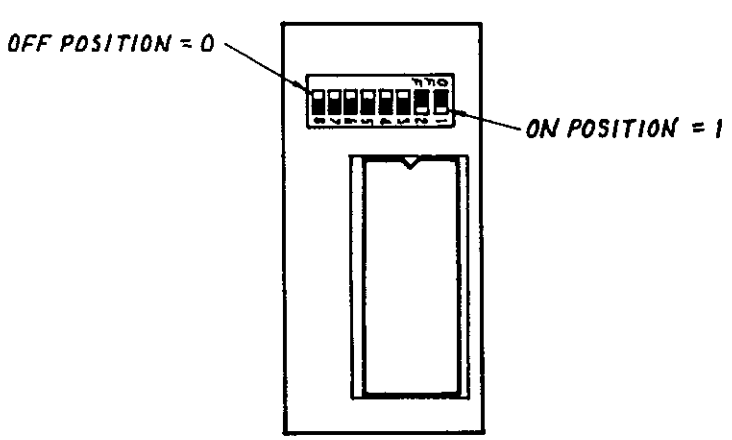


Figure 7 Channel DIP Switch Setting

The PGM800 software used to programme the EPROM will present the user with a DIP switch code for each channel address. For example, channel 124 will be assigned a switch code of X0000011, in which case the switches should be set as shown in Figure 7, i.e. 00000011.

Note 1: For remote multichannel applications using the T800-07 multichannel memory PCB, the DIP switch is not used and should have the first 3 least significant bits (1-3) in the off position. The next 4 bits (4-7) should be on, while the most significant bit (8) is selected according to the EPROM used (refer to Section 4.2). This will allow the existing CHSEL lines to be used to select up to 8 channels.

It is possible to address blocks of 8 channels throughout the 128 channel EPROM capacity by switching bits 4 to 7 on the DIP switch.

Note 2: Alternatively, all 128 channels may be remotely addressed on the T800-07, but bits 1-7 of the DIP switch should be in the off position. In this case it will be necessary to drill a hole to route the 7 channel select lines from the synthesiser compartment to the D-range connector.

Later models may have an access slot between these two compartments.

4.4 AUDIO PROCESSOR LINKS

The links available for various circuit block options are listed by function as follows (refer to the Test Points & Options Diagrams at the rear of this Manual):

Plug PL100	1-2	Rx disable link
	2-3	not connected
Plug PL101	1-2	flat response
	2-3	de-emphasised response
Plug PL102	1-2	relay link
	2-3	not connected
Plug PL103	1-2	de-emphasised response
	2-3	flat response
Plug PL104	1-2	noise mute
	2-3	carrier mute
Plug PL105*	1-2	bypass high pass filter
	2-3 or 3-4	300Hz high pass filter in circuit
	4-5	audio input via audio 2 or 3
Plug PL106	1-2	audio input via audio 2 pad
	2-3	audio input via audio 3 pad

*Refer to Section 9.5.4 for further details.

The required options should be selected before alignment of the receiver is attempted.

4.5 TEST EQUIPMENT SET-UP

Set up the test equipment as shown below:

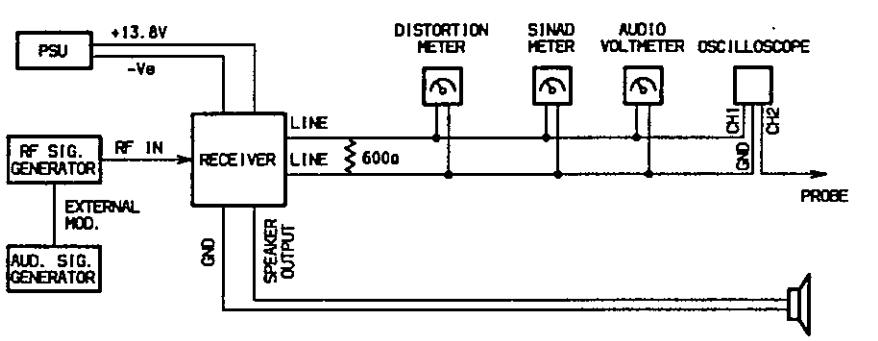


Figure 8 Test Equipment Set-Up

4.6 SYNTHESISER ALIGNMENT

1. Ensure that the EPROM (IC1) has been programmed with the required frequencies using PGM800 software.

2. Single Channel:

   Select a channel on the EPROM PCB DIP switch.

   Multichannel:

   Select the middle channel via the EPROM PCB DIP switch.

   If there is no channel near the middle of the required switching range, it may be necessary to programme an additional channel specifically for alignment purposes.

3. Connect a high impedance voltmeter to the long lead of L1 in the VCO (this measures the synthesiser loop voltage).

4. Single Channel:

   Tune VCO trimmer C6 for a synthesiser loop voltage of 7V.

   Multichannel:

   Tune VCO trimmer C6 for a synthesiser loop voltage of 7V on the middle channel.

   All channels should lie within the upper and lower limits of 10V and 3V respectively.

   Do not attempt to programme channels with a greater frequency separation than the specified switching range of 6MHz.

5. The TCXO (=IC2) output frequency should be trimmed when the IF is tuned - refer to Section 4.7.

4.7 ALIGNMENT OF RECEIVER FRONT END AND IF

Note 1: In this and following Sections deviation settings are given first for wide band sets, followed by settings in brackets for narrow band [ ] and ultra-wide band ( ) sets.

Note 2: Refer to Section 4.8 for the alignment procedure for ultra-wide band receivers.

Align the synthesiser as instructed in Section 4.6. For multichannel operation the receiver should be aligned on a frequency in the middle of the required band.

Inject a strong on-channel RF signal with 3kHz deviation [1.5kHz] at 1kHz into the antenna socket and adjust helicals #H1, #H2 and #H3 to give best sinad.

Continually decrease the RF level to maintain 12dB sinad.

Roughly tune IF coils L313/L314/L315/L316/L317/L318 for best sinad, and then tune L321 for maximum audio output.

While maintaining a low level unmodulated RF input to the receiver, loosely couple into the first IF an additional high level signal at 45MHz - a beat note will be heard.

Trim the synthesiser TCXO (=IC2) for zero beat.

While maintaining the low level RF input to the receiver, loosely couple into the second IF an additional high level signal at 455kHz - a beat note will be heard.

Tune L320 for zero beat.

Readjust the front end helicals #H1, #H2 and #H3 to give best sinad.

Change the RF signal level to -75dBm and modulate with 3kHz deviation [1.5kHz] at 1kHz.

Connect an oscilloscope probe to SK300/3 (RSSI 455kHz input) and connect plugs PL101 and PL103 to give a flat audio response (refer to Section 4.4).

Readjust IF coils L313/L314/L315/L316/L317/L318 to give a maximum amplitude response on the oscilloscope with minimal amplitude modulation.

Further adjust these coils (except L313), along with L321, for minimum audio distortion, ensuring that the 455kHz level (on the oscilloscope) does not fall significantly.

Check that the distortion reading is less than 2%.

Reconnect plugs PL101 and PL103 to give a de-emphasised audio response (if required) and reduce the RF level until 12dB sinad is reached. The receiver sensitivity should be better than -117dBm, assuming that the audio levels are not being overdriven (refer to Section 4.10).

4.8 ALIGNMENT OF ULTRA-WIDE BAND RECEIVERS (30kHz IF BW)

The 30kHz IF requires a different alignment procedure to achieve minimum distortion.

Inject a strong on-channel RF signal with 4kHz deviation at 1kHz into the antenna socket and adjust helicals #H1, #H2 and #H3 to give best sinad.

Continually decrease the RF level to maintain 12dB sinad.

Roughly tune IF coils L313/L314/L315/L316/L317/L318 for best sinad, and then tune L321 for maximum audio output.

While maintaining a low level unmodulated RF input to the receiver, loosely couple into the first IF an additional high level signal at 45MHz - a beat note will be heard.

Trim the synthesiser TCXO (=IC2) for zero beat.

While maintaining a low level RF input to the receiver, loosely couple into the second IF an additional high level signal at 455kHz - a beat note will be heard.

Tune L320 for zero beat.

Readjust front end helicals #H1, #H2 and #H3 to give best sinad.

Apply an on-channel RF signal modulated at 10Hz with 30kHz deviation at an amplitude of -80dBm.

Connect the modulating 10Hz audio signal to the "X" input of an oscilloscope and apply the 455kHz RSSI input (SK300/3) via a suitable RF probe to the "Y" input; also connect an audio voltmeter to SK300/3 with a suitable RF probe.

Note: The "X" input should be DC coupled.

The oscilloscope will display the amplitude response of the IF filters.

Readjust IF coils L313/L314/L315/L316/L317/L318 to give a maximum amplitude rounded top trace on the oscilloscope, then fine adjust to give a maximum voltage on the audio voltmeter, ensuring that the shape of the IF trace remains rounded and without excessive ripple.

Change the RF signal to give 4kHz deviation at 1kHz at a level of -60dBm.

Set the audio links to give a flat response.

Adjust L321 for minimum audio distortion.

Vary the modulating frequency between 300Hz and 8kHz. The audio distortion should be better than 3%.

4.9 NOISE MUTE ADJUSTMENT

Connect pins 1 & 2 of PL104 to enable the noise mute.

Align the receiver as instructed in Sections 4.6 and 4.7 (or 4.8).

Set the RF level to -105dBm with 3kHz deviation [1.5kHz] (4kHz) at 1kHz.

Set RV100 (gate sensitivity) fully anticlockwise.

Adjust RV300 to close the mute (if necessary turn off the RF signal and then turn it on again).

Rotate RV300 anticlockwise until the mute just opens.

Once the mute has been set up as described above, RV100 (gate sensitivity) on the front panel may be adjusted for the required opening sinad.

4.10 AUDIO PROCESSOR

4.10.1 LINE AMPLIFIER OUTPUT

Apply an on-channel signal from the RF generator at a level of -70dBm with 3kHz deviation [1.5kHz] (4kHz) at 1kHz.

Adjust the front panel line level pot. (RV102) to give an output of +10dBm on the 600 ohm line.

Check for any clipping or distortion on the oscilloscope.

Set the line level to the required output level.

4.10.2 MONITOR AMPLIFIER OUTPUT (SPEAKER OUTPUT)

Adjust the front panel monitor volume control (RV103) to give an output of 2V rms into a 3.5 ohm resistive load.

Check for any clipping or distortion on the oscilloscope.

Switch to a 3.5 ohm speaker load and adjust RV103 to the required level.

4.11 T800-04 RSSI

The RSSI is an optional PCB giving signal strength monitoring and high level mute facilities to the basic receiver.

Ensure the T800-04 PCB is fitted in the main board sockets (SK300 & SK301).

Align the receiver as instructed in Sections 4.6 and 4.7 (or 4.8).

Apply an on-channel signal from the RF generator at a level of -110dBm with 3kHz deviation [1.5kHz] (4kHz) at 1kHz.

Adjust RV301 to give 2.0V RSSI output on pin 5 on the rear D-range connector when measured with a high impedance DMM.

4.12 CARRIER LEVEL MUTE

Connect pins 2 and 3 of PL104 to enable the carrier mute and disable the noise mute.

Apply an on-channel signal from the RF generator at the required mute opening level with 3kHz deviation [1.5kHz] (4kHz) at 1kHz.

Adjust the carrier mute pot. (RV104) to close the mute (if necessary, momentarily turn off the RF), then slowly adjust it until the mute just opens. The mute should now open at this preset level.

PGM800 DIP SWITCH CODES

Channel	DIP Code	Channel	DIP Code	Channel	DIP Code
1	X1111111	51	X1001101	101	X0011011
2	X1111110	52	X1001100	102	X0011010
3	X1111101	53	X1001011	103	X0011001
4	X1111100	54	X1001010	104	X0011000
5	X1111011	55	X1001001	105	X0010111
6	X1111010	56	X1001000	106	X0010110
7	X1111001	57	X1000111	107	X0010101
8	X1111000	58	X1000110	108	X0010100
9	X1110111	59	X1000101	109	X0010011
10	X1110110	60	X1000100	110	X0010010
11	X1110101	61	X1000011	111	X0010001
12	X1110100	62	X1000010	112	X0010000
13	X1110011	63	X1000001	113	X0001111
14	X1110010	64	X1000000	114	X0001110
15	X1110001	65	X0111111	115	X0001101
16	X1110000	66	X0111110	116	X0001100
17	X1101111	67	X0111101	117	X0001011
18	X1101110	68	X0111100	118	X0001010
19	X1101101	69	X0111011	119	X0001001
20	X1101100	70	X0111010	120	X0001000
21	X1101011	71	X0111001	121	X0000111
22	X1101010	72	X0111000	122	X0000110
23	X1101001	73	X0110111	123	X0000101
24	X1101000	74	X0110110	124	X0000100
25	X1100111	75	X0110101	125	X0000011
26	X1100110	76	X0110100	126	X0000010
27	X1100101	77	X0110011	127	X0000001
28	X1100100	78	X0110010	128	X0000000
29	X1100011	79	X0110001		
30	X1100010	80	X0110000		
31	X1100001	81	X0101111		
32	X1100000	82	X0101110		
33	X1011111	83	X0101101		
34	X1011110	84	X0101100		
35	X1011101	85	X0101011		
36	X1011100	86	X0101010		
37	X1011011	87	X0101001		
38	X1011010	88	X0101000		
39	X1011001	89	X0100111		
40	X1011000	90	X0100110		
41	X1010111	91	X0100101		
42	X1010110	92	X0100100		
43	X1010101	93	X0100011		
44	X1010100	94	X0100010		
45	X1010011	95	X0100001		
46	X1010010	96	X0100000		
47	X1010001	97	X0011111		
48	X1010000	98	X0011110		
49	X1001111	99	X0011101		
50	X1001110	100	X0011100		

0 = off
1 = on

SECTION 5 FUNCTIONAL TESTS

The following test procedures will confirm that the T885 has been tuned and adjusted correctly and is fully operational.

Note: In this and following Sections deviation settings are given first for wide band sets, followed by settings in brackets for narrow band [ ] and ultra-wide band ( ) sets.

5.1 CURRENT CONSUMPTION

Connect the T885 to a 13.8V power supply.

Rotate the front panel mute pot. anticlockwise until the mute LED is extinguished.

Turn the front panel "Monitor Mute" switch to the on position.

Check that the current in the 13.8V power cable is less than 400mA.

Rotate the mute pot. clockwise until the mute LED is lit.

Rotate the line level adjuster and the volume control to give maximum outputs.

Check that the current is less than 800mA.

5.2 SENSITIVITY

Apply an on-channel signal from the RF generator with 3kHz deviation [1.5kHz] (4kHz) at 1kHz.

Adjust the RF level to give 12dB audio sinad.

Check that the sensitivity is better than -117dBm (UWB -114dBm).

5.3 SWITCHING BAND (MULTICHANNEL ONLY)

Apply an on-channel signal from the RF generator at various frequencies within the 6MHz front end bandwidth, corresponding to pre-programmed channels.

Measure the sensitivity at each frequency as described in Section 5.2.

Ensure that the sensitivity is better than -115dBm (UWB -112dBm) across the whole band.

5.4 AUDIO DISTORTION

The level of distortion measured at the line output gives a good indication of the accuracy of the IF alignment.

Apply an accurate on-channel signal from the RF generator at a level of -70dBm with 3kHz deviation [1.5kHz] (4kHz) at 1kHz.

Adjust the front panel line level control (RV102) to give +10dBm into 600 ohms.

Check that the distortion is approximately 1% THD.

Note: For a de-emphasised response, the distortion should always be better than 2%.

Adjust the front panel monitor volume control (RV103) to give 2V rms into a 3.5 ohm resistive load.

Check that the distortion at the monitor output is better than 3% THD.

5.5 ULTIMATE SIGNAL TO NOISE RATIO

Apply a signal from the RF generator at a level of -57dBm with 3kHz deviation [1.5kHz] (4kHz) at 1kHz.

Select de-emphasis on the links provided in the audio processor (refer to Section 4.4), and link pins 2 & 3 of PL105 to include the 300Hz filter.

Adjust RV102 (line level) to provide +10dBm output.

Switch off the modulation, checking that the residual noise is lower than -39dBm [-34dBm] (-34dBm) at the line output (this corresponds to S/N of 49dB [44dB] (44dB) and is in accordance with EIA measurement conditions).

Note 1: The measurement can be made without the 300Hz high pass filter but will give a result which is 10dB worse.

Note 2: A small percentage of sets will give results 2dB worse than these figures.

5.6 DE-EMPHASISED AUDIO FREQUENCY RESPONSE

Set RV102 (line level) to provide 0dBm output at 1kHz modulating frequency.

Sweep the modulating frequency, checking that the response closely follows that shown in Figure 9 - the limits should not be exceeded.

Note: The curve shown is for wide band sets. The narrow band response is similar, but rolls off earlier at 2.5kHz.

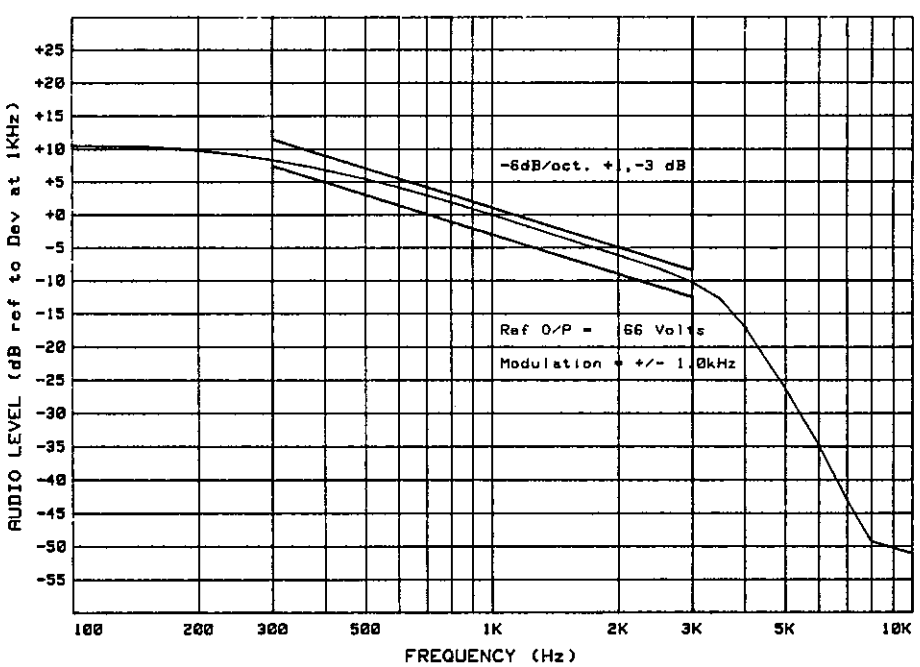


Figure 9 De-emphasised Audio Frequency Response

5.7 NOISE MUTE (IF LINKED IN)

Rotate the front panel mute pot. (RV100) fully anticlockwise.

Apply an on-channel signal from the RF generator at a level of -110dBm with 3kHz deviation [1.5kHz] (4kHz) at 1kHz.

Increase the RF level in 1dB steps, checking that the mute opens for an RF input level of approximately -105dBm.

Turn the RF off and check that the mute closes.

Rotate the mute pot. clockwise and check that the mute opens.

Reset the mute pot. to give the required opening sinad.

5.8 RSSI (IF FITTED)

Apply an on-channel signal from the RF generator at a level of -110dBm with 3kHz deviation [1.5kHz] (4kHz) at 1kHz.

Using a high impedance DMM, check that the RSSI output voltage on pin 5 of the rear D-range connector is 2V (nominal).

Vary the RF level in 5dB steps and check that the RSSI output voltage changes at a rate of approximately 0.5V/5dB over the range of -115dBm to -70dBm.

5.9 CARRIER LEVEL MUTE (CARRIER MUTE LINKED IN & RSSI FITTED)

Apply an on-channel signal from the RF generator at a level of -120dBm with 3kHz deviation [1.5kHz] (4kHz) at 1kHz.

Increase the RF level in 2dB steps and check that the mute opens at an RF level which corresponds with the preset level on RV104 (i.e. between -115dBm and -70dBm).

SECTION 6 FAULT FINDING

6.1 VISUAL CHECKS

Remove the covers from the T885 and inspect the PCB for damaged or broken components, paying particular attention to the surface mounted devices (SMD's).

Check for defective solder joints. If repair or replacement is considered necessary, refer to Sections 3.3.1 and 3.3.2.

6.2 COMPONENT CHECKS

If a transistor is suspected of faulty operation, an indication of its performance can be assessed by measuring the forward and reverse resistance of the junctions. First make sure that the transistor is not shunted by some circuit resistance (unless the device is completely unsoldered). A 20k ohm/V or better multimeter should be used for taking the measurements, using only the medium or low resistance ranges.

The collector current drawn by multi-junction transistors is a further guide to their performance.

If an IC is suspect, the most reliable check is to measure the DC operating voltages. Due to the catastrophic nature of most IC failures, the pin voltages will usually be markedly different from the recommended values in the presence of a fault. The recommended values can be obtained from either the Circuit Diagram or the component data catalogue.

6.3 USING CAD CIRCUIT DIAGRAMS

Reading a CAD Circuit Diagram is similar to reading a road map, in that both have an alphanumeric border. The Circuit Diagrams in this Manual use letters to represent the horizontal axis, and numbers for the vertical axis. These Circuit Diagram "grid references" are useful in following a circuit that is spread over two or more sheets.

When a line representing part of the circuitry is discontinued, a reference will be given at the end of the line to indicate where the rest of the circuitry is located. The first digit refers to the sheet number (printed on the bottom right hand corner of the CAD diagram) and the last two characters refer to the location on that sheet of the continuation of the circuit (e.g. 1-D4).

If more than one line is represented (indicated by a double thickness line), a dot with a reference label will follow the route each individual line represents.

6.4 FINDING COMPONENTS ON THE MAIN PCB

To assist in locating components and labelled pads on the PCB layouts and Circuit Diagrams, a component grid reference index has been provided. This index lists the components and pads in alphabetical order, along with the appropriate alphanumeric grid references.

The first digit in the Circuit Diagram reference is the sheet number, and the last two characters give the location of the component on that sheet.

The first digit in the PCB layout reference is a "1" or "2", indicating the top or bottom side layout respectively, and the last two characters give the location of the component on that diagram.

The grid reference index is located between Diagrams 4 & 5.

The locations of commonly used test pads and options connectors are also shown on the Test Points & Options Diagrams (Diagrams 7 & 8).

6.5 DC CHECKS

6.5.1 POWER RAILS

Refer to Diagrams 7 & 8 for test point locations, and to the regulator fault finding chart (Section 6.7) for fault diagnosis.

Check the 9V (TP2) and 13.8V (TP1) power supply test points in the audio compartment with a DMM.

Check the 20V (TP3) regulator output at the test point in the regulator compartment.

Check the 5V (TP4) regulator output at the test point in the regulator compartment and on pin 4 of IC301.

6.5.2 VCO LOCKING

Using a DMM, monitor the VCO control voltage at the long lead of L1 (located near the electrolytic capacitor on the VCO PCB).

If the synthesiser is locked and the VCO aligned, the voltage at this point should be between 3 and 10V.

If the VCO is not locked, refer to the synthesiser fault finding chart (Section 6.8).

6.5.3 MUTE OPERATION

The front panel LED will show the status of the mute circuitry. It will be lit when a signal is received above the threshold level. It should always be possible to open the mute gate by rotating the mute potentiometer fully clockwise, or by enabling the monitor with the front panel switch.

If the mute fails to operate correctly, refer to the mute fault finding charts (Sections 6.9 & 6.10).

6.6 RF CHECKS

6.6.1 VCO FREQUENCY

Check that the VCO is phase locked (refer to Section 6.5.2).

Connect a frequency counter (level +10dBm) to the VCO input to the mixer (IC300).

Monitor the local oscillator frequency and check that it is 45MHz below the required receive frequency.

Refer to the synthesiser fault finding chart (Section 6.8) for further information.

6.6.2 RF SENSITIVITY

Ensure that the VCO is on the correct frequency and the receiver correctly aligned.

Check that the sensitivity into the front end is -117dBm (UWB -114dBm) (typical).

If the sensitivity is poor, the fault can be traced by measuring the sensitivity into successive circuit blocks. Prepare a test cable by connecting a 1nF capacitor to the end of a length of coax cable as shown in Figure 10.

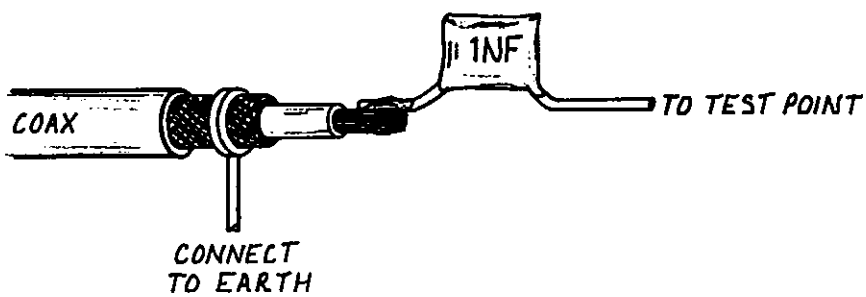


Figure 10 RF Test Cable

Note: Before using the test cable, ensure the coax braid is connected to an earth point on the PCB.

Using the RF test cable, apply a modulated 45MHz signal to the test points in the IF section, or an on-channel RF signal to the front end test breaks.

Check that the sensitivity at each test point is within 2dB of the levels shown on the Circuit Diagram (NB & WB only).

Poor sensitivity indicates a fault in one of the circuit blocks following the test point.

Note: Poor sensitivity into the mixer can be caused by lack of drive level from the VCO (the drive level should be >+7dBm).

Refer to the receiver fault finding charts (Section 6.11) for further information.

6.6.3 TCXO STABILITY

While maintaining a low level unmodulated RF input to the receiver, loosely couple into the first IF an additional high level signal at 45MHz - a constant low frequency beat note should be heard.

Tap the TCXO with a finger and replace it if the beat note permanently changes.

6.6.4 IF DISTORTION

If after careful IF alignment (Section 4.7 or 4.8) the audio distortion is still high, the IF should be swept to investigate the bandpass response.

Apply an on channel RF signal modulated at 10Hz with 12kHz [6kHz] (25kHz) deviation at an amplitude of -80dBm.

Connect the modulating 10Hz audio signal to the "X" input of an oscilloscope and observe the 455kHz IF at SK300/3 via a suitable RF probe on the "Y" input.

Note: The X input should be DC coupled.

Check that the swept response has a rounded top and no sharp non-linearities (refer to Figure 11).

Increase the RF level to -50dBm; the trace will now show the shape of the 455kHz ceramic filter (&XF302).

Check that the response has no sharp non-linearities.

If sharp non-linearities do occur, replace the filter and sweep to confirm a satisfactory solution (refer to Figure 12).

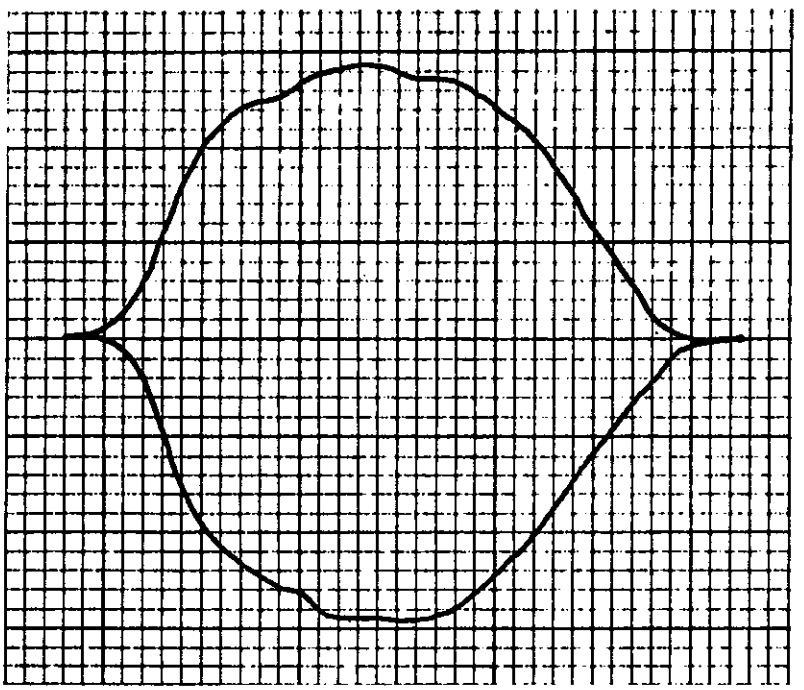


Figure 11 IF Swept Response

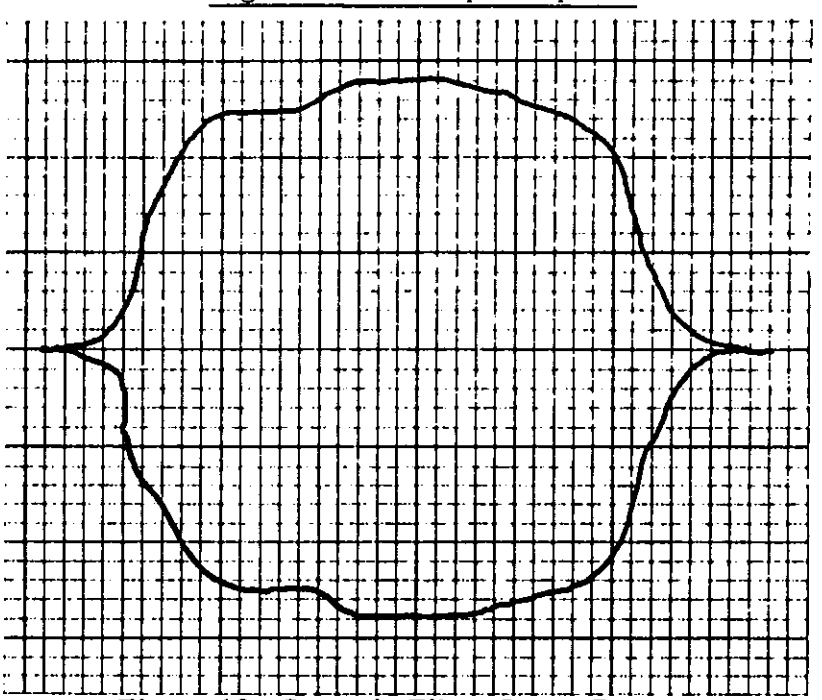
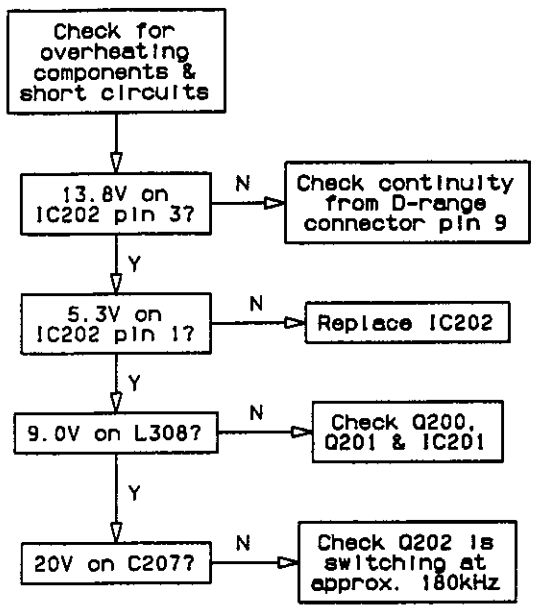


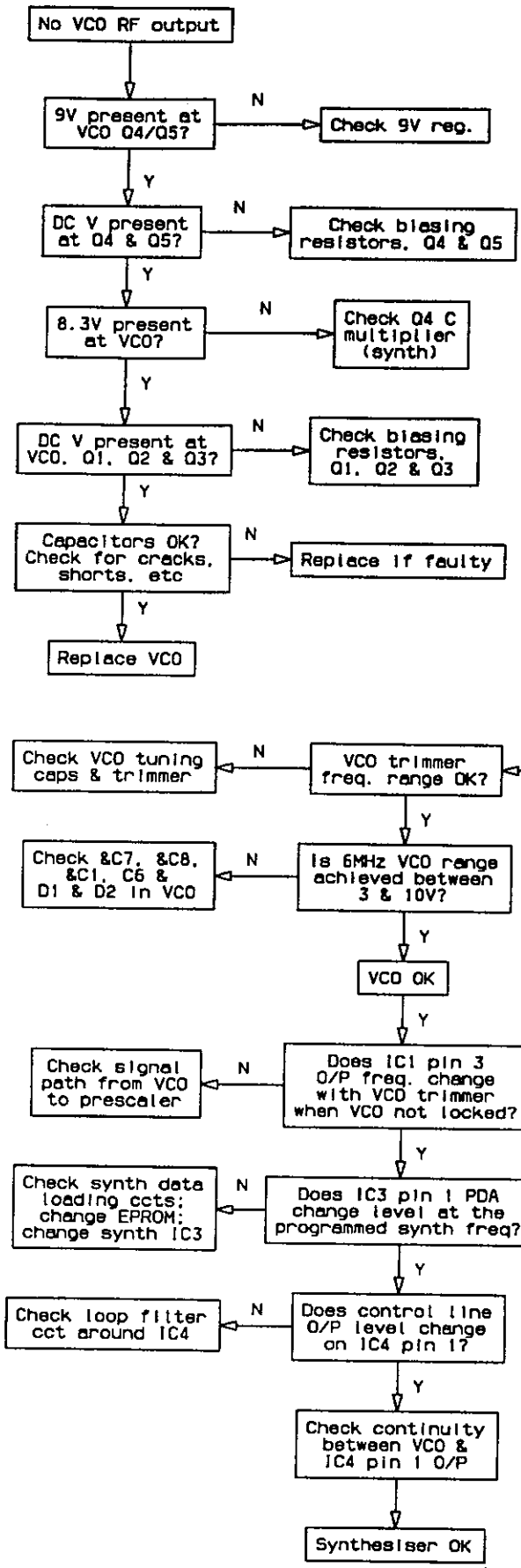
Figure 12 Ceramic Filter Swept Response

6.7 REGULATOR FAULT FINDING CHART



6.8 SYNTHESISER FAULT FINDING CHARTS

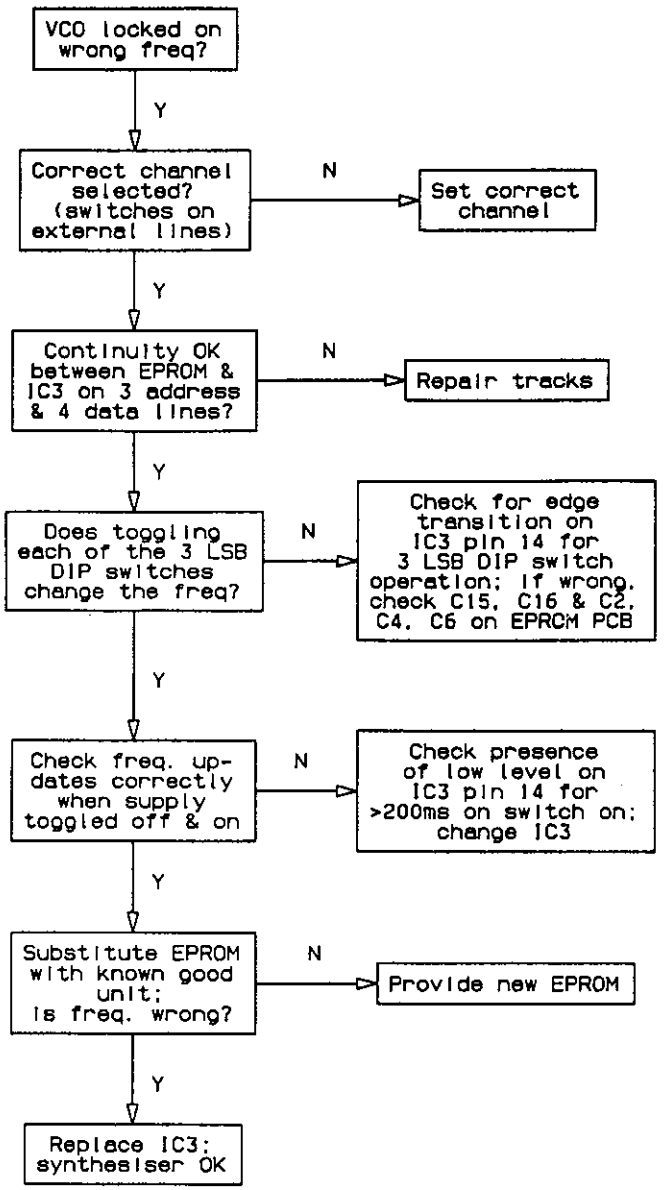
A Refer to VCO Circuit Diagram



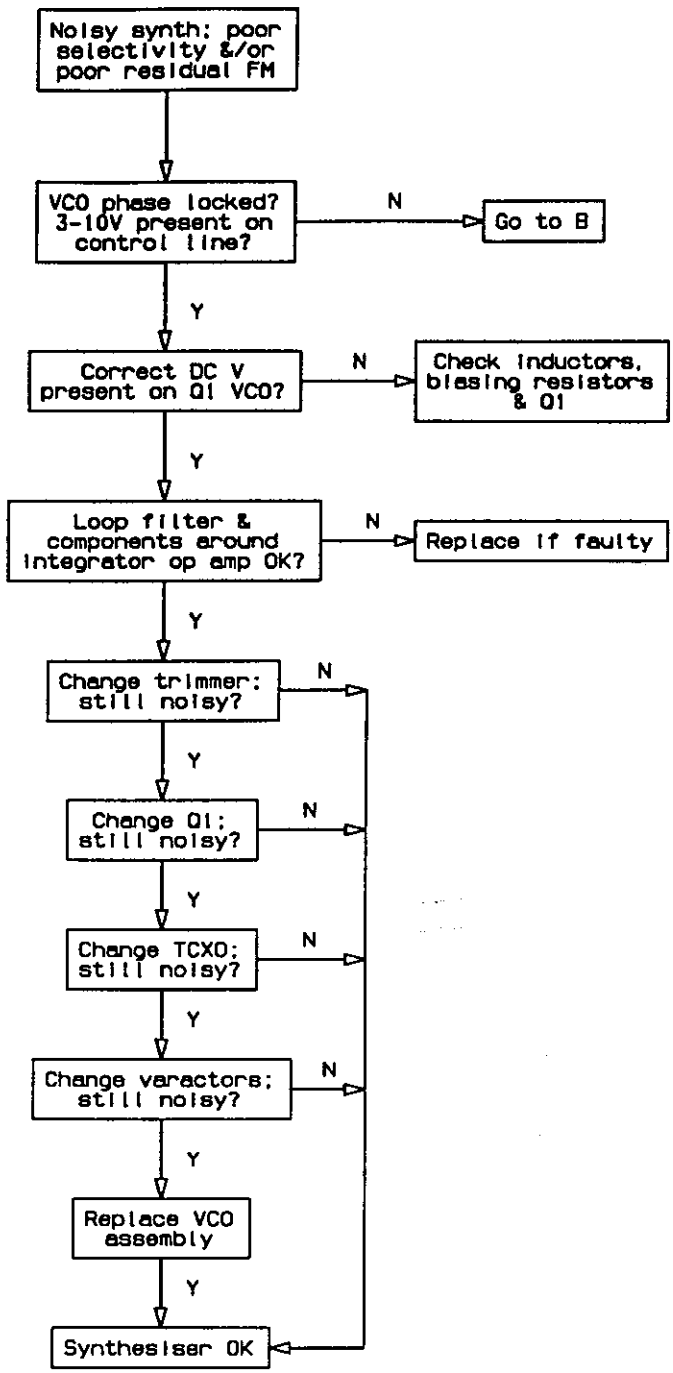
B Refer to synthesiser Circuit Diagram

Continued on next page.

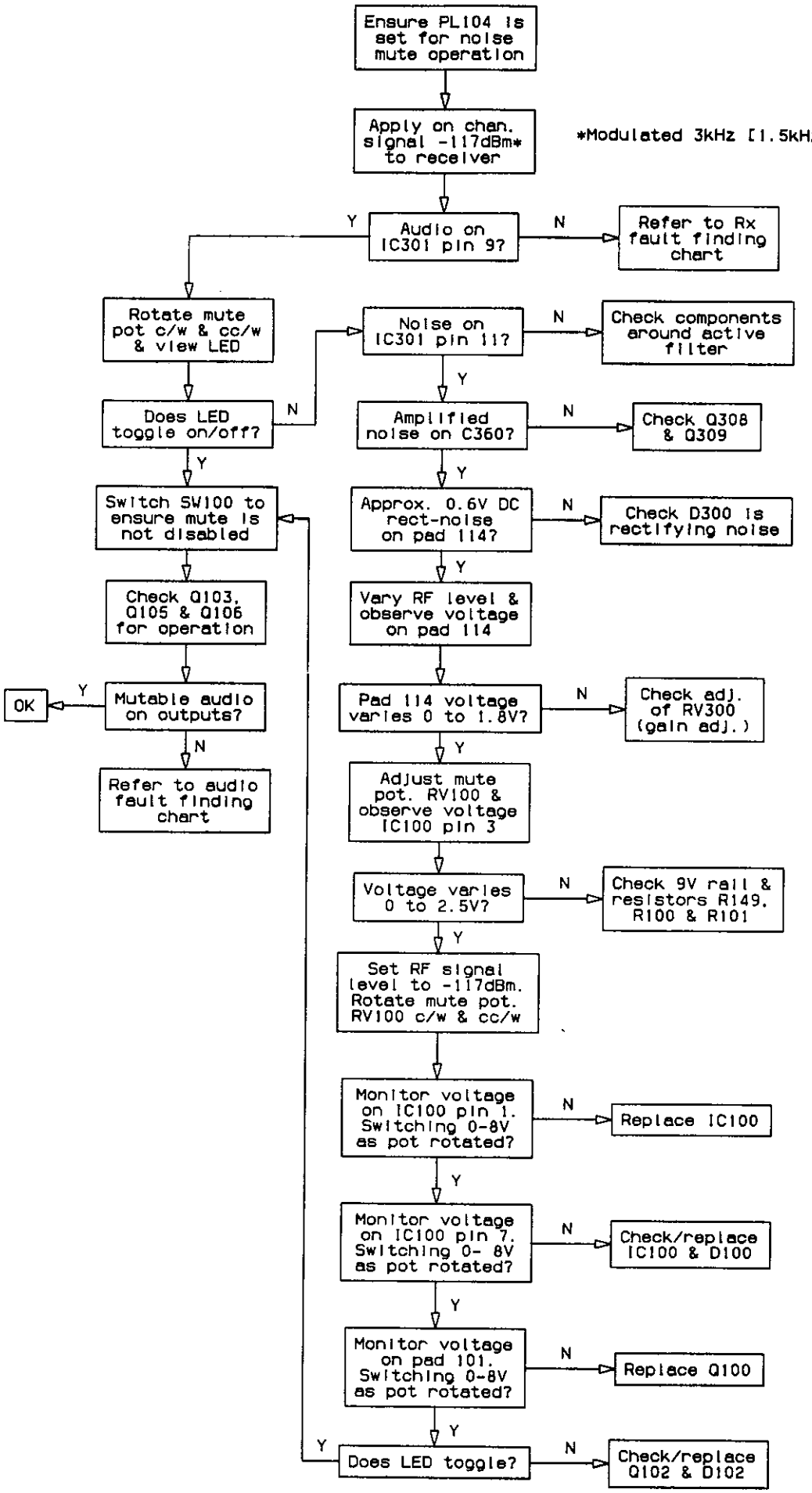
C Refer to synthesiser Circuit Diagram



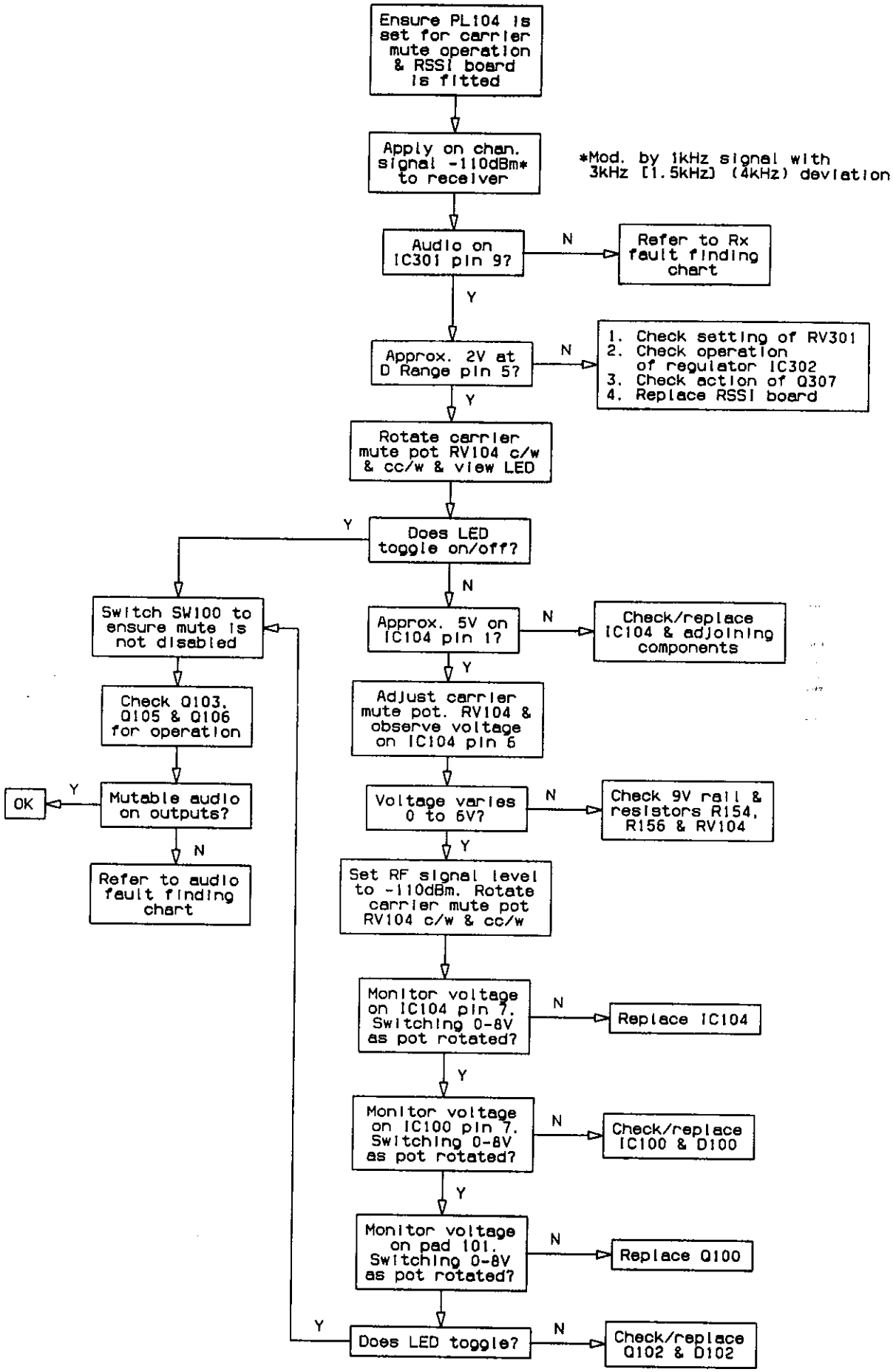
D Refer to synthesiser & VCO Circuit Diagrams



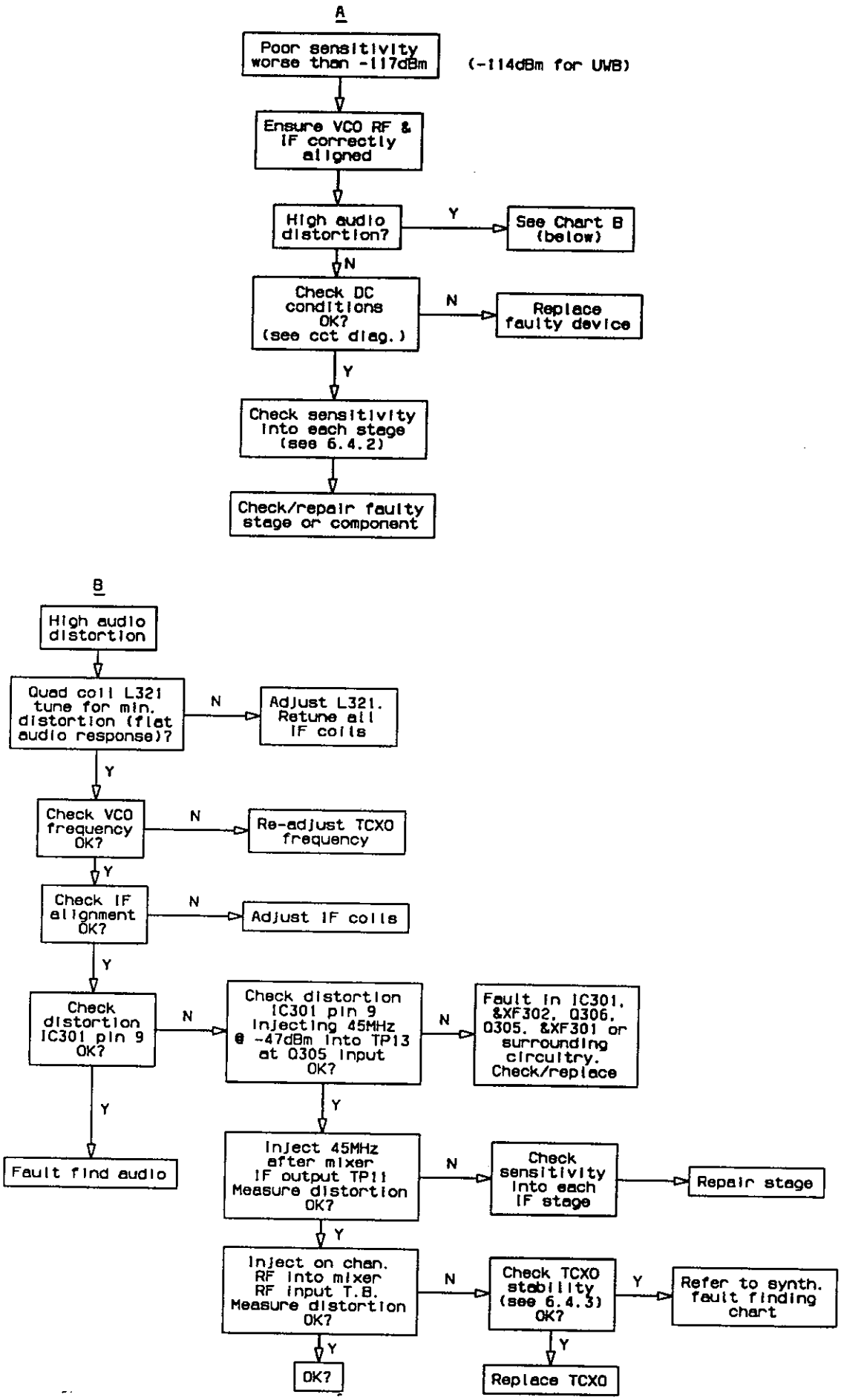
6.9 NOISE MUTE FAULT FINDING CHART



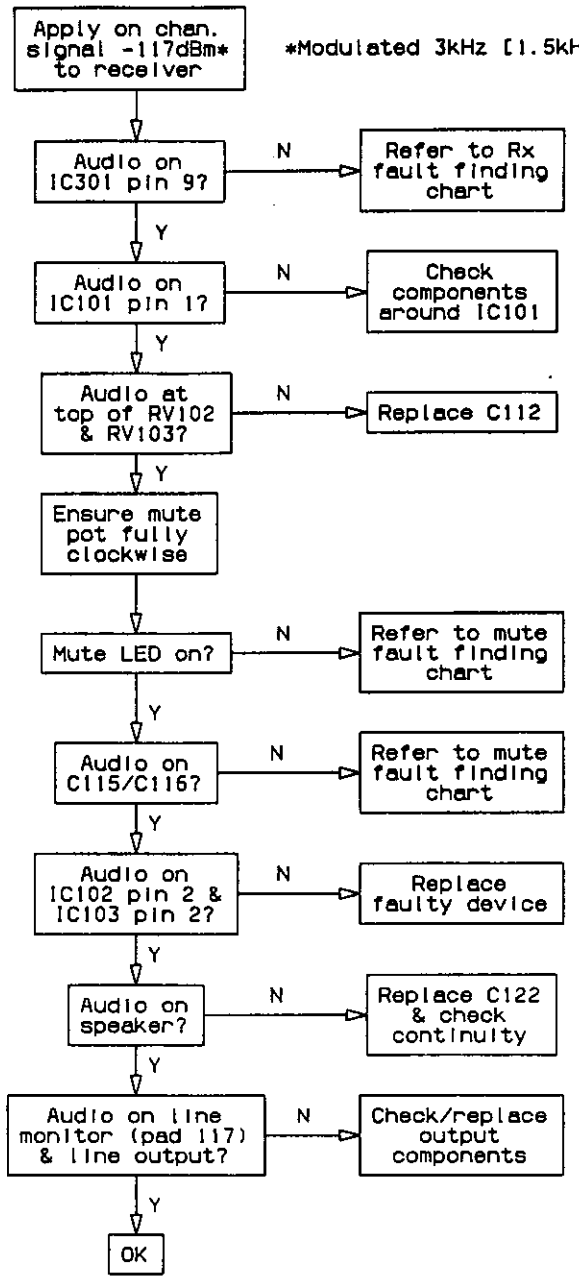
6.10 CARRIER MUTE FAULT FINDING CHART



6.11 RECEIVER FAULT FINDING CHARTS



6.12 AUDIO FAULT FINDING CHART



SECTION 7 INSTALLATION

7.1 RACK MOUNTING

The T885 base station receiver is designed for use in a standard 483mm rack frame using a Tait T800 Series guide which locates and mates the rear D-range connectors (refer to Figures 13 & 14).

A T800 Series guide is supplied with each T885 receiver. The guide is located in the rack frame with four screws, two at the rear and two at the front. The T885 is secured into the guide with two front panel mounting screws.

The RF input is via the rear N-type connector, while all DC, audio and control connections are via the D-range connector. An additional rear D-range connector (T800-03) is fitted when remote multichannel operation or additional control of low frequency lines is required.

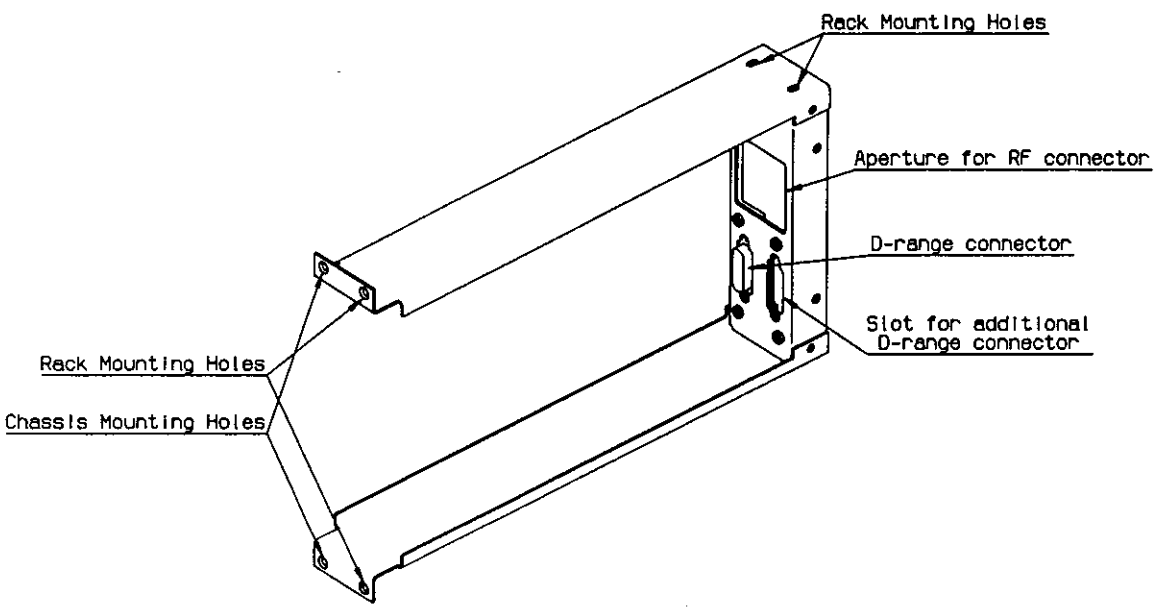


Figure 13 T800 Series Guide

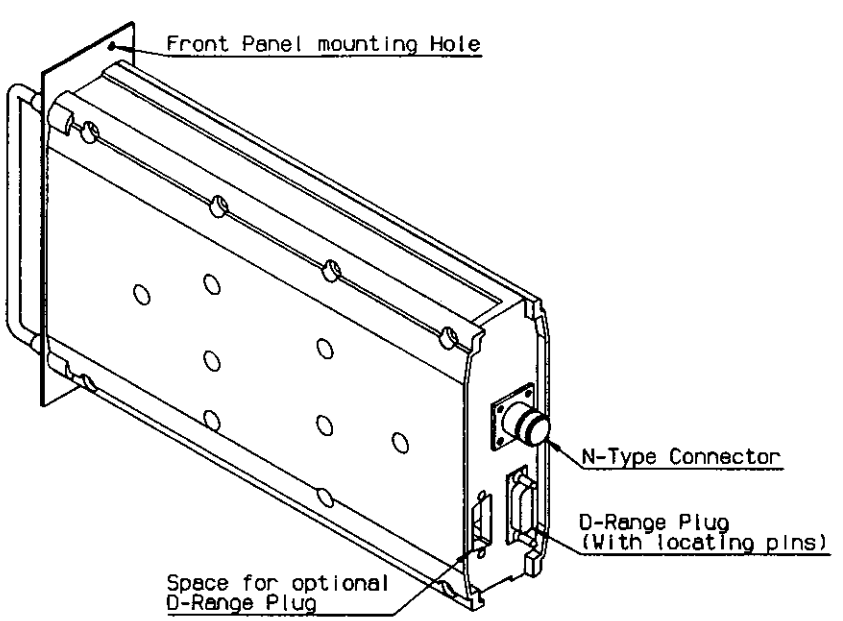


Figure 14 T885 Chassis Connectors

7.2 RACK WIRING

Wire the D-range connector as shown in Figure 15. Ensure that the cables are not subjected to any stresses due to tight bends or incorrect lengths.

The RF coaxial cable to the N-type connector should be free from acute bends or twists. If access to the rear of the rack frame is restricted, the cable should be long enough to permit full withdrawal of the chassis from the guide.

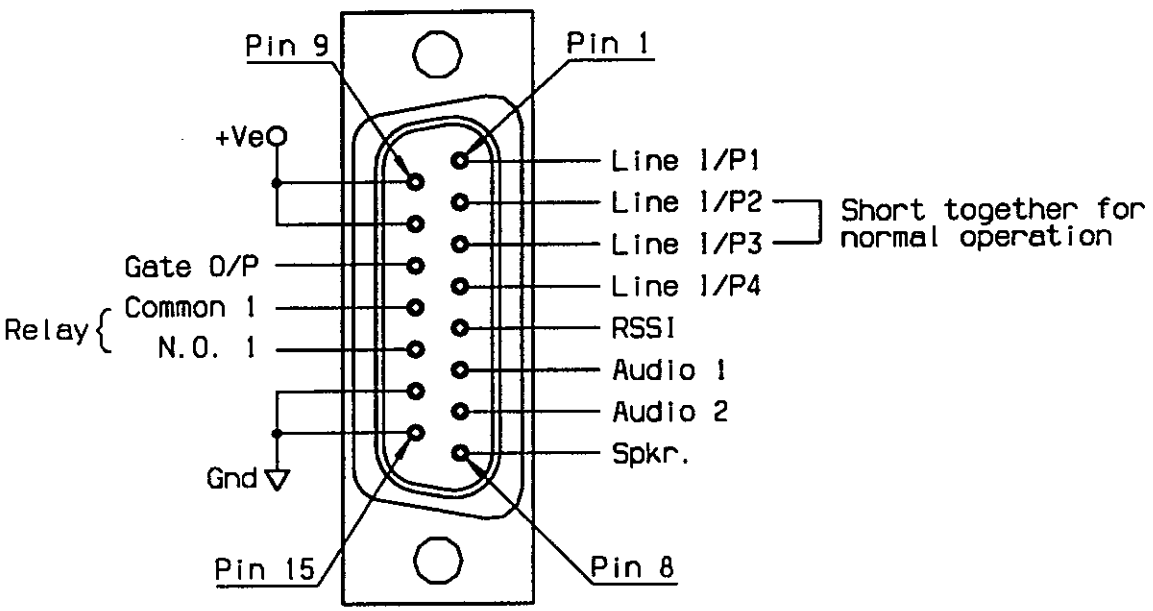


Figure 15 D-Range Wiring - Rear View

7.3 POWER SUPPLY

If a non-standard Tait power supply is used, ensure that it is capable of providing enough current to drive the T800 system and is also free from excessive ripple or noise.

The system should be protected by the use of appropriately rated fuses in the power supply. Where several receivers are powered by the same supply, each unit should be individually protected with a fuse.

Note: It is particularly important when the prime power source is a battery that fuses be fitted in all supply lines.

7.4 REVERSE POLARITY PROTECTION

A shunt diode is fitted to each T885 receiver for protection against connection to a power supply of incorrect polarity.

Note: A fuse must be fitted in the power supply line for the diode to provide effective protection.

SECTION 8 SYSTEM CONFIGURATIONS

8.1 GENERAL

Tait Fixed Equipment transmitters and receivers may be assembled into a wide variety of fixed equipment systems, from a simple land mobile base to a complex linking system operating in hot standby mode.

8.2 LINK SELECTABLE FEATURES

The T885 comes with a number of link selectable features which give added system flexibility.

8.2.1 FLAT OR DE-EMPHASISED RESPONSE

The links of PL101 and PL103 may be set to give either a flat or de-emphasised audio frequency response (refer to Section 4.4 for further details).

8.2.2 MUTE RELAY CONTROL

A relay with undedicated contacts (RL100) is available in the audio processor circuit block for various switching applications. A link (PL102) is available for control of the relay from the mute circuit (refer to Section 4.4). This makes the relay suitable for controlling the keying of a transmitter in repeater applications.

8.2.3 MUTE SELECTION

Link PL104 may be set to operate with noise mute or carrier mute (refer to Section 4.4).

8.2.4 RECEIVER DISABLE

The receiver audio can be disabled by pulling the "Rx disable" line low. When the circuit is pulled from low to high, the receiver audio cannot be re-enabled until the disable timer completes its operation. This time is variable from 15ms to 200ms by adjusting RV101 in the audio processor section.

If required, the operation of this circuit can be disabled by changing the link of PL100 from 1-2 to 2-3.

Typical applications of the receiver disable are as an extra mute for signalling purposes, or when the T885 is configured as a line controlled base station (refer to Section 8.4)

8.2.5 CTCSS CONFIGURATION

Links PL105 & PL106 select various CTCSS options (refer to Section 9.5.4).

8.2.6 300Hz HIGH PASS FILTER

Link PL105 also allows the insertion of this filter to improve hum and noise performance.

8.3 TALK THROUGH REPEATER

Refer to Figure 16.

In this configuration the receiver directly keys the transmitter when the signal is received. The demodulated audio is fed via 600 ohm lines to the transmitter to modulate the carrier. The receiver and transmitter operate simultaneously and must therefore be on different frequencies. The minimum frequency separation depends on the duplexer used.

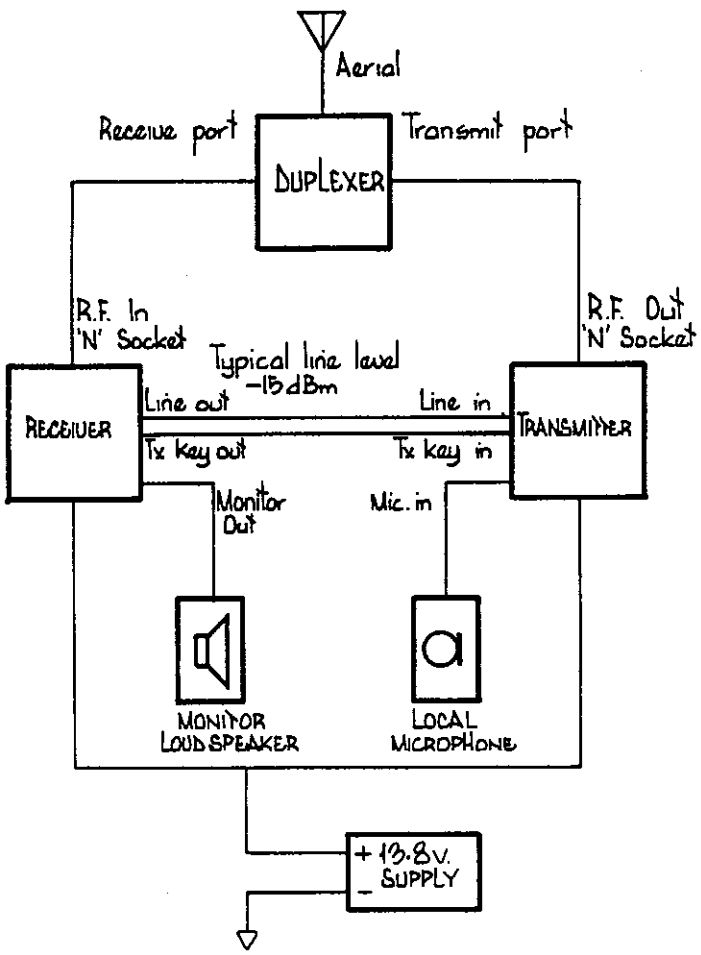


Figure 16 Talk Through Repeater

8.4 LINE CONTROLLED BASE STATION (WITHOUT TALK THROUGH)

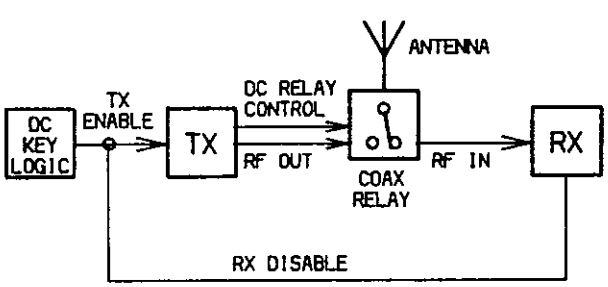


Figure 17 Basic Configuration

This installation contains a transmitter and receiver which may or may not be on the same frequency, thus simultaneous transmission and reception is not possible. When the transmitter is keyed, the coaxial relay is also energised. When the relay is in its rest position, signals from the aerial are passed to the receiver.

The receiver is disabled when the transmitter is energised to prevent the receiver mute opening from RF due to lack of isolation in the relay, direct radiation or the noise skirt of the dual frequency link.

Since the base station may be controlled via a 2-wire line and a 4-wire to 2-wire hybrid, there is a possibility of system oscillation if the receiver is not disabled during transmit. This occurs when the transmit energy enters the receiver and produces an audio response which can pass from the receive to the transmit audio part of the hybrid (impedance imbalance, etc).

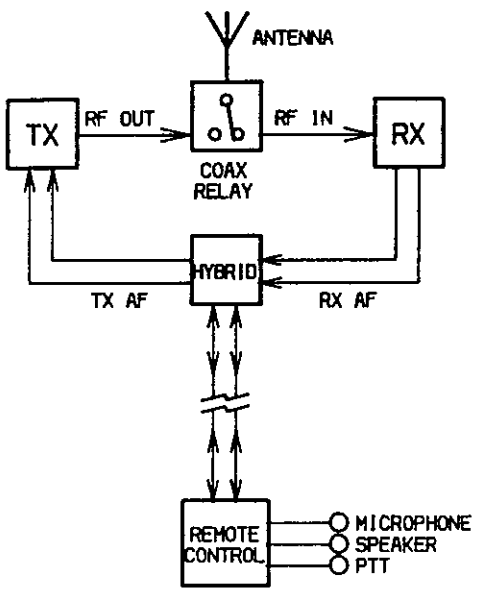


Figure 18 Remote Line Controlled Base Station

8.4.1 TRANSMITTER TAIL TIMER

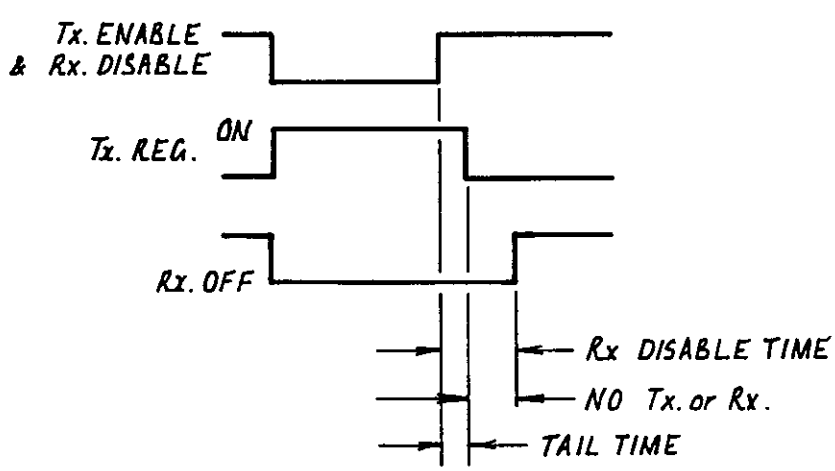


Figure 19 Receiver Disable Time vs Tail Time

If the transmitter has a tail timer fitted:

1. The receiver disable timer must be set so that $t_{Rx/Dis} > t_{Tx/Tail}$.

2. If the system configuration also uses an aerial changeover relay as well as the tail timer, the changeover relay must be driven from the relay driver (Q105) in the audio processor rather than by Tx key or Tx enable.

3. Depending on tail time requirements, it is possible for the transmitter tail time to exceed the receiver disable time capability. In this situation the receiver disable line should also be driven from relay driver Q105.

8.5 DC LINE KEYING

Where the transmitter and receiver are separated by only a short distance and DC isolation is not required, DC loop keying may be employed.

A small DC current (usually less than 10mA) can be fed via the balanced 2-wire line to provide remote control of various functions.

In a duplex system the receiver mute is used to key a transmitter, provided there is a common earth between the two units (refer to Figure 20).

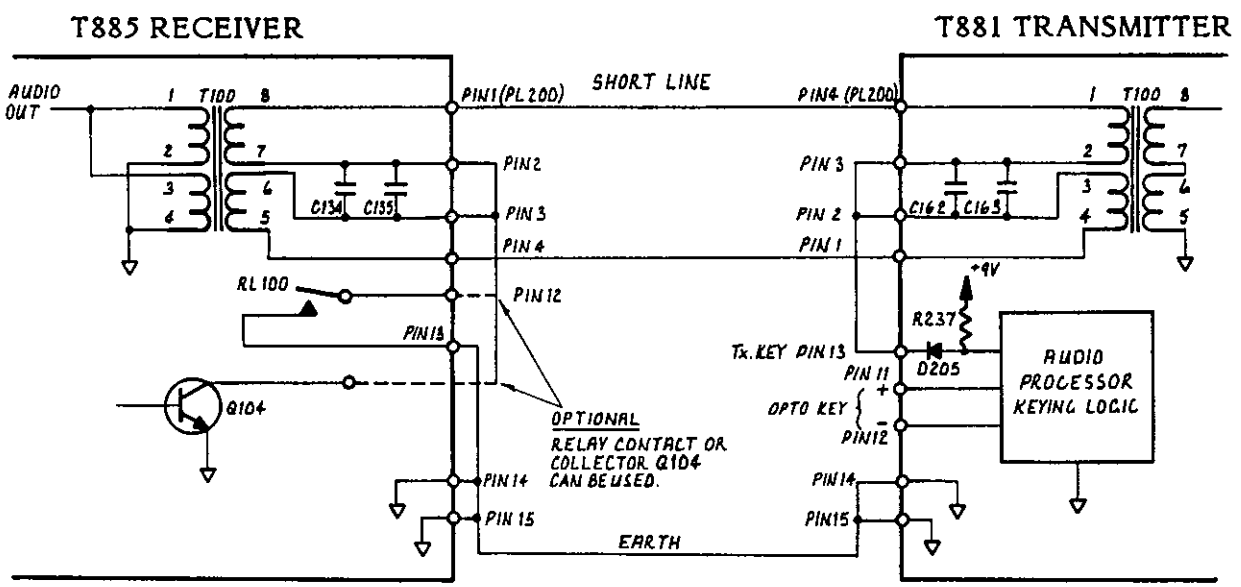


Figure 20 DC Loop Keying With Common Earth

Where the receiver and transmitter (or remote control) are distant, DC loop keying is provided by an isolated supply, driver and detector because an earth cannot be relied on (refer to Figures 21, 22 & 23).

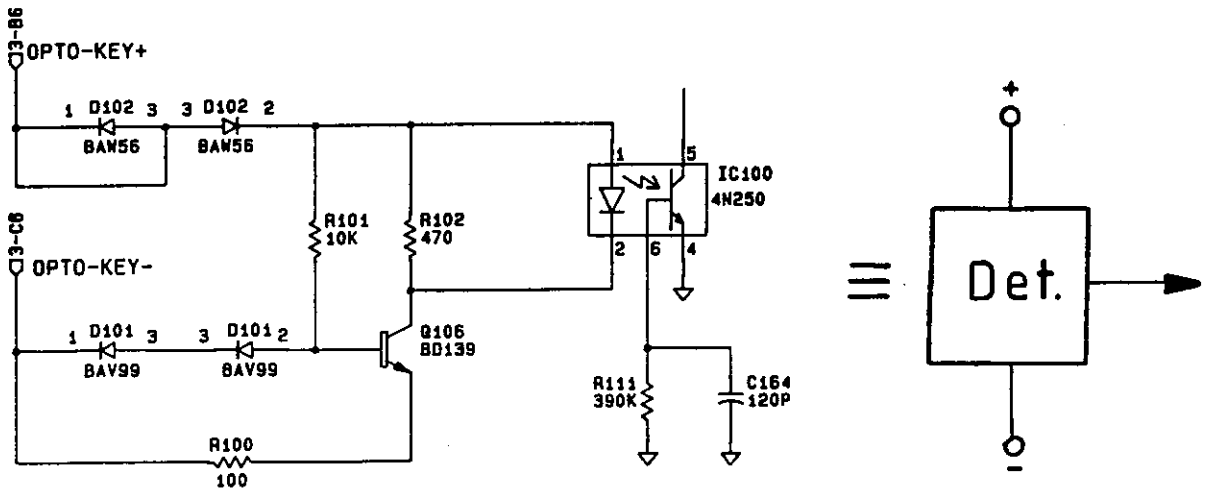


Figure 21 Isolated Constant Current Loop Current Detector
(Opto-key input on T881)

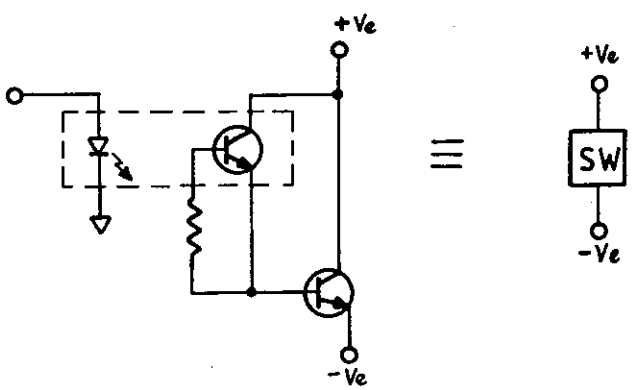


Figure 22 Isolated Loop Current Switch

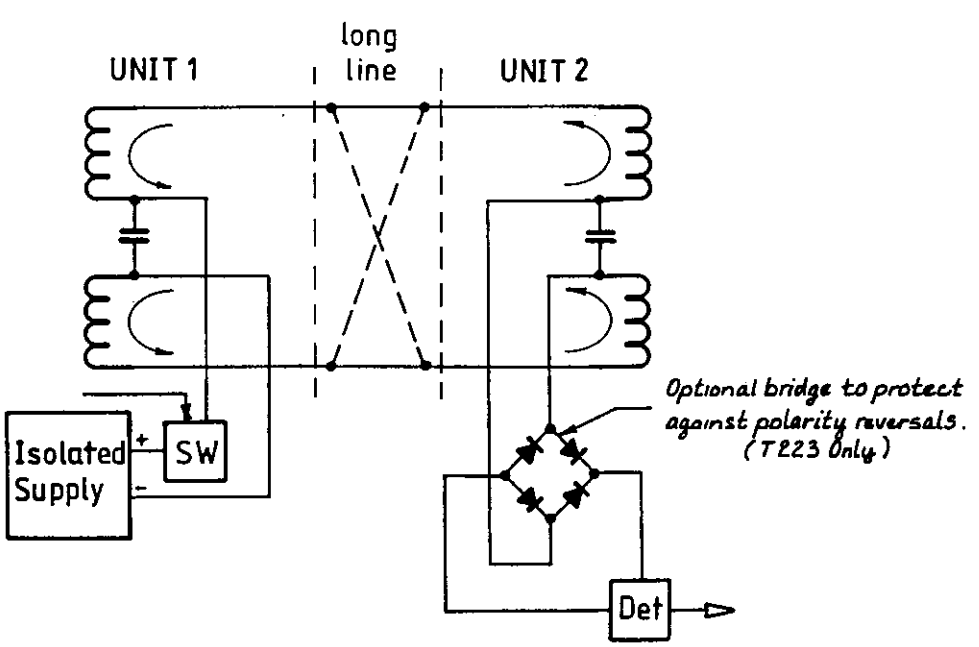


Figure 23 Typical System

SECTION 9 STANDARD OPTIONS

9.1 GENERAL

The T885 is available with a range of standard options to suit many requirements. For further details on these or more specialised options, please contact your nearest Tait dealer or agent.

9.2 TCXO

A high stability TCXO is available to suit specific requirements. The stability of this and the standard TCXO is set out below:

±1ppm	0°C to +60°C
±1.5ppm	-30°C to +60°C (standard)

They are pin compatible devices and may be fitted in location =IC2 in the synthesiser compartment.

Refer to Section 1.3 for details of specific versions.

9.3 RSSI

The RSSI is a plug-in option PCB which may be retrofitted to the receiver. It provides a DC voltage proportional to the received signal strength. This voltage is available at the rear D-range connector and may be used for various applications including voting.

Typical voltage against signal strength characteristics are shown in Figure 24 below:

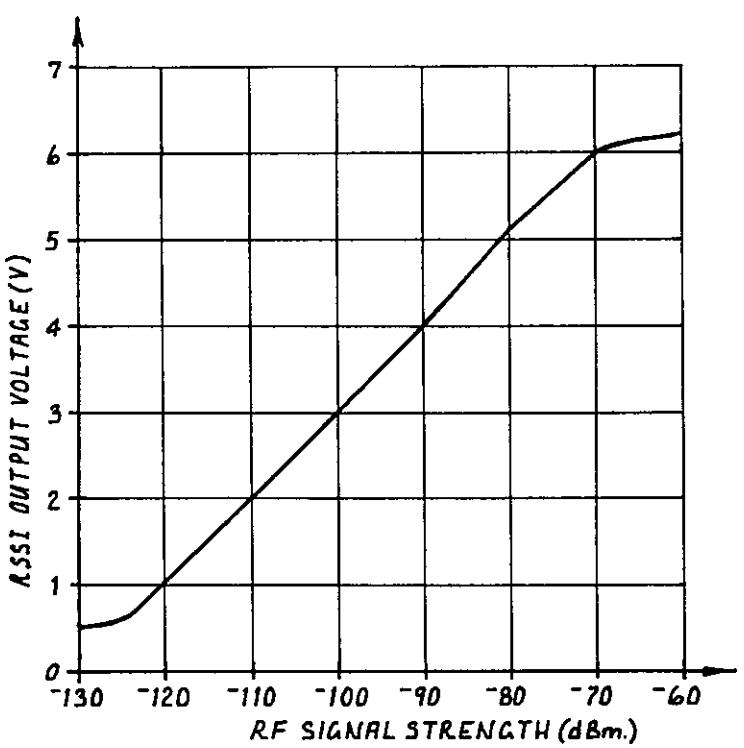


Figure 24 RSSI Voltage vs Signal Strength

When fitted, the RSSI also gives the capability of high level signal strength muting, which may be selected on PL104 (refer to Section 4.4). The mute threshold may be set between -115dBm and -70dBm on RV104.

9.4 MULTICHANNEL

9.4.1 REMOTE

For multichannel operation it is necessary to fit an additional D-range connector (T800-03) to the rear of the chassis and replace the standard plug-in EPROM PCB with the T800-07 multichannel memory PCB. Three channel select lines (CH SEL 0, 1 & 2) are brought into the D-range connector compartment and should be connected to pins 11, 12 and 13 of the extra D-range, providing 8 channel control. The fourth wire is earth and should be soldered onto the main PCB.

For remote operation it is necessary to disable these three lines internally by switching the 3 least significant address DIP switches (SW1:1-3) to the off position. Channel selection is achieved by pulling one or more of the channel select lines low.

If more channels are required (up to 128 are available), a hole must be drilled in the end wall of the synthesiser compartment to route the extra channel select wires. Later models may have an access slot between the synthesiser and D-range compartments.

9.4.2 INTERNAL SELECTION

The EPROM can be loaded with up to 128 channel frequencies, each of which is addressable via the 8 bit DIP switch (SW1). Thus, one of 128 channel operation is possible.

9.5 CTCSS

9.5.1 SINGLE CHANNEL - SINGLE TONE

For single tone use, the T800-02 unit should be used. This is a retrofit PCB which is mounted on the specially provided lugs in the audio processor compartment of the receiver (refer to Figure 25).

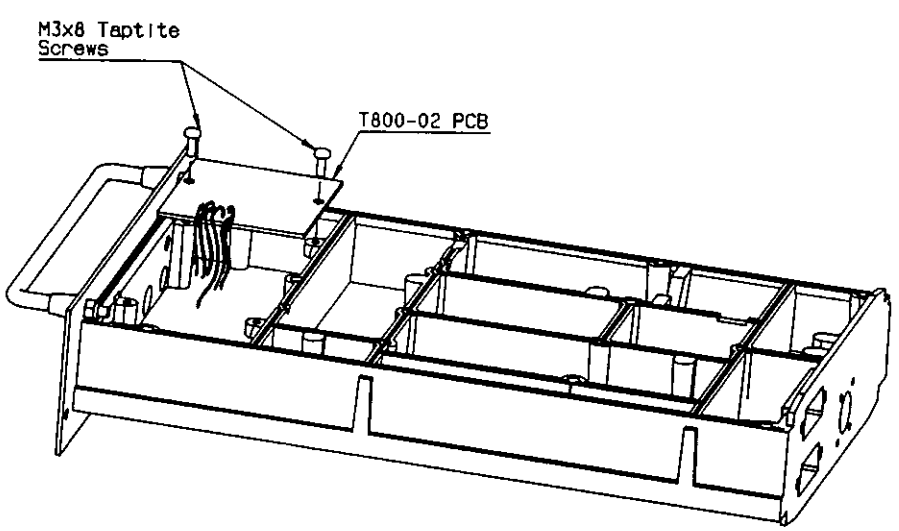


Figure 25 T800-02 Mounting Details

Access to all necessary audio and power supply points is provided by accessory pads in the audio processor. Refer to Figure 26 for installation and wiring details.

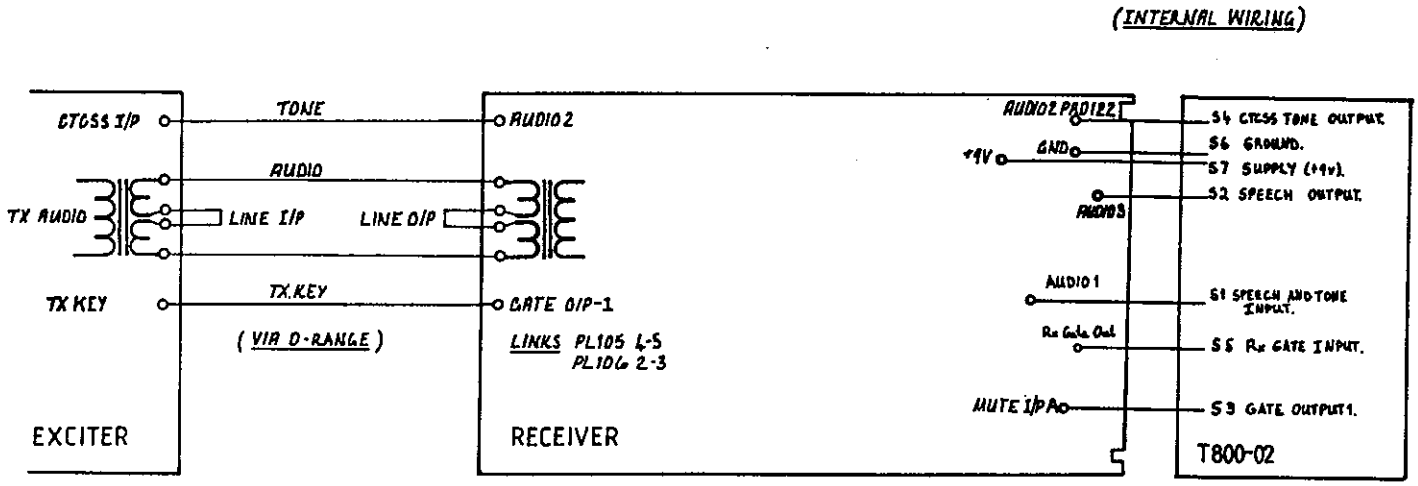


Figure 26 CTCSS Wiring Detail

Outputs are available on the receiver to key the transmitter, when used in a repeater situation, and to pass the CTCSS tone to the exciter. Connections to the exciter are given in Section 8.

If required, the CTCSS processing can be carried out in the transmitter (refer to M881-00). In this case the CTCSS tone is passed along the 600 ohm line and decoded in the transmitter.

9.5.2 MULTICHANNEL - SEPARATE TONES

In applications where each RF channel has a separate CTCSS tone, it is necessary to take the CTCSS tone select lines to the additional rear D-range connector. From the D-range, up to eight RF channels and any of the CTCSS tones can be selected by grounding the necessary pins.

9.5.3 SINGLE CHANNEL - MULTI-TONE

Where more than one tone is used on the same channel, some form of external encoding/decoding such as the T310-05 or T310-10 must be used. The system should be connected as shown in Figure 27.

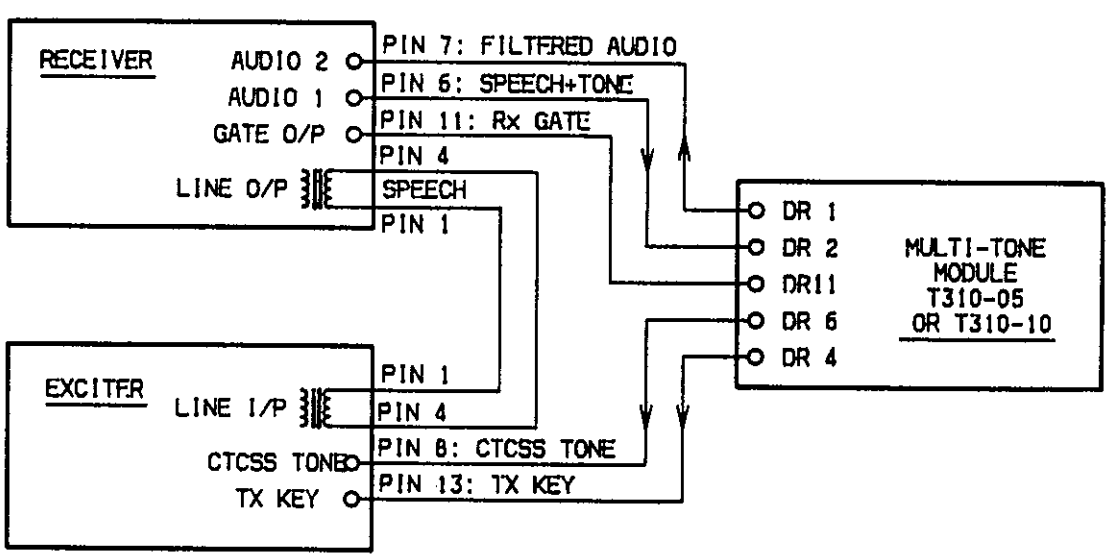


Figure 27 Multi-Tone Control with T310-05 or T310-10

An alternative configuration is to send speech plus tone along the 600 ohm line and carry out the detection on the transmitter audio. However, this would require the 300Hz high pass filter formed by Q109 to be linked out, thus degrading the residual hum and noise performance by 10dB.

Refer to the transmitter Service Manual (M881-00) for further details.

9.5.4 AUDIO PROCESSOR LINKING DETAILS FOR CTCSS

The audio processor links must be appropriately connected for the CTCSS option used, as shown in the table below.

CTCSS Option	PL105	PL106
standard, no CTCSS	2-3	2-3
CTCSS tone + speech to line output	1-2	2-3
internal CTCSS	4-5	2-3
external CTCSS	4-5	1-2

The conditions stated in the above table are defined as follows:

* standard, no CTCSS
  - no CTCSS or other sub-audio signalling used
  - audio bandwidth 300Hz to 3kHz
  - hum & noise -49dB [-44dB] (-44dB)

* CTCSS tone + speech to line output
  - tone and speech transmitted down 600 ohm line
  - audio bandwidth 10Hz to 3kHz
  - hum & noise -39dB [-34dB] (-34dB)
  - decoding performed in exciter/transmitter

* internal CTCSS
  - decoding performed in receiver by T800-02 or similar
  - re-encoded tone output via "audio 2", speech sent down 600 ohm line

* external CTCSS
  - decoding performed through the receiver (but externally) by T310-05 or similar
  - speech injected back into receiver via "audio 2" and sent down 600 ohm line

SECTION 10 PARTS LIST

INTRODUCTION

The 10 digit numbers (000-00000-00) in this Parts List are "internal part numbers" (IPN's). Your spare parts orders can be handled more efficiently if you quote: equipment type, circuit reference and IPN, along with a brief description of the part.

The components listed in this Parts List are divided into two main types: those with a circuit reference (e.g. C2, D106, R121, etc) and those without (miscellaneous and mechanical).

Those with a circuit reference are grouped firstly by PCB, then by component type in numerical order. Each component entry comprises four columns: the circuit reference, variant number (if applicable), IPN and description. A number in the variant column indicates that this particular component is fitted only to that variant.

The miscellaneous and mechanical section lists the variant and common parts in IPN order.

INDEX

Main PCB:	Capacitors	10.3
	Diodes	10.4
	Helicals	10.4
	Integrated Circuits	10.4
	Coils	10.4
	Headers/Plugs	10.5
	Transistors	10.5
	Resistors	10.5
	Sockets/Switches	10.6
	Transformers	10.6
	Crystal Filters	10.6
VCO PCB		10.7
EPROM PCB		10.8
RSSI PCB		10.9
Miscellaneous & Mechanical		10.10

T885 MAIN BOARD PARTS LIST

REF	VAR	IPN	DESCRIPTION
C1		015-23120-01	CAPACITOR CERAMIC 0805 CHIP 120P 5% NPO
C2		015-06100-08	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
C3		015-21820-01	CAPACITOR CERAMIC 0805 CHIP 8P2 +/-0.25P
C4		015-23120-01	CAPACITOR CERAMIC 0805 CHIP 120P 5% NPO
C5		015-23120-01	CAPACITOR CERAMIC 0805 CHIP 120P 5% NPO
C6		015-23120-01	CAPACITOR CERAMIC 0805 CHIP 120P 5% NPO
C7		015-23120-01	CAPACITOR CERAMIC 0805 CHIP 120P 5% NPO
C8		015-23120-01	CAPACITOR CERAMIC 0805 CHIP 120P 5% NPO
C9		015-06100-08	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
C13		020-08100-03	CAPACITOR ELECTRO RADIAL 10UF 50V 5X11MM
C14		015-06100-08	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
C15		015-22560-01	CAPACITOR CERAMIC 0805 CHIP 56P 5% NPO 5
C16		015-23680-08	CAPACITOR CERAMIC 0805 CHIP 680P 10% X7R
C17		015-23470-08	CAPACITOR CERAMIC 0805 CHIP 470P 10% X7R
C19		015-06100-08	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
C20		020-08100-03	CAPACITOR ELECTRO RADIAL 10UF 50V 5X11MM
C21		015-25100-08	CAPACITOR CERAMIC 0805 CHIP 10N 10% X7R
C22		015-25150-08	CAPACITOR CERAMIC 0805 CHIP 15N 10% X7R
C23		022-06330-03	CAPACITOR METAL POLYESTER 330N 10% 50V 5
C24		020-08100-03	CAPACITOR ELECTRO RADIAL 10UF 50V 5X11MM
C25		015-05470-08	CAPACITOR CERAMIC 1206 CHIP 47N 10% X7R
C26		025-08100-02	CAPACITOR TANT BEAD 10M 10% 16V
C27		025-08100-02	CAPACITOR TANT BEAD 10M 10% 16V
C28		015-06100-08	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
C30		015-06100-08	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
C31		015-06100-08	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
C32		015-06100-08	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
C33		015-24100-08	CAPACITOR CERAMIC 0805 CHIP 1N 10% X7R 5
C34		015-21820-01	CAPACITOR CERAMIC 0805 CHIP 8P2 +/-0.25P
C35		015-06100-08	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
C36		020-08100-03	CAPACITOR ELECTRO RADIAL 10UF 50V 5X11MM
C36		025-08100-02	CAPACITOR TANT BEAD 10M 10% 16V
C39		025-08100-02	CAPACITOR TANT BEAD 10M 10% 16V
C40		015-06100-08	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
C41		015-24100-08	CAPACITOR CERAMIC 0805 CHIP 1N 10% X7R 5
C42		015-06100-08	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
C100		020-07100-02	CAPACITOR ELECTRO RADIAL 1M 50V 5X11MM
&C101	10	015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
&C101	12	015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
&C101	15	015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
&C101	17	015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
&C101	20	015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
&C101	22	015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
&C101	25	015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
&C101	27	015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
C102		020-08470-02	CAPACITOR ELECTRO RADIAL 47M 16V 6X11MM
&C103	10	015-05470-08	CAPACITOR CERAMIC 1206 CHIP 47N 10% X7R
&C103	12	015-05470-08	CAPACITOR CERAMIC 1206 CHIP 47N 10% X7R
&C103	14	015-23470-08	CAPACITOR CERAMIC 0805 CHIP 470P 10% X7R
&C103	15	015-05470-08	CAPACITOR CERAMIC 1206 CHIP 47N 10% X7R
&C103	17	015-05470-08	CAPACITOR CERAMIC 1206 CHIP 47N 10% X7R
&C103	20	015-05470-08	CAPACITOR CERAMIC 1206 CHIP 47N 10% X7R
&C103	22	015-05470-08	CAPACITOR CERAMIC 1206 CHIP 47N 10% X7R
&C103	24	015-23470-08	CAPACITOR CERAMIC 0805 CHIP 470P 10% X7R
&C103	25	015-05470-08	CAPACITOR CERAMIC 1206 CHIP 47N 10% X7R
&C103	27	015-05470-08	CAPACITOR CERAMIC 1206 CHIP 47N 10% X7R
&C104	10	015-21220-01	CAPACITOR CERAMIC 0805 CHIP 2P2 +/-0.25P
&C104	12	015-21220-01	CAPACITOR CERAMIC 0805 CHIP 2P2 +/-0.25P
&C104	15	015-21220-01	CAPACITOR CERAMIC 0805 CHIP 2P2 +/-0.25P
&C104	17	015-21220-01	CAPACITOR CERAMIC 0805 CHIP 2P2 +/-0.25P
&C104	20	015-21220-01	CAPACITOR CERAMIC 0805 CHIP 2P2 +/-0.25P
&C104	22	015-21220-01	CAPACITOR CERAMIC 0805 CHIP 2P2 +/-0.25P
&C104	25	015-21220-01	CAPACITOR CERAMIC 0805 CHIP 2P2 +/-0.25P
&C104	27	015-21220-01	CAPACITOR CERAMIC 0805 CHIP 2P2 +/-0.25P
C105		015-06100-08	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
&C106	10	015-22470-01	CAPACITOR CERAMIC 0805 CHIP 47P 5% NPO 5
&C106	12	015-22470-01	CAPACITOR CERAMIC 0805 CHIP 47P 5% NPO 5
&C106	14	015-23220-01	CAPACITOR CERAMIC 0805 CHIP 220P 5% NPO
&C106	15	015-22470-01	CAPACITOR CERAMIC 0805 CHIP 47P 5% NPO 5
&C106	17	015-22470-01	CAPACITOR CERAMIC 0805 CHIP 47P 5% NPO 5
&C106	20	015-22470-01	CAPACITOR CERAMIC 0805 CHIP 47P 5% NPO 5
&C106	22	015-22470-01	CAPACITOR CERAMIC 0805 CHIP 47P 5% NPO 5
&C106	24	015-23220-01	CAPACITOR CERAMIC 0805 CHIP 220P 5% NPO
&C106	25	015-22470-01	CAPACITOR CERAMIC 0805 CHIP 47P 5% NPO 5
&C106	27	015-22470-01	CAPACITOR CERAMIC 0805 CHIP 47P 5% NPO 5
C107		015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
C108		015-24100-08	CAPACITOR CERAMIC 0805 CHIP 1N 10% X7R 5
C110		020-09100-03	CAPACITOR ELECTRO RADIAL 100M 16V 8X11MM
C111		015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
C112		020-08100-03	CAPACITOR ELECTRO RADIAL 10UF 50V 5X11MM
C113		015-24100-08	CAPACITOR CERAMIC 0805 CHIP 1N 10% X7R 5
C114		015-24100-08	CAPACITOR CERAMIC 0805 CHIP 1N 10% X7R 5
C115		015-06100-08	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
C116		015-06100-08	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
C117		020-09100-03	CAPACITOR ELECTRO RADIAL 100M 16V 8X11MM
C118		020-09100-03	CAPACITOR ELECTRO RADIAL 100M 16V 8X11MM
C119		015-24100-08	CAPACITOR CERAMIC 0805 CHIP 1N 10% X7R 5
C120		015-24100-08	CAPACITOR CERAMIC 0805 CHIP 1N 10% X7R 5
C121		015-06100-08	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
C122		020-09470-05	CAPACITOR ELECTRO RADIAL 470M 16V 10X12.
C123		015-06100-08	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
C124		020-09100-03	CAPACITOR ELECTRO RADIAL 100M 16V 8X11MM
C125		020-09220-01	CAPACITOR ELECTRO RADIAL 220M 16V 10X12.
C126		015-06100-08	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
C127		020-09220-01	CAPACITOR ELECTRO RADIAL 220M 16V 10X12.
C128		015-06100-08	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
C129		015-06100-08	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
&C130	10	015-25100-08	CAPACITOR CERAMIC 0805 CHIP 10N 10% X7R
&C130	12	015-25100-08	CAPACITOR CERAMIC 0805 CHIP 10N 10% X7R
&C130	15	015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
&C130	17	015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
&C130	20	015-25100-08	CAPACITOR CERAMIC 0805 CHIP 10N 10% X7R
&C130	22	015-25100-08	CAPACITOR CERAMIC 0805 CHIP 10N 10% X7R
&C130	25	015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
&C130	27	015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
&C131	10	015-24100-08	CAPACITOR CERAMIC 0805 CHIP 1N 10% X7R 5
&C131	14	015-24220-08	CAPACITOR CERAMIC 0805 CHIP 2N2 10% X7R
&C131	15	015-24100-08	CAPACITOR CERAMIC 0805 CHIP 1N 10% X7R 5
&C131	20	015-24100-08	CAPACITOR CERAMIC 0805 CHIP 1N 10% X7R 5
&C131	24	015-24220-08	CAPACITOR CERAMIC 0805 CHIP 2N2 10% X7R
&C131	25	015-24100-08	CAPACITOR CERAMIC 0805 CHIP 1N 10% X7R 5
&C132	10	015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
&C132	12	015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
&C132	14	015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
&C132	15	015-25100-08	CAPACITOR CERAMIC 0805 CHIP 10N 10% X7R
&C132	17	015-25100-08	CAPACITOR CERAMIC 0805 CHIP 10N 10% X7R
&C132	20	015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
&C132	22	015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
&C132	24	015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
&C132	25	015-25100-08	CAPACITOR CERAMIC 0805 CHIP 10N 10% X7R
&C132	27	015-25100-08	CAPACITOR CERAMIC 0805 CHIP 10N 10% X7R
C133		015-05470-08	CAPACITOR CERAMIC 1206 CHIP 47N 10% X7R
C134		020-07470-91	CAPACITOR ELECTRO RADIAL 4M7 63V 6X11MM
C135		020-07470-91	CAPACITOR ELECTRO RADIAL 4M7 63V 6X11MM
C136		015-24100-08	CAPACITOR CERAMIC 0805 CHIP 1N 10% X7R 5
C137		015-24100-08	CAPACITOR CERAMIC 0805 CHIP 1N 10% X7R 5
C138		015-06100-08	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
C139		015-05470-08	CAPACITOR CERAMIC 1206 CHIP 47N 10% X7R
C140		015-06100-08	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
C141		015-06100-08	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
C142		020-08100-03	CAPACITOR ELECTRO RADIAL 10UF 50V 5X11MM
C200		015-06100-08	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
C201		020-08100-03	CAPACITOR ELECTRO RADIAL 10UF 50V 5X11MM
C202		015-06100-08	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
C203		015-24100-08	CAPACITOR CERAMIC 0805 CHIP 1N 10% X7R 5
C204		020-09470-07	CAP 470M 16V 20% ELEC VRT 8*20 3.5MM L/S
C205		015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
C206		015-24100-08	CAPACITOR CERAMIC 0805 CHIP 1N 10% X7R 5
C207		020-08100-03	CAPACITOR ELECTRO RADIAL 10UF 50V 5X11MM
C210		015-06100-08	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
C211		025-08100-02	CAPACITOR TANT BEAD 10M 10% 16V
C212		025-07330-01	CAPACITOR TANT BEAD 3M3 35V
C213		015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
C214		020-07100-02	CAPACITOR ELECTRO RADIAL 1M 50V 5X11MM
C215		020-08100-03	CAPACITOR ELECTRO RADIAL 10UF 50V 5X11MM
C216		015-06100-08	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
C217		015-23120-01	CAPACITOR CERAMIC 0805 CHIP 120P 5% NPO
C218		015-23120-01	CAPACITOR CERAMIC 0805 CHIP 120P 5% NPO
C219		015-06100-08	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
C220		015-23120-01	CAPACITOR CERAMIC 0805 CHIP 120P 5% NPO
C221		015-06100-08	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
C222		015-06100-08	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
C301		015-21220-01	CAPACITOR CERAMIC 0805 CHIP 2P2 +/-0.25P
C302		015-21390-01	CAPACITOR CERAMIC 0805 CHIP 3P9 +/-0.25P
C303		015-21390-01	CAPACITOR CERAMIC 0805 CHIP 3P9 +/-0.25P
C304		015-21220-01	CAPACITOR CERAMIC 0805 CHIP 2P2 +/-0.25P
C305		015-22270-01	CAPACITOR CERAMIC 0805 CHIP 27P 5% NPO 5
C306		015-25150-08	CAPACITOR CERAMIC 0805 CHIP 15N 10% X7R
C307		015-22820-01	CAPACITOR CERAMIC 0805 CHIP 82P 5% NPO 5
C308		015-22820-01	CAPACITOR CERAMIC 0805 CHIP 82P 5% NPO 5
C309		015-22820-01	CAPACITOR CERAMIC 0805 CHIP 82P 5% NPO 5
C310		015-06100-08	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
C311		015-25100-08	CAPACITOR CERAMIC 0805 CHIP 10N 10% X7R
C312		015-22270-01	CAPACITOR CERAMIC 0805 CHIP 27P 5% NPO 5
C313		015-25150-08	CAPACITOR CERAMIC 0805 CHIP 15N 10% X7R
C314		015-22820-01	CAPACITOR CERAMIC 0805 CHIP 82P 5% NPO 5
C315		015-22820-01	CAPACITOR CERAMIC 0805 CHIP 82P 5% NPO 5
C316		015-22820-01	CAPACITOR CERAMIC 0805 CHIP 82P 5% NPO 5
C317		015-21330-01	CAPACITOR CERAMIC 0805 CHIP 3P3 +/-0.25P
C318		015-22390-01	CAPACITOR CERAMIC 0805 CHIP 39P 5% NPO 5
C319		015-22390-01	CAPACITOR CERAMIC 0805 CHIP 39P 5% NPO 5
C320		015-23120-01	CAPACITOR CERAMIC 0805 CHIP 120P 5% NPO
C321		015-21270-01	CAPACITOR CERAMIC 0805 CHIP 2P7 +/-0.25P
C322		015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
C323		015-22150-01	CAPACITOR CERAMIC 0805 CHIP 15P 5% NPO 5
C324		015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
C325		020-08100-03	CAPACITOR ELECTRO RADIAL 10UF 50V 5X11MM
C326		015-24100-08	CAPACITOR CERAMIC 0805 CHIP 1N 10% X7R 5
C327		015-25100-08	CAPACITOR CERAMIC 0805 CHIP 10N 10% X7R
&C328	10	015-21820-01	CAPACITOR CERAMIC 0805 CHIP 8P2 +/-0.25P
&C328	12	015-21820-01	CAPACITOR CERAMIC 0805 CHIP 8P2 +/-0.25P
&C328	14	015-22180-01	CAPACITOR CERAMIC 0805 CHIP 18P 5% NPO 5
&C328	15	015-21820-01	CAPACITOR CERAMIC 0805 CHIP 8P2 +/-0.25P
&C328	17	015-21820-01	CAPACITOR CERAMIC 0805 CHIP 8P2 +/-0.25P
&C328	20	015-21820-01	CAPACITOR CERAMIC 0805 CHIP 8P2 +/-0.25P
&C328	22	015-21820-01	CAPACITOR CERAMIC 0805 CHIP 8P2 +/-0.25P
&C328	24	015-22180-01	CAPACITOR CERAMIC 0805 CHIP 18P 5% NPO 5
&C328	25	015-21820-01	CAPACITOR CERAMIC 0805 CHIP 8P2 +/-0.25P
&C328	27	015-21820-01	CAPACITOR CERAMIC 0805 CHIP 8P2 +/-0.25P
C329		015-21330-01	CAPACITOR CERAMIC 0805 CHIP 3P3 +/-0.25P

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REF	VAR	IPN	DESCRIPTION
&C330	10	015-21820-01	CAPACITOR CERAMIC 0805 CHIP 8P2 +/-0.25P
&C330	12	015-21820-01	CAPACITOR CERAMIC 0805 CHIP 8P2 +/-0.25P
&C330	14	015-22150-01	CAPACITOR CERAMIC 0805 CHIP 15P 5% NPO 5
&C330	15	015-21820-01	CAPACITOR CERAMIC 0805 CHIP 8P2 +/-0.25P
&C330	17	015-21820-01	CAPACITOR CERAMIC 0805 CHIP 8P2 +/-0.25P
&C330	20	015-21820-01	CAPACITOR CERAMIC 0805 CHIP 8P2 +/-0.25P
&C330	22	015-21820-01	CAPACITOR CERAMIC 0805 CHIP 8P2 +/-0.25P
&C330	24	015-22150-01	CAPACITOR CERAMIC 0805 CHIP 15P 5% NPO 5
&C330	25	015-21820-01	CAPACITOR CERAMIC 0805 CHIP 8P2 +/-0.25P
&C330	27	015-21820-01	CAPACITOR CERAMIC 0805 CHIP 8P2 +/-0.25P
C331		015-21330-01	CAPACITOR CERAMIC 0805 CHIP 3P3 +/-0.25P
&C332	10	015-21820-01	CAPACITOR CERAMIC 0805 CHIP 8P2 +/-0.25P
&C332	12	015-21820-01	CAPACITOR CERAMIC 0805 CHIP 8P2 +/-0.25P
&C332	14	015-22180-01	CAPACITOR CERAMIC 0805 CHIP 18P 5% NPO 5
&C332	15	015-21820-01	CAPACITOR CERAMIC 0805 CHIP 8P2 +/-0.25P
&C332	17	015-21820-01	CAPACITOR CERAMIC 0805 CHIP 8P2 +/-0.25P
&C332	20	015-21820-01	CAPACITOR CERAMIC 0805 CHIP 8P2 +/-0.25P
&C332	22	015-21820-01	CAPACITOR CERAMIC 0805 CHIP 8P2 +/-0.25P
&C332	24	015-22180-01	CAPACITOR CERAMIC 0805 CHIP 18P 5% NPO 5
&C332	25	015-21820-01	CAPACITOR CERAMIC 0805 CHIP 8P2 +/-0.25P
&C332	27	015-21820-01	CAPACITOR CERAMIC 0805 CHIP 8P2 +/-0.25P
C333		015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
C334		015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
C335		015-24100-08	CAPACITOR CERAMIC 0805 CHIP 1N 10% X7R 5
&C336	10	015-22470-01	CAPACITOR CERAMIC 0805 CHIP 47P 5% NPO 5
&C336	12	015-22470-01	CAPACITOR CERAMIC 0805 CHIP 47P 5% NPO 5
&C336	14	015-22220-01	CAPACITOR CERAMIC 0805 CHIP 22P 5% NPO 5
&C336	15	015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
&C336	17	015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
&C336	20	015-22470-01	CAPACITOR CERAMIC 0805 CHIP 47P 5% NPO 5
&C336	22	015-22470-01	CAPACITOR CERAMIC 0805 CHIP 47P 5% NPO 5
&C336	24	015-22220-01	CAPACITOR CERAMIC 0805 CHIP 22P 5% NPO 5
&C336	25	015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
&C336	27	015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
&C337	10	015-22120-01	CAPACITOR CERAMIC 0805 CHIP 12P 5% NPO 5
&C337	12	015-22120-01	CAPACITOR CERAMIC 0805 CHIP 12P 5% NPO 5
&C337	14	015-22270-01	CAPACITOR CERAMIC 0805 CHIP 27P 5% NPO 5
&C337	15	015-22100-01	CAPACITOR CERAMIC 0805 CHIP 10P +/-0.5P
&C337	17	015-22100-01	CAPACITOR CERAMIC 0805 CHIP 10P +/-0.5P
&C337	20	015-22120-01	CAPACITOR CERAMIC 0805 CHIP 12P 5% NPO 5
&C337	22	015-22120-01	CAPACITOR CERAMIC 0805 CHIP 12P 5% NPO 5
&C337	24	015-22270-01	CAPACITOR CERAMIC 0805 CHIP 27P 5% NPO 5
&C337	25	015-22100-01	CAPACITOR CERAMIC 0805 CHIP 10P +/-0.5P
&C337	27	015-22100-01	CAPACITOR CERAMIC 0805 CHIP 10P +/-0.5P
&C338	10	015-22120-01	CAPACITOR CERAMIC 0805 CHIP 12P 5% NPO 5
&C338	12	015-22120-01	CAPACITOR CERAMIC 0805 CHIP 12P 5% NPO 5
&C338	14	015-22270-01	CAPACITOR CERAMIC 0805 CHIP 27P 5% NPO 5
&C338	15	015-22100-01	CAPACITOR CERAMIC 0805 CHIP 10P +/-0.5P
&C338	17	015-22100-01	CAPACITOR CERAMIC 0805 CHIP 10P +/-0.5P
&C338	20	015-22120-01	CAPACITOR CERAMIC 0805 CHIP 12P 5% NPO 5
&C338	22	015-22120-01	CAPACITOR CERAMIC 0805 CHIP 12P 5% NPO 5
&C338	24	015-22270-01	CAPACITOR CERAMIC 0805 CHIP 27P 5% NPO 5
&C338	25	015-22100-01	CAPACITOR CERAMIC 0805 CHIP 10P +/-0.5P
&C338	27	015-22100-01	CAPACITOR CERAMIC 0805 CHIP 10P +/-0.5P
&C339	10	015-22470-01	CAPACITOR CERAMIC 0805 CHIP 47P 5% NPO 5
&C339	12	015-22470-01	CAPACITOR CERAMIC 0805 CHIP 47P 5% NPO 5
&C339	14	015-22220-01	CAPACITOR CERAMIC 0805 CHIP 22P 5% NPO 5
&C339	15	015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
&C339	17	015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
&C339	20	015-22470-01	CAPACITOR CERAMIC 0805 CHIP 47P 5% NPO 5
&C339	22	015-22470-01	CAPACITOR CERAMIC 0805 CHIP 47P 5% NPO 5
&C339	24	015-22220-01	CAPACITOR CERAMIC 0805 CHIP 22P 5% NPO 5
&C339	25	015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
&C339	27	015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
C340		015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
C341		015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
C342		015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
C343		015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
C344		015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
C345		015-22150-01	CAPACITOR CERAMIC 0805 CHIP 15P 5% NPO 5
C346		025-08100-02	CAPACITOR TANT BEAD 10M 10% 16V
C347		015-22150-01	CAPACITOR CERAMIC 0805 CHIP 15P 5% NPO 5
C348		015-05470-08	CAPACITOR CERAMIC 1206 CHIP 47N 10% X7R
C349		015-05470-08	CAPACITOR CERAMIC 1206 CHIP 47N 10% X7R
C350		015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
C351		015-25100-08	CAPACITOR CERAMIC 0805 CHIP 10N 10% X7R
C352		015-22390-01	CAPACITOR CERAMIC 0805 CHIP 39P 5% NPO 5
C353		015-22390-01	CAPACITOR CERAMIC 0805 CHIP 39P 5% NPO 5
C354		015-05470-08	CAPACITOR CERAMIC 1206 CHIP 47N 10% X7R
C355		015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
C356		015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
C357		015-23120-01	CAPACITOR CERAMIC 0805 CHIP 120P 5% NPO
C358		015-23120-01	CAPACITOR CERAMIC 0805 CHIP 120P 5% NPO
C359		015-05470-08	CAPACITOR CERAMIC 1206 CHIP 47N 10% X7R
C360		015-25100-08	CAPACITOR CERAMIC 0805 CHIP 10N 10% X7R
C362		015-05470-08	CAPACITOR CERAMIC 1206 CHIP 47N 10% X7R
C363		015-05470-08	CAPACITOR CERAMIC 1206 CHIP 47N 10% X7R
C364		015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
C365		025-08100-02	CAPACITOR TANT BEAD 10M 10% 16V
C366		015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
C367		015-05470-08	CAPACITOR CERAMIC 1206 CHIP 47N 10% X7R
C368		015-21330-01	CAPACITOR CERAMIC 0805 CHIP 3P3 +/-0.25P
C369		015-22100-01	CAPACITOR CERAMIC 0805 CHIP 10P +/-0.5P
C370		015-21390-01	CAPACITOR CERAMIC 0805 CHIP 3P9 +/-0.25P
C372		015-22100-01	CAPACITOR CERAMIC 0805 CHIP 10P +/-0.5P
C373		015-21330-01	CAPACITOR CERAMIC 0805 CHIP 3P3 +/-0.25P
D1		001-10000-70	DIODE SMD BAV70 DUAL SWITCH SOT-23 COMMO
D2		001-10000-70	DIODE SMD BAV70 DUAL SWITCH SOT-23 COMMO
D100		001-10000-99	DIODE SMD BAV99 DUAL SWITCH SOT-23 SINGL
D101		001-10000-56	DIODE SMD BAW56 DUAL SWITCH SOT-23 COMMO
D102		008-00013-32	LED 3MM RED LOW CURRENT LESS MOUNTING
D103		001-10000-70	DIODE SMD BAV70 DUAL SWITCH SOT-23 COMMO
D104		001-10000-70	DIODE SMD BAV70 DUAL SWITCH SOT-23 COMMO
D105		008-00013-35	LED 3MM GREEN LOW CURRENT LESS MOUNTING
D106		001-00011-70	DIODE 1N4001 1A/50V
D107		001-00011-70	DIODE 1N4001 1A/50V
D108		001-00011-70	DIODE 1N4001 1A/50V
D200		001-10000-99	DIODE SMD BAV99 DUAL SWITCH SOT-23 SINGL
D201		001-00011-60	DIODE SR2607 6A/30V
D203		001-10000-70	DIODE SMD BAV70 DUAL SWITCH SOT-23 COMMO
D300		001-10000-56	DIODE SMD BAW56 DUAL SWITCH SOT-23 COMMO
#H1	10	051-00564-00	COIL HELICAL RES 2.625T 1.2MMSF 800-880M
#H1	12	051-00564-00	COIL HELICAL RES 2.625T 1.2MMSF 800-880M
#H1	14	051-00564-00	COIL HELICAL RES 2.625T 1.2MMSF 800-880M
#H1	15	051-00564-00	COIL HELICAL RES 2.625T 1.2MMSF 800-880M
#H1	17	051-00564-00	COIL HELICAL RES 2.625T 1.2MMSF 800-880M
#H1	20	051-00565-00	COIL HELICAL RES 2.428T 1.2MMSF 880-960M
#H1	22	051-00565-00	COIL HELICAL RES 2.428T 1.2MMSF 880-960M
#H1	24	051-00565-00	COIL HELICAL RES 2.428T 1.2MMSF 880-960M
#H1	25	051-00565-00	COIL HELICAL RES 2.428T 1.2MMSF 880-960M
#H1	27	051-00565-00	COIL HELICAL RES 2.428T 1.2MMSF 880-960M
#H2	10	051-00564-00	COIL HELICAL RES 2.625T 1.2MMSF 800-880M
#H2	12	051-00564-00	COIL HELICAL RES 2.625T 1.2MMSF 800-880M
#H2	14	051-00564-00	COIL HELICAL RES 2.625T 1.2MMSF 800-880M
#H2	15	051-00564-00	COIL HELICAL RES 2.625T 1.2MMSF 800-880M
#H2	17	051-00564-00	COIL HELICAL RES 2.625T 1.2MMSF 800-880M
#H2	20	051-00565-00	COIL HELICAL RES 2.428T 1.2MMSF 880-960M
#H2	22	051-00565-00	COIL HELICAL RES 2.428T 1.2MMSF 880-960M
#H2	24	051-00565-00	COIL HELICAL RES 2.428T 1.2MMSF 880-960M
#H2	25	051-00565-00	COIL HELICAL RES 2.428T 1.2MMSF 880-960M
#H2	27	051-00565-00	COIL HELICAL RES 2.428T 1.2MMSF 880-960M
#H3	10	051-00564-00	COIL HELICAL RES 2.625T 1.2MMSF 800-880M
#H3	12	051-00564-00	COIL HELICAL RES 2.625T 1.2MMSF 800-880M
#H3	14	051-00564-00	COIL HELICAL RES 2.625T 1.2MMSF 800-880M
#H3	15	051-00564-00	COIL HELICAL RES 2.625T 1.2MMSF 800-880M
#H3	17	051-00564-00	COIL HELICAL RES 2.625T 1.2MMSF 800-880M
#H3	20	051-00565-00	COIL HELICAL RES 2.428T 1.2MMSF 880-960M
#H3	22	051-00565-00	COIL HELICAL RES 2.428T 1.2MMSF 880-960M
#H3	24	051-00565-00	COIL HELICAL RES 2.428T 1.2MMSF 880-960M
#H3	25	051-00565-00	COIL HELICAL RES 2.428T 1.2MMSF 880-960M
#H3	27	051-00565-00	COIL HELICAL RES 2.428T 1.2MMSF 880-960M
IC1		002-00017-47	INTEGRATED CCT SP8719 UHF 80/81 PRESCALE
IC2	10	539-00010-45	TCXO 12.8MHZ +-1.5PPM -30 TO +70C DEG
IC2	12	539-00010-44	TCXO 12.8MHZ +-1PPM 0 TO +60C
IC2	14	539-00010-45	TCXO 12.8MHZ +-1.5PPM -30 TO +70C DEG
IC2	15	539-00010-45	TCXO 12.8MHZ +-1.5PPM -30 TO +70C DEG
IC2	17	539-00010-44	TCXO 12.8MHZ +-1PPM 0 TO +60C
IC2	20	539-00010-45	TCXO 12.8MHZ +-1.5PPM -30 TO +70C DEG
IC2	22	539-00010-44	TCXO 12.8MHZ +-1PPM 0 TO +60C
IC2	24	539-00010-45	TCXO 12.8MHZ +-1.5PPM -30 TO +70C DEG
IC2	25	539-00010-45	TCXO 12.8MHZ +-1.5PPM -30 TO +70C DEG
IC2	27	539-00010-44	TCXO 12.8MHZ +-1PPM 0 TO +60C
IC3		002-00017-63	INTEGRATED CCT NJ8820DP FREQ SYNTHESIZER
IC4		002-00012-47	INTEGRATED CCT MC33078 DUAL OP AMP LO NO
IC5		002-74000-04	INTEGRATED CCT 74HCU04 UNBUFFERED HEX IN
IC6		002-74000-74	INTEGRATED CCT 74HC74 DUAL D F/F
IC100		002-00012-40	INTEGRATED CCT 358P DUAL OP AMP
IC101		002-00012-40	INTEGRATED CCT 358P DUAL OP AMP
IC102		002-00014-05	INTEGRATED CCT TDA7231 1.6W AF PWR
IC103		002-00014-05	INTEGRATED CCT TDA7231 1.6W AF PWR
IC104		002-00012-40	INTEGRATED CCT 358P DUAL OP AMP
IC201		002-00012-40	INTEGRATED CCT 358P DUAL OP AMP
IC202		002-00014-62	INTEGRATED CCT 317L 100MA REG 3 TERMINAL
IC300		002-00022-04	MIXER SBL-1Z 10-1000MHZ
IC301		002-00014-72	INTEGRATED CCT MC3361 LO PWR FM IF
IC302		002-00014-58	INTEGRATED CCT 78L05 5V 100MA REGULATOR
L1		052-08125-15	COIL A/W 1.5T/2.5MM HOR 0.8MM WIRE
L100		056-00021-02	INDUCTOR FIXED 100UH AXIAL
L301		052-08120-15	COIL A/W 1.5T/2MM HOR 0.8MM WIRE
L302		052-08125-15	COIL A/W 1.5T/2.5MM HOR 0.8MM WIRE
L303		052-08120-15	COIL A/W 1.5T/2MM HOR 0.8MM WIRE
L305		056-00021-04	INDUCTOR FIXED 330NH AXIAL
L308		056-00021-04	INDUCTOR FIXED 330NH AXIAL
L310		056-00021-04	INDUCTOR FIXED 330NH AXIAL
L311		056-00021-04	INDUCTOR FIXED 330NH AXIAL
L312		050-00016-22	COIL TAIT NO 622 20-120MHZ 7MM CAN
L313		050-00016-22	COIL TAIT NO 622 20-120MHZ 7MM CAN
L314		050-00016-22	COIL TAIT NO 622 20-120MHZ 7MM CAN
L315		050-00016-22	COIL TAIT NO 622 20-120MHZ 7MM CAN
L316		050-00016-22	COIL TAIT NO 622 20-120MHZ 7MM CAN
L317		050-00016-22	COIL TAIT NO 622 20-120MHZ 7MM CAN
L318		050-00016-22	COIL TAIT NO 622 20-120MHZ 7MM CAN
L319		050-00016-21	COIL TAIT NO 621 FXD 10.7MHZ 7MM CAN
L320		050-00016-22	COIL TAIT NO 622 20-120MHZ 7MM CAN
L321		050-00016-55	COIL TAIT NO 655 455KHZ QUAD COIL 7MM CA
L322		052-08130-15	COIL A/W 1.5T/3.0MM HOR 0.8MM WIRE

T885 MAIN BOARD PARTS LIST

REF	VAR	IPN	DESCRIPTION
L323		052-08130-15	COIL A/W 1.5T/3.0MM HOR 0.8MM WIRE
PL5		240-00020-57	HEADER 10 WAY 1 ROW PCB MTG
PL100		240-00020-59	HEADER 3 WAY 1 ROW PCB MTG
PL101		240-00020-59	HEADER 3 WAY 1 ROW PCB MTG
PL102		240-00020-59	HEADER 3 WAY 1 ROW PCB MTG
PL103		240-00020-59	HEADER 3 WAY 1 ROW PCB MTG
PL104		240-00020-59	HEADER 3 WAY 1 ROW PCB MTG
PL105		240-00020-58	HEADER 5 WAY 1 ROW PCB MTG
PL106		240-00020-59	HEADER 3 WAY 1 ROW PCB MTG
PL200		240-00010-55	PLUG 15 WAY D RANGE WIRE WRAP PINS PNL M
Q1		000-10057-10	TRANSISTOR SMD MMBR571 NPN SOT-23 UHF LO
Q3		000-10008-48	TRANSISTOR SMD BCW60/BC848 NPN SOT-23 AF
Q4		000-10008-48	TRANSISTOR SMD BCW60/BC848 NPN SOT-23 AF
Q100		000-10008-48	TRANSISTOR SMD BCW60/BC848 NPN SOT-23 AF
Q101		000-10008-57	TRANSISTOR SMD BCW70/BC857 PNP SOT-23 AF
Q102		000-10008-57	TRANSISTOR SMD BCW70/BC857 PNP SOT-23 AF
Q103		000-10008-57	TRANSISTOR SMD BCW70/BC857 PNP SOT-23 AF
Q104		000-10008-17	TRANSISTOR SMD BCX19/BC817 NPN SOT-23 AF
Q105		000-10008-48	TRANSISTOR SMD BCW60/BC848 NPN SOT-23 AF
Q106		000-10008-48	TRANSISTOR SMD BCW60/BC848 NPN SOT-23 AF
Q107		000-10008-48	TRANSISTOR SMD BCW60/BC848 NPN SOT-23 AF
Q108		000-10008-48	TRANSISTOR SMD BCW60/BC848 NPN SOT-23 AF
Q109		000-10008-48	TRANSISTOR SMD BCW60/BC848 NPN SOT-23 AF
Q200		000-00011-30	TRANSISTOR BC557B PNP TO-92 AF SMALL SIG
Q201		000-00012-15	TRANSISTOR BD234 PNP TO-126 AF POWER
Q202		000-10008-17	TRANSISTOR SMD BCX19/BC817 NPN SOT-23 AF
Q203		000-10008-57	TRANSISTOR SMD BCW70/BC857 PNP SOT-23 AF
Q300		000-10057-10	TRANSISTOR SMD MMBR571 NPN SOT-23 UHF LO
Q301		000-10008-57	TRANSISTOR SMD BCW70/BC857 PNP SOT-23 AF
Q302		000-10008-57	TRANSISTOR SMD BCW70/BC857 PNP SOT-23 AF
Q303		000-10057-10	TRANSISTOR SMD MMBR571 NPN SOT-23 UHF LO
Q304		000-00020-18	TRANSISTOR BF247A JFET TO-92 VHF SMALL S
Q305		000-10008-92	TRANSISTOR SMD BFS17 NPN SOT-23 UHF SMAL
Q306		000-10009-91	TRANSISTOR SMD BF991 DGMOSFET
Q307		000-10008-48	TRANSISTOR SMD BCW60/BC848 NPN SOT-23 AF
Q308		000-10008-48	TRANSISTOR SMD BCW60/BC848 NPN SOT-23 AF
Q309		000-10008-48	TRANSISTOR SMD BCW60/BC848 NPN SOT-23 AF
R1		036-12100-00	RESISTOR M/F 0805 CHIP 10E 5%
R2		036-17100-00	RESISTOR M/F 0805 CHIP 1M 5%
R3		036-14100-00	RESISTOR M/F 0805 CHIP 1K 5%
R4		036-17100-00	RESISTOR M/F 0805 CHIP 1M 5%
R5		036-14330-00	RESISTOR M/F 0805 CHIP 3K3 5%
R6		036-13120-00	RESISTOR M/F 0805 CHIP 120E 5%
R7		036-13100-00	RESISTOR M/F 0805 CHIP 100E 5%
R8		036-17100-00	RESISTOR M/F 0805 CHIP 1M 5%
R9		036-12180-00	RESISTOR M/F 0805 CHIP 18E 5%
R10		036-17100-00	RESISTOR M/F 0805 CHIP 1M 5%
R11		036-12680-00	RESISTOR M/F 0805 CHIP 68E 5%
R12		036-17100-00	RESISTOR M/F 0805 CHIP 1M 5%
R13		036-17100-00	RESISTOR M/F 0805 CHIP 1M 5%
R14		036-12100-00	RESISTOR M/F 0805 CHIP 10E 5%
R15		036-17100-00	RESISTOR M/F 0805 CHIP 1M 5%
R16		036-12220-00	RESISTOR M/F 0805 CHIP 22E 5%
R20		036-12220-00	RESISTOR M/F 0805 CHIP 22E 5%
R21		036-15120-00	RESISTOR M/F 0805 CHIP 12K 5%
R22		036-15100-00	RESISTOR M/F 0805 CHIP 10K 5%
R23		036-16470-00	RESISTOR M/F 0805 CHIP 470K 5%
R24		036-13100-00	RESISTOR M/F 0805 CHIP 100E 5%
R25		036-14100-00	RESISTOR M/F 0805 CHIP 1K 5%
R26		036-17100-00	RESISTOR M/F 0805 CHIP 1M 5%
R27		036-17100-00	RESISTOR M/F 0805 CHIP 1M 5%
R28		036-15100-00	RESISTOR M/F 0805 CHIP 10K 5%
R29		036-16100-00	RESISTOR M/F 0805 CHIP 100K 5%
R30		036-15100-00	RESISTOR M/F 0805 CHIP 10K 5%
R31		036-15100-00	RESISTOR M/F 0805 CHIP 10K 5%
R32		036-16470-00	RESISTOR M/F 0805 CHIP 470K 5%
R33		036-16470-00	RESISTOR M/F 0805 CHIP 470K 5%
R34		036-14680-00	RESISTOR M/F 0805 CHIP 6K8 5%
R35		036-12220-00	RESISTOR M/F 0805 CHIP 22E 5%
R36		036-14150-00	RESISTOR M/F 0805 CHIP 1K5 5%
R37		036-14100-00	RESISTOR M/F 0805 CHIP 1K 5%
R38		036-15150-00	RESISTOR M/F 0805 CHIP 15K 5%
R39		036-16100-00	RESISTOR M/F 0805 CHIP 100K 5%
R40		036-12220-00	RESISTOR M/F 0805 CHIP 22E 5%
R41		036-12100-00	RESISTOR M/F 0805 CHIP 10E 5%
R42		036-12100-00	RESISTOR M/F 0805 CHIP 10E 5%
R43		036-12560-00	RESISTOR M/F 0805 CHIP 56E 5%
R44		036-13180-00	RESISTOR M/F 0805 CHIP 180E 5%
R45		036-12270-00	RESISTOR M/F 0805 CHIP 27E 5%
R46		036-13180-00	RESISTOR M/F 0805 CHIP 180E 5%
R47		036-16100-00	RESISTOR M/F 0805 CHIP 100K 5%
R48		036-16100-00	RESISTOR M/F 0805 CHIP 100K 5%
R49		036-12220-00	RESISTOR M/F 0805 CHIP 22E 5%
R50		036-14100-00	RESISTOR M/F 0805 CHIP 1K 5%
R100		036-15270-00	RESISTOR M/F 0805 CHIP 27K 5%
RV100		040-05100-21	POTENTIOMER 10K LIN VERT PCB MTG 15MM SL
RL100		237-00010-22	RELAY 12V DPDT 8PIN DIL PCB MTG FUJITSU
R101		036-13100-00	RESISTOR M/F 0805 CHIP 100E 5%
RV101		042-05100-06	RESISTOR PRESET 10K CARBON 6MM FLAT
R102		036-14220-00	RESISTOR M/F 0805 CHIP 2K2 5%
RV102		040-05100-21	POTENTIOMER 10K LIN VERT PCB MTG 15MM SL
R103		036-15220-00	RESISTOR M/F 0805 CHIP 22K 5%
RV103		040-05100-22	POTENTIOMETER 10K LOG DUAL PCB MTG 6MM O
R104		036-15100-00	RESISTOR M/F 0805 CHIP 10K 5%
RV104		042-05100-06	RESISTOR PRESET 10K CARBON 6MM FLAT
R105		036-16220-00	RESISTOR M/F 0805 CHIP 220K 5%
R106		036-16390-00	RESISTOR M/F 0805 CHIP 390K 5%
&R107	10	036-15220-00	RESISTOR M/F 0805 CHIP 22K 5%
&R107	12	036-15220-00	RESISTOR M/F 0805 CHIP 22K 5%
&R107	14	036-15220-00	RESISTOR M/F 0805 CHIP 22K 5%
&R107	15	036-15180-00	RESISTOR M/F 0805 CHIP 18K 5%
&R107	17	036-15180-00	RESISTOR M/F 0805 CHIP 18K 5%
&R107	20	036-15220-00	RESISTOR M/F 0805 CHIP 22K 5%
&R107	22	036-15220-00	RESISTOR M/F 0805 CHIP 22K 5%
&R107	24	036-15220-00	RESISTOR M/F 0805 CHIP 22K 5%
&R107	25	036-15180-00	RESISTOR M/F 0805 CHIP 18K 5%
&R107	27	036-15180-00	RESISTOR M/F 0805 CHIP 18K 5%
R108		036-14820-00	RESISTOR M/F 0805 CHIP 8K2 5%
&R109	10	036-15150-00	RESISTOR M/F 0805 CHIP 15K 5%
&R109	12	036-15150-00	RESISTOR M/F 0805 CHIP 15K 5%
&R109	14	036-10000-00	RESISTOR M/F 0805 CHIP ZERO OHM
&R109	15	036-15150-00	RESISTOR M/F 0805 CHIP 15K 5%
&R109	17	036-15150-00	RESISTOR M/F 0805 CHIP 15K 5%
&R109	20	036-15150-00	RESISTOR M/F 0805 CHIP 15K 5%
&R109	22	036-15150-00	RESISTOR M/F 0805 CHIP 15K 5%
&R109	24	036-10000-00	RESISTOR M/F 0805 CHIP ZERO OHM
&R109	25	036-15150-00	RESISTOR M/F 0805 CHIP 15K 5%
&R109	27	036-15150-00	RESISTOR M/F 0805 CHIP 15K 5%
R110		036-16100-00	RESISTOR M/F 0805 CHIP 100K 5%
R111		036-14470-00	RESISTOR M/F 0805 CHIP 4K7 5%
&R112	10	036-15390-00	RESISTOR M/F 0805 CHIP 39K 5%
&R112	12	036-15390-00	RESISTOR M/F 0805 CHIP 39K 5%
&R112	14	036-15220-00	RESISTOR M/F 0805 CHIP 22K 5%
&R112	15	036-15390-00	RESISTOR M/F 0805 CHIP 39K 5%
&R112	17	036-15390-00	RESISTOR M/F 0805 CHIP 39K 5%
&R112	20	036-15390-00	RESISTOR M/F 0805 CHIP 39K 5%
&R112	22	036-15390-00	RESISTOR M/F 0805 CHIP 39K 5%
&R112	24	036-15220-00	RESISTOR M/F 0805 CHIP 22K 5%
&R112	25	036-15390-00	RESISTOR M/F 0805 CHIP 39K 5%
&R112	27	036-15390-00	RESISTOR M/F 0805 CHIP 39K 5%
R113		036-16100-00	RESISTOR M/F 0805 CHIP 100K 5%
R114		036-14470-00	RESISTOR M/F 0805 CHIP 4K7 5%
R115		036-14270-00	RESISTOR M/F 0805 CHIP 2K7 5%
R116		036-13100-00	RESISTOR M/F 0805 CHIP 100E 5%
R117		036-15470-00	RESISTOR M/F 0805 CHIP 47K 5%
R119		036-15100-00	RESISTOR M/F 0805 CHIP 10K 5%
R120		036-14390-00	RESISTOR M/F 0805 CHIP 3K9 5%
R121		036-14100-00	RESISTOR M/F 0805 CHIP 1K 5%
&R122	10	036-14820-00	RESISTOR M/F 0805 CHIP 8K2 5%
&R122	12	036-14820-00	RESISTOR M/F 0805 CHIP 8K2 5%
&R122	14	036-14390-00	RESISTOR M/F 0805 CHIP 3K9 5%
&R122	15	036-14470-00	RESISTOR M/F 0805 CHIP 4K7 5%
&R122	17	036-14470-00	RESISTOR M/F 0805 CHIP 4K7 5%
&R122	20	036-14820-00	RESISTOR M/F 0805 CHIP 8K2 5%
&R122	22	036-14820-00	RESISTOR M/F 0805 CHIP 8K2 5%
&R122	24	036-14390-00	RESISTOR M/F 0805 CHIP 3K9 5%
&R122	25	036-14470-00	RESISTOR M/F 0805 CHIP 4K7 5%
&R122	27	036-14470-00	RESISTOR M/F 0805 CHIP 4K7 5%
R123		036-14680-00	RESISTOR M/F 0805 CHIP 6K8 5%
R124		036-14680-00	RESISTOR M/F 0805 CHIP 6K8 5%
R125		036-14100-00	RESISTOR M/F 0805 CHIP 1K 5%
&R126	10	036-15470-00	RESISTOR M/F 0805 CHIP 47K 5%
&R126	12	036-15470-00	RESISTOR M/F 0805 CHIP 47K 5%
&R126	14	036-15270-00	RESISTOR M/F 0805 CHIP 27K 5%
&R126	15	036-15470-00	RESISTOR M/F 0805 CHIP 47K 5%
&R126	17	036-15470-00	RESISTOR M/F 0805 CHIP 47K 5%
&R126	20	036-15470-00	RESISTOR M/F 0805 CHIP 47K 5%
&R126	22	036-15470-00	RESISTOR M/F 0805 CHIP 47K 5%
&R126	24	036-15270-00	RESISTOR M/F 0805 CHIP 27K 5%
&R126	25	036-15470-00	RESISTOR M/F 0805 CHIP 47K 5%
&R126	27	036-15470-00	RESISTOR M/F 0805 CHIP 47K 5%
&R127	10	036-16100-00	RESISTOR M/F 0805 CHIP 100K 5%
&R127	12	036-16100-00	RESISTOR M/F 0805 CHIP 100K 5%
&R127	14	036-16330-00	RESISTOR M/F 0805 CHIP 330K 5%
&R127	15	036-16100-00	RESISTOR M/F 0805 CHIP 100K 5%
&R127	17	036-16100-00	RESISTOR M/F 0805 CHIP 100K 5%
&R127	20	036-16100-00	RESISTOR M/F 0805 CHIP 100K 5%
&R127	22	036-16100-00	RESISTOR M/F 0805 CHIP 100K 5%
&R127	24	036-16330-00	RESISTOR M/F 0805 CHIP 330K 5%
&R127	25	036-16100-00	RESISTOR M/F 0805 CHIP 100K 5%
&R127	27	036-16100-00	RESISTOR M/F 0805 CHIP 100K 5%
R128		036-13560-00	RESISTOR M/F 0805 CHIP 560E 5%
R129		036-14100-00	RESISTOR M/F 0805 CHIP 1K 5%
R130		036-14220-00	RESISTOR M/F 0805 CHIP 2K2 5%
R131		036-14100-00	RESISTOR M/F 0805 CHIP 1K 5%
R132		036-14680-00	RESISTOR M/F 0805 CHIP 6K8 5%
R133		036-14120-00	RESISTOR M/F 0805 CHIP 1K2 5%
R134		036-15390-00	RESISTOR M/F 0805 CHIP 39K 5%
R135		036-14820-00	RESISTOR M/F 0805 CHIP 8K2 5%
R136		036-15470-00	RESISTOR M/F 0805 CHIP 47K 5%
R137		036-15470-00	RESISTOR M/F 0805 CHIP 47K 5%
R138		036-14470-00	RESISTOR M/F 0805 CHIP 4K7 5%
R139		036-14470-00	RESISTOR M/F 0805 CHIP 4K7 5%
R140		036-14820-00	RESISTOR M/F 0805 CHIP 8K2 5%
R141		036-15470-00	RESISTOR M/F 0805 CHIP 47K 5%
R142		036-15470-00	RESISTOR M/F 0805 CHIP 47K 5%

T885 MAIN BOARD PARTS LIST

REF	VAR	IPN	DESCRIPTION
R143		036-15470-00	RESISTOR M/F 0805 CHIP 47K 5%
R144		036-11470-00	RESISTOR M/F 0805 CHIP 4E7 10%
R145		036-11470-00	RESISTOR M/F 0805 CHIP 4E7 10%
R146		036-14100-00	RESISTOR M/F 0805 CHIP 1K 5%
R147		036-13150-00	RESISTOR M/F 0805 CHIP 150E 5%
R148		036-14100-00	RESISTOR M/F 0805 CHIP 1K 5%
R149		036-13100-00	RESISTOR M/F 0805 CHIP 100E 5%
R150		036-14100-00	RESISTOR M/F 0805 CHIP 1K 5%
R151		036-14470-00	RESISTOR M/F 0805 CHIP 4K7 5%
&R152	10	036-14470-00	RESISTOR M/F 0805 CHIP 4K7 5%
&R152	12	036-14470-00	RESISTOR M/F 0805 CHIP 4K7 5%
&R152	14	036-14470-00	RESISTOR M/F 0805 CHIP 4K7 5%
&R152	15	036-14330-00	RESISTOR M/F 0805 CHIP 3K3 5%
&R152	17	036-14330-00	RESISTOR M/F 0805 CHIP 3K3 5%
&R152	20	036-14470-00	RESISTOR M/F 0805 CHIP 4K7 5%
&R152	22	036-14470-00	RESISTOR M/F 0805 CHIP 4K7 5%
&R152	24	036-14470-00	RESISTOR M/F 0805 CHIP 4K7 5%
&R152	25	036-14330-00	RESISTOR M/F 0805 CHIP 3K3 5%
&R152	27	036-14330-00	RESISTOR M/F 0805 CHIP 3K3 5%
R153		036-15100-00	RESISTOR M/F 0805 CHIP 10K 5%
R154		036-13100-00	RESISTOR M/F 0805 CHIP 100E 5%
R155		036-15120-00	RESISTOR M/F 0805 CHIP 12K 5%
R156		036-14560-00	RESISTOR M/F 0805 CHIP 5K6 5%
R157		036-16220-00	RESISTOR M/F 0805 CHIP 220K 5%
R158		036-14470-00	RESISTOR M/F 0805 CHIP 4K7 5%
R159		036-14470-00	RESISTOR M/F 0805 CHIP 4K7 5%
R160		036-14580-00	RESISTOR M/F 0805 CHIP 6K8 5%
R161		036-16100-00	RESISTOR M/F 0805 CHIP 100K 5%
R162		036-15150-00	RESISTOR M/F 0805 CHIP 15K 5%
R163		036-14390-00	RESISTOR M/F 0805 CHIP 3K9 5%
R164		036-13470-00	RESISTOR M/F 0805 CHIP 470E 5%
R165		036-15470-00	RESISTOR M/F 0805 CHIP 47K 5%
R200		036-12330-00	RESISTOR M/F 0805 CHIP 33E 5%
R201		036-14470-00	RESISTOR M/F 0805 CHIP 4K7 5%
R203		036-14100-00	RESISTOR M/F 0805 CHIP 1K 5%
R204		032-33270-00	RESISTOR M/F POWER 270E 5% 1W 12X4.5MM
R205		032-31100-00	RESISTOR M/F POWER 1E0 5% 1W 12X4.5MM
R206		036-14680-00	RESISTOR M/F 0805 CHIP 6K8 5%
R207		036-15100-00	RESISTOR M/F 0805 CHIP 10K 5%
R208		032-31100-00	RESISTOR M/F POWER 1E0 5% 1W 12X4.5MM
R209		036-13100-00	RESISTOR M/F 0805 CHIP 100E 5%
R210		036-12330-00	RESISTOR M/F 0805 CHIP 33E 5%
R212		036-12100-00	RESISTOR M/F 0805 CHIP 10E 5%
R213		036-15150-00	RESISTOR M/F 0805 CHIP 15K 5%
R214		036-16100-00	RESISTOR M/F 0805 CHIP 100K 5%
R215		036-15560-00	RESISTOR M/F 0805 CHIP 56K 5%
R216		036-14150-00	RESISTOR M/F 0805 CHIP 1K5 5%
R217		036-13470-00	RESISTOR M/F 0805 CHIP 470E 5%
RV300		042-04220-06	RESISTOR PRESET 2K2 CARBON 6MM FLAT
R301		036-15100-00	RESISTOR M/F 0805 CHIP 10K 5%
RV301		042-04220-06	RESISTOR PRESET 2K2 CARBON 6MM FLAT
R302		036-14100-00	RESISTOR M/F 0805 CHIP 1K 5%
R303		036-14390-00	RESISTOR M/F 0805 CHIP 3K9 5%
R304		036-14220-00	RESISTOR M/F 0805 CHIP 2K2 5%
R305		036-12100-00	RESISTOR M/F 0805 CHIP 10E 5%
R306		036-12390-00	RESISTOR M/F 0805 CHIP 39E 5%
R307		036-13180-00	RESISTOR M/F 0805 CHIP 180E 5%
R308		036-17100-00	RESISTOR M/F 0805 CHIP 1M 5%
R309		036-10000-00	RESISTOR M/F 0805 CHIP ZERO OHM
R310		036-17100-00	RESISTOR M/F 0805 CHIP 1M 5%
R311		036-14100-00	RESISTOR M/F 0805 CHIP 1K 5%
R312		036-14390-00	RESISTOR M/F 0805 CHIP 3K9 5%
R313		036-14220-00	RESISTOR M/F 0805 CHIP 2K2 5%
R314		036-12100-00	RESISTOR M/F 0805 CHIP 10E 5%
R315		036-12330-00	RESISTOR M/F 0805 CHIP 33E 5%
R316		036-13180-00	RESISTOR M/F 0805 CHIP 180E 5%
R317		036-13470-00	RESISTOR M/F 0805 CHIP 470E 5%
R318		036-12120-00	RESISTOR M/F 0805 CHIP 12E 5%
R319		036-13470-00	RESISTOR M/F 0805 CHIP 470E 5%
R320		036-13180-00	RESISTOR M/F 0805 CHIP 180E 5%
R321		036-12270-00	RESISTOR M/F 0805 CHIP 27E 5%
R322		036-13180-00	RESISTOR M/F 0805 CHIP 180E 5%
R323		036-12470-00	RESISTOR M/F 0805 CHIP 47E 5%
R324		036-12390-00	RESISTOR M/F 0805 CHIP 39E 5%
R325		036-12100-00	RESISTOR M/F 0805 CHIP 10E 5%
R326		036-12100-00	RESISTOR M/F 0805 CHIP 10E 5%
R327		036-14270-00	RESISTOR M/F 0805 CHIP 2K7 5%
R328		036-10000-00	RESISTOR M/F 0805 CHIP ZERO OHM
R329		036-14330-00	RESISTOR M/F 0805 CHIP 3K3 5%
R330		036-14470-00	RESISTOR M/F 0805 CHIP 4K7 5%
R331		036-12470-00	RESISTOR M/F 0805 CHIP 47E 5%
R332		036-15100-00	RESISTOR M/F 0805 CHIP 10K 5%
R333		036-14390-00	RESISTOR M/F 0805 CHIP 3K9 5%
R334		036-14820-00	RESISTOR M/F 0805 CHIP 8K2 5%
R335		036-15100-00	RESISTOR M/F 0805 CHIP 10K 5%
R336		036-15100-00	RESISTOR M/F 0805 CHIP 10K 5%
R337		036-15220-00	RESISTOR M/F 0805 CHIP 22K 5%
R338		036-13330-00	RESISTOR M/F 0805 CHIP 330E 5%
R339		045-03150-01	RESISTOR NTC 150E 0.5W 5MM DISC
R340		036-13470-00	RESISTOR M/F 0805 CHIP 470E 5%
R341		036-14100-00	RESISTOR M/F 0805 CHIP 1K 5%
R342		036-12470-00	RESISTOR M/F 0805 CHIP 47E 5%
R343		036-14100-00	RESISTOR M/F 0805 CHIP 1K 5%
R344		036-15100-00	RESISTOR M/F 0805 CHIP 10K 5%
R345		036-16150-00	RESISTOR M/F 0805 CHIP 150K 5%

REF	VAR	IPN	DESCRIPTION
&R346	10	036-15560-00	RESISTOR M/F 0805 CHIP 56K 5%
&R346	12	036-15560-00	RESISTOR M/F 0805 CHIP 56K 5%
&R346	14	036-15150-00	RESISTOR M/F 0805 CHIP 15K 5%
&R346	15	036-15820-00	RESISTOR M/F 0805 CHIP 82K 5%
&R346	17	036-15820-00	RESISTOR M/F 0805 CHIP 82K 5%
&R346	20	036-15560-00	RESISTOR M/F 0805 CHIP 56K 5%
&R346	22	036-15560-00	RESISTOR M/F 0805 CHIP 56K 5%
&R346	24	036-15150-00	RESISTOR M/F 0805 CHIP 15K 5%
&R346	25	036-15820-00	RESISTOR M/F 0805 CHIP 82K 5%
&R346	27	036-15820-00	RESISTOR M/F 0805 CHIP 82K 5%
R347		036-13220-00	RESISTOR M/F 0805 CHIP 220E 5%
R348		036-12100-00	RESISTOR M/F 0805 CHIP 10E 5%
R349		036-15180-00	RESISTOR M/F 0805 CHIP 18K 5%
R350		036-15100-00	RESISTOR M/F 0805 CHIP 10K 5%
R351		036-16390-00	RESISTOR M/F 0805 CHIP 390K 5%
R352		036-17100-00	RESISTOR M/F 0805 CHIP 1M 5%
R353		036-13180-00	RESISTOR M/F 0805 CHIP 180E 5%
R354		036-14330-00	RESISTOR M/F 0805 CHIP 3K3 5%
R355		036-12470-00	RESISTOR M/F 0805 CHIP 47E 5%
R356		036-15150-00	RESISTOR M/F 0805 CHIP 15K 5%
R357		036-14100-00	RESISTOR M/F 0805 CHIP 1K 5%
R358		036-14330-00	RESISTOR M/F 0805 CHIP 3K3 5%
R359		036-15220-00	RESISTOR M/F 0805 CHIP 22K 5%
R360		036-16100-00	RESISTOR M/F 0805 CHIP 100K 5%
R361		036-14270-00	RESISTOR M/F 0805 CHIP 2K7 5%
R362		036-14100-00	RESISTOR M/F 0805 CHIP 1K 5%
R363		036-10000-00	RESISTOR M/F 0805 CHIP ZERO OHM
R364		036-16100-00	RESISTOR M/F 0805 CHIP 100K 5%
R365		036-15100-00	RESISTOR M/F 0805 CHIP 10K 5%
R366		036-15470-00	RESISTOR M/F 0805 CHIP 47K 5%
R367		036-15470-00	RESISTOR M/F 0805 CHIP 47K 5%
R368		036-15120-00	RESISTOR M/F 0805 CHIP 12K 5%
R369		045-05100-01	RESISTOR NTC 10K 20% 5MM DISC
R370		036-10000-00	RESISTOR M/F 0805 CHIP ZERO OHM
R371		036-15100-00	RESISTOR M/F 0805 CHIP 10K 5%
R372		036-12470-00	RESISTOR M/F 0805 CHIP 47E 5%
R373		036-10000-00	RESISTOR M/F 0805 CHIP ZERO OHM
R374		036-13390-00	RESISTOR M/F 0805 CHIP 390E 5%
R375		036-15100-00	RESISTOR M/F 0805 CHIP 10K 5%
R376		036-13820-00	RESISTOR M/F 0805 CHIP 820E 5%
R378		036-14220-00	RESISTOR M/F 0805 CHIP 2K2 5%
R379		045-05100-01	RESISTOR NTC 10K 20% 5MM DISC
R380		036-12100-00	RESISTOR M/F 0805 CHIP 10E 5%
R381		036-12100-00	RESISTOR M/F 0805 CHIP 10E 5%
SK1		240-04020-57	SOCKET 10 WAY 1ROW PCB MTG TOP ENTRY
SW100		230-00010-30	SWITCH TOGGLE SPDT RT ANGLE PCB MT PARAL
T100		053-00010-17	TRANSFORMER T4030 LINE MATCH POT CORE
T200		050-00016-50	COIL TAIT NO 650 455KHZ 5.6MM CAN
X300		274-00010-22	CRYSTAL 44.545MHZ SPEC TE/22 HC45-U
&XF300	10	276-00010-58	FILTER CRYSTAL 45MHZ 15KHZ B/W 4 POLE 2
&XF300	12	276-00010-58	FILTER CRYSTAL 45MHZ 15KHZ B/W 4 POLE 2
&XF300	14	276-00010-59	FILTER CRYSTAL 45MHZ 30KHZ B/W 4 POLE 2
&XF300	15	276-00010-57	FILTER CRYSTAL 45MHZ 7.5K BW 4POLE 45N7.
&XF300	17	276-00010-57	FILTER CRYSTAL 45MHZ 7.5K BW 4POLE 45N7.
&XF300	20	276-00010-58	FILTER CRYSTAL 45MHZ 15KHZ B/W 4 POLE 2
&XF300	22	276-00010-58	FILTER CRYSTAL 45MHZ 15KHZ B/W 4 POLE 2
&XF300	24	276-00010-59	FILTER CRYSTAL 45MHZ 30KHZ B/W 4 POLE 2
&XF300	25	276-00010-57	FILTER CRYSTAL 45MHZ 7.5K BW 4POLE 45N7.
&XF300	27	276-00010-57	FILTER CRYSTAL 45MHZ 7.5K BW 4POLE 45N7.
&XF301	10	276-00010-56	FILTER CRYSTAL 45MHZ 14KHZ B/W 2 POLE 45
&XF301	12	276-00010-56	FILTER CRYSTAL 45MHZ 14KHZ B/W 2 POLE 45
&XF301	14	276-00010-60	FILTER CRYSTAL 45MHZ 30KHZ B/W 2 POLE 45
&XF301	15	276-00010-54	FILTER CRYSTAL 45MHZ 7.5KHZ B/W 2POLE 45
&XF301	17	276-00010-54	FILTER CRYSTAL 45MHZ 7.5KHZ B/W 2POLE 45
&XF301	20	276-00010-56	FILTER CRYSTAL 45MHZ 14KHZ B/W 2 POLE 45
&XF301	22	276-00010-56	FILTER CRYSTAL 45MHZ 14KHZ B/W 2 POLE 45
&XF301	24	276-00010-60	FILTER CRYSTAL 45MHZ 30KHZ B/W 2 POLE 45
&XF301	25	276-00010-54	FILTER CRYSTAL 45MHZ 7.5KHZ B/W 2POLE 45
&XF301	27	276-00010-54	FILTER CRYSTAL 45MHZ 7.5KHZ B/W 2POLE 45
&XF302	10	276-00010-14	FILTER CERAMIC 455KHZ 15KHZ B/W CFW455E
&XF302	12	276-00010-14	FILTER CERAMIC 455KHZ 15KHZ B/W CFW455E
&XF302	14	276-00010-16	FILTER CERAMIC 455KHZ 30KHZ B/W SFH455B
&XF302	15	276-00010-13	FILTER CERAMIC 455KHZ 9KHZ B/W CFW455G
&XF302	17	276-00010-13	FILTER CERAMIC 455KHZ 9KHZ B/W CFW455G
&XF302	20	276-00010-14	FILTER CERAMIC 455KHZ 15KHZ B/W CFW455E
&XF302	22	276-00010-14	FILTER CERAMIC 455KHZ 15KHZ B/W CFW455E
&XF302	24	276-00010-16	FILTER CERAMIC 455KHZ 30KHZ B/W SFH455B
&XF302	25	276-00010-13	FILTER CERAMIC 455KHZ 9KHZ B/W CFW455G
&XF302	27	276-00010-13	FILTER CERAMIC 455KHZ 9KHZ B/W CFW455G

T885 VCO PCB PARTS

REF	VAR	IPN	DESCRIPTION
&C1	10	015-21220-01	CAPACITOR CERAMIC 0805 CHIP 2P2 +/-0.25P
&C1	12	015-21220-01	CAPACITOR CERAMIC 0805 CHIP 2P2 +/-0.25P
&C1	14	015-21220-01	CAPACITOR CERAMIC 0805 CHIP 2P2 +/-0.25P
&C1	15	015-21220-01	CAPACITOR CERAMIC 0805 CHIP 2P2 +/-0.25P
&C1	17	015-21220-01	CAPACITOR CERAMIC 0805 CHIP 2P2 +/-0.25P
&C1	20	015-21180-01	CAPACITOR CERAMIC 0805 CHIP 1P8 +/-0.25
&C1	22	015-21180-01	CAPACITOR CERAMIC 0805 CHIP 1P8 +/-0.25
&C1	24	015-21180-01	CAPACITOR CERAMIC 0805 CHIP 1P8 +/-0.25
&C1	25	015-21180-01	CAPACITOR CERAMIC 0805 CHIP 1P8 +/-0.25
&C1	27	015-21180-01	CAPACITOR CERAMIC 0805 CHIP 1P8 +/-0.25
C2		025-06100-02	CAPACITOR TANT BEAD 10M 10% 16V
C3		015-24100-08	CAPACITOR CERAMIC 0805 CHIP 1N 10% X7R 5
C4		015-21100-01	CAPACITOR CERAMIC 0805 CHIP 1P0 +/-0.25P
C5		015-06100-08	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
C6		028-02100-08	CAPACITOR TRIMMER 2/10P CERAMIC 5MM TOP
&C7	10	015-21820-01	CAPACITOR CERAMIC 0805 CHIP 8P2 +/-0.25P
&C7	12	015-21820-01	CAPACITOR CERAMIC 0805 CHIP 8P2 +/-0.25P
&C7	14	015-21820-01	CAPACITOR CERAMIC 0805 CHIP 8P2 +/-0.25P
&C7	15	015-21820-01	CAPACITOR CERAMIC 0805 CHIP 8P2 +/-0.25P
&C7	17	015-21820-01	CAPACITOR CERAMIC 0805 CHIP 8P2 +/-0.25P
&C7	20	015-21470-01	CAPACITOR CERAMIC 0805 CHIP 4P7 +/-0.25P
&C7	22	015-21470-01	CAPACITOR CERAMIC 0805 CHIP 4P7 +/-0.25P
&C7	24	015-21470-01	CAPACITOR CERAMIC 0805 CHIP 4P7 +/-0.25P
&C7	25	015-21470-01	CAPACITOR CERAMIC 0805 CHIP 4P7 +/-0.25P
&C7	27	015-21470-01	CAPACITOR CERAMIC 0805 CHIP 4P7 +/-0.25P
&C8	10	015-22330-01	CAPACITOR CERAMIC 0805 CHIP 33P 5% NPO 5
&C8	12	015-22330-01	CAPACITOR CERAMIC 0805 CHIP 33P 5% NPO 5
&C8	14	015-22330-01	CAPACITOR CERAMIC 0805 CHIP 33P 5% NPO 5
&C8	15	015-22330-01	CAPACITOR CERAMIC 0805 CHIP 33P 5% NPO 5
&C8	17	015-22330-01	CAPACITOR CERAMIC 0805 CHIP 33P 5% NPO 5
&C8	20	015-22270-01	CAPACITOR CERAMIC 0805 CHIP 27P 5% NPO 5
&C8	22	015-22270-01	CAPACITOR CERAMIC 0805 CHIP 27P 5% NPO 5
&C8	24	015-22270-01	CAPACITOR CERAMIC 0805 CHIP 27P 5% NPO 5
&C8	25	015-22270-01	CAPACITOR CERAMIC 0805 CHIP 27P 5% NPO 5
&C8	27	015-22270-01	CAPACITOR CERAMIC 0805 CHIP 27P 5% NPO 5
C9		015-23120-01	CAPACITOR CERAMIC 0805 CHIP 120P 5% NPO
C10		015-21180-01	CAPACITOR CERAMIC 0805 CHIP 1P8 +/-0.25
C11		015-21330-01	CAPACITOR CERAMIC 0805 CHIP 3P3 +/-0.25P
C12		015-22820-01	CAPACITOR CERAMIC 0805 CHIP 82P 5% NPO 5
C13		015-23120-01	CAPACITOR CERAMIC 0805 CHIP 120P 5% NPO
C14		015-23100-01	CAPACITOR CERAMIC 0805 CHIP 100P 5% NPO
C17		015-23120-01	CAPACITOR CERAMIC 0805 CHIP 120P 5% NPO
C18		015-22560-01	CAPACITOR CERAMIC 0805 CHIP 56P 5% NPO 5
C19		015-22560-01	CAPACITOR CERAMIC 0805 CHIP 56P 5% NPO 5
C20		015-23470-08	CAPACITOR CERAMIC 0805 CHIP 470P 10% X7R
&C21	10	015-22120-01	CAPACITOR CERAMIC 0805 CHIP 12P 5% NPO 5
&C21	12	015-22120-01	CAPACITOR CERAMIC 0805 CHIP 12P 5% NPO 5
&C21	14	015-22120-01	CAPACITOR CERAMIC 0805 CHIP 12P 5% NPO 5
&C21	15	015-22120-01	CAPACITOR CERAMIC 0805 CHIP 12P 5% NPO 5
&C21	17	015-22120-01	CAPACITOR CERAMIC 0805 CHIP 12P 5% NPO 5
&C21	20	015-22100-01	CAPACITOR CERAMIC 0805 CHIP 10P +/-0.5P
&C21	22	015-22100-01	CAPACITOR CERAMIC 0805 CHIP 10P +/-0.5P
&C21	24	015-22100-01	CAPACITOR CERAMIC 0805 CHIP 10P +/-0.5P
&C21	25	015-22100-01	CAPACITOR CERAMIC 0805 CHIP 10P +/-0.5P
&C21	27	015-22100-01	CAPACITOR CERAMIC 0805 CHIP 10P +/-0.5P
C22		015-21680-01	CAPACITOR CERAMIC 0805 CHIP 6P8 +/-0.25P
C23		015-21470-01	CAPACITOR CERAMIC 0805 CHIP 4P7 +/-0.25P
C24		015-21470-01	CAPACITOR CERAMIC 0805 CHIP 4P7 +/-0.25P
C26		015-22560-01	CAPACITOR CERAMIC 0805 CHIP 56P 5% NPO 5
C27		015-05470-08	CAPACITOR CERAMIC 1206 CHIP 47N 10% X7R
&C28	10	015-22120-01	CAPACITOR CERAMIC 0805 CHIP 12P 5% NPO 5
&C28	12	015-22120-01	CAPACITOR CERAMIC 0805 CHIP 12P 5% NPO 5
&C28	14	015-22120-01	CAPACITOR CERAMIC 0805 CHIP 12P 5% NPO 5
&C28	15	015-22120-01	CAPACITOR CERAMIC 0805 CHIP 12P 5% NPO 5
&C28	17	015-22120-01	CAPACITOR CERAMIC 0805 CHIP 12P 5% NPO 5
&C28	20	015-22100-01	CAPACITOR CERAMIC 0805 CHIP 10P +/-0.5P
&C28	22	015-22100-01	CAPACITOR CERAMIC 0805 CHIP 10P +/-0.5P
&C28	24	015-22100-01	CAPACITOR CERAMIC 0805 CHIP 10P +/-0.5P
&C28	25	015-22100-01	CAPACITOR CERAMIC 0805 CHIP 10P +/-0.5P
&C28	27	015-22100-01	CAPACITOR CERAMIC 0805 CHIP 10P +/-0.5P
C29		015-21330-01	CAPACITOR CERAMIC 0805 CHIP 3P3 +/-0.25P
C30		015-21220-01	CAPACITOR CERAMIC 0805 CHIP 2P2 +/-0.25P
D1		001-00012-63	DIODE VARICAP BB809
D2		001-00012-63	DIODE VARICAP BB809
L1		056-00021-60	INDUCTOR FIXED 330NH 6.6X2.7MM AXIAL NON
L2		056-00021-60	INDUCTOR FIXED 330NH 6.6X2.7MM AXIAL NON
L3		056-00021-60	INDUCTOR FIXED 330NH 6.6X2.7MM AXIAL NON
L4		056-00021-60	INDUCTOR FIXED 330NH 6.6X2.7MM AXIAL NON
L5		052-08130-25	COIL A/W 2.5T/3.0MM HOR 0.8MM WIRE
L6		056-00021-60	INDUCTOR FIXED 330NH 6.6X2.7MM AXIAL NON
L7		052-08125-15	COIL A/W 1.5T/2.5MM HOR 0.8MM WIRE
L8		052-08125-15	COIL A/W 1.5T/2.5MM HOR 0.8MM WIRE
L9		056-00021-60	INDUCTOR FIXED 330NH 6.6X2.7MM AXIAL NON
L10		052-08130-15	COIL A/W 1.5T/3.0MM HOR 0.8MM WIRE
Q1		000-10095-10	TRANSISTOR SMD MMBR951 NPN UHF SOT-23
Q2		000-10057-10	TRANSISTOR SMD MMBR571 NPN SOT-23 UHF LO
Q3		000-10057-10	TRANSISTOR SMD MMBR571 NPN SOT-23 UHF LO
Q4		000-10057-10	TRANSISTOR SMD MMBR571 NPN SOT-23 UHF LO
Q5		000-00032-61	TRANSISTOR MRF571 NPN UHF 10V 10MA 1 WAT
Q6		000-10008-57	TRANSISTOR SMD BCW70/BC857 PNP SOT-23 AF
R1		036-14390-00	RESISTOR M/F 0805 CHIP 3K9 5%

REF	VAR	IPN	DESCRIPTION
R2		036-14100-00	RESISTOR M/F 0805 CHIP 1K 5%
R3		036-13100-00	RESISTOR M/F 0805 CHIP 100E 5%
R4		036-12220-00	RESISTOR M/F 0805 CHIP 22E 5%
R5		036-12270-00	RESISTOR M/F 0805 CHIP 27E 5%
R6		036-12680-00	RESISTOR M/F 0805 CHIP 68E 5%
R7		036-14100-00	RESISTOR M/F 0805 CHIP 1K 5%
R8		036-12220-00	RESISTOR M/F 0805 CHIP 22E 5%
R9		036-14270-00	RESISTOR M/F 0805 CHIP 2K7 5%
R10		036-14120-00	RESISTOR M/F 0805 CHIP 1K2 5%
R11		036-13150-00	RESISTOR M/F 0805 CHIP 150E 5%
R12		036-12100-00	RESISTOR M/F 0805 CHIP 10E 5%
R13		036-12390-00	RESISTOR M/F 0805 CHIP 39E 5%
R14		036-13330-00	RESISTOR M/F 0805 CHIP 330E 5%
R15		036-14180-00	RESISTOR M/F 0805 CHIP 1K8 5%
R16		036-13470-00	RESISTOR M/F 0805 CHIP 470E 5%
R17		036-14120-00	RESISTOR M/F 0805 CHIP 1K2 5%
R18		036-12820-00	RESISTOR M/F 0805 CHIP 82E 5%
R19		036-12180-00	RESISTOR M/F 0805 CHIP 18E 5%
R20		036-13270-00	RESISTOR M/F 0805 CHIP 270E 5%
R21		036-13270-00	RESISTOR M/F 0805 CHIP 270E 5%
R22		036-14180-00	RESISTOR M/F 0805 CHIP 1K8 5%
R23		036-12270-00	RESISTOR M/F 0805 CHIP 27E 5%
R24		036-14680-00	RESISTOR M/F 0805 CHIP 6K8 5%
R25		036-13470-00	RESISTOR M/F 0805 CHIP 470E 5%
R26		036-14100-00	RESISTOR M/F 0805 CHIP 1K 5%
R27		036-12470-00	RESISTOR M/F 0805 CHIP 47E 5%
&TL1	10	051-00005-41	RESONATOR TAIT NO 541 395-440MHZ T855/7
&TL1	12	051-00005-41	RESONATOR TAIT NO 541 395-440MHZ T855/7
&TL1	14	051-00005-41	RESONATOR TAIT NO 541 395-440MHZ T855/7
&TL1	15	051-00005-41	RESONATOR TAIT NO 541 395-440MHZ T855/7
&TL1	17	051-00005-41	RESONATOR TAIT NO 541 395-440MHZ T855/7
&TL1	20	051-00005-61	COIL RESNTR 400-457.5MHZ T800'S
&TL1	22	051-00005-61	COIL RESNTR 400-457.5MHZ T800'S
&TL1	24	051-00005-61	COIL RESNTR 400-457.5MHZ T800'S
&TL1	25	051-00005-61	COIL RESNTR 400-457.5MHZ T800'S
&TL1	27	051-00005-61	COIL RESNTR 400-457.5MHZ T800'S
		065-00010-13	BEAD FERRITE 7D 1.9*0.8*3.8MM STACK POLE FIT TO LEAD OF L4
		220-01184-01	PRINTED CIRCUIT BOARD T880 VCO
		240-00025-36	PLUG, 32 WAY, 1 ROW PC MTG PL1, PL2, PL3, PL4

T800 EPROM PCB PARTS

REF	IPN	DESCRIPTION
C1	015-24100-08	CAPACITOR CERAMIC 0805 CHIP 1N 10% X7R 5
C2	015-24100-08	CAPACITOR CERAMIC 0805 CHIP 1N 10% X7R 5
C3	015-24100-08	CAPACITOR CERAMIC 0805 CHIP 1N 10% X7R 5
C4	015-24100-08	CAPACITOR CERAMIC 0805 CHIP 1N 10% X7R 5
C5	015-24100-08	CAPACITOR CERAMIC 0805 CHIP 1N 10% X7R 5
C6	015-24100-08	CAPACITOR CERAMIC 0805 CHIP 1N 10% X7R 5
C7	015-06100-06	CAPACITOR CERAMIC 1206 CHIP 100N 10% X7R
C8	025-06100-02	CAPACITOR TANT BEAD 10M 10% 16V
D1	001-10000-70	DIODE SMD BAV70 DUAL SWITCH SOT-23 COMMO
D2	001-10000-70	DIODE SMD BAV70 DUAL SWITCH SOT-23 COMMO
D3	001-10000-70	DIODE SMD BAV70 DUAL SWITCH SOT-23 COMMO
IC1	002-00018-04	INTEGRATED CCT 27C64 CMOS 8K*8 UV EPROM
IC1	240-04020-35	SOCKET 28 PIN DIL INTEGRATED CCT LOW PRO
PL1	240-00020-57	HEADER 10 WAY 1 ROW PCB MTG
R1	036-15100-00	RESISTOR M/F 0805 CHIP 10K 5%
R2	036-15100-00	RESISTOR M/F 0805 CHIP 10K 5%
R3	036-15100-00	RESISTOR M/F 0805 CHIP 10K 5%
R4	036-15100-00	RESISTOR M/F 0805 CHIP 10K 5%
R5	036-15100-00	RESISTOR M/F 0805 CHIP 10K 5%
R6	036-15100-00	RESISTOR M/F 0805 CHIP 10K 5%
R7	036-15100-00	RESISTOR M/F 0805 CHIP 10K 5%
R8	036-15100-00	RESISTOR M/F 0805 CHIP 10K 5%
R9	036-12220-00	RESISTOR M/F 0805 CHIP 22E 5%
SW1	230-00010-19	SWITCH*8 SPST DIP PACKAGE
SK1	240-04020-57	SOCKET 10 WAY 1ROW PCB MTG TOP ENTRY
	220-01144-00	PRINTED CIRCUIT BOARD T855/856/857 MEMOR
	240-04020-35	SOCKET 28 PIN DIL INTEGRATED CCT LOW PRO FOR IC1

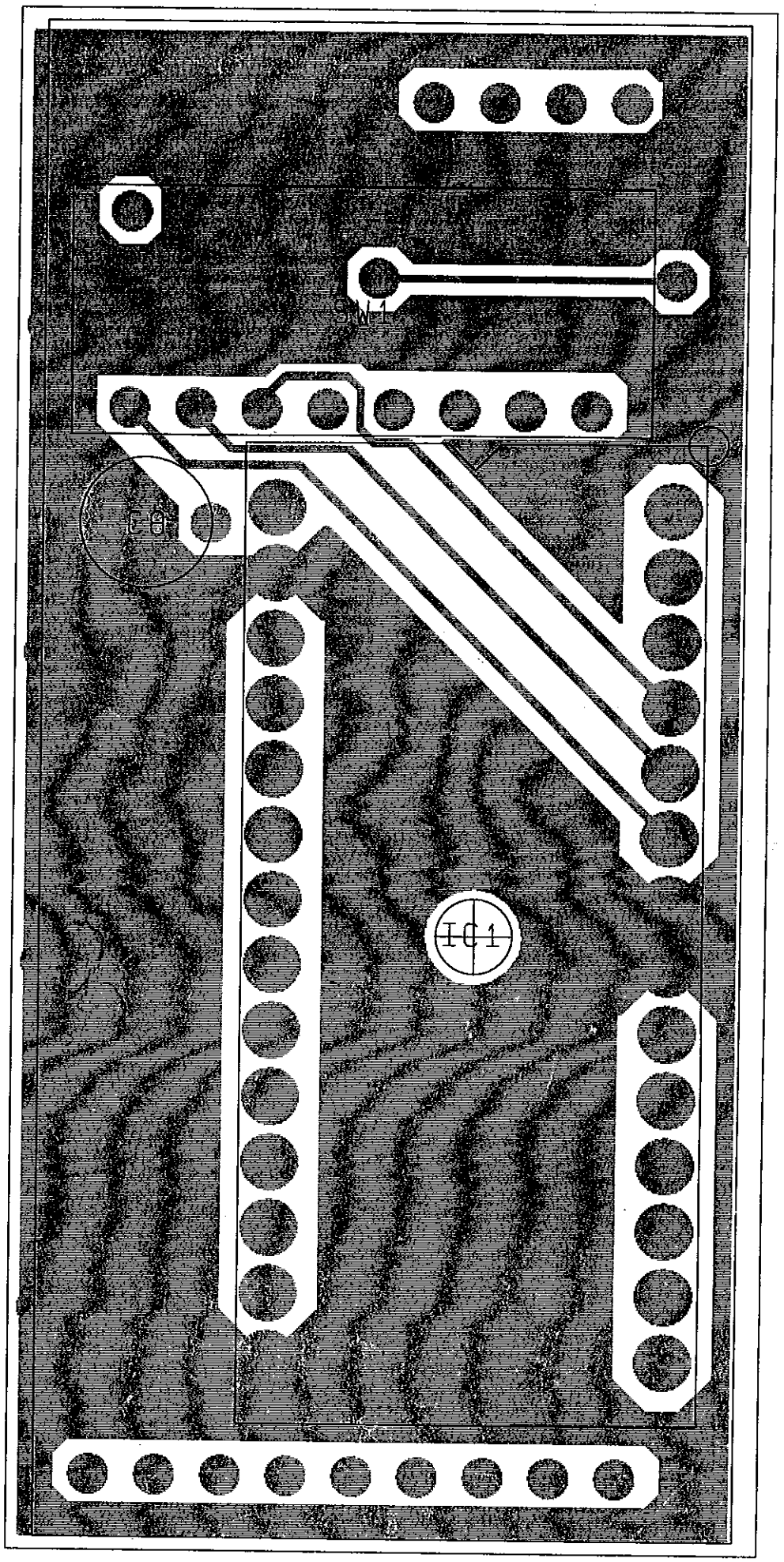
T700/800 SERIES RSSI PCB PARTS

REF	IPN	DESCRIPTION
C1	015-24100-08	CAPACITOR CERAMIC 0805 CHIP 1N 10% X7R 5
C2	015-24100-08	CAPACITOR CERAMIC 0805 CHIP 1N 10% X7R 5
C3	015-23330-08	CAPACITOR CERAMIC 0805 CHIP 330P 10% X7R
C4	015-25100-08	CAPACITOR CERAMIC 0805 CHIP 10N 10% X7R
C5	015-24100-08	CAPACITOR CERAMIC 0805 CHIP 1N 10% X7R 5
C6	015-25100-08	CAPACITOR CERAMIC 0805 CHIP 10N 10% X7R
C7	015-24470-08	CAPACITOR CERAMIC 0805 CHIP 4N7 10% X7R
C8	015-25100-08	CAPACITOR CERAMIC 0805 CHIP 10N 10% X7R
C9	015-24100-08	CAPACITOR CERAMIC 0805 CHIP 1N 10% X7R 5
D1	001-10000-99	DIODE SMD BAV99 DUAL SWITCH SOT-23 SINGL
IC1	002-10003-24	INTEGRATED CCT SMD 324 QUAD OP AMP SO-14
Q1	002-10033-46	INTEGRATED CCT SMD MC3346D TRANSISTOR AR
R3	036-14100-00	RESISTOR M/F 0805 CHIP 1K 5%
R4	036-14220-00	RESISTOR M/F 0805 CHIP 2K2 5%
R5	036-15560-00	RESISTOR M/F 0805 CHIP 56K 5%
R6	036-15390-00	RESISTOR M/F 0805 CHIP 39K 5%
R7	036-15100-00	RESISTOR M/F 0805 CHIP 10K 5%
R8	036-13680-00	RESISTOR M/F 0805 CHIP 680E 5%
R9	036-14820-00	RESISTOR M/F 0805 CHIP 8K2 5%
R10	036-16220-00	RESISTOR M/F 0805 CHIP 220K 5%
R11	036-13470-00	RESISTOR M/F 0805 CHIP 470E 5%
R12	036-16330-00	RESISTOR M/F 0805 CHIP 330K 5%
R13	036-16100-00	RESISTOR M/F 0805 CHIP 100K 5%
R14	036-16180-00	RESISTOR M/F 0805 CHIP 180K 5%
R15	036-15220-00	RESISTOR M/F 0805 CHIP 22K 5%
R16	036-17100-00	RESISTOR M/F 0805 CHIP 1M 5%
R17	036-15330-00	RESISTOR M/F 0805 CHIP 33K 5%
R18	036-14100-00	RESISTOR M/F 0805 CHIP 1K 5%
R19	036-15100-00	RESISTOR M/F 0805 CHIP 10K 5%
R20	036-15100-00	RESISTOR M/F 0805 CHIP 10K 5%
R21	036-16330-00	RESISTOR M/F 0805 CHIP 330K 5%
R22	036-14470-00	RESISTOR M/F 0805 CHIP 4K7 5%
R23	036-15100-00	RESISTOR M/F 0805 CHIP 10K 5%
R24	036-16150-00	RESISTOR M/F 0805 CHIP 150K 5%
R25	036-16180-00	RESISTOR M/F 0805 CHIP 180K 5%
R26	036-15820-00	RESISTOR M/F 0805 CHIP 82K 5%
R29	036-14470-00	RESISTOR M/F 0805 CHIP 4K7 5%
R30	036-15100-00	RESISTOR M/F 0805 CHIP 10K 5%
R31	036-15220-00	RESISTOR M/F 0805 CHIP 22K 5%
R32	036-14470-00	RESISTOR M/F 0805 CHIP 4K7 5%
	220-01138-00	PRINTED CIRCUIT BOARD T700 RSSI.
	356-00010-52	PIN EDGE MTG 0.8MM PCB WAKO
	365-00011-38	LABEL STATIC WARNING YELLOW A4A315
	365-00011-54	LABEL WHITE RW1556/2 SPECIAL ADHESIVE
	399-00010-86	BAG STATIC SHIELDING 127X203MM ~
	410-00010-84	PACKAGING HEADER CARD A3M2392

T885 MECHANICAL & MISCELLANEOUS PARTS

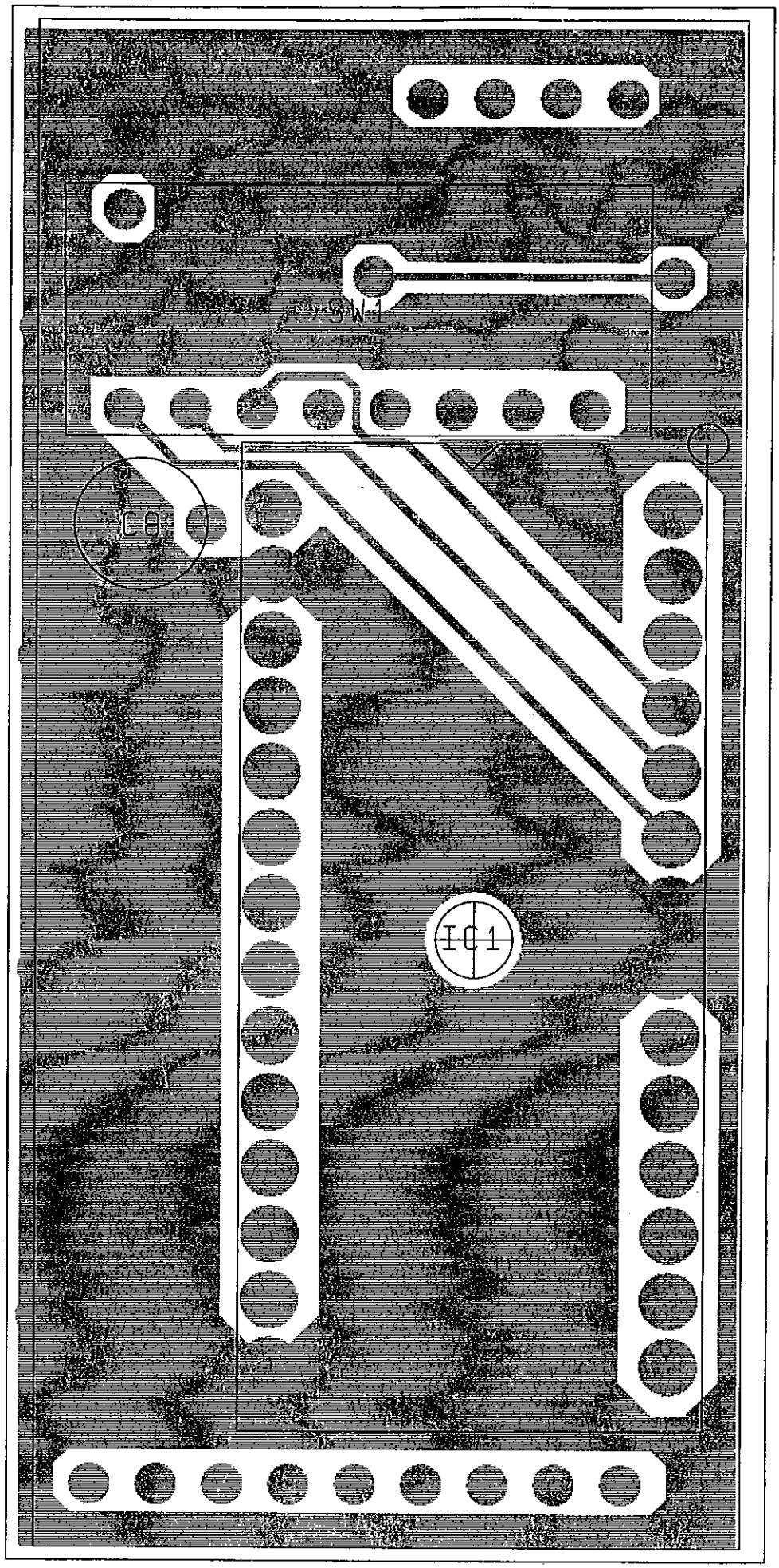
IPN	DESCRIPTION
012-04150-01	CAPACITOR CERAMIC FEEDTHRU 1N5 LESS LEAD D RANGE
062-00010-13	CAN 10MM SQ X 11MM SANWA 613 A4M1017 FIT OVER COIL T200
065-00010-13	BEAD FERRITE 7D 1.9*0.9*3.8MM STACK POLE D RANGE
066-00010-20	SLUG BRASS A4M764 T196 HELICAL RESONATOR
220-01192-02	PRINTED CIRCUIT BOARD T885 RX
230-00010-31	COVER LEVER FOR TOGGLE SW 230-00010-30
240-02010-54	SOCKET 15WAY DRANGE PANEL MTG DS-15SR-BT
240-02100-06	SOCKET COAXIAL N TYPE PANEL MTG OPEN TER
240-04020-62	SOCKET 2 WAY RECEPTACLE SHORTING LINK FOR PL100 PL101 PL102 PL103 PL104 PL105 PL106
240-04020-65	SOCKET JACK PIN 1.3MM PCB MTG 64 WAY SIL SJ1 SJ2 SJ3 SJ4 SK300 SK301
303-11168-00	CHASSIS HEATSINK PAINTED CMPLT A1M2364 8
303-23118-00	COVER A3M2247 D RANGE HOLE T855/7
303-50074-00	CLIP A3M2246 SPRING TRANSISTOR CLAMP T85
306-01010-00	FERRULE A4M948 HANDLE FXD EQUIP
308-01007-00	HANDLE A4M949 FXD EQUIP
308-01048-00	HOUSING A3M2378 DOUBLET HELICAL RESONATO
311-01015-00	KNOB SATO K34 AG 15MM & SKIRT 6MM SHAFT
312-01052-00	LID TOP PAINTED COMPLETE A1M2364 800 SER
312-01053-00	LID BOTTOM PAINTED COMPLETE A1M2364 800
316-06407-01	PANEL FRONT COMPLETE T885 A3M2208/5
316-85015-00	PIN A4M775 LOCATING D RANGE
316-85099-00	PLATE FLOAT A2M2248 DUAL D RANGE SOCKET
316-85100-00	PLATE FRONT A2M2249 DUAL D RANGE SOCKET
318-01014-00	RAIL A2M2214 FOR 800 SERIES FXD EQUIP
319-01152-00	SHIELD A3M2250 FEEDTHRU MTG T857 D RANGE
345-00040-08	SCREW M3*12MM PAN POZI ST BZ D RANGE HOLE COVER
345-00040-09	SCREW M3*6MM CSK POZI TRUNCATED HEAD ST
345-00040-10	SCREW M3*6MM PAN POZI ST BZ ASSEMBLY OF GUIDE: X 4 RAILS X 4 FLOAT PLATE
345-00040-20	SCREW M3*8MM BUTTON SKT HD BLACK ZINC PH
349-00020-32	SCREW TAPTITE M3X8MM PAN POZI BZ PCB MTG X 8 'N' CONNECTOR X 4 HELICAL MTG X 12
349-00020-43	SCREW TAPTITE M4X12MM PAN POZI BZ TOP COVER MTG
349-00020-45	SCREW TAPTITE M4X20MM PAN POZI BZ BOTTOM COVER MTG
350-00016-42	SPACER 5MM HIGH 8MM X M3 STUD 2.5MM X M3 FOR VCO STAND OFF
352-00010-08	NUT M3 COLD FORM HEX ST BZ D RANGE PLUG X 2 COVER X 2 VCO X 2
352-00010-29	NUT M4 NYLOC HEX
352-00010-50	NUT TRIMMER SCREEN 1/4 UNF SPIRE SNO 278
353-00010-10	WASHER M3 FLAT ST BZ 6.75MM OD A4M1215 FOR VCO MTG & FLOAT PLATE
353-00010-12	WASHER M3 SPRING BZ D RANGE PLUG
353-00010-13	WASHER M3 SHAKEPROOF INT BZ
360-00010-40	BUSH SNAP BLACK HEYCO SB-375-4

IPN	DESCRIPTION
362-00010-23	GASKET SILICONE INSULATING TO-220 CLIP M
362-00010-33	GROMMET LED MTG 3MM LO CURRENT LEDS
365-00011-03	LABEL TEST REPORT INSIDE A4A267
365-00100-03	LABEL BLANK 10.8X30MM S/A METALISED POLY
365-00100-20	LABEL WHITE S/A 28X11MM QUIKSTIK RW718/4
400-00020-05	SLEEVING 1.5MM SILICONE RUBBER
410-00010-42	PACKAGING CARTON 60MM FXD EQUIP MODULE U
410-01056-00	CARTON STOCK 10 PRINTED KIWI REF 12317 5



220-00011-44B

DIAGRAM 1 - EPROM PCB LAYOUT - TOP SIDE



220-00011-44B

DIAGRAM 1 - EPROM PCB LAYOUT - TOP SIDE

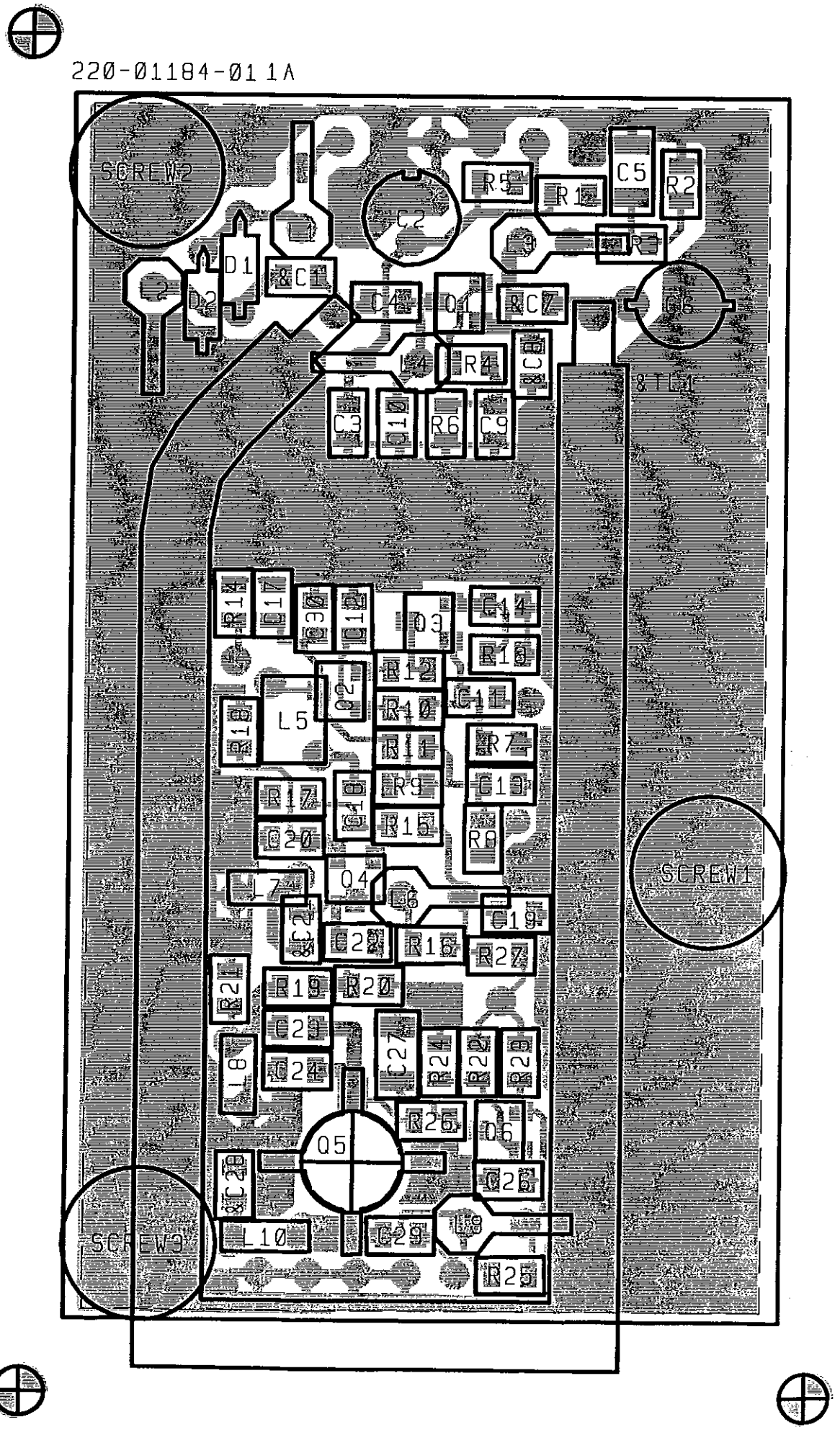


DIAGRAM 3 VCO PCB LAYOUT - TOP SIDE.

220-01184-011A

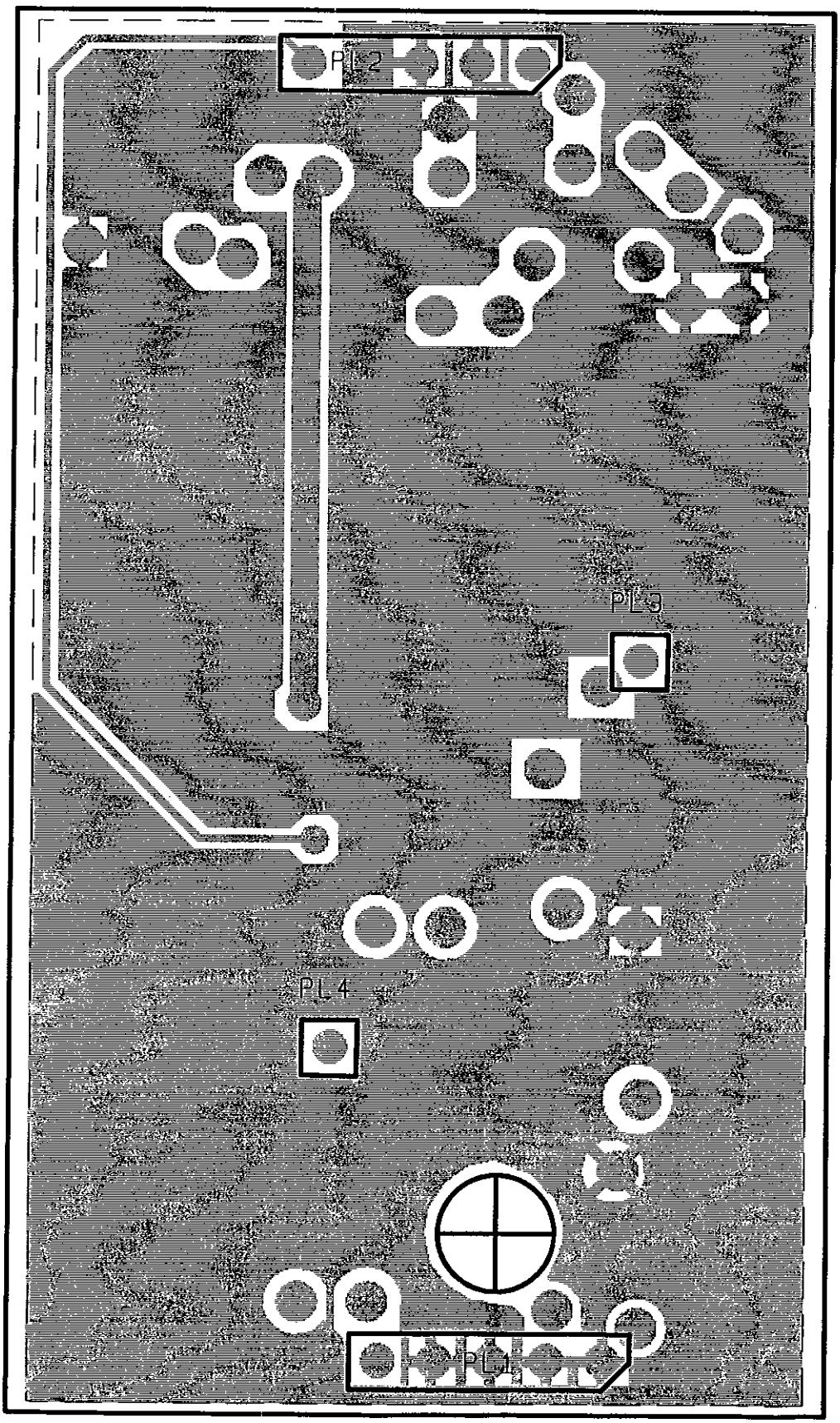


DIAGRAM 4 VCO PCB LAYOUT - BOTTOM SIDE.

T885 Grid Reference Index

DEVICE	PCB	CIRCUIT
C1	2:J5	1-B4
C2	2:L4	1-B5
C3	2:J4	1-B4
C4	2:K4	1-B5
C5	2:K4	1-C4
C6	2:L4	1-D5
C7	2:M4	1-D5
C8	2:L5	1-D4
C9	2:O4	1-A8
C13	1:L5	1-F4
C14	2:M4	1-F4
C15	2:L3	1-G2
C16	2:P3	1-G2
C17	2:M3	1-H3
C19	2:Q3	1-I2
C20	1:P5	1-J5
C21	2:M5	1-L2
C22	2:N4	1-K5
C23	1:N4	1-K5
C24	1:M5	1-O2
C25	2:P8	1-L5
C26	1:R4	1-O8
C27	1:R5	1-O7
C28	2:Q5	1-P7
C30	2:P6	1-P8
C31	2:L4	1-D5
C32	2:L6	1-O5
C33	2:O4	1-C7
C34	2:T4	1-C8
C35	2:S2	1-E9
C36	1:R3	1-E9
C39	1:R4	1-C8
C40	2:T3	1-I8
C41	2:T2	1-H9
C42	2:R3	1-O8
C100	1:D9	2-C8
&C101	2:D9	2-D7
C102	1:D9	2-D8
&C103	2:D10	2-E7
&C104	2:D9	2-E7
C105	2:B10	2-D2
&C106	2:C9	2-E7
C107	2:B11	2-F1
C108	2:C9	2-P9
C110	1:D10	2-G5
C111	2:C9	2-H6
C112	1:B9	2-I8
C113	2:B8	2-L2
C114	2:C7	2-L5
C115	2:D6	2-M7
C116	2:B9	2-L3
C117	1:C7	2-N7
C118	1:C7	2-M2
C119	2:B6	2-O8
C120	2:B8	2-N4
C121	2:B6	2-O8
C122	1:A6	2-O7
C123	2:B8	2-N4
C124	1:B7	2-N3
C125	1:C6	2-P8
C126	2:A6	2-P7
C127	1:A8	2-N4
C128	2:B7	2-N2
C129	2:C11	2-E3
&C130	2:D8	2-B8
&C131	2:C9	2-H6
&C132	2:D8	2-B8
C133	2:D6	2-E1
C134	1:D2	2-P2
C135	1:D3	2-P2
C136	2:D7	2-L6
C137	2:B10	2-K2
C138	2:D5	2-C0
C139	2:C5	2-B0
C140	2:B9	2-I9
C141	2:C9	2-H9
C142	1:C8	2-I8
C200	2:S6	3-D1
C201	1:R6	3-F1
C202	2:R6	3-G1
C203	2:S6	3-I3
C204	1:T7	3-K1
C205	2:T7	3-L1
C206	2:T7	3-L1
C207	1:R7	3-M6
C210	2:R8	3-G6
C211	1:Q8	3-G6
C212	1:R6	3-K5
C213	2:Q7	3-I6
C214	1:R8	3-H6
C215	1:R8	3-E8
C216	2:S6	3-H1
C217	2:S6	3-I2
C218	2:T8	3-J3
C219	2:R7	3-M6
C220	2:R8	3-G6
C221	2:Q6	3-L6
C222	2:R8	3-F8
C301	2:V8	4-B6
C302	2:V8	4-B6
C303	2:V8	4-C6
C304	2:V9	4-C6
C305	2:T11	4-E7
C306	2:T11	4-E7
C307	2:T12	4-F8
C308	2:T11	4-F7
C309	2:T10	4-F7
C310	2:S10	4-F9
C311	2:N10	4-H9
C312	2:P10	4-I7
C313	2:P11	4-I7
C314	2:P11	4-J8
C315	2:P11	4-J8
C316	2:N10	4-J7
C317	2:K10	4-M7
C318	2:K10	4-M6
C319	2:J11	4-M7
C320	2:H11	4-N7
C321	2:H11	4-N7
C322	2:H11	4-O6
C323	2:H12	4-O7
C324	2:H10	4-P8
C325	1:H10	4-P8
C326	2:H11	4-P7
C327	2:G11	4-P7
&C328	2:G12	4-A4
C329	2:G11	4-B3
&C330	2:F11	4-C3
C331	2:G10	4-E3
&C332	2:G10	4-E4
C333	2:G10	4-F4
C334	2:G9	4-G3
C335	2:H9	4-F4
&C336	2:G9	4-H4
&C337	2:G9	4-H3
&C338	2:G9	4-I3
&C339	2:G9	4-I4
C340	2:F9	4-J4
C341	2:F8	4-J4
C342	2:G8	4-K4
C343	2:F8	4-L4
C344	2:G8	4-L5
C345	2:G6	4-M4
C346	1:H7	4-M5
C347	2:G6	4-N5
C348	2:G7	4-O4
C349	2:H7	4-O5
C350	2:H5	4-P5
C351	2:F7	4-P3
C352	2:G7	4-A1
C353	2:G7	4-B1
C354	2:H6	4-C1
C355	2:G4	4-C0
C356	2:H4	4-D2
C357	2:G4	4-E1
C358	2:G4	4-E1
C359	2:H4	4-E0
C360	2:F4	4-F1
C361	1:H4	4-G2
C362	2:F5	4-H1
C363	2:F5	4-I1
C364	2:F7	4-L1
C365	1:F7	4-L1
C366	2:F6	4-M1
C367	2:H3	4-N1
C368	2:K10	4-M9
C369	2:K10	4-M9
C370	2:J10	4-N9
C372	2:K9	4-N9
C373	2:J9	4-N9
D1	2:Q3	1-J2
		1-J2
D2	2:M4	1-L3
		1-K3
D100	2:C11	2-D2
		2-D2
D101	2:D11	2-E4
		2-E4
D102	1:B10	2-H2
D103	2:B10	2-I2
		2-H2
D104	2:D8	2-I4
		2-I5
D105	1:B10	2-J1
D106	1:E2	2-K1
D107	1:D2	2-K0
D108	1:D3	2-K0
D200	2:T8	3-J3
		3-J3
D201	1:U6	3-C7
D203	2:O6	3-K7
		3-K6
D300	2:F4	4-G1
		4-G0
#H1	1:W9	4-D7
#H2	1:T9	4-H7
#H3	1:N9	4-L7
INPUT	0:B1	4-A7
IC1	1:M4	1-D4
=IC2	1:R4	1-B8
IC3	1:M3	1-F3
IC4	1:N4	1-N2
		1-K5
		1-M3
IC5	1:T4	1-I8
		1-D7
		1-D7
		1-E7
		1-I8
		1-J8
		1-K8
IC6	1:T3	1-H8
		1-F7
		1-F8
IC100	1:C12	2-F3
		2-B2
		2-E1
IC101	1:C9	2-P9
		2-F7
		2-G7
IC102	1:B6	2-N7
IC103	1:B8	2-M2
IC104	1:C6	2-E0
		2-D0
		2-B0
IC201	1:T6	3-H3
		3-H1
		3-P0
IC202	1:S7	3-E1
IC300	1:K11	4-L7
IC301	1:G6	4-B1
		4-M4
		4-O4
IC302	1:H3	4-M1
L1	1:K5	1-B4
L100	1:E3	2-J2
L301	1:V8	4-B7
L302	1:V8	4-C7
L303	1:V9	4-C7
L305	1:T11	4-F7
L308	1:P10	4-I7
L310	1:L10	4-M6
L311	1:J12	4-M7
L312	1:H11	4-O7
L313	1:H11	4-O7
L314	1:F12	4-B3
L315	1:F11	4-C3
L316	1:F10	4-E3
L317	1:H9	4-G4
L318	1:F9	4-I3
L319	1:G8	4-K5
L320	1:G5	4-L5
L321	1:H7	4-O5
L322	1:K10	4-M9
L323	1:K9	4-N9
PAD1	1:M4	1-N3
PL5	1:P4	1-P0
		1-P0
		1-P1
		1-P2
		1-P1
		1-P2
		1-P3
		1-P2
		1-P2
		1-P1
PAD100	1:E11	2-A4
PL100	1:C11	2-H3
		2-H3
		2-H3
PAD101	1:C10	2-A3
PL101	1:C9	2-H7
		2-H6
		2-H7
PL102	1:D2	2-K0
		2-K1
		2-K1
PAD103	1:B3	2-K0
PL103	1:D8	2-B9
		2-B8
		2-B8
PAD104	1:E3	2-P1
PL104	1:C12	2-C1
		2-C1
		2-C2
PAD105	1:E3	2-P0
PL105	1:B8	2-J7
		2-J7
		2-J7
		2-J8
PAD106	1:B2	2-N1
PL106	1:B2	2-K8
		2-K8
		2-K8
PAD107	1:B2	2-N0
PAD108	1:B2	2-O1
PAD109	1:B2	2-O0
PAD110	1:E3	2-A9
PAD111	1:E8	2-A8
PAD112	1:B2	2-A5
PAD113	1:D11	2-A4
PAD114	1:D11	2-A1
PAD115	1:E4	2-A1
PAD116	1:C10	2-G2
PAD117	1:B4	2-O3
PAD118	1:E2	2-A8
PAD119	1:D8	2-H9
PAD120	1:B4	2-K8
PAD121	1:E4	2-A5
PAD122	1:B1	2-J9
PAD123	1:C10	2-G2
PL200	1:V4	3-B7
		3-B6
		3-B8
		3-B7
		3-B6
		3-B5
		3-B5
		3-B9
		3-B9
		3-B8
		3-B8
		3-B6
		3-B6
		3-B8
		3-B7
Q1	2:K4	1-C4
Q3	2:P3	1-I2
Q4	2:S4	1-O9
Q100	2:C10	2-G2
Q101	2:D11	2-H4
Q102	2:B10	2-H2
Q103	2:C8	2-I4
Q104	2:C3	2-J0
Q105	2:C7	2-M6
Q106	2:B9	2-L2
Q107	2:D7	2-L6
Q108	2:B9	2-K2
Q109	2:C8	2-I9
Q200	1:S6	3-J1
Q201	1:T8	3-K2
Q202	2:Q7	3-J6
Q203	2:R8	3-H7
Q300	2:T10	4-F7
Q301	2:T11	4-E8
Q302	2:P11	4-I8
Q303	2:P10	4-I7
Q304	1:H12	4-O7
Q305	2:G10	4-F4
Q306	2:F8	4-K4
Q307	2:G6	4-N4
Q308	2:H4	4-D1
Q309	2:G4	4-E1
R1	2:L5	1-B6
R2	2:L3	1-B1
R3	2:K4	1-B4
R4	2:M3	1-B1
R5	2:K4	1-C5
R6	2:K4	1-C5
R7	2:K4	1-C4
R8	2:M3	1-C1
R9	2:K4	1-C5
R10	2:K3	1-C1
R11	2:K4	1-C5
R12	2:K3	1-D1
R13	2:L3	1-D1
R14	2:L4	1-D6
R15	2:L3	1-D1
R16	2:O5	1-B9
R20	2:L4	1-G5
R21	2:M3	1-H3
R22	2:L3	1-H4
R23	2:M4	1-I4
R24	2:M4	1-I3
R25	2:M4	1-J3
R26	2:P3	1-I2
R27	2:P3	1-I2
R28	2:M4	1-K4

T885 Grid Reference Index

DEVICE	PCB	CIRCUIT
R29	2:M4	1-L3
R30	2:N4	1-I5
R31	2:P5	1-J6
R32	2:N5	1-L4
R33	2:N4	1-L2
R34	2:N4	1-K5
R35	2:M5	1-N2
R36	2:P7	1-L5
R37	2:R4	1-O6
R38	2:S4	1-C7
R39	2:S4	1-D6
R40	2:T2	1-E9
R41	2:L4	1-B5
R42	2:L4	1-D6
R43	2:M8	1-A4
R44	2:J7	1-O4
R45	2:J7	1-O4
R46	2:K7	1-O4
R47	2:O5	1-C9
R48	2:R5	1-C8
R49	2:T3	1-I9
R50	2:S3	1-G7
RL100	1:D2	2-J1
		2-M1
		2-M0
RV100	1:A11	2-A2
R100	2:B11	2-A3
RV101	1:D10	2-F5
R101	2:A11	2-A2
R102	2:C11	2-B1
RV102	1:A9	2-J3
RV103	1:B7	2-L7
R103	2:B11	2-B2
R104	2:D9	2-C9
RV104	1:D4	2-C0
R105	2:D9	2-C8
R106	2:C12	2-C2
&R107	2:D9	2-D8
R108	2:D9	2-D8
&R109	2:D10	2-D8
R110	2:C11	2-D2
R111	2:C11	2-D2
&R112	2:D10	2-E8
R113	2:B11	2-E2
R114	2:C11	2-F1
R115	2:C9	2-G6
R116	2:D11	2-F4
R117	2:B11	2-F2
R119	2:C11	2-F2
R120	2:D9	2-F8
R121	2:D10	2-F5
&R122	2:C9	2-G7
R123	2:D11	2-G4
R124	2:B10	2-G3
R125	2:D11	2-G5
&R126	2:C9	2-H7
&R127	2:C9	2-H7
R128	2:C3	2-H1
R129	2:C3	2-H0
R130	2:B10	2-I4
R131	2:B9	2-I7
R132	2:B9	2-I2
R133	2:A9	2-J1
R134	2:B9	2-J3
R135	2:B9	2-K3
R136	2:B9	2-L3
R137	2:B7	2-L7
R138	2:C8	2-L4
R139	2:C8	2-L3
R140	2:D7	2-L7
R141	2:D7	2-M7
R142	2:C6	2-M7
R143	2:C8	2-M3
R144	2:A6	2-P6
R145	2:B6	2-N2
R146	2:A6	2-P7
R147	2:B4	2-O3
R148	2:B4	2-O3
R149	2:C11	2-F3
R150	2:B10	2-G3
R151	2:D8	2-B8
&R152	2:E9	2-B7
R153	2:C8	2-I3
R154	2:D6	2-C1
R155	2:D5	2-C1
R156	2:D5	2-C0
R157	2:D5	2-C1
R158	2:D7	2-K6
R159	2:C10	2-K3
R160	2:C10	2-G2
R161	2:D4	2-A0
R162	2:D9	2-H9
R163	2:C9	2-I8
R164	2:C8	2-I8
R165	2:D5	2-A1

DEVICE	PCB	CIRCUIT
R200	2:T7	3-D2
R201	2:S6	3-G1
R203	2:T9	3-J3
R204	1:T8	3-J2
R205	1:T8	3-J3
R206	2:T6	3-K1
R207	2:T6	3-K0
R208	1:T7	3-K3
R209	2:R6	3-L7
R210	2:T7	3-D2
R212	2:O8	3-G8
R213	2:R7	3-I6
R214	2:R7	3-I5
R215	2:R7	3-H5
R216	2:S7	3-E0
R217	2:S7	3-F1
RV300	1:H5	4-E0
RV301	1:G3	4-O1
R301	2:V8	4-A6
R302	2:T11	4-E8
R303	2:T11	4-E7
R304	2:T11	4-E7
R305	2:S10	4-F9
R306	2:T11	4-F8
R307	2:T11	4-F7
R308	2:S10	4-G7
R309	2:S10	4-G7
R310	2:S10	4-G7
R311	2:P11	4-H8
R312	2:P11	4-H8
R313	2:P10	4-I7
R314	2:N10	4-I9
R315	2:P11	4-I8
R316	2:P11	4-J7
R317	2:N11	4-J7
R318	2:N10	4-K7
R319	2:N10	4-K7
R320	2:K10	4-L8
R321	2:K10	4-L8
R322	2:K11	4-L8
R323	2:K10	4-M7
R324	2:H11	4-O6
R325	2:H11	4-O8
R326	2:H10	4-O8
R327	2:H11	4-P7
R328	2:G12	4-A4
R329	2:G10	4-F3
R330	2:G10	4-F3
R331	2:H9	4-G5
R332	2:G9	4-G4
R333	2:H9	4-G4
R334	2:F9	4-J3
R335	2:F8	4-J3
R336	2:F8	4-J5
R337	2:F8	4-J4
R338	2:G8	4-K3
R339	1:G9	4-K3
R340	2:G8	4-L3
R341	2:G8	4-K5
R342	2:G8	4-L5
R343	2:H5	4-M5
R344	2:G6	4-M3
R345	2:G7	4-O5
&R346	2:H7	4-P5
R347	2:F7	4-P4
R348	2:H6	4-P5
R349	2:G7	4-A2
R350	2:G7	4-A1
R351	2:G7	4-B1
R352	2:F7	4-B1
R353	2:H5	4-C1
R354	2:G5	4-D0
R355	2:H4	4-D2
R356	2:G4	4-D1
R357	2:H4	4-D0
R358	2:H4	4-D1
R359	2:G4	4-E1
R360	2:G4	4-E1
R361	2:G4	4-E2
R362	2:G5	4-F1
R363	2:F4	4-F0
R364	2:F4	4-G2
R365	2:G5	4-G1
R366	2:F5	4-G1
R367	2:F5	4-H1
R368	2:G6	4-K2
R369	1:F6	4-K1
R370	2:F6	4-K1
R371	2:G6	4-L2
R372	2:F7	4-M1
R373	2:G3	4-M2
R374	2:G3	4-N1
R375	2:G6	4-N2
R376	2:G3	4-O1
R378	2:F3	4-P0

DEVICE	PCB	CIRCUIT
R379	1:F3	4-P0
R380	2:T10	4-G9
R381	2:N10	4-H9
SK1	1:K4	1-A1
		1-A3
		1-A3
		1-A3
		1-A2
		1-A2
		1-A2
		1-A2
		1-A1
		1-A1
SJ1	1:M8	1-A4
SJ2	1:L7	1-P5
SW100	1:B5	2-A6
SJ3-1	1:P7	1-P5
SJ3-2	1:P7	1-P7
SJ3-3	1:P7	1-P6
SJ3-4	1:P7	1-P6
SJ3-5	1:P7	1-P9
SJ4-1	1:K8	1-P4
SJ4-2	1:K7	1-P4
SJ4-3	1:K7	1-P3
SJ4-4	1:K7	1-P3
SJ4-5	1:K7	1-P4
SK300-1	1:F7	4-L0
SK300-2	1:F7	4-L0
SK300-3	1:F6	4-K0
SK301-1	1:F4	4-O0
SK301-2	1:F4	4-P0
SK301-3	1:F4	4-P0
SK301-4	1:F3	4-O0
TP11	2:J12	4-N7
TP12	2:G12	4-A4
TP13	2:G10	4-E4
TP14	2:G6	4-L4
TP15	2:F7	4-P4
TP16	2:F5	4-I2
T100	1:C4	2-O2
T200	1:R7	3-J7
T200CAN	1:R7	3-J8
X300	1:H5	4-L5
&XF300A	1:G11	4-C3
&XF300B	1:G11	4-D3
&XF301	1:G9	4-H4
&XF302	1:H6	4-N4

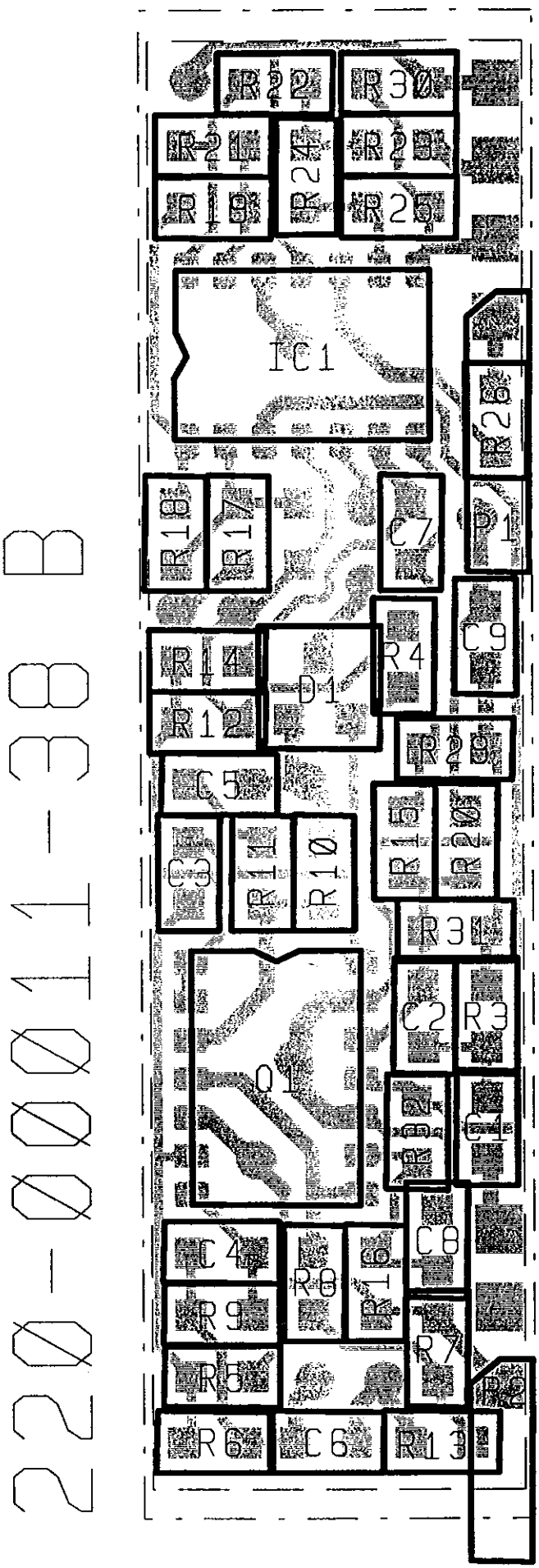


DIAGRAM 15 RSSI PCB LAYOUT - BOTTOM SIDE