

T860 Series II
Base Station Equipment
220-285MHz

Preliminary Service Manual

July 1998

M860-00-PRELIM



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About This Manual

Scope

This manual contains general, technical and servicing information on T860 Series II 100W base stations which comprise the following equipment:

100W base station	T865 Receiver
	T867 Exciter
	T869 Power Amplifier

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Part A Introduction To Servicing

This part of the manual is divided into the sections listed below. These sections provide some general and advisory information on servicing procedures, and a brief history of PGM800Win programming software.

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1 General

1.1 Additional Technical Information

If you have any questions about this manual or the equipment it describes, please contact your nearest Tait Dealer or Subsidiary. If necessary, you can get additional technical help from the Customer Support Group, Radio Systems Division, Tait Electronics Ltd, Christchurch, New Zealand (full contact details are on page 2).

When requesting information, please quote either the manual product code (e.g. M860-00-200), or the equipment product code and serial number which are printed on a label on the back of the product (as shown in Figure 1.1).

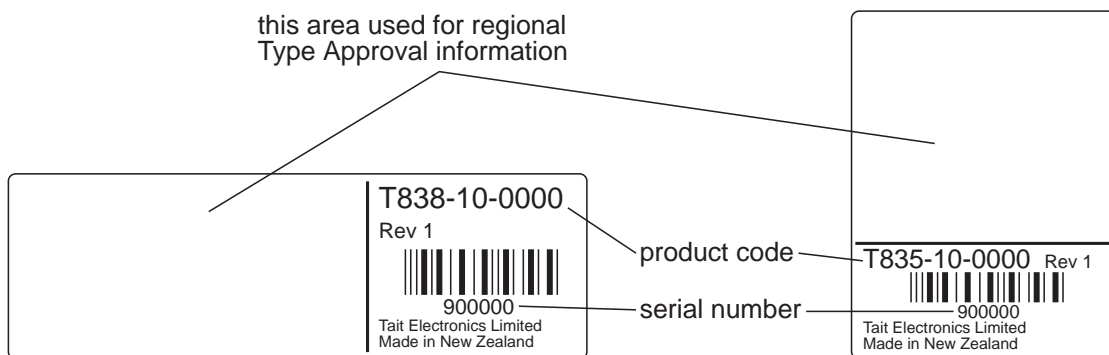


Figure 1.1 Typical Product Code & Serial Number Labels

If you require information about a particular PCB, please quote the full PCB internal part number (IPN) which is screen printed onto the top side of the board (refer to the appropriate PCB Information section in this manual for more details).



1.2 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 the manufacturers' data books, e.g. Philips data books covering CMOS devices, or Motorola CMOS data books, Section 5 'Handling', etc.

An anti-static bench kit (refer to Figure 1.2) is available from Tait Electronics Ltd under the following product codes:

- KS0001 - 1 conductive rubber bench mat
- 1 earth lead to connect the mat to ground
- KS0004 - 1 wrist strap.

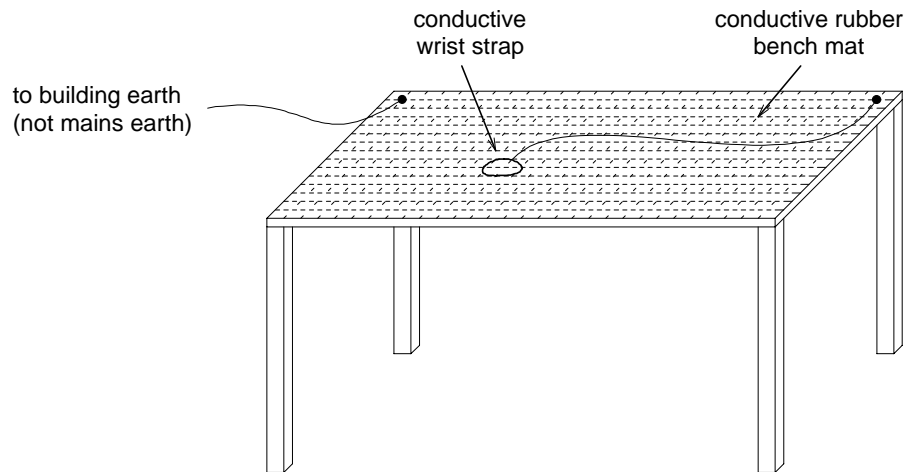


Figure 1.2 Typical Anti-static Bench Set-up



1.3 Caution: Aerial Load

The equipment has been designed to operate safely under a wide range of aerial loading conditions. However, we strongly recommend that the transmitter should always be operated with a suitable load to prevent damage to the transmitter output power stage.



1.4 Caution: Beryllium Oxide & Power Transistors

The RF power transistors in current use all contain some beryllium oxide. This substance, while perfectly harmless in its normal solid form, can become a severe health hazard when it has been reduced to dust. For this reason the RF power transistors should not be broken open, mutilated, filed, machined, or physically damaged in any way that can produce dust particles.

2 Mechanical

2.1 Torx Recess Head Screws

Torx recess head screws are becoming the standard screw head type in all T800 Series II equipment, with Pozidriv and Philips recess head screws being used in fewer applications.

The Torx recess head has the advantage of improved screwdriver tip location, reducing the chances of screw head damage caused by the driver tip rotating within the recess. In addition, using a ball-tip Torx screwdriver allows you to drive a Torx head screw with the driver on a slight angle, which can be useful in situations where access is restricted.

It is important that you use the correct Torx screwdriver tip:

M3 screws - T10
M4 screws - T20.

Figure 2.1 below shows a typical Torx recess head screw (actual hardware may differ slightly from this illustration due to variations in manufacturing techniques).

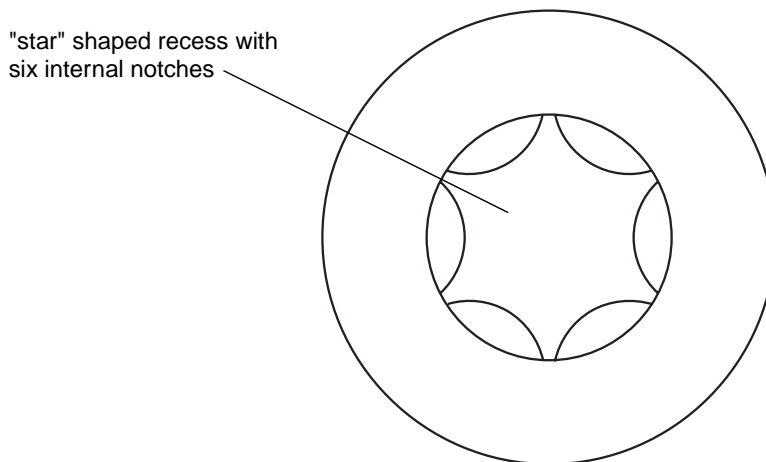


Figure 2.1 Torx Screw Identification

2.2 Pozidriv & Philips Recess Head Screws

Pozidriv and Philips recess head screws will continue to be used in T800 Series II equipment in a few special applications. It is important that you use the correct type and size screwdriver for each screw type to avoid damaging the screw head.

It is particularly important that you do not use Philips screwdrivers on Pozidriv screw heads as the tapered driving flutes of the Philips screwdriver do not engage correctly with the parallel-sided slots in the Pozidriv screw head. This can result in considerable damage to the screw head if the screwdriver tip turns inside the recess.

Note: If you find you need excessive downwards pressure to keep the screwdriver tip in the Pozidriv screw head, you are probably using the wrong type and/or size screwdriver.

Figure 2.2 below shows the main differences between typical Pozidriv and Philips screw heads and screwdriver tips (actual hardware may differ slightly from these illustrations due to variations in manufacturing techniques).

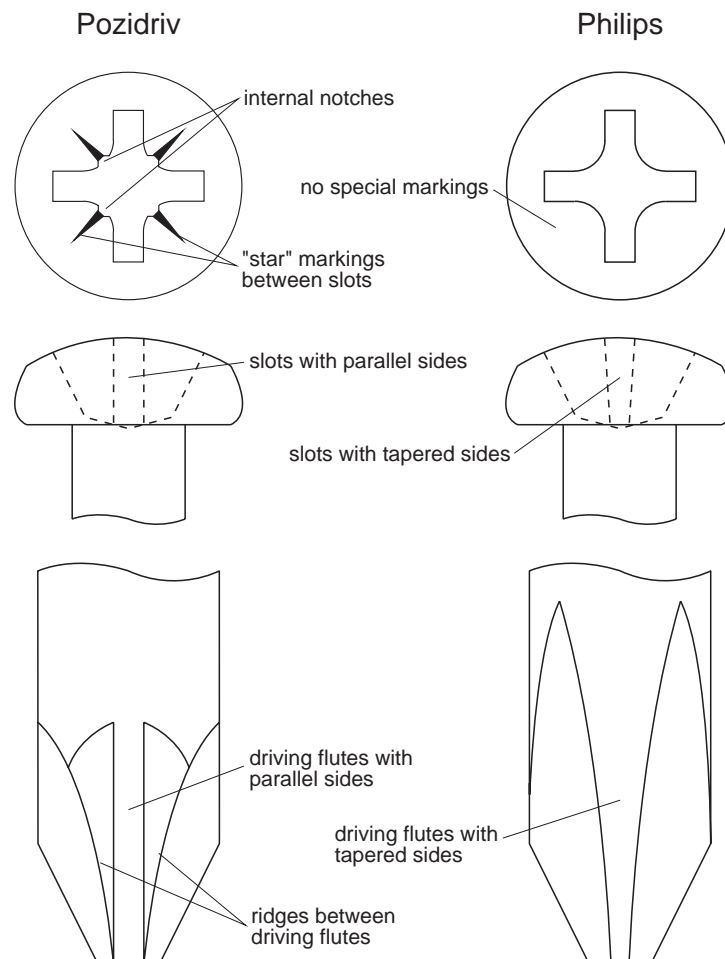


Figure 2.2 *Pozidriv & Philips Screw & Screwdriver Identification*

2.3 Disassembly/Reassembly

2.3.1 Receivers/Exciters

To carry out alignment or change option links, you need to remove only the top cover, i.e. the one adjacent to the front panel handle and on the opposite side to the main D-range connector (D-range 1/PL100).

You need to remove the bottom cover to:

- access SMD components
- change solder blob links
- fit test leads to circuit block access points.

2.3.2 Power Amplifiers

You should carry out the tuning and power output level setting procedures with the cover on.

2.4 Cover Screw Torques

Receivers/Exciters	.. 1.36Nm/12lb-in.
Power Amplifiers	.. 0.9Nm/8lb-in.

3 Component Replacement

3.1 Leaded Components

Whenever you are doing any work on the PCB that involves removing or fitting components, you must take care not to damage the copper tracks. The two satisfactory methods of removing components from plated-through hole (PTH) PCBs are detailed below.

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

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).

3.1.2 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.

3.2 Surface Mount Devices

**Caution:**

Surface mount devices (SMDs) require special storage, handling, removal and replacement techniques. This equipment should be serviced only by an approved Tait Dealer or Subsidiary equipped with the necessary facilities. Repairs attempted with incorrect equipment or by untrained personnel may result in permanent damage. If in doubt, contact your nearest Tait Dealer or Subsidiary.

3.3 Cased Mica Capacitors

Cased mica capacitors can be removed by heating the top with a heavy-duty soldering iron and gently lifting the capacitor off the PCB with a solder-resistant spike or equivalent.

4 Software History

28/06/96 PGM800Win Version 1.0
18/08/97 PGM800Win Version 2.00

4.1 PGM800Win V1.0

PGM800Win V1.0 is different in concept from DOS versions of PGM800 in that it is Windows¹ based. It also includes many new and improved features over DOS versions of PGM800.

The major changes are outlined below:

- The WindowsTM environment makes data entry and editing significantly easier.
- PGM800Win includes several new radio models which are not programmable with DOS versions of PGM800.
- Out of range frequencies will result in warning messages and will not be accepted for entry into the standard library module. User defined modules can be created, however, allowing variation from the standard library module.
- Channel numbers default to 0-127 to match the EPROM memory locations. However, the user can change this setting so that the channel numbers run from 1-128 to suit his/her particular needs.

Note: The data files produced by BASEPROG V1.0 and all DOS versions of PGM800 are still compatible with PGM800Win V1.0.

4.2 PGM800Win V2.00

PGM800Win V2.00 is an upgraded and expanded version of PGM800Win V1.0. It has been developed specifically for T800 Series II base stations, but retains the ability to program Series I equipment.

The major changes are outlined below:

- PGM800Win V2.0 will program T800 Series II base station modules via serial communications.
- Deviation and reference modulation settings are written automatically to the radio.

1. Windows is a registered trademark of the Microsoft Corporation.

- Extra information that is not stored in the radio (but which is still relevant to the radio) can be saved to a file on disk (e.g. note field, auxiliary pin names, etc.).

Note: The data files produced by BASEPROG V1.0, all DOS versions of PGM800, and PGM800Win V1.0 are still compatible with PGM800Win V2.00.

Part B T865 Receiver

This part of the manual is divided into six sections, as listed below. There is a detailed table of contents at the start of each section.

Section	Title
1	General Information
2	Circuit Operation
3	Initial Tuning & Adjustment
4	Functional Testing
5	Fault Finding
6	PCB Information

1 T865 General Information

This section provides a brief description of the T865 receiver, along with detailed specifications and a list of types available.

The following topics are covered in this section.

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1.1 Introduction

The T865 is a high performance microprocessor controlled FM base station receiver designed for single or multichannel operation in the 220 to 270MHz frequency range.

The receiver is a dual conversion superhet with a synthesised local oscillator. The first IF is 21.4MHz, allowing exceptionally high spurious signal rejection to be achieved in the receiver front end. The second IF section (455kHz) combines amplitude limiting, detection and RSSI within a single integrated circuit. This IC also drives a noise level detector for gating the audio output. RSSI can also be used to drive a carrier mute for audio output gating (link selectable).

The audio section output can be adjusted to deliver $>+10\text{dBm}$ 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 the serial communications port. Eight channel select lines are accessible via an optional D-range connector (D-range 2 - T800-03-0000) at the rear of the set.

All components except those on the VCO board 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 covers. There is provision within the chassis to mount small option PCBs.

The front panel controls include gating sensitivity, line level, monitor volume and a monitor mute switch.

The T865 has a width of 60mm and occupies a single space in a Tait rack frame, which has the ability to accommodate up to seven standard modules.

1.2 Specifications

1.2.1 Introduction

The performance figures given are minimum figures, unless otherwise indicated, for equipment tuned with the maximum switching range and operating at standard room temperature (+22°C to +28°C) and standard test voltage (13.8V DC).

Where applicable, the test methods used to obtain the following performance figures are those described in the EIA and ETS specifications. However, there are several parameters for which performance according to the CEPT specification is given. Refer to Section 1.2.6 for details of test standards.

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

The terms "wide bandwidth", "mid bandwidth" and "narrow bandwidth" used in this and following sections are defined in the following table.

	Channel Spacing	Modulation 100% Deviation	Receiver IF Bandwidth
Wide Bandwidth	25kHz	±5.0kHz	15.0kHz
Mid Bandwidth	20kHz	±4.0kHz	12.0kHz
Narrow Bandwidth	12.5kHz	±2.5kHz	7.5kHz

1.2.2 General

Number Of Channels .. 128 (standard)¹

Supply Voltage:

Operating Voltage .. 10.8 to 16V DC
 Standard Test Voltage .. 13.8V DC
 Polarity .. negative earth only
 Polarity Protection .. diode

Supply Current:

Standby .. 350mA
 Full Audio .. 750mA

Operating Temperature Range .. -30°C to +60°C

1. Additional channels may be factory programmed. Contact your nearest Tait Dealer or Subsidiary.

Dimensions:

Height	..	191mm
Width	..	60mm
Length	..	324mm

Weight .. 2.13kg

1.2.3 RF Section

Frequency Range	..	220-270MHz
Type	..	dual conversion superheterodyne
Frequency Increment	..	5 or 6.25kHz
Switching Range	..	4MHz (i.e. ± 2 MHz from the centre frequency)
Input Impedance	..	50 ohms
Frequency Stability (see also Section 1.4)	..	± 2.5 ppm, -30°C to $+60^{\circ}\text{C}$ (± 1 ppm available for special applications)
Signal Strength Indicator	..	-115dBm to -70dBm, 3.5 to 6.5V at approx. 15dB/V

IF Amplifiers:

Frequencies	..	21.4MHz and 455kHz
Bandwidths-		
Narrow Bandwidth (NB)	..	7.5kHz
Mid Bandwidth (MB)	..	12kHz
Wide Bandwidth (WB)	..	15kHz

Sensitivity (De-emphasised Response):

Single Channel	..	-117dBm
Bandsread (12dB Sinad)	..	-115dBm (across switching range)

Sensitivity (Flat Response):

Single Channel	..	-111dBm
Bandsread (12dB Sinad)	..	-109dBm (across switching range)

Signal+Noise To Noise Ratio (Typical):

		<u>De-emphasised</u>	<u>Flat</u>
RF Level -107dBm	..	30dB (WB) 25dB (NB)	20dB (WB) 15dB (NB)
RF Level -83dBm (CEPT)	..	54dB (MB) 50dB (NB)	49dB (MB) 45dB (NB)
RF Level -57dBm (EIA)	..	55dB (WB)	55dB (WB)

Selectivity:

Narrow Bandwidth ($\pm 12.5\text{kHz}$)	.. 85dB minimum, 89dB typical
Mid Bandwidth ($\pm 20\text{kHz}$)	.. 87dB minimum, 90dB typical
Wide Bandwidth ($\pm 25\text{kHz}$)	.. 90dB minimum, 95dB typical

Offset Selectivity (Canada only) .. 20dB

Spurious Response Attenuation .. 100dB

Intermodulation Response Attenuation:

Narrow Bandwidth	.. 80dB CEPT (typical)
Mid Bandwidth	.. 80dB CEPT
Wide Bandwidth	.. 85dB EIA

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**1.2.4.1 General**

Outputs Available .. line and monitor

Frequency Response .. flat or de-emphasised (750 μs)
(link selectable)

Flat Response:

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

De-emphasised Response:

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 (@ -70dBm signal level):			
		<u>De-emphasised</u>	<u>Flat</u>
Wide Bandwidth	..	≤2%	≤2%
Mid & Narrow Bandwidth	..	≤2%	≤4%

Monitor Output:

Power	..	1W
Speaker Impedance	..	4 ohms
Distortion	..	≤3%
(@ -70dBm signal level, links set to de-emphasis)		

1.2.4.2 CTCSS**Linkable High Pass Filter:**

Bandwidth	..	350 to 3400Hz
Response	..	within +1, -3dB of level at 1kHz
Hum And Noise	..	30dB min. at 250.3Hz
(1kHz at 60% system deviation		35dB typical (67 to 240Hz)
CTCSS at 10% system deviation)		

Tone Detect:

Tone Squelch Opening	..	better than 6dB sinad 3dB sinad at 250.3Hz (typical) 4dB sinad at 100Hz (typical)
Tone Detect Bandwidth	..	±2.1Hz accept (typical) ±3.0Hz reject (typical)
Response Time	..	150ms open and close (typical)

1.2.4.3 Mute Operation

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 -80dBm
Hysteresis	.. 2 to 10dB
Opening Time	.. 5ms
Closing Time	.. 50ms

Note: The opening and closing times given above are for the standard set-up (SL210 linked and SL220 not linked - refer to Section 3.3).

1.2.5 Microcontroller

Auxiliary Ports:

Open Drain Type	.. capable of sinking 2.25mA via $2k2\Omega$
V_{ds} max.	.. 5V

1.2.6 Test Standards

Where applicable, this equipment is tested in accordance with the following standards.

1.2.6.1 European Telecommunication Standard

ETS 300 086 January 1991

Radio equipment and systems; land mobile service; technical characteristics and test conditions for radio equipment with an internal or external RF connector intended primarily for analogue speech.

ETS 300 113 March 1996

Radio equipment and systems; land mobile service; technical characteristics and test conditions for radio equipment intended for the transmission of data (and speech) and having an antenna connector.

ETS 300 219 October 1993

Radio equipment and systems; land mobile service; technical characteristics and test conditions for radio equipment transmitting signals to initiate a specific response in the receiver.

ETS 300 279 February 1996

Radio equipment and systems; electromagnetic compatibility (EMC) standard for private land mobile radio (PMR) and ancillary equipment (speech and/or non-speech).

1.2.6.2 DTI CEPT Recommendation T/R-24-01**Annex I: 1988**

Technical characteristics and test conditions for radio equipment in the land mobile service intended primarily for analogue speech.

Annex II: 1988

Technical characteristics of radio equipment in the land mobile service with regard to quality and stability of transmission.

1.2.6.3 Telecommunications Industry Association**ANSI/TIA/EIA-603-1992**

Land mobile FM or PM communications equipment measurement and performance standards.

1.3 Product Codes

The three groups of digits in the T860 Series II product code provide information about the model, type and options fitted, according to the conventions described below.

The following explanation of T860 Series II product codes is not intended to suggest that any combination of features is necessarily available in any one product. Consult your nearest Tait Dealer or Subsidiary for more information regarding the availability of specific models, types and options.

Model

The Model group indicates the basic function of the product, as follows:

T86X -XX-XXXX	T865 receiver
	T867 exciter
	T869 100W power amplifier

Type

The Type group uses two digits to indicate the basic RF configuration of the product.

The first digit in the Type group designates the frequency range:

T86X- <u>X</u> -XXXX	'1' for 220-244MHz
	'2' for 243-270MHz

The second digit in the Type group indicates the channel spacing:

T86X- <u>XX</u> -XXXX	'0' for wide bandwidth (25kHz)
	'3' for mid bandwidth (20kHz)
	'5' for narrow bandwidth (12.5kHz)

Options

T86X-XX- <u>XXXX</u>	The Options group uses four digits and/or letters to indicate any options that may be fitted to the product. This includes standard options and special options for specific customers. '0000' indicates a standard Tait product with no options fitted. The large number of options precludes listing them here.
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1.4 Standard Product Range

The following table lists the range of standard T865 types (i.e. no options fitted) available at the time this manual was published. Consult your nearest Tait Dealer or Subsidiary for more information.

Frequency Range (MHz) ^a	220-244		
IF Bandwidth (kHz)	7.5	12	15
TCXO ^b $\pm 2.5\text{ppm } -30^{\circ}\text{C to } +60^{\circ}\text{C}$	•	•	•
Receiver Type: T865-	15-0000	13-0000	10-0000 ^c

Frequency Range (MHz) ^a	243-270		
IF Bandwidth (kHz)	7.5	12	15
TCXO ^b $\pm 2.5\text{ppm } -30^{\circ}\text{C to } +60^{\circ}\text{C}$	•	•	•
Receiver Type: T865-	25-0000	23-0000	20-0000

- a. Selectable by solder links - refer to Section 3.7.
- b. A TCXO with a stability of $\pm 1\text{ppm}$ (0°C to $+60^{\circ}\text{C}$) is available to suit specific requirements. Contact your nearest authorised Tait Dealer or Subsidiary for further details.
- c. In the United States only, the T865-10-0000 operates from 217-244MHz.

You can identify the receiver type by checking the product code printed on a label on the rear of the chassis (Figure 1.1 in Part A shows typical labels). You can further verify the receiver type by checking the placement of an SMD resistor in the table that is screen printed onto the PCB (refer to Section 6.1 for more details).

2 T865 Circuit Operation

This section provides a basic description of the circuit operation of the T865 receiver.

Note: Unless otherwise specified, the term "PGM800Win" used in this and following sections refers to version 2.00 and later of the software.

Refer to Section 6 where the parts lists, grid reference index and diagrams will provide detailed information on identifying and locating components and test points on the main PCB. The parts list and diagrams for the VCO PCB are in Part E.

The following topics are covered in this section.

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2.1 Introduction

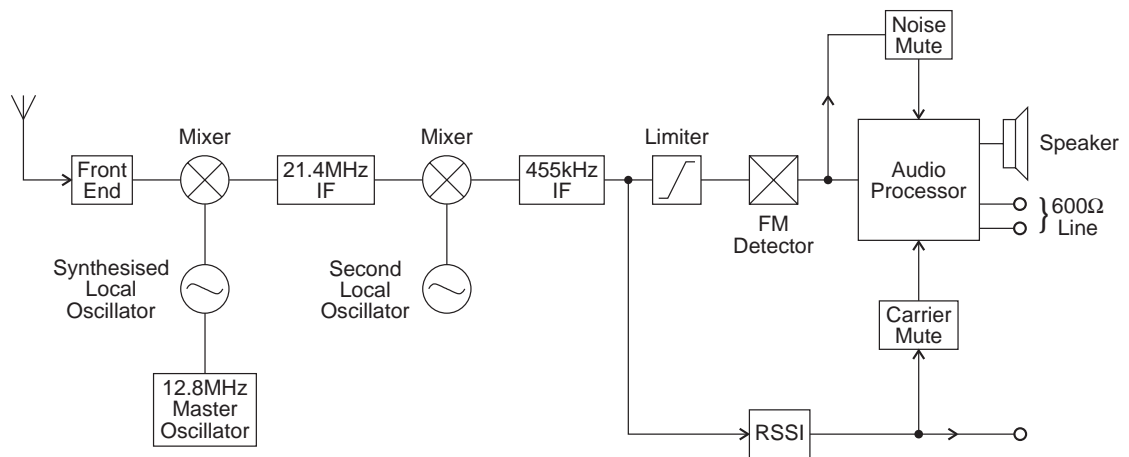


Figure 2.1 T865 High Level Block Diagram

The T865 receiver consists of a number of distinct stages:

- front end
- mixer
- synthesised local oscillator
- IF
- audio processor
- mute (squelch)
- regulator circuits
- received signal strength indicator (RSSI).

These stages are clearly identifiable in Figure 2.1. Refer to the circuit diagrams in Section 6 for further detail.

2.2 Receiver Front End

(Refer to the front end, IF section and audio processor circuit diagrams (sheets 4, 3 and 2 respectively) in Section 6.)

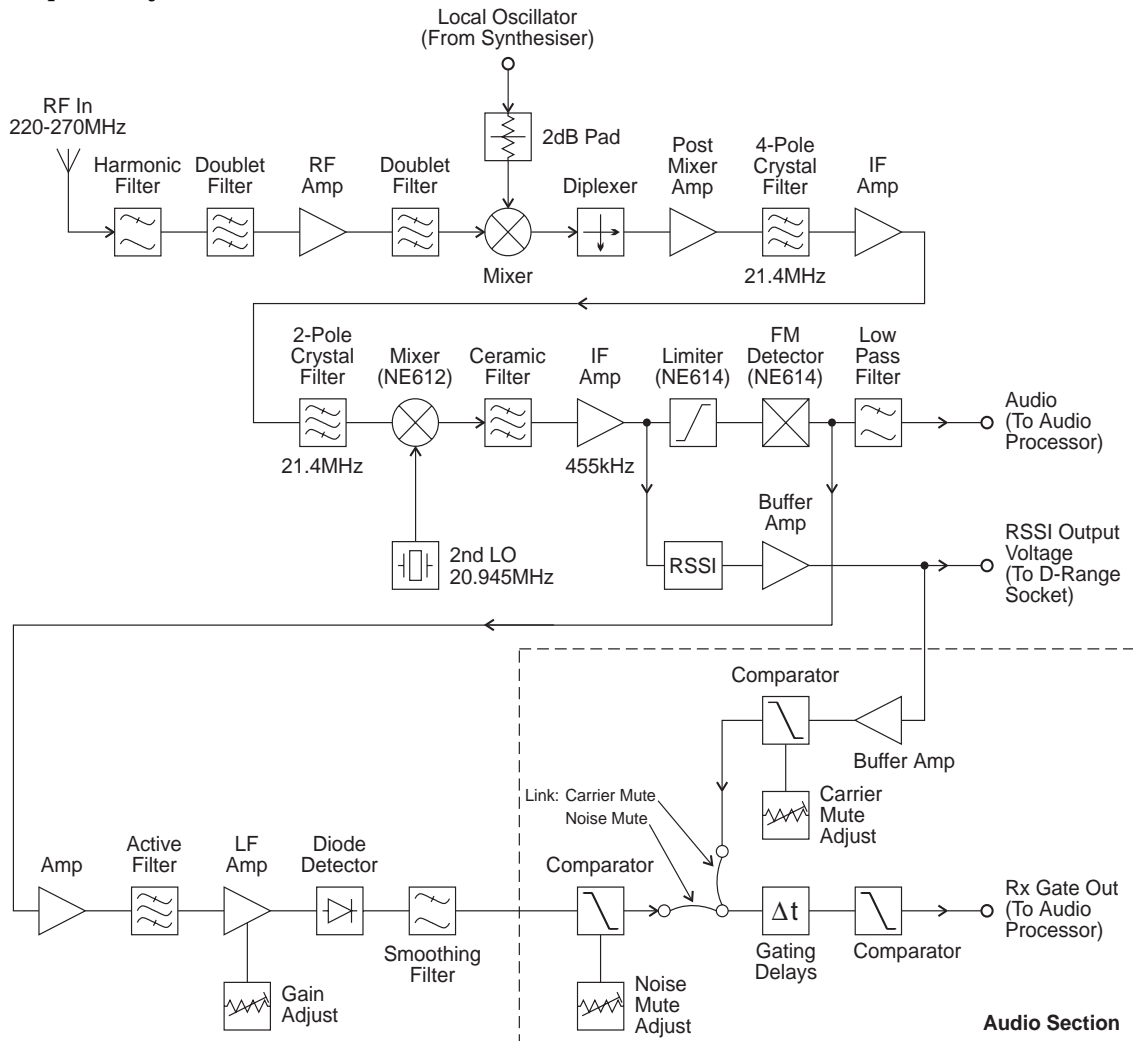


Figure 2.2 T865 Front End, IF and Mute Block Diagram

The incoming signal from the N-type antenna socket is fed through a 7-pole, low pass filter with a cut frequency of approximately 305MHz. This low loss filter (typically less than 0.5dB insertion loss over 220-270MHz) provides excellent immunity to interference from high frequency signals.

The signal is then further filtered, using a notched doublet (L410, L420) which provides exceptional image rejection, before being amplified by approximately 12dB (Q420). The signal is then passed through a further doublet (L460, L470) before being presented to the mixer.

Each sub-block within the front end has been designed with 50 ohm terminations for ease of testing and fault finding.

2.3 Mixer

(Refer to the front end circuit diagram (sheet 4) in Section 6 and Figure 2.2.)

IC420 is a high level mixer requiring a local oscillator (LO) drive level of +17dBm (nominal). The voltage controlled oscillator (VCO) generates a level of +22dBm (typical) and this is fed to the mixer via a 2dB attenuator pad. 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 the IF section circuit diagram (sheet 3) in Section 6 and Figure 2.2.)

Losses in the mixer are made up for in a tuned, common gate, post mixer amplifier (Q310). Several stages of amplification and filtering are employed in the IF circuitry. The first crystal filter is a 4-pole device (&XF310 and &XF320) which is matched into 50 ohms on both its input and output ports. This stage is followed by a two-stage amplifier (designed as a 50 ohm block) and second crystal filter (2 pole, &XF330), after which the signal is mixed down to 455kHz with the second local oscillator (20.945MHz) by IC340.

The 455kHz signal is filtered using a six-pole ceramic filter (&XF340) before being limited and detected.

The second IF mixer, limiter, detector and RSSI is in a 16-pin IC (IC350). Quadrature detection is employed, using L360, and the recovered audio on pin 7 of IC350 is typically 0.3V p-p for 60% system deviation.

2.5 Noise Mute (Squelch)

(Refer to the audio processor and IF section circuit diagrams (sheets 2 and 3 respectively) in Section 6 and Figure 2.2.)

The noise mute operates on the detected noise outside the audio bandwidth. An operational amplifier in IC390 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 (Q340 & Q350) with additional filtering. The noise is then rectified (D310) 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 RV230, the front panel "Gating Sensitivity" potentiometer. Hysteresis is introduced by the feedback resistor (R267) to prevent the received message from being chopped when the average noise voltage is close to the threshold. R281 and R280 determine the mute opening and closing times and, in combination with solder links SL210 and SL220, provide three time delay options (SL210 is linked as standard - refer to Section 3.8). The mute control signal at pin 7 of IC270 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, SW201.

2.6 Carrier Mute

(Refer to the audio processor and IF section circuit diagrams (sheets 2 and 3 respectively) in Section 6 and Figure 2.2.)

A high level carrier mute facility is also available. The RSSI (refer to Section 2.12) provides a DC voltage proportional to the signal strength. This voltage is compared with a preset level, set up on RV235, and may be linked into the mute timing circuit using PL250. PL250 selects either the noise mute or the carrier mute. From this point both the noise and carrier mute circuits operate in the same manner, using common circuitry.

2.7 Audio Processor

(Refer to the audio processor circuit diagram (sheet 2) in Section 6.)

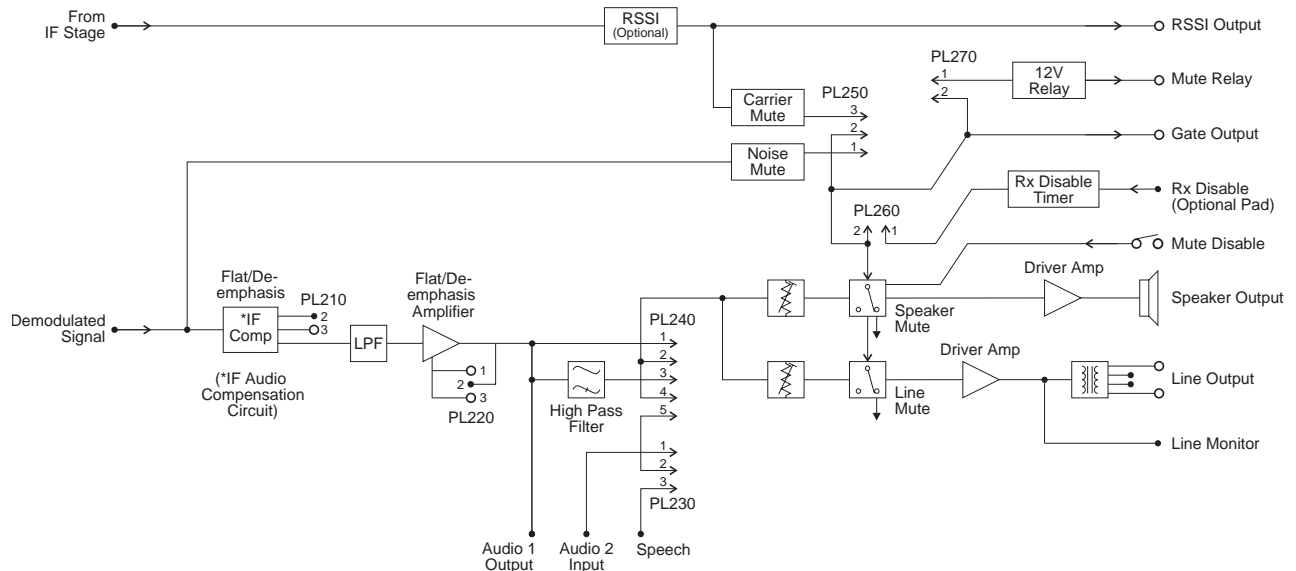


Figure 2.3 T865 Audio Processor Block Diagram

The recovered audio on pin 7 of IC350 is processed by IC390 and passed through a frequency compensation network and a third order elliptic active filter (IC210) to give the required response. Linking (PL220 & PL210) is available to give either a flat or de-emphasised audio response, with de-emphasis giving a 6dB/octave roll off. The output of IC210 is split to provide separate paths for the speaker and line outputs. The "Audio 1", Audio 2" and "Speech" lines allow access to the receiver's audio path for external signalling purposes (refer to Section 3.5).

The signals are passed to audio drive amplifiers IC240 and IC260. Under muted conditions the inputs of these amplifiers are shunted to ground via transistors Q230 and Q290 respectively. The audio output of IC240 has a DC component which is removed by C249, and this then drives a speaker directly. The output of IC260 is fed into a line transformer to provide a balanced 2-wire or 4-wire, 600 ohm output.

The speaker volume is set using the front panel "Monitor Volume" knob (RV205) and the line level is set using the recessed "Line Level" potentiometer (RV210).

The red front panel "Gate" LED (D250) indicates the status of the mute circuit. When a signal above the mute threshold is received, the LED is illuminated. The "Monitor Mute" switch (SW201) on the front panel opens the mute, allowing continuous monitoring of the audio signal (on = audio muted; off = audio unmuted).

The mute control line is available on pad 234 ("RX GATE OUT") for control of external circuitry. A high (9V) on pad 234 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 225 or 228, having connected the "RX-DISABLE" link between pins 1 & 2 of PL260. An adjustable time delay (RV220) is provided on these lines. In order to disable the audio, either pad must be pulled to 0V.

An undedicated relay is provided (RL210) for transmitter keying or other functions and this can be operated from the mute line by linking PL270.

2.8 Power Supply And Regulators

(Refer to the regulators circuit diagram (sheet 6) in Section 6.)

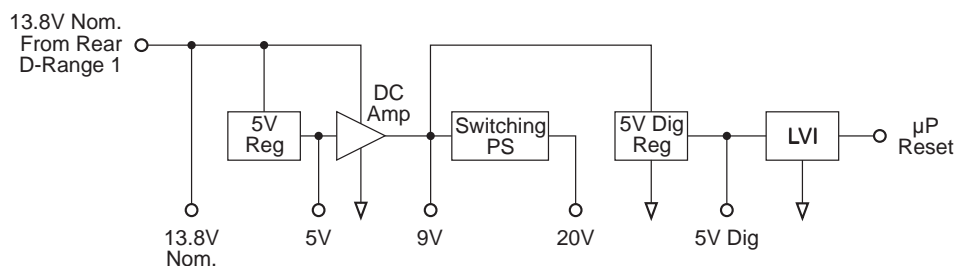


Figure 2.4 T865 Power Supply And Regulators Block Diagram

The T865 is designed to operate off a 10.8-16V DC supply (13.8V nominal). A 5.3V regulator (IC630) runs directly from the 13.8V rail, driving much of the synthesiser circuitry. It is also used as the reference for a DC amplifier (IC640, Q630 & Q620) which provides a medium current capability 9V supply.

A switching power supply, based on Q670 and Q660, runs off the 9V supply and provides a low current capability +20V supply. This is used to drive the synthesiser loop filter (IC740), giving a VCO control voltage of up to 20V.

The 13.8V supply drives both output audio amplifiers without additional regulation. A separate 5V regulator (IC610) drives the microprocessor and associated digital circuitry. The output of this regulator is monitored by the Low Voltage Interrupt (LVI) circuit (IC650).

2.9 Microcontroller

(Refer to the microcontroller circuit diagram (sheet 8) in Section 6.)

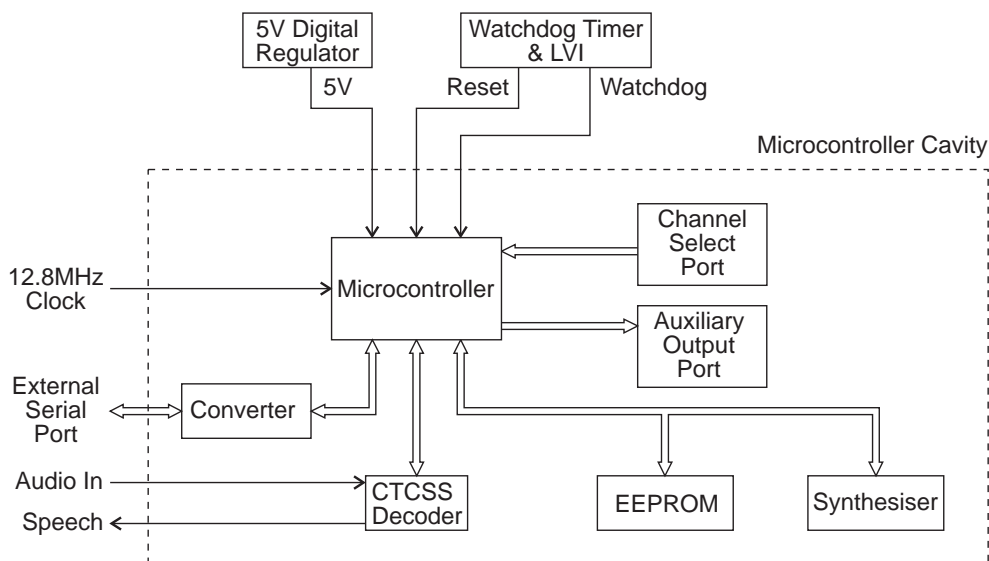


Figure 2.5 T865 Microcontroller Block Diagram

Overall system control of the T865 is accomplished by the use of a member of the 80C51 family of microcontrollers (IC810) which runs from internal ROM and RAM. Four ports are available for input/output functions.

Non-volatile data storage is achieved by serial communication with a 16kBit EEPROM (IC820). This serial bus is also used by the microcontroller to program the synthesiser (IC740).

The main tasks of the microcontroller are as follows:

- program the synthesiser;
- interface with the PGM800Win programming software at 9600 baud via the serial communication lines on D-range 1 (PL100) & D-range 2;
- monitor channel change inputs from D-range 2;
- generate timing waveforms for CTCSS detection;
- coordinate and implement timing control of the receiver.

2.10 Synthesised Local Oscillator

(Refer to the synthesiser circuit diagram (sheet 7) in Section 6 and the VCO circuit diagram in Part E.)

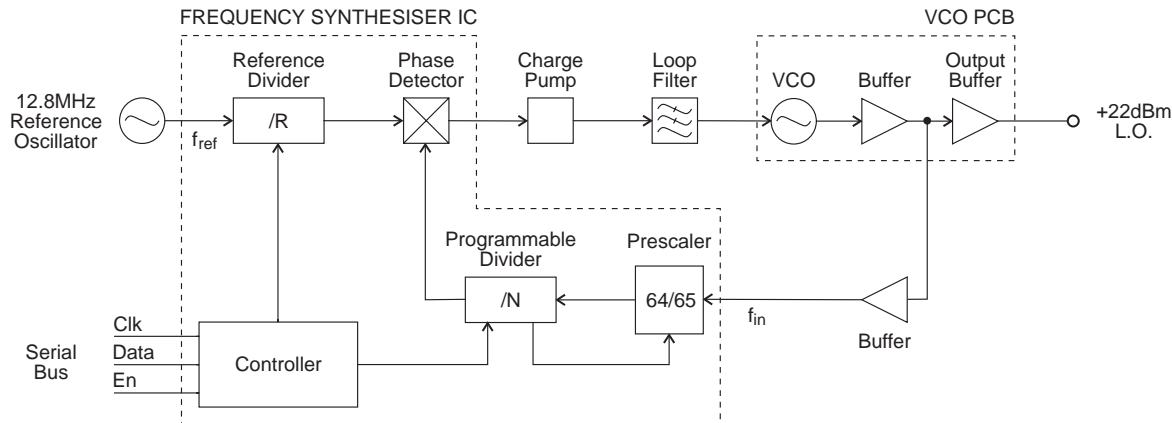


Figure 2.6 T865 Synthesiser Block Diagram

The synthesiser (IC740) employs a phase-locked loop (PLL) to lock a voltage controlled oscillator (VCO) to a given reference frequency. The synthesiser receives the divider information from the control microprocessor via a 3-wire serial bus (clock, data, enable). When the data has been latched in, the synthesiser processes the incoming signals from the VCO buffer (f_{in}) and the reference oscillator (f_{ref}).

A reference oscillator at 12.8MHz (IC700) is buffered (IC710) and divided down to 6.25kHz or 5kHz within the synthesiser IC (IC740).

A buffered output of the VCO is divided with a prescaler and programmable divider which is incorporated into the synthesiser chip (IC740). This signal is compared with the reference signal at the phase detector (also part of the synthesiser chip). The phase detector outputs drive a balanced charge pump circuit (Q760, Q770, Q775, Q780, Q785) and active loop filter (IC750, Q790) which produces a DC voltage between 0V and 20V to tune the VCO. This VCO control line is further filtered (R510, C505) to attenuate noise and other spurious signals. Note that the VCO frequency increases with increasing control voltage.

If the synthesiser loop loses lock, a pulsed signal appears at LD (pin 2) of IC740. This signal is filtered and buffered by IC750, producing the Lock-Detect signal (low state when in lock) used to shut off the power supply to the drive amplifier.

2.11 VCO

(Refer to the VCO circuit diagram in Part E.)

The VCO transistor (Q1) operates in a common source configuration, with an LC tank circuit coupled between its gate and drain to provide the feedback necessary for oscillation. The VCO control voltage from the loop filter (IC750) is applied to the varicaps (D1-D2) to facilitate tuning within a 4MHz band of frequencies. A trimcap (CT) is used for coarse tuning of the VCO. The output from the oscillator circuit drives a cascode amplifier stage (Q2, Q3) which supplies +10dBm (typically) to a further stage of amplification, Q5. This is the final amplifier on the VCO PCB, and delivers +19dBm (typically) to the receiver mixer input pad.

A low level "sniff" is taken from the input to Q5 and used to drive the divider buffer for the synthesiser (IC740).

The VCO operates at the actual frequency required by the first mixer, i.e. there are no multiplier stages.

The VCO frequency spans from either 198-225MHz or 218-250MHz according to product type (refer to Section 1.4). The VCO is tuned to 21.4MHz above the desired receive frequency (high side injection) to produce a 21.4MHz IF signal at the output of the mixer.

2.12 Received Signal Strength Indicator (RSSI)

(Refer to the IF section circuit diagram (sheet 3) in Section 6.)

The RSSI provides a DC voltage proportional to the signal level at the receiver input and is an on-chip function of IC350. Buffering is provided by IC390 and the voltage is available at D-range 1 (PL100 pin 3).

The RSSI also provides the capability for high level signal strength muting, which may be selected on PL250 (refer to Section 3.5). The mute threshold may be set between -115dBm and -70dBm at RV235.

3 T865 Initial Tuning & Adjustment

The following section describes both short and full tuning and adjustment procedures and provides information on:

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

Note: Unless otherwise specified, the term "PGM800Win" used in this and following sections refers to version 2.00 and later of the software.

Refer to Section 6 where the parts lists, grid reference index and diagrams will provide detailed information on identifying and locating components and test points on the main PCB. The parts list and diagrams for the VCO PCB are in Part E.

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Figure	Title	Page
3.1	T865 Test Equipment Set-up For Short Tuning Procedure	3.4
3.2	T865 Test Equipment Set-up For Full Tuning & Adjustment Procedure	3.4

3.1 Introduction

When you receive your T865 receiver it will be run up and working on a particular frequency (the "default channel")¹. If you want to switch to a frequency that is within the 4MHz switching range (i.e. ± 2 MHz from the factory programmed frequency), you should only need to reprogram the receiver with the PGM800Win software (refer to the PGM800Win programming kit and Section 3.2 below).

However, if you want to switch to a frequency outside the 4MHz switching range, you will have to reprogram and re-tune the receiver to ensure correct operation. In this case you should carry out the short tuning procedure described in Section 3.4.

If you have carried out repairs or other major adjustments, you must carry out the full tuning and adjustment procedure described in this section (except for Section 3.4).

3.2 Channel Programming

You can program up to 128 channel frequencies into the receiver's EEPROM memory (IC820) by using the PGM800Win software package and an IBM™ PC. You can also use PGM800Win to select the receiver's current operating frequency (or "default channel").

If the receiver is installed in a rack frame, you can program it via the programming port in the speaker panel. However, you can also program the receiver before it is installed in a rack frame as follows:

- by using a T800-01-0010 calibration test unit;
- via D-range 1;
- via D-range 2 (standard T800-03-0000 auxiliary D-range only);
- via SK805 (internal Micromatch connector).

If you do not use the T800-01-0010, you will have to connect the PC to the receiver via a module programming interface (such as the T800-01-0004).

For a full description of the channel programming procedure, refer to the PGM800Win programming software user's manual.

Note: When an auxiliary D-range kit (D-range 2 - T800-03-0000) is fitted, you can also select a channel with an external switch, such as the DIP switch on the rack frame backplane PCB. Refer to Part C in the T800 Series Ancillary Equipment Service Manual (M800-00-101 or later issue) or consult your nearest Tait Dealer or Subsidiary for further details.

1. Use the "Read Module" function in PGM800Win to find out what the default channel is.

3.3 Test Equipment Required

You will need the following test equipment:

- computer with PGM800Win installed
 - T800 programming kit
 - module programming interface (e.g. T800-01-0004 - optional)
 - 13.8V power supply
 - digital multimeter
 - audio signal generator
 - RF signal generator
 - audio voltmeter
 - sinad meter
- } or RF test set (optional)
- oscilloscope
 - distortion meter
- } not needed for short tuning procedure
- T800-01-0010 calibration test unit (optional)
 - 4Ω speaker (not needed if the calibration test unit is used)

Figure 3.1 and Figure 3.2 show typical test equipment set-ups (with and without a T800-01-0010 calibration test unit).

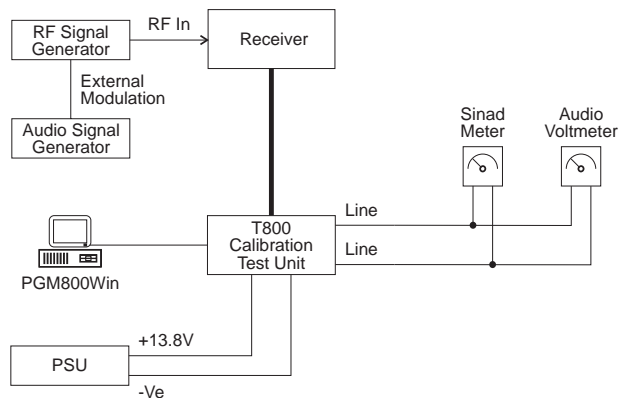


Figure 3.1 T865 Test Equipment Set-up For Short Tuning Procedure

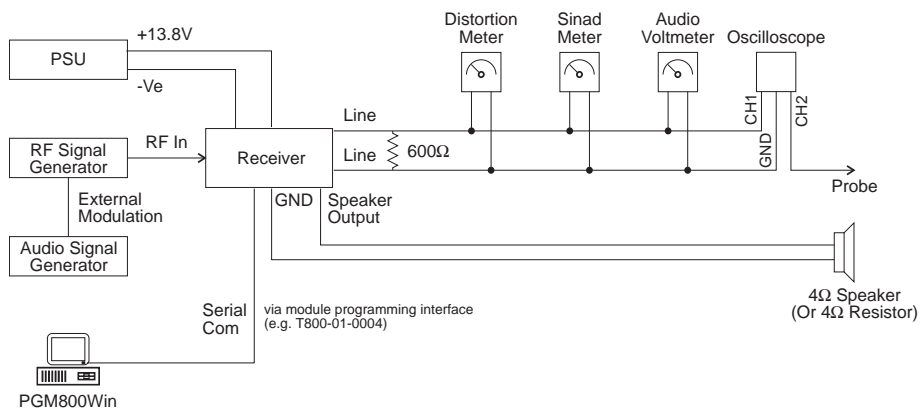


Figure 3.2 T865 Test Equipment Set-up For Full Tuning & Adjustment Procedure

3.4 Short Tuning Procedure

Use this procedure only if you want to reprogram the receiver to a frequency outside the 4MHz switching range and do not intend to carry out any other major adjustments or repairs.

3.4.1 Introduction

Reprogram the operating frequency as described in the PGM800Win programming kit (refer to Section 3.2).

Remove the top cover (nearest the handle).

Set up the test equipment as described in Section 3.3.

Set the links in the audio processor section as required (refer to Section 3.5).

3.4.2 Synthesiser Alignment

- Connect a high impedance voltmeter to PL4-1 or the junction of L1 & R1 in the VCO (this measures the synthesiser loop voltage).
- **Single Channel** Tune VCO trimmer CT for a synthesiser loop voltage of 8V.
Multichannel Tune VCO trimmer CT for a synthesiser loop voltage of 8V on the middle channel.

If there is no middle channel, tune CT so that the channels are symmetrically placed around a loop voltage of 8V.

All channels should lie within the upper and lower limits of 14V and 3V respectively.

Do not attempt to program channels with a greater frequency separation than the specified switching range of 4MHz.

3.4.3 Front End Alignment

Note 1: In this and following sections deviation settings are given first for wide bandwidth sets, followed by settings in brackets for mid bandwidth sets () and narrow bandwidth sets [].

Note 2: For multichannel operation align the receiver on a frequency in the middle of the required band.

Inject a strong on-channel RF signal with 3kHz deviation (2.4kHz) [1.5kHz] at 1kHz into the antenna socket and adjust front end doublets L410, L420, L460 & L470 to give best sinad.

Continually decrease the RF level to maintain 12dB sinad.

Readjust L410, L420, L460 & L470 to give best sinad.

With PL210 and PL220 connected for de-emphasised audio response, the receiver sensitivity should be better than -117dBm, assuming that the audio levels are not being overdriven (refer to Section 3.4.5).

3.4.4 Mute Adjustment

Carry out the one of the following sets of instructions according to the mute option you have selected.

3.4.4.1 Noise Mute

Connect pins 1 & 2 of PL250 to enable the noise mute.

Set the RF level to -105dBm with 3kHz deviation (2.4kHz) [1.5kHz] at 1kHz.

Set RV230 (front panel gating sensitivity) fully anticlockwise.

Adjust RV330 (noise mute gain) to close the mute (if necessary turn off the RF signal and then turn it on again).

Rotate RV330 anticlockwise until the mute just opens.

Adjust RV230 for the required opening sinad.

3.4.4.2 Carrier Level Mute

Connect pins 2 & 3 of PL250 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 (2.4kHz) [1.5kHz] at 1kHz.

Adjust RV235 (carrier mute) 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.

3.4.5 Line Amplifier Output

Apply an on-channel signal from the RF generator at a level of -70dBm with 3kHz deviation (2.4kHz) [1.5kHz] at 1kHz.

Adjust RV210 (front panel line level) to set the line level to the required output level.

3.4.6 RSSI (If Used)

Align the receiver as instructed in Section 3.6 and Section 3.7.

Apply an on-channel signal from the RF generator at a level of -100dBm with 3kHz deviation (2.4kHz) [1.5kHz] at 1kHz.

Adjust RV320 (RSSI level) to give 4.5V RSSI output on pin 5 of D-range 1 (PL100) when measured with a high impedance DMM.

3.5 Audio Processor Links

3.5.1 General

Use the following table to set up the audio processor to the configuration you require. You should set the audio processor links before carrying out the receiver alignment. The factory settings are shown in brackets [].

Plug	Link	Function
PL210	[1 - 2] 2 - 3	de-emphasised response flat response
PL220	1 - 2 [2 - 3]	flat response de-emphasised response
PL230*	1 - 2 [2 - 3] 3 - 4	audio input via AUDIO-2 pad audio from internal CTCSS speech filter audio input via I/O pad P250
PL240*	1 - 2 [2 - 3] or 3 - 4 4 - 5	bypass high pass filter 300Hz high pass filter in circuit audio input via PL230 or I/O pad
PL250	[1 - 2] 2 - 3	noise mute carrier mute
PL260	1 - 2 [2 - 3]	RX-DISABLE link not connected
PL270	[1 - 2] 2 - 3	relay link not connected

*Refer to Section 3.5.2 for further details.

3.5.2 Audio Processor Linking Details For CTCSS

You must connect the audio processor links correctly according to the CTCSS option used, as shown in the table below.

CTCSS Option	PL230	PL240
standard, no CTCSS	2 - 3	2 - 3
received CTCSS + speech passed to line output	3 - 4	1 - 2
high pass filtered speech, internal CTCSS detection	2 - 3	4 - 5
external CTCSS detection	1 - 2	4 - 5

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 -55dB
- received CTCSS tone + speech to line output
 - tone and speech transmitted down 600 ohm line
 - audio bandwidth 10Hz to 3kHz
 - hum & noise -45dB
- high pass filtered speech + internal CTCSS detection
 - 400Hz to 3kHz
 - hum & noise -30dB with 250.3Hz tone present
- external CTCSS detection
 - decoding performed through the receiver (but externally)
 - speech injected back into receiver via "AUDIO-2" and sent down 600 ohm line

Note 1: AUDIO-2 is available on D-range 1 (PL100) pin 7 via the link resistor R160. Although PL100 pin 7 is already assigned to SERIAL-COM, this can be disabled by removing R808.

Note 2: External CTCSS units can connect in series with the audio chain via AUDIO-1 and AUDIO-2.

3.6 Synthesiser Alignment

- Ensure that the receiver has been programmed with the required frequencies using PGM800Win software.
- Connect a high impedance voltmeter to PL4-1 or the junction of L1 & R1 in the VCO (this measures the synthesiser loop voltage).
- **Single Channel** Tune VCO trimmer CT for a synthesiser loop voltage of 8V.
Multichannel Tune VCO trimmer CT for a synthesiser loop voltage of 8V on the middle channel.
If there is no middle channel, tune CT so that the channels are symmetrically placed around a loop voltage of 8V.
All channels should lie within the upper and lower limits of 14V and 3V respectively.
Do not attempt to program channels with a greater frequency separation than the specified switching range of 4MHz.
- The TCXO (IC700) output frequency should be trimmed when the IF is tuned - refer to Section 3.7.

3.7 Alignment Of Receiver Front End And IF

Note 1: In this and following sections deviation settings are given first for wide bandwidth sets, followed by settings in brackets for mid bandwidth sets () and narrow bandwidth sets [].

Note 2: Ensure LINKA is bridged and LINKB is not connected if you do not want the 2dB attenuator (R308, R309 & R310) in circuit. To bring the attenuator into circuit, remove LINKA and bridge LINKB.

Align the synthesiser as instructed in Section 3.6. For multichannel operation align the receiver on a frequency in the middle of the required band.

Inject a strong on-channel RF signal with 3kHz deviation (2.4kHz) [1.5kHz] at 1kHz into the antenna socket and adjust front end doublets L410, L420, L460 & L470 to give best sinad.

Continually decrease the RF level to maintain 12dB sinad.

Roughly tune IF coils L330/L340/L350, CV318 and quad coil L360 for best sinad.

While maintaining a low level unmodulated RF input to the receiver, loosely couple into the first IF an additional high level signal at 21.4MHz - you will hear a beat note.

Trim the synthesiser TCXO (IC700) for zero beat.

Note: If a second oscillator is not available, you can connect a frequency counter to IC710 pin 8 (i.e. after the TCXO buffer) via an oscilloscope probe to measure the TCXO frequency directly (12.8MHz). At this point the voltage level is approximately 4V p-p.

Readjust L410, L420, L460 & L470 to give best sinad.

Change the RF signal level to -75dBm and modulate with 3kHz deviation (2.4kHz) [1.5kHz] at 1kHz.

Connect an oscilloscope probe to the RSSI test point (TP310) and connect plugs PL210 and PL220 to give a flat audio response (refer to Section 3.5).

Readjust IF coils L330/L340/L350, CV318 and quad coil L360 to give a maximum amplitude response on the oscilloscope with minimal amplitude modulation.

Note: If you would like a more accurate method of tuning the IF, refer to the sweep tuning method described in Section 5.5.5.

Further adjust these coils, along with L360, for minimum audio distortion, ensuring that the 455kHz level (on the oscilloscope) does not fall significantly.

Check that the distortion reading is:

wide bandwidth	≤2%
mid bandwidth	≤4%
narrow bandwidth	≤4%.

Reconnect plugs PL210 and PL220 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 3.11).

3.8 Gating Delay

Two solder links (SL210 & SL220) are provided on the bottom of the PCB to allow three gate delay time options, as shown in the table below.

SL210	SL220	Closing Delay
linked	not linked	<50ms*
not linked	linked	<25ms
not linked	not linked	<20ms

*Factory setting.

3.9 Noise Mute Adjustment

Connect pins 1 & 2 of PL250 to enable the noise mute.

Align the receiver as instructed in Section 3.6 and Section 3.7.

Set the RF level to -105dBm with 3kHz deviation (2.4kHz) [1.5kHz] at 1kHz.

Set RV230 (front panel gating sensitivity) fully anticlockwise.

Adjust RV330 (noise mute gain) to close the mute (if necessary turn off the RF signal and then turn it on again).

Rotate RV330 anticlockwise until the mute just opens.

Once the mute has been set up as described above, adjust RV230 for the required opening sinad.

3.10 Carrier Level Mute

Connect pins 2 & 3 of PL250 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 (2.4kHz) [1.5kHz] at 1kHz.

Adjust RV235 (carrier mute) 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.

3.11 Audio Processor

3.11.1 Line Amplifier Output

Apply an on-channel signal from the RF generator at a level of -70dBm with 3kHz deviation (2.4kHz) [1.5kHz] at 1kHz.

Adjust RV210 (front panel line level) 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.

3.11.2 Monitor Amplifier Output (Speaker Output)

Adjust RV205 (front panel monitor volume) to give an output of 2V rms into a 4 ohm resistive load.

Check for any clipping or distortion on the oscilloscope.

Switch to a 4 ohm speaker load and adjust RV205 to the required level.

3.12 RSSI

Align the receiver as instructed in Section 3.6 and Section 3.7.

Apply an on-channel signal from the RF generator at a level of -100dBm with 3kHz deviation (2.4kHz) [1.5kHz] at 1kHz.

Adjust RV320 (RSSI level) to give 4.5V RSSI output on pin 5 of D-range 1 (PL100) when measured with a high impedance DMM.

4 T865 Functional Testing

The following test procedures will confirm that the T865 has been tuned and adjusted correctly and is fully operational.

Note 1: In this and following sections deviation settings are given first for wide bandwidth sets, followed by settings in brackets for mid bandwidth sets () and narrow bandwidth sets [].

Note 2: Unless otherwise specified, the term "PGM800Win" used in this and following sections refers to version 2.00 and later of the software.

Refer to Section 3.3 for the test equipment set-up. Refer also to Section 6 where the parts lists, grid reference index and diagrams will provide detailed information on identifying and locating components and test points on the main PCB. The parts list and diagrams for the VCO PCB are in Part E.

The following topics are covered in this section.

Section	Title	Page
4.1	Current Consumption	4.3
4.2	Sensitivity	4.3
4.3	Switching Range	4.3
4.4	Audio Distortion	4.4
4.5	Ultimate Signal-To-Noise Ratio	4.4
4.6	De-emphasised Audio Frequency Response	4.5
4.7	Noise Mute (If Linked In)	4.6
4.8	RSSI	4.6
4.9	Carrier Level Mute (Carrier Mute Linked In)	4.7
4.10	CTCSS	4.7
4.10.1	Decoder Operation	4.7
4.10.2	Opening Sinad	4.7
4.10.3	High Pass Filter	4.8

Figure	Title	Page
4.1	T865 De-emphasised Audio Frequency Response	4.5
4.2	T865 RSSI Voltage vs Signal Strength	4.6

4.1 Current Consumption

Connect the T865 to a 13.8V power supply.

Rotate RV230 (front panel gating sensitivity) anticlockwise until the "Gate" LED is extinguished.

Set switch SW201 (front panel monitor mute) to the **on** position.

Check that the current in the 13.8V power cable is less than 350mA.

Rotate the RV230 clockwise until the "Gate" LED is lit.

Rotate RV210 (front panel line level) and RV205 (front panel monitor volume) to give maximum outputs.

Check that the current is less than 750mA.

Reset the front panel controls to the required settings.

4.2 Sensitivity

If CTCSS is enabled, disable the CTCSS tone by either programming the T865 for "No Tone" on the set channel, or by pulling pin 10 of D-range 2 (CTCSS ENABLE) low.

Apply an on-channel signal from the RF generator with 3kHz deviation (2.4kHz) [1.5kHz] at 1kHz.

Adjust the RF level to give 12dB audio sinad.

Check that the sensitivity is -117dBm or better.

4.3 Switching Range

Apply an on-channel signal from the RF generator at various frequencies within the 4MHz switching range (front end bandwidth), corresponding to pre-programmed channels.

Measure the sensitivity at each frequency as described in Section 4.2.

Ensure that the sensitivity is -115dBm or better across the whole switching range.

4.4 Audio Distortion

The level of distortion measured at the line output (refer to Figure 1.3 in Part F) gives an 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 (2.4kHz) [1.5kHz] at 1kHz.

Adjust RV210 (front panel line level) to give +10dBm into 600 ohms.

Check that the distortion is approximately 1% THD.

Note: For a flat response, the distortion should always be better than 2% for wide bandwidth sets or 4% for mid and narrow bandwidth sets.

Adjust RV205 (front panel monitor volume) to give 2V rms into a 4 ohm resistive load.

Check that the distortion at the monitor output is better than 2% THD.

Reset the controls before proceeding to the next set of tests.

4.5 Ultimate Signal-To-Noise Ratio

Apply a signal from the RF generator at a level of -57dBm with 3kHz deviation (2.4kHz) [1.5kHz] at 1kHz.

Select de-emphasis on the links provided in the audio processor (refer to Section 3.5), and link pins 2 & 3 of PL240 to include the 300Hz filter.

Adjust RV210 (front panel line level) to provide +10dBm output.

Switch off the modulation, checking that the residual noise is lower than -45dBm (-43dBm) [-39dBm] at the line output (this corresponds to S/N of 55dB (53dB) [49dB] and is in accordance with EIA measurement conditions).

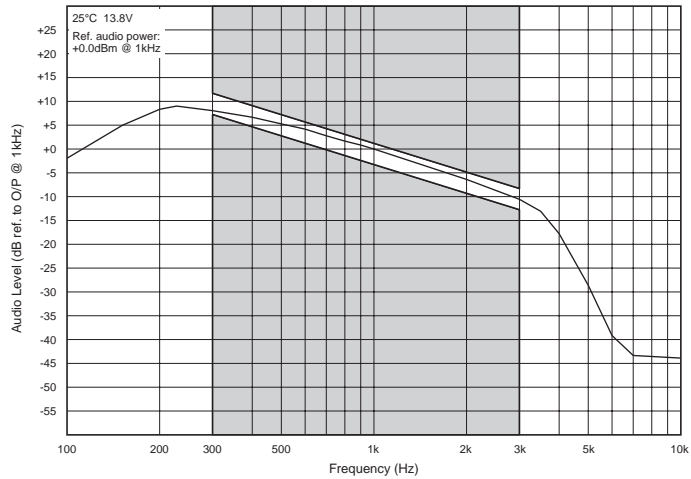
Note: You can make the measurement without the 300Hz high pass filter, but the result will be 10dB worse.

4.6 De-emphasised Audio Frequency Response

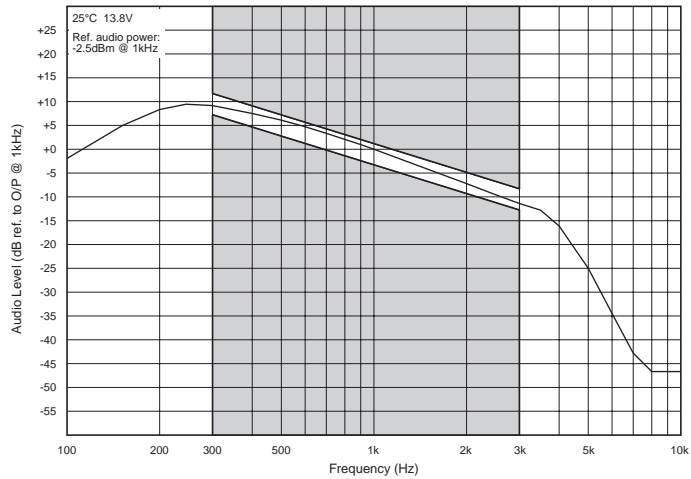
Set RV210 (front panel line level) to provide 0dBm output at 1kHz modulating frequency.

Sweep the modulating frequency, checking that the line audio response closely follows that shown in Figure 4.1 - the limits should not be exceeded.

Wide Bandwidth



Mid Bandwidth



Narrow Bandwidth

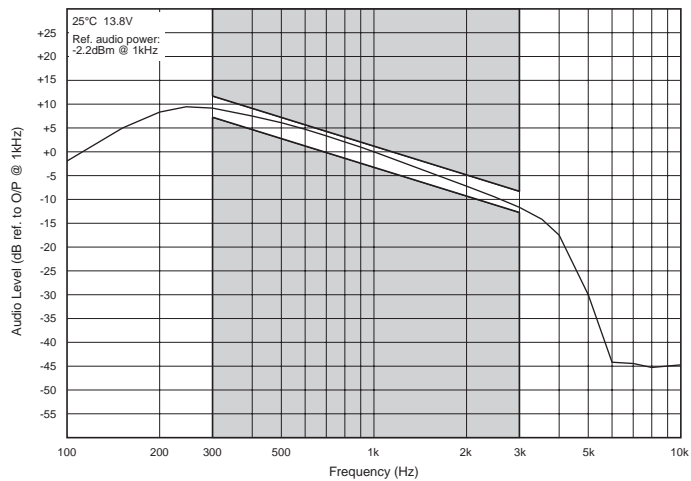


Figure 4.1 T865 De-emphasised Audio Frequency Response

4.7 Noise Mute (If Linked In)

Rotate RV230 (front panel gating sensitivity) fully anticlockwise.

Apply an on-channel signal from the RF generator at a level of -110dBm with 3kHz deviation (2.4kHz) [1.5kHz] 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 RV230 clockwise and check that the mute opens.

Reset RV230 to give the required opening sinad.

Note: False opening of the mute can occur if the RF generator's attenuator is noisy when the level is being changed.

4.8 RSSI

Apply an on-channel signal from the RF generator at a level of -100dBm with 3kHz deviation (2.4kHz) [1.5kHz] at 1kHz.

Using a high impedance DMM, check that the RSSI output voltage on pin 5 of D-range 1 (PL100) is 4.5V (nominal).

Vary the RF level in 5dB steps and check that the RSSI output voltage changes at a rate of approximately 15dB/V over the range of -115dBm to -70dBm (refer to Figure 4.2 for RSSI voltage vs signal strength).

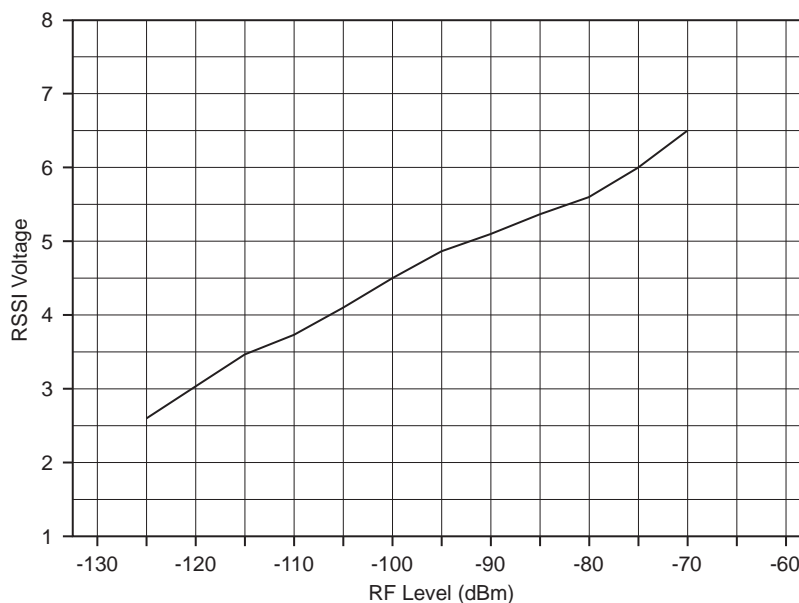


Figure 4.2 T865 RSSI Voltage vs Signal Strength

4.9 Carrier Level Mute (Carrier Mute Linked In)

Apply an on-channel signal from the RF generator at a level of -120dBm with 3kHz deviation (2.4kHz) [1.5kHz] 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 RV235 (carrier mute), i.e. between -115dBm and -70dBm.

4.10 CTCSS

4.10.1 Decoder Operation

Program a CTCSS tone on the set channel using PGM800Win.

Set the RF signal generator output to -70dBm.

Modulate the generator with:

- a 1kHz tone at 3kHz deviation (2.4kHz) [1.5kHz]
- a CTCSS tone at the programmed frequency at 500Hz deviation [300Hz].

Check that the receiver gate opens and the front panel "Gate" LED is on.

4.10.2 Opening Sinad

Adjust RV230 (front panel gating sensitivity) fully clockwise.

Reduce the RF signal level to -110dBm.

Observe the sinad meter and reduce the RF level until the receiver mute closes.

Slowly increase the signal level until the receiver mute just opens and stays open.

With PL240 pins 1 & 2 linked (high pass filter bypassed), check that the sinad is less than 6dB.

Reset RV230.

4.10.3 High Pass Filter

Set the audio processor links as follows:

Plug	Link	Function
PL210	1 - 2	de-emphasised response
PL230	2 - 3	audio from internal CTCSS speech filter
PL240	4 - 5	audio input via PL230 or I/O pad

Reset the RF signal generator output to -70dBm and note the line level (measurement A).

Reduce the 1kHz generator to zero output and measure the line level again (measurement B).

Check that measurement B is at least 30dB below measurement A.

5 T865 Fault Finding

The following test procedures and fault finding flow charts may be used to help locate a hardware problem, however they are by no means a complete fault finding procedure. If you still cannot trace the fault after progressing through them in a logical manner, contact your nearest Tait Dealer or Subsidiary. If necessary, you can get additional technical help from the Customer Support Group, Radio Systems Division, Tait Electronics Ltd, Christchurch, New Zealand (full contact details are on page 2).

Note 1: In this and following sections deviation settings are given first for wide bandwidth sets, followed by settings in brackets for mid bandwidth sets () and narrow bandwidth sets [].

Note 2: Unless otherwise specified, the term "PGM800Win" used in this and following sections refers to version 2.00 and later of the software.

Refer to Section 6 where the parts lists, grid reference index and diagrams will provide detailed information on identifying and locating components and test points on the main PCB. The parts list and diagrams for the VCO PCB are in Part E.

The following topics are covered in this section.

Section	Title	Page
5.1	Visual Checks	5.3
5.2	Component Checks	5.3
5.3	Front Panel LED Indicator	5.3
5.4	DC Checks	5.4
5.4.1	Power Rails	5.4
5.4.2	VCO Locking	5.4
5.4.3	Mute Operation	5.4
5.5	RF Checks	5.5
5.5.1	VCO Frequency	5.5
5.5.2	RF Sensitivity	5.5
5.5.3	Oscillator Stability	5.6
5.5.3.1	TCXO	5.6
5.5.3.2	Second IF	5.6
5.5.4	Demodulator Output	5.6
5.5.5	IF Distortion	5.7
5.6	PGM800Win Generated Errors	5.8

Section	Title	Page
5.7	Fault Finding Charts	5.9
5.7.1	Microcontroller	5.9
5.7.1.1	Basic Checks	5.9
5.7.1.2	Serial Communication	5.10
5.7.1.3	CTCSS Decode	5.11
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5.7.6	Receiver	5.18
5.7.7	Audio	5.19

Figure	Title	Page
5.1	RF Test Cable	5.5
5.2	IF Swept Response	5.7
5.3	Ceramic Filter Swept Response	5.7

5.1 Visual Checks

Remove the covers from the T865 and inspect the PCB for damaged or broken components, paying particular attention to the surface mounted devices (SMDs).

Check for defective solder joints. If repair or replacement of components is considered necessary, refer to Section 3 of Part A.

5.2 Component Checks

If you suspect a transistor is faulty, you can assess its performance by measuring the forward and reverse resistance of the junctions. Unless the device is completely desoldered, first make sure that the transistor is not shunted by some circuit resistance. Use a good quality EVM (e.g. Fluke 75) for taking the measurements (or a 20k ohm/V or better multimeter, 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.

5.3 Front Panel LED Indicator

The green "Supply" LED on the receiver front panel will flash according to the conditions described in the following table:

Flash Rate	Condition
<p style="text-align: center;">fast</p> <p style="text-align: center;">- - - - -</p> <p style="text-align: center;">(1/3 sec. on/1/3 sec. off approx.)</p>	receiver is linked with PGM800Win
<p style="text-align: center;">slow</p> <p style="text-align: center;">- - - - -</p> <p style="text-align: center;">(1 sec. on/1 sec. off approx.)</p>	VCO is out of lock - refer to Section 5.4.2
<p style="text-align: center;">unequal</p> <p style="text-align: center;">- - - - -</p> <p style="text-align: center;">(1/3 sec. on/1 sec. off approx.)</p>	microcontroller has detected an internal communications error - refer to Section 5.7.1

Where two or more conditions occur at the same time, the precedence is in the order shown above (i.e. receiver linked has the highest priority, followed by VCO error, then internal error).

5.4 DC Checks

5.4.1 Power Rails

Refer to the test points & options diagrams in Section 6 for test point locations, and to the regulator fault finding chart (Section 5.7.2) for fault diagnosis.

Check the 9V (TP602) and 13.8V (TP601) power supply test points in the regulator compartment with a DMM.

Check the 20V regulator output at the test point (TP603) in the regulator compartment.

Check the 5V regulator output at the test point (TP604) in the regulator compartment and on IC350 pin 4.

Check the 5V digital regulator output at the junction of C611A (+) and IC610 pin 2 in the regulator compartment.

5.4.2 VCO Locking

Using a DMM, monitor the VCO control voltage at PL4-1 or the junction of C35 & R30 on the VCO PCB.

If the synthesiser is locked and the VCO aligned, the voltage at this point should be between 5 and 13V.

If the VCO is not locked, refer to the synthesiser fault finding charts (Section 5.7.3).

5.4.3 Mute Operation

The front panel "Gate" LED will show the status of the mute circuitry and will turn on when a signal is received above the threshold level.

Check that PL250 is linked correctly:

noise mute	1-2
carrier mute	2-3.

Check that the mute gate opens as follows:

noise mute -	rotate RV230 (front panel gating sensitivity) fully clockwise and check that the front panel "Gate" LED turns on;
carrier mute -	rotate RV235 (carrier mute) fully clockwise and check that the front panel "Gate" LED turns on.

If the mute fails to operate correctly, refer to the noise mute fault finding chart (Section 5.7.4) or the carrier mute fault finding chart (Section 5.7.5).

5.5 RF Checks

5.5.1 VCO Frequency

Check that the VCO is phase locked (refer to Section 5.4.2).

Connect a frequency counter (level +19dBm) to the VCO input to the mixer (IC420).

Monitor the local oscillator frequency and check that it is 21.4MHz **above** the required receive frequency.

Refer to the synthesiser fault finding charts (Section 5.7.3) for further information.

5.5.2 RF Sensitivity

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

Check that links SL405 to SL440 and link B in the front end are set correctly for the operating frequency (refer to Section 3.7).

Check that the 12dB sinad sensitivity into the front end is as follows:

- 117dBm (de-emphasised response)
- 111dBm (flat response).

If the sensitivity is poor, you can trace the fault 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 5.1.

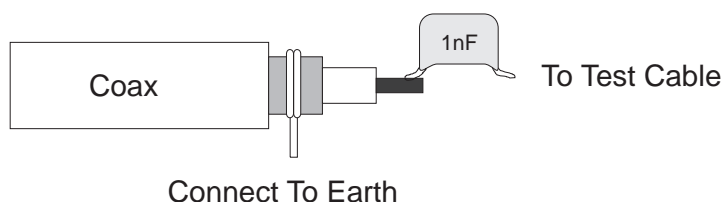


Figure 5.1 RF Test Cable

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 21.4MHz signal to the test breaks in the IF section, or an on-channel RF signal to the front end test breaks.

Check that the sensitivity at each test break is within 2dB of the levels shown on the circuit diagram.

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

Note: Poor sensitivity into the mixer can be caused by lack of drive level from the VCO (the drive level should be $>+17\text{dBm}$).

Refer to the receiver fault finding charts (Section 5.7.6) for further information.

5.5.3 Oscillator Stability

5.5.3.1 TCXO

While maintaining a low level unmodulated RF input to the receiver, loosely couple into the first IF an additional high level signal at 21.4MHz - you should now hear a constant low frequency beat note.

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

5.5.3.2 Second IF

While maintaining a low level unmodulated RF input to the receiver, loosely couple into the second IF an additional high level signal at 455kHz - you should now hear a constant low frequency beat note.

Adjust the frequency of the 455kHz signal for zero beat.

If the second IF is more than 300Hz off frequency, check IC340, X310, C345 and C347 and replace if necessary.

5.5.4 Demodulator Output

Apply an on-channel RF signal modulated by 1kHz with 3kHz (2.4kHz) [1.5kHz] deviation at an amplitude of -65dBm.

Connect an oscilloscope probe (DC coupled) to IC350 pin 7 (audio output).

Check that an audio signal of approximately 380mV peak to peak is present.

With the audio response set to flat, optimum tuning of the quad coil (L360) for minimum audio distortion should coincide with maximum audio amplitude and a DC level of approximately 1.3V.

5.5.5 IF Distortion

If the audio distortion is still high after careful IF alignment (Section 3.7), sweep the IF to investigate the bandpass response.

Apply an on channel RF signal modulated at 10Hz with approximately 12kHz (9kHz) [6kHz] deviation at an amplitude of -80dBm.

Connect the modulating 10Hz audio signal to the "X" input of an oscilloscope and observe the 455kHz IF input to IC350 pin 16 via a suitable RF probe on the "Y" input. Alternatively, use an oscilloscope probe for the "Y" input to monitor the RSSI output voltage at TP310 (RSSI test point) or pin 5 of D-range 1 (PL100). This will give a demodulated log response and only the top half of the wave forms shown in Figure 5.2 and Figure 5.3 will be displayed on the oscilloscope screen.

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 5.2).

Increase the RF level to -50dBm; the trace will now show the shape of the 455kHz ceramic filter (&XF340).

Check that the response has no sharp non-linearities.

If sharp non-linearities do occur, replace the filter and sweep again to confirm a satisfactory solution (refer to Figure 5.3).

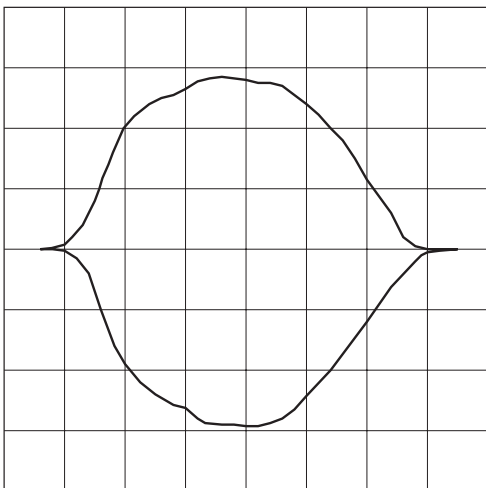


Figure 5.2 IF Swept Response

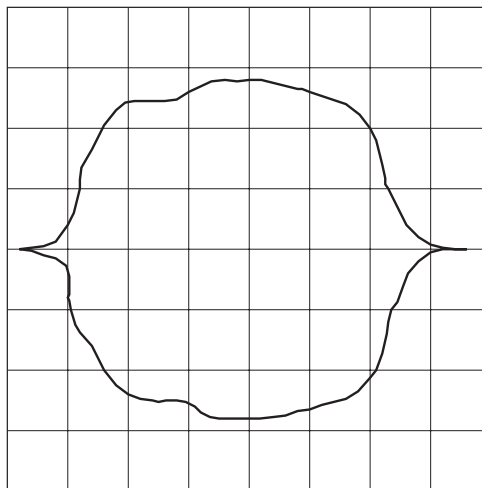


Figure 5.3 Ceramic Filter Swept Response

5.6 PGM800Win Generated Errors

The following errors are those most likely to occur using PGM800Win. Refer to the PGM800Win software user's manual for a complete list of error messages.

Channel Switch Set

The programmed default channel was not accepted by the base station because a channel is selected externally. Try turning the external channel switch off before changing the default channel in PGM800Win.

Synth Out Of Lock

The synthesiser received incorrect data, or the data was corrupted. Enter a frequency within the VCO switching range, or tune the VCO.

Internal Error

Data could not be read from the base station due to an internal error. Check for shorts or open circuits on the SDA, SCK, SYNTH and EPOT lines. The SDA, SCK and SYNTH are normally high.

Write/Read To An Unlinked Module

The link to the module does not exist. Undefined error.

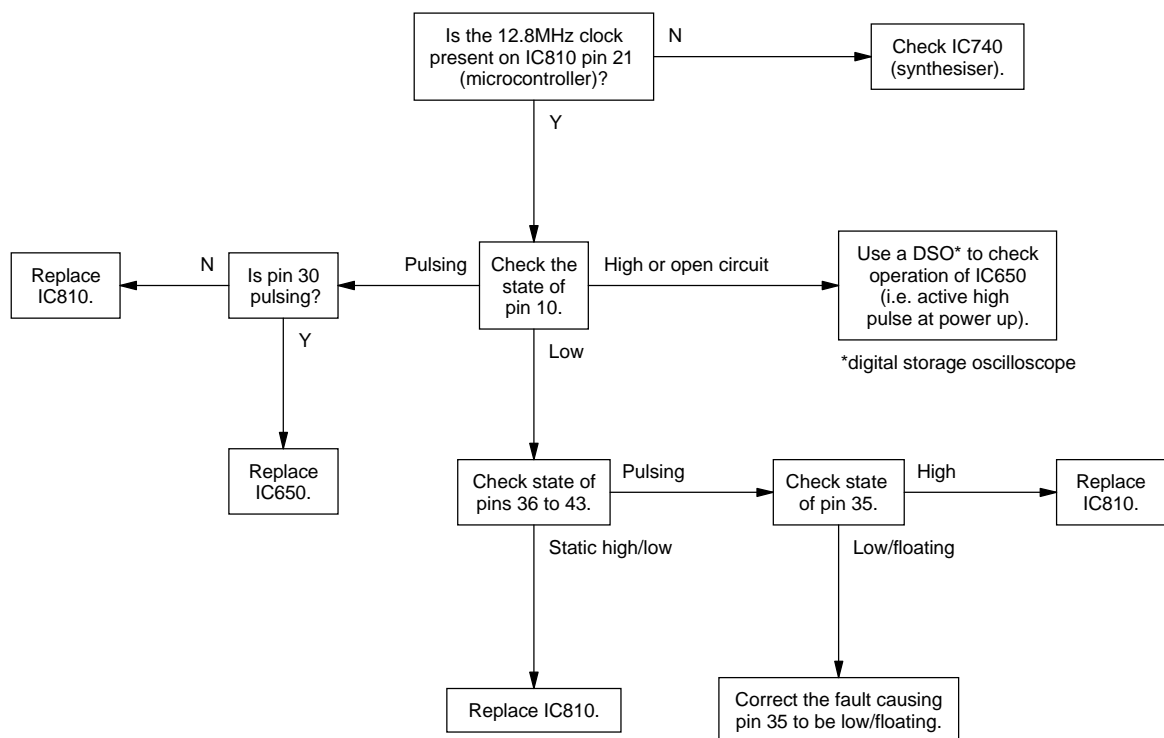
5.7 Fault Finding Charts

Note: The standard test point designations used in this section are as follows:

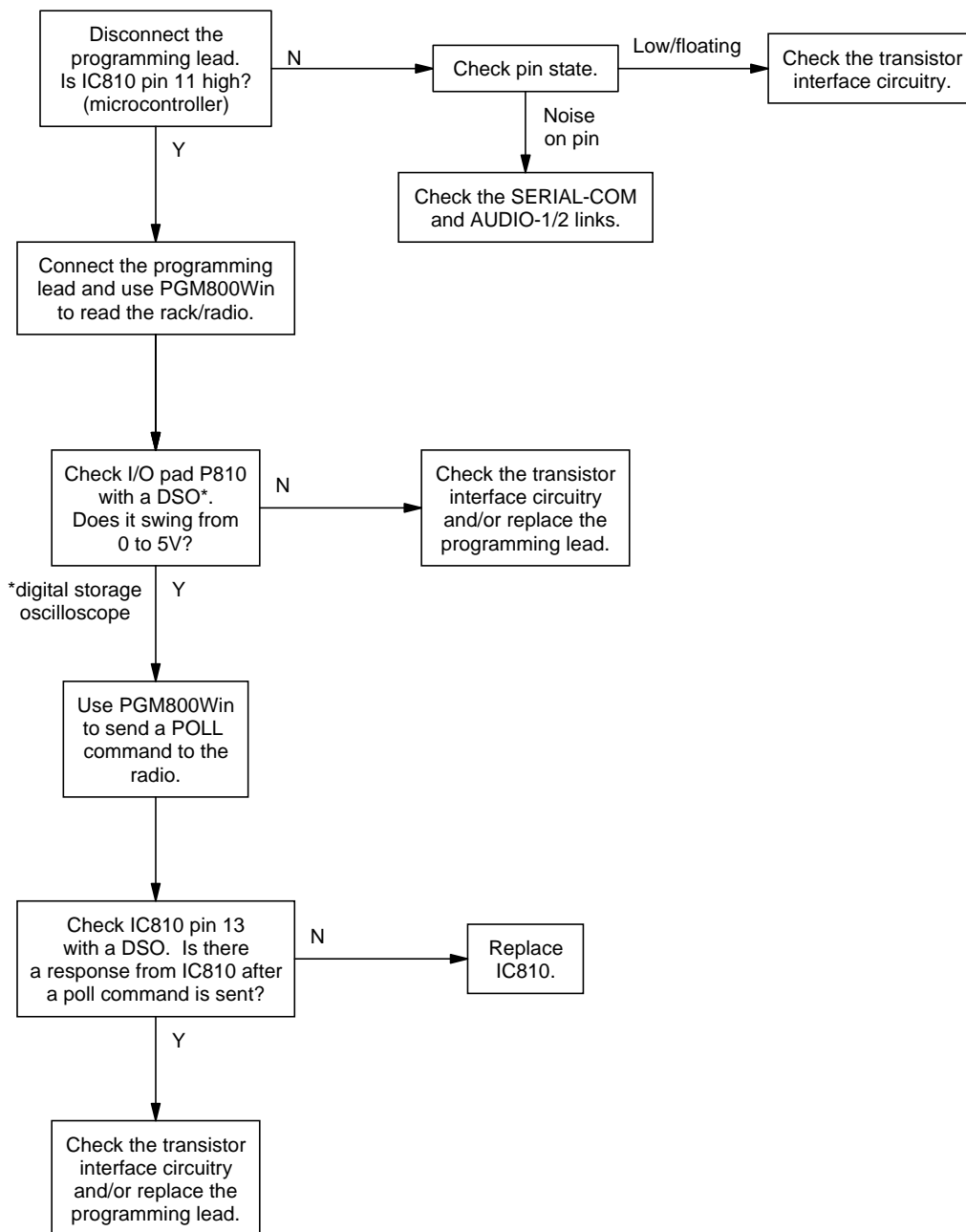
TP601	13.8V
TP602	9V
TP603	20V
TP604	5V

5.7.1 Microcontroller (IC810)

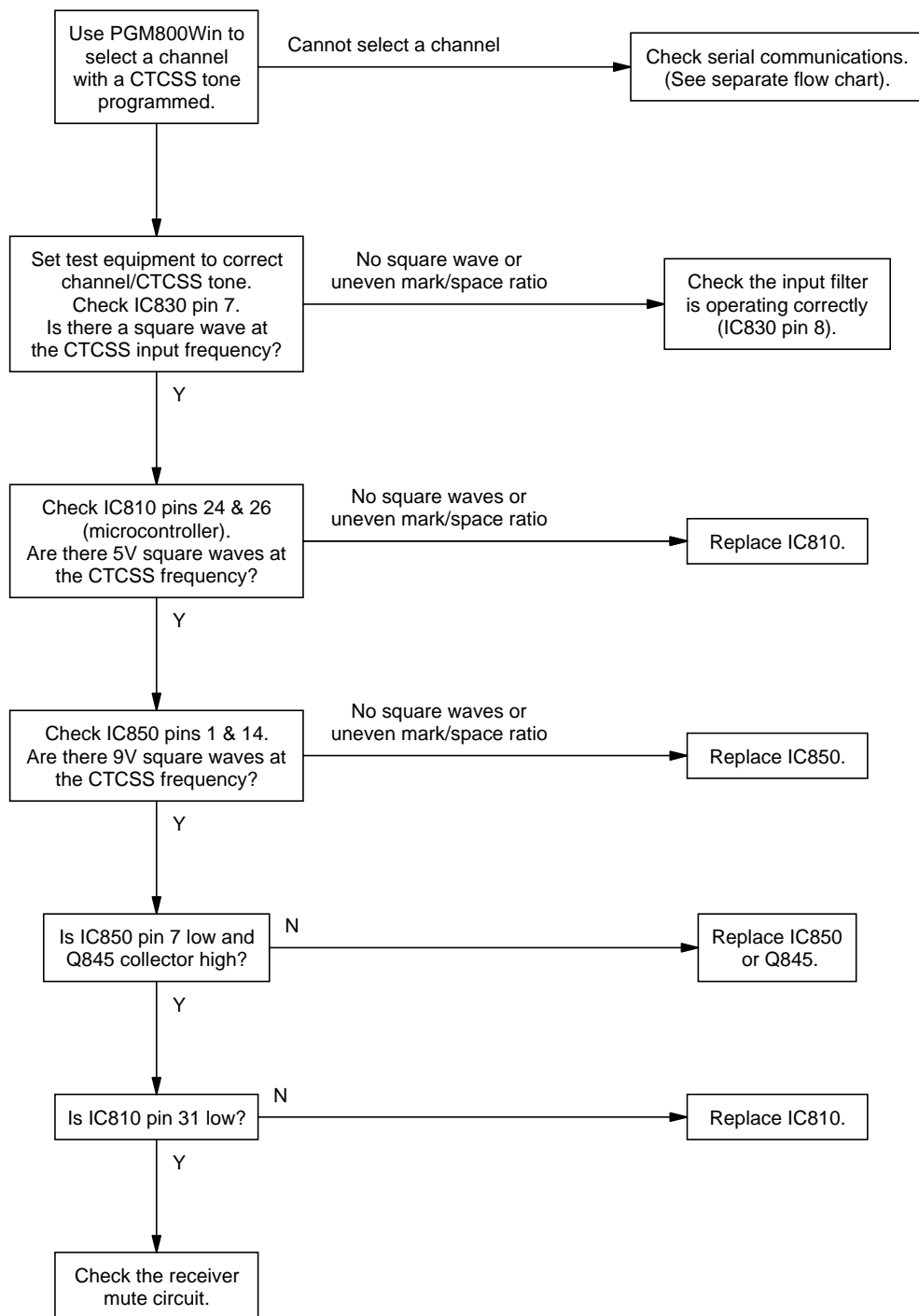
5.7.1.1 Basic Checks



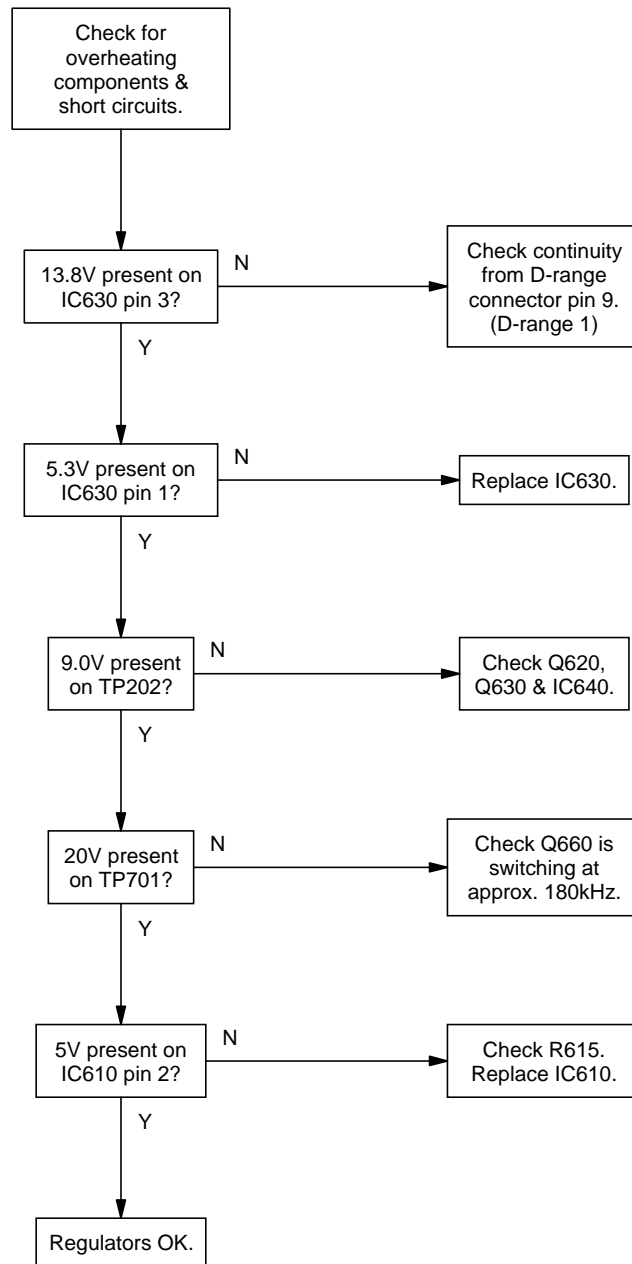
5.7.1.2 Serial Communication



5.7.1.3 CTCSS Decode

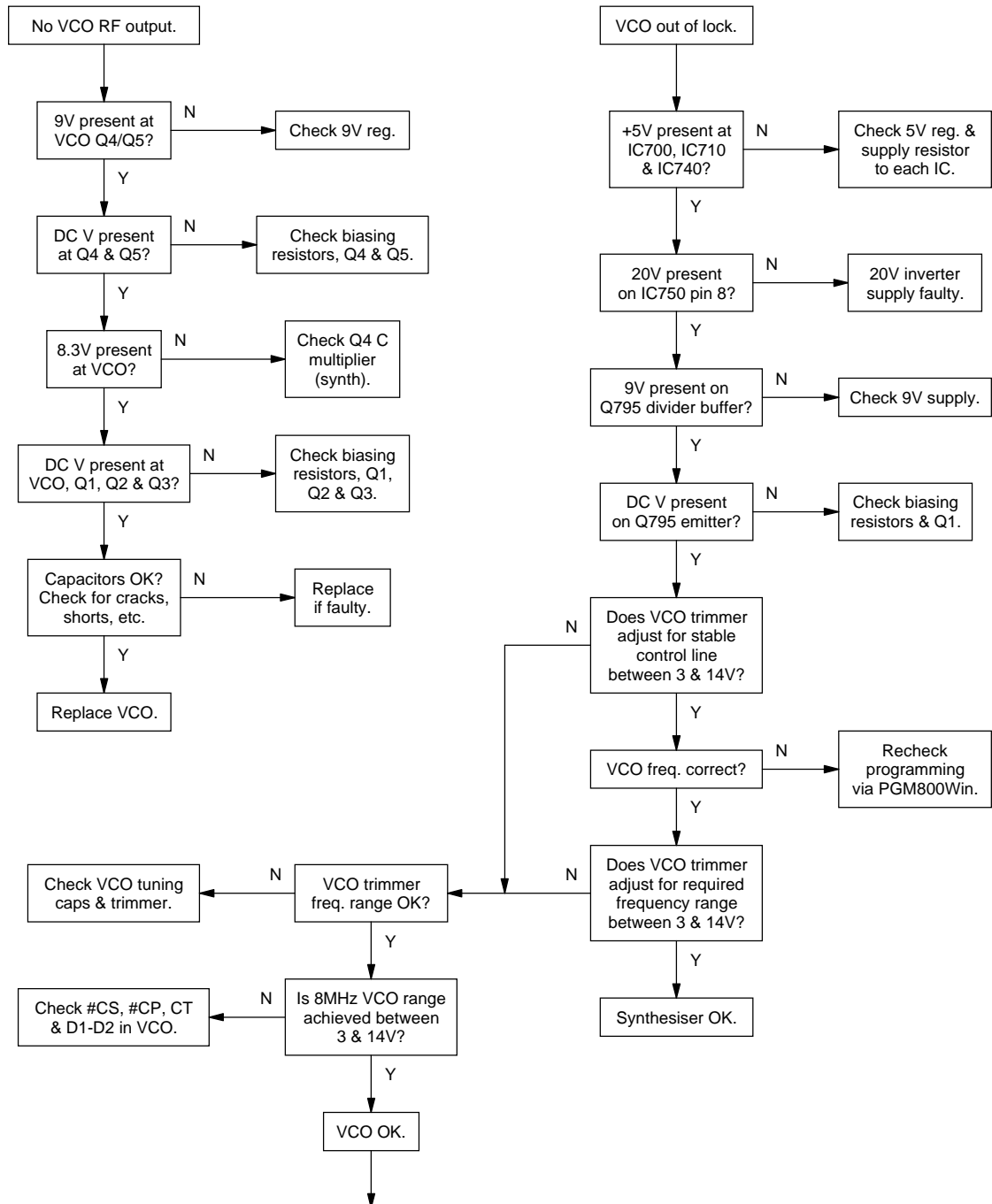


5.7.2 Regulator

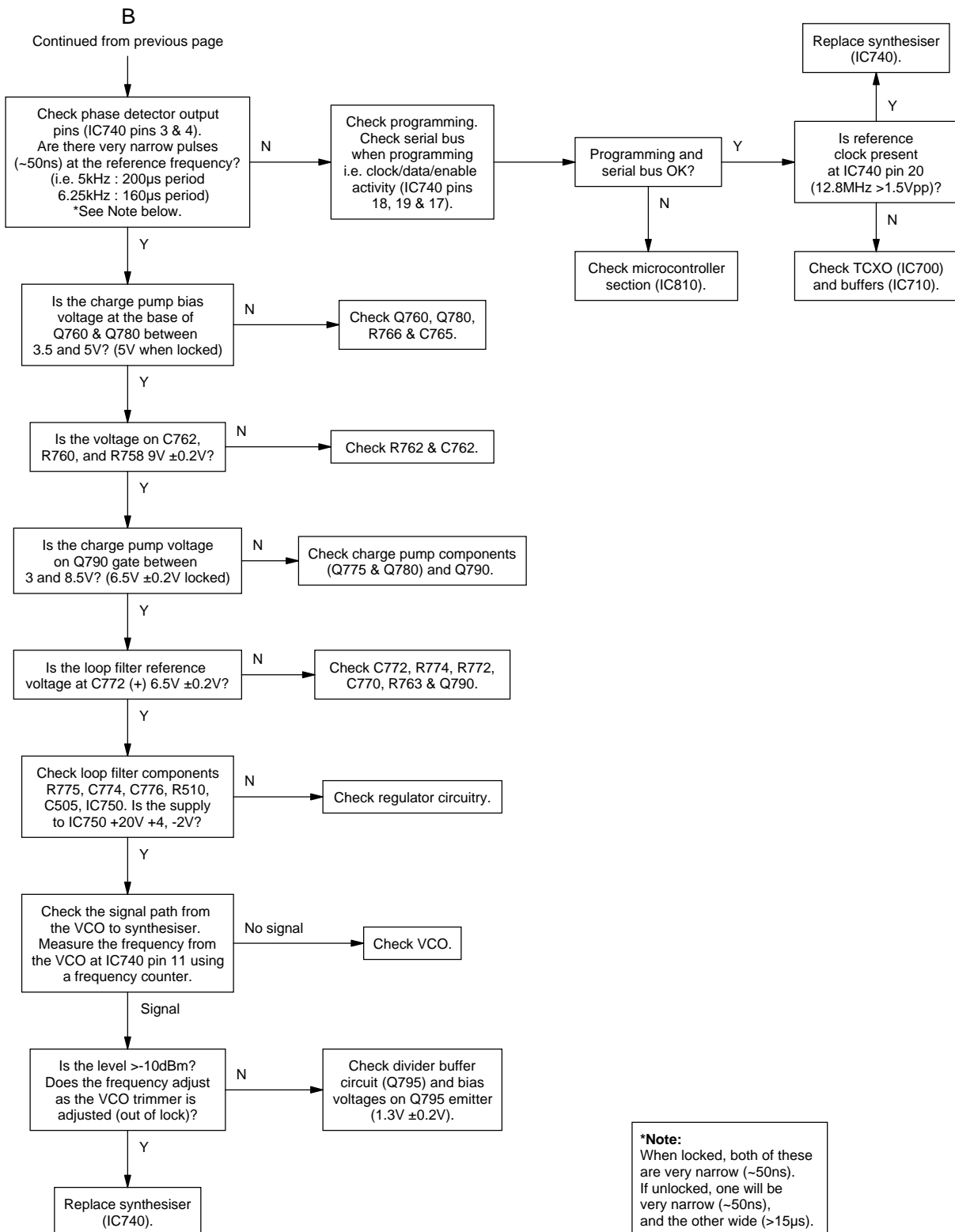


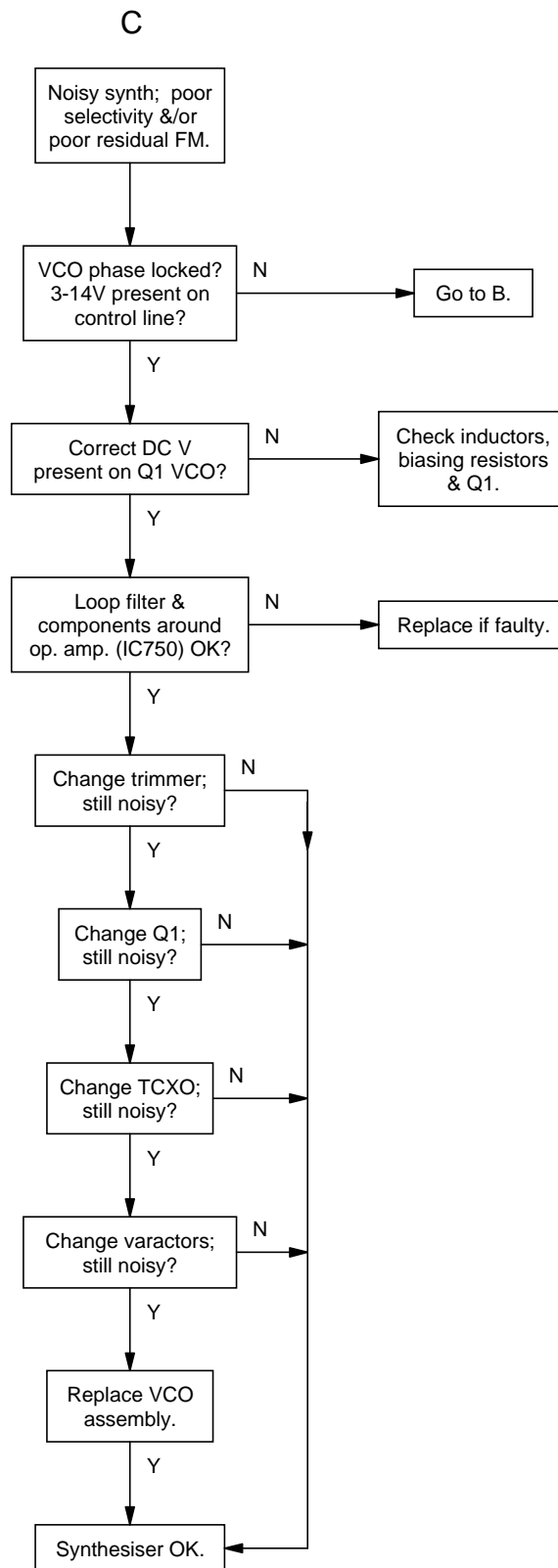
5.7.3 Synthesiser

Refer to the synthesiser circuit diagram (sheet 7) in Section 6 and the VCO circuit diagram in Part E.

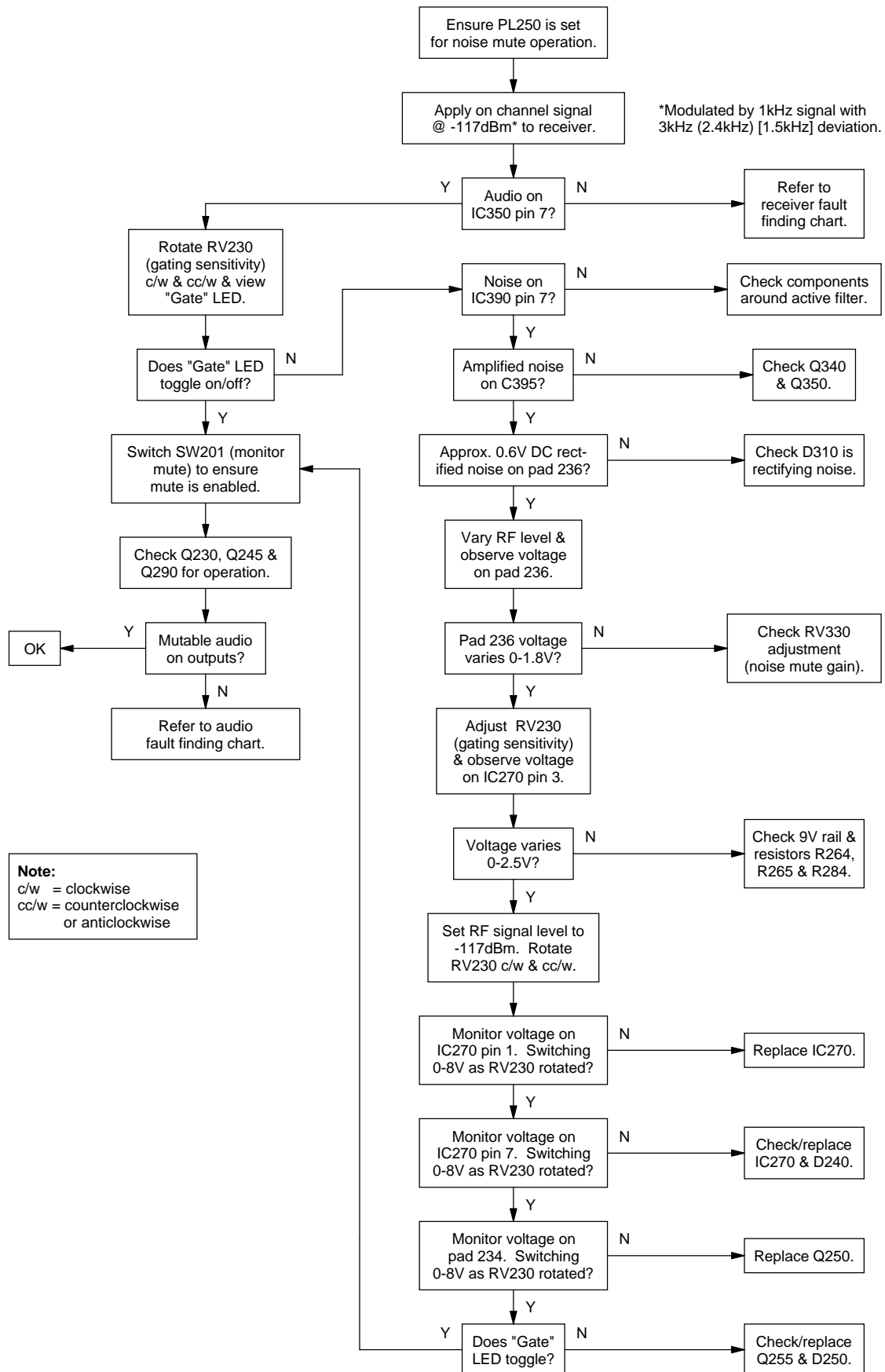


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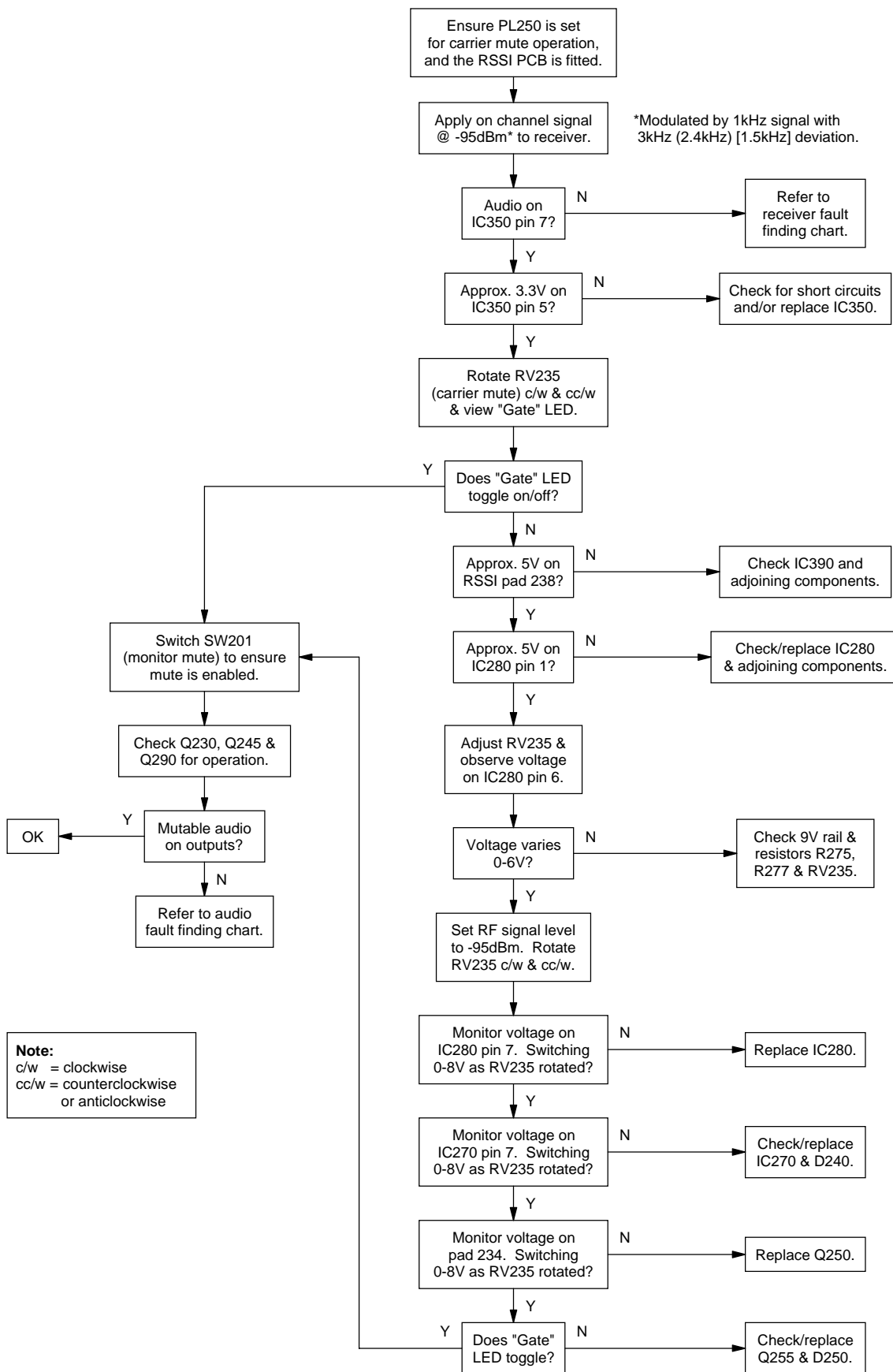




5.7.4 Noise Mute

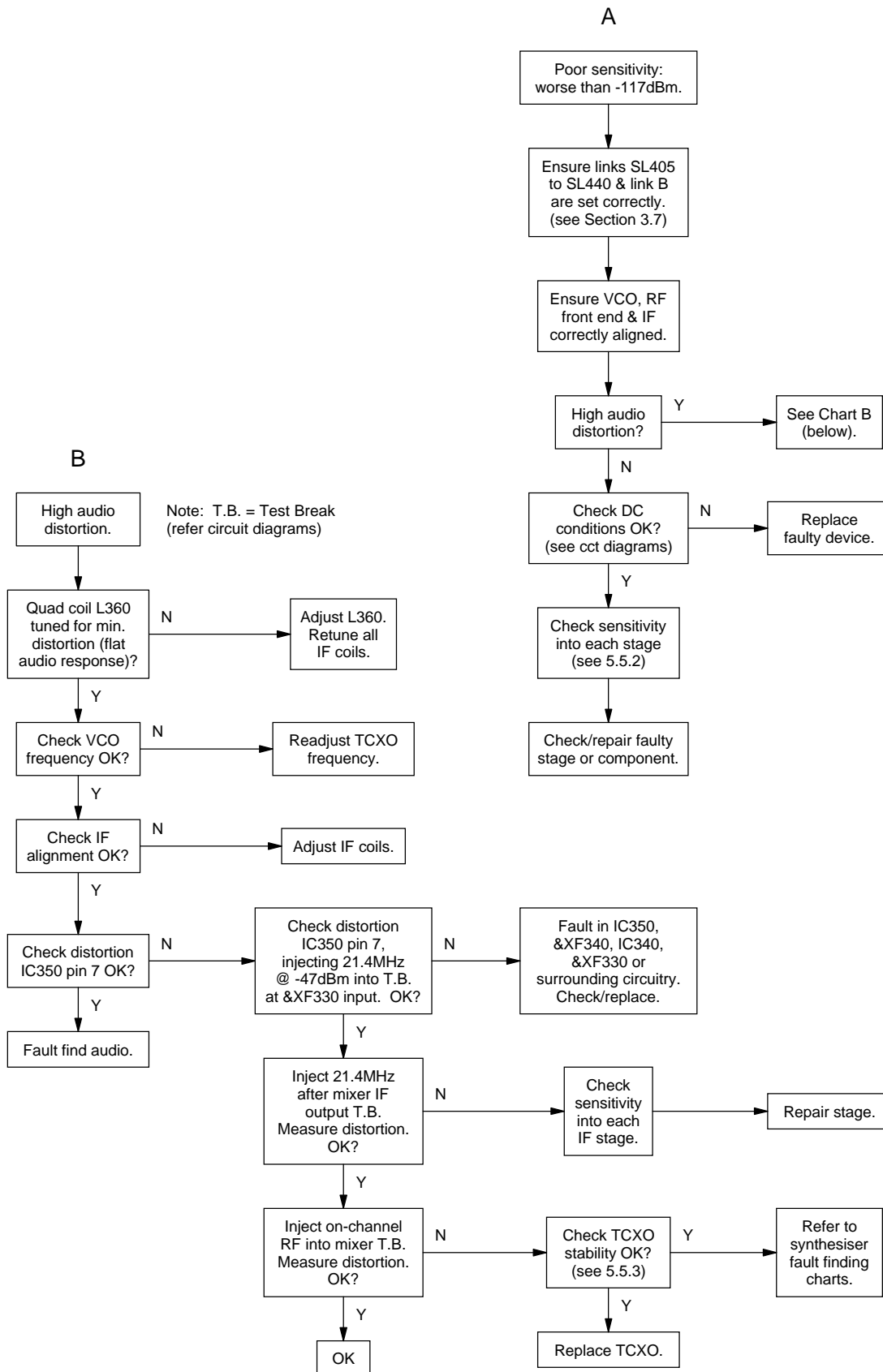


5.7.5 Carrier Mute

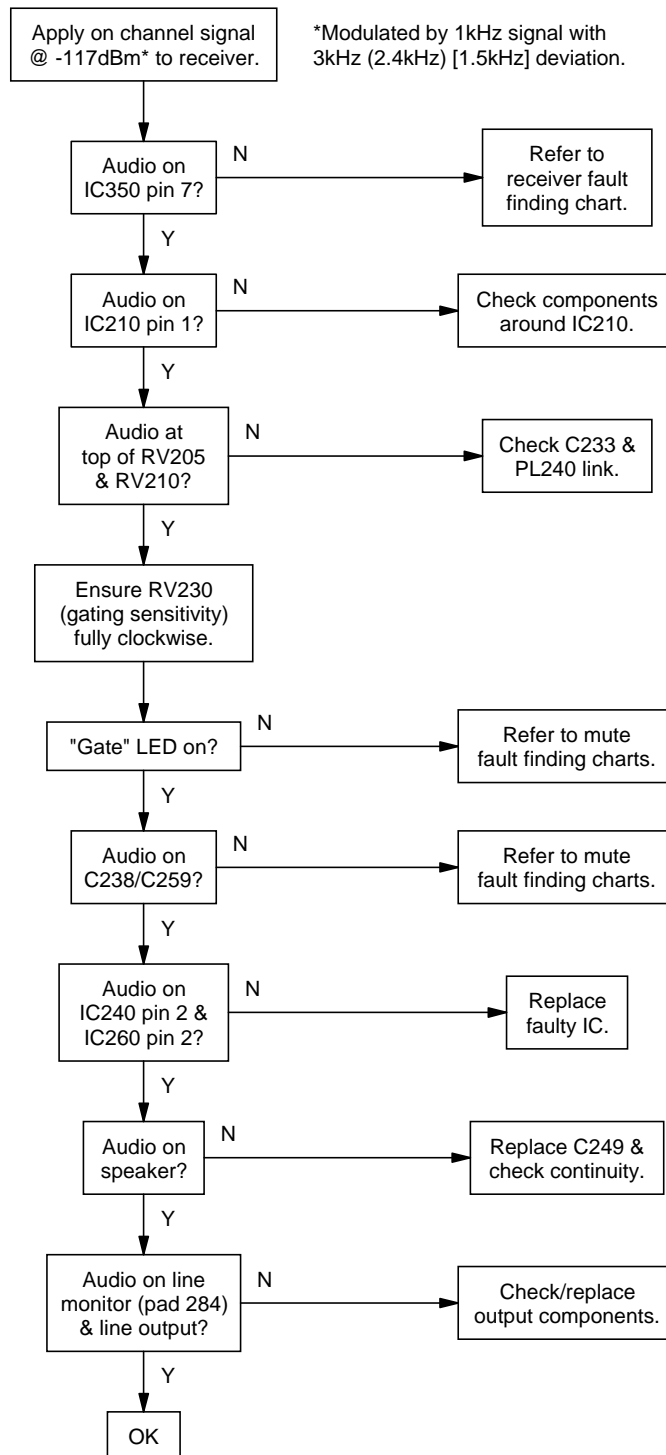


5.7.6 Receiver

Refer to the receiver IF and front end circuit diagrams (sheets 3 & 4) in Section 6.



5.7.7 Audio



6 T865 PCB Information

This section provides the following information on the T865 receiver:

- parts lists
- grid reference index
- PCB layouts
- test points & options connections drawings
- circuit diagrams

6.1 Introduction

Product Type Identification

You can identify the receiver type by checking the product code printed on a label on the rear of the chassis (product codes are explained in Section 1.3 in this Part of the manual, and Figure 1.1 in Part A shows typical labels). You can further verify the receiver type by checking the placement of an SMD resistor in the table that is screen printed onto the top side of the PCB, similar to the example drawn below (this table also appears in the resist layer on the bottom side of the PCB). In this example, the resistor indicates that the product was built as a T865-10-XXXX.

■ ■ 865-	PRODUCT TYPE	
■ ■ 865-	■ ■ 865-10	■ ■ 865-20
■ ■ 865-	■ ■ 865-13	■ ■ 865-23
PRODUCT TYPE	■ ■ 865-15	■ ■ 865-25

Note: The only function of this resistor is to indicate the product type. It has no effect on the circuitry or operation of the receiver.

PCB Identification

All PCBs are identified by a unique 10 digit “internal part number” (IPN), e.g. 220-12345-00, which is screen printed onto the PCB (usually on the top side), as shown in the example below:



The last 2 digits of this number define the issue status, which starts at 00 and increments through 01, 02, 03, etc. as the PCB is updated. Some issue PCBs never reach full production status and are therefore not included in this manual. A letter following the 10 digit IPN has no relevance in identifying the PCB for service purposes.

Note: It is important that you identify which issue PCB you are working on so that you can refer to the appropriate set of PCB information.

Parts Lists

The 10 digit numbers (000-00000-00) in this Parts List are “internal part numbers” (IPNs). We can process your spare parts orders more efficiently and accurately if you quote the IPN and provide 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, D1, R121, etc.) and those without (miscellaneous and mechanical).

Those with a circuit reference are grouped in alphabetical order and then in numerical order within each group. Each component entry comprises three or four columns, as shown below:

circuit reference - lists components in alphanumeric order

Ref	Var	IPN	Description
C126		015-06100-08	CAP CER 1206 CHIP 100N 10% X7R 50V
C127		020-09220-01	CAP ELECT RADL 220M 16V 10X12.5MM
C128		015-06100-08	CAP CER 1206 CHIP 100N 10% X7R 50V
C129		015-06100-08	CAP CER 1206 CHIP 100N 10% X7R 50V
&C130	10	015-25100-08	CAP CER 0805 CHIP 10N 10% X7R 50V
&C130	15	015-24470-08	CAP CER 0805 CHIP 4N7 10% X7R 50V
&C130	20	015-25100-08	CAP CER 0805 CHIP 10N 10% X7R 50V
&C130	25	015-24470-08	CAP CER 0805 CHIP 4N7 10% X7R 50V
C131		015-24100-08	CAP CER 0805 CHIP 1N 10% X7R 50V
C132		015-24470-08	CAP CER 0805 CHIP 4N7 10% X7R 50V
C133		015-05470-08	CAP CER 1206 CHIP 47N 10% X7R 50V

variant column - indicates that this is a variant component which is fitted only to the product type listed

description - gives a brief description of the component

Internal Part Number - order the component by this number

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

Variant Components

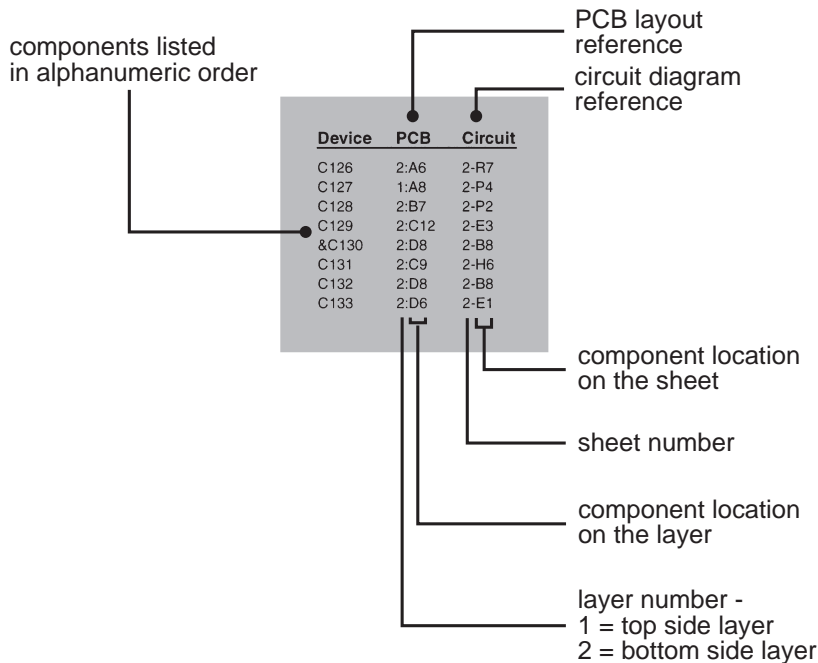
A variant component is one that has the same circuit reference but different value or specification in different product types. Where two products share the same PCB, the term “variant” is also used to describe components unplaced in one product. Variant components have a character prefix, such as “&”, “=” or “#”, before the circuit reference (e.g. &R100).

The table below explains the variant prefixes used in T800 Series II products:

If the variant prefix is . . .	the component will. . .
&	change according to channel spacing
=	change according to frequency stability
#	change according to frequency range
%	be placed or unplaced for special applications
*	be unplaced in one product (where two products share the same PCB)

Grid Reference Index

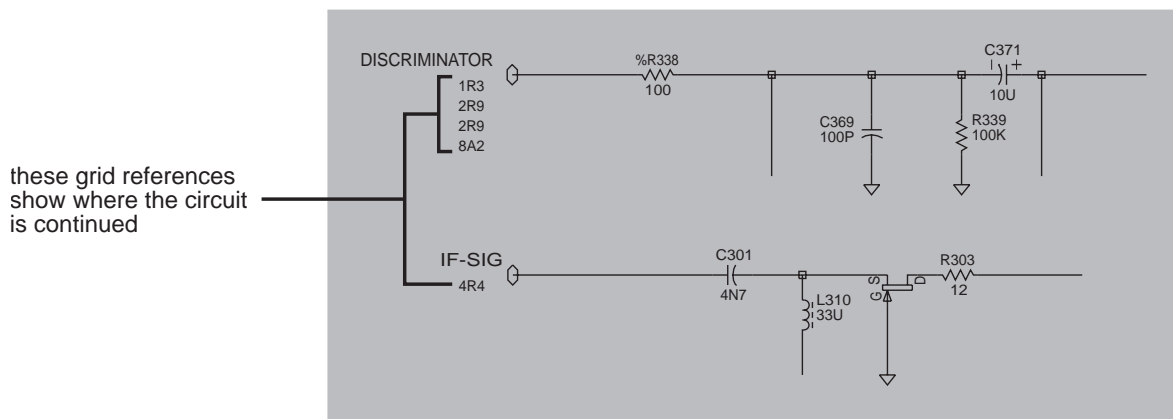
This section contains a component grid reference index to help you find components and labelled pads on the PCB layouts and circuit diagrams. This index lists the components and pads in alphanumeric order, along with the appropriate alphanumeric grid references, as shown below:



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, as shown below. The first digit refers to the sheet number and the last two characters refer to the location on that sheet of the continuation of the circuit (e.g. 1R3).



Item T865-10-0000

Revision/Variant C
Date created 25/05/98

No Ref	,349-00020-45,	SCRW T/T M4X20MM P/POZ BZ
No Ref	,XE865VT10,	T860 TUNABLE VCO ASSEMBLY
No Ref	,240-02010-54,	SKT 15W DRANGE PNL MTG 125 C
No Ref	,308-01007-01,	HANDLE BASE STATION SERIES II
No Ref	,311-01015-00,	KNOB 15MM & SKIRT 6MM SFT
No Ref	,312-01052-02,	LID TOP T800 SER II PTND
No Ref	,312-01053-02,	LID BOTTOM T800 SER II PNTD
No Ref	,316-06622-00,	PNL FRT RX T800 SERIES II
No Ref	,X865-10-0000,	DEV)T865-10-0000 MAIN BRD ASSY
No Ref	,349-00020-43,	SCRW T/T M4X12MM P/POZ BZ
No Ref	,410-01082-01,	CRTN 10 T800 KIWI 423X410X360
No Ref	,352-00010-29,	NUT M4 NYLOC HEX
No Ref	,353-00010-11,	WSHR M3 FLAT 9.5*0.9MM ST BZ
No Ref	,362-00010-33,	GROMMET LED MTG 3MM
No Ref	,365-00011-53,	LABEL 104*37MM
No Ref	,365-00100-20,	LABEL WHITE S/A 28X11MM
No Ref	,399-00010-51,	BAG PLASTIC 75*100MM
No Ref	,410-01081-01,	CRT T800 SERIES II
No Ref	,349-00020-36,	LIM)SCREW TT M3X8m PANTORX BLK

Item X865-10-0000

Revision/Variant E
Date created 25/05/98

#C403	,015-21820-05,	CAP CER0805 8P2+-0.1 200VGRM40
#C405	,015-21470-05,	CAP CER0805 4P7+-0.1 200VGRM40
#C407	,015-21470-05,	CAP CER0805 4P7+-0.1 200VGRM40
#C408	,015-21470-05,	CAP CER0805 4P7+-0.1 200VGRM40
#C409	,015-21820-05,	CAP CER0805 8P2+-0.1 200VGRM40
#C422	,015-21820-05,	CAP CER0805 8P2+-0.1 200VGRM40
#C423	,015-21470-05,	CAP CER0805 4P7+-0.1 200VGRM40
#C424	,015-21470-05,	CAP CER0805 4P7+-0.1 200VGRM40
#C425	,015-21470-05,	CAP CER0805 4P7+-0.1 200VGRM40
#C427	,015-21820-05,	CAP CER0805 8P2+-0.1 200VGRM40
%R223	,036-12100-00,	RES M/F 0805 10E 5%
&C203	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
&C313	,015-22270-01,	CAP CER 0805 27P 5% NPO 50V
&C315	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
&C317	,015-20050-01,	CAP CER 0805 0P5+-1/4P NPO 50V
&C319	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
&C321	,015-22270-01,	CAP CER 0805 27P 5% NPO 50V
&C333	,015-22270-01,	CAP CER 0805 27P 5% NPO 50V
&C335	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
&C337	,015-20050-01,	CAP CER 0805 0P5+-1/4P NPO 50V
&R202	,036-14470-00,	RES M/F 0805 4K7 5%
&R209	,036-15220-00,	RES M/F 0805 22K 5%
&R219	,036-14820-10,	RES M/F 0805 8K2 1%
&R333	,036-17100-00,	RES M/F 0805 1M 5%
&R347	,036-15100-10,	RES M/F 0805 10K 1%
&XF310	,276-00010-43,	FLTR XTAL 21.4M 15KHZ PR 4POLE
&XF320	,276-00010-43,	FLTR XTAL 21.4M 15KHZ PR 4POLE
&XF330	,276-00010-47,	FLTR XTAL 21.4MHZ 15KHZ 2POLE
&XF340	,276-00010-14,	FLTR CER 455KHZ E 15KHZ B/W
C201	,020-08100-04,	CAP ELE RA 10M 16V 4X7MM
C205	,015-24470-08,	CAP CER 0805 4N7 10% X7R 50V
C207	,020-07100-02,	CAP ELE RA 1M 50V 5X11MM
C209	,020-08470-02,	CAP ELE RA 47M 16V 6X11MM
C210	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C211	,015-24470-08,	CAP CER 0805 4N7 10% X7R 50V
C213	,015-25470-08,	CAP CER 0805 47N 10% X7R 50V
C215	,015-21220-05,	CAP CER0805 2P2+-0.1 200VGRM40
C217	,015-22470-01,	CAP CER 0805 47P 5% NPO 50V
C219	,015-24470-08,	CAP CER 0805 4N7 10% X7R 50V
C221	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C222	,020-08100-04,	CAP ELE RA 10M 16V 4X7MM
C223	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C225	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C227	,015-23100-01,	CAP CER 0805 100P 5% NPO 50V
C229	,020-08100-04,	CAP ELE RA 10M 16V 4X7MM
C231	,020-08100-04,	CAP ELE RA 10M 16V 4X7MM
C233	,020-08100-04,	CAP ELE RA 10M 16V 4X7MM
C235	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C237	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C238	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C239	,020-09100-03,	CAP ELE RA 100M 16V 8X11MM
C240A	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C240B	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C240C	,020-09220-01,	CAP ELE RA 220M 16V 10X12.5MM
C249	,020-09470-05,	CAP ELE RAD 470M 16V 10X12.5MM
C251	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C253	,020-09100-03,	CAP ELE RA 100M 16V 8X11MM
C255	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C257	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C259	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C260A	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C260B	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C260C	,020-09220-01,	CAP ELE RA 220M 16V 10X12.5MM
C261	,020-09100-03,	CAP ELE RA 100M 16V 8X11MM
C262	,020-09100-03,	CAP ELE RA 100M 16V 8X11MM
C264	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C266	,020-07470-91,	CAP ELE RA 4M7 63V 6X11MM BI-P
C268	,020-07470-91,	CAP ELE RA 4M7 63V 6X11MM BI-P
C270	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C272	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C274	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C276	,015-25470-08,	CAP CER 0805 47N 10% X7R 50V
C278	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C280	,015-25470-08,	CAP CER 0805 47N 10% X7R 50V
C286	,015-24470-08,	CAP CER 0805 4N7 10% X7R 50V
C301	,015-24470-08,	CAP CER 0805 4N7 10% X7R 50V
C303	,015-24470-08,	CAP CER 0805 4N7 10% X7R 50V
C305	,020-08100-04,	CAP ELE RA 10M 16V 4X7MM
C307	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C309	,015-22180-01,	CAP CER 0805 18P 5% NPO 50V
C311	,015-22470-01,	CAP CER 0805 47P 5% NPO 50V
C323	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C325	,020-08100-04,	CAP ELE RA 10M 16V 4X7MM
C327	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C329	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C331	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C339	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C340A	,025-08100-03,	CAP 10M 35V 20% TANT 5MM L/S
C340B	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C344	,015-24470-08,	CAP CER 0805 4N7 10% X7R 50V
C345	,015-22330-05,	CAP CER0805 33P+-0.1 200VGRM40
C347	,015-22330-05,	CAP CER0805 33P+-0.1 200VGRM40
C348	,025-08100-03,	CAP 10M 35V 20% TANT 5MM L/S
C349	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V

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T865 Preliminary PCB Information

L450	,056-00021-04,	IND FXD 330NH AX	R254	,036-14820-10,	RES M/F 0805 8K2 1%
L460	,050-00016-78,	COIL RF 56UH NOM 3.5T AL CORE	R255	,036-15470-00,	RES M/F 0805 47K 5%
L470	,050-00016-78,	COIL RF 56UH NOM 3.5T AL CORE	R256	,036-14470-00,	RES M/F 0805 4K7 5%
L480	,056-10330-02,	(L) IND SMD 330NH	R258	,036-15470-00,	RES M/F 0805 47K 5%
L490	,056-10330-02,	(L) IND SMD 330NH	R260	,036-11470-00,	RES M/F 0805 4E7 10%
L750	,056-10068-00,	IND FXD SMD 68NH 3.2*2.5*1.6	R261	,036-13150-00,	RES M/F 0805 150E 5%
L910	,052-08135-25,	COIL A/W 2.5T/3.5MM HOR 0.8MM	R262	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
L920	,052-08135-25,	COIL A/W 2.5T/3.5MM HOR 0.8MM	R263	,030-53470-20,	RES FILM AI 470E 5% 0.4W 4X1.6
L930	,052-08135-25,	COIL A/W 2.5T/3.5MM HOR 0.8MM	R264	,036-15270-10,	RES M/F 0805 27K 1%
No Ref	,230-00010-31,	SWITCH COVER FOR 230-00010-30	R265	,036-13100-00,	RES M/F 0805 100E 5%
No Ref	,362-00010-23,	GASKET SIL TO-220 CLIP MTG.	R266	,036-15220-00,	RES M/F 0805 22K 5%
No Ref	,349-00020-36,	LIM)SCREW TT M3X8m PANTORX BLK	R267	,036-16330-00,	RES M/F 0805 330K 5%
No Ref	,220-01427-00,	PCB T865 RECEIVER SERIES II	R268	,030-50000-20,	RES AI ZERO OHM 4X1.6
No Ref	,356-00010-03,	TAG SOLDER 3MM LONG M614/3.2	R269	,036-14220-00,	RES M/F 0805 2K2 5%
No Ref	,303-50074-00,	CLIP A3M2246 SPRING CLAMP T857	R271	,036-16100-00,	RES M/F 0805 100K 5%
No Ref	,303-11169-04,	CHASSIS PAINTED T800 SER II	R272	,036-15470-00,	RES M/F 0805 47K 5%
No Ref	,240-04020-62,	SKT 2 W RECEP SHORTING LINK	R273	,036-15150-00,	RES M/F 0805 15K 5%
No Ref	,353-00010-13,	WSHR M3 S/PROOF INT BZ	R275	,036-13100-00,	RES M/F 0805 100E 5%
No Ref	,240-02100-06,	SKT COAX N TYPE PNL MTG OP-TER	R277	,036-14560-00,	RES M/F 0805 5K6 5%
No Ref	,352-00010-08,	NUT M3 COLD FORM HEX ST BZ	R278	,036-16220-00,	RES M/F 0805 220K 5%
No Ref	,240-04021-77,	SKT JACK 1.3 PCB MT 64W	R280	,036-16100-00,	RES M/F 0805 100K 5%
No Ref	,070-01001-00,	D-RANGE 15 WAY COMPL T800	R281	,036-14470-00,	RES M/F 0805 4K7 5%
PL210	,240-00020-59,	HEADER 3 W 1 R PCB MTG	R282	,036-16100-00,	RES M/F 0805 100K 5%
PL220	,240-00020-59,	HEADER 3 W 1 R PCB MTG	R284	,036-13100-00,	RES M/F 0805 100E 5%
PL230	,240-00020-63,	HEADER 4 W X1R PCB MTG	R285	,036-15470-00,	RES M/F 0805 47K 5%
PL240	,240-00020-58,	HEADER 5 WX1 R PCB MTG	R287	,036-15100-10,	RES M/F 0805 10K 1%
PL250	,240-00020-59,	HEADER 3 W 1 R PCB MTG	R288	,036-14470-00,	RES M/F 0805 4K7 5%
PL260	,240-00020-59,	HEADER 3 W 1 R PCB MTG	R289	,036-14680-00,	RES M/F 0805 6K8 5%
PL270	,240-00020-59,	HEADER 3 W 1 R PCB MTG	R290	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
Q210	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R292	,036-14680-00,	RES M/F 0805 6K8 5%
Q220	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R293	,036-13560-00,	RES M/F 0805 560E 5%
Q230	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R294	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
Q240	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R295	,036-14680-00,	RES M/F 0805 6K8 5%
Q245	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R296	,036-14120-00,	RES M/F 0805 1K2 5%
Q250	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R297	,030-52100-20,	RES FILM AI 10E 5% 0.4W 4X1.6
Q255	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R298	,036-15470-00,	RES M/F 0805 47K 5%
Q260	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R299	,036-15470-00,	RES M/F 0805 47K 5%
Q270	,000-10008-17,	S) XSTR SMD BC817-25 NPN SOT23	R301	,036-13100-00,	RES M/F 0805 100E 5%
Q280	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R302	,036-17100-00,	RES M/F 0805 1M 5%
Q290	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R303	,036-12120-00,	RES M/F 0805 12E 5%
Q310	,000-50020-18,	S) XSTR AI BF247A JFETTO92 VHF	R305	,036-12100-00,	RES M/F 0805 10E 5%
Q320	,000-10095-10,	S) XSTR SMD BR951 NPN UHF	R307	,036-13680-00,	RES M/F 0805 680E 5%
Q330	,000-10095-10,	S) XSTR SMD BR951 NPN UHF	R309	,036-17100-00,	RES M/F 0805 1M 5%
Q340	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R311	,036-10000-00,	RES M/F 0805 ZERO OHM
Q350	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R313	,036-17100-00,	RES M/F 0805 1M 5%
Q410	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R315	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
Q420	,000-10095-10,	S) XSTR SMD BR951 NPN UHF	R317	,036-11470-00,	RES M/F 0805 4E7 10%
Q540	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R319	,036-14330-00,	RES M/F 0805 3K3 5%
Q620	,000-00012-15,	S) XSTR BD234 PNP AF PWR TO126	R321	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
Q630	,000-50011-30,	S) XSTR AI BC557B PNP TO92 AF	R323	,036-12680-00,	RES M/F 0805 68E 5%
Q660	,000-10008-17,	S) XSTR SMD BC817-25 NPN SOT23	R325	,036-13100-00,	RES M/F 0805 100E 5%
Q670	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R327	,036-12560-00,	RES M/F 0805 56E 5%
Q750	,000-10008-07,	S) XSTR SMD BC807 PNP SOT23 AF	R329	,036-12390-00,	RES M/F 0805 39E 5%
Q760	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R330	,036-13100-00,	RES M/F 0805 100E 5%
Q770	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R331	,036-13470-00,	RES M/F 0805 470E 5%
Q775	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R332	,036-13680-00,	RES M/F 0805 680E 5%
Q780	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R334	,036-10000-00,	RES M/F 0805 ZERO OHM
Q785	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R335	,036-10000-00,	RES M/F 0805 ZERO OHM
Q790	,000-10003-12,	S) XSTR SMD BFR31 N JFET SOT23	R337	,036-14120-00,	RES M/F 0805 1K2 5%
Q795	,000-10057-10,	S) XSTR SMD BR571 NPN SOT23	R339	,036-16100-00,	RES M/F 0805 100K 5%
Q810	,000-10008-17,	S) XSTR SMD BC817-25 NPN SOT23	R340	,036-12100-00,	RES M/F 0805 10E 5%
Q820	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R341	,036-17100-00,	RES M/F 0805 1M 5%
Q840	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R343	,036-15470-00,	RES M/F 0805 47K 5%
Q850	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R345	,036-15470-00,	RES M/F 0805 47K 5%
Q860	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R349	,036-15100-10,	RES M/F 0805 10K 1%
Q870	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R351	,045-03500-01,	RES NTC 500E 5MM DISC UNCOATED
Q880	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R353	,036-13220-00,	RES M/F 0805 220E 5%
Q890	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R355	,036-15100-10,	RES M/F 0805 10K 1%
Q895	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R357	,036-14150-00,	RES M/F 0805 1K5 5%
R160	,036-12100-00,	RES M/F 0805 10E 5%	R359	,036-16330-00,	RES M/F 0805 330K 5%
R201	,036-14470-00,	RES M/F 0805 4K7 5%	R361	,036-17100-00,	RES M/F 0805 1M 5%
R204	,036-15100-10,	RES M/F 0805 10K 1%	R363	,036-12100-00,	RES M/F 0805 10E 5%
R205	,036-16220-00,	RES M/F 0805 220K 5%	R365	,036-14330-00,	RES M/F 0805 3K3 5%
R207	,036-14820-10,	RES M/F 0805 8K2 1%	R367	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
R210	,036-15150-00,	RES M/F 0805 15K 5%	R369	,036-15150-00,	RES M/F 0805 15K 5%
R211	,036-15390-00,	RES M/F 0805 39K 5%	R371	,045-06100-01,	RES NTC 100K 5% 5MM DISC
R213	,036-14270-00,	RES M/F 0805 2K7 5%	R372	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
R215	,036-15150-00,	RES M/F 0805 15K 5%	R374	,036-14330-00,	RES M/F 0805 3K3 5%
R218	,036-14390-00,	RES M/F 0805 3K9 5%	R376	,036-15220-00,	RES M/F 0805 22K 5%
R221	,036-15470-00,	RES M/F 0805 47K 5%	R378	,036-16100-00,	RES M/F 0805 100K 5%
R222	,036-16100-00,	RES M/F 0805 100K 5%	R380	,036-13100-00,	RES M/F 0805 100E 5%
R224	,036-14390-00,	RES M/F 0805 3K9 5%	R381	,036-14270-00,	RES M/F 0805 2K7 5%
R225	,036-13470-00,	RES M/F 0805 470E 5%	R383	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
R227	,036-14100-10,	RES M/F 0805 CHIP 1K 1%	R385	,036-15100-10,	RES M/F 0805 10K 1%
R229	,036-14470-00,	RES M/F 0805 4K7 5%	R387	,036-15470-00,	RES M/F 0805 47K 5%
R230	,036-14470-00,	RES M/F 0805 4K7 5%	R389	,036-15470-00,	RES M/F 0805 47K 5%
R232	,036-15470-00,	RES M/F 0805 47K 5%	R391	,036-15820-00,	RES M/F 0805 82K 5%
R233	,036-14820-10,	RES M/F 0805 8K2 1%	R393	,036-15470-00,	RES M/F 0805 47K 5%
R234	,036-15470-00,	RES M/F 0805 47K 5%	R395	,036-13470-00,	RES M/F 0805 470E 5%
R236	,036-15470-00,	RES M/F 0805 47K 5%	R397	,036-15220-00,	RES M/F 0805 22K 5%
R238	,036-11470-00,	RES M/F 0805 4E7 10%	R398	,036-15100-10,	RES M/F 0805 10K 1%
R239	,036-14100-10,	RES M/F 0805 CHIP 1K 1%	R399	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
R241	,036-14100-10,	RES M/F 0805 CHIP 1K 1%	R405	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
R242	,036-13100-00,	RES M/F 0805 100E 5%	R410	,036-14390-00,	RES M/F 0805 3K9 5%
R244	,036-14680-00,	RES M/F 0805 6K8 5%	R415	,036-14220-00,	RES M/F 0805 2K2 5%
R245	,036-14100-10,	RES M/F 0805 CHIP 1K 1%	R416	,036-17100-00,	RES M/F 0805 1M 5%
R247	,036-14220-00,	RES M/F 0805 2K2 5%	R417	,036-17100-00,	RES M/F 0805 1M 5%
R249	,036-15100-10,	RES M/F 0805 10K 1%	R420	,036-13560-00,	RES M/F 0805 560E 5%
R251	,036-15390-00,	RES M/F 0805 39K 5%	R425	,036-12330-00,	RES M/F 0805 33E 5%
R252	,036-14470-00,	RES M/F 0805 4K7 5%	R430	,036-13560-00,	RES M/F 0805 560E 5%

R435	,036-12100-00,	RES M/F 0805 10E 5%	R832	,036-14220-00,	RES M/F 0805 2K2 5%
R440	,036-13470-00,	RES M/F 0805 470E 5%	R833	,036-14220-00,	RES M/F 0805 2K2 5%
R445	,036-12120-00,	RES M/F 0805 12E 5%	R835	,036-14220-00,	RES M/F 0805 2K2 5%
R450	,036-13470-00,	RES M/F 0805 470E 5%	R836	,036-14220-00,	RES M/F 0805 2K2 5%
R455	,036-17100-00,	RES M/F 0805 1M 5%	R837	,036-14220-00,	RES M/F 0805 2K2 5%
R457	,036-17100-00,	RES M/F 0805 1M 5%	R840	,036-14220-00,	RES M/F 0805 2K2 5%
R460	,036-10000-00,	RES M/F 0805 ZERO OHM	R841	,036-14220-00,	RES M/F 0805 2K2 5%
R470	,036-13470-00,	RES M/F 0805 470E 5%	R842	,036-14220-00,	RES M/F 0805 2K2 5%
R475	,036-12120-00,	RES M/F 0805 12E 5%	R843	,036-14220-00,	RES M/F 0805 2K2 5%
R480	,036-13470-00,	RES M/F 0805 470E 5%	R844	,036-15470-00,	RES M/F 0805 47K 5%
R485	,036-12470-00,	RES M/F 0805 47E 5%	R845	,036-16150-00,	RES M/F 0805 150K 5%
R486	,036-12470-00,	RES M/F 0805 47E 5%	R846	,036-14470-00,	RES M/F 0805 4K7 5%
R510	,036-14220-00,	RES M/F 0805 2K2 5%	R847	,036-14470-00,	RES M/F 0805 4K7 5%
R515	,036-12560-00,	RES M/F 0805 56E 5%	R848	,036-13470-00,	RES M/F 0805 470E 5%
R555	,036-13470-00,	RES M/F 0805 470E 5%	R849	,036-13470-00,	RES M/F 0805 470E 5%
R615	,036-13100-00,	RES M/F 0805 100E 5%	R850	,036-13470-00,	RES M/F 0805 470E 5%
R617	,036-10000-00,	RES M/F 0805 ZERO OHM	R851	,036-13470-00,	RES M/F 0805 470E 5%
R619	,032-31100-00,	RES M/F PWR 1E0 5% 1W 12X4.5MM	R852	,036-14470-00,	RES M/F 0805 4K7 5%
R621	,032-31100-00,	RES M/F PWR 1E0 5% 1W 12X4.5MM	R853	,036-13470-00,	RES M/F 0805 470E 5%
R625	,036-14100-10,	RES M/F 0805 CHIP 1K 1%	R854	,036-16330-00,	RES M/F 0805 330K 5%
R629	,032-33270-00,	RES M/F PWR 270E 5% 1W 12X4.5	R855	,036-15470-00,	RES M/F 0805 47K 5%
R633	,036-14680-00,	RES M/F 0805 6K8 5%	R856	,036-16150-00,	RES M/F 0805 150K 5%
R636	,036-12330-00,	RES M/F 0805 33E 5%	R857	,036-16150-00,	RES M/F 0805 150K 5%
R637	,036-12330-00,	RES M/F 0805 33E 5%	R858	,036-15270-10,	RES M/F 0805 27K 1%
R641	,036-14150-00,	RES M/F 0805 1K5 5%	R859	,036-17120-10,	RES MF 0805 CHIP 1M2 1%
R645	,036-13470-00,	RES M/F 0805 470E 5%	R860	,036-16820-10,	RES MF 0805 CHIP 820K 1%
R649	,036-14470-00,	RES M/F 0805 4K7 5%	R861	,036-14510-10,	RES MF 0805 CHIP 5K1 1%
R653	,036-15100-10,	RES M/F 0805 10K 1%	R863	,036-14470-00,	RES M/F 0805 4K7 5%
R681	,036-13100-00,	RES M/F 0805 100E 5%	R865	,036-14270-00,	RES M/F 0805 2K7 5%
R685	,036-15150-00,	RES M/F 0805 15K 5%	R866	,036-16820-10,	RES MF 0805 CHIP 820K 1%
R689	,036-12100-00,	RES M/F 0805 10E 5%	R867	,036-16820-10,	RES MF 0805 CHIP 820K 1%
R693	,036-16100-00,	RES M/F 0805 100K 5%	R868	,036-14470-00,	RES M/F 0805 4K7 5%
R696	,036-15560-00,	RES M/F 0805 56K 5%	R869	,036-15270-10,	RES M/F 0805 27K 1%
R701	,036-12220-00,	RES M/F 0805 22E 5%	R870	,036-17120-10,	RES MF 0805 CHIP 1M2 1%
R702	,036-17100-00,	RES M/F 0805 1M 5%	R871	,036-16820-10,	RES MF 0805 CHIP 820K 1%
R703	,036-17100-00,	RES M/F 0805 1M 5%	R872	,036-14510-10,	RES MF 0805 CHIP 5K1 1%
R706	,036-15150-00,	RES M/F 0805 15K 5%	R873	,036-14220-00,	RES M/F 0805 2K2 5%
R707	,036-15470-00,	RES M/F 0805 47K 5%	R875	,036-14470-00,	RES M/F 0805 4K7 5%
R708	,036-13100-00,	RES M/F 0805 100E 5%	R876	,036-16100-00,	RES M/F 0805 100K 5%
R709	,036-13100-00,	RES M/F 0805 100E 5%	R877	,036-16100-00,	RES M/F 0805 100K 5%
R710	,036-13100-00,	RES M/F 0805 100E 5%	R878	,036-16100-00,	RES M/F 0805 100K 5%
R711	,036-13100-00,	RES M/F 0805 100E 5%	R879	,036-16100-00,	RES M/F 0805 100K 5%
R712	,036-12100-00,	RES M/F 0805 10E 5%	R881	,036-15470-00,	RES M/F 0805 47K 5%
R742	,036-13150-00,	RES M/F 0805 150E 5%	R882	,036-15470-00,	RES M/F 0805 47K 5%
R743	,036-13150-00,	RES M/F 0805 150E 5%	R884	,036-16150-00,	RES M/F 0805 150K 5%
R744	,036-12220-00,	RES M/F 0805 22E 5%	R885	,036-16150-00,	RES M/F 0805 150K 5%
R746	,036-12220-00,	RES M/F 0805 22E 5%	R886	,036-15100-10,	RES M/F 0805 10K 1%
R747	,036-12220-00,	RES M/F 0805 22E 5%	R887	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
R748	,036-15470-00,	RES M/F 0805 47K 5%	R888	,036-14820-10,	RES M/F 0805 8K2 1%
R749	,036-15470-00,	RES M/F 0805 47K 5%	R889	,036-16100-00,	RES M/F 0805 100K 5%
R750	,036-12220-00,	RES M/F 0805 22E 5%	R890	,036-16150-00,	RES M/F 0805 150K 5%
R752	,036-12220-00,	RES M/F 0805 22E 5%	R891	,036-16100-00,	RES M/F 0805 100K 5%
R753	,036-17100-00,	RES M/F 0805 1M 5%	R892	,036-16330-00,	RES M/F 0805 330K 5%
R754	,036-14100-10,	RES M/F 0805 CHIP 1K 1%	R894	,036-14470-00,	RES M/F 0805 4K7 5%
R756	,036-16470-00,	RES M/F 0805 470K 5%	R895	,036-15100-10,	RES M/F 0805 10K 1%
R757	,036-16470-00,	RES M/F 0805 470K 5%	R897	,036-15100-10,	RES M/F 0805 10K 1%
R758	,036-14120-00,	RES M/F 0805 1K2 5%	R898	,036-16470-00,	RES M/F 0805 470K 5%
R759	,036-13330-00,	RES M/F 0805 330E 5%	R910	,036-15100-10,	RES M/F 0805 10K 1%
R760	,036-13180-00,	RES M/F 0805 180E 5%	RL210	,237-00010-22,	RELAY 12V DPDT 8PIN DIL PCB MT
R762	,036-13100-00,	RES M/F 0805 100E 5%	RV205	,040-05100-22,	POT 10K LOG DUAL PCB 6 OD SFT
R763	,036-13100-00,	RES M/F 0805 100E 5%	RV210	,040-05100-23,	POT 10K LOG PCB 15MM SLOT SFT
R765	,036-13680-00,	RES M/F 0805 680E 5%	RV220	,042-05100-06,	RES PRE 10K CAR 6MM FLAT
R766	,036-14100-10,	RES M/F 0805 CHIP 1K 1%	RV230	,040-05100-21,	POT 10K LIN PCB 15MM SLOT SFT
R767	,036-13680-00,	RES M/F 0805 680E 5%	RV235	,042-05100-06,	RES PRE 10K CAR 6MM FLAT
R769	,036-13180-00,	RES M/F 0805 180E 5%	RV320	,042-05470-06,	RES PRE 47K CAR 6MM FLAT T/ADJ
R771	,036-14820-10,	RES M/F 0805 8K2 1%	RV330	,042-04220-06,	RES PRE 2K2 CAR 6MM FLAT
R772	,036-15220-00,	RES M/F 0805 22K 5%	SHLD610	,062-00010-13,	CAN 10MM SQ X 11MM CAN A4M1017
R774	,036-14820-10,	RES M/F 0805 8K2 1%	SK805	,240-10000-07,	CONN SMD SKT 16W 2R M-MATCH
R775	,036-14820-10,	RES M/F 0805 8K2 1%	SK810	,240-04020-42,	SKT 44 PIN SMD PLCC
R784	,036-12680-00,	RES M/F 0805 68E 5%	SW201	,230-00010-30,	SWITCH TOG SPDT R-ANG PCB MTG
R785	,036-14330-00,	RES M/F 0805 3K3 5%	T610	,050-00016-50,	COIL TAIT NO 650 455KHZ
R786	,036-12100-00,	RES M/F 0805 10E 5%	T86510	,036-14220-00,	RES M/F 0805 2K2 5%
R787	,036-12100-00,	RES M/F 0805 10E 5%	X310	,274-00010-02,	XTAL 20.945MHZ SPEC TE/15
R790	,036-13220-00,	RES M/F 0805 220E 5%			
R791	,036-13100-00,	RES M/F 0805 100E 5%			
R792	,036-14100-10,	RES M/F 0805 CHIP 1K 1%			
R804	,036-15470-00,	RES M/F 0805 47K 5%			
R805	,036-13470-00,	RES M/F 0805 470E 5%			
R808	,036-12100-00,	RES M/F 0805 10E 5%			
R809	,036-14470-00,	RES M/F 0805 4K7 5%			
R810	,036-14470-00,	RES M/F 0805 4K7 5%			
R811	,036-14470-00,	RES M/F 0805 4K7 5%			
R812	,036-14470-00,	RES M/F 0805 4K7 5%			
R813	,036-14470-00,	RES M/F 0805 4K7 5%			
R815	,036-15470-00,	RES M/F 0805 47K 5%			
R816	,036-16150-00,	RES M/F 0805 150K 5%			
R818	,036-14470-00,	RES M/F 0805 4K7 5%			
R819	,036-14470-00,	RES M/F 0805 4K7 5%			
R820	,036-15470-00,	RES M/F 0805 47K 5%			
R821	,036-15470-00,	RES M/F 0805 47K 5%			
R822	,036-15470-00,	RES M/F 0805 47K 5%			
R823	,036-15470-00,	RES M/F 0805 47K 5%			
R824	,036-14220-00,	RES M/F 0805 2K2 5%			
R825	,036-14220-00,	RES M/F 0805 2K2 5%			
R826	,036-14220-00,	RES M/F 0805 2K2 5%			
R827	,036-14220-00,	RES M/F 0805 2K2 5%			
R828	,036-14220-00,	RES M/F 0805 2K2 5%			
R829	,036-14220-00,	RES M/F 0805 2K2 5%			
R830	,036-14220-00,	RES M/F 0805 2K2 5%			
R831	,036-14220-00,	RES M/F 0805 2K2 5%			

Item T865-15-0000

Revision/Variant C
Date created 25/05/98

No Ref	,349-00020-45,	SCRW T/T M4X20MM P/POZ BZ
No Ref	,XE865VT10,	T860 TUNABLE VCO ASSEMBLY
No Ref	,240-02010-54,	SKT 15W DRANGE PNL MTG 125 C
No Ref	,308-01007-01,	HANDLE BASE STATION SERIES II
No Ref	,311-01015-00,	KNOB 15MM & SKIRT 6MM SFT
No Ref	,312-01052-02,	LID TOP T800 SER II PTND
No Ref	,312-01053-02,	LID BOTTOM T800 SER II PNTD
No Ref	,316-06622-00,	PNL FRT RX T800 SERIES II
No Ref	,X865-15-0000,	DEV)T865-15-0000 MAIN BRD ASSY
No Ref	,349-00020-43,	SCRW T/T M4X12MM P/POZ BZ
No Ref	,410-01082-01,	CRTN 10 T800 KIWI 423X410X360
No Ref	,352-00010-29,	NUT M4 NYLOC HEX
No Ref	,353-00010-11,	WSHR M3 FLAT 9.5*0.9MM ST BZ
No Ref	,362-00010-33,	GROMMET LED MTG 3MM
No Ref	,365-00011-53,	LABEL 104*37MM
No Ref	,365-00100-20,	LABEL WHITE S/A 28X11MM
No Ref	,399-00010-51,	BAG PLASTIC 75*100MM
No Ref	,410-01081-01,	CRT T800 SERIES II
No Ref	,349-00020-36,	LIM)SCREW TT M3X8m PANTORX BLK

Item X865-15-0000

Revision/Variant E
Date created 25/05/98

#C403	,015-21820-05,	CAP CER0805 8P2+-0.1 200VGRM40
#C405	,015-21470-05,	CAP CER0805 4P7+-0.1 200VGRM40
#C407	,015-21390-01,	CAP CER 0805 3P9+-1/4P NPO 50V
#C408	,015-21470-05,	CAP CER0805 4P7+-0.1 200VGRM40
#C409	,015-21820-05,	CAP CER0805 8P2+-0.1 200VGRM40
#C422	,015-21820-05,	CAP CER0805 8P2+-0.1 200VGRM40
#C423	,015-21470-05,	CAP CER0805 4P7+-0.1 200VGRM40
#C424	,015-21390-01,	CAP CER 0805 3P9+-1/4P NPO 50V
#C425	,015-21470-05,	CAP CER0805 4P7+-0.1 200VGRM40
#C427	,015-21820-05,	CAP CER0805 8P2+-0.1 200VGRM40
%R223	,036-12100-00,	RES M/F 0805 10E 5%
&C203	,015-24470-08,	CAP CER 0805 4N7 10% X7R 50V
&C313	,015-22390-01,	CAP CER 0805 39P 5% NPO 50V
&C315	,015-22820-01,	CAP CER 0805 82P 5% NPO 50V
&C317	,015-22100-01,	CAP CER 0805 10P+-1/2P NPO 50V
&C319	,015-22820-01,	CAP CER 0805 82P 5% NPO 50V
&C321	,015-22390-01,	CAP CER 0805 39P 5% NPO 50V
&C333	,015-22390-01,	CAP CER 0805 39P 5% NPO 50V
&C335	,015-22820-01,	CAP CER 0805 82P 5% NPO 50V
&R202	,036-14330-00,	RES M/F 0805 3K3 5%
&R209	,036-15180-00,	RES M/F 0805 18K 5%
&R219	,036-14390-00,	RES M/F 0805 3K9 5%
&R333	,036-14330-00,	RES M/F 0805 3K3 5%
&R347	,036-14820-10,	RES M/F 0805 8K2 1%
&XF310	,276-00010-44,	FLTR XTL 21.4M 7.5KHZ PR 4POLE
&XF320	,276-00010-44,	FLTR XTL 21.4M 7.5KHZ PR 4POLE
&XF330	,276-00010-46,	FLTR XTL 21.4MHZ 7.5KHZ 2POLE
&XF340	,276-00010-13,	FLTR CER 455KHZ G 9KHZ B/W
C201	,020-08100-04,	CAP ELE RA 10M 16V 4X7MM
C205	,015-24470-08,	CAP CER 0805 4N7 10% X7R 50V
C207	,020-07100-02,	CAP ELE RA 1M 50V 5X11MM
C209	,020-08470-02,	CAP ELE RA 47M 16V 6X11MM
C210	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C211	,015-24470-08,	CAP CER 0805 4N7 10% X7R 50V
C213	,015-25470-08,	CAP CER 0805 47N 10% X7R 50V
C215	,015-21220-05,	CAP CER0805 2P2+-0.1 200VGRM40
C217	,015-22470-01,	CAP CER 0805 47P 5% NPO 50V
C219	,015-24470-08,	CAP CER 0805 4N7 10% X7R 50V
C221	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C222	,020-08100-04,	CAP ELE RA 10M 16V 4X7MM
C223	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C225	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C227	,015-23100-01,	CAP CER 0805 100P 5% NPO 50V
C229	,020-08100-04,	CAP ELE RA 10M 16V 4X7MM
C231	,020-08100-04,	CAP ELE RA 10M 16V 4X7MM
C233	,020-08100-04,	CAP ELE RA 10M 16V 4X7MM
C235	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C237	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C238	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C239	,020-09100-03,	CAP ELE RA 100M 16V 8X11MM
C240A	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C240B	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C240C	,020-09220-01,	CAP ELE RA 220M 16V 10X12.5MM
C249	,020-09470-05,	CAP ELE RAD 470M 16V 10X12.5MM
C251	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C253	,020-09100-03,	CAP ELE RA 100M 16V 8X11MM
C255	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C257	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C259	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C260A	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C260B	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C260C	,020-09220-01,	CAP ELE RA 220M 16V 10X12.5MM
C261	,020-09100-03,	CAP ELE RA 100M 16V 8X11MM
C262	,020-09100-03,	CAP ELE RA 100M 16V 8X11MM
C264	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C266	,020-07470-91,	CAP ELE RA 4M7 63V 6X11MM BI-P
C268	,020-07470-91,	CAP ELE RA 4M7 63V 6X11MM BI-P
C270	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C272	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C274	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C276	,015-25470-08,	CAP CER 0805 47N 10% X7R 50V
C278	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C280	,015-25470-08,	CAP CER 0805 47N 10% X7R 50V
C286	,015-24470-08,	CAP CER 0805 4N7 10% X7R 50V
C301	,015-24470-08,	CAP CER 0805 4N7 10% X7R 50V
C303	,015-24470-08,	CAP CER 0805 4N7 10% X7R 50V
C305	,020-08100-04,	CAP ELE RA 10M 16V 4X7MM
C307	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C309	,015-22180-01,	CAP CER 0805 18P 5% NPO 50V
C311	,015-22470-01,	CAP CER 0805 47P 5% NPO 50V
C323	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C325	,020-08100-04,	CAP ELE RA 10M 16V 4X7MM
C327	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C329	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C331	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C339	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C340A	,025-08100-03,	CAP 10M 35V 20% TANT 5MM L/S
C340B	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C344	,015-24470-08,	CAP CER 0805 4N7 10% X7R 50V
C345	,015-22330-05,	CAP CER0805 33P+-0.1 200VGRM40
C347	,015-22330-05,	CAP CER0805 33P+-0.1 200VGRM40
C348	,025-08100-03,	CAP 10M 35V 20% TANT 5MM L/S
C349	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V

L410	,050-00016-78,	COIL RF 56UH NOM 3.5T AL CORE	R261	,036-13150-00,	RES M/F 0805 150E 5%
L420	,050-00016-78,	COIL RF 56UH NOM 3.5T AL CORE	R262	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
L430	,052-08140-35,	COIL A/W 3.5T/4.0MM HOR 0.8MM	R263	,030-53470-20,	RES FILM AI 470E 5% 0.4W 4X1.6
L440	,056-00021-04,	IND FXD 330NH AX	R264	,036-15270-10,	RES M/F 0805 27K 1%
L450	,056-00021-04,	IND FXD 330NH AX	R265	,036-13100-00,	RES M/F 0805 100E 5%
L460	,050-00016-78,	COIL RF 56UH NOM 3.5T AL CORE	R266	,036-15220-00,	RES M/F 0805 22K 5%
L470	,050-00016-78,	COIL RF 56UH NOM 3.5T AL CORE	R267	,036-16330-00,	RES M/F 0805 330K 5%
L480	,056-10330-02,	(L) IND SMD 330NH	R268	,030-50000-20,	RES AI ZERO OHM 4X1.6
L490	,056-10330-02,	(L) IND SMD 330NH	R269	,036-14220-00,	RES M/F 0805 2K2 5%
L750	,056-10068-00,	IND FXD SMD 68NH 3.2*2.5*1.6	R271	,036-16100-00,	RES M/F 0805 100K 5%
L910	,052-08135-25,	COIL A/W 2.5T/3.5MM HOR 0.8MM	R272	,036-15470-00,	RES M/F 0805 47K 5%
L920	,052-08135-25,	COIL A/W 2.5T/3.5MM HOR 0.8MM	R273	,036-15150-00,	RES M/F 0805 15K 5%
L930	,052-08135-25,	COIL A/W 2.5T/3.5MM HOR 0.8MM	R275	,036-13100-00,	RES M/F 0805 100E 5%
No Ref	,070-01001-00,	D-RANGE 15 WAY COMPL T800	R277	,036-14560-00,	RES M/F 0805 5K6 5%
No Ref	,015-23680-00,	CAP CER 0805 680P 10% X7R 50V	R278	,036-16220-00,	RES M/F 0805 220K 5%
No Ref	,240-04021-77,	SKT JACK 1.3 PCB MT 64W	R280	,036-16100-00,	RES M/F 0805 100K 5%
No Ref	,220-01427-00,	PCB T865 RECEIVER SERIES II	R281	,036-14470-00,	RES M/F 0805 4K7 5%
PL210	,240-00020-59,	HEADER 3 W 1 R PCB MTG	R282	,036-16100-00,	RES M/F 0805 100K 5%
PL220	,240-00020-59,	HEADER 3 W 1 R PCB MTG	R284	,036-13100-00,	RES M/F 0805 100E 5%
PL230	,240-00020-63,	HEADER 4 W X1R PCB MTG	R285	,036-15470-00,	RES M/F 0805 47K 5%
PL240	,240-00020-58,	HEADER 5 WX1 R PCB MTG	R287	,036-15100-10,	RES M/F 0805 10K 1%
PL250	,240-00020-59,	HEADER 3 W 1 R PCB MTG	R288	,036-14470-00,	RES M/F 0805 4K7 5%
PL260	,240-00020-59,	HEADER 3 W 1 R PCB MTG	R289	,036-14680-00,	RES M/F 0805 6K8 5%
PL270	,240-00020-59,	HEADER 3 W 1 R PCB MTG	R290	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
Q210	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R292	,036-14680-00,	RES M/F 0805 6K8 5%
Q220	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R293	,036-13560-00,	RES M/F 0805 560E 5%
Q230	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R294	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
Q240	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R295	,036-14680-00,	RES M/F 0805 6K8 5%
Q245	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R296	,036-14120-00,	RES M/F 0805 1K2 5%
Q250	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R297	,030-52100-20,	RES FILM AI 10E 5% 0.4W 4X1.6
Q255	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R298	,036-15470-00,	RES M/F 0805 47K 5%
Q260	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R299	,036-15470-00,	RES M/F 0805 47K 5%
Q270	,000-10008-17,	S) XSTR SMD BC817-25 NPN SOT23	R301	,036-13100-00,	RES M/F 0805 100E 5%
Q280	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R303	,036-12120-00,	RES M/F 0805 12E 5%
Q290	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R305	,036-12100-00,	RES M/F 0805 10E 5%
Q310	,000-50020-18,	S) XSTR AI BF247A JFETTO92 VHF	R307	,036-13680-00,	RES M/F 0805 680E 5%
Q320	,000-10095-10,	S) XSTR SMD BR951 NPN UHF	R311	,036-10000-00,	RES M/F 0805 ZERO OHM
Q330	,000-10095-10,	S) XSTR SMD BR951 NPN UHF	R315	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
Q340	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R317	,036-11470-00,	RES M/F 0805 4E7 10%
Q350	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R319	,036-14330-00,	RES M/F 0805 3K3 5%
Q410	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R321	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
Q420	,000-10095-10,	S) XSTR SMD BR951 NPN UHF	R323	,036-12680-00,	RES M/F 0805 68E 5%
Q540	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R325	,036-13100-00,	RES M/F 0805 100E 5%
Q620	,000-00012-15,	S) XSTR BD234 PNP AF PWR T0126	R327	,036-12560-00,	RES M/F 0805 56E 5%
Q630	,000-50011-30,	S) XSTR AI BC557B PNP T092 AF	R329	,036-12390-00,	RES M/F 0805 39E 5%
Q660	,000-10008-17,	S) XSTR SMD BC817-25 NPN SOT23	R330	,036-13100-00,	RES M/F 0805 100E 5%
Q670	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R331	,036-13470-00,	RES M/F 0805 470E 5%
Q750	,000-10008-07,	S) XSTR SMD BC807 PNP SOT23 AF	R332	,036-13680-00,	RES M/F 0805 680E 5%
Q760	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R334	,036-10000-00,	RES M/F 0805 ZERO OHM
Q770	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R335	,036-10000-00,	RES M/F 0805 ZERO OHM
Q775	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R337	,036-14120-00,	RES M/F 0805 1K2 5%
Q780	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R339	,036-16100-00,	RES M/F 0805 100K 5%
Q785	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R340	,036-12100-00,	RES M/F 0805 10E 5%
Q790	,000-10003-12,	S) XSTR SMD BFR31 N JFET SOT23	R341	,036-17100-00,	RES M/F 0805 1M 5%
Q795	,000-10057-10,	S) XSTR SMD BR571 NPN SOT23	R343	,036-15470-00,	RES M/F 0805 47K 5%
Q810	,000-10008-17,	S) XSTR SMD BC817-25 NPN SOT23	R345	,036-15470-00,	RES M/F 0805 47K 5%
Q820	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R349	,036-15100-10,	RES M/F 0805 10K 1%
Q840	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R351	,045-03500-01,	RES NTC 500E 5MM DISC UNCOATED
Q850	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R353	,036-13220-00,	RES M/F 0805 220E 5%
Q860	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R355	,036-15100-10,	RES M/F 0805 10K 1%
Q870	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R357	,036-14150-00,	RES M/F 0805 1K5 5%
Q880	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R359	,036-16330-00,	RES M/F 0805 330K 5%
Q890	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R361	,036-17100-00,	RES M/F 0805 1M 5%
Q895	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R363	,036-12100-00,	RES M/F 0805 10E 5%
R160	,036-12100-00,	RES M/F 0805 10E 5%	R365	,036-14330-00,	RES M/F 0805 3K3 5%
R201	,036-14470-00,	RES M/F 0805 4K7 5%	R367	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
R204	,036-15100-10,	RES M/F 0805 10K 1%	R369	,036-15150-00,	RES M/F 0805 15K 5%
R205	,036-16220-00,	RES M/F 0805 220K 5%	R371	,045-06100-01,	RES NTC 100K 5% 5MM DISC
R207	,036-14820-10,	RES M/F 0805 8K2 1%	R372	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
R210	,036-15150-00,	RES M/F 0805 15K 5%	R374	,036-14330-00,	RES M/F 0805 3K3 5%
R211	,036-15390-00,	RES M/F 0805 39K 5%	R376	,036-15220-00,	RES M/F 0805 22K 5%
R213	,036-14270-00,	RES M/F 0805 2K7 5%	R378	,036-16100-00,	RES M/F 0805 100K 5%
R215	,036-15150-00,	RES M/F 0805 15K 5%	R380	,036-13100-00,	RES M/F 0805 100E 5%
R218	,036-14390-00,	RES M/F 0805 3K9 5%	R381	,036-14270-00,	RES M/F 0805 2K7 5%
R221	,036-15470-00,	RES M/F 0805 47K 5%	R383	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
R222	,036-16100-00,	RES M/F 0805 100K 5%	R385	,036-15100-10,	RES M/F 0805 10K 1%
R224	,036-14390-00,	RES M/F 0805 3K9 5%	R387	,036-15470-00,	RES M/F 0805 47K 5%
R225	,036-13470-00,	RES M/F 0805 470E 5%	R389	,036-15470-00,	RES M/F 0805 47K 5%
R227	,036-14100-10,	RES M/F 0805 CHIP 1K 1%	R391	,036-15820-00,	RES M/F 0805 82K 5%
R229	,036-14470-00,	RES M/F 0805 4K7 5%	R393	,036-15470-00,	RES M/F 0805 47K 5%
R230	,036-14470-00,	RES M/F 0805 4K7 5%	R395	,036-13470-00,	RES M/F 0805 470E 5%
R232	,036-15470-00,	RES M/F 0805 47K 5%	R397	,036-15220-00,	RES M/F 0805 22K 5%
R233	,036-14820-10,	RES M/F 0805 8K2 1%	R398	,036-15100-10,	RES M/F 0805 10K 1%
R234	,036-15470-00,	RES M/F 0805 47K 5%	R399	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
R236	,036-15470-00,	RES M/F 0805 47K 5%	R405	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
R238	,036-11470-00,	RES M/F 0805 4E7 10%	R410	,036-14390-00,	RES M/F 0805 3K9 5%
R239	,036-14100-10,	RES M/F 0805 CHIP 1K 1%	R415	,036-14220-00,	RES M/F 0805 2K2 5%
R241	,036-14100-10,	RES M/F 0805 CHIP 1K 1%	R420	,036-13560-00,	RES M/F 0805 560E 5%
R242	,036-13100-00,	RES M/F 0805 100E 5%	R425	,036-12330-00,	RES M/F 0805 33E 5%
R244	,036-14680-00,	RES M/F 0805 6K8 5%	R430	,036-13560-00,	RES M/F 0805 560E 5%
R245	,036-14100-10,	RES M/F 0805 CHIP 1K 1%	R435	,036-12100-00,	RES M/F 0805 10E 5%
R247	,036-14220-00,	RES M/F 0805 2K2 5%	R440	,036-13470-00,	RES M/F 0805 470E 5%
R249	,036-15100-10,	RES M/F 0805 10K 1%	R445	,036-12120-00,	RES M/F 0805 12E 5%
R251	,036-15390-00,	RES M/F 0805 39K 5%	R450	,036-13470-00,	RES M/F 0805 470E 5%
R252	,036-14470-00,	RES M/F 0805 4K7 5%	R460	,036-10000-00,	RES M/F 0805 ZERO OHM
R254	,036-14820-10,	RES M/F 0805 8K2 1%	R470	,036-13470-00,	RES M/F 0805 470E 5%
R255	,036-15470-00,	RES M/F 0805 47K 5%	R475	,036-12120-00,	RES M/F 0805 12E 5%
R256	,036-14470-00,	RES M/F 0805 4K7 5%	R480	,036-13470-00,	RES M/F 0805 470E 5%
R258	,036-15470-00,	RES M/F 0805 47K 5%	R485	,036-12470-00,	RES M/F 0805 47E 5%
R260	,036-11470-00,	RES M/F 0805 4E7 10%	R486	,036-12470-00,	RES M/F 0805 47E 5%

R510	,036-14220-00,	RES M/F 0805 2K2 5%	R847	,036-14470-00,	RES M/F 0805 4K7 5%
R515	,036-12560-00,	RES M/F 0805 56E 5%	R848	,036-13470-00,	RES M/F 0805 470E 5%
R555	,036-13470-00,	RES M/F 0805 470E 5%	R849	,036-13470-00,	RES M/F 0805 470E 5%
R615	,036-13100-00,	RES M/F 0805 100E 5%	R850	,036-13470-00,	RES M/F 0805 470E 5%
R617	,036-10000-00,	RES M/F 0805 ZERO OHM	R851	,036-13470-00,	RES M/F 0805 470E 5%
R619	,032-31100-00,	RES M/F PWR 1E0 5% 1W 12X4.5MM	R852	,036-14470-00,	RES M/F 0805 4K7 5%
R621	,032-31100-00,	RES M/F PWR 1E0 5% 1W 12X4.5MM	R853	,036-13470-00,	RES M/F 0805 470E 5%
R625	,036-14100-10,	RES M/F 0805 CHIP 1K 1%	R854	,036-16330-00,	RES M/F 0805 330K 5%
R629	,032-33270-00,	RES M/F PWR 270E 5% 1W 12X4.5	R855	,036-15470-00,	RES M/F 0805 47K 5%
R633	,036-14680-00,	RES M/F 0805 6K8 5%	R856	,036-16150-00,	RES M/F 0805 150K 5%
R636	,036-12330-00,	RES M/F 0805 33E 5%	R857	,036-16150-00,	RES M/F 0805 150K 5%
R637	,036-12330-00,	RES M/F 0805 33E 5%	R858	,036-15270-10,	RES M/F 0805 27K 1%
R641	,036-14150-00,	RES M/F 0805 1K5 5%	R859	,036-17120-10,	RES MF 0805 CHIP 1M2 1%
R645	,036-13470-00,	RES M/F 0805 470E 5%	R860	,036-16820-10,	RES MF 0805 CHIP 820K 1%
R649	,036-14470-00,	RES M/F 0805 4K7 5%	R861	,036-14510-10,	RES MF 0805 CHIP 5K1 1%
R653	,036-15100-10,	RES M/F 0805 10K 1%	R863	,036-14470-00,	RES M/F 0805 4K7 5%
R681	,036-13100-00,	RES M/F 0805 100E 5%	R865	,036-14270-00,	RES M/F 0805 2K7 5%
R685	,036-15150-00,	RES M/F 0805 15K 5%	R866	,036-16820-10,	RES MF 0805 CHIP 820K 1%
R689	,036-12100-00,	RES M/F 0805 10E 5%	R867	,036-16820-10,	RES MF 0805 CHIP 820K 1%
R693	,036-16100-00,	RES M/F 0805 100K 5%	R868	,036-14470-00,	RES M/F 0805 4K7 5%
R696	,036-15560-00,	RES M/F 0805 56K 5%	R869	,036-15270-10,	RES M/F 0805 27K 1%
R701	,036-12220-00,	RES M/F 0805 22E 5%	R870	,036-17120-10,	RES MF 0805 CHIP 1M2 1%
R702	,036-17100-00,	RES M/F 0805 1M 5%	R871	,036-16820-10,	RES MF 0805 CHIP 820K 1%
R703	,036-17100-00,	RES M/F 0805 1M 5%	R872	,036-14510-10,	RES MF 0805 CHIP 5K1 1%
R706	,036-15150-00,	RES M/F 0805 15K 5%	R873	,036-14220-00,	RES M/F 0805 2K2 5%
R707	,036-15470-00,	RES M/F 0805 47K 5%	R875	,036-14470-00,	RES M/F 0805 4K7 5%
R708	,036-13100-00,	RES M/F 0805 100E 5%	R876	,036-16100-00,	RES M/F 0805 100K 5%
R709	,036-13100-00,	RES M/F 0805 100E 5%	R877	,036-16100-00,	RES M/F 0805 100K 5%
R710	,036-13100-00,	RES M/F 0805 100E 5%	R878	,036-16100-00,	RES M/F 0805 100K 5%
R711	,036-13100-00,	RES M/F 0805 100E 5%	R879	,036-16100-00,	RES M/F 0805 100K 5%
R712	,036-12100-00,	RES M/F 0805 10E 5%	R881	,036-15470-00,	RES M/F 0805 47K 5%
R742	,036-13150-00,	RES M/F 0805 150E 5%	R882	,036-15470-00,	RES M/F 0805 47K 5%
R743	,036-13150-00,	RES M/F 0805 150E 5%	R884	,036-16150-00,	RES M/F 0805 150K 5%
R744	,036-12220-00,	RES M/F 0805 22E 5%	R885	,036-16150-00,	RES M/F 0805 150K 5%
R746	,036-12220-00,	RES M/F 0805 22E 5%	R886	,036-15100-10,	RES M/F 0805 10K 1%
R747	,036-12220-00,	RES M/F 0805 22E 5%	R887	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
R748	,036-15470-00,	RES M/F 0805 47K 5%	R888	,036-14820-10,	RES M/F 0805 8K2 1%
R749	,036-15470-00,	RES M/F 0805 47K 5%	R889	,036-16100-00,	RES M/F 0805 100K 5%
R750	,036-12220-00,	RES M/F 0805 22E 5%	R890	,036-16150-00,	RES M/F 0805 150K 5%
R752	,036-12220-00,	RES M/F 0805 22E 5%	R891	,036-16100-00,	RES M/F 0805 100K 5%
R753	,036-17100-00,	RES M/F 0805 1M 5%	R892	,036-16330-00,	RES M/F 0805 330K 5%
R754	,036-14100-10,	RES M/F 0805 CHIP 1K 1%	R894	,036-14470-00,	RES M/F 0805 4K7 5%
R756	,036-16470-00,	RES M/F 0805 470K 5%	R895	,036-15100-10,	RES M/F 0805 10K 1%
R757	,036-16470-00,	RES M/F 0805 470K 5%	R897	,036-15100-10,	RES M/F 0805 10K 1%
R758	,036-14120-00,	RES M/F 0805 1K2 5%	R898	,036-16470-00,	RES M/F 0805 470K 5%
R759	,036-13330-00,	RES M/F 0805 330E 5%	R910	,036-15100-10,	RES M/F 0805 10K 1%
R760	,036-13180-00,	RES M/F 0805 180E 5%	RL210	,237-00010-22,	RELAY 12V DPDT 8PIN DIL PCB MT
R762	,036-13100-00,	RES M/F 0805 100E 5%	RV205	,040-05100-22,	POT 10K LOG DUAL PCB 6 OD SFT
R763	,036-13100-00,	RES M/F 0805 100E 5%	RV210	,040-05100-23,	POT 10K LOG PCB 15MM SLOT SFT
R765	,036-13680-00,	RES M/F 0805 680E 5%	RV220	,042-05100-06,	RES PRE 10K CAR 6MM FLAT
R766	,036-14100-10,	RES M/F 0805 CHIP 1K 1%	RV230	,040-05100-21,	POT 10K LIN PCB 15MM SLOT SFT
R767	,036-13680-00,	RES M/F 0805 680E 5%	RV235	,042-05100-06,	RES PRE 10K CAR 6MM FLAT
R769	,036-13180-00,	RES M/F 0805 180E 5%	RV320	,042-05470-06,	RES PRE 47K CAR 6MM FLAT T/ADJ
R771	,036-14820-10,	RES M/F 0805 8K2 1%	RV330	,042-04220-06,	RES PRE 2K2 CAR 6MM FLAT
R772	,036-15220-00,	RES M/F 0805 22K 5%	SHLD610	,062-00010-13,	CAN 10MM SQ X 11MM CAN A4M1017
R774	,036-14820-10,	RES M/F 0805 8K2 1%	SK805	,240-10000-07,	CONN SMD SKT 16W 2R M-MATCH
R775	,036-14820-10,	RES M/F 0805 8K2 1%	SK810	,240-04020-42,	SKT 44 PIN SMD PLCC
R784	,036-12680-00,	RES M/F 0805 68E 5%	SW201	,230-00010-30,	SWITCH TOG SPDT R-ANG PCB MTG
R785	,036-14330-00,	RES M/F 0805 3K3 5%	T610	,050-00016-50,	COIL TAIT NO 650 455KHZ
R786	,036-12100-00,	RES M/F 0805 10E 5%	T86520	,036-14220-00,	RES M/F 0805 2K2 5%
R787	,036-12100-00,	RES M/F 0805 10E 5%	X310	,274-00010-02,	XTAL 20.945MHZ SPEC TE/15
R790	,036-13220-00,	RES M/F 0805 220E 5%			
R791	,036-13100-00,	RES M/F 0805 100E 5%			
R792	,036-14100-10,	RES M/F 0805 CHIP 1K 1%			
R804	,036-15470-00,	RES M/F 0805 47K 5%			
R805	,036-13470-00,	RES M/F 0805 470E 5%			
R808	,036-12100-00,	RES M/F 0805 10E 5%			
R809	,036-14470-00,	RES M/F 0805 4K7 5%			
R810	,036-14470-00,	RES M/F 0805 4K7 5%			
R811	,036-14470-00,	RES M/F 0805 4K7 5%			
R812	,036-14470-00,	RES M/F 0805 4K7 5%			
R813	,036-14470-00,	RES M/F 0805 4K7 5%			
R815	,036-15470-00,	RES M/F 0805 47K 5%			
R816	,036-16150-00,	RES M/F 0805 150K 5%			
R818	,036-14470-00,	RES M/F 0805 4K7 5%			
R819	,036-14470-00,	RES M/F 0805 4K7 5%			
R820	,036-15470-00,	RES M/F 0805 47K 5%			
R821	,036-15470-00,	RES M/F 0805 47K 5%			
R822	,036-15470-00,	RES M/F 0805 47K 5%			
R823	,036-15470-00,	RES M/F 0805 47K 5%			
R824	,036-14220-00,	RES M/F 0805 2K2 5%			
R825	,036-14220-00,	RES M/F 0805 2K2 5%			
R826	,036-14220-00,	RES M/F 0805 2K2 5%			
R827	,036-14220-00,	RES M/F 0805 2K2 5%			
R828	,036-14220-00,	RES M/F 0805 2K2 5%			
R829	,036-14220-00,	RES M/F 0805 2K2 5%			
R830	,036-14220-00,	RES M/F 0805 2K2 5%			
R831	,036-14220-00,	RES M/F 0805 2K2 5%			
R832	,036-14220-00,	RES M/F 0805 2K2 5%			
R833	,036-14220-00,	RES M/F 0805 2K2 5%			
R835	,036-14220-00,	RES M/F 0805 2K2 5%			
R836	,036-14220-00,	RES M/F 0805 2K2 5%			
R837	,036-14220-00,	RES M/F 0805 2K2 5%			
R840	,036-14220-00,	RES M/F 0805 2K2 5%			
R841	,036-14220-00,	RES M/F 0805 2K2 5%			
R842	,036-14220-00,	RES M/F 0805 2K2 5%			
R843	,036-14220-00,	RES M/F 0805 2K2 5%			
R844	,036-15470-00,	RES M/F 0805 47K 5%			
R845	,036-16150-00,	RES M/F 0805 150K 5%			
R846	,036-14470-00,	RES M/F 0805 4K7 5%			

Item T865-20-0000

Revision/Variant C
Date created 25/05/98

No Ref ,349-00020-45, SCRW T/T M4X20MM P/POZ BZ
 No Ref ,XE865VT20, T860 TUNABLE VCO ASSEMBLY
 No Ref ,240-02010-54, SKT 15W DRANGE PNL MTG 125 C
 No Ref ,308-01007-01, HANDLE BASE STATION SERIES II
 No Ref ,311-01015-00, KNOB 15MM & SKIRT 6MM SFT
 No Ref ,312-01052-02, LID TOP T800 SER II PTND
 No Ref ,312-01053-02, LID BOTTOM T800 SER II PNTD
 No Ref ,316-06622-00, PNL FRT RX T800 SERIES II
 No Ref ,X865-20-0000, DEV)T865-20-0000 MAIN BRD ASSY
 No Ref ,349-00020-43, SCRW T/T M4X12MM P/POZ BZ
 No Ref ,410-01082-01, CRTN 10 T800 KIWI 423X410X360
 No Ref ,352-00010-29, NUT M4 NYLOC HEX
 No Ref ,353-00010-11, WSHR M3 FLAT 9.5*0.9MM ST BZ
 No Ref ,362-00010-33, GROMMET LED MTG 3MM
 No Ref ,365-00011-53, LABEL 104*37MM
 No Ref ,365-00100-20, LABEL WHITE S/A 28X11MM
 No Ref ,399-00010-51, BAG PLASTIC 75*100MM
 No Ref ,410-01081-01, CRT T800 SERIES II
 No Ref ,349-00020-36, LIM)SCREW TT M3X8m PANTORX BLK

Item X865-20-0000

Revision/Variant D
Date created 25/05/98

%R223 ,036-12100-00, RES M/F 0805 10E 5%
 &C203 ,015-25100-08, CAP CER 0805 10N 10% X7R 50V
 &C313 ,015-22270-01, CAP CER 0805 27P 5% NPO 50V
 &C315 ,015-25100-08, CAP CER 0805 10N 10% X7R 50V
 &C317 ,015-20050-01, CAP CER 0805 0P5+-1/4P NPO 50V
 &C319 ,015-25100-08, CAP CER 0805 10N 10% X7R 50V
 &C321 ,015-22270-01, CAP CER 0805 27P 5% NPO 50V
 &C333 ,015-22270-01, CAP CER 0805 27P 5% NPO 50V
 &C335 ,015-25100-08, CAP CER 0805 10N 10% X7R 50V
 &C337 ,015-20050-01, CAP CER 0805 0P5+-1/4P NPO 50V
 &R202 ,036-14470-00, RES M/F 0805 4K7 5%
 &R209 ,036-15220-00, RES M/F 0805 22K 5%
 &R219 ,036-14820-10, RES M/F 0805 8K2 1%
 &R333 ,036-17100-00, RES M/F 0805 1M 5%
 &R347 ,036-15100-10, RES M/F 0805 10K 1%
 &XF310 ,276-00010-43, FLTR XTAL 21.4M 15KHZ PR 4POLE
 &XF320 ,276-00010-43, FLTR XTAL 21.4M 15KHZ PR 4POLE
 &XF330 ,276-00010-47, FLTR XTAL 21.4MHZ 15KHZ 2POLE
 &XF340 ,276-00010-14, FLTR CER 455KHZ E 15KHZ B/W
 C201 ,020-08100-04, CAP ELE RA 10M 16V 4X7MM
 C205 ,015-24470-08, CAP CER 0805 4N7 10% X7R 50V
 C207 ,020-07100-02, CAP ELE RA 1M 50V 5X11MM
 C209 ,020-08470-02, CAP ELE RA 47M 16V 6X11MM
 C210 ,015-24100-08, CAP CER 0805 1N 10% X7R 50V
 C211 ,015-24470-08, CAP CER 0805 4N7 10% X7R 50V
 C213 ,015-25470-08, CAP CER 0805 47N 10% X7R 50V
 C215 ,015-21220-05, CAP CER0805 2P2+-0.1 200VGRM40
 C217 ,015-22470-01, CAP CER 0805 47P 5% NPO 50V
 C219 ,015-24470-08, CAP CER 0805 4N7 10% X7R 50V
 C221 ,015-24100-08, CAP CER 0805 1N 10% X7R 50V
 C222 ,020-08100-04, CAP ELE RA 10M 16V 4X7MM
 C223 ,015-06100-08, CAP CER 1206 100N 10% X7R 50V
 C225 ,015-06100-08, CAP CER 1206 100N 10% X7R 50V
 C227 ,015-23100-01, CAP CER 0805 100P 5% NPO 50V
 C229 ,020-08100-04, CAP ELE RA 10M 16V 4X7MM
 C231 ,020-08100-04, CAP ELE RA 10M 16V 4X7MM
 C233 ,020-08100-04, CAP ELE RA 10M 16V 4X7MM
 C235 ,015-24100-08, CAP CER 0805 1N 10% X7R 50V
 C237 ,015-24100-08, CAP CER 0805 1N 10% X7R 50V
 C238 ,015-06100-08, CAP CER 1206 100N 10% X7R 50V
 C239 ,020-09100-03, CAP ELE RA 100M 16V 8X11MM
 C240A ,015-24100-08, CAP CER 0805 1N 10% X7R 50V
 C240B ,015-06100-08, CAP CER 1206 100N 10% X7R 50V
 C240C ,020-09220-01, CAP ELE RA 220M 16V 10X12.5MM
 C249 ,020-09470-05, CAP ELE RAD 470M 16V 10X12.5MM
 C251 ,015-06100-08, CAP CER 1206 100N 10% X7R 50V
 C253 ,020-09100-03, CAP ELE RA 100M 16V 8X11MM
 C255 ,015-24100-08, CAP CER 0805 1N 10% X7R 50V
 C257 ,015-24100-08, CAP CER 0805 1N 10% X7R 50V
 C259 ,015-06100-08, CAP CER 1206 100N 10% X7R 50V
 C260A ,015-24100-08, CAP CER 0805 1N 10% X7R 50V
 C260B ,015-06100-08, CAP CER 1206 100N 10% X7R 50V
 C260C ,020-09220-01, CAP ELE RA 220M 16V 10X12.5MM
 C261 ,020-09100-03, CAP ELE RA 100M 16V 8X11MM
 C262 ,020-09100-03, CAP ELE RA 100M 16V 8X11MM
 C264 ,015-06100-08, CAP CER 1206 100N 10% X7R 50V
 C266 ,020-07470-91, CAP ELE RA 4M7 63V 6X11MM BI-P
 C268 ,020-07470-91, CAP ELE RA 4M7 63V 6X11MM BI-P
 C270 ,015-06100-08, CAP CER 1206 100N 10% X7R 50V
 C272 ,015-25100-08, CAP CER 0805 10N 10% X7R 50V
 C274 ,015-06100-08, CAP CER 1206 100N 10% X7R 50V
 C276 ,015-25470-08, CAP CER 0805 47N 10% X7R 50V
 C278 ,015-06100-08, CAP CER 1206 100N 10% X7R 50V
 C280 ,015-25470-08, CAP CER 0805 47N 10% X7R 50V
 C286 ,015-24470-08, CAP CER 0805 4N7 10% X7R 50V
 C301 ,015-24470-08, CAP CER 0805 4N7 10% X7R 50V
 C303 ,015-24470-08, CAP CER 0805 4N7 10% X7R 50V
 C305 ,020-08100-04, CAP ELE RA 10M 16V 4X7MM
 C307 ,015-24100-08, CAP CER 0805 1N 10% X7R 50V
 C309 ,015-22180-01, CAP CER 0805 18P 5% NPO 50V
 C311 ,015-22470-01, CAP CER 0805 47P 5% NPO 50V
 C323 ,015-25100-08, CAP CER 0805 10N 10% X7R 50V
 C325 ,020-08100-04, CAP ELE RA 10M 16V 4X7MM
 C327 ,015-25100-08, CAP CER 0805 10N 10% X7R 50V
 C329 ,015-25100-08, CAP CER 0805 10N 10% X7R 50V
 C331 ,015-25100-08, CAP CER 0805 10N 10% X7R 50V
 C339 ,015-25100-08, CAP CER 0805 10N 10% X7R 50V
 C340A ,025-08100-03, CAP 10M 35V 20% TANT 5MM L/S
 C340B ,015-25100-08, CAP CER 0805 10N 10% X7R 50V
 C344 ,015-24470-08, CAP CER 0805 4N7 10% X7R 50V
 C345 ,015-22330-05, CAP CER0805 33P+-0.1 200VGRM40
 C347 ,015-22330-05, CAP CER0805 33P+-0.1 200VGRM40
 C348 ,025-08100-03, CAP 10M 35V 20% TANT 5MM L/S
 C349 ,015-25100-08, CAP CER 0805 10N 10% X7R 50V
 C351 ,015-06100-08, CAP CER 1206 100N 10% X7R 50V
 C353 ,015-06100-08, CAP CER 1206 100N 10% X7R 50V
 C355 ,015-25470-08, CAP CER 0805 47N 10% X7R 50V
 C357 ,015-23150-01, CAP CER 0805 150P 5% NPO 50V
 C359 ,015-06100-08, CAP CER 1206 100N 10% X7R 50V
 C361 ,015-06100-08, CAP CER 1206 100N 10% X7R 50V
 C363 ,015-22150-01, CAP CER 0805 15P 5% NPO 50V
 C365 ,015-25470-08, CAP CER 0805 47N 10% X7R 50V
 C367 ,015-25100-08, CAP CER 0805 10N 10% X7R 50V
 C369 ,015-23100-01, CAP CER 0805 100P 5% NPO 50V

L410	,050-00016-78,	COIL RF 56UH NOM 3.5T AL CORE	R261	,036-13150-00,	RES M/F 0805 150E 5%
L420	,050-00016-78,	COIL RF 56UH NOM 3.5T AL CORE	R262	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
L430	,052-08140-35,	COIL A/W 3.5T/4.0MM HOR 0.8MM	R263	,030-53470-20,	RES FILM AI 470E 5% 0.4W 4X1.6
L440	,056-00021-04,	IND FXD 330NH AX	R264	,036-15270-10,	RES M/F 0805 27K 1%
L450	,056-00021-04,	IND FXD 330NH AX	R265	,036-13100-00,	RES M/F 0805 100E 5%
L460	,050-00016-78,	COIL RF 56UH NOM 3.5T AL CORE	R266	,036-15220-00,	RES M/F 0805 22K 5%
L470	,050-00016-78,	COIL RF 56UH NOM 3.5T AL CORE	R267	,036-16330-00,	RES M/F 0805 330K 5%
L480	,056-10330-02,	(L) IND SMD 330NH	R268	,030-50000-20,	RES AI ZERO OHM 4X1.6
L490	,056-10330-02,	(L) IND SMD 330NH	R269	,036-14220-00,	RES M/F 0805 2K2 5%
L750	,056-10068-00,	IND FXD SMD 68NH 3.2*2.5*1.6	R271	,036-16100-00,	RES M/F 0805 100K 5%
L910	,052-08135-25,	COIL A/W 2.5T/3.5MM HOR 0.8MM	R272	,036-15470-00,	RES M/F 0805 47K 5%
L920	,052-08135-25,	COIL A/W 2.5T/3.5MM HOR 0.8MM	R273	,036-15150-00,	RES M/F 0805 15K 5%
L930	,052-08135-25,	COIL A/W 2.5T/3.5MM HOR 0.8MM	R275	,036-13100-00,	RES M/F 0805 100E 5%
No Ref	,070-01001-00,	D-RANGE 15 WAY COMPL T800	R277	,036-14560-00,	RES M/F 0805 5K6 5%
No Ref	,240-04021-77,	SKT JACK 1.3 PCB MT 64W	R278	,036-16220-00,	RES M/F 0805 220K 5%
No Ref	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V	R280	,036-16100-00,	RES M/F 0805 100K 5%
No Ref	,220-01427-00,	PCB T865 RECEIVER SERIES II	R281	,036-14470-00,	RES M/F 0805 4K7 5%
PL210	,240-00020-59,	HEADER 3 W 1 R PCB MTG	R282	,036-16100-00,	RES M/F 0805 100K 5%
PL220	,240-00020-59,	HEADER 3 W 1 R PCB MTG	R284	,036-13100-00,	RES M/F 0805 100E 5%
PL230	,240-00020-63,	HEADER 4 W X1R PCB MTG	R285	,036-15470-00,	RES M/F 0805 47K 5%
PL240	,240-00020-58,	HEADER 5 WX1 R PCB MTG	R287	,036-15100-10,	RES M/F 0805 10K 1%
PL250	,240-00020-59,	HEADER 3 W 1 R PCB MTG	R288	,036-14470-00,	RES M/F 0805 4K7 5%
PL260	,240-00020-59,	HEADER 3 W 1 R PCB MTG	R289	,036-14680-00,	RES M/F 0805 6K8 5%
PL270	,240-00020-59,	HEADER 3 W 1 R PCB MTG	R290	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
Q210	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R292	,036-14680-00,	RES M/F 0805 6K8 5%
Q220	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R293	,036-13560-00,	RES M/F 0805 560E 5%
Q230	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R294	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
Q240	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R295	,036-14680-00,	RES M/F 0805 6K8 5%
Q245	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R296	,036-14120-00,	RES M/F 0805 1K2 5%
Q250	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R297	,030-52100-20,	RES FILM AI 10E 5% 0.4W 4X1.6
Q255	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R298	,036-15470-00,	RES M/F 0805 47K 5%
Q260	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R299	,036-15470-00,	RES M/F 0805 47K 5%
Q270	,000-10008-17,	S) XSTR SMD BC817-25 NPN SOT23	R301	,036-13100-00,	RES M/F 0805 100E 5%
Q280	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R303	,036-12120-00,	RES M/F 0805 12E 5%
Q290	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R305	,036-12100-00,	RES M/F 0805 10E 5%
Q310	,000-50020-18,	S) XSTR AI BF247A JFETTO92 VHF	R307	,036-13680-00,	RES M/F 0805 680E 5%
Q320	,000-10095-10,	S) XSTR SMD BR951 NPN UHF	R311	,036-10000-00,	RES M/F 0805 ZERO OHM
Q330	,000-10095-10,	S) XSTR SMD BR951 NPN UHF	R315	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
Q340	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R317	,036-11470-00,	RES M/F 0805 4E7 10%
Q350	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R319	,036-14330-00,	RES M/F 0805 3K3 5%
Q410	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R321	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
Q420	,000-10095-10,	S) XSTR SMD BR951 NPN UHF	R323	,036-12680-00,	RES M/F 0805 68E 5%
Q540	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R325	,036-13100-00,	RES M/F 0805 100E 5%
Q620	,000-00012-15,	S) XSTR BD234 PNP AF PWR T0126	R327	,036-12560-00,	RES M/F 0805 56E 5%
Q630	,000-50011-30,	S) XSTR AI BC557B PNP T092 AF	R329	,036-12390-00,	RES M/F 0805 39E 5%
Q660	,000-10008-17,	S) XSTR SMD BC817-25 NPN SOT23	R330	,036-13100-00,	RES M/F 0805 100E 5%
Q670	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R331	,036-13470-00,	RES M/F 0805 470E 5%
Q750	,000-10008-07,	S) XSTR SMD BC807 PNP SOT23 AF	R332	,036-13680-00,	RES M/F 0805 680E 5%
Q760	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R334	,036-10000-00,	RES M/F 0805 ZERO OHM
Q770	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R335	,036-10000-00,	RES M/F 0805 ZERO OHM
Q775	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R337	,036-14120-00,	RES M/F 0805 1K2 5%
Q780	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R339	,036-16100-00,	RES M/F 0805 100K 5%
Q785	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R340	,036-12100-00,	RES M/F 0805 10E 5%
Q790	,000-10003-12,	S) XSTR SMD BFR31 N JFET SOT23	R341	,036-17100-00,	RES M/F 0805 1M 5%
Q795	,000-10057-10,	S) XSTR SMD BR571 NPN SOT23	R343	,036-15470-00,	RES M/F 0805 47K 5%
Q810	,000-10008-17,	S) XSTR SMD BC817-25 NPN SOT23	R345	,036-15470-00,	RES M/F 0805 47K 5%
Q820	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R349	,036-15100-10,	RES M/F 0805 10K 1%
Q840	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R351	,045-03500-01,	RES NTC 500E 5MM DISC UNCOATED
Q850	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R353	,036-13220-00,	RES M/F 0805 220E 5%
Q860	,000-10008-57,	S) XSTR SMD BCW70 PNP SOT23 SS	R355	,036-15100-10,	RES M/F 0805 10K 1%
Q870	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R357	,036-14150-00,	RES M/F 0805 1K5 5%
Q880	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R359	,036-16330-00,	RES M/F 0805 330K 5%
Q890	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R361	,036-17100-00,	RES M/F 0805 1M 5%
Q895	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R363	,036-12100-00,	RES M/F 0805 10E 5%
R160	,036-12100-00,	RES M/F 0805 10E 5%	R365	,036-14330-00,	RES M/F 0805 3K3 5%
R201	,036-14470-00,	RES M/F 0805 4K7 5%	R367	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
R204	,036-15100-10,	RES M/F 0805 10K 1%	R369	,036-15150-00,	RES M/F 0805 15K 5%
R205	,036-16220-00,	RES M/F 0805 220K 5%	R371	,045-06100-01,	RES NTC 100K 5% 5MM DISC
R207	,036-14820-10,	RES M/F 0805 8K2 1%	R372	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
R210	,036-15150-00,	RES M/F 0805 15K 5%	R374	,036-14330-00,	RES M/F 0805 3K3 5%
R211	,036-15390-00,	RES M/F 0805 39K 5%	R376	,036-15220-00,	RES M/F 0805 22K 5%
R213	,036-14270-00,	RES M/F 0805 2K7 5%	R378	,036-16100-00,	RES M/F 0805 100K 5%
R215	,036-15150-00,	RES M/F 0805 15K 5%	R380	,036-13100-00,	RES M/F 0805 100E 5%
R218	,036-14390-00,	RES M/F 0805 3K9 5%	R381	,036-14270-00,	RES M/F 0805 2K7 5%
R221	,036-15470-00,	RES M/F 0805 47K 5%	R383	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
R222	,036-16100-00,	RES M/F 0805 100K 5%	R385	,036-15100-10,	RES M/F 0805 10K 1%
R224	,036-14390-00,	RES M/F 0805 3K9 5%	R387	,036-15470-00,	RES M/F 0805 47K 5%
R225	,036-13470-00,	RES M/F 0805 470E 5%	R389	,036-15470-00,	RES M/F 0805 47K 5%
R227	,036-14100-10,	RES M/F 0805 CHIP 1K 1%	R391	,036-15820-00,	RES M/F 0805 82K 5%
R229	,036-14470-00,	RES M/F 0805 4K7 5%	R393	,036-15470-00,	RES M/F 0805 47K 5%
R230	,036-14470-00,	RES M/F 0805 4K7 5%	R395	,036-13470-00,	RES M/F 0805 470E 5%
R232	,036-15470-00,	RES M/F 0805 47K 5%	R397	,036-15220-00,	RES M/F 0805 22K 5%
R233	,036-14820-10,	RES M/F 0805 8K2 1%	R398	,036-15100-10,	RES M/F 0805 10K 1%
R234	,036-15470-00,	RES M/F 0805 47K 5%	R399	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
R236	,036-15470-00,	RES M/F 0805 47K 5%	R405	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
R238	,036-11470-00,	RES M/F 0805 4E7 10%	R410	,036-14390-00,	RES M/F 0805 3K9 5%
R239	,036-14100-10,	RES M/F 0805 CHIP 1K 1%	R415	,036-14220-00,	RES M/F 0805 2K2 5%
R241	,036-14100-10,	RES M/F 0805 CHIP 1K 1%	R420	,036-13560-00,	RES M/F 0805 560E 5%
R242	,036-13100-00,	RES M/F 0805 100E 5%	R425	,036-12330-00,	RES M/F 0805 33E 5%
R244	,036-14680-00,	RES M/F 0805 6K8 5%	R430	,036-13560-00,	RES M/F 0805 560E 5%
R245	,036-14100-10,	RES M/F 0805 CHIP 1K 1%	R435	,036-12100-00,	RES M/F 0805 10E 5%
R247	,036-14220-00,	RES M/F 0805 2K2 5%	R440	,036-13470-00,	RES M/F 0805 470E 5%
R249	,036-15100-10,	RES M/F 0805 10K 1%	R445	,036-12120-00,	RES M/F 0805 12E 5%
R251	,036-15390-00,	RES M/F 0805 39K 5%	R450	,036-13470-00,	RES M/F 0805 470E 5%
R252	,036-14470-00,	RES M/F 0805 4K7 5%	R460	,036-10000-00,	RES M/F 0805 ZERO OHM
R254	,036-14820-10,	RES M/F 0805 8K2 1%	R470	,036-13470-00,	RES M/F 0805 470E 5%
R255	,036-15470-00,	RES M/F 0805 47K 5%	R475	,036-12120-00,	RES M/F 0805 12E 5%
R256	,036-14470-00,	RES M/F 0805 4K7 5%	R480	,036-13470-00,	RES M/F 0805 470E 5%
R258	,036-15470-00,	RES M/F 0805 47K 5%	R485	,036-12470-00,	RES M/F 0805 47E 5%
R260	,036-11470-00,	RES M/F 0805 4E7 10%	R486	,036-12470-00,	RES M/F 0805 47E 5%

R510	.036-14220-00,	RES M/F 0805 2K2 5%	R847	.036-14470-00,	RES M/F 0805 4K7 5%
R515	.036-12560-00,	RES M/F 0805 56E 5%	R848	.036-13470-00,	RES M/F 0805 470E 5%
R555	.036-13470-00,	RES M/F 0805 470E 5%	R849	.036-13470-00,	RES M/F 0805 470E 5%
R615	.036-13100-00,	RES M/F 0805 100E 5%	R850	.036-13470-00,	RES M/F 0805 470E 5%
R617	.036-10000-00,	RES M/F 0805 ZERO OHM	R851	.036-13470-00,	RES M/F 0805 470E 5%
R619	.032-31100-00,	RES M/F PWR 1E0 5% 1W 12X4.5MM	R852	.036-14470-00,	RES M/F 0805 4K7 5%
R621	.032-31100-00,	RES M/F PWR 1E0 5% 1W 12X4.5MM	R853	.036-13470-00,	RES M/F 0805 470E 5%
R625	.036-14100-10,	RES M/F 0805 CHIP 1K 1%	R854	.036-16330-00,	RES M/F 0805 330K 5%
R629	.032-33270-00,	RES M/F PWR 270E 5% 1W 12X4.5	R855	.036-15470-00,	RES M/F 0805 47K 5%
R633	.036-14680-00,	RES M/F 0805 6K8 5%	R856	.036-16150-00,	RES M/F 0805 150K 5%
R636	.036-12330-00,	RES M/F 0805 33E 5%	R857	.036-16150-00,	RES M/F 0805 150K 5%
R637	.036-12330-00,	RES M/F 0805 33E 5%	R858	.036-15270-10,	RES M/F 0805 27K 1%
R641	.036-14150-00,	RES M/F 0805 1K5 5%	R859	.036-17120-10,	RES MF 0805 CHIP 1M2 1%
R645	.036-13470-00,	RES M/F 0805 470E 5%	R860	.036-16820-10,	RES MF 0805 CHIP 820K 1%
R649	.036-14470-00,	RES M/F 0805 4K7 5%	R861	.036-14510-10,	RES MF 0805 CHIP 5K1 1%
R653	.036-15100-10,	RES M/F 0805 10K 1%	R863	.036-14470-00,	RES M/F 0805 4K7 5%
R681	.036-13100-00,	RES M/F 0805 100E 5%	R865	.036-14270-00,	RES M/F 0805 2K7 5%
R685	.036-15150-00,	RES M/F 0805 15K 5%	R866	.036-16820-10,	RES MF 0805 CHIP 820K 1%
R689	.036-12100-00,	RES M/F 0805 10E 5%	R867	.036-16820-10,	RES MF 0805 CHIP 820K 1%
R693	.036-16100-00,	RES M/F 0805 100K 5%	R868	.036-14470-00,	RES M/F 0805 4K7 5%
R696	.036-15560-00,	RES M/F 0805 56K 5%	R869	.036-15270-10,	RES M/F 0805 27K 1%
R701	.036-12220-00,	RES M/F 0805 22E 5%	R870	.036-17120-10,	RES MF 0805 CHIP 1M2 1%
R702	.036-17100-00,	RES M/F 0805 1M 5%	R871	.036-16820-10,	RES MF 0805 CHIP 820K 1%
R703	.036-17100-00,	RES M/F 0805 1M 5%	R872	.036-14510-10,	RES MF 0805 CHIP 5K1 1%
R706	.036-15150-00,	RES M/F 0805 15K 5%	R873	.036-14220-00,	RES M/F 0805 2K2 5%
R707	.036-15470-00,	RES M/F 0805 47K 5%	R875	.036-14470-00,	RES M/F 0805 4K7 5%
R708	.036-13100-00,	RES M/F 0805 100E 5%	R876	.036-16100-00,	RES M/F 0805 100K 5%
R709	.036-13100-00,	RES M/F 0805 100E 5%	R877	.036-16100-00,	RES M/F 0805 100K 5%
R710	.036-13100-00,	RES M/F 0805 100E 5%	R878	.036-16100-00,	RES M/F 0805 100K 5%
R711	.036-13100-00,	RES M/F 0805 100E 5%	R879	.036-16100-00,	RES M/F 0805 100K 5%
R712	.036-12100-00,	RES M/F 0805 10E 5%	R881	.036-15470-00,	RES M/F 0805 47K 5%
R742	.036-13150-00,	RES M/F 0805 150E 5%	R882	.036-15470-00,	RES M/F 0805 47K 5%
R743	.036-13150-00,	RES M/F 0805 150E 5%	R884	.036-16150-00,	RES M/F 0805 150K 5%
R744	.036-12220-00,	RES M/F 0805 22E 5%	R885	.036-16150-00,	RES M/F 0805 150K 5%
R746	.036-12220-00,	RES M/F 0805 22E 5%	R886	.036-15100-10,	RES M/F 0805 10K 1%
R747	.036-12220-00,	RES M/F 0805 22E 5%	R887	.036-14100-10,	RES M/F 0805 CHIP 1K 1%
R748	.036-15470-00,	RES M/F 0805 47K 5%	R888	.036-14820-10,	RES M/F 0805 8K2 1%
R749	.036-15470-00,	RES M/F 0805 47K 5%	R889	.036-16100-00,	RES M/F 0805 100K 5%
R750	.036-12220-00,	RES M/F 0805 22E 5%	R890	.036-16150-00,	RES M/F 0805 150K 5%
R752	.036-12220-00,	RES M/F 0805 22E 5%	R891	.036-16100-00,	RES M/F 0805 100K 5%
R753	.036-17100-00,	RES M/F 0805 1M 5%	R892	.036-16330-00,	RES M/F 0805 330K 5%
R754	.036-14100-10,	RES M/F 0805 CHIP 1K 1%	R894	.036-14470-00,	RES M/F 0805 4K7 5%
R756	.036-16470-00,	RES M/F 0805 470K 5%	R895	.036-15100-10,	RES M/F 0805 10K 1%
R757	.036-16470-00,	RES M/F 0805 470K 5%	R897	.036-15100-10,	RES M/F 0805 10K 1%
R758	.036-14120-00,	RES M/F 0805 1K2 5%	R898	.036-16470-00,	RES M/F 0805 470K 5%
R759	.036-13330-00,	RES M/F 0805 330E 5%	R910	.036-15100-10,	RES M/F 0805 10K 1%
R760	.036-13180-00,	RES M/F 0805 180E 5%	RL210	.237-00010-22,	RELAY 12V DPDT 8PIN DIL PCB MT
R762	.036-13100-00,	RES M/F 0805 100E 5%	RV205	.040-05100-22,	POT 10K LOG DUAL PCB 6 OD SFT
R763	.036-13100-00,	RES M/F 0805 100E 5%	RV210	.040-05100-23,	POT 10K LOG PCB 15MM SLOT SFT
R765	.036-13680-00,	RES M/F 0805 680E 5%	RV220	.042-05100-06,	RES PRE 10K CAR 6MM FLAT
R766	.036-14100-10,	RES M/F 0805 CHIP 1K 1%	RV230	.040-05100-21,	POT 10K LIN PCB 15MM SLOT SFT
R767	.036-13680-00,	RES M/F 0805 680E 5%	RV235	.042-05100-06,	RES PRE 10K CAR 6MM FLAT
R769	.036-13180-00,	RES M/F 0805 180E 5%	RV320	.042-05470-06,	RES PRE 47K CAR 6MM FLAT T/ADJ
R771	.036-14820-10,	RES M/F 0805 8K2 1%	RV330	.042-04220-06,	RES PRE 2K2 CAR 6MM FLAT
R772	.036-15220-00,	RES M/F 0805 22K 5%	SHLD610	.062-00010-13,	CAN 10MM SQ X 11MM CAN A4M1017
R774	.036-14820-10,	RES M/F 0805 8K2 1%	SK805	.240-10000-07,	CONN SMD SKT 16W 2R M-MATCH
R775	.036-14820-10,	RES M/F 0805 8K2 1%	SK810	.240-04020-42,	SKT 44 PIN SMD PLCC
R784	.036-12680-00,	RES M/F 0805 68E 5%	SW201	.230-00010-30,	SWITCH TOG SPDT R-ANG PCB MTG
R785	.036-14330-00,	RES M/F 0805 3K3 5%	T610	.050-00016-50,	COIL TAIT NO 650 455KHZ
R786	.036-12100-00,	RES M/F 0805 10E 5%	T86520	.036-14220-00,	RES M/F 0805 2K2 5%
R787	.036-12100-00,	RES M/F 0805 10E 5%	X310	.274-00010-02,	XTAL 20.945MHZ SPEC TE/15
R790	.036-13220-00,	RES M/F 0805 220E 5%			
R791	.036-13100-00,	RES M/F 0805 100E 5%			
R792	.036-14100-10,	RES M/F 0805 CHIP 1K 1%			
R804	.036-15470-00,	RES M/F 0805 47K 5%			
R805	.036-13470-00,	RES M/F 0805 470E 5%			
R808	.036-12100-00,	RES M/F 0805 10E 5%			
R809	.036-14470-00,	RES M/F 0805 4K7 5%			
R810	.036-14470-00,	RES M/F 0805 4K7 5%			
R811	.036-14470-00,	RES M/F 0805 4K7 5%			
R812	.036-14470-00,	RES M/F 0805 4K7 5%			
R813	.036-14470-00,	RES M/F 0805 4K7 5%			
R815	.036-15470-00,	RES M/F 0805 47K 5%			
R816	.036-16150-00,	RES M/F 0805 150K 5%			
R818	.036-14470-00,	RES M/F 0805 4K7 5%			
R819	.036-14470-00,	RES M/F 0805 4K7 5%			
R820	.036-15470-00,	RES M/F 0805 47K 5%			
R821	.036-15470-00,	RES M/F 0805 47K 5%			
R822	.036-15470-00,	RES M/F 0805 47K 5%			
R823	.036-15470-00,	RES M/F 0805 47K 5%			
R824	.036-14220-00,	RES M/F 0805 2K2 5%			
R825	.036-14220-00,	RES M/F 0805 2K2 5%			
R826	.036-14220-00,	RES M/F 0805 2K2 5%			
R827	.036-14220-00,	RES M/F 0805 2K2 5%			
R828	.036-14220-00,	RES M/F 0805 2K2 5%			
R829	.036-14220-00,	RES M/F 0805 2K2 5%			
R830	.036-14220-00,	RES M/F 0805 2K2 5%			
R831	.036-14220-00,	RES M/F 0805 2K2 5%			
R832	.036-14220-00,	RES M/F 0805 2K2 5%			
R833	.036-14220-00,	RES M/F 0805 2K2 5%			
R835	.036-14220-00,	RES M/F 0805 2K2 5%			
R836	.036-14220-00,	RES M/F 0805 2K2 5%			
R837	.036-14220-00,	RES M/F 0805 2K2 5%			
R840	.036-14220-00,	RES M/F 0805 2K2 5%			
R841	.036-14220-00,	RES M/F 0805 2K2 5%			
R842	.036-14220-00,	RES M/F 0805 2K2 5%			
R843	.036-14220-00,	RES M/F 0805 2K2 5%			
R844	.036-15470-00,	RES M/F 0805 47K 5%			
R845	.036-16150-00,	RES M/F 0805 150K 5%			
R846	.036-14470-00,	RES M/F 0805 4K7 5%			

Item T865-25-0000

Revision/Variant C
Date created 25/05/98

No Ref ,349-00020-45, SCRW T/T M4X20MM P/POZ BZ
 No Ref ,XE865VT20, T860 TUNABLE VCO ASSEMBLY
 No Ref ,240-02010-54, SKT 15W DRANGE PNL MTG 125 C
 No Ref ,308-01007-01, HANDLE BASE STATION SERIES II
 No Ref ,311-01015-00, KNOB 15MM & SKIRT 6MM SFT
 No Ref ,312-01052-02, LID TOP T800 SER II PTND
 No Ref ,312-01053-02, LID BOTTOM T800 SER II PNTD
 No Ref ,316-06622-00, PNL FRT RX T800 SERIES II
 No Ref ,X865-25-0000, DEV)T865-25-0000 MAIN BRD ASSY
 No Ref ,349-00020-43, SCRW T/T M4X12MM P/POZ BZ
 No Ref ,410-01082-01, CRTN 10 T800 KIWI 423X410X360
 No Ref ,352-00010-29, NUT M4 NYLOC HEX
 No Ref ,353-00010-11, WSHR M3 FLAT 9.5*0.9MM ST BZ
 No Ref ,362-00010-33, GROMMET LED MTG 3MM
 No Ref ,365-00011-53, LABEL 104*37MM
 No Ref ,365-00100-20, LABEL WHITE S/A 28X11MM
 No Ref ,399-00010-51, BAG PLASTIC 75*100MM
 No Ref ,410-01081-01, CRT T800 SERIES II
 No Ref ,349-00020-36, LIM)SCREW TT M3X8m PANTORX BLK

Item X865-25-0000

Revision/Variant C
Date created 25/05/98

%R223 ,036-12100-00, RES M/F 0805 10E 5%
 &C203 ,015-24470-08, CAP CER 0805 4N7 10% X7R 50V
 &C313 ,015-22390-01, CAP CER 0805 39P 5% NPO 50V
 &C315 ,015-22820-01, CAP CER 0805 82P 5% NPO 50V
 &C317 ,015-22100-01, CAP CER 0805 10P+-1/2P NPO 50V
 &C319 ,015-22820-01, CAP CER 0805 82P 5% NPO 50V
 &C321 ,015-22390-01, CAP CER 0805 39P 5% NPO 50V
 &C333 ,015-22390-01, CAP CER 0805 39P 5% NPO 50V
 &C335 ,015-22820-01, CAP CER 0805 82P 5% NPO 50V
 &C337 ,015-21180-01, CAP CER 0805 1P8+-1/4P NPO 50V
 &R202 ,036-14330-00, RES M/F 0805 3K3 5%
 &R209 ,036-15180-00, RES M/F 0805 18K 5%
 &R219 ,036-14390-00, RES M/F 0805 3K9 5%
 &R333 ,036-14330-00, RES M/F 0805 3K3 5%
 &R347 ,036-14820-10, RES M/F 0805 8K2 1%
 &XF310 ,276-00010-44, FLTR XTL 21.4M 7.5KHZ PR 4POLE
 &XF320 ,276-00010-44, FLTR XTL 21.4M 7.5KHZ PR 4POLE
 &XF330 ,276-00010-46, FLTR XTAL 21.4MHZ 7.5KHZ 2POLE
 &XF340 ,276-00010-13, FLTR CER 455KHZ G 9KHZ B/W
 C201 ,020-08100-04, CAP ELE RA 10M 16V 4X7MM
 C205 ,015-24470-08, CAP CER 0805 4N7 10% X7R 50V
 C207 ,020-07100-02, CAP ELE RA 1M 50V 5X11MM
 C209 ,020-08470-02, CAP ELE RA 47M 16V 6X11MM
 C210 ,015-24100-08, CAP CER 0805 1N 10% X7R 50V
 C211 ,015-24470-08, CAP CER 0805 4N7 10% X7R 50V
 C213 ,015-25470-08, CAP CER 0805 47N 10% X7R 50V
 C215 ,015-21220-05, CAP CER0805 2P2+-0.1 200VGRM40
 C217 ,015-22470-01, CAP CER 0805 47P 5% NPO 50V
 C219 ,015-24470-08, CAP CER 0805 4N7 10% X7R 50V
 C221 ,015-24100-08, CAP CER 0805 1N 10% X7R 50V
 C222 ,020-08100-04, CAP ELE RA 10M 16V 4X7MM
 C223 ,015-06100-08, CAP CER 1206 100N 10% X7R 50V
 C225 ,015-06100-08, CAP CER 1206 100N 10% X7R 50V
 C227 ,015-23100-01, CAP CER 0805 100P 5% NPO 50V
 C229 ,020-08100-04, CAP ELE RA 10M 16V 4X7MM
 C231 ,020-08100-04, CAP ELE RA 10M 16V 4X7MM
 C233 ,020-08100-04, CAP ELE RA 10M 16V 4X7MM
 C235 ,015-24100-08, CAP CER 0805 1N 10% X7R 50V
 C237 ,015-24100-08, CAP CER 0805 1N 10% X7R 50V
 C238 ,015-06100-08, CAP CER 1206 100N 10% X7R 50V
 C239 ,020-09100-03, CAP ELE RA 100M 16V 8X11MM
 C240A ,015-24100-08, CAP CER 0805 1N 10% X7R 50V
 C240B ,015-06100-08, CAP CER 1206 100N 10% X7R 50V
 C240C ,020-09220-01, CAP ELE RA 220M 16V 10X12.5MM
 C249 ,020-09470-05, CAP ELE RAD 470M 16V 10X12.5MM
 C251 ,015-06100-08, CAP CER 1206 100N 10% X7R 50V
 C253 ,020-09100-03, CAP ELE RA 100M 16V 8X11MM
 C255 ,015-24100-08, CAP CER 0805 1N 10% X7R 50V
 C257 ,015-24100-08, CAP CER 0805 1N 10% X7R 50V
 C259 ,015-06100-08, CAP CER 1206 100N 10% X7R 50V
 C260A ,015-24100-08, CAP CER 0805 1N 10% X7R 50V
 C260B ,015-06100-08, CAP CER 1206 100N 10% X7R 50V
 C260C ,020-09220-01, CAP ELE RA 220M 16V 10X12.5MM
 C261 ,020-09100-03, CAP ELE RA 100M 16V 8X11MM
 C262 ,020-09100-03, CAP ELE RA 100M 16V 8X11MM
 C264 ,015-06100-08, CAP CER 1206 100N 10% X7R 50V
 C266 ,020-07470-91, CAP ELE RA 4M7 63V 6X11MM BI-P
 C268 ,020-07470-91, CAP ELE RA 4M7 63V 6X11MM BI-P
 C270 ,015-06100-08, CAP CER 1206 100N 10% X7R 50V
 C272 ,015-25100-08, CAP CER 0805 10N 10% X7R 50V
 C274 ,015-06100-08, CAP CER 1206 100N 10% X7R 50V
 C276 ,015-25470-08, CAP CER 0805 47N 10% X7R 50V
 C278 ,015-06100-08, CAP CER 1206 100N 10% X7R 50V
 C280 ,015-25470-08, CAP CER 0805 47N 10% X7R 50V
 C286 ,015-24470-08, CAP CER 0805 4N7 10% X7R 50V
 C301 ,015-24470-08, CAP CER 0805 4N7 10% X7R 50V
 C303 ,015-24470-08, CAP CER 0805 4N7 10% X7R 50V
 C305 ,020-08100-04, CAP ELE RA 10M 16V 4X7MM
 C307 ,015-24100-08, CAP CER 0805 1N 10% X7R 50V
 C309 ,015-22180-01, CAP CER 0805 18P 5% NPO 50V
 C311 ,015-22470-01, CAP CER 0805 47P 5% NPO 50V
 C323 ,015-25100-08, CAP CER 0805 10N 10% X7R 50V
 C325 ,020-08100-04, CAP ELE RA 10M 16V 4X7MM
 C327 ,015-25100-08, CAP CER 0805 10N 10% X7R 50V
 C329 ,015-25100-08, CAP CER 0805 10N 10% X7R 50V
 C331 ,015-25100-08, CAP CER 0805 10N 10% X7R 50V
 C339 ,015-25100-08, CAP CER 0805 10N 10% X7R 50V
 C340A ,025-08100-03, CAP 10M 35V 20% TANT 5MM L/S
 C340B ,015-25100-08, CAP CER 0805 10N 10% X7R 50V
 C344 ,015-24470-08, CAP CER 0805 4N7 10% X7R 50V
 C345 ,015-22330-05, CAP CER0805 33P+-0.1 200VGRM40
 C347 ,015-22330-05, CAP CER0805 33P+-0.1 200VGRM40
 C348 ,025-08100-03, CAP 10M 35V 20% TANT 5MM L/S
 C349 ,015-25100-08, CAP CER 0805 10N 10% X7R 50V
 C351 ,015-06100-08, CAP CER 1206 100N 10% X7R 50V
 C353 ,015-06100-08, CAP CER 1206 100N 10% X7R 50V
 C355 ,015-25470-08, CAP CER 0805 47N 10% X7R 50V
 C357 ,015-23150-01, CAP CER 0805 150P 5% NPO 50V
 C359 ,015-06100-08, CAP CER 1206 100N 10% X7R 50V
 C361 ,015-06100-08, CAP CER 1206 100N 10% X7R 50V
 C363 ,015-22150-01, CAP CER 0805 15P 5% NPO 50V
 C365 ,015-25470-08, CAP CER 0805 47N 10% X7R 50V
 C367 ,015-25100-08, CAP CER 0805 10N 10% X7R 50V
 C369 ,015-23100-01, CAP CER 0805 100P 5% NPO 50V

R510	,036-14220-00,	RES M/F 0805 2K2 5%	R847	,036-14470-00,	RES M/F 0805 4K7 5%
R515	,036-12560-00,	RES M/F 0805 56E 5%	R848	,036-13470-00,	RES M/F 0805 470E 5%
R555	,036-13470-00,	RES M/F 0805 470E 5%	R849	,036-13470-00,	RES M/F 0805 470E 5%
R615	,036-13100-00,	RES M/F 0805 100E 5%	R850	,036-13470-00,	RES M/F 0805 470E 5%
R617	,036-10000-00,	RES M/F 0805 ZERO OHM	R851	,036-13470-00,	RES M/F 0805 470E 5%
R619	,032-31100-00,	RES M/F PWR 1E0 5% 1W 12X4.5MM	R852	,036-14470-00,	RES M/F 0805 4K7 5%
R621	,032-31100-00,	RES M/F PWR 1E0 5% 1W 12X4.5MM	R853	,036-13470-00,	RES M/F 0805 470E 5%
R625	,036-14100-10,	RES M/F 0805 CHIP 1K 1%	R854	,036-16330-00,	RES M/F 0805 330K 5%
R629	,032-33270-00,	RES M/F PWR 270E 5% 1W 12X4.5	R855	,036-15470-00,	RES M/F 0805 47K 5%
R633	,036-14680-00,	RES M/F 0805 6K8 5%	R856	,036-16150-00,	RES M/F 0805 150K 5%
R636	,036-12330-00,	RES M/F 0805 33E 5%	R857	,036-16150-00,	RES M/F 0805 150K 5%
R637	,036-12330-00,	RES M/F 0805 33E 5%	R858	,036-15270-10,	RES M/F 0805 27K 1%
R641	,036-14150-00,	RES M/F 0805 1K5 5%	R859	,036-17120-10,	RES MF 0805 CHIP 1M2 1%
R645	,036-13470-00,	RES M/F 0805 470E 5%	R860	,036-16820-10,	RES MF 0805 CHIP 820K 1%
R649	,036-14470-00,	RES M/F 0805 4K7 5%	R861	,036-14510-10,	RES MF 0805 CHIP 5K1 1%
R653	,036-15100-10,	RES M/F 0805 10K 1%	R863	,036-14470-00,	RES M/F 0805 4K7 5%
R681	,036-13100-00,	RES M/F 0805 100E 5%	R865	,036-14270-00,	RES M/F 0805 2K7 5%
R685	,036-15150-00,	RES M/F 0805 15K 5%	R866	,036-16820-10,	RES MF 0805 CHIP 820K 1%
R689	,036-12100-00,	RES M/F 0805 10E 5%	R867	,036-16820-10,	RES MF 0805 CHIP 820K 1%
R693	,036-16100-00,	RES M/F 0805 100K 5%	R868	,036-14470-00,	RES M/F 0805 4K7 5%
R696	,036-15560-00,	RES M/F 0805 56K 5%	R869	,036-15270-10,	RES M/F 0805 27K 1%
R701	,036-12220-00,	RES M/F 0805 22E 5%	R870	,036-17120-10,	RES MF 0805 CHIP 1M2 1%
R702	,036-17100-00,	RES M/F 0805 1M 5%	R871	,036-16820-10,	RES MF 0805 CHIP 820K 1%
R703	,036-17100-00,	RES M/F 0805 1M 5%	R872	,036-14510-10,	RES MF 0805 CHIP 5K1 1%
R706	,036-15150-00,	RES M/F 0805 15K 5%	R873	,036-14220-00,	RES M/F 0805 2K2 5%
R707	,036-15470-00,	RES M/F 0805 47K 5%	R875	,036-14470-00,	RES M/F 0805 4K7 5%
R708	,036-13100-00,	RES M/F 0805 100E 5%	R876	,036-16100-00,	RES M/F 0805 100K 5%
R709	,036-13100-00,	RES M/F 0805 100E 5%	R877	,036-16100-00,	RES M/F 0805 100K 5%
R710	,036-13100-00,	RES M/F 0805 100E 5%	R878	,036-16100-00,	RES M/F 0805 100K 5%
R711	,036-13100-00,	RES M/F 0805 100E 5%	R879	,036-16100-00,	RES M/F 0805 100K 5%
R712	,036-12100-00,	RES M/F 0805 10E 5%	R881	,036-15470-00,	RES M/F 0805 47K 5%
R742	,036-13150-00,	RES M/F 0805 150E 5%	R882	,036-15470-00,	RES M/F 0805 47K 5%
R743	,036-13150-00,	RES M/F 0805 150E 5%	R884	,036-16150-00,	RES M/F 0805 150K 5%
R744	,036-12220-00,	RES M/F 0805 22E 5%	R885	,036-16150-00,	RES M/F 0805 150K 5%
R746	,036-12220-00,	RES M/F 0805 22E 5%	R886	,036-15100-10,	RES M/F 0805 10K 1%
R747	,036-12220-00,	RES M/F 0805 22E 5%	R887	,036-14100-10,	RES M/F 0805 CHIP 1K 1%
R748	,036-15470-00,	RES M/F 0805 47K 5%	R888	,036-14820-10,	RES M/F 0805 8K2 1%
R749	,036-15470-00,	RES M/F 0805 47K 5%	R889	,036-16100-00,	RES M/F 0805 100K 5%
R750	,036-12220-00,	RES M/F 0805 22E 5%	R890	,036-16150-00,	RES M/F 0805 150K 5%
R752	,036-12220-00,	RES M/F 0805 22E 5%	R891	,036-16100-00,	RES M/F 0805 100K 5%
R753	,036-17100-00,	RES M/F 0805 1M 5%	R892	,036-16330-00,	RES M/F 0805 330K 5%
R754	,036-14100-10,	RES M/F 0805 CHIP 1K 1%	R894	,036-14470-00,	RES M/F 0805 4K7 5%
R756	,036-16470-00,	RES M/F 0805 470K 5%	R895	,036-15100-10,	RES M/F 0805 10K 1%
R757	,036-16470-00,	RES M/F 0805 470K 5%	R897	,036-15100-10,	RES M/F 0805 10K 1%
R758	,036-14120-00,	RES M/F 0805 1K2 5%	R898	,036-16470-00,	RES M/F 0805 470K 5%
R759	,036-13330-00,	RES M/F 0805 330E 5%	R910	,036-15100-10,	RES M/F 0805 10K 1%
R760	,036-13180-00,	RES M/F 0805 180E 5%	RL210	,237-00010-22,	RELAY 12V DPDT 8PIN DIL PCB MT
R762	,036-13100-00,	RES M/F 0805 100E 5%	RV205	,040-05100-22,	POT 10K LOG DUAL PCB 6 OD SFT
R763	,036-13100-00,	RES M/F 0805 100E 5%	RV210	,040-05100-23,	POT 10K LOG PCB 15MM SLOT SFT
R765	,036-13680-00,	RES M/F 0805 680E 5%	RV220	,042-05100-06,	RES PRE 10K CAR 6MM FLAT
R766	,036-14100-10,	RES M/F 0805 CHIP 1K 1%	RV230	,040-05100-21,	POT 10K LIN PCB 15MM SLOT SFT
R767	,036-13680-00,	RES M/F 0805 680E 5%	RV235	,042-05100-06,	RES PRE 10K CAR 6MM FLAT
R769	,036-13180-00,	RES M/F 0805 180E 5%	RV320	,042-05470-06,	RES PRE 47K CAR 6MM FLAT T/ADJ
R771	,036-14820-10,	RES M/F 0805 8K2 1%	RV330	,042-04220-06,	RES PRE 2K2 CAR 6MM FLAT
R772	,036-15220-00,	RES M/F 0805 22K 5%	SHLD610	,062-00010-13,	CAN 10MM SQ X 11MM CAN A4M1017
R774	,036-14820-10,	RES M/F 0805 8K2 1%	SK805	,240-10000-07,	CONN SMD SKT 16W 2R M-MATCH
R775	,036-14820-10,	RES M/F 0805 8K2 1%	SK810	,240-04020-42,	SKT 44 PIN SMD PLCC
R784	,036-12680-00,	RES M/F 0805 68E 5%	SW201	,230-00010-30,	SWITCH TOG SPDT R-ANG PCB MTG
R785	,036-14330-00,	RES M/F 0805 3K3 5%	T610	,050-00016-50,	COIL TAIT NO 650 455KHZ
R786	,036-12100-00,	RES M/F 0805 10E 5%	T86520	,036-14220-00,	RES M/F 0805 2K2 5%
R787	,036-12100-00,	RES M/F 0805 10E 5%	X310	,274-00010-02,	XTAL 20.945MHZ SPEC TE/15
R790	,036-13220-00,	RES M/F 0805 220E 5%			
R791	,036-13100-00,	RES M/F 0805 100E 5%			
R792	,036-14100-10,	RES M/F 0805 CHIP 1K 1%			
R804	,036-15470-00,	RES M/F 0805 47K 5%			
R805	,036-13470-00,	RES M/F 0805 470E 5%			
R808	,036-12100-00,	RES M/F 0805 10E 5%			
R809	,036-14470-00,	RES M/F 0805 4K7 5%			
R810	,036-14470-00,	RES M/F 0805 4K7 5%			
R811	,036-14470-00,	RES M/F 0805 4K7 5%			
R812	,036-14470-00,	RES M/F 0805 4K7 5%			
R813	,036-14470-00,	RES M/F 0805 4K7 5%			
R815	,036-15470-00,	RES M/F 0805 47K 5%			
R816	,036-16150-00,	RES M/F 0805 150K 5%			
R818	,036-14470-00,	RES M/F 0805 4K7 5%			
R819	,036-14470-00,	RES M/F 0805 4K7 5%			
R820	,036-15470-00,	RES M/F 0805 47K 5%			
R821	,036-15470-00,	RES M/F 0805 47K 5%			
R822	,036-15470-00,	RES M/F 0805 47K 5%			
R823	,036-15470-00,	RES M/F 0805 47K 5%			
R824	,036-14220-00,	RES M/F 0805 2K2 5%			
R825	,036-14220-00,	RES M/F 0805 2K2 5%			
R826	,036-14220-00,	RES M/F 0805 2K2 5%			
R827	,036-14220-00,	RES M/F 0805 2K2 5%			
R828	,036-14220-00,	RES M/F 0805 2K2 5%			
R829	,036-14220-00,	RES M/F 0805 2K2 5%			
R830	,036-14220-00,	RES M/F 0805 2K2 5%			
R831	,036-14220-00,	RES M/F 0805 2K2 5%			
R832	,036-14220-00,	RES M/F 0805 2K2 5%			
R833	,036-14220-00,	RES M/F 0805 2K2 5%			
R835	,036-14220-00,	RES M/F 0805 2K2 5%			
R836	,036-14220-00,	RES M/F 0805 2K2 5%			
R837	,036-14220-00,	RES M/F 0805 2K2 5%			
R840	,036-14220-00,	RES M/F 0805 2K2 5%			
R841	,036-14220-00,	RES M/F 0805 2K2 5%			
R842	,036-14220-00,	RES M/F 0805 2K2 5%			
R843	,036-14220-00,	RES M/F 0805 2K2 5%			
R844	,036-15470-00,	RES M/F 0805 47K 5%			
R845	,036-16150-00,	RES M/F 0805 150K 5%			
R846	,036-14470-00,	RES M/F 0805 4K7 5%			

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Device	PCB	Circuit	Device	PCB	Circuit	Device	PCB	Circuit	Device	PCB	Circuit
IC640	1:M5	6-R5	P258	1:D3	2-P8	R207	2:C7	2-D8	R317	2:F6	3-L7
IC650	1:L5	6-E5	P260	1:D3	2-P7	&R209	2:C7	2-D8	R319	2:F6	3-L8
IC700	1:J3	7-A8	P263	1:B2	2-R6	R210	2:C7	2-D8	R321	2:F6	3-L8
IC710	1:H3	7-E8	P266	1:D2	2-R5	R211	2:C7	2-E8	R323	2:F6	3-L8
IC710	1:H3	7-J0	P268	1:B2	2-R5	R213	2:C7	2-G6	R325	2:F6	3-L9
IC710	1:H3	7-C6	P270	1:B2	2-R5	R215	2:C6	2-G9	R327	2:F5	3-M8
IC710	1:H3	7-D6	P280	1:B2	2-R4	R218	2:C7	2-G8	R329	2:F6	3-M7
IC710	1:H3	7-D6	P282	1:B2	2-R4	&R219	2:C7	2-G7	R330	2:E5	3-G4
IC710	1:H3	7-C6	P284	1:B3	2-R4	R221	2:C7	2-H7	R331	2:F5	3-M7
IC710	1:H3	7-D7	P287	1:B2	2-R0	R222	2:C7	2-H7	R332	2:F4	3-B2
IC740	1:H2	7-D1	P320	1:D4	3-A6	%R223	2:D6	2-J9	&R333	2:F4	3-Q7
IC750	1:H4	7-M3	P330	nil	3-G5	R224	2:C6	2-J8	R334	2:F3	3-C1
IC750	1:H4	7-H6	P331	nil	3-J4	R225	2:C6	2-J8	R335	2:E3	3-D1
IC750	1:H4	7-H5	P350	1:E5	3-R5	R227	2:B7	2-J7	R337	2:E4	3-D1
IC820	1:L4	8-N5	P380	1:D3	3-R0	R229	2:C5	2-L6	%R338	2:E5	3-H4
IC830	1:N4	8-J0	P810	1:K2	8-A5	R230	2:C6	2-M5	R339	2:E5	3-G3
IC830	1:N4	8-E2	P815	1:L4	8-C4	R232	2:B5	2-M7	R340	2:E4	3-C2
IC830	1:N4	8-F0	P820	1:K4	8-M8	R233	2:C5	2-M7	R341	2:E6	3-H2
IC830	1:N4	8-F1	P825	1:K4	8-M8	R234	2:C5	2-N7	R343	2:E6	3-G1
IC830	1:N4	8-H2	P830	1:K4	8-M8	R236	2:B5	2-N7	R345	2:E6	3-G1
IC840	1:M2	8-L0	P835	1:K4	8-M7	R238	2:A5	2-R6	&R347	2:E6	3-H2
IC850	1:M3	8-M2	P840	1:K4	8-M7	R239	2:B5	2-R6	R349	2:E6	3-H2
IC850	1:M3	8-M0	PL100	1:P3	1-F0	R241	2:D8	2-G5	R351	1:E6	3-J2
IC850	1:M3	8-M2	PL210	1:C6	2-B8	R242	2:C8	2-G4	R353	2:E6	3-J4
IC850	1:M3	8-N1	PL220	1:C6	2-H7	R244	2:C8	2-G4	R355	2:E7	3-J3
IC850	1:M3	8-Q2	PL230	1:B2	2-K8	R245	2:C8	2-H5	R357	2:E7	3-K2
L230	1:D2	2-K2	PL240	1:B6	2-K7	R247	2:B7	2-J4	R359	2:E6	3-K3
L310	1:F8	3-B7	PL250	1:C8	2-C2	R249	2:B6	2-J3	R361	2:E6	3-K2
L320	1:F8	3-C8	PL260	1:C8	2-H3	R251	2:B7	2-L3	R363	2:E7	3-L2
L330	1:F7	3-G7	PL270	1:C2	2-L1	R252	2:B7	2-L3	R365	2:E7	3-M1
L340	1:F7	3-J7	Q210	2:C6	2-J8	R254	2:B7	2-L3	R367	2:E7	3-M1
L350	1:F5	3-P7	Q220	2:C5	2-M6	R255	2:B6	2-M3	R369	2:E7	3-M2
L360	1:E5	3-F2	Q230	2:C5	2-N6	R256	2:B6	2-M3	R371	1:E7	3-M3
L410	1:M8	4-C5	Q240	2:C8	2-H4	R258	2:B6	2-N3	R372	2:E7	3-M2
L420	1:M8	4-E5	Q245	2:B6	2-J4	R260	2:B5	2-P2	R374	2:E7	3-N2
L430	1:L8	4-F4	Q250	2:B8	2-G2	R261	2:B4	2-Q3	R376	2:E7	3-N2
L440	1:M7	4-G6	Q255	2:B7	2-H2	R262	2:B3	2-Q3	R378	2:E7	3-N2
L450	1:K8	4-G5	Q260	2:B7	2-K0	%R263	nil	2-Q3	R380	2:E6	3-P3
L460	1:J8	4-K5	Q270	2:C2	2-K0	R264	2:B8	2-A3	R381	2:E7	3-P3
L470	1:J8	4-L5	Q280	2:B7	2-L2	R265	2:B8	2-A2	R383	2:E8	3-P2
L480	2:G8	4-Q4	Q290	2:B6	2-M2	R266	2:B8	2-B2	R385	2:E8	3-Q2
L490	2:G8	4-Q4	Q310	1:F8	3-C7	R267	2:C8	2-C3	R387	2:E8	3-Q2
L750	1:G4	7-R0	Q320	2:F6	3-L7	%R268	nil	2-Q2	R389	2:E8	3-Q2
L910	1:P6	9-F7	Q330	2:F6	3-M8	R269	2:C8	2-B1	R391	2:E4	3-G0
L920	1:P7	9-G7	Q340	2:E7	3-M2	R271	2:D3	2-A0	R393	2:F4	3-G0
L930	1:P8	9-H7	Q350	2:E7	3-P2	R272	2:C4	2-B1	R395	2:E5	3-G0
LINKA	2:K8	4-H5	Q410	2:L8	4-G5	R273	2:C4	2-C1	R397	2:E5	3-G0
LINKB	2:J8	4-H4	Q420	2:K8	4-G4	R275	2:C4	2-C1	R398	2:E6	3-H0
M8	nil	1-L2	Q540	1:K5	5-K2	R277	2:C4	2-C0	R399	2:E5	3-J0
P100	1:Q6	1-R8	Q620	1:N6	6-P8	R278	2:C4	2-C1	R405	2:K7	4-F5
P160	1:P2	1-Q4	Q630	1:M6	6-P5	R280	2:C8	2-D3	R410	2:L7	4-F5
P170	1:P2	1-R4	Q660	1:L5	6-N1	R281	2:C8	2-D2	R415	2:L8	4-G5
P201	1:D4	2-A9	Q670	1:L6	6-Q2	R282	2:B8	2-E2	R416	2:K7	4-G6
P204	1:D7	2-A9	Q750	1:G4	7-G3	R284	2:C8	2-F3	R417	2:K8	4-G4
P207	1:D6	2-A8	Q760	1:G3	7-J3	R285	2:B8	2-F2	R420	2:K8	4-G4
P210	1:D6	2-C7	Q770	1:H3	7-J1	R287	2:B8	2-F2	R425	2:K7	4-G6
P213	1:D3	2-A7	Q775	1:H3	7-K3	R288	2:B8	2-F1	R430	2:K8	4-G5
P216	1:B2	2-A7	Q780	1:H3	7-K3	R289	2:B7	2-G3	R435	2:L8	4-G4
P219	1:D7	2-A7	Q785	1:H3	7-K2	R290	2:B7	2-H3	R440	2:K8	4-H4
P222	1:C5	2-A6	Q790	1:H4	7-L3	R292	2:C8	2-G2	R445	2:J8	4-H4
P225	1:C8	2-A4	Q795	1:G3	7-P0	R293	2:B7	2-H1	R450	2:J8	4-J4
P228	1:D8	2-A4	Q810	1:K2	8-C5	R294	2:C3	2-H0	R455	2:H8	4-M4
P231	1:C7	2-A4	Q820	1:K2	8-C6	R295	2:B7	2-J1	R457	2:H8	4-M4
P234	1:B7	2-A3	Q840	1:K2	8-F5	R296	2:A7	2-K1	R460	2:H8	4-M4
P236	1:C8	2-A1	Q850	1:L2	8-G5	R297	1:B2	2-M0	R470	2:H7	4-P5
P238	1:D3	2-A1	Q860	1:K4	8-B4	R298	2:D7	2-J0	R475	2:H7	4-Q5
P240	1:C8	2-G2	Q870	1:L4	8-C4	R299	2:C7	2-J0	R480	2:H7	4-Q5
P242	1:C7	2-G1	Q880	1:L2	8-L5	R301	2:F8	3-B7	R485	2:G8	4-Q4
P244	1:C7	2-G8	Q890	1:L4	8-K3	R302	2:F8	3-B7	R486	2:G8	4-Q4
P246	1:C6	2-H9	Q895	1:M3	8-P2	R303	2:F8	3-C7	R510	1:K6	5-J9
P248	1:C6	2-H9	R6	nil	1-L5	R305	2:F7	3-C8	R515	1:H6	5-J5
P249	nil	2-K9	R160	1:P2	1-Q4	R307	2:F8	3-D8	R555	1:K5	5-K1
P250	1:B3	2-K9	R201	2:D6	2-B8	R309	2:E8	3-F7	R615	1:M5	6-C9
P252	1:B2	2-K9	&R202	2:D6	2-B7	R311	2:F8	3-F7	R617	1:M5	6-F8
P254	1:B2	2-K9	R204	2:C6	2-C9	R313	2:E8	3-F7	R619	1:M6	6-L8
P256	1:B2	2-L8	R205	2:C7	2-C8	R315	2:F6	3-L7	R621	1:M6	6-L8

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<u>Device</u>	<u>PCB</u>	<u>Circuit</u>	<u>Device</u>	<u>PCB</u>	<u>Circuit</u>	<u>Device</u>	<u>PCB</u>	<u>Circuit</u>	<u>Device</u>	<u>PCB</u>	<u>Circuit</u>
R625	1:N6	6-L7	R827	1:K4	8-L7	SK502	1:G6	5-D5			
R629	1:M5	6-P6	R828	1:K4	8-L7	SK503	1:G6	5-D4			
R633	1:M5	6-Q8	R829	1:K4	8-P9	SK504	1:G5	5-D3			
R636	1:N5	6-K6	R830	1:K3	8-P9	SK505	1:G5	5-D2			
R637	1:N5	6-K5	R831	1:K3	8-P9	SK513	1:H5	5-G3			
R641	1:N5	6-L4	R832	1:K3	8-P8	SK522	1:H6	5-K5			
R645	1:N5	6-L5	R833	1:K3	8-P8	SK531	1:K6	5-N6			
R649	1:M5	6-M5	R835	1:K3	8-P8	SK532	1:K5	5-N5			
R653	1:M5	6-Q4	R836	1:K3	8-P8	SK533	1:K5	5-N4			
R681	1:L5	6-L2	R837	1:K3	8-P7	SK534	1:K5	5-N3			
R685	1:L5	6-N2	R840	1:K3	8-P7	SK535	1:K5	5-N2			
R689	1:L6	6-Q3	R841	1:K3	8-P7	SK805	1:K3	8-Q9			
R693	1:L6	6-Q1	R842	1:K3	8-P6	SK805	1:K3	8-Q9			
R696	1:L6	6-Q1	R843	1:K3	8-P6	SK805	1:K3	8-Q7			
R701	1:J4	7-A9	R844	1:L2	8-M5	SK805	1:K3	8-Q8			
R702	1:J4	7-C9	R845	1:L2	8-M5	SK805	1:K3	8-Q6			
R703	1:J4	7-C8	R846	1:L4	8-L6	SK805	1:K3	8-Q8			
R706	1:J3	7-B6	R847	1:L4	8-M6	SK805	1:K3	8-Q6			
R707	1:J3	7-C7	R848	1:L4	8-Q5	SK805	1:K3	8-Q8			
R708	1:J2	7-D7	R849	1:J2	8-Q5	SK805	1:K3	8-Q7			
R709	1:H2	7-E7	R850	1:J2	8-Q4	SK805	1:K3	8-Q8			
R710	1:J3	7-B6	R851	1:L4	8-Q4	SK805	1:K3	8-Q7			
R711	1:H3	7-B6	R852	1:L2	8-N4	SK805	1:K3	8-Q5			
R712	1:J4	7-E9	R853	1:L2	8-Q4	SK805	1:K3	8-Q7			
R742	1:H2	7-B4	R854	1:N3	8-C1	SK805	1:K3	8-Q6			
R743	1:H2	7-C5	R855	1:N3	8-C2	SK805	1:K3	8-Q9			
R744	1:G2	7-D4	R856	1:N3	8-D2	SK805	1:K3	8-Q6			
R746	1:H3	7-E4	R857	1:N4	8-D2	SK810	1:L3	8-H5			
R747	1:H3	7-E5	R858	1:N3	8-C0	SL210	2:B8	2-E2			
R748	1:J2	7-A1	R859	1:N3	8-D0	SL220	2:B8	2-D2			
R749	1:J2	7-B1	R860	1:N3	8-E0	SW201	1:B4	2-A6			
R750	1:H4	7-H7	R861	1:M3	8-F0	T210	1:C3	2-Q2			
R752	1:G4	7-F5	R863	1:N3	8-F2	T610	1:L6	6-N2			
R753	1:G4	7-F3	R865	1:M3	8-G2	T865-	1:D2	10-D8			
R754	1:G3	7-F3	R866	1:M3	8-H2	T865	1:D2	10-E8			
R756	1:G3	7-G5	R867	1:M3	8-G1	T865_	1:D2	10-E8			
R757	1:G4	7-H4	R868	1:N4	8-G0	T86510	1:F2	10-A8			
R758	1:H3	7-J4	R869	1:M3	8-G0	T86513	1:F2	10-B8			
R759	1:H3	7-J4	R870	1:M3	8-H0	T86515	1:F2	10-B8			
R760	1:H3	7-K4	R871	1:N3	8-H0	T86520	1:F2	10-C8			
R762	1:H3	7-K4	R872	1:N4	8-H0	T86523	1:F2	10-C8			
R763	1:H4	7-L4	R873	1:N4	8-K0	T86525	1:F2	10-D8			
R765	1:H3	7-J2	R875	1:M4	8-J1	TOPFIDA	1:A2	10-H6			
R766	1:G3	7-J3	R876	1:M3	8-K1	TOPFIDB	1:P8	10-H6			
R767	1:H3	7-K2	R877	1:M2	8-K1	TOPHOLE	1:B9	10-B6			
R769	1:H3	7-L3	R878	1:M2	8-K0	TOPSLOT	1:P9	10-C6			
R771	1:H4	7-L3	R879	1:M2	8-K0	TP202	1:D7	2-D9			
R772	1:G4	7-M2	R881	1:M4	8-K2	TP211	1:D3	2-P8			
R774	1:H4	7-M2	R882	1:M4	8-L3	TP310	1:E5	3-K0			
R775	1:H4	7-N2	R884	1:M3	8-N3	TP601	1:N5	6-K9			
R784	1:G3	7-P1	R885	1:M3	8-N2	TP602	1:L6	6-R9			
R785	1:G3	7-Q1	R886	1:M3	8-P3	TP603	1:L5	6-J2			
R786	1:G2	7-R1	R887	1:M3	8-P3	TP604	1:L4	6-N6			
R787	1:G2	7-R1	R888	1:M3	8-P2	TP607	1:L4	6-F9			
R790	1:G3	7-P0	R889	1:M3	8-M1	TP710	1:H4	7-J5			
R791	1:G3	7-Q0	R890	1:M3	8-N1	V5	nil	1-G5			
R792	1:G3	7-Q0	R891	1:M2	8-M1	X310	1:F3	3-C1			
R804	1:J3	8-C7	R892	1:M2	8-N0	&XF310	1:F7	3-G7			
R805	1:J3	8-C7	R894	1:M2	8-P0	&XF320	1:F7	3-J7			
R808	1:K2	8-B6	R895	1:M2	8-Q1	&XF330	1:F5	3-P7			
R809	1:K2	8-C6	R897	1:M2	8-Q1	&XF340	1:E3	3-C1			
R810	1:L2	8-D6	R898	1:M2	8-Q2	nil	nil	1-M0			
R811	1:L2	8-D6	R910	2:P6	9-D6						
R812	1:K2	8-C6	RL210	1:C2	2-P4						
R813	1:K2	8-C5	RL210	1:C2	2-K1						
R815	1:K2	8-E4	RL210	1:C2	2-P5						
R816	1:K2	8-F4	RV205	1:B5	2-M7						
R818	1:K2	8-F5	RV210	1:B7	2-K3						
R819	1:L2	8-F5	RV220	1:D7	2-G5						
R820	1:K4	8-B4	RV230	1:B8	2-A2						
R821	1:L4	8-C4	RV235	1:C4	2-C0						
R822	1:L4	8-D3	RV320	1:E4	3-G0						
R823	1:L4	8-D4	RV330	1:E7	3-N1						
R824	1:K4	8-L8	S7	nil	1-G2						
R825	1:K4	8-L8	SHLD610	1:L6	6-J3						
R826	1:K4	8-L8	SK501	1:G6	5-D6						

Part C T867 Exciter

This part of the manual is divided into six sections, as listed below. There is a detailed table of contents at the start of each section.

Section	Title
1	General Information
2	Circuit Operation
3	Initial Tuning & Adjustment
4	Functional Testing
5	Fault Finding
6	PCB Information

1 T867 General Information

This section provides a brief description of the T867 exciter, along with detailed specifications and a list of types available.

The following topics are covered in this section.

Section	Title	Page
1.1	Introduction	1.3
1.2	Specifications	1.4
1.2.1	Introduction	1.4
1.2.2	General	1.4
1.2.3	RF Section	1.5
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1.2.4.2	Modulation Characteristics	1.6
1.2.4.3	CTCSS	1.7
1.2.5	Microcontroller	1.7
1.2.6	Test Standards	1.7
1.2.6.1	European Telecommunication Standard	1.7
1.2.6.2	DTI CEPT Recommendation T/R-24-01	1.8
1.2.6.3	Telecommunications Industry Association	1.8
1.3	Product Codes	1.9
1.4	T867 Standard Product Range	1.10

1.1 Introduction

The T867 is a synthesised, microprocessor controlled FM base station exciter designed for single or multichannel operation in the 220 to 285MHz frequency range. With a standard power output of only 600mW, the exciter is designed for use with the T869 100W power amplifiers. The RF section of the exciter comprises a frequency synthesiser which provides 100mW of frequency modulated RF drive to a two stage, wide band output amplifier.

A wide selection of audio characteristics may be obtained from the audio processor. Optional circuit blocks are an audio compressor and a pre-emphasis stage. They can be bypassed or linked to one or both audio inputs, and then back into the remaining audio circuitry in almost any combination. All audio processor options are link selectable.

The synthesiser frequency is programmed via the serial communications port. Eight channel select lines are accessible via an optional D-range connector (D-range 2 - T800-03-0000) at the rear of the set.

All components except those of the VCO 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 circuit board is obtained by removing each of the chassis lids. There is provision within the chassis to mount small option PCBs.

The front panel controls include line sensitivity, microphone socket and carrier switch. This switch turns on the carrier (unmodulated) as an aid to servicing.

The T867 is 60mm wide and occupies a single space in a Tait rack frame, which has the ability to accommodate up to seven standard modules.

1.2 Specifications

1.2.1 Introduction

The performance figures given are minimum figures, unless otherwise indicated, for equipment tuned with the maximum switching range and operating at standard room temperature (+22°C to +28°C) and standard test voltage (13.8V DC).

Where applicable, the test methods used to obtain the following performance figures are those described in the EIA and ETS specifications. However, there are several parameters for which performance according to the CEPT specification is given. Refer to Section 1.2.6 for details of test standards.

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

The terms "wide bandwidth", "mid bandwidth" and "narrow bandwidth" used in this and following sections are defined in the following table.

	Channel Spacing	Modulation 100% Deviation	Receiver IF Bandwidth
Wide Bandwidth	25kHz	±5.0kHz	15.0kHz
Mid Bandwidth	20kHz	±4.0kHz	12.0kHz
Narrow Bandwidth	12.5kHz	±2.5kHz	7.5kHz

1.2.2 General

Number Of Channels .. 128 (standard)¹

Supply Voltage:

Operating Voltage .. 10.8 to 16V DC
 Standard Test Voltage .. 13.8V DC
 Polarity .. negative earth only
 Polarity Protection .. diode
 Line Keying Supply (if required) .. -50V DC

Supply Current:

Transmit .. 600mA
 Standby .. 150mA (typical)

Operating Temperature Range .. -30°C to +60°C

1. Additional channels may be factory programmed. Contact your nearest Tait Dealer or Subsidiary.

Dimensions:

Height	.. 183mm
Width	.. 60mm
Length	.. 320mm
Weight	.. 2.1kg
Time-Out Timer (optional)	.. 0 to 5 minutes adjustable in 10 second steps
Tail Timer	.. 0 to 5 seconds adjustable in 100ms steps
Transmit Key Time	.. <30ms
Transmit Lockout Timer	.. 0 to 1 minute adjustable in 10 second steps

1.2.3 RF Section

Frequency Range	.. 220-285MHz (refer to Section 1.4)
Modulation Type	.. FM
Frequency Increment	.. 5 or 6.25kHz
Switching Range	.. 8MHz
Load Impedance	.. 50 ohms
Frequency Stability (see also Section 1.4 and Section 1.4)	.. ± 2.5 ppm, -30°C to +60°C
Adjacent Channel Power (full deviation):	
Wide Bandwidth (WB) (± 25 kHz/15kHz B/W)	.. -75dBc
Mid Bandwidth (MB) (± 20 kHz/12kHz B/W)	.. -70dBc
Narrow Bandwidth (NB) (± 12.5 kHz/7.5kHz B/W)	.. -65dBc
Transmitter Side Band Noise: (no modulation, 15kHz bandwidth)	
At ± 25 kHz	.. -90dBc
At ± 1 MHz	.. -100dBc

Intermodulation	.. -40dBc with interfering signal of -30dBc .. -70dBc with 25dB isolation & interfering signal of -30dBc (PA with output isolator)
Radiated Spurious Emissions:	
Transmit	.. -36dBm to 1GHz -30dBm to 4GHz
Standby	.. -57dBm to 1GHz -47dBm to 4GHz
Power Output:	.. 600mW \pm 150mW

1.2.4 Audio Processor

1.2.4.1 Inputs

Inputs Available .. line, microphone and CTCSS

Line Input:

Impedance	.. 600 ohms (balanced)
Sensitivity (60% modulation @ 1kHz)- With Compressor	.. -50dBm
Without Compressor	.. -30dBm

Microphone Input:

Impedance	.. 600 ohms
Sensitivity (60% modulation @ 1kHz)- With Compressor	.. -70dBm
Without Compressor	.. -50dBm

1.2.4.2 Modulation Characteristics

Frequency Response (below limiting) .. flat or pre-emphasised (optional)

Line And Microphone Inputs:

Pre-emphasised Response- Bandwidth	.. 300Hz to 3kHz (WB & MB) .. 300Hz to 2.55kHz (NB)
Below Limiting	.. within +1, -3dB of a 6dB/octave pre-emphasis characteristic
Flat Response	.. within +1, -2dB of output at 1kHz

Above Limiting Response .. within +1, -2dB of a flat response
(ref. 1kHz)

Distortion .. 2%

Hum And Noise:

Wide Bandwidth	.. -55dB (300Hz to 3kHz [EIA]) typical
Mid Bandwidth	.. -53dB (CEPT)
Narrow Bandwidth	.. -50dB (CEPT)

Compressor (optional):

Attack Time	.. 10ms
Decay Time	.. 800ms
Range	.. 50dB

1.2.4.3 CTCSS

Standard Tones	.. all 37 EIA group A, B and C tones plus 13 commonly used tones
Frequency Error (from EIA tones)	.. 0.08% max.
Generated Tone Distortion	.. 1.2% max.
Generated Tone Flatness	.. flat across 67 to 250.3Hz to within 1dB
Modulation Level	.. adjustable
Modulated Distortion	.. <5%

1.2.5 Microcontroller**Auxiliary Ports:**

Open Drain Type	.. capable of sinking 2.25mA via 2k2Ω
V _{ds} max.	.. 5V

1.2.6 Test Standards

Where applicable, this equipment is tested in accordance with the following standards.

1.2.6.1 European Telecommunication Standard**ETS 300 086 January 1991**

Radio equipment and systems; land mobile service; technical characteristics and test conditions for radio equipment with an internal or external RF connector intended primarily for analogue speech.

ETS 300 113 March 1996

Radio equipment and systems; land mobile service; technical characteristics and test conditions for radio equipment intended for the transmission of data (and speech) and having an antenna connector.

ETS 300 219 October 1993

Radio equipment and systems; land mobile service; technical characteristics and test conditions for radio equipment transmitting signals to initiate a specific response in the receiver.

ETS 300 279 February 1996

Radio equipment and systems; electromagnetic compatibility (EMC) standard for private land mobile radio (PMR) and ancillary equipment (speech and/or non-speech).

1.2.6.2 DTI CEPT Recommendation T/R-24-01**Annex I: 1988**

Technical characteristics and test conditions for radio equipment in the land mobile service intended primarily for analogue speech.

Annex II: 1988

Technical characteristics of radio equipment in the land mobile service with regard to quality and stability of transmission.

1.2.6.3 Telecommunications Industry Association**ANSI/TIA/EIA-603-1992**

Land mobile FM or PM communications equipment measurement and performance standards.

1.3 Product Codes

The three groups of digits in the T860 Series II product code provide information about the model, type and options fitted, according to the conventions described below.

The following explanation of T860 Series II product codes is not intended to suggest that any combination of features is necessarily available in any one product. Consult your nearest Tait Dealer or Subsidiary for more information regarding the availability of specific models, types and options.

Model

The Model group indicates the basic function of the product, as follows:

T86X -XX-XXXX	T865 receiver
	T867 exciter
	T869 100W power amplifier

Type

The Type group uses two digits to indicate the basic RF configuration of the product.

The first digit in the Type group designates the frequency range:

T86X- X -XXXX	'1' for 220-244MHz
	'2' for 243-270MHz
	'3' for 265-285MHz

The second digit in the Type group indicates the channel spacing:

T86X- XX -XXXX	'0' for wide bandwidth (25kHz)
	'3' for mid bandwidth (20kHz)
	'5' for narrow bandwidth (12.5kHz)

Options

T86X-XX-**XXXX** The Options group uses four digits and/or letters to indicate any options that may be fitted to the product. This includes standard options and special options for specific customers. '0000' indicates a standard Tait product with no options fitted. The large number of options precludes listing them here.

1.4 T867 Standard Product Range

The following table lists the range of standard T867 types (i.e. no options fitted) available at the time this manual was published. Consult your nearest Tait Dealer or Subsidiary for more information.

Frequency Range (MHz)		220-244			
Deviation (kHz)		2.5	2.5	4	5
TCXO ^a	±2.5ppm -30°C to +60°C	•	•	•	•
Exciter Type: T867-		16-0000 ^b	15-0000	13-0000	10-0000 ^c

Frequency Range (MHz)		243-270			
Deviation (kHz)		2.5	2.5	4	5
TCXO ^a	±2.5ppm -30°C to +60°C	•	•	•	•
Exciter Type: T867-		26-0000 ^b	25-0000	23-0000	20-0000

Frequency Range (MHz)		265-285			
Deviation (kHz)		2.5	2.5	4	5
TCXO ^a	±2.5ppm -30°C to +60°C	•	•	•	•
Exciter Type: T867-		36-0000 ^b	35-0000	33-0000	30-0000

- a. A TCXO with a stability of ±1ppm (0°C to +60°C) is available to suit specific requirements. Contact your nearest authorised Tait Dealer or Subsidiary for further details.
- b. United States market only.
- c. In the United States only, the T867-10-0000 operates from 217-244MHz.

You can identify the exciter type by checking the product code printed on a label on the rear of the chassis (Figure 1.1 in Part A shows typical labels). You can further verify the exciter type by checking the placement of an SMD resistor in the table that is screen printed onto the PCB (refer to Section 6.1 for more details).

2 T867 Circuit Operation

This section provides a basic description of the circuit operation of the T867 exciter.

Note: Unless otherwise specified, the term "PGM800Win" used in this and following sections refers to version 2.00 and later of the software.

Refer to Section 6 where the parts lists, grid reference index and diagrams will provide detailed information on identifying and locating components and test points on the main PCB. The parts list and diagrams for the VCO PCB are in Part E.

The following topics are covered in this section.

Section	Title	Page
2.1	Introduction	2.3
2.2	Microcontroller	2.4
2.3	Synthesised Local Oscillator	2.5
2.3.1	Two Point Modulation	2.6
2.4	VCO	2.7
2.4.1	VCO Supply	2.7
2.5	Audio Processor	2.8
2.5.1	General	2.8
2.5.2	Audio Inputs	2.8
2.5.3	Keying Inputs	2.9
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2.5.5	Outputs To Modulators	2.9
2.6	Power Supply & Regulator Circuits	2.10
2.7	Transmit Timers	2.11
2.8	T867 Exciter Drive Amplifier	2.12

Figure	Title	Page
2.1	T867 High Level Block Diagram	2.3
2.2	T867 Microcontroller Block Diagram	2.4
2.3	T867 Synthesiser Block Diagram	2.5
2.4	T867 Two Point Modulation	2.6
2.5	T867 Audio Processor Block Diagram	2.8
2.6	T867 Power Supply & Regulators Block Diagram	2.10
2.7	T867 Transmit Timers	2.11

2.1 Introduction

The individual circuit blocks which make up the T867 are:

- synthesiser
- VCO
- audio processor
- drive amplifier
- voltage regulators.

Each of these circuit blocks is set in its own shielded compartment, formed as an integral part of the main chassis.

The configuration of the circuit blocks may be seen on a functional level in Figure 2.1 . Refer to the circuit diagrams in Section 6.3 for more detail.

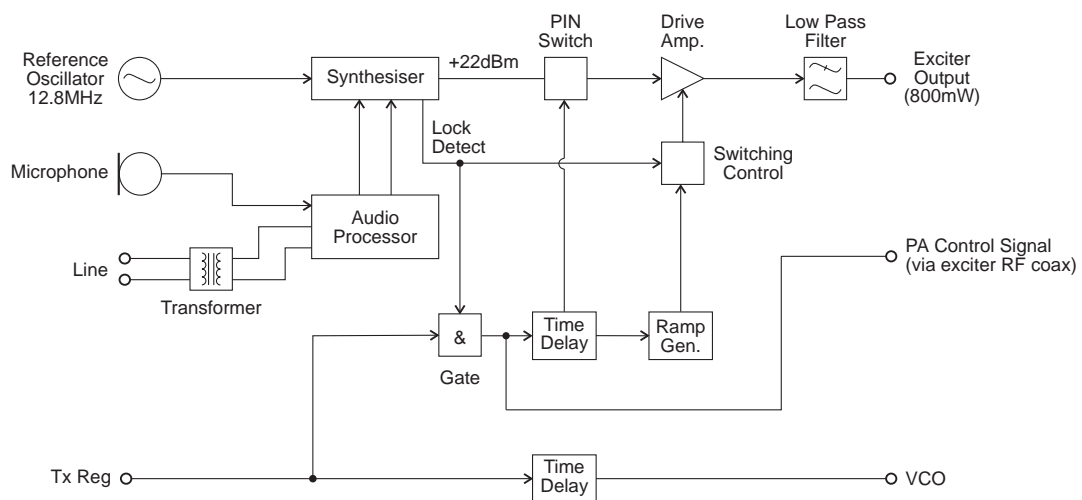


Figure 2.1 T867 High Level Block Diagram

2.2 Microcontroller

(Refer to the microcontroller circuit diagram (sheet 8) in Section 6.2 or 6.3.)

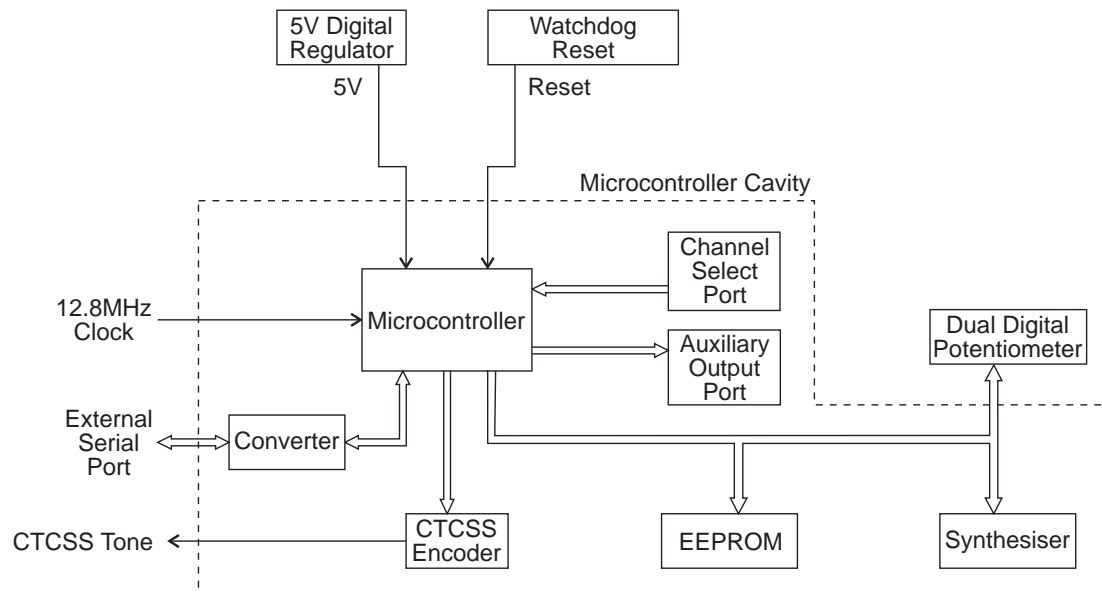


Figure 2.2 T867 Microcontroller Block Diagram

Overall system control of the T867 is accomplished by the use of a member of the 80C51 family of microcontrollers (IC810). It runs from internal ROM and RAM, thus leaving all four ports free for input/output functions.

Non-volatile data storage is achieved by serial communication with a 16kBit EEPROM (IC820). This serial bus is also used by the microcontroller to program the synthesiser (IC740) and deviation control EPOTS (IC220).

The main tasks of the microcontroller are as follows:

- program the synthesiser and EPOT;
- interface with the PGM800Win programming software at 9600 baud via the serial communication lines on D-range 1 (PL100) & D-range 2;
- monitor channel change inputs from D-range 2;
- generate timing waveforms for CTCSS encoding;
- coordinate and implement timing control of the exciter.

2.3 Synthesised Local Oscillator

(Refer to the synthesiser circuit diagram (sheet 7) in Section 6.2 or 6.3 and the VCO circuit diagram in Part E.)

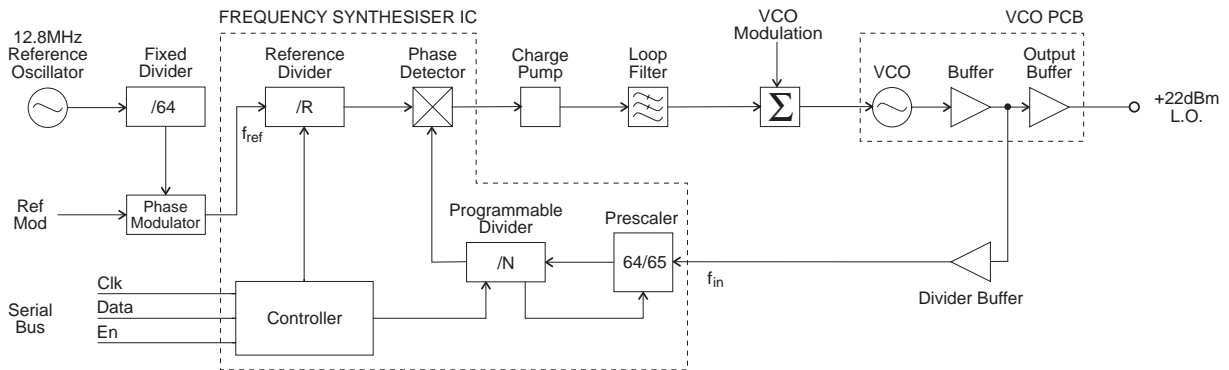


Figure 2.3 T867 Synthesiser Block Diagram

The synthesiser (IC740) employs a phase-locked loop (PLL) to lock a voltage controlled oscillator (VCO) to a given reference frequency. The synthesiser receives the divider information from the control microprocessor via a 3 wire serial bus (clock, data, enable). When the data has been latched in, the synthesiser processes the incoming signals from the VCO buffer (f_{in}) and the phase modulator (f_{ref}).

A reference oscillator at 12.8MHz (IC700) is buffered (IC710 pins 3 & 4) and divided down to 200kHz (IC730). This 200kHz square wave is then summed with the modulating audio and passed to an integrator (IC720 pins 9 & 8, Q710, Q720). This produces a ramping waveform which is centred around a DC level determined by the incoming audio. IC720 pins 5 & 6 perform as a comparator, ultimately producing a phase-modulated 200kHz square wave. This is followed by another phase shifting stage (IC720 pins 3 & 4, Q730, Q740), before being divided down to 6.25kHz or 5kHz within the synthesiser IC (IC740).

A buffered output of the VCO (Q795) is divided with a prescaler and programmable divider which is incorporated into the synthesiser chip (IC740). This signal is compared with the phase modulated reference signal at the phase detector (also part of the synthesiser chip). The phase detector outputs drive a balanced charge pump circuit (Q760, Q770, Q775, Q780, Q785) and active loop filter (IC750 pins 5, 6 & 7) which produces a DC voltage between 0V and 20V to tune the VCO. This VCO control line is further filtered to attenuate noise and other spurious signals. Note that the VCO frequency increases with increasing control voltage.

If the synthesiser loop loses lock, a pulsed signal appears at LD (pin 2) of IC740. This signal is filtered and buffered by IC750 pins 1, 2 & 3, producing the Lock-Detect signal used to shut off the power supply to the drive amplifier. IC750 pin 1 is at 20V when the synthesiser is out of lock.

2.3.1 Two Point Modulation

Frequency modulation occurs by modulating both the VCO input and the synthesiser reference input. This process is called two point modulation and ensures a flat modulation response from 67Hz to 3kHz (2.55kHz for narrow bandwidth).

The PLL has a fast response time, allowing a Tx key-up time of <30ms. Because of this fast response time the PLL sees lower modulation frequencies superimposed on the VCO as an error and corrects for it, resulting in no modulation on the carrier. At modulation frequencies greater than 300Hz the loop cannot correct fast enough and modulation is seen on the carrier. The response of the loop to VCO modulation is shown by f_2 in Figure 2.4 below.

To achieve low frequency modulation, the reference oscillator is also modulated so that the phase detector of IC740 detects no frequency error under modulation. Thus, the synthesiser loop will not attempt to correct for modulation and the audio frequency response of the transmitter remains unaffected. The response of the loop to reference frequency modulation is shown by f_1 in Figure 2.4.

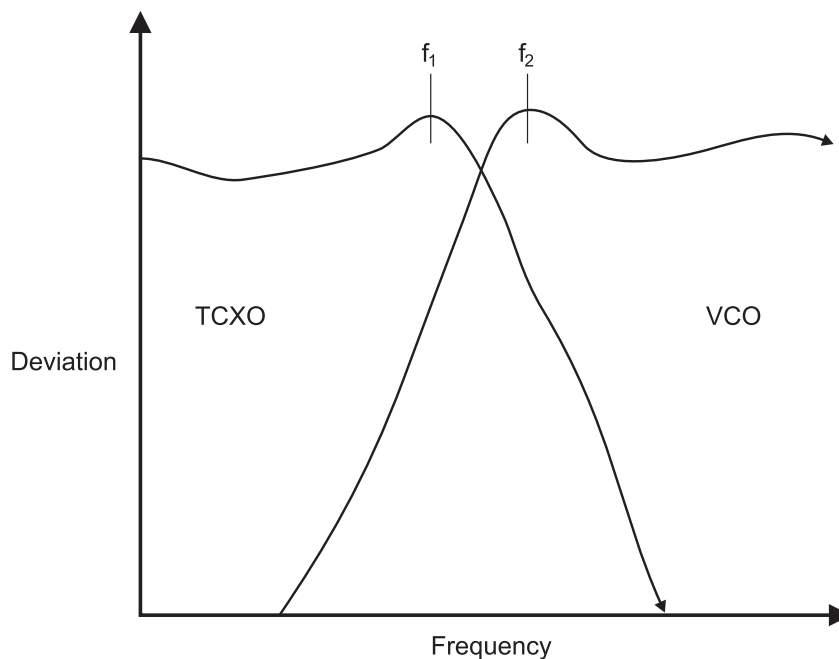


Figure 2.4 *T867 Two Point Modulation*

2.4 VCO

(Refer to the VCO circuit diagram in Part E.)

The VCO transistor (Q1) operates in a common source configuration, with an LC tank circuit coupled between its gate and drain to provide the feedback necessary for oscillation. The VCO control voltage from the loop filter (IC750 pin 7) is applied to the varicaps (D1-D2) to facilitate tuning within an 8MHz band of frequencies. A trimcap (CT) is used for coarse tuning of the VCO. The output from the oscillator circuit drives a cascode amplifier stage (Q2, Q3) which supplies +10dBm (typically) to a further stage of amplification, Q5. This is the final amplifier on the VCO PCB, and delivers >+19dBm (typically) to the exciter drive amplifier.

A low level "sniff" is taken from the input of Q5 and used to drive the divider buffer (Q795) for the synthesiser (IC740).

The VCO operates at the actual output frequency of the exciter, i.e. there are no multiplier stages. The VCO is modulated by superimposing the audio signal onto the control voltage and by phase modulating the reference signal.

2.4.1 VCO Supply

The VCO is supplied from two switched +9V supplies under the control of the Tx-Reg. supply.

The VCO (Q1) and buffer amplifier (Q2 & Q3) are supplied from one +9V switched supply by Q540 via the capacitor multiplier (Q550, C550).

The output amplifier is supplied from the other +9V supply by Q520, Q530, and Q510.

A delay circuit holds the VCO on for a short time after the Tx-Reg. supply has been switched off. This is to allow the RF power circuits (both exciter and PA) to ramp down in the correct manner before the VCO is switched off.

2.5 Audio Processor

(Refer to the audio processor circuit diagram (sheet 2) in Section 6.2 or 6.3.)

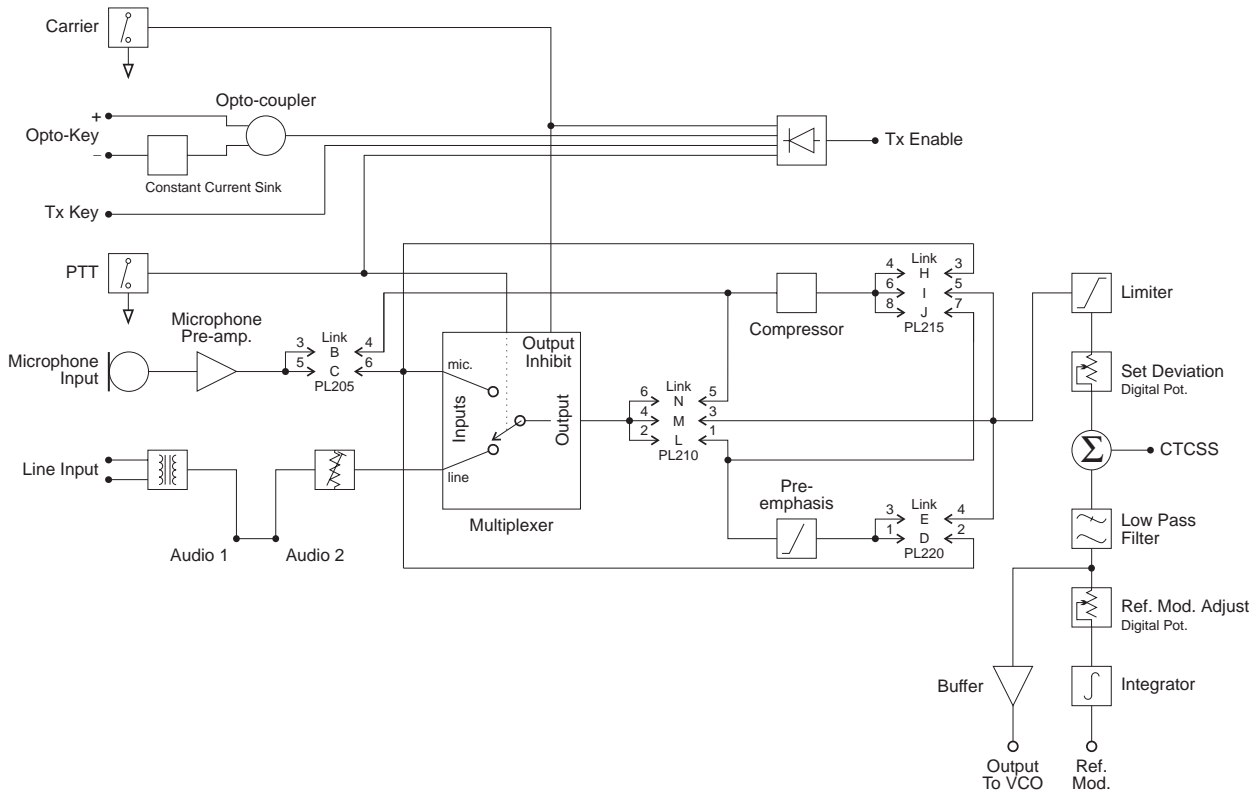


Figure 2.5 T867 Audio Processor Block Diagram

2.5.1 General

The audio processor comprises several link selectable circuit blocks which may be configured in a variety of combinations to suit individual requirements. The pre-emphasis network and compressor may be linked individually or cascaded between either or both audio inputs and the limiter.

Refer to Section 3.5.1 for linking details.

2.5.2 Audio Inputs

Two audio inputs are available: one from a 600 ohm balanced (or unbalanced) line, and the other from a local microphone. The microphone signal is passed first to a pre-amplifier (Q210) and ultimately to a multiplexer (IC240), but in between may pass through the compressor (depending on the linking details). The line transformer is also connected to the multiplexer and is disabled by the microphone PTT switch.

A third input for external CTCSS tones is also provided.

2.5.3 Keying Inputs

There are four ways to key the exciter:

- pulling the Tx-Key line low (pin 13 on D-range 1 [PL100]) at the rear of the set);
- pushing the "Carrier" button on the front panel - this will inhibit all audio;
- using the PTT button on the local microphone, disabling audio from the line;
- via the opto-key inputs (pins 11 and 12 on D-range 1 [PL100]) when electrical isolation is required. This features a constant current sink (Q270) to ensure reliable activation of the opto-coupler (IC250) at low keying voltages.

2.5.4 Compressor (Automatic Level Control (ALC))

The input signal is fed via a current controlled attenuator (Q230, Q220) to a high gain stage (IC230) from which the output signal is taken. This signal is passed to a comparator (IC230) which toggles whenever the audio signal exceeds a DC threshold determined by RV220. Thus, the comparator produces a square wave whose mark-space ratio is determined by the amplitude of the audio signal. This square wave pumps up the reservoir capacitor (C233) which controls the attenuator (Q230, Q220), thus completing the feedback loop.

The compression level is set by adjustment of the comparator threshold (RV220).

Note: Although the high dynamic range of the compressor allows the use of very low audio signal levels, such conditions will be accompanied by a degradation of the signal-to-noise ratio. Very low audio input levels should therefore be avoided where possible.

2.5.5 Outputs To Modulators

The output signal from the limiter (IC210, IC230) is added with a CTCSS tone at a summing amplifier (IC260). The signal is then low pass filtered (IC260) and split to supply the two modulators.

Since the VCO modulator is a true frequency modulator, its audio is simply buffered (IC260). The reference modulator, however, is a phase modulator and its audio must first be integrated (IC210).

It is vital that the audio levels to the modulators are accurately set, **relative to each other**. Hence the inclusion of level adjustment in the reference modulator path. Once set, adjustments to absolute deviation may be made only via the deviation digital pot. (IC220 - adjustable via PGM800Win).

2.6 Power Supply & Regulator Circuits

(Refer to the regulators circuit diagram (sheet 6) in Section 6.2 or 6.3.)

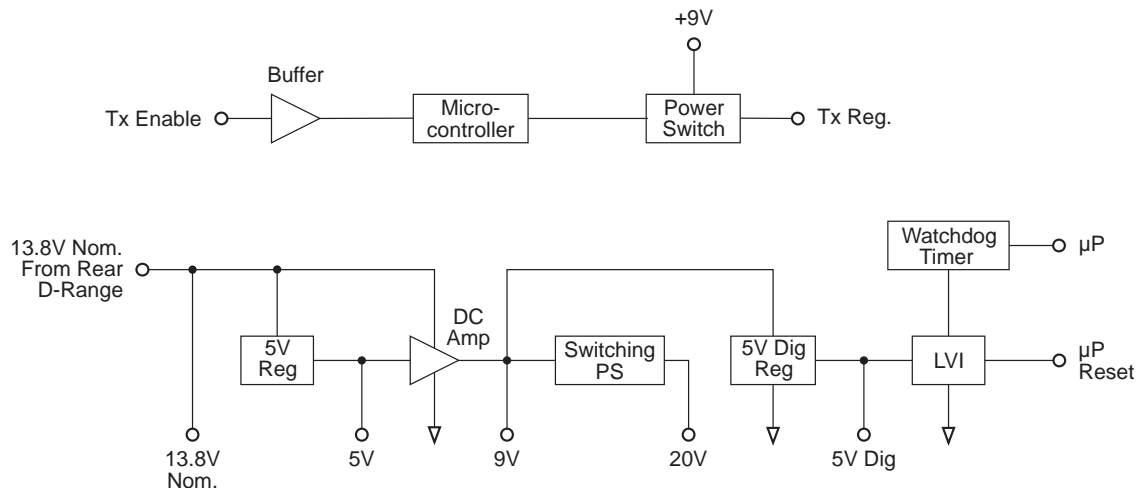


Figure 2.6 *T867 Power Supply & Regulators Block Diagram*

The T867 is designed to operate from a 10.8-16V DC supply (13.8V nominal). A 5.3V regulator (IC630) runs directly from the 13.8V rail, driving much of the synthesiser circuitry. It is also used as the reference for a DC amplifier (IC640, Q630, Q620) which provides a medium current capability 9V supply.

A switching power supply (Q660, Q670) runs from the 9V supply and provides a low current capability +20V supply. This is used to drive the synthesiser loop filter (IC750), giving a VCO control voltage range of up to 20V, and the Lock-Detect amplifiers.

Ultimate control of the transmitter is via the Tx-Reg. supply, switched from 9V by Q610. This is enabled via the Tx-Enable signal from the audio processor, and microprocessor.

2.7 Transmit Timers

The transmit tail timer, transmit timeout timer and transmit lockout timer can all be set from PGM800Win. The fields for setting these are found on the system information page. These three timers operate as follows (refer also to Figure 2.7):

Timer	Function	Adjustment
Transmit Tail	Sets the tail time during which the transmitter stays keyed after the external key source has been removed.	0-5 seconds in 100ms steps
Transmit Timeout	Sets the maximum continuous transmission time. Once the timer has timed out, the transmitter must be keyed again, unless prevented by the transmit lockout timer.	0-300 seconds in 10 second steps
Transmit Lockout	Sets the period of time that must elapse after a timeout before the transmitter can re-transmit. Once the timer has timed out, the transmitter can be keyed again.	0-60 seconds in 10 second steps

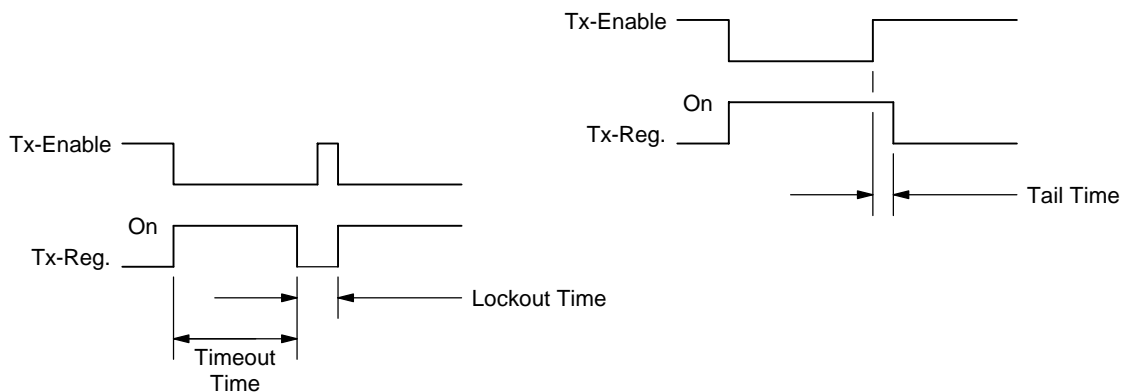


Figure 2.7 T867 Transmit Timers

2.8 T867 Exciter Drive Amplifier

(Refer to Figure 2.1 and the exciter circuit diagram (sheet 3) in Section 6.3.)

A two-stage, wide band amplifier (Q365, Q370) provides an output level of approximately 600mW (+27dBm) for an input of 100mW (+20dBm) from the VCO. IC330 pins 5, 6 & 7, Q310, and Q315 provide a 10.5V regulated supply for the exciter.

To reduce the spurious output level when the synthesiser is out-of-lock, the Tx-Reg. and Lock-Detect signals are gated to inhibit the exciter control circuit and to switch off the RF signal at the input to the drive amplifier. This is achieved by a PIN switch attenuator (D340, D350, D360).

Cyclic keying control is provided by additional circuitry consisting of several time delay, ramp and gate stages:

- Q305, IC330 pins 5, 6 & 7 power ramping
- Q340, Q345 Tx-Reg. and $\overline{\text{Lock-Detect}}$ gate
- Q320, Q325, Q330, Q335 delay and PIN switch drive.

This is to allow the RF power circuits (both exciter and PA) to ramp up and down in a controlled manner so that minimal adjacent channel interference is generated during the transition.

R359, R360 and R362 form a 10dB attenuator to provide good VCO/drive amplifier isolation.

The output attenuator (R392, R390, R394, R396) assists in reducing exciter/PA interaction while also ensuring a good match for Q370.

Note: The exciter provides a DC control signal to the PA via the RF coax. This is injected via L390.

3 T867 Initial Tuning & Adjustment

The following section describes both short and full tuning and adjustment procedures and provides information on:

- channel programming
- selecting required audio links
- synthesiser alignment
- modulator adjustment
- limiter adjustment
- setting line level
- compressor adjustment
- timer adjustment.

Note: Unless otherwise specified, the term "PGM800Win" used in this and following sections refers to version 2.00 and later of the software.

Refer to Section 6 where the parts lists, grid reference index and diagrams will provide detailed information on identifying and locating components and test points on the main PCB. The parts list and diagrams for the VCO PCB are in Part E.

Section	Title	Page
3.1	Introduction	3.3
3.2	Channel Programming	3.3
3.3	Test Equipment Required	3.4
3.4	Short Tuning Procedure	3.5
3.4.1	Introduction	3.5
3.4.2	Synthesiser Alignment	3.5
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3.4.5	Line-in Level Adjustment	3.7
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Section	Title	Page
3.8	Audio Processor	3.10
3.8.1	Two Point Modulation	3.10
3.8.2	Modulator Adjustment	3.10
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3.8.4	Line Level Without Compressor	3.11
3.8.5	Compressor	3.11
3.8.5.1	Compressor On Line Input Only	3.11
3.8.5.2	Compressor On Microphone Input Only	3.12
3.8.5.3	Compressor On Both Line & Microphone Inputs	3.12

Figure	Title	Page
3.1	T867 Test Equipment Set-up With T800-01-0010	3.4
3.2	T867 Test Equipment Set-up Without T800-01-0010	3.4

3.1 Introduction

When you receive your T867 exciter it will be run up and working on a particular frequency (the "default channel")¹. If you want to switch to a frequency that is within the 8MHz switching range (i.e. ± 4 MHz from the factory programmed frequency), you should only need to reprogram the exciter with the PGM800Win software (refer to the PGM800Win programming kit and Section 3.2 below).

However, if you want to switch to a frequency outside the 8MHz switching range, you will have to reprogram and re-tune the exciter to ensure correct operation. In this case you should carry out the short tuning procedure described in Section 3.4.

If you have carried out repairs or other major adjustments, you must carry out the full tuning and adjustment procedure described in this section (except for Section 3.4).

3.2 Channel Programming

You can program up to 128 channel frequencies into the exciter's EEPROM memory (IC820) by using the PGM800Win software package and an IBM™ PC. You can also use PGM800Win to select the exciter's current operating frequency (or "default channel").

If the exciter is installed in a rack frame, you can program it via the programming port in the speaker panel. However, you can also program the exciter before it is installed in a rack frame as follows:

- by using a T800-01-0010 calibration test unit;
- via D-range 1;
- via D-range 2 (standard T800-03-0000 auxiliary D-range only);
- via SK805 (internal Micromatch connector).

If you do not use the T800-01-0010, you will have to connect the PC to the exciter via a module programming interface (such as the T800-01-0004).

For a full description of the channel programming procedure, refer to the PGM800Win programming software user's manual.

Note: When an auxiliary D-range kit (D-range 2 - T800-03-0000) is fitted, you can also select a channel with an external switch, such as the DIP switch on the rack frame backplane PCB. Refer to Part C in the T800 Series Ancillary Equipment Service Manual (M800-00-101 or later issue) or consult your nearest Tait Dealer or Subsidiary for further details.

1. Use the "Read Module" function in PGM800Win to find out what the default channel is.

3.3 Test Equipment Required

You will need the following test equipment:

- computer with PGM800Win installed
 - T800 programming kit
 - module programming interface (e.g. T800-01-0004 - optional)
 - 13.8V power supply
 - digital multimeter
 - audio signal generator
 - RF power meter
 - audio voltmeter x 2
 - modulation meter
 - oscilloscope (digital preferred)
 - 20dB pad
 - T800-01-0010 calibration test unit (optional)
- } or RF test set (optional)

Figure 3.1 and Figure 3.2 show typical test equipment set-ups.

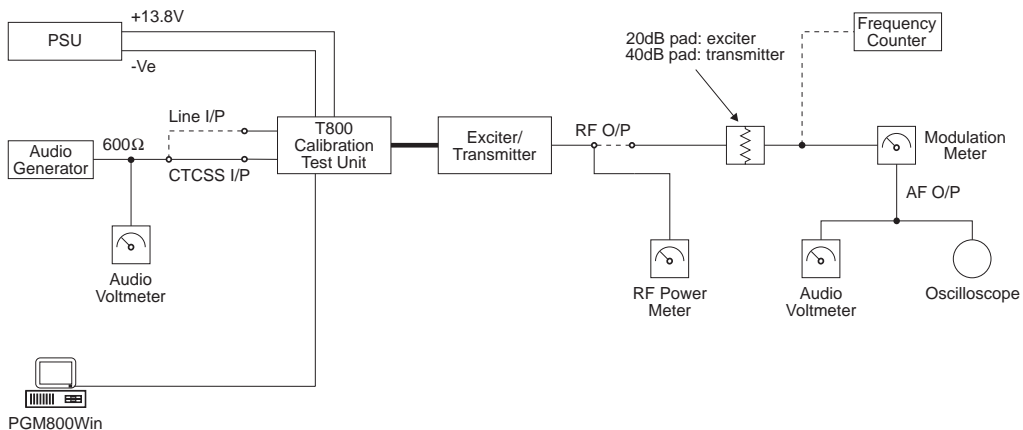


Figure 3.1 T867 Test Equipment Set-up With T800-01-0010

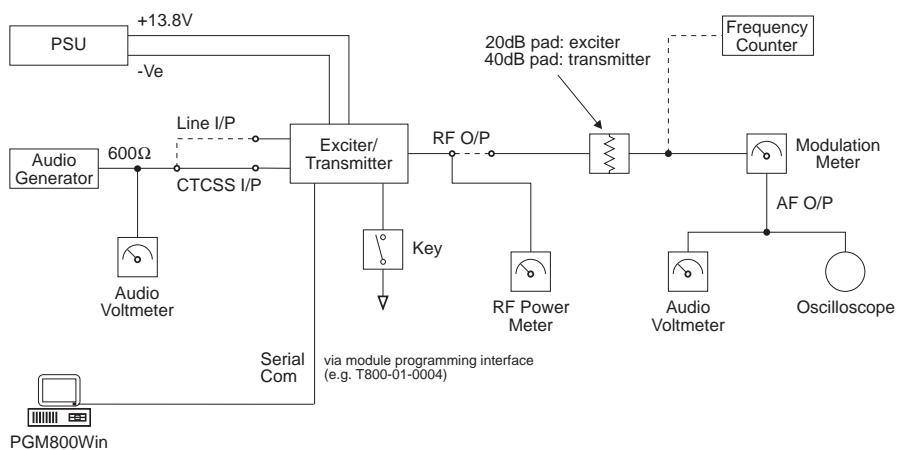


Figure 3.2 T867 Test Equipment Set-up Without T800-01-0010

3.4 Short Tuning Procedure

Use this procedure only if you want to reprogram the T867 to a frequency outside the 8MHz switching range and do not intend to carry out any other major adjustments or repairs.

3.4.1 Introduction

Reprogram the operating frequency as described in the PGM800Win programming kit (refer to Section 3.2).

Remove the top cover (nearest the handle).

Set up the test equipment as described in Section 3.3.

Set the links in the audio processor section as required (refer to Section 3.5).

3.4.2 Synthesiser Alignment

- Connect a high impedance voltmeter to PL4-1 or the junction of L1 & R1 in the VCO (this measures the synthesiser loop voltage).
- Key the exciter by earthing the Tx Key line.
- **Single Channel** Tune VCO trimmer CT for a synthesiser loop voltage of 8V.
Multichannel Tune VCO trimmer CT for a synthesiser loop voltage of 8V on the middle channel.

If there is no middle channel, tune CT so that the channels are symmetrically placed around a loop voltage of 8V.

All channels should lie within the upper and lower limits of 14V and 3V respectively.

Do not attempt to program channels with a greater frequency separation than the specified switching range of 8MHz.

3.4.3 Two Point Modulation Adjustment

Note 1: In this and following sections deviation settings are given first for wide bandwidth sets, followed by settings in brackets for mid bandwidth sets () and narrow bandwidth sets [].

Note 2: Reference modulation and limiter adjustment are controlled by PGM800Win. Electronic potentiometers (256 step) are used to allow channel-by-channel adjustment of deviation and two point modulation.

Note 3: To optimise the modulation response across the switching range, repeat steps 1-4 below for each channel that will be used (usually needed only for data applications). In applications where the modulation response is less critical (e.g. voice use only), carry out steps 1-4 below on the middle channel and cut and paste the value to all other channels.

1. Inject an audio signal of 500Hz 1.5V rms (+5dBm) into the CTCSS input (D-range 1 (PL100) pin 8).

Key the exciter by earthing the Tx Key line.

2. Adjust the output from the audio generator to obtain $\pm 3\text{kHz}$ ($\pm 2.4\text{kHz}$) [$\pm 1.5\text{kHz}$] deviation at 500Hz.

3. Change the input frequency to 50Hz and adjust “reference modulation” via PGM800Win to obtain $\pm 3\text{kHz}$ ($\pm 2.4\text{kHz}$) [$\pm 1.5\text{kHz}$] deviation (you can use either the mouse or up and down arrow keys).

4. Change the input frequency back to 500Hz.

Repeat steps 2 and 3 above until the deviations achieved at the two input frequencies are within 0.2dB of each other. You will need to do this at least four times.

5. Sweep the audio between 50 and 300Hz for peaks.

Note: A peak between 50 and 300Hz will indicate a fault condition, i.e:

- incorrect set-up
- or - modulation circuitry fault.

The specification window is $\pm 1\text{dB}$ relative to 150Hz from 65 to 260Hz.

3.4.4 FM Deviation (Limiter) Adjustment

Note: If the T867 will be used over the whole 8MHz switching range, you must set the deviation for each channel. However, if the module will be used on frequencies that cover only a 1MHz (or less) switching range, you can set the deviation on the middle channel and use this value for all other channels with the “fill” option in PGM800Win.

Inject 1kHz at -10dBm into the line input (D-range 1 (PL100) pins 1 & 4; pins 2 & 3 shorted; refer to Section 2.2 of Part F).

Adjust RV210 (line sensitivity) fully clockwise and key the exciter by earthing the Tx Key line. Adjust “deviation” via PGM800Win to set the peak deviation to $\pm 4.7\text{kHz}$ ($\pm 3.8\text{kHz}$) [$\pm 2.3\text{kHz}$] (you can use either the mouse or up and down arrow keys).

Sweep the audio frequency from 100Hz to 4kHz and ensure that the maximum deviation does not exceed 4.7kHz ($\pm 3.8\text{kHz}$) [$\pm 2.3\text{kHz}$]. Readjust “deviation” if necessary via PGM800Win.

3.4.5 Line-in Level Adjustment

Set the injected signal at the line input to the required line level (typically -10 to -20dBm).

Adjust RV210 (line sensitivity) to provide $\pm 3\text{kHz}$ ($\pm 2.4\text{kHz}$) [$\pm 1.5\text{kHz}$] deviation.

3.5 Audio Processor Links

3.5.1 Link Details

Use the following table to set up the audio processor to the configuration you require. You should set the audio processor links before carrying out any of the tuning and adjustment procedures. The factory settings are shown in brackets [].

Plug	Link ^a	Function
PL205	1-2 A	not connected
	[3-4] B	microphone pre-amp. output to compressor input
	5-6 C	microphone pre-amp. output to multiplexer input
PL210	[1-2] L	multiplexer output to pre-emphasis input
	3-4 M	multiplexer output to limiter input
	5-6 N	multiplexer output to compressor input
PL215	1-2 G	not connected
	[3-4] H	compressor output to multiplexer input
	5-6 I	compressor output to limiter input
	7-8 J	compressor output to pre-emphasis input
	9-10 K	not connected
PL220	1-2 D	pre-emphasis output to multiplexer input
	[3-4] E	pre-emphasis output to limiter input
	5-6 F	not connected

- a. The letters in this column and in the table in Section 3.5.2 below refer to the identification letters screen printed onto the PCB beside each pair of pins.

3.5.2 Typical Options

	PL205	PL210	PL215	PL220
microphone pre-amp. compressed and pre-emphasised; line input pre-emphasised (standard set-up)	[3-4] B	[1-2] L	[3-4] H	[3-4] E
microphone pre-amp. compressed and pre-emphasised; line input unprocessed	3-4 B	3-4 M	7-8 J	1-2 D
line and microphone compressed and pre-emphasised	5-6 C	5-6 N	7-8 J	3-4 E
microphone pre-amp. compressed; line and microphone flat response	3-4 B	3-4 M	3-4 H	5-6 F

3.6 Synthesiser Alignment

- Ensure that the T867 has been programmed with the required frequencies using PGM800Win software.
- **Single Channel** Select a channel using PGM800Win.
Multichannel Select the middle channel via PGM800Win.
- Connect a high impedance voltmeter to PL4-1 or the junction of C35 and R30 in the VCO (this measures the synthesiser loop voltage).
- Key the exciter by earthing the Tx-Key line.
 - Single Channel** Tune VCO trimmer CT for a synthesiser loop voltage of 8V.
 - Multichannel** Tune VCO trimmer CT for a synthesiser loop voltage of 8V on the middle channel.

If there is no middle channel, tune CT so that the channels are symmetrically placed around a loop voltage of 8V.

All channels should lie within the upper and lower limits of 14V and 3V respectively.

Do not attempt to program channels with a greater frequency separation than the specified switching range (8MHz).
- Check that the exciter output power is:
600mW \pm 150mW.
- Measure the exciter output frequency and adjust the TCXO (IC700) trimmer if required.



Caution: This trimmer is susceptible to physical damage. Do not exert a downward force of more than 500g (1lb) when adjusting.

3.7 Audio Processor

3.7.1 Two Point Modulation

The T867 utilises two point modulation to obtain a wide audio bandwidth independent of the synthesiser loop filter response. This is achieved by simultaneously frequency modulating the VCO and phase modulating the synthesiser reference frequency. The relative signal levels fed to the two modulators are quite critical and cause interaction when setting up.

Both modulating signals require readjustment when the exciter is shifted in frequency greater than the switching range (i.e. $\Delta F > \pm 4\text{MHz}$).

Note 1: In this and following sections deviation settings are given first for wide bandwidth sets, followed by settings in brackets for mid bandwidth sets () and narrow bandwidth sets [].

Note 2: Reference modulation and limiter adjustment are controlled by PGM800Win. Electronic potentiometers (256 step) are used to allow channel-by-channel adjustment of deviation and two point modulation.

Note 3: To optimise the modulation response across the switching range, repeat steps 1-4 below for each channel that will be used (usually needed only for data applications). In applications where the modulation response is less critical (e.g. voice use only), carry out steps 1-4 below on the middle channel and cut and paste the value to all other channels.

3.7.2 Modulator Adjustment

1. Inject an audio signal of 500Hz 1.5V rms (+5dBm) into the CTCSS input (D-range 1 (PL100) pin 8).
Key the exciter by earthing the Tx-Key line.
2. Adjust the output from the audio generator to obtain $\pm 3\text{kHz}$ ($\pm 2.4\text{kHz}$) [$\pm 1.5\text{kHz}$] deviation at 500Hz.
3. Change the input frequency to 50Hz and adjust “reference modulation” via PGM800Win to obtain $\pm 3\text{kHz}$ ($\pm 2.4\text{kHz}$) [$\pm 1.5\text{kHz}$] deviation.
4. Change the input frequency back to 500Hz.
Repeat steps 2 and 3 above until the deviations achieved at the two input frequencies are within 0.2dB of each other. You will need to do this at least four times.
5. Sweep the audio between 50 and 300Hz for peaks.

Note: A peak between 50 and 300Hz will indicate a fault condition, i.e:
- incorrect set-up
or - modulation circuitry fault.

The specification window is $\pm 1\text{dB}$ relative to 150Hz from 65 to 260Hz.

3.7.3 Limiter Adjustment

Note: If the T867 will be used over the whole 8MHz switching range, you must set the deviation for each channel. However, if the module will be used on frequencies that cover only a 1MHz (or less) switching range, you can set the deviation on the middle channel and use this value for all other channels with the “fill” option in PGM800Win.

Set the links in the audio processor section as required (refer to Section 3.5).

Inject 1kHz at -10dBm into the line input (D-range 1 (PL100) pins 1 & 4; and pins 2 & 3 shorted; refer to Section 2.2 of Part F).

Adjust RV210 (line sensitivity) fully clockwise and key the exciter by earthing the Tx-Key line. Adjust “deviation” via PGM800Win to set the peak deviation to $\pm 4.7\text{kHz}$ ($\pm 3.8\text{kHz}$) [$\pm 2.3\text{kHz}$] (you can use either the mouse or up and down arrow keys).

Sweep the audio frequency from 100Hz to 4kHz and ensure that the maximum deviation does not exceed 4.7kHz ($\pm 3.8\text{kHz}$) [2.3kHz]. Readjust “deviation” if necessary via PGM800Win.

3.7.4 Line Level Without Compressor

This section assumes that the compressor is not used. If the compressor is required, refer to Section 3.7.5.

Adjust the line sensitivity as follows:

- set the injected signal at the line input to the required line level (typically -10 to -20dBm);
- adjust RV210 (line sensitivity) to provide $\pm 3\text{kHz}$ ($\pm 2.4\text{kHz}$) [$\pm 1.5\text{kHz}$] deviation.

3.7.5 Compressor

The compressor may be used on the line input only, the microphone input only, or on both the line and microphone inputs. If the compressor is used, refer to one of the following sections as appropriate.

3.7.5.1 Compressor On Line Input Only

Set RV210 (line sensitivity) fully clockwise and key the exciter by earthing the Tx-Key line.

Reduce the line level to -50dBm at 1kHz and set RV220 (compression level) fully clockwise.

Check that $\pm 3\text{kHz}$ ($\pm 2.4\text{kHz}$) [$\pm 1.5\text{kHz}$] deviation is still available.

Slowly increase the audio input level until the demodulated waveform shows significant signs of clipping (approximately $\pm 4.5\text{kHz}$ ($\pm 3.6\text{kHz}$) [$\pm 2.3\text{kHz}$] deviation).

Adjust RV220 anticlockwise until the demodulated waveform is just clipping (approximately $\pm 4\text{kHz}$ ($\pm 3.2\text{kHz}$) [$\pm 2\text{kHz}$] deviation).

Increase the input level to -10dBm and check that the test tone is still held just into clipping. The input line level should be typically -10 to -20dBm .

3.7.5.2 Compressor On Microphone Input Only

Key the exciter by earthing the Tx-Key line and plug a microphone jack into the front panel socket.

Adjust RV220 (compression level) fully clockwise.

Acoustically couple the microphone to a tone box (1kHz) and close the PTT switch.

Increase the audio level until the demodulated waveform shows significant signs of clipping (approximately $\pm 4.5\text{kHz}$ ($\pm 3.6\text{kHz}$) [$\pm 2.3\text{kHz}$] deviation).

Adjust RV220 anticlockwise until the demodulated waveform is just clipping (approximately $\pm 4\text{kHz}$ ($\pm 3.2\text{kHz}$) [$\pm 2\text{kHz}$] deviation).

Increase the audio level by 10dB and verify that the test tone is held just into clipping.

Whistle steadily into the microphone, checking that approximately $\pm 4\text{kHz}$ ($\pm 3.2\text{kHz}$) [$\pm 2\text{kHz}$] deviation is produced. The modulated waveform should be basically sinusoidal.

Speak into the microphone, checking that the modulation peaks reach about $\pm 5\text{kHz}$ ($\pm 4\text{kHz}$) [$\pm 2.5\text{kHz}$] deviation.

As the line is to be used without compression, set RV210 (line sensitivity) as described in Section 3.7.4.

3.7.5.3 Compressor On Both Line & Microphone Inputs

Set up as described in Section 3.7.5.1.

4 T867 Functional Testing

The following test procedures will confirm that the T867 has been tuned and adjusted correctly and is fully operational.

Note 1: In this and following sections deviation settings are given first for wide bandwidth sets, followed by settings in brackets for mid bandwidth sets () and narrow bandwidth sets [].

Note 2: Unless otherwise specified, the term "PGM800Win" used in this and following sections refers to version 2.00 and later of the software.

Refer to Section 3.3 for the test equipment set-up. Refer also to Section 6 where the parts lists, grid reference index and diagrams will provide detailed information on identifying and locating components and test points on the main PCB. The parts list and diagrams for the VCO PCB are in Part E.

The following topics are covered in this section.

Section	Title	Page
4.1	Current Consumption	4.3
4.2	Output Power	4.3
4.3	Output Frequency	4.3
4.4	Timers	4.3
4.5	Frequency Response	4.4
4.6	Audio Level Input Sensitivity	4.7
4.7	CTCSS Encoder	4.7

Figure	Title	Page
4.1	T867 Transmit Timers	4.4
4.2	T867 Pre-emphasis Response	4.5
4.3	T867 Limiting Response	4.6

4.1 Current Consumption

Connect the T867 to a 13.8V power supply.

Connect an RF power meter to the T867 output socket.

Check that the current in the 13.8V power cable is less than 150mA.

Key the T867 by earthing the Tx-Key line (the carrier "On" LED should light).

Check that the current is <600mA.

4.2 Output Power

Connect an RF power meter to the T867 output socket.

Key the T867 by earthing the Tx-Key line.

Check that the output power is 600mW \pm 150mW.

4.3 Output Frequency

Connect the T867 output to a frequency counter via a 20dB attenuator pad.

Measure the output frequency and, if necessary, adjust the TCXO (IC700) to trim to the nominal frequency (\pm 100Hz).

4.4 Timers

The transmit tail timer, transmit timeout timer and transmit lockout timer can all be set from PGM800Win. The fields for setting these are found on the system information page. These three timers operate as follows (refer also to Figure 4.1):

Timer	Function	Adjustment
Transmit Tail	Sets the tail time during which the transmitter stays keyed after the external key source has been removed.	0-5 seconds in 100ms steps
Transmit Timeout	Sets the maximum continuous transmission time. Once the timer has timed out, the transmitter must be keyed again, unless prevented by the transmit lockout timer.	0-300 seconds in 10 second steps
Transmit Lockout	Sets the period of time that must elapse after a timeout before the transmitter can re-transmit. Once the timer has timed out, the transmitter can be keyed again.	0-60 seconds in 10 second steps

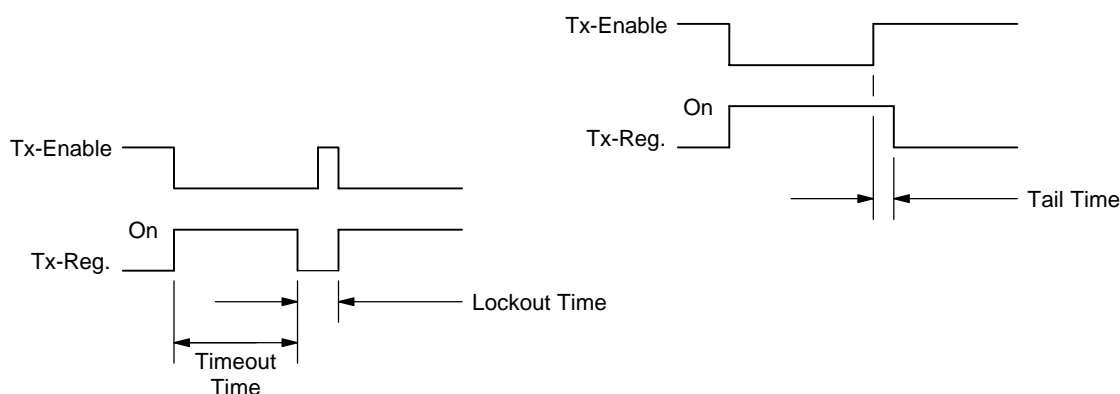


Figure 4.1 T867 Transmit Timers

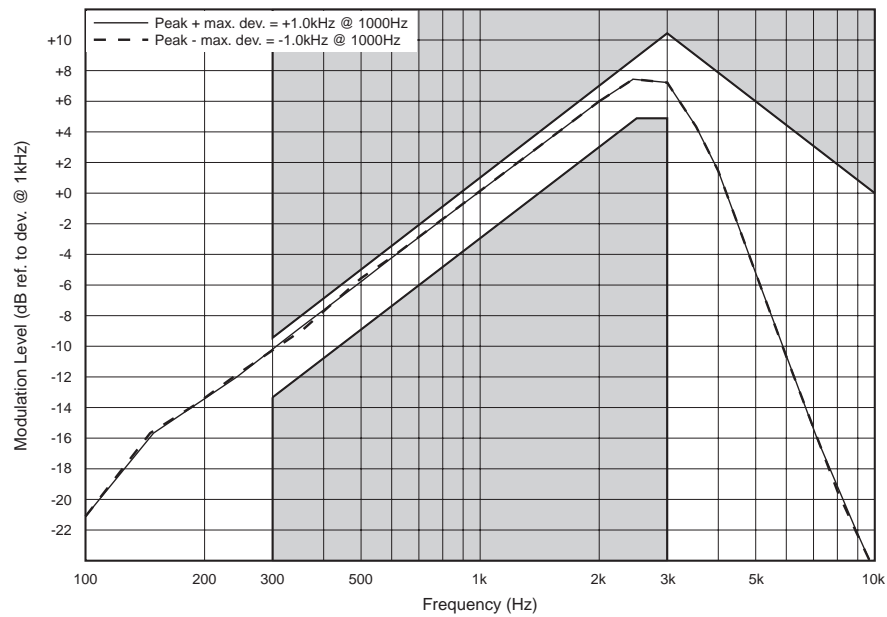
4.5 Frequency Response

If the T867 has been correctly adjusted, the pre-emphasis and limiting responses should closely match those shown in Figure 4.2 and Figure 4.3 respectively.

Note: The limits shown on these graphs should not be exceeded.

- Measure the pre-emphasis response as follows:
 - Reduce the line level to give $\pm 1\text{kHz}$ ($\pm 0.8\text{kHz}$) [$\pm 0.5\text{kHz}$] deviation at 1kHz.
 - Sweep the modulation frequency.
 - The response should closely match that shown in Figure 4.2.
- Measure the limiting response as follows:
 - Set the line level to give $\pm 3\text{kHz}$ ($\pm 2.4\text{kHz}$) [$\pm 1.5\text{kHz}$] deviation at 1kHz.
 - Increase the line level 20dB and sweep the modulation frequency.
 - The response should closely match that shown in Figure 4.3.

Wide Bandwidth



Mid Bandwidth

The mid bandwidth graph is the same shape as the wide bandwidth graph. The deviation figures are as follows:

$$\text{peak + max. deviation} = +0.8\text{kHz}$$

$$\text{peak - max. deviation} = -0.8\text{kHz.}$$

Narrow Bandwidth

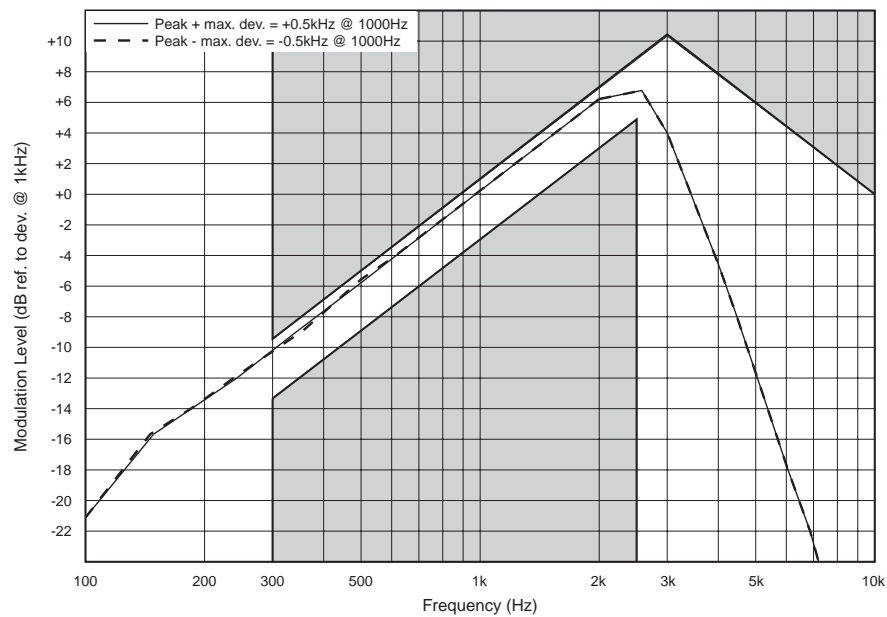
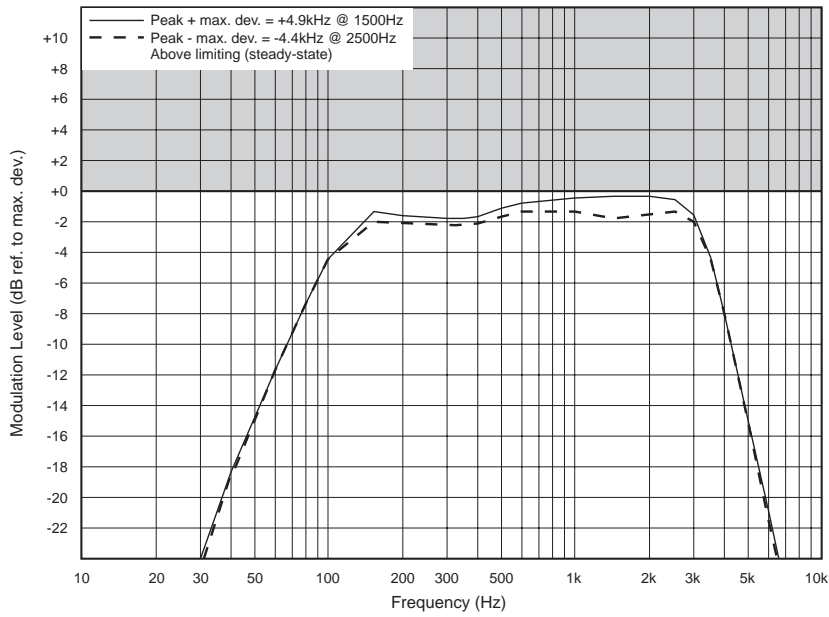


Figure 4.2 T867 Pre-emphasis Response

Wide Bandwidth



Mid Bandwidth

The mid bandwidth graph is the same shape as the wide bandwidth graph. The deviation figures are as follows:

- peak + max. deviation = +4kHz
- peak - max. deviation = -4kHz.

Narrow Bandwidth

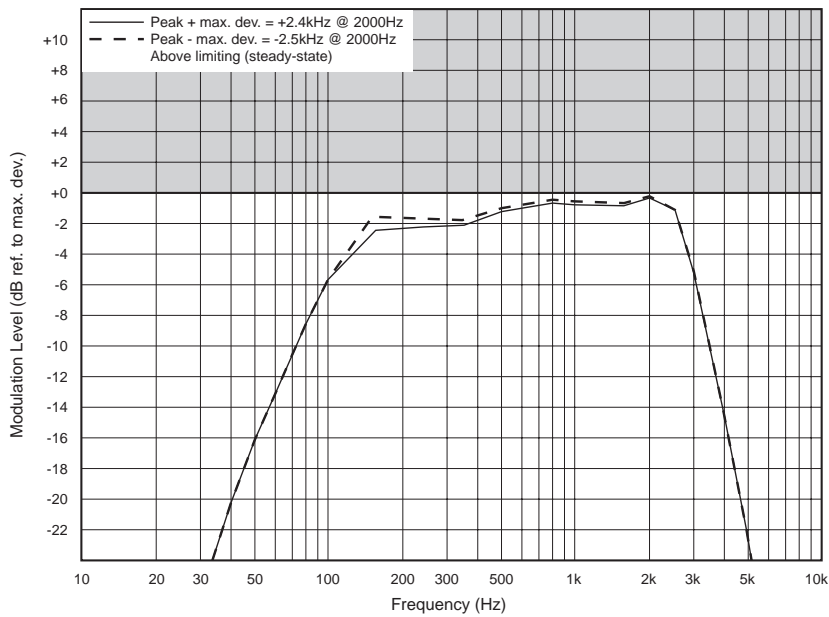


Figure 4.3 T867 Limiting Response

4.6 Audio Level Input Sensitivity

- Adjust RV210 (line sensitivity) fully clockwise.
- Check that the input sensitivities are better than those specified below:

Line Input	600 ohms, $\pm 3\text{kHz}$ ($\pm 2.4\text{kHz}$) [$\pm 1.5\text{kHz}$] deviation at 1kHz: with compressor -50dBm without compressor -30dBm
Microphone Input	600 ohms, $\pm 3\text{kHz}$ ($\pm 2.4\text{kHz}$) [$\pm 1.5\text{kHz}$] deviation at 1kHz: with compressor -75dBm without compressor -55dBm
CTCSS Input	1kHz deviation at 150Hz 500mV rms

Note: A degraded signal to noise ratio can be expected with the compressor selected. The extent of the degradation is dependent on the audio input level.

4.7 CTCSS Encoder

Program a CTCSS tone on the set channel using PGM800Win.

Key T867 with the front panel "Carrier" switch.

Adjust RV805 (CTCSS level adjust) to give 10% system deviation.

Reset the maximum deviation as per Section 3.7.3.

5 T867 Fault Finding

The following test procedures and fault finding flow charts may be used to help locate a hardware problem, however they are by no means a complete fault finding procedure. If you still cannot trace the fault after progressing through them in a logical manner, contact your nearest Tait Dealer or Subsidiary. If necessary, you can get additional technical help from the Customer Support Group, Radio Systems Division, Tait Electronics Ltd, Christchurch, New Zealand (full contact details are on page 2).

Note 1: In this and following sections deviation settings are given first for wide bandwidth sets, followed by settings in brackets for mid bandwidth sets () and narrow bandwidth sets [].

Note 2: Unless otherwise specified, the term "PGM800Win" used in this and following sections refers to version 2.00 and later of the software.

Refer to Section 6 where the parts lists, grid reference index and diagrams will provide detailed information on identifying and locating components and test points on the main PCB. The parts list and diagrams for the VCO PCB are in Part E.

The following topics are covered in this section

Section	Title	Page
5.1	Visual Checks	5.3
5.2	Component Checks	5.3
5.3	Front Panel LED Indicator	5.3
5.4	DC Checks	5.4
5.4.1	Power Rails	5.4
5.4.2	VCO Locking	5.4
5.5	RF Checks	5.5
5.5.1	T867 Output Power	5.5
5.5.2	Audio And Modulation	5.5
5.6	PGM800Win Generated Errors	5.6
5.7	Fault Finding Charts	5.7
5.7.1	Microcontroller	5.7
5.7.1.1	Basic Checks	5.7
5.7.1.2	Serial Communication	5.8
5.7.1.3	CTCSS Encode	5.9
5.7.2	Regulator	5.10
5.7.3	Synthesiser	5.11
5.7.4	T867 Exciter Drive Amplifier	5.14
5.7.5	Audio Processor	5.15

Figure	Title	Page
5.1	RF Diode Probe Circuit	5.5

5.1 Visual Checks

Remove the covers from the T867 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 Section 3 of Part A.

5.2 Component Checks

If you suspect a transistor is faulty, you can assess its performance by measuring the forward and reverse resistance of the junctions. Unless the device is completely desoldered, first make sure that the transistor is not shunted by some circuit resistance. Use a good quality EVM (e.g. Fluke 75) for taking the measurements (or a 20k ohm/V or better multimeter, 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.

5.3 Front Panel LED Indicator

The green "Supply" LED on the T867 front panel will flash according to the conditions described in the following table:

Flash Rate	Condition
<p style="text-align: center;">fast</p> <p style="text-align: center;">- - - - - (1/3 sec. on/1/3 sec. off approx.)</p>	T867 is linked with PGM800Win
<p style="text-align: center;">unequal</p> <p style="text-align: center;">- - - - - (1/3 sec. on/1 sec. off approx.)</p>	microcontroller has detected an internal communications error - refer to Section 5.7.1

Where two or more conditions occur at the same time, the precedence is in the order shown above (i.e. T867 linked has the highest priority, followed by internal error).

5.4 DC Checks

5.4.1 Power Rails

Refer to the test points and options diagrams in Section 6 for test point locations, and to the regulator fault finding chart (Section 5.7.2) for fault diagnosis.

Check the 13.8V (TP601) and 9V (TP602) supplies at their test points in the regulator compartment with a DMM.

Check the 5V (TP604) and 20V (TP603) rails at their respective test points in the regulator compartment.

Check that Tx-Reg. (TP305 in the exciter compartment) comes up to 8.8V when the exciter is keyed.

Check the +5V digital regulator output (TP607 in the regulator compartment).

Check for short circuits.

5.4.2 VCO Locking

Key the exciter.

Using a DMM, monitor the VCO control voltage at PL4-1 or the junction of L1 and R1 on the VCO PCB.

If the synthesiser is locked and the VCO aligned, the voltage at this point should be between 5 and 13V.

If the VCO is not locked, refer to the synthesiser fault finding chart (Section 5.7.3).

5.5 RF Checks

In-circuit RF levels may be measured with an RF probe on which the earth lead has been shortened to a minimum (i.e. 13mm). Refer to the circuit diagrams for typical levels.

Figure 5.1 shows a suitable RF probe circuit..

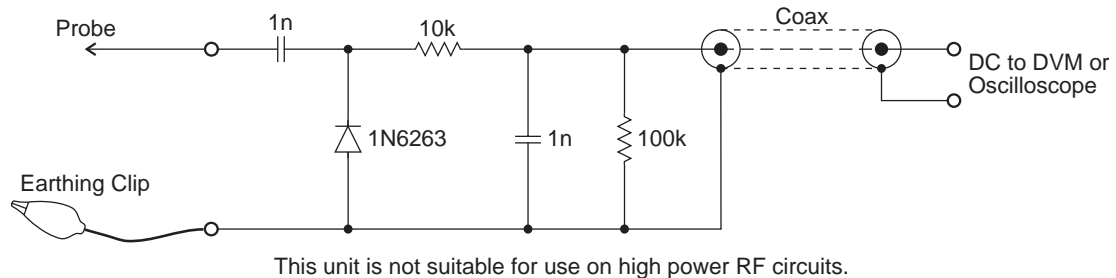


Figure 5.1 RF Diode Probe Circuit

5.5.1 T867 Output Power

Refer to the exciter drive amplifier fault finding chart (Section 5.7.4).

Ensure that the VCO locks (refer to Section 5.4.2).

Connect the exciter output to a power meter and key the exciter.

Check that the output power is between 600 and 1000mW.

Note: If the synthesiser is out of lock, the lock detector (synthesiser IC740 and comparator IC750) will prevent the RF signal from reaching the PA by switching the supply to the exciter amplifier (Q340, Q345).

5.5.2 Audio And Modulation

Refer to the audio processor fault finding chart (Section 5.7.5).

Set up the audio processor as described in Section 3.7.

Check that the demodulated RF output has the frequency response referred to in Section 4.5 with at least $\pm 5\text{kHz}$ ($\pm 4\text{kHz}$) [$\pm 2.5\text{kHz}$] deviation available at 1kHz modulating frequency.

If the above result is not achieved, either the two modulators are incorrectly adjusted or a fault condition exists.

5.6 PGM800Win Generated Errors

The following errors are those most likely to occur using PGM800Win. Refer to the PGM800Win software user's manual for a complete list of error messages.

Channel Switch Set

The programmed default channel change was not accepted by the base station because a channel is selected externally. Try turning the external channel switch off to change the default channel in PGM800Win.

Synth Out Of Lock

The synthesiser received incorrect data, or the data was corrupted. Enter a frequency within the VCO switching range, or tune the VCO.

Internal Error

Data could not be read from the base station due to an internal error. Check for shorts or open circuits on the SDA, SCK, SYNTH and EPOT lines. The SDA, SCK and SYNTH are normally high, and the EPOT is normally low.

Write/Read To An Unlinked Module

The link to the module does not exist. Undefined error.

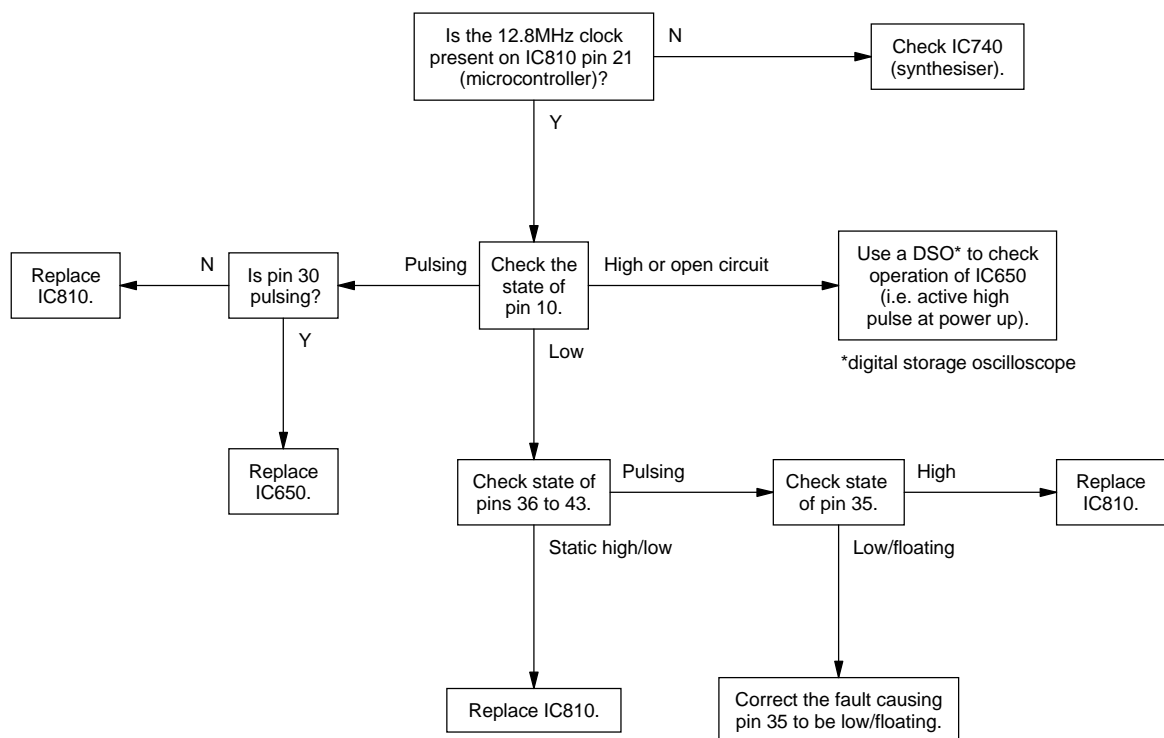
5.7 Fault Finding Charts

Note: The standard test point designations used in this section are as follows:

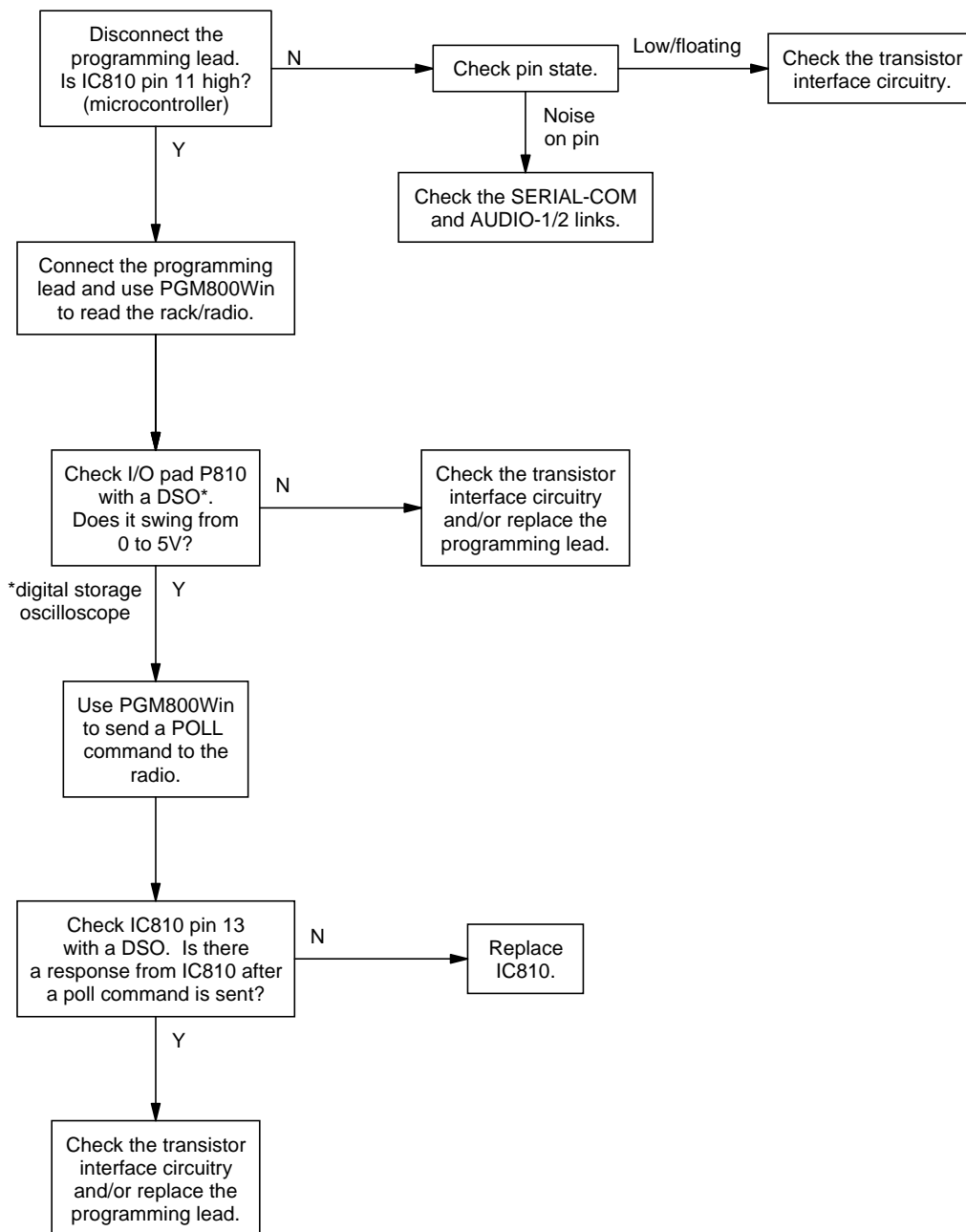
TP601	13.8V
TP602	9V
TP603	20V
TP604	5V

5.7.1 Microcontroller (IC810)

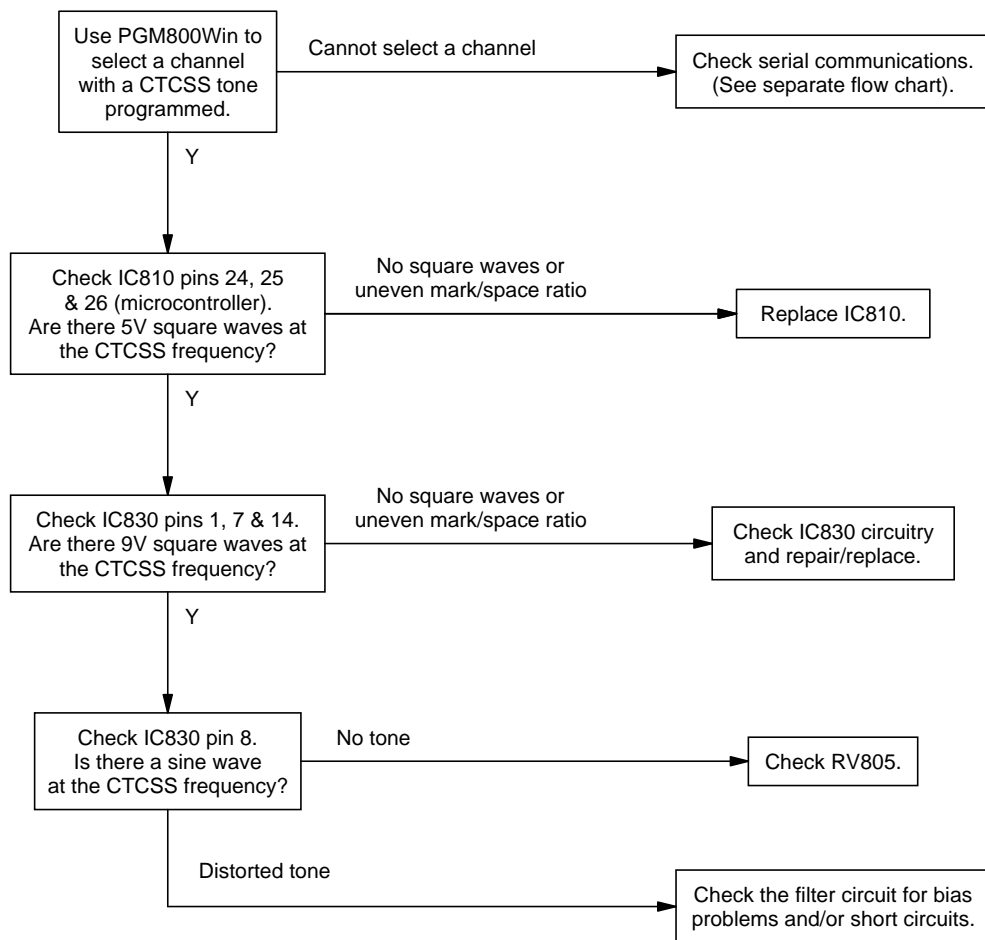
5.7.1.1 Basic Checks



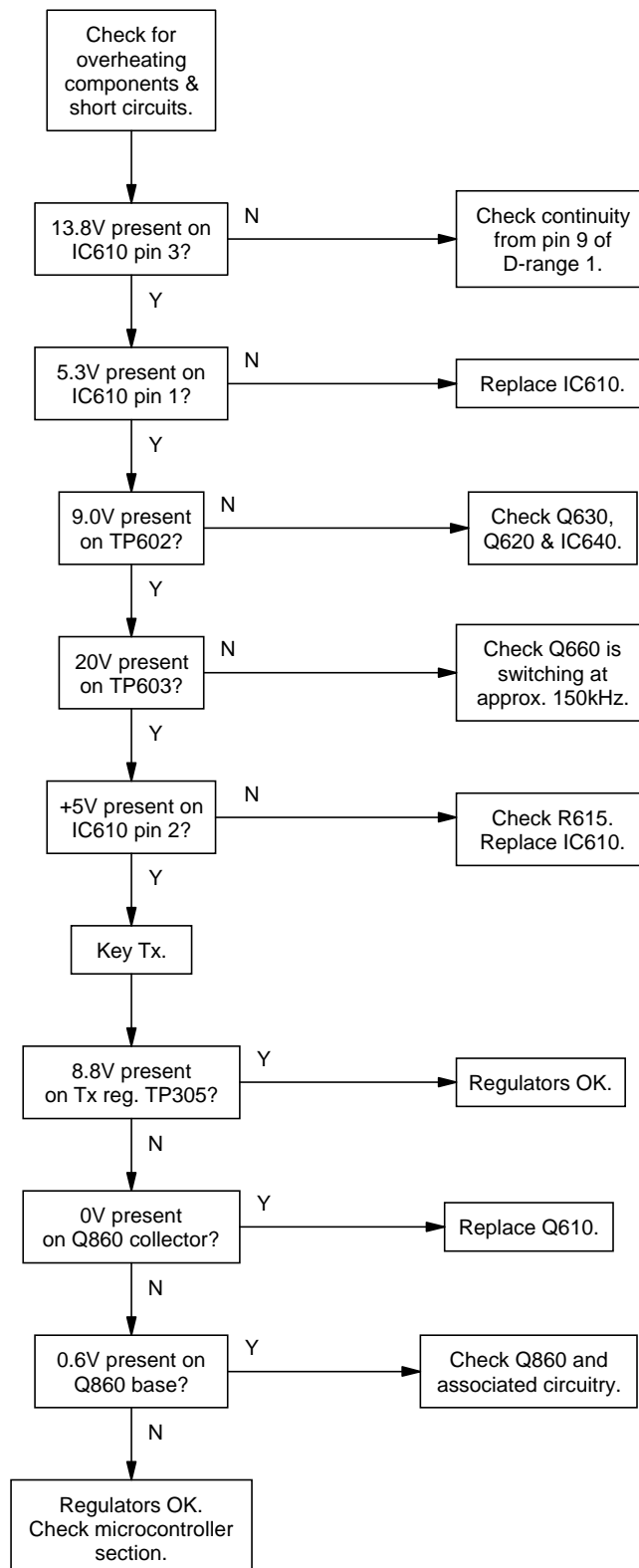
5.7.1.2 Serial Communication



5.7.1.3 CTCSS Encode

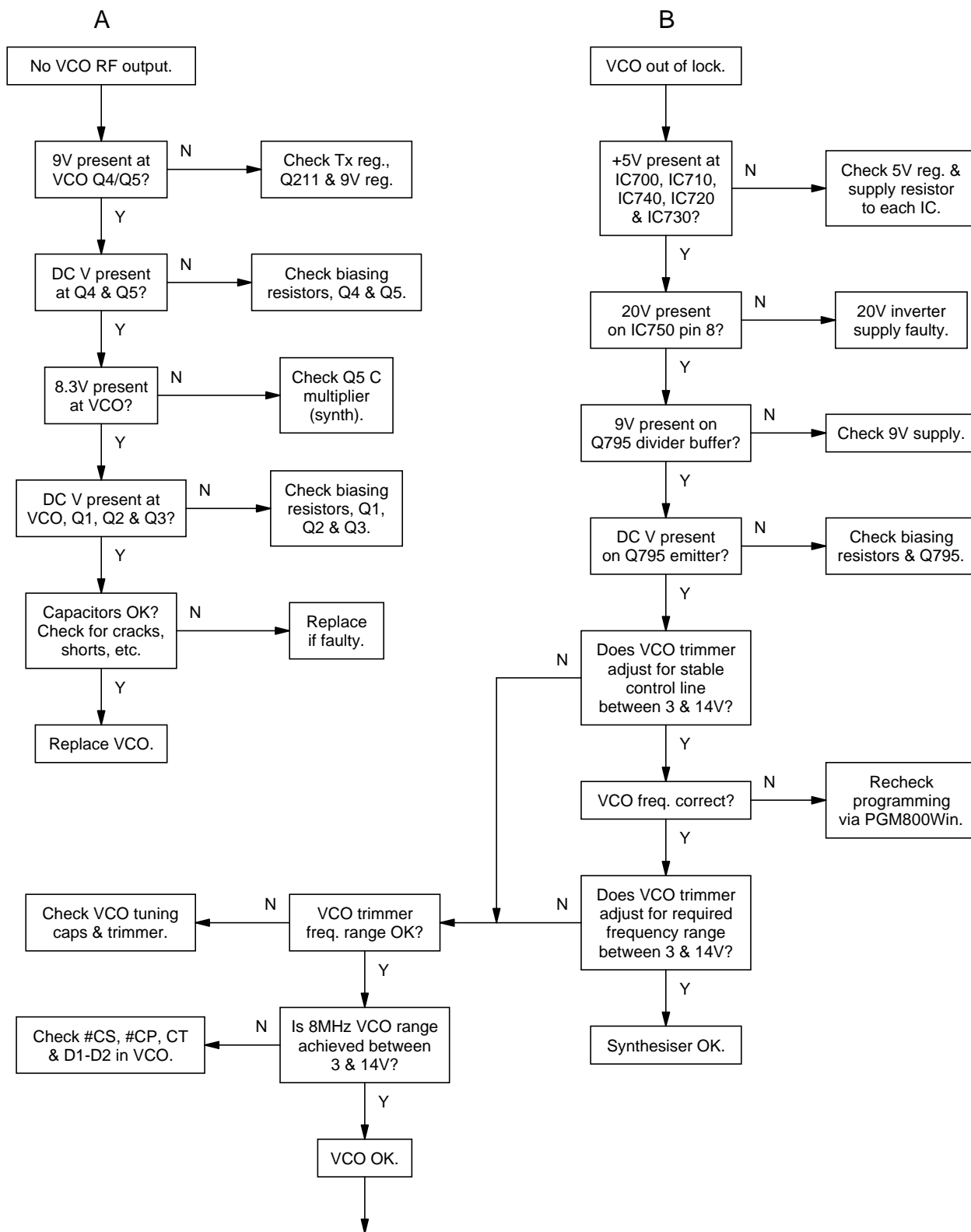


5.7.2 Regulator

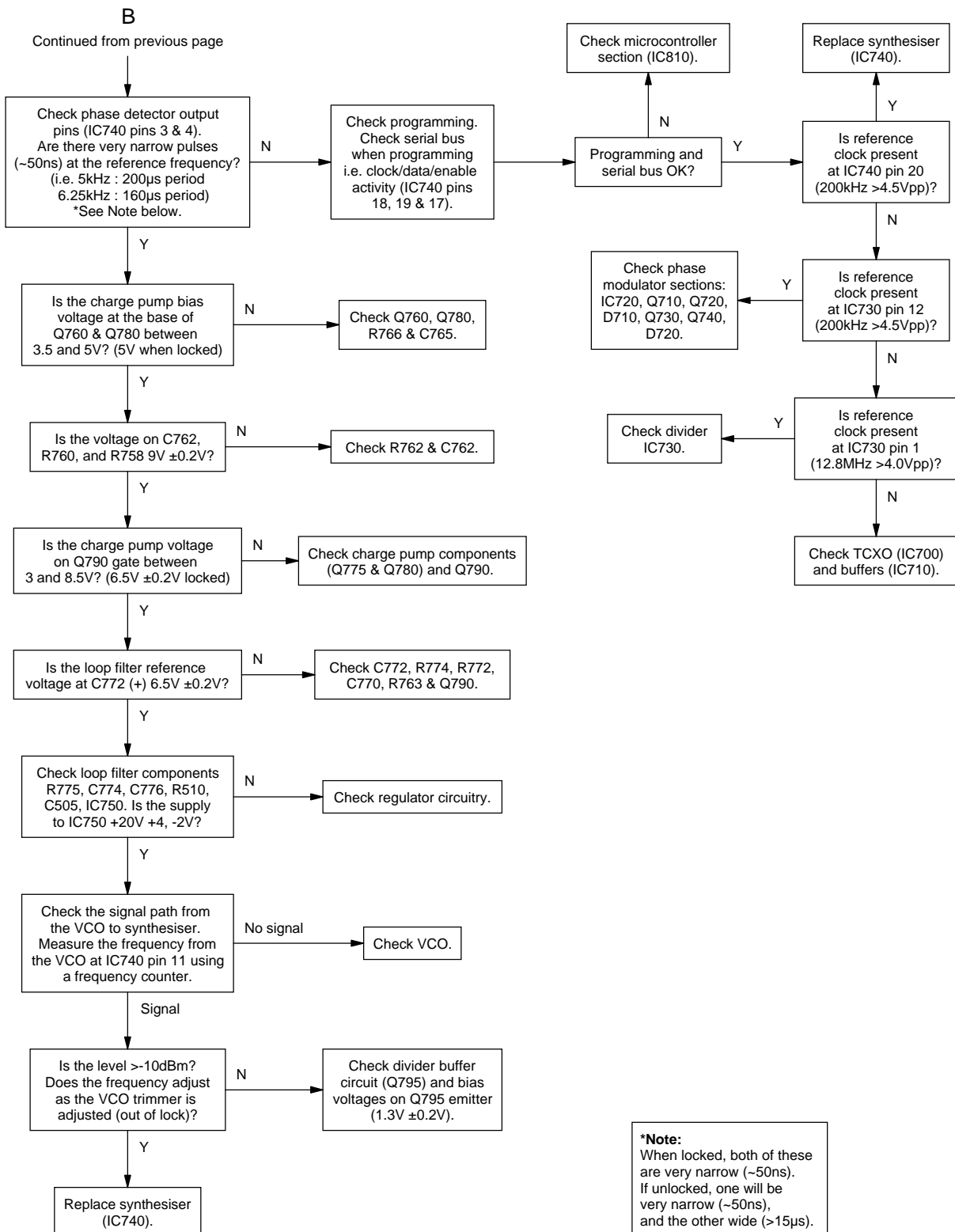


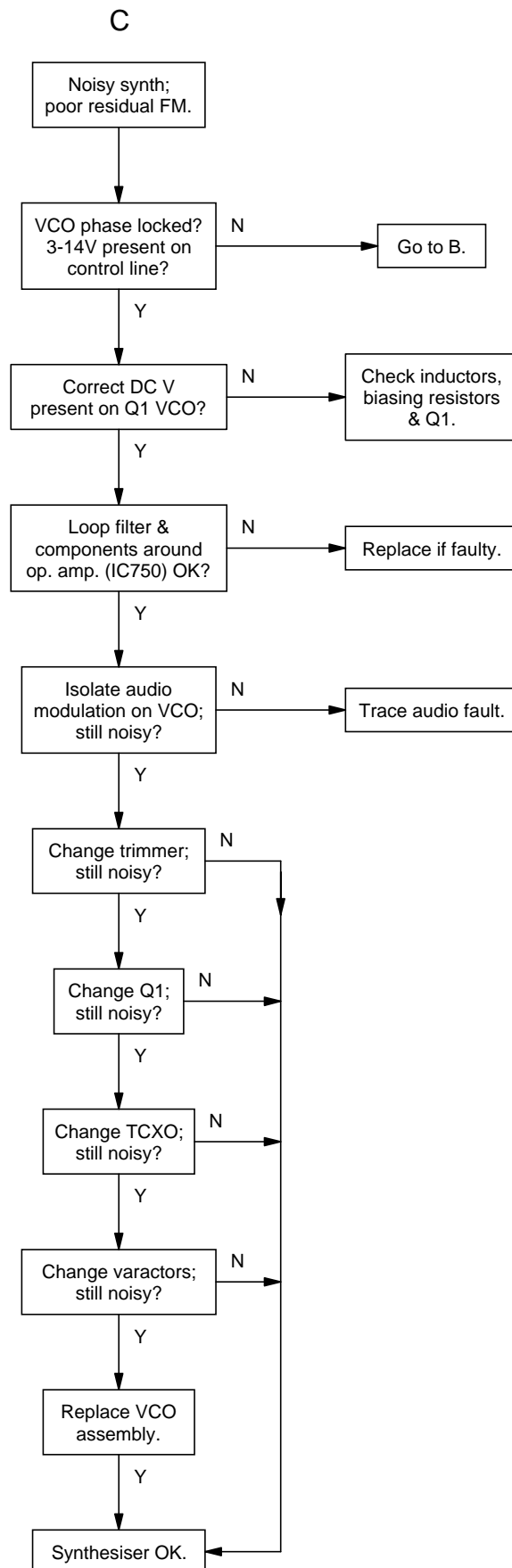
5.7.3 Synthesiser

Refer to the synthesiser circuit diagram (sheet 7) in Section 6 and the VCO circuit diagram in Part E.

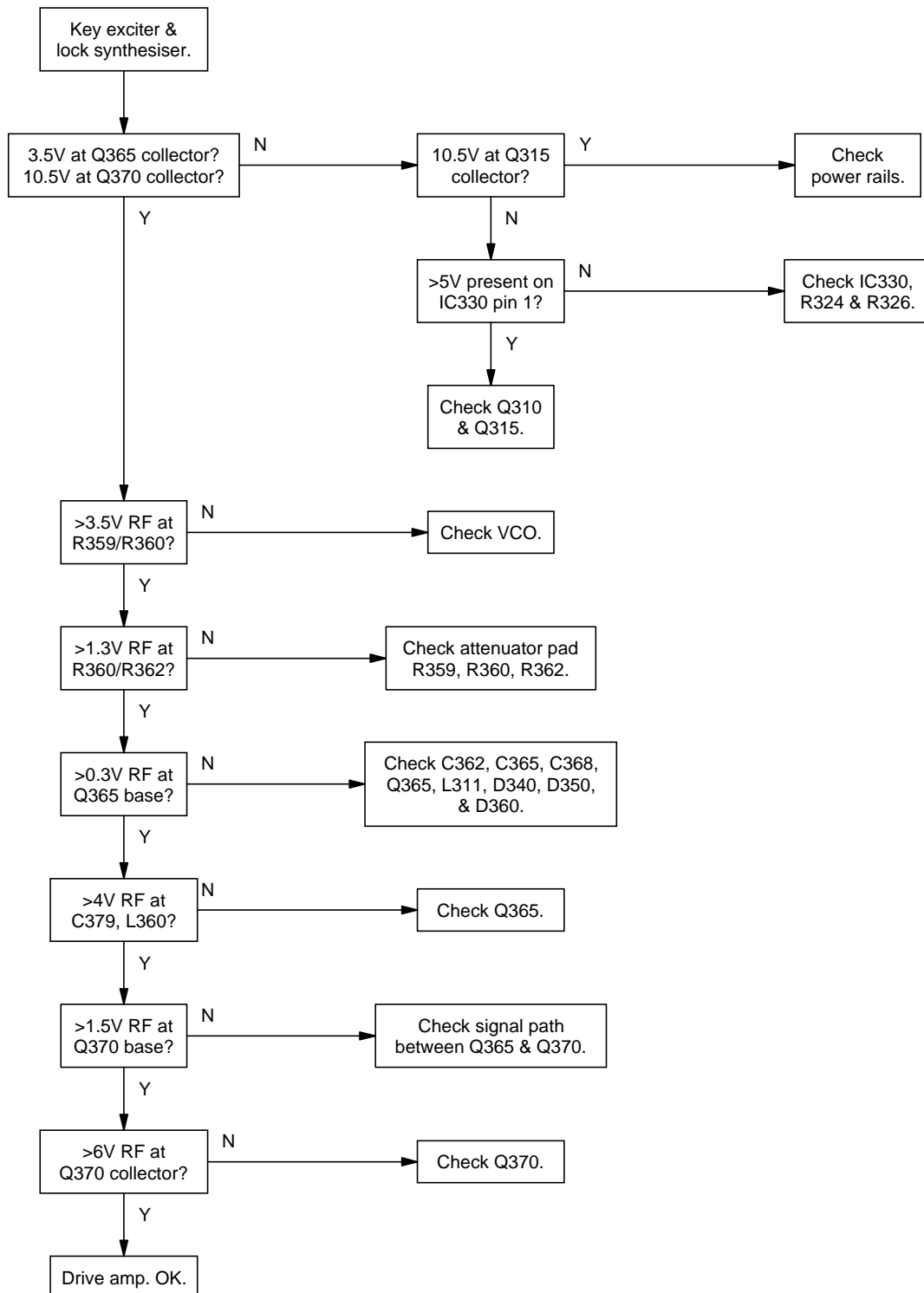


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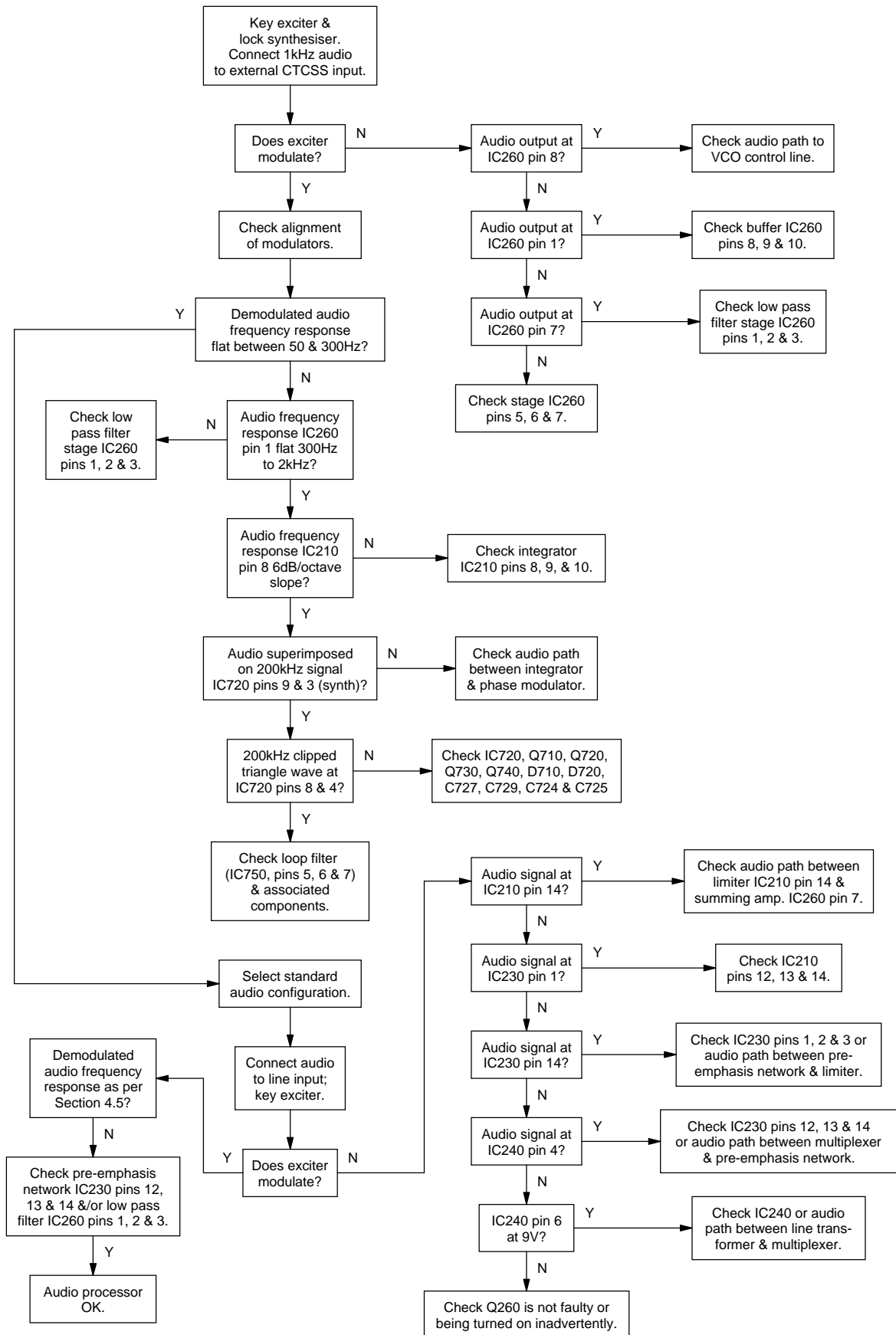




5.7.4 T867 Exciter Drive Amplifier



5.7.5 Audio Processor



6 T867 PCB Information

This section provides the following information on the T867 exciter:

- parts lists
- grid reference indexes
- PCB layouts
- test points & options connections drawings
- circuit diagrams

6.1 Introduction

Product Type Identification

You can identify the exciter type by checking the product code printed on a label on the rear of the chassis (product codes are explained in Section 1.3 in this Part of the manual, and Figure 1.1 in Part A shows typical labels). You can further verify the product type by checking the placement of an SMD resistor in the table that is screen printed onto the top side of the PCB, similar to the example drawn below (this table also appears in the resist layer on the bottom side of the PCB). In this example, the resistor indicates that the product was built as a T867-10-XXXX.

■ ■ 867-	PRODUCT TYPE	
■ ■ 867-	■ ■ 867-10	■ ■ 867-20
■ ■ 867-	■ ■ 867-13	■ ■ 867-23
PRODUCT TYPE	■ ■ 867-15	■ ■ 867-25

Note: The only function of this resistor is to indicate the product type. It has no effect on the circuitry or operation of the transmitter or exciter.

PCB Identification

All PCBs are identified by a unique 10 digit “internal part number” (IPN), e.g. 220-12345-00, which is screen printed onto the PCB (usually on the top side), as shown in the example below:



The last 2 digits of this number define the issue status, which starts at 00 and increments through 01, 02, 03, etc. as the PCB is updated. Some issue PCBs never reach full production status and are therefore not included in this manual. A letter following the 10 digit IPN has no relevance in identifying the PCB for service purposes.

Note: It is important that you identify which issue PCB you are working on so that you can refer to the appropriate set of PCB information.

Parts Lists

The 10 digit numbers (000-00000-00) in this Parts List are “internal part numbers” (IPNs). We can process your spare parts orders more efficiently and accurately if you quote the IPN and provide 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, D1, R121, etc.) and those without (miscellaneous and mechanical).

Those with a circuit reference are grouped in alphabetical order and then in numerical order within each group. Each component entry comprises three or four columns, as shown below:

Diagram illustrating the structure of a parts list entry with callouts:

- circuit reference - lists components in alphanumeric order**: Points to the 'Ref' column.
- variant column - indicates that this is a variant component which is fitted only to the product type listed**: Points to the 'Var' column.
- Internal Part Number - order the component by this number**: Points to the 'IPN' column.
- description - gives a brief description of the component**: Points to the 'Description' column.

Ref	Var	IPN	Description
C126		015-06100-08	CAP CER 1206 CHIP 100N 10% X7R 50V
C127		020-09220-01	CAP ELECT RADL 220M 16V 10X12.5MM
C128		015-06100-08	CAP CER 1206 CHIP 100N 10% X7R 50V
C129		015-06100-08	CAP CER 1206 CHIP 100N 10% X7R 50V
&C130	10	015-25100-08	CAP CER 0805 CHIP 10N 10% X7R 50V
&C130	15	015-24470-08	CAP CER 0805 CHIP 4N7 10% X7R 50V
&C130	20	015-25100-08	CAP CER 0805 CHIP 10N 10% X7R 50V
&C130	25	015-24470-08	CAP CER 0805 CHIP 4N7 10% X7R 50V
C131		015-24100-08	CAP CER 0805 CHIP 1N 10% X7R 50V
C132		015-24470-08	CAP CER 0805 CHIP 4N7 10% X7R 50V
C133		015-05470-08	CAP CER 1206 CHIP 47N 10% X7R 50V

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

Variant Components

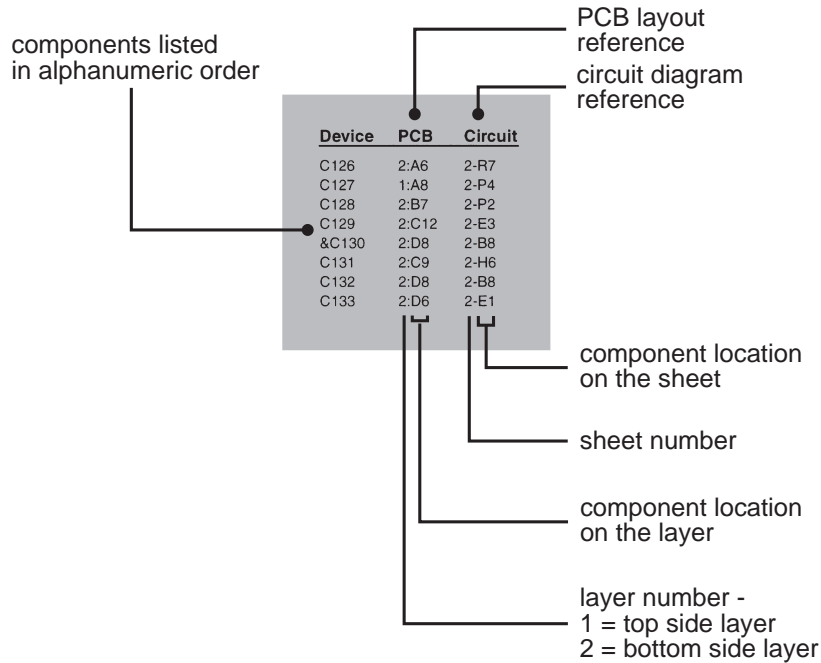
A variant component is one that has the same circuit reference but different value or specification in different product types. Where two products share the same PCB, the term “variant” is also used to describe components unplaced in one product. Variant components have a character prefix, such as “&”, “=” or “#”, before the circuit reference (e.g. &R100).

The table below explains the variant prefixes used in T800 Series II products:

If the variant prefix is . . .	the component will. . .
&	change according to channel spacing
=	change according to frequency stability
#	change according to frequency range
%	be placed or unplaced for special applications
*	be unplaced in one product (where two products share the same PCB)

Grid Reference Index

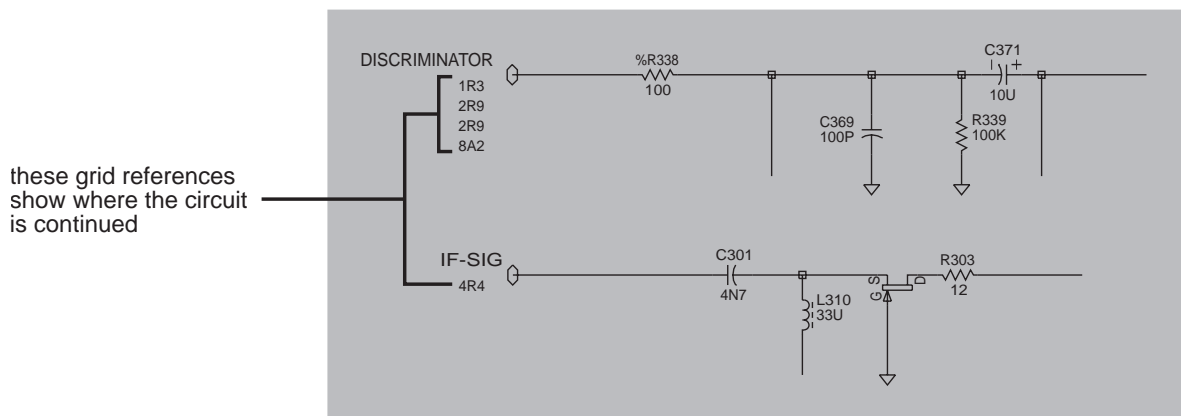
This section contains a component grid reference index to help you find components and labelled pads on the PCB layouts and circuit diagrams. This index lists the components and pads in alphanumeric order, along with the appropriate alphanumeric grid references, as shown below:



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, as shown below. The first digit refers to the sheet number and the last two characters refer to the location on that sheet of the continuation of the circuit (e.g. 1R3).



Item T867-10-0000

Revision/Variant C
Date created 25/05/98

No Ref	,352-00010-29,	NUT M4 NYLOC HEX
No Ref	,308-01007-01,	HANDLE BASE STATION SERIES II
No Ref	,312-01052-02,	LID TOP T800 SER II PTND
No Ref	,312-01053-02,	LID BOTTOM T800 SER II PTND
No Ref	,316-06619-00,	PNL FRT EX, NO EX OUT SER II
No Ref	,349-00020-36,	LIM)SCREW TT M3X8m PANTORX BLK
No Ref	,X867-10-0000,	DEV)T867-10-0000 MAIN BRD ASSY
No Ref	,349-00020-45,	SCRW T/T M4X20MM P/POZ BZ
No Ref	,410-01082-01,	CRTN 10 T800 KIWI 423X410X360
No Ref	,353-00010-24,	WSHR M4 FLAT ST BZ A4M1957
No Ref	,362-00010-33,	GROMMET LED MTG 3MM
No Ref	,365-00011-53,	LABEL 104*37MM
No Ref	,365-00100-20,	LABEL WHITE S/A 28X11MM
No Ref	,399-00010-51,	BAG PLASTIC 75*100MM
No Ref	,410-01081-01,	CRT T800 SERIES II
No Ref	,349-00020-43,	SCRW T/T M4X12MM P/POZ BZ

Item X867-10-0000

Revision/Variant D
Date created 25/05/98

#C269	,015-21150-01,	CAP CER 0805 1P5+-1/4P NPO 50V
#C294	,015-22470-01,	CAP CER 0805 47P 5% NPO 50V
#C295	,022-06470-02,	CAP MYLAR 470N 10% 50V
#C384	,015-22180-01,	CAP CER 0805 18P 5% NPO 50V
#R264	,036-15220-00,	RES M/F 0805 22K 5%
#R265	,036-15150-00,	RES M/F 0805 15K 5%
#R266	,036-15470-00,	RES M/F 0805 47K 5%
#R298	,036-16100-00,	RES M/F 0805 100K 5%
#R386	,036-12470-00,	RES M/F 0805 47E 5%
%C733	,015-23470-08,	CAP CER 0805 470P 10% X7R 50V
%R200	,030-50000-20,	RES AI ZERO OHM 4X1.6
%R203	,030-50000-20,	RES AI ZERO OHM 4X1.6
%R550	,036-14470-00,	RES M/F 0805 4K7 5%
%R715	,036-14100-00,	RES M/F 0805 1K 5%
%R726	,036-13100-00,	RES M/F 0805 100E 5%
=IC700	,539-00010-41,	TCXO 12.8MHZ +-2.5PPM -30 +70C
C201	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C202	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C204	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C205	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C207	,014-07470-00,	CAP TANT CHIP 4U7 3.5 X 2.8MM
C209	,015-25470-08,	CAP CER 0805 47N 10% X7R 50V
C210	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C211	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C213	,014-08100-00,	CAP TANT CHIP 10M 16VW +-20%
C215	,014-08220-01,	(L)CAP TANT 22UF10V276MSER
C217	,015-24220-08,	CAP CER 0805 2N2 10% X7R 50V
C219	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C221	,014-08220-01,	(L)CAP TANT 22UF10V276MSER
C223	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C225	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C227	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C229	,015-23150-01,	CAP CER 0805 150P 5% NPO 50V
C230	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C232	,015-23150-01,	CAP CER 0805 150P 5% NPO 50V
C233	,016-08470-01,	CAP EL SMD 6*4 47U 16V
C235	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C237	,014-07100-02,	CAP TANT CHIP 1U0 3.2 X 1.6MM
C239	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C241	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C242	,014-08100-00,	CAP TANT CHIP 10M 16VW +-20%
C243	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C245	,015-23150-01,	CAP CER 0805 150P 5% NPO 50V
C247	,015-23150-01,	CAP CER 0805 150P 5% NPO 50V
C249	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C251	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C253	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C255	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C257	,015-22470-01,	CAP CER 0805 47P 5% NPO 50V
C259	,015-25470-08,	CAP CER 0805 47N 10% X7R 50V
C260	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C261	,014-07470-00,	CAP TANT CHIP 4U7 3.5 X 2.8MM
C263	,020-09100-04,	CAP ELE RA 100M 10V 6.3X9MM
C265	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C267	,015-24470-08,	CAP CER 0805 4N7 10% X7R 50V
C271	,015-22470-01,	CAP CER 0805 47P 5% NPO 50V
C273	,015-25470-08,	CAP CER 0805 47N 10% X7R 50V
C275	,015-23120-01,	CAP CER 0805 120P 5% NPO 50V
C277	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C279	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C281	,015-25220-08,	CAP CER 0805 22N 10% X7R 50V
C283	,015-21470-01,	CAP CER 0805 4P7+-1/4P NPO 50V
C285	,015-21470-01,	CAP CER 0805 4P7+-1/4P NPO 50V
C287	,020-09100-04,	CAP ELE RA 100M 10V 6.3X9MM
C289	,015-25470-08,	CAP CER 0805 47N 10% X7R 50V
C291	,014-08220-01,	(L)CAP TANT 22UF10V276MSER
C293	,015-27100-10,	CAP CER 0805 1M+80-20% Y5V 16V
C304	,015-24470-08,	CAP CER 0805 4N7 10% X7R 50V
C308	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C309	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C312	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C316	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C317	,015-23100-01,	CAP CER 0805 100P 5% NPO 50V
C318	,015-23100-01,	CAP CER 0805 100P 5% NPO 50V
C320	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C324	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C330A	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C330B	,016-08100-01,	CAP EL 6X4 10M 20% 16V
C332	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C334	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C336	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C338	,015-25150-08,	CAP CER 0805 15N 10% X7R 50V
C340	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C342	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C344	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C346	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C349	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C350	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C353	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C356	,015-22560-01,	CAP CER 0805 56P 5% NPO 50V
C359	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C362	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C365	,015-22180-01,	CAP CER 0805 18P 5% NPO 50V
C368	,015-22390-01,	CAP CER 0805 39P 5% NPO 50V

R706	,036-15150-00,	RES M/F 0805 15K 5%	R873	,036-15330-00,	RES M/F 0805 33K 5%
R708	,036-16100-00,	RES M/F 0805 100K 5%	R874	,036-14470-00,	RES M/F 0805 4K7 5%
R710	,036-13100-00,	RES M/F 0805 100E 5%	R875	,036-15470-00,	RES M/F 0805 47K 5%
R711	,036-13100-00,	RES M/F 0805 100E 5%	R876	,036-14470-00,	RES M/F 0805 4K7 5%
R712	,036-12100-00,	RES M/F 0805 10E 5%	R877	,036-14470-00,	RES M/F 0805 4K7 5%
R713	,036-12220-00,	RES M/F 0805 22E 5%	R879	,036-15100-00,	RES M/F 0805 10K 5%
R714	,036-12100-00,	RES M/F 0805 10E 5%	RV210	,040-05100-23,	POT 10K LOG PCB 15MM SLOT SFT
R717	,036-14270-00,	RES M/F 0805 2K7 5%	RV220	,042-05500-05,	RES PRESET SMD 50K CER 4MM SQ
R718	,036-16100-00,	RES M/F 0805 100K 5%	RV805	,042-05200-05,	RES PRESET SMD 20K CER 4MM SQ
R719	,036-16100-00,	RES M/F 0805 100K 5%	SK200	,240-10000-05,	CONN SMD SKT 8W 2R M-MATCH
R720	,036-15390-00,	RES M/F 0805 39K 5%	SK205	,240-02020-05,	SKT STEREO PHONE JACK PCB MTG
R721	,036-15100-00,	RES M/F 0805 10K 5%	SK310	,240-02100-44,	SKT COAX MINI JACK PCB MT ANG.
R722	,036-15100-00,	RES M/F 0805 10K 5%	SK420	,240-02100-44,	SKT COAX MINI JACK PCB MT ANG.
R723	,036-14270-00,	RES M/F 0805 2K7 5%	SK805	,240-10000-07,	CONN SMD SKT 16W 2R M-MATCH
R725	,036-15390-00,	RES M/F 0805 39K 5%	SK810	,240-04020-42,	SKT 44 PIN SMD PLCC
R727	,036-15100-00,	RES M/F 0805 10K 5%	SW101	,232-00020-26,	BUTTON 232-00010-26 SWITCH
R728	,036-15100-00,	RES M/F 0805 10K 5%	SW230	,232-00010-26,	SWITCH PUSH SPDT R-ANG PCB MTG
R734	,036-13470-00,	RES M/F 0805 470E 5%	T610	,050-00016-50,	COIL TAIT NO 650 455KHZ
R735	,036-13470-00,	RES M/F 0805 470E 5%	T86710	,036-15100-10,	RES M/F 0805 10K 1%
R736	,036-13470-00,	RES M/F 0805 470E 5%			
R742	,036-13150-00,	RES M/F 0805 150E 5%			
R743	,036-13150-00,	RES M/F 0805 150E 5%			
R744	,036-12220-00,	RES M/F 0805 22E 5%			
R746	,036-12220-00,	RES M/F 0805 22E 5%			
R747	,036-12220-00,	RES M/F 0805 22E 5%			
R748	,036-15470-00,	RES M/F 0805 47K 5%			
R749	,036-15470-00,	RES M/F 0805 47K 5%			
R750	,036-12220-00,	RES M/F 0805 22E 5%			
R752	,036-12220-00,	RES M/F 0805 22E 5%			
R753	,036-17100-00,	RES M/F 0805 1M 5%			
R754	,036-14100-00,	RES M/F 0805 1K 5%			
R756	,036-16470-00,	RES M/F 0805 470K 5%			
R757	,036-16470-00,	RES M/F 0805 470K 5%			
R758	,036-14120-00,	RES M/F 0805 1K2 5%			
R759	,036-13330-00,	RES M/F 0805 330E 5%			
R760	,036-13180-00,	RES M/F 0805 180E 5%			
R762	,036-13100-00,	RES M/F 0805 100E 5%			
R763	,036-13100-00,	RES M/F 0805 100E 5%			
R765	,036-13680-00,	RES M/F 0805 680E 5%			
R766	,036-14100-00,	RES M/F 0805 1K 5%			
R767	,036-13680-00,	RES M/F 0805 680E 5%			
R769	,036-13180-00,	RES M/F 0805 180E 5%			
R771	,036-14820-00,	RES M/F 0805 8K2 5%			
R772	,036-15220-00,	RES M/F 0805 22K 5%			
R774	,036-14820-00,	RES M/F 0805 8K2 5%			
R775	,036-14680-00,	RES M/F 0805 6K8 5%			
R777	,036-14220-00,	RES M/F 0805 2K2 5%			
R784	,036-12680-00,	RES M/F 0805 68E 5%			
R785	,036-14330-00,	RES M/F 0805 3K3 5%			
R786	,036-12100-00,	RES M/F 0805 10E 5%			
R787	,036-12100-00,	RES M/F 0805 10E 5%			
R790	,036-13220-00,	RES M/F 0805 220E 5%			
R791	,036-13100-00,	RES M/F 0805 100E 5%			
R792	,036-14100-00,	RES M/F 0805 1K 5%			
R801	,036-16150-00,	RES M/F 0805 150K 5%			
R802	,036-15470-00,	RES M/F 0805 47K 5%			
R808	,036-12100-00,	RES M/F 0805 10E 5%			
R809	,036-14470-00,	RES M/F 0805 4K7 5%			
R810	,036-14470-00,	RES M/F 0805 4K7 5%			
R811	,036-14470-00,	RES M/F 0805 4K7 5%			
R812	,036-14470-00,	RES M/F 0805 4K7 5%			
R813	,036-14470-00,	RES M/F 0805 4K7 5%			
R815	,036-15470-00,	RES M/F 0805 47K 5%			
R816	,036-16150-00,	RES M/F 0805 150K 5%			
R818	,036-14470-00,	RES M/F 0805 4K7 5%			
R819	,036-14470-00,	RES M/F 0805 4K7 5%			
R821	,036-15470-00,	RES M/F 0805 47K 5%			
R822	,036-15470-00,	RES M/F 0805 47K 5%			
R824	,036-14220-00,	RES M/F 0805 2K2 5%			
R825	,036-14220-00,	RES M/F 0805 2K2 5%			
R826	,036-14220-00,	RES M/F 0805 2K2 5%			
R827	,036-14220-00,	RES M/F 0805 2K2 5%			
R828	,036-14220-00,	RES M/F 0805 2K2 5%			
R829	,036-14220-00,	RES M/F 0805 2K2 5%			
R830	,036-14220-00,	RES M/F 0805 2K2 5%			
R831	,036-14220-00,	RES M/F 0805 2K2 5%			
R832	,036-14220-00,	RES M/F 0805 2K2 5%			
R833	,036-14220-00,	RES M/F 0805 2K2 5%			
R835	,036-14220-00,	RES M/F 0805 2K2 5%			
R836	,036-14220-00,	RES M/F 0805 2K2 5%			
R837	,036-14220-00,	RES M/F 0805 2K2 5%			
R840	,036-14220-00,	RES M/F 0805 2K2 5%			
R841	,036-14220-00,	RES M/F 0805 2K2 5%			
R842	,036-14220-00,	RES M/F 0805 2K2 5%			
R843	,036-14220-00,	RES M/F 0805 2K2 5%			
R845	,036-13470-00,	RES M/F 0805 470E 5%			
R846	,036-13470-00,	RES M/F 0805 470E 5%			
R847	,036-13470-00,	RES M/F 0805 470E 5%			
R848	,036-14470-00,	RES M/F 0805 4K7 5%			
R850	,036-13470-00,	RES M/F 0805 470E 5%			
R853	,036-14470-00,	RES M/F 0805 4K7 5%			
R854	,036-14470-00,	RES M/F 0805 4K7 5%			
R855	,036-14470-00,	RES M/F 0805 4K7 5%			
R859	,036-16150-00,	RES M/F 0805 150K 5%			
R861	,036-16150-00,	RES M/F 0805 150K 5%			
R863	,036-16150-00,	RES M/F 0805 150K 5%			
R865	,036-16100-00,	RES M/F 0805 100K 5%			
R867	,036-16100-00,	RES M/F 0805 100K 5%			
R871	,036-15470-00,	RES M/F 0805 47K 5%			
R872	,036-14470-00,	RES M/F 0805 4K7 5%			

Item T867-15-0000

Revision/Variant C
Date created 25/05/98

No Ref	,352-00010-29,	NUT M4 NYLOC HEX
No Ref	,308-01007-01,	HANDLE BASE STATION SERIES II
No Ref	,312-01052-02,	LID TOP T800 SER II PTND
No Ref	,312-01053-02,	LID BOTTOM T800 SER II PTND
No Ref	,316-06619-00,	PNL FRT EX, NO EX OUT SER II
No Ref	,349-00020-36,	LIM)SCREW TT M3X8m PANTORX BLK
No Ref	,X867-15-0000,	DEV)T867-15-0000 MAIN BRD ASSY
No Ref	,349-00020-45,	SCRW T/T M4X20MM P/POZ BZ
No Ref	,410-01082-01,	CRTN 10 T800 KIWI 423X410X360
No Ref	,353-00010-24,	WSHR M4 FLAT ST BZ A4M1957
No Ref	,362-00010-33,	GROMMET LED MTG 3MM
No Ref	,365-00011-53,	LABEL 104*37MM
No Ref	,365-00100-20,	LABEL WHITE S/A 28X11MM
No Ref	,399-00010-51,	BAG PLASTIC 75*100MM
No Ref	,410-01081-01,	CRT T800 SERIES II
No Ref	,349-00020-43,	SCRW T/T M4X12MM P/POZ BZ

Item X867-15-0000

Revision/Variant C
Date created 25/05/98

#C269	,015-21470-01,	CAP CER 0805 4P7+-1/4P NPO 50V
#C294	,015-22470-01,	CAP CER 0805 47P 5% NPO 50V
#C295	,022-06470-02,	CAP MYLAR 470N 10% 50V
#C384	,015-22180-01,	CAP CER 0805 18P 5% NPO 50V
#R264	,036-15270-00,	RES M/F 0805 27K 5%
#R265	,036-15180-00,	RES M/F 0805 18K 5%
#R266	,036-15560-00,	RES M/F 0805 56K 5%
#R298	,036-16100-00,	RES M/F 0805 100K 5%
#R386	,036-12470-00,	RES M/F 0805 47E 5%
%C733	,015-23470-08,	CAP CER 0805 470P 10% X7R 50V
%R200	,030-50000-20,	RES AI ZERO OHM 4X1.6
%R203	,030-50000-20,	RES AI ZERO OHM 4X1.6
%R550	,036-14470-00,	RES M/F 0805 4K7 5%
%R715	,036-14100-00,	RES M/F 0805 1K 5%
%R726	,036-13100-00,	RES M/F 0805 100E 5%
=IC700	,539-00010-41,	TCXO 12.8MHZ +-2.5PPM -30 +70C
C201	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C202	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C204	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C205	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C207	,014-07470-00,	CAP TANT CHIP 4U7 3.5 X 2.8MM
C209	,015-25470-08,	CAP CER 0805 47N 10% X7R 50V
C210	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C211	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C213	,014-08100-00,	CAP TANT CHIP 10M 16VW +-20%
C215	,014-08220-01,	(L)CAP TANT 22UF10V276MSER
C217	,015-24220-08,	CAP CER 0805 2N2 10% X7R 50V
C219	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C221	,014-08220-01,	(L)CAP TANT 22UF10V276MSER
C223	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C225	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C227	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C229	,015-23150-01,	CAP CER 0805 150P 5% NPO 50V
C230	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C232	,015-23150-01,	CAP CER 0805 150P 5% NPO 50V
C233	,016-08470-01,	CAP EL SMD 6*4 47U 16V
C235	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C237	,014-07100-02,	CAP TANT CHIP 1U0 3.2 X 1.6MM
C239	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C241	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C242	,014-08100-00,	CAP TANT CHIP 10M 16VW +-20%
C243	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C245	,015-23150-01,	CAP CER 0805 150P 5% NPO 50V
C247	,015-23150-01,	CAP CER 0805 150P 5% NPO 50V
C249	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C251	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C253	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C255	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C257	,015-22470-01,	CAP CER 0805 47P 5% NPO 50V
C259	,015-25470-08,	CAP CER 0805 47N 10% X7R 50V
C260	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C261	,014-07470-00,	CAP TANT CHIP 4U7 3.5 X 2.8MM
C263	,020-09100-04,	CAP ELE RA 100M 10V 6.3X9MM
C265	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C267	,015-24470-08,	CAP CER 0805 4N7 10% X7R 50V
C271	,015-22470-01,	CAP CER 0805 47P 5% NPO 50V
C273	,015-25470-08,	CAP CER 0805 47N 10% X7R 50V
C275	,015-23120-01,	CAP CER 0805 120P 5% NPO 50V
C277	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C279	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C281	,015-25220-08,	CAP CER 0805 22N 10% X7R 50V
C283	,015-21470-01,	CAP CER 0805 4P7+-1/4P NPO 50V
C285	,015-21470-01,	CAP CER 0805 4P7+-1/4P NPO 50V
C287	,020-09100-04,	CAP ELE RA 100M 10V 6.3X9MM
C289	,015-25470-08,	CAP CER 0805 47N 10% X7R 50V
C291	,014-08220-01,	(L)CAP TANT 22UF10V276MSER
C293	,015-27100-10,	CAP CER 0805 1M+80-20% Y5V 16V
C304	,015-24470-08,	CAP CER 0805 4N7 10% X7R 50V
C308	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C309	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C312	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C316	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C317	,015-23100-01,	CAP CER 0805 100P 5% NPO 50V
C318	,015-23100-01,	CAP CER 0805 100P 5% NPO 50V
C320	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C324	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C330A	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C330B	,016-08100-01,	CAP EL 6X4 10M 20% 16V
C332	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C334	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C336	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C338	,015-25150-08,	CAP CER 0805 15N 10% X7R 50V
C340	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C342	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C344	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C346	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C349	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C350	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C353	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C356	,015-22560-01,	CAP CER 0805 56P 5% NPO 50V
C359	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C362	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C365	,015-22180-01,	CAP CER 0805 18P 5% NPO 50V
C368	,015-22390-01,	CAP CER 0805 39P 5% NPO 50V

R706	,036-15150-00,	RES M/F 0805 15K 5%	R873	,036-15330-00,	RES M/F 0805 33K 5%
R708	,036-16100-00,	RES M/F 0805 100K 5%	R874	,036-14470-00,	RES M/F 0805 4K7 5%
R710	,036-13100-00,	RES M/F 0805 100E 5%	R875	,036-15470-00,	RES M/F 0805 47K 5%
R711	,036-13100-00,	RES M/F 0805 100E 5%	R876	,036-14470-00,	RES M/F 0805 4K7 5%
R712	,036-12100-00,	RES M/F 0805 10E 5%	R877	,036-14470-00,	RES M/F 0805 4K7 5%
R713	,036-12220-00,	RES M/F 0805 22E 5%	R879	,036-15100-00,	RES M/F 0805 10K 5%
R714	,036-12100-00,	RES M/F 0805 10E 5%	RV210	,040-05100-23,	POT 10K LOG PCB 15MM SLOT SFT
R717	,036-14270-00,	RES M/F 0805 2K7 5%	RV220	,042-05500-05,	RES PRESET SMD 50K CER 4MM SQ
R718	,036-16100-00,	RES M/F 0805 100K 5%	RV805	,042-05200-05,	RES PRESET SMD 20K CER 4MM SQ
R719	,036-16100-00,	RES M/F 0805 100K 5%	SK200	,240-10000-05,	CONN SMD SKT 8W 2R M-MATCH
R720	,036-15390-00,	RES M/F 0805 39K 5%	SK205	,240-02020-05,	SKT STEREO PHONE JACK PCB MTG
R721	,036-15100-00,	RES M/F 0805 10K 5%	SK310	,240-02100-44,	SKT COAX MINI JACK PCB MT ANG.
R722	,036-15100-00,	RES M/F 0805 10K 5%	SK420	,240-02100-44,	SKT COAX MINI JACK PCB MT ANG.
R723	,036-14270-00,	RES M/F 0805 2K7 5%	SK805	,240-10000-07,	CONN SMD SKT 16W 2R M-MATCH
R725	,036-15390-00,	RES M/F 0805 39K 5%	SK810	,240-04020-42,	SKT 44 PIN SMD PLCC
R727	,036-15100-00,	RES M/F 0805 10K 5%	SW101	,232-00020-26,	BUTTON 232-00010-26 SWITCH
R728	,036-15100-00,	RES M/F 0805 10K 5%	SW230	,232-00010-26,	SWITCH PUSH SPDT R-ANG PCB MTG
R734	,036-13470-00,	RES M/F 0805 470E 5%	T610	,050-00016-50,	COIL TAIT NO 650 455KHZ
R735	,036-13470-00,	RES M/F 0805 470E 5%	T86715	,036-15100-10,	RES M/F 0805 10K 1%
R736	,036-13470-00,	RES M/F 0805 470E 5%			
R742	,036-13150-00,	RES M/F 0805 150E 5%			
R743	,036-13150-00,	RES M/F 0805 150E 5%			
R744	,036-12220-00,	RES M/F 0805 22E 5%			
R746	,036-12220-00,	RES M/F 0805 22E 5%			
R747	,036-12220-00,	RES M/F 0805 22E 5%			
R748	,036-15470-00,	RES M/F 0805 47K 5%			
R749	,036-15470-00,	RES M/F 0805 47K 5%			
R750	,036-12220-00,	RES M/F 0805 22E 5%			
R752	,036-12220-00,	RES M/F 0805 22E 5%			
R753	,036-17100-00,	RES M/F 0805 1M 5%			
R754	,036-14100-00,	RES M/F 0805 1K 5%			
R756	,036-16470-00,	RES M/F 0805 470K 5%			
R757	,036-16470-00,	RES M/F 0805 470K 5%			
R758	,036-14120-00,	RES M/F 0805 1K2 5%			
R759	,036-13330-00,	RES M/F 0805 330E 5%			
R760	,036-13180-00,	RES M/F 0805 180E 5%			
R762	,036-13100-00,	RES M/F 0805 100E 5%			
R763	,036-13100-00,	RES M/F 0805 100E 5%			
R765	,036-13680-00,	RES M/F 0805 680E 5%			
R766	,036-14100-00,	RES M/F 0805 1K 5%			
R767	,036-13680-00,	RES M/F 0805 680E 5%			
R769	,036-13180-00,	RES M/F 0805 180E 5%			
R771	,036-14820-00,	RES M/F 0805 8K2 5%			
R772	,036-15220-00,	RES M/F 0805 22K 5%			
R774	,036-14820-00,	RES M/F 0805 8K2 5%			
R775	,036-14680-00,	RES M/F 0805 6K8 5%			
R777	,036-14220-00,	RES M/F 0805 2K2 5%			
R784	,036-12680-00,	RES M/F 0805 68E 5%			
R785	,036-14330-00,	RES M/F 0805 3K3 5%			
R786	,036-12100-00,	RES M/F 0805 10E 5%			
R787	,036-12100-00,	RES M/F 0805 10E 5%			
R790	,036-13220-00,	RES M/F 0805 220E 5%			
R791	,036-13100-00,	RES M/F 0805 100E 5%			
R792	,036-14100-00,	RES M/F 0805 1K 5%			
R801	,036-16150-00,	RES M/F 0805 150K 5%			
R802	,036-15470-00,	RES M/F 0805 47K 5%			
R808	,036-12100-00,	RES M/F 0805 10E 5%			
R809	,036-14470-00,	RES M/F 0805 4K7 5%			
R810	,036-14470-00,	RES M/F 0805 4K7 5%			
R811	,036-14470-00,	RES M/F 0805 4K7 5%			
R812	,036-14470-00,	RES M/F 0805 4K7 5%			
R813	,036-14470-00,	RES M/F 0805 4K7 5%			
R815	,036-15470-00,	RES M/F 0805 47K 5%			
R816	,036-16150-00,	RES M/F 0805 150K 5%			
R818	,036-14470-00,	RES M/F 0805 4K7 5%			
R819	,036-14470-00,	RES M/F 0805 4K7 5%			
R821	,036-15470-00,	RES M/F 0805 47K 5%			
R822	,036-15470-00,	RES M/F 0805 47K 5%			
R824	,036-14220-00,	RES M/F 0805 2K2 5%			
R825	,036-14220-00,	RES M/F 0805 2K2 5%			
R826	,036-14220-00,	RES M/F 0805 2K2 5%			
R827	,036-14220-00,	RES M/F 0805 2K2 5%			
R828	,036-14220-00,	RES M/F 0805 2K2 5%			
R829	,036-14220-00,	RES M/F 0805 2K2 5%			
R830	,036-14220-00,	RES M/F 0805 2K2 5%			
R831	,036-14220-00,	RES M/F 0805 2K2 5%			
R832	,036-14220-00,	RES M/F 0805 2K2 5%			
R833	,036-14220-00,	RES M/F 0805 2K2 5%			
R835	,036-14220-00,	RES M/F 0805 2K2 5%			
R836	,036-14220-00,	RES M/F 0805 2K2 5%			
R837	,036-14220-00,	RES M/F 0805 2K2 5%			
R840	,036-14220-00,	RES M/F 0805 2K2 5%			
R841	,036-14220-00,	RES M/F 0805 2K2 5%			
R842	,036-14220-00,	RES M/F 0805 2K2 5%			
R843	,036-14220-00,	RES M/F 0805 2K2 5%			
R845	,036-13470-00,	RES M/F 0805 470E 5%			
R846	,036-13470-00,	RES M/F 0805 470E 5%			
R847	,036-13470-00,	RES M/F 0805 470E 5%			
R848	,036-14470-00,	RES M/F 0805 4K7 5%			
R850	,036-13470-00,	RES M/F 0805 470E 5%			
R853	,036-14470-00,	RES M/F 0805 4K7 5%			
R854	,036-14470-00,	RES M/F 0805 4K7 5%			
R855	,036-14470-00,	RES M/F 0805 4K7 5%			
R859	,036-16150-00,	RES M/F 0805 150K 5%			
R861	,036-16150-00,	RES M/F 0805 150K 5%			
R863	,036-16150-00,	RES M/F 0805 150K 5%			
R865	,036-16100-00,	RES M/F 0805 100K 5%			
R867	,036-16100-00,	RES M/F 0805 100K 5%			
R871	,036-15470-00,	RES M/F 0805 47K 5%			
R872	,036-14470-00,	RES M/F 0805 4K7 5%			

Item T867-20-0000

Revision/Variant C
Date created 25/05/98

No Ref	,352-00010-29,	NUT M4 NYLOC HEX
No Ref	,308-01007-01,	HANDLE BASE STATION SERIES II
No Ref	,312-01052-02,	LID TOP T800 SER II PTND
No Ref	,312-01053-02,	LID BOTTOM T800 SER II PTND
No Ref	,316-06619-00,	PNL FRT EX, NO EX OUT SER II
No Ref	,349-00020-36,	LIM)SCREW TT M3X8m PANTORX BLK
No Ref	,X867-20-0000,	DEV)T867-20-0000 MAIN BRD ASSY
No Ref	,349-00020-45,	SCRW T/T M4X20MM P/POZ BZ
No Ref	,410-01082-01,	CRTN 10 T800 KIWI 423X410X360
No Ref	,353-00010-24,	WSHR M4 FLAT ST BZ A4M1957
No Ref	,362-00010-33,	GROMMET LED MTG 3MM
No Ref	,365-00011-53,	LABEL 104*37MM
No Ref	,365-00100-20,	LABEL WHITE S/A 28X11MM
No Ref	,399-00010-51,	BAG PLASTIC 75*100MM
No Ref	,410-01081-01,	CRT T800 SERIES II
No Ref	,349-00020-43,	SCRW T/T M4X12MM P/POZ BZ

Item X867-20-0000

Revision/Variant D
Date created 25/05/98

#C269	,015-21150-01,	CAP CER 0805 1P5+-1/4P NPO 50V
#C294	,015-22470-01,	CAP CER 0805 47P 5% NPO 50V
#C295	,022-06470-02,	CAP MYLAR 470N 10% 50V
#C384	,015-22150-01,	CAP CER 0805 15P 5% NPO 50V
#R264	,036-15220-00,	RES M/F 0805 22K 5%
#R265	,036-15150-00,	RES M/F 0805 15K 5%
#R266	,036-15470-00,	RES M/F 0805 47K 5%
#R298	,036-16100-00,	RES M/F 0805 100K 5%
#R386	,036-12470-00,	RES M/F 0805 47E 5%
%C733	,015-23470-08,	CAP CER 0805 470P 10% X7R 50V
%R200	,030-50000-20,	RES AI ZERO OHM 4X1.6
%R203	,030-50000-20,	RES AI ZERO OHM 4X1.6
%R550	,036-14470-00,	RES M/F 0805 4K7 5%
%R715	,036-14100-00,	RES M/F 0805 1K 5%
%R726	,036-13100-00,	RES M/F 0805 100E 5%
=IC700	,539-00010-41,	TCXO 12.8MHZ +-2.5PPM -30 +70C
C201	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C202	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C204	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C205	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C207	,014-07470-00,	CAP TANT CHIP 4U7 3.5 X 2.8MM
C209	,015-25470-08,	CAP CER 0805 47N 10% X7R 50V
C210	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C211	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C213	,014-08100-00,	CAP TANT CHIP 10M 16VW +-20%
C215	,014-08220-01,	(L)CAP TANT 22UF10V276MSER
C217	,015-24220-08,	CAP CER 0805 2N2 10% X7R 50V
C219	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C221	,014-08220-01,	(L)CAP TANT 22UF10V276MSER
C223	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C225	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C227	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C229	,015-23150-01,	CAP CER 0805 150P 5% NPO 50V
C230	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C232	,015-23150-01,	CAP CER 0805 150P 5% NPO 50V
C233	,016-08470-01,	CAP EL SMD 6*4 47U 16V
C235	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C237	,014-07100-02,	CAP TANT CHIP 1U0 3.2 X 1.6MM
C239	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C241	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C242	,014-08100-00,	CAP TANT CHIP 10M 16VW +-20%
C243	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C245	,015-23150-01,	CAP CER 0805 150P 5% NPO 50V
C247	,015-23150-01,	CAP CER 0805 150P 5% NPO 50V
C249	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C251	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C253	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C255	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C257	,015-22470-01,	CAP CER 0805 47P 5% NPO 50V
C259	,015-25470-08,	CAP CER 0805 47N 10% X7R 50V
C260	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C261	,014-07470-00,	CAP TANT CHIP 4U7 3.5 X 2.8MM
C263	,020-09100-04,	CAP ELE RA 100M 10V 6.3X9MM
C265	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C267	,015-24470-08,	CAP CER 0805 4N7 10% X7R 50V
C271	,015-22470-01,	CAP CER 0805 47P 5% NPO 50V
C273	,015-25470-08,	CAP CER 0805 47N 10% X7R 50V
C275	,015-23120-01,	CAP CER 0805 120P 5% NPO 50V
C277	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C279	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C281	,015-25220-08,	CAP CER 0805 22N 10% X7R 50V
C283	,015-21470-01,	CAP CER 0805 4P7+-1/4P NPO 50V
C285	,015-21470-01,	CAP CER 0805 4P7+-1/4P NPO 50V
C287	,020-09100-04,	CAP ELE RA 100M 10V 6.3X9MM
C289	,015-25470-08,	CAP CER 0805 47N 10% X7R 50V
C291	,014-08220-01,	(L)CAP TANT 22UF10V276MSER
C293	,015-27100-10,	CAP CER 0805 1M+80-20% Y5V 16V
C304	,015-24470-08,	CAP CER 0805 4N7 10% X7R 50V
C308	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C309	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C312	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C316	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C317	,015-23100-01,	CAP CER 0805 100P 5% NPO 50V
C318	,015-23100-01,	CAP CER 0805 100P 5% NPO 50V
C320	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C324	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C330A	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C330B	,016-08100-01,	CAP EL 6X4 10M 20% 16V
C332	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C334	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C336	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C338	,015-25150-08,	CAP CER 0805 15N 10% X7R 50V
C340	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C342	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C344	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C346	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C349	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C350	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C353	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C356	,015-22560-01,	CAP CER 0805 56P 5% NPO 50V
C359	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C362	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C365	,015-22180-01,	CAP CER 0805 18P 5% NPO 50V
C368	,015-22390-01,	CAP CER 0805 39P 5% NPO 50V

Q530	,000-10008-07,	S) XSTR SMD BC807 PNP SOT23 AF	R292	,036-14470-00,	RES M/F 0805 4K7 5%
Q540	,000-10008-07,	S) XSTR SMD BC807 PNP SOT23 AF	R293	,036-15470-00,	RES M/F 0805 47K 5%
Q550	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R294	,036-14470-00,	RES M/F 0805 4K7 5%
Q610	,000-10008-07,	S) XSTR SMD BC807 PNP SOT23 AF	R295	,036-14270-00,	RES M/F 0805 2K7 5%
Q620	,000-00012-15,	S) XSTR BD234 PNP AF PWR TO126	R296	,036-14100-00,	RES M/F 0805 1K 5%
Q630	,000-50011-30,	S) XSTR AI BC557B PNP TO92 AF	R297	,036-14560-00,	RES M/F 0805 5K6 5%
Q660	,000-10008-17,	S) XSTR SMD BC817-25 NPN SOT23	R299	,036-14270-00,	RES M/F 0805 2K7 5%
Q670	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R302	,036-15220-00,	RES M/F 0805 22K 5%
Q710	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R304	,036-14270-00,	RES M/F 0805 2K7 5%
Q720	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R306	,036-15100-00,	RES M/F 0805 10K 5%
Q730	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R308	,036-16100-00,	RES M/F 0805 100K 5%
Q740	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R310	,036-15220-00,	RES M/F 0805 22K 5%
Q750	,000-10008-07,	S) XSTR SMD BC807 PNP SOT23 AF	R312	,036-14150-00,	RES M/F 0805 1K5 5%
Q760	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R314	,036-13150-00,	RES M/F 0805 150E 5%
Q770	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R316	,036-15100-00,	RES M/F 0805 10K 5%
Q775	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R318	,036-14220-00,	RES M/F 0805 2K2 5%
Q780	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R320	,036-14100-00,	RES M/F 0805 1K 5%
Q785	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R322	,036-12220-00,	RES M/F 0805 22E 5%
Q790	,000-10003-12,	S) XSTR SMD BFR31 N JFET SOT23	R324	,036-13470-00,	RES M/F 0805 470E 5%
Q795	,000-10057-10,	S) XSTR SMD BR571 NPN SOT23	R326	,036-13470-00,	RES M/F 0805 470E 5%
Q810	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R328	,036-13470-00,	RES M/F 0805 470E 5%
Q820	,000-10008-17,	S) XSTR SMD BC817-25 NPN SOT23	R330	,036-12220-00,	RES M/F 0805 22E 5%
Q830	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R332	,036-15470-00,	RES M/F 0805 47K 5%
Q840	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R334	,036-15100-00,	RES M/F 0805 10K 5%
Q850	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R336	,036-14100-00,	RES M/F 0805 1K 5%
Q860	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R338	,036-14100-00,	RES M/F 0805 1K 5%
R160	,036-12100-00,	RES M/F 0805 10E 5%	R340	,036-16100-00,	RES M/F 0805 100K 5%
R201	,036-13560-00,	RES M/F 0805 560E 5%	R342	,036-15150-00,	RES M/F 0805 15K 5%
R202	,036-14100-00,	RES M/F 0805 1K 5%	R344	,036-15470-00,	RES M/F 0805 47K 5%
R204	,036-14220-00,	RES M/F 0805 2K2 5%	R345	,036-12220-00,	RES M/F 0805 22E 5%
R205	,036-13220-00,	RES M/F 0805 220E 5%	R346	,036-16120-00,	RES M/F 0805 120K 5%
R206	,036-14100-00,	RES M/F 0805 1K 5%	R348	,036-14470-00,	RES M/F 0805 4K7 5%
R207	,036-14390-00,	RES M/F 0805 3K9 5%	R350	,036-14100-00,	RES M/F 0805 1K 5%
R208	,036-13560-00,	RES M/F 0805 560E 5%	R352	,036-15150-00,	RES M/F 0805 15K 5%
R209	,036-15100-00,	RES M/F 0805 10K 5%	R354	,036-15150-00,	RES M/F 0805 15K 5%
R210	,036-14220-00,	RES M/F 0805 2K2 5%	R356	,036-14100-00,	RES M/F 0805 1K 5%
R212	,036-16100-00,	RES M/F 0805 100K 5%	R359	,036-13100-00,	RES M/F 0805 100E 5%
R213	,036-15100-00,	RES M/F 0805 10K 5%	R360	,036-12680-00,	RES M/F 0805 68E 5%
R214	,036-14820-00,	RES M/F 0805 8K2 5%	R362	,036-13100-00,	RES M/F 0805 100E 5%
R215	,036-16100-00,	RES M/F 0805 100K 5%	R364	,036-14150-00,	RES M/F 0805 1K5 5%
R216	,036-16100-00,	RES M/F 0805 100K 5%	R366	,036-12470-00,	RES M/F 0805 47E 5%
R217	,036-14100-00,	RES M/F 0805 1K 5%	R368	,036-15100-00,	RES M/F 0805 10K 5%
R218	,036-16150-00,	RES M/F 0805 150K 5%	R370	,036-13560-00,	RES M/F 0805 560E 5%
R219	,036-14220-00,	RES M/F 0805 2K2 5%	R372	,036-14150-00,	RES M/F 0805 1K5 5%
R221	,036-14150-00,	RES M/F 0805 1K5 5%	R374	,036-13330-00,	RES M/F 0805 330E 5%
R223	,036-17100-00,	RES M/F 0805 1M 5%	R376	,036-14150-00,	RES M/F 0805 1K5 5%
R224	,036-14680-00,	RES M/F 0805 6K8 5%	R377	,036-14120-00,	RES M/F 0805 1K2 5%
R225	,036-17100-00,	RES M/F 0805 1M 5%	R378	,036-14120-00,	RES M/F 0805 1K2 5%
R226	,036-15100-00,	RES M/F 0805 10K 5%	R380	,030-53150-20,	RES FILM AI 150E 5% 0.4W 4X1.6
R227	,036-14220-00,	RES M/F 0805 2K2 5%	R382	,030-53150-20,	RES FILM AI 150E 5% 0.4W 4X1.6
R229	,036-16470-00,	RES M/F 0805 470K 5%	R384	,036-11330-00,	RES M/F 0805 3E3 5%
R230	,036-16100-00,	RES M/F 0805 100K 5%	R387	,036-14180-00,	RES M/F 0805 1K8 5%
R231	,036-15100-00,	RES M/F 0805 10K 5%	R388	,036-14180-00,	RES M/F 0805 1K8 5%
R232	,036-16330-00,	RES M/F 0805 330K 5%	R389	,036-14180-00,	RES M/F 0805 1K8 5%
R233	,036-16100-00,	RES M/F 0805 100K 5%	R390	,036-11330-00,	RES M/F 0805 3E3 5%
R235	,036-14470-00,	RES M/F 0805 4K7 5%	R392	,036-14180-00,	RES M/F 0805 1K8 5%
R237	,036-15470-00,	RES M/F 0805 47K 5%	R394	,036-12220-00,	RES M/F 0805 22E 5%
R238	,036-15470-00,	RES M/F 0805 47K 5%	R396	,036-14180-00,	RES M/F 0805 1K8 5%
R239	,036-14150-00,	RES M/F 0805 1K5 5%	R502	,036-13330-00,	RES M/F 0805 330E 5%
R241	,036-14470-00,	RES M/F 0805 4K7 5%	R505	,036-15150-00,	RES M/F 0805 15K 5%
R242	,036-14220-00,	RES M/F 0805 2K2 5%	R510	,036-13680-00,	RES M/F 0805 680E 5%
R244	,036-15100-00,	RES M/F 0805 10K 5%	R515	,036-12560-00,	RES M/F 0805 56E 5%
R245	,036-16100-00,	RES M/F 0805 100K 5%	R520	,036-16120-00,	RES M/F 0805 120K 5%
R247	,036-15100-00,	RES M/F 0805 10K 5%	R525	,036-15470-00,	RES M/F 0805 47K 5%
R248	,036-16100-00,	RES M/F 0805 100K 5%	R530	,036-15220-00,	RES M/F 0805 22K 5%
R249	,036-16100-00,	RES M/F 0805 100K 5%	R535	,036-15100-00,	RES M/F 0805 10K 5%
R251	,036-16100-00,	RES M/F 0805 100K 5%	R540	,036-14220-00,	RES M/F 0805 2K2 5%
R253	,036-16100-00,	RES M/F 0805 100K 5%	R545	,036-14470-00,	RES M/F 0805 4K7 5%
R254	,036-16100-00,	RES M/F 0805 100K 5%	R555	,036-14470-00,	RES M/F 0805 4K7 5%
R255	,036-15100-00,	RES M/F 0805 10K 5%	R560	,036-13470-00,	RES M/F 0805 470E 5%
R256	,036-15470-00,	RES M/F 0805 47K 5%	R609	,036-14100-00,	RES M/F 0805 1K 5%
R257	,036-16330-00,	RES M/F 0805 330K 5%	R613	,036-13560-00,	RES M/F 0805 560E 5%
R258	,036-16150-00,	RES M/F 0805 150K 5%	R615	,036-13100-00,	RES M/F 0805 100E 5%
R259	,036-15220-00,	RES M/F 0805 22K 5%	R617	,036-10000-00,	RES M/F 0805 ZERO OHM
R260	,036-15470-00,	RES M/F 0805 47K 5%	R619	,036-01100-10,	RES 1 OHM 1 WATT 2512 CHIP
R262	,036-15470-00,	RES M/F 0805 47K 5%	R621	,036-01100-10,	RES 1 OHM 1 WATT 2512 CHIP
R263	,036-14470-00,	RES M/F 0805 4K7 5%	R625	,036-14100-00,	RES M/F 0805 1K 5%
R267	,036-14220-00,	RES M/F 0805 2K2 5%	R629	,036-03270-10,	RES 270 OHM 1 WATT 2512 CHIP
R268	,036-13100-00,	RES M/F 0805 100E 5%	R633	,036-14680-00,	RES M/F 0805 6K8 5%
R269	,036-15100-00,	RES M/F 0805 10K 5%	R637	,036-12220-00,	RES M/F 0805 22E 5%
R270	,036-14120-00,	RES M/F 0805 1K2 5%	R641	,036-14150-00,	RES M/F 0805 1K5 5%
R271	,036-16390-00,	RES M/F 0805 390K 5%	R645	,036-13470-00,	RES M/F 0805 470E 5%
R272	,036-13560-00,	RES M/F 0805 560E 5%	R649	,036-14470-00,	RES M/F 0805 4K7 5%
R273	,036-15120-00,	RES M/F 0805 12K 5%	R653	,036-15100-00,	RES M/F 0805 10K 5%
R274	,036-15150-00,	RES M/F 0805 15K 5%	R655	,036-10000-00,	RES M/F 0805 ZERO OHM
R275	,036-14270-00,	RES M/F 0805 2K7 5%	R656	,036-10000-00,	RES M/F 0805 ZERO OHM
R277	,036-16100-00,	RES M/F 0805 100K 5%	R657	,036-15100-00,	RES M/F 0805 10K 5%
R278	,036-16120-00,	RES M/F 0805 120K 5%	R661	,036-15100-00,	RES M/F 0805 10K 5%
R279	,036-17100-00,	RES M/F 0805 1M 5%	R665	,036-16100-00,	RES M/F 0805 100K 5%
R280	,036-15100-00,	RES M/F 0805 10K 5%	R669	,036-15470-00,	RES M/F 0805 47K 5%
R282	,036-15560-00,	RES M/F 0805 56K 5%	R673	,036-16100-00,	RES M/F 0805 100K 5%
R283	,036-15560-00,	RES M/F 0805 56K 5%	R677	,036-15470-00,	RES M/F 0805 47K 5%
R284	,036-17100-00,	RES M/F 0805 1M 5%	R681	,036-13100-00,	RES M/F 0805 100E 5%
R285	,036-10000-00,	RES M/F 0805 ZERO OHM	R685	,036-15150-00,	RES M/F 0805 15K 5%
R286	,036-14220-00,	RES M/F 0805 2K2 5%	R689	,036-12100-00,	RES M/F 0805 10E 5%
R287	,036-15100-00,	RES M/F 0805 10K 5%	R693	,036-16100-00,	RES M/F 0805 100K 5%
R288	,036-15120-00,	RES M/F 0805 12K 5%	R696	,036-15560-00,	RES M/F 0805 56K 5%
R289	,036-16100-00,	RES M/F 0805 100K 5%	R701	,036-12220-00,	RES M/F 0805 22E 5%
R290	,036-13560-00,	RES M/F 0805 560E 5%	R702	,036-17100-00,	RES M/F 0805 1M 5%
R291	,036-10000-00,	RES M/F 0805 ZERO OHM	R703	,036-17100-00,	RES M/F 0805 1M 5%

R706	,036-15150-00,	RES M/F 0805 15K 5%	R873	,036-15330-00,	RES M/F 0805 33K 5%
R708	,036-16100-00,	RES M/F 0805 100K 5%	R874	,036-14470-00,	RES M/F 0805 4K7 5%
R710	,036-13100-00,	RES M/F 0805 100E 5%	R875	,036-15470-00,	RES M/F 0805 47K 5%
R711	,036-13100-00,	RES M/F 0805 100E 5%	R876	,036-14470-00,	RES M/F 0805 4K7 5%
R712	,036-12100-00,	RES M/F 0805 10E 5%	R877	,036-14470-00,	RES M/F 0805 4K7 5%
R713	,036-12220-00,	RES M/F 0805 22E 5%	R879	,036-15100-00,	RES M/F 0805 10K 5%
R714	,036-12100-00,	RES M/F 0805 10E 5%	RV210	,040-05100-23,	POT 10K LOG PCB 15MM SLOT SFT
R717	,036-14270-00,	RES M/F 0805 2K7 5%	RV220	,042-05500-05,	RES PRESET SMD 50K CER 4MM SQ
R718	,036-16100-00,	RES M/F 0805 100K 5%	RV805	,042-05200-05,	RES PRESET SMD 20K CER 4MM SQ
R719	,036-16100-00,	RES M/F 0805 100K 5%	SK200	,240-10000-05,	CONN SMD SKT 8W 2R M-MATCH
R720	,036-15390-00,	RES M/F 0805 39K 5%	SK205	,240-02020-05,	SKT STEREO PHONE JACK PCB MTG
R721	,036-15100-00,	RES M/F 0805 10K 5%	SK310	,240-02100-44,	SKT COAX MINI JACK PCB MT ANG.
R722	,036-15100-00,	RES M/F 0805 10K 5%	SK420	,240-02100-44,	SKT COAX MINI JACK PCB MT ANG.
R723	,036-14270-00,	RES M/F 0805 2K7 5%	SK805	,240-10000-07,	CONN SMD SKT 16W 2R M-MATCH
R725	,036-15390-00,	RES M/F 0805 39K 5%	SK810	,240-04020-42,	SKT 44 PIN SMD PLCC
R727	,036-15100-00,	RES M/F 0805 10K 5%	SW101	,232-00020-26,	BUTTON 232-00010-26 SWITCH
R728	,036-15100-00,	RES M/F 0805 10K 5%	SW230	,232-00010-26,	SWITCH PUSH SPDT R-ANG PCB MTG
R734	,036-13470-00,	RES M/F 0805 470E 5%	T610	,050-00016-50,	COIL TAIT NO 650 455KHZ
R735	,036-13470-00,	RES M/F 0805 470E 5%	T86720	,036-15100-10,	RES M/F 0805 10K 1%
R736	,036-13470-00,	RES M/F 0805 470E 5%			
R742	,036-13150-00,	RES M/F 0805 150E 5%			
R743	,036-13150-00,	RES M/F 0805 150E 5%			
R744	,036-12220-00,	RES M/F 0805 22E 5%			
R746	,036-12220-00,	RES M/F 0805 22E 5%			
R747	,036-12220-00,	RES M/F 0805 22E 5%			
R748	,036-15470-00,	RES M/F 0805 47K 5%			
R749	,036-15470-00,	RES M/F 0805 47K 5%			
R750	,036-12220-00,	RES M/F 0805 22E 5%			
R752	,036-12220-00,	RES M/F 0805 22E 5%			
R753	,036-17100-00,	RES M/F 0805 1M 5%			
R754	,036-14100-00,	RES M/F 0805 1K 5%			
R756	,036-16470-00,	RES M/F 0805 470K 5%			
R757	,036-16470-00,	RES M/F 0805 470K 5%			
R758	,036-14120-00,	RES M/F 0805 1K2 5%			
R759	,036-13330-00,	RES M/F 0805 330E 5%			
R760	,036-13180-00,	RES M/F 0805 180E 5%			
R762	,036-13100-00,	RES M/F 0805 100E 5%			
R763	,036-13100-00,	RES M/F 0805 100E 5%			
R765	,036-13680-00,	RES M/F 0805 680E 5%			
R766	,036-14100-00,	RES M/F 0805 1K 5%			
R767	,036-13680-00,	RES M/F 0805 680E 5%			
R769	,036-13180-00,	RES M/F 0805 180E 5%			
R771	,036-14820-00,	RES M/F 0805 8K2 5%			
R772	,036-15220-00,	RES M/F 0805 22K 5%			
R774	,036-14820-00,	RES M/F 0805 8K2 5%			
R775	,036-14680-00,	RES M/F 0805 6K8 5%			
R777	,036-14220-00,	RES M/F 0805 2K2 5%			
R784	,036-12680-00,	RES M/F 0805 68E 5%			
R785	,036-14330-00,	RES M/F 0805 3K3 5%			
R786	,036-12100-00,	RES M/F 0805 10E 5%			
R787	,036-12100-00,	RES M/F 0805 10E 5%			
R790	,036-13220-00,	RES M/F 0805 220E 5%			
R791	,036-13100-00,	RES M/F 0805 100E 5%			
R792	,036-14100-00,	RES M/F 0805 1K 5%			
R801	,036-16150-00,	RES M/F 0805 150K 5%			
R802	,036-15470-00,	RES M/F 0805 47K 5%			
R808	,036-12100-00,	RES M/F 0805 10E 5%			
R809	,036-14470-00,	RES M/F 0805 4K7 5%			
R810	,036-14470-00,	RES M/F 0805 4K7 5%			
R811	,036-14470-00,	RES M/F 0805 4K7 5%			
R812	,036-14470-00,	RES M/F 0805 4K7 5%			
R813	,036-14470-00,	RES M/F 0805 4K7 5%			
R815	,036-15470-00,	RES M/F 0805 47K 5%			
R816	,036-16150-00,	RES M/F 0805 150K 5%			
R818	,036-14470-00,	RES M/F 0805 4K7 5%			
R819	,036-14470-00,	RES M/F 0805 4K7 5%			
R821	,036-15470-00,	RES M/F 0805 47K 5%			
R822	,036-15470-00,	RES M/F 0805 47K 5%			
R824	,036-14220-00,	RES M/F 0805 2K2 5%			
R825	,036-14220-00,	RES M/F 0805 2K2 5%			
R826	,036-14220-00,	RES M/F 0805 2K2 5%			
R827	,036-14220-00,	RES M/F 0805 2K2 5%			
R828	,036-14220-00,	RES M/F 0805 2K2 5%			
R829	,036-14220-00,	RES M/F 0805 2K2 5%			
R830	,036-14220-00,	RES M/F 0805 2K2 5%			
R831	,036-14220-00,	RES M/F 0805 2K2 5%			
R832	,036-14220-00,	RES M/F 0805 2K2 5%			
R833	,036-14220-00,	RES M/F 0805 2K2 5%			
R835	,036-14220-00,	RES M/F 0805 2K2 5%			
R836	,036-14220-00,	RES M/F 0805 2K2 5%			
R837	,036-14220-00,	RES M/F 0805 2K2 5%			
R840	,036-14220-00,	RES M/F 0805 2K2 5%			
R841	,036-14220-00,	RES M/F 0805 2K2 5%			
R842	,036-14220-00,	RES M/F 0805 2K2 5%			
R843	,036-14220-00,	RES M/F 0805 2K2 5%			
R845	,036-13470-00,	RES M/F 0805 470E 5%			
R846	,036-13470-00,	RES M/F 0805 470E 5%			
R847	,036-13470-00,	RES M/F 0805 470E 5%			
R848	,036-14470-00,	RES M/F 0805 4K7 5%			
R850	,036-13470-00,	RES M/F 0805 470E 5%			
R853	,036-14470-00,	RES M/F 0805 4K7 5%			
R854	,036-14470-00,	RES M/F 0805 4K7 5%			
R855	,036-14470-00,	RES M/F 0805 4K7 5%			
R859	,036-16150-00,	RES M/F 0805 150K 5%			
R861	,036-16150-00,	RES M/F 0805 150K 5%			
R863	,036-16150-00,	RES M/F 0805 150K 5%			
R865	,036-16100-00,	RES M/F 0805 100K 5%			
R867	,036-16100-00,	RES M/F 0805 100K 5%			
R871	,036-15470-00,	RES M/F 0805 47K 5%			
R872	,036-14470-00,	RES M/F 0805 4K7 5%			

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Revision/Variant C
Date created 25/05/98

No Ref	,352-00010-29,	NUT M4 NYLOC HEX
No Ref	,308-01007-01,	HANDLE BASE STATION SERIES II
No Ref	,312-01052-02,	LID TOP T800 SER II PTND
No Ref	,312-01053-02,	LID BOTTOM T800 SER II PTND
No Ref	,316-06619-00,	PNL FRT EX, NO EX OUT SER II
No Ref	,349-00020-36,	LIM)SCREW TT M3X8m PANTORX BLK
No Ref	,X867-25-0000,	DEV)T867-25-0000 MAIN BRD ASSY
No Ref	,349-00020-45,	SCRW T/T M4X20MM P/POZ BZ
No Ref	,410-01082-01,	CRTN 10 T800 KIWI 423X410X360
No Ref	,353-00010-24,	WSHR M4 FLAT ST BZ A4M1957
No Ref	,362-00010-33,	GROMMET LED MTG 3MM
No Ref	,365-00011-53,	LABEL 104*37MM
No Ref	,365-00100-20,	LABEL WHITE S/A 28X11MM
No Ref	,399-00010-51,	BAG PLASTIC 75*100MM
No Ref	,410-01081-01,	CRT T800 SERIES II
No Ref	,349-00020-43,	SCRW T/T M4X12MM P/POZ BZ

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Revision/Variant C
Date created 25/05/98

#C269	,015-21470-01,	CAP CER 0805 4P7+-1/4P NPO 50V
#C294	,015-22470-01,	CAP CER 0805 47P 5% NPO 50V
#C295	,022-06470-02,	CAP MYLAR 470N 10% 50V
#C384	,015-22150-01,	CAP CER 0805 15P 5% NPO 50V
#R264	,036-15270-00,	RES M/F 0805 27K 5%
#R265	,036-15180-00,	RES M/F 0805 18K 5%
#R266	,036-15560-00,	RES M/F 0805 56K 5%
#R298	,036-16100-00,	RES M/F 0805 100K 5%
#R386	,036-12470-00,	RES M/F 0805 47E 5%
%C733	,015-23470-08,	CAP CER 0805 470P 10% X7R 50V
%R200	,030-50000-20,	RES AI ZERO OHM 4X1.6
%R203	,030-50000-20,	RES AI ZERO OHM 4X1.6
%R550	,036-14470-00,	RES M/F 0805 4K7 5%
%R715	,036-14100-00,	RES M/F 0805 1K 5%
%R726	,036-13100-00,	RES M/F 0805 100E 5%
=IC700	,539-00010-41,	TCXO 12.8MHZ +-2.5PPM -30 +70C
C201	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C202	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C204	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C205	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C207	,014-07470-00,	CAP TANT CHIP 4U7 3.5 X 2.8MM
C209	,015-25470-08,	CAP CER 0805 47N 10% X7R 50V
C210	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C211	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C213	,014-08100-00,	CAP TANT CHIP 10M 16VW +-20%
C215	,014-08220-01,	(L)CAP TANT 22UF10V276MSER
C217	,015-24220-08,	CAP CER 0805 2N2 10% X7R 50V
C219	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C221	,014-08220-01,	(L)CAP TANT 22UF10V276MSER
C223	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C225	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C227	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C229	,015-23150-01,	CAP CER 0805 150P 5% NPO 50V
C230	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C232	,015-23150-01,	CAP CER 0805 150P 5% NPO 50V
C233	,016-08470-01,	CAP EL SMD 6*4 47U 16V
C235	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C237	,014-07100-02,	CAP TANT CHIP 1U0 3.2 X 1.6MM
C239	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C241	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C242	,014-08100-00,	CAP TANT CHIP 10M 16VW +-20%
C243	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C245	,015-23150-01,	CAP CER 0805 150P 5% NPO 50V
C247	,015-23150-01,	CAP CER 0805 150P 5% NPO 50V
C249	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C251	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C253	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C255	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C257	,015-22470-01,	CAP CER 0805 47P 5% NPO 50V
C259	,015-25470-08,	CAP CER 0805 47N 10% X7R 50V
C260	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C261	,014-07470-00,	CAP TANT CHIP 4U7 3.5 X 2.8MM
C263	,020-09100-04,	CAP ELE RA 100M 10V 6.3X9MM
C265	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C267	,015-24470-08,	CAP CER 0805 4N7 10% X7R 50V
C271	,015-22470-01,	CAP CER 0805 47P 5% NPO 50V
C273	,015-25470-08,	CAP CER 0805 47N 10% X7R 50V
C275	,015-23120-01,	CAP CER 0805 120P 5% NPO 50V
C277	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C279	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C281	,015-25220-08,	CAP CER 0805 22N 10% X7R 50V
C283	,015-21470-01,	CAP CER 0805 4P7+-1/4P NPO 50V
C285	,015-21470-01,	CAP CER 0805 4P7+-1/4P NPO 50V
C287	,020-09100-04,	CAP ELE RA 100M 10V 6.3X9MM
C289	,015-25470-08,	CAP CER 0805 47N 10% X7R 50V
C291	,014-08220-01,	(L)CAP TANT 22UF10V276MSER
C293	,015-27100-10,	CAP CER 0805 1M+80-20% Y5V 16V
C304	,015-24470-08,	CAP CER 0805 4N7 10% X7R 50V
C308	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C309	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C312	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C316	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C317	,015-23100-01,	CAP CER 0805 100P 5% NPO 50V
C318	,015-23100-01,	CAP CER 0805 100P 5% NPO 50V
C320	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C324	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C330A	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C330B	,016-08100-01,	CAP EL 6X4 10M 20% 16V
C332	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C334	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C336	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C338	,015-25150-08,	CAP CER 0805 15N 10% X7R 50V
C340	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C342	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C344	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C346	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C349	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C350	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C353	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C356	,015-22560-01,	CAP CER 0805 56P 5% NPO 50V
C359	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C362	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C365	,015-22180-01,	CAP CER 0805 18P 5% NPO 50V
C368	,015-22390-01,	CAP CER 0805 39P 5% NPO 50V

Q530	,000-10008-07,	S) XSTR SMD BC807 PNP SOT23 AF	R292	,036-14470-00,	RES M/F 0805 4K7 5%
Q540	,000-10008-07,	S) XSTR SMD BC807 PNP SOT23 AF	R293	,036-15470-00,	RES M/F 0805 47K 5%
Q550	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R294	,036-14470-00,	RES M/F 0805 4K7 5%
Q610	,000-10008-07,	S) XSTR SMD BC807 PNP SOT23 AF	R295	,036-14270-00,	RES M/F 0805 2K7 5%
Q620	,000-00012-15,	S) XSTR BD234 PNP AF PWR TO126	R296	,036-14100-00,	RES M/F 0805 1K 5%
Q630	,000-50011-30,	S) XSTR AI BC557B PNP TO92 AF	R297	,036-14560-00,	RES M/F 0805 5K6 5%
Q660	,000-10008-17,	S) XSTR SMD BC817-25 NPN SOT23	R299	,036-14270-00,	RES M/F 0805 2K7 5%
Q670	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R302	,036-15220-00,	RES M/F 0805 22K 5%
Q710	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R304	,036-14270-00,	RES M/F 0805 2K7 5%
Q720	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R306	,036-15100-00,	RES M/F 0805 10K 5%
Q730	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R308	,036-16100-00,	RES M/F 0805 100K 5%
Q740	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R310	,036-15220-00,	RES M/F 0805 22K 5%
Q750	,000-10008-07,	S) XSTR SMD BC807 PNP SOT23 AF	R312	,036-14150-00,	RES M/F 0805 1K5 5%
Q760	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R314	,036-13150-00,	RES M/F 0805 150E 5%
Q770	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R316	,036-15100-00,	RES M/F 0805 10K 5%
Q775	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R318	,036-14220-00,	RES M/F 0805 2K2 5%
Q780	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R320	,036-14100-00,	RES M/F 0805 1K 5%
Q785	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R322	,036-12220-00,	RES M/F 0805 22E 5%
Q790	,000-10003-12,	S) XSTR SMD BFR31 N JFET SOT23	R324	,036-13470-00,	RES M/F 0805 470E 5%
Q795	,000-10057-10,	S) XSTR SMD BR571 NPN SOT23	R326	,036-13470-00,	RES M/F 0805 470E 5%
Q810	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R328	,036-13470-00,	RES M/F 0805 470E 5%
Q820	,000-10008-17,	S) XSTR SMD BC817-25 NPN SOT23	R330	,036-12220-00,	RES M/F 0805 22E 5%
Q830	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R332	,036-15470-00,	RES M/F 0805 47K 5%
Q840	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R334	,036-15100-00,	RES M/F 0805 10K 5%
Q850	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R336	,036-14100-00,	RES M/F 0805 1K 5%
Q860	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R338	,036-14100-00,	RES M/F 0805 1K 5%
R160	,036-12100-00,	RES M/F 0805 10E 5%	R340	,036-16100-00,	RES M/F 0805 100K 5%
R201	,036-13560-00,	RES M/F 0805 560E 5%	R342	,036-15150-00,	RES M/F 0805 15K 5%
R202	,036-14100-00,	RES M/F 0805 1K 5%	R344	,036-15470-00,	RES M/F 0805 47K 5%
R204	,036-14220-00,	RES M/F 0805 2K2 5%	R345	,036-12220-00,	RES M/F 0805 22E 5%
R205	,036-13220-00,	RES M/F 0805 220E 5%	R346	,036-16120-00,	RES M/F 0805 120K 5%
R206	,036-14100-00,	RES M/F 0805 1K 5%	R348	,036-14470-00,	RES M/F 0805 4K7 5%
R207	,036-14390-00,	RES M/F 0805 3K9 5%	R350	,036-14100-00,	RES M/F 0805 1K 5%
R208	,036-13560-00,	RES M/F 0805 560E 5%	R352	,036-15150-00,	RES M/F 0805 15K 5%
R209	,036-15100-00,	RES M/F 0805 10K 5%	R354	,036-15150-00,	RES M/F 0805 15K 5%
R210	,036-14220-00,	RES M/F 0805 2K2 5%	R356	,036-14100-00,	RES M/F 0805 1K 5%
R212	,036-16100-00,	RES M/F 0805 100K 5%	R359	,036-13100-00,	RES M/F 0805 100E 5%
R213	,036-15100-00,	RES M/F 0805 10K 5%	R360	,036-12680-00,	RES M/F 0805 68E 5%
R214	,036-14820-00,	RES M/F 0805 8K2 5%	R362	,036-13100-00,	RES M/F 0805 100E 5%
R215	,036-16100-00,	RES M/F 0805 100K 5%	R364	,036-14150-00,	RES M/F 0805 1K5 5%
R216	,036-16100-00,	RES M/F 0805 100K 5%	R366	,036-12470-00,	RES M/F 0805 47E 5%
R217	,036-14100-00,	RES M/F 0805 1K 5%	R368	,036-15100-00,	RES M/F 0805 10K 5%
R218	,036-16150-00,	RES M/F 0805 150K 5%	R370	,036-13560-00,	RES M/F 0805 560E 5%
R219	,036-14220-00,	RES M/F 0805 2K2 5%	R372	,036-14150-00,	RES M/F 0805 1K5 5%
R221	,036-14150-00,	RES M/F 0805 1K5 5%	R374	,036-13330-00,	RES M/F 0805 330E 5%
R223	,036-17100-00,	RES M/F 0805 1M 5%	R376	,036-14150-00,	RES M/F 0805 1K5 5%
R224	,036-14680-00,	RES M/F 0805 6K8 5%	R377	,036-14120-00,	RES M/F 0805 1K2 5%
R225	,036-17100-00,	RES M/F 0805 1M 5%	R378	,036-14120-00,	RES M/F 0805 1K2 5%
R226	,036-15100-00,	RES M/F 0805 10K 5%	R380	,030-53150-20,	RES FILM AI 150E 5% 0.4W 4X1.6
R227	,036-14220-00,	RES M/F 0805 2K2 5%	R382	,030-53150-20,	RES FILM AI 150E 5% 0.4W 4X1.6
R229	,036-16470-00,	RES M/F 0805 470K 5%	R384	,036-11330-00,	RES M/F 0805 3E3 5%
R230	,036-16100-00,	RES M/F 0805 100K 5%	R387	,036-14180-00,	RES M/F 0805 1K8 5%
R231	,036-15100-00,	RES M/F 0805 10K 5%	R388	,036-14180-00,	RES M/F 0805 1K8 5%
R232	,036-16330-00,	RES M/F 0805 330K 5%	R389	,036-14180-00,	RES M/F 0805 1K8 5%
R233	,036-16100-00,	RES M/F 0805 100K 5%	R390	,036-11330-00,	RES M/F 0805 3E3 5%
R235	,036-14470-00,	RES M/F 0805 4K7 5%	R392	,036-14180-00,	RES M/F 0805 1K8 5%
R237	,036-15470-00,	RES M/F 0805 47K 5%	R394	,036-12220-00,	RES M/F 0805 22E 5%
R238	,036-15470-00,	RES M/F 0805 47K 5%	R396	,036-14180-00,	RES M/F 0805 1K8 5%
R239	,036-14150-00,	RES M/F 0805 1K5 5%	R502	,036-13330-00,	RES M/F 0805 330E 5%
R241	,036-14470-00,	RES M/F 0805 4K7 5%	R505	,036-15150-00,	RES M/F 0805 15K 5%
R242	,036-14220-00,	RES M/F 0805 2K2 5%	R510	,036-13680-00,	RES M/F 0805 680E 5%
R244	,036-15100-00,	RES M/F 0805 10K 5%	R515	,036-12560-00,	RES M/F 0805 56E 5%
R245	,036-16100-00,	RES M/F 0805 100K 5%	R520	,036-16120-00,	RES M/F 0805 120K 5%
R247	,036-15100-00,	RES M/F 0805 10K 5%	R525	,036-15470-00,	RES M/F 0805 47K 5%
R248	,036-16100-00,	RES M/F 0805 100K 5%	R530	,036-15220-00,	RES M/F 0805 22K 5%
R249	,036-16100-00,	RES M/F 0805 100K 5%	R535	,036-15100-00,	RES M/F 0805 10K 5%
R251	,036-16100-00,	RES M/F 0805 100K 5%	R540	,036-14220-00,	RES M/F 0805 2K2 5%
R253	,036-16100-00,	RES M/F 0805 100K 5%	R545	,036-14470-00,	RES M/F 0805 4K7 5%
R254	,036-16100-00,	RES M/F 0805 100K 5%	R555	,036-14470-00,	RES M/F 0805 4K7 5%
R255	,036-15100-00,	RES M/F 0805 10K 5%	R560	,036-13470-00,	RES M/F 0805 470E 5%
R256	,036-15470-00,	RES M/F 0805 47K 5%	R609	,036-14100-00,	RES M/F 0805 1K 5%
R257	,036-16330-00,	RES M/F 0805 330K 5%	R613	,036-13560-00,	RES M/F 0805 560E 5%
R258	,036-16150-00,	RES M/F 0805 150K 5%	R615	,036-13100-00,	RES M/F 0805 100E 5%
R259	,036-15220-00,	RES M/F 0805 22K 5%	R617	,036-10000-00,	RES M/F 0805 ZERO OHM
R260	,036-15470-00,	RES M/F 0805 47K 5%	R619	,036-01100-10,	RES 1 OHM 1 WATT 2512 CHIP
R262	,036-15470-00,	RES M/F 0805 47K 5%	R621	,036-01100-10,	RES 1 OHM 1 WATT 2512 CHIP
R263	,036-14470-00,	RES M/F 0805 4K7 5%	R625	,036-14100-00,	RES M/F 0805 1K 5%
R267	,036-14220-00,	RES M/F 0805 2K2 5%	R629	,036-03270-10,	RES 270 OHM 1 WATT 2512 CHIP
R268	,036-13100-00,	RES M/F 0805 100E 5%	R633	,036-14680-00,	RES M/F 0805 6K8 5%
R269	,036-15100-00,	RES M/F 0805 10K 5%	R637	,036-12220-00,	RES M/F 0805 22E 5%
R270	,036-14120-00,	RES M/F 0805 1K2 5%	R641	,036-14150-00,	RES M/F 0805 1K5 5%
R271	,036-16390-00,	RES M/F 0805 390K 5%	R645	,036-13470-00,	RES M/F 0805 470E 5%
R272	,036-13560-00,	RES M/F 0805 560E 5%	R649	,036-14470-00,	RES M/F 0805 4K7 5%
R273	,036-15120-00,	RES M/F 0805 12K 5%	R653	,036-15100-00,	RES M/F 0805 10K 5%
R274	,036-15150-00,	RES M/F 0805 15K 5%	R655	,036-10000-00,	RES M/F 0805 ZERO OHM
R275	,036-14270-00,	RES M/F 0805 2K7 5%	R656	,036-10000-00,	RES M/F 0805 ZERO OHM
R277	,036-16100-00,	RES M/F 0805 100K 5%	R657	,036-15100-00,	RES M/F 0805 10K 5%
R278	,036-16120-00,	RES M/F 0805 120K 5%	R661	,036-15100-00,	RES M/F 0805 10K 5%
R279	,036-17100-00,	RES M/F 0805 1M 5%	R665	,036-16100-00,	RES M/F 0805 100K 5%
R280	,036-15100-00,	RES M/F 0805 10K 5%	R669	,036-15470-00,	RES M/F 0805 47K 5%
R282	,036-15560-00,	RES M/F 0805 56K 5%	R673	,036-16100-00,	RES M/F 0805 100K 5%
R283	,036-15560-00,	RES M/F 0805 56K 5%	R677	,036-15470-00,	RES M/F 0805 47K 5%
R284	,036-17100-00,	RES M/F 0805 1M 5%	R681	,036-13100-00,	RES M/F 0805 100E 5%
R285	,036-10000-00,	RES M/F 0805 ZERO OHM	R685	,036-15150-00,	RES M/F 0805 15K 5%
R286	,036-14220-00,	RES M/F 0805 2K2 5%	R689	,036-12100-00,	RES M/F 0805 10E 5%
R287	,036-15100-00,	RES M/F 0805 10K 5%	R693	,036-16100-00,	RES M/F 0805 100K 5%
R288	,036-15120-00,	RES M/F 0805 12K 5%	R696	,036-15560-00,	RES M/F 0805 56K 5%
R289	,036-16100-00,	RES M/F 0805 100K 5%	R701	,036-12220-00,	RES M/F 0805 22E 5%
R290	,036-13560-00,	RES M/F 0805 560E 5%	R702	,036-17100-00,	RES M/F 0805 1M 5%
R291	,036-10000-00,	RES M/F 0805 ZERO OHM	R703	,036-17100-00,	RES M/F 0805 1M 5%

R706	,036-15150-00,	RES M/F 0805 15K 5%	R873	,036-15330-00,	RES M/F 0805 33K 5%
R708	,036-16100-00,	RES M/F 0805 100K 5%	R874	,036-14470-00,	RES M/F 0805 4K7 5%
R710	,036-13100-00,	RES M/F 0805 100E 5%	R875	,036-15470-00,	RES M/F 0805 47K 5%
R711	,036-13100-00,	RES M/F 0805 100E 5%	R876	,036-14470-00,	RES M/F 0805 4K7 5%
R712	,036-12100-00,	RES M/F 0805 10E 5%	R877	,036-14470-00,	RES M/F 0805 4K7 5%
R713	,036-12220-00,	RES M/F 0805 22E 5%	R879	,036-15100-00,	RES M/F 0805 10K 5%
R714	,036-12100-00,	RES M/F 0805 10E 5%	RV210	,040-05100-23,	POT 10K LOG PCB 15MM SLOT SFT
R717	,036-14270-00,	RES M/F 0805 2K7 5%	RV220	,042-05500-05,	RES PRESET SMD 50K CER 4MM SQ
R718	,036-16100-00,	RES M/F 0805 100K 5%	RV805	,042-05200-05,	RES PRESET SMD 20K CER 4MM SQ
R719	,036-16100-00,	RES M/F 0805 100K 5%	SK200	,240-10000-05,	CONN SMD SKT 8W 2R M-MATCH
R720	,036-15390-00,	RES M/F 0805 39K 5%	SK205	,240-02020-05,	SKT STEREO PHONE JACK PCB MTG
R721	,036-15100-00,	RES M/F 0805 10K 5%	SK310	,240-02100-44,	SKT COAX MINI JACK PCB MT ANG.
R722	,036-15100-00,	RES M/F 0805 10K 5%	SK420	,240-02100-44,	SKT COAX MINI JACK PCB MT ANG.
R723	,036-14270-00,	RES M/F 0805 2K7 5%	SK805	,240-10000-07,	CONN SMD SKT 16W 2R M-MATCH
R725	,036-15390-00,	RES M/F 0805 39K 5%	SK810	,240-04020-42,	SKT 44 PIN SMD PLCC
R727	,036-15100-00,	RES M/F 0805 10K 5%	SW101	,232-00020-26,	BUTTON 232-00010-26 SWITCH
R728	,036-15100-00,	RES M/F 0805 10K 5%	SW230	,232-00010-26,	SWITCH PUSH SPDT R-ANG PCB MTG
R734	,036-13470-00,	RES M/F 0805 470E 5%	T610	,050-00016-50,	COIL TAIT NO 650 455KHZ
R735	,036-13470-00,	RES M/F 0805 470E 5%	T86725	,036-15100-10,	RES M/F 0805 10K 1%
R736	,036-13470-00,	RES M/F 0805 470E 5%			
R742	,036-13150-00,	RES M/F 0805 150E 5%			
R743	,036-13150-00,	RES M/F 0805 150E 5%			
R744	,036-12220-00,	RES M/F 0805 22E 5%			
R746	,036-12220-00,	RES M/F 0805 22E 5%			
R747	,036-12220-00,	RES M/F 0805 22E 5%			
R748	,036-15470-00,	RES M/F 0805 47K 5%			
R749	,036-15470-00,	RES M/F 0805 47K 5%			
R750	,036-12220-00,	RES M/F 0805 22E 5%			
R752	,036-12220-00,	RES M/F 0805 22E 5%			
R753	,036-17100-00,	RES M/F 0805 1M 5%			
R754	,036-14100-00,	RES M/F 0805 1K 5%			
R756	,036-16470-00,	RES M/F 0805 470K 5%			
R757	,036-16470-00,	RES M/F 0805 470K 5%			
R758	,036-14120-00,	RES M/F 0805 1K2 5%			
R759	,036-13330-00,	RES M/F 0805 330E 5%			
R760	,036-13180-00,	RES M/F 0805 180E 5%			
R762	,036-13100-00,	RES M/F 0805 100E 5%			
R763	,036-13100-00,	RES M/F 0805 100E 5%			
R765	,036-13680-00,	RES M/F 0805 680E 5%			
R766	,036-14100-00,	RES M/F 0805 1K 5%			
R767	,036-13680-00,	RES M/F 0805 680E 5%			
R769	,036-13180-00,	RES M/F 0805 180E 5%			
R771	,036-14820-00,	RES M/F 0805 8K2 5%			
R772	,036-15220-00,	RES M/F 0805 22K 5%			
R774	,036-14820-00,	RES M/F 0805 8K2 5%			
R775	,036-14680-00,	RES M/F 0805 6K8 5%			
R777	,036-14220-00,	RES M/F 0805 2K2 5%			
R784	,036-12680-00,	RES M/F 0805 68E 5%			
R785	,036-14330-00,	RES M/F 0805 3K3 5%			
R786	,036-12100-00,	RES M/F 0805 10E 5%			
R787	,036-12100-00,	RES M/F 0805 10E 5%			
R790	,036-13220-00,	RES M/F 0805 220E 5%			
R791	,036-13100-00,	RES M/F 0805 100E 5%			
R792	,036-14100-00,	RES M/F 0805 1K 5%			
R801	,036-16150-00,	RES M/F 0805 150K 5%			
R802	,036-15470-00,	RES M/F 0805 47K 5%			
R808	,036-12100-00,	RES M/F 0805 10E 5%			
R809	,036-14470-00,	RES M/F 0805 4K7 5%			
R810	,036-14470-00,	RES M/F 0805 4K7 5%			
R811	,036-14470-00,	RES M/F 0805 4K7 5%			
R812	,036-14470-00,	RES M/F 0805 4K7 5%			
R813	,036-14470-00,	RES M/F 0805 4K7 5%			
R815	,036-15470-00,	RES M/F 0805 47K 5%			
R816	,036-16150-00,	RES M/F 0805 150K 5%			
R818	,036-14470-00,	RES M/F 0805 4K7 5%			
R819	,036-14470-00,	RES M/F 0805 4K7 5%			
R821	,036-15470-00,	RES M/F 0805 47K 5%			
R822	,036-15470-00,	RES M/F 0805 47K 5%			
R824	,036-14220-00,	RES M/F 0805 2K2 5%			
R825	,036-14220-00,	RES M/F 0805 2K2 5%			
R826	,036-14220-00,	RES M/F 0805 2K2 5%			
R827	,036-14220-00,	RES M/F 0805 2K2 5%			
R828	,036-14220-00,	RES M/F 0805 2K2 5%			
R829	,036-14220-00,	RES M/F 0805 2K2 5%			
R830	,036-14220-00,	RES M/F 0805 2K2 5%			
R831	,036-14220-00,	RES M/F 0805 2K2 5%			
R832	,036-14220-00,	RES M/F 0805 2K2 5%			
R833	,036-14220-00,	RES M/F 0805 2K2 5%			
R835	,036-14220-00,	RES M/F 0805 2K2 5%			
R836	,036-14220-00,	RES M/F 0805 2K2 5%			
R837	,036-14220-00,	RES M/F 0805 2K2 5%			
R840	,036-14220-00,	RES M/F 0805 2K2 5%			
R841	,036-14220-00,	RES M/F 0805 2K2 5%			
R842	,036-14220-00,	RES M/F 0805 2K2 5%			
R843	,036-14220-00,	RES M/F 0805 2K2 5%			
R845	,036-13470-00,	RES M/F 0805 470E 5%			
R846	,036-13470-00,	RES M/F 0805 470E 5%			
R847	,036-13470-00,	RES M/F 0805 470E 5%			
R848	,036-14470-00,	RES M/F 0805 4K7 5%			
R850	,036-13470-00,	RES M/F 0805 470E 5%			
R853	,036-14470-00,	RES M/F 0805 4K7 5%			
R854	,036-14470-00,	RES M/F 0805 4K7 5%			
R855	,036-14470-00,	RES M/F 0805 4K7 5%			
R859	,036-16150-00,	RES M/F 0805 150K 5%			
R861	,036-16150-00,	RES M/F 0805 150K 5%			
R863	,036-16150-00,	RES M/F 0805 150K 5%			
R865	,036-16100-00,	RES M/F 0805 100K 5%			
R867	,036-16100-00,	RES M/F 0805 100K 5%			
R871	,036-15470-00,	RES M/F 0805 47K 5%			
R872	,036-14470-00,	RES M/F 0805 4K7 5%			

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Revision/Variant C
Date created 25/05/98

No Ref	,352-00010-29,	NUT M4 NYLOC HEX
No Ref	,308-01007-01,	HANDLE BASE STATION SERIES II
No Ref	,312-01052-02,	LID TOP T800 SER II PTND
No Ref	,312-01053-02,	LID BOTTOM T800 SER II PTND
No Ref	,316-06619-00,	PNL FRT EX, NO EX OUT SER II
No Ref	,349-00020-36,	LIM)SCREW TT M3X8m PANTORX BLK
No Ref	,X867-30-0000,	DEV)T867-30-0000 MAIN BRD ASSY
No Ref	,349-00020-45,	SCRW T/T M4X20MM P/POZ BZ
No Ref	,410-01082-01,	CRTN 10 T800 KIWI 423X410X360
No Ref	,353-00010-24,	WSHR M4 FLAT ST BZ A4M1957
No Ref	,362-00010-33,	GROMMET LED MTG 3MM
No Ref	,365-00011-53,	LABEL 104*37MM
No Ref	,365-00100-20,	LABEL WHITE S/A 28X11MM
No Ref	,399-00010-51,	BAG PLASTIC 75*100MM
No Ref	,410-01081-01,	CRT T800 SERIES II
No Ref	,349-00020-43,	SCRW T/T M4X12MM P/POZ BZ

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Revision/Variant C
Date created 25/05/98

#C269	,015-21150-01,	CAP CER 0805 1P5+-1/4P NPO 50V
#C294	,015-22470-01,	CAP CER 0805 47P 5% NPO 50V
#C295	,022-06470-02,	CAP MYLAR 470N 10% 50V
#C384	,015-22150-01,	CAP CER 0805 15P 5% NPO 50V
#R264	,036-15220-00,	RES M/F 0805 22K 5%
#R265	,036-15150-00,	RES M/F 0805 15K 5%
#R266	,036-15470-00,	RES M/F 0805 47K 5%
#R298	,036-16100-00,	RES M/F 0805 100K 5%
#R386	,036-13100-00,	RES M/F 0805 100E 5%
%C733	,015-23470-08,	CAP CER 0805 470P 10% X7R 50V
%R200	,030-50000-20,	RES AI ZERO OHM 4X1.6
%R203	,030-50000-20,	RES AI ZERO OHM 4X1.6
%R550	,036-14470-00,	RES M/F 0805 4K7 5%
%R715	,036-14100-00,	RES M/F 0805 1K 5%
%R726	,036-13100-00,	RES M/F 0805 100E 5%
=IC700	,539-00010-41,	TCXO 12.8MHZ +-2.5PPM -30 +70C
C201	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C202	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C204	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C205	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C207	,014-07470-00,	CAP TANT CHIP 4U7 3.5 X 2.8MM
C209	,015-25470-08,	CAP CER 0805 47N 10% X7R 50V
C210	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C211	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C213	,014-08100-00,	CAP TANT CHIP 10M 16VW +-20%
C215	,014-08220-01,	(L)CAP TANT 22UF10V276MSER
C217	,015-24220-08,	CAP CER 0805 2N2 10% X7R 50V
C219	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C221	,014-08220-01,	(L)CAP TANT 22UF10V276MSER
C223	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C225	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C227	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C229	,015-23150-01,	CAP CER 0805 150P 5% NPO 50V
C230	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C232	,015-23150-01,	CAP CER 0805 150P 5% NPO 50V
C233	,016-08470-01,	CAP EL SMD 6*4 47U 16V
C235	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C237	,014-07100-02,	CAP TANT CHIP 1U0 3.2 X 1.6MM
C239	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C241	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C242	,014-08100-00,	CAP TANT CHIP 10M 16VW +-20%
C243	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C245	,015-23150-01,	CAP CER 0805 150P 5% NPO 50V
C247	,015-23150-01,	CAP CER 0805 150P 5% NPO 50V
C249	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C251	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C253	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C255	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C257	,015-22470-01,	CAP CER 0805 47P 5% NPO 50V
C259	,015-25470-08,	CAP CER 0805 47N 10% X7R 50V
C260	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C261	,014-07470-00,	CAP TANT CHIP 4U7 3.5 X 2.8MM
C263	,020-09100-04,	CAP ELE RA 100M 10V 6.3X9MM
C265	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C267	,015-24470-08,	CAP CER 0805 4N7 10% X7R 50V
C271	,015-22470-01,	CAP CER 0805 47P 5% NPO 50V
C273	,015-25470-08,	CAP CER 0805 47N 10% X7R 50V
C275	,015-23120-01,	CAP CER 0805 120P 5% NPO 50V
C277	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C279	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C281	,015-25220-08,	CAP CER 0805 22N 10% X7R 50V
C283	,015-21470-01,	CAP CER 0805 4P7+-1/4P NPO 50V
C285	,015-21470-01,	CAP CER 0805 4P7+-1/4P NPO 50V
C287	,020-09100-04,	CAP ELE RA 100M 10V 6.3X9MM
C289	,015-25470-08,	CAP CER 0805 47N 10% X7R 50V
C291	,014-08220-01,	(L)CAP TANT 22UF10V276MSER
C293	,015-27100-10,	CAP CER 0805 1M+80-20% Y5V 16V
C304	,015-24470-08,	CAP CER 0805 4N7 10% X7R 50V
C308	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C309	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C312	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C316	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C317	,015-23100-01,	CAP CER 0805 100P 5% NPO 50V
C318	,015-23100-01,	CAP CER 0805 100P 5% NPO 50V
C320	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C324	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C330A	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C330B	,016-08100-01,	CAP EL 6X4 10M 20% 16V
C332	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C334	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C336	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C338	,015-25150-08,	CAP CER 0805 15N 10% X7R 50V
C340	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C342	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C344	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C346	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C349	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C350	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C353	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C356	,015-22560-01,	CAP CER 0805 56P 5% NPO 50V
C359	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C362	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C365	,015-22180-01,	CAP CER 0805 18P 5% NPO 50V
C368	,015-22390-01,	CAP CER 0805 39P 5% NPO 50V

Q530	,000-10008-07,	S) XSTR SMD BC807 PNP SOT23 AF	R292	,036-14470-00,	RES M/F 0805 4K7 5%
Q540	,000-10008-07,	S) XSTR SMD BC807 PNP SOT23 AF	R293	,036-15470-00,	RES M/F 0805 47K 5%
Q550	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R294	,036-14470-00,	RES M/F 0805 4K7 5%
Q610	,000-10008-07,	S) XSTR SMD BC807 PNP SOT23 AF	R295	,036-14270-00,	RES M/F 0805 2K7 5%
Q620	,000-00012-15,	S) XSTR BD234 PNP AF PWR TO126	R296	,036-14100-00,	RES M/F 0805 1K 5%
Q630	,000-50011-30,	S) XSTR AI BC557B PNP TO92 AF	R297	,036-14560-00,	RES M/F 0805 5K6 5%
Q660	,000-10008-17,	S) XSTR SMD BC817-25 NPN SOT23	R299	,036-14270-00,	RES M/F 0805 2K7 5%
Q670	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R302	,036-15220-00,	RES M/F 0805 22K 5%
Q710	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R304	,036-14270-00,	RES M/F 0805 2K7 5%
Q720	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R306	,036-15100-00,	RES M/F 0805 10K 5%
Q730	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R308	,036-16100-00,	RES M/F 0805 100K 5%
Q740	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R310	,036-15220-00,	RES M/F 0805 22K 5%
Q750	,000-10008-07,	S) XSTR SMD BC807 PNP SOT23 AF	R312	,036-14150-00,	RES M/F 0805 1K5 5%
Q760	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R314	,036-13150-00,	RES M/F 0805 150E 5%
Q770	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R316	,036-15100-00,	RES M/F 0805 10K 5%
Q775	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R318	,036-14220-00,	RES M/F 0805 2K2 5%
Q780	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R320	,036-14100-00,	RES M/F 0805 1K 5%
Q785	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R322	,036-12220-00,	RES M/F 0805 22E 5%
Q790	,000-10003-12,	S) XSTR SMD BFR31 N JFET SOT23	R324	,036-13470-00,	RES M/F 0805 470E 5%
Q795	,000-10057-10,	S) XSTR SMD BR571 NPN SOT23	R326	,036-13470-00,	RES M/F 0805 470E 5%
Q810	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R328	,036-13470-00,	RES M/F 0805 470E 5%
Q820	,000-10008-17,	S) XSTR SMD BC817-25 NPN SOT23	R330	,036-12220-00,	RES M/F 0805 22E 5%
Q830	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R332	,036-15470-00,	RES M/F 0805 47K 5%
Q840	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R334	,036-15100-00,	RES M/F 0805 10K 5%
Q850	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R336	,036-14100-00,	RES M/F 0805 1K 5%
Q860	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R338	,036-14100-00,	RES M/F 0805 1K 5%
R160	,036-12100-00,	RES M/F 0805 10E 5%	R340	,036-16100-00,	RES M/F 0805 100K 5%
R201	,036-13560-00,	RES M/F 0805 560E 5%	R342	,036-15150-00,	RES M/F 0805 15K 5%
R202	,036-14100-00,	RES M/F 0805 1K 5%	R344	,036-15470-00,	RES M/F 0805 47K 5%
R204	,036-14220-00,	RES M/F 0805 2K2 5%	R345	,036-12220-00,	RES M/F 0805 22E 5%
R205	,036-13220-00,	RES M/F 0805 220E 5%	R346	,036-16120-00,	RES M/F 0805 120K 5%
R206	,036-14100-00,	RES M/F 0805 1K 5%	R348	,036-14470-00,	RES M/F 0805 4K7 5%
R207	,036-14390-00,	RES M/F 0805 3K9 5%	R350	,036-14100-00,	RES M/F 0805 1K 5%
R208	,036-13560-00,	RES M/F 0805 560E 5%	R352	,036-15150-00,	RES M/F 0805 15K 5%
R209	,036-15100-00,	RES M/F 0805 10K 5%	R354	,036-15150-00,	RES M/F 0805 15K 5%
R210	,036-14220-00,	RES M/F 0805 2K2 5%	R356	,036-14100-00,	RES M/F 0805 1K 5%
R212	,036-16100-00,	RES M/F 0805 100K 5%	R359	,036-13100-00,	RES M/F 0805 100E 5%
R213	,036-15100-00,	RES M/F 0805 10K 5%	R360	,036-12680-00,	RES M/F 0805 68E 5%
R214	,036-14820-00,	RES M/F 0805 8K2 5%	R362	,036-13100-00,	RES M/F 0805 100E 5%
R215	,036-16100-00,	RES M/F 0805 100K 5%	R364	,036-14150-00,	RES M/F 0805 1K5 5%
R216	,036-16100-00,	RES M/F 0805 100K 5%	R366	,036-12470-00,	RES M/F 0805 47E 5%
R217	,036-14100-00,	RES M/F 0805 1K 5%	R368	,036-15100-00,	RES M/F 0805 10K 5%
R218	,036-16150-00,	RES M/F 0805 150K 5%	R370	,036-13560-00,	RES M/F 0805 560E 5%
R219	,036-14220-00,	RES M/F 0805 2K2 5%	R372	,036-14150-00,	RES M/F 0805 1K5 5%
R221	,036-14150-00,	RES M/F 0805 1K5 5%	R374	,036-13330-00,	RES M/F 0805 330E 5%
R223	,036-17100-00,	RES M/F 0805 1M 5%	R376	,036-14150-00,	RES M/F 0805 1K5 5%
R224	,036-14680-00,	RES M/F 0805 6K8 5%	R377	,036-14120-00,	RES M/F 0805 1K2 5%
R225	,036-17100-00,	RES M/F 0805 1M 5%	R378	,036-14120-00,	RES M/F 0805 1K2 5%
R226	,036-15100-00,	RES M/F 0805 10K 5%	R380	,030-53150-20,	RES FILM AI 150E 5% 0.4W 4X1.6
R227	,036-14220-00,	RES M/F 0805 2K2 5%	R382	,030-53150-20,	RES FILM AI 150E 5% 0.4W 4X1.6
R229	,036-16470-00,	RES M/F 0805 470K 5%	R384	,036-11330-00,	RES M/F 0805 3E3 5%
R230	,036-16100-00,	RES M/F 0805 100K 5%	R387	,036-14180-00,	RES M/F 0805 1K8 5%
R231	,036-15100-00,	RES M/F 0805 10K 5%	R388	,036-14180-00,	RES M/F 0805 1K8 5%
R232	,036-16330-00,	RES M/F 0805 330K 5%	R389	,036-14180-00,	RES M/F 0805 1K8 5%
R233	,036-16100-00,	RES M/F 0805 100K 5%	R390	,036-11330-00,	RES M/F 0805 3E3 5%
R235	,036-14470-00,	RES M/F 0805 4K7 5%	R392	,036-14180-00,	RES M/F 0805 1K8 5%
R237	,036-15470-00,	RES M/F 0805 47K 5%	R394	,036-12220-00,	RES M/F 0805 22E 5%
R238	,036-15470-00,	RES M/F 0805 47K 5%	R396	,036-14180-00,	RES M/F 0805 1K8 5%
R239	,036-14150-00,	RES M/F 0805 1K5 5%	R502	,036-13330-00,	RES M/F 0805 330E 5%
R241	,036-14470-00,	RES M/F 0805 4K7 5%	R505	,036-15150-00,	RES M/F 0805 15K 5%
R242	,036-14220-00,	RES M/F 0805 2K2 5%	R510	,036-13680-00,	RES M/F 0805 680E 5%
R244	,036-15100-00,	RES M/F 0805 10K 5%	R515	,036-12560-00,	RES M/F 0805 56E 5%
R245	,036-16100-00,	RES M/F 0805 100K 5%	R520	,036-16120-00,	RES M/F 0805 120K 5%
R247	,036-15100-00,	RES M/F 0805 10K 5%	R525	,036-15470-00,	RES M/F 0805 47K 5%
R248	,036-16100-00,	RES M/F 0805 100K 5%	R530	,036-15220-00,	RES M/F 0805 22K 5%
R249	,036-16100-00,	RES M/F 0805 100K 5%	R535	,036-15100-00,	RES M/F 0805 10K 5%
R251	,036-16100-00,	RES M/F 0805 100K 5%	R540	,036-14220-00,	RES M/F 0805 2K2 5%
R253	,036-16100-00,	RES M/F 0805 100K 5%	R545	,036-14470-00,	RES M/F 0805 4K7 5%
R254	,036-16100-00,	RES M/F 0805 100K 5%	R555	,036-14470-00,	RES M/F 0805 4K7 5%
R255	,036-15100-00,	RES M/F 0805 10K 5%	R560	,036-13470-00,	RES M/F 0805 470E 5%
R256	,036-15470-00,	RES M/F 0805 47K 5%	R609	,036-14100-00,	RES M/F 0805 1K 5%
R257	,036-16330-00,	RES M/F 0805 330K 5%	R613	,036-13560-00,	RES M/F 0805 560E 5%
R258	,036-16150-00,	RES M/F 0805 150K 5%	R615	,036-13100-00,	RES M/F 0805 100E 5%
R259	,036-15220-00,	RES M/F 0805 22K 5%	R617	,036-10000-00,	RES M/F 0805 ZERO OHM
R260	,036-15470-00,	RES M/F 0805 47K 5%	R619	,036-01100-10,	RES 1 OHM 1 WATT 2512 CHIP
R262	,036-15470-00,	RES M/F 0805 47K 5%	R621	,036-01100-10,	RES 1 OHM 1 WATT 2512 CHIP
R263	,036-14470-00,	RES M/F 0805 4K7 5%	R625	,036-14100-00,	RES M/F 0805 1K 5%
R267	,036-14220-00,	RES M/F 0805 2K2 5%	R629	,036-03270-10,	RES 270 OHM 1 WATT 2512 CHIP
R268	,036-13100-00,	RES M/F 0805 100E 5%	R633	,036-14680-00,	RES M/F 0805 6K8 5%
R269	,036-15100-00,	RES M/F 0805 10K 5%	R637	,036-12220-00,	RES M/F 0805 22E 5%
R270	,036-14120-00,	RES M/F 0805 1K2 5%	R641	,036-14150-00,	RES M/F 0805 1K5 5%
R271	,036-16390-00,	RES M/F 0805 390K 5%	R645	,036-13470-00,	RES M/F 0805 470E 5%
R272	,036-13560-00,	RES M/F 0805 560E 5%	R649	,036-14470-00,	RES M/F 0805 4K7 5%
R273	,036-15120-00,	RES M/F 0805 12K 5%	R653	,036-15100-00,	RES M/F 0805 10K 5%
R274	,036-15150-00,	RES M/F 0805 15K 5%	R655	,036-10000-00,	RES M/F 0805 ZERO OHM
R275	,036-14270-00,	RES M/F 0805 2K7 5%	R656	,036-10000-00,	RES M/F 0805 ZERO OHM
R277	,036-16100-00,	RES M/F 0805 100K 5%	R657	,036-15100-00,	RES M/F 0805 10K 5%
R278	,036-16120-00,	RES M/F 0805 120K 5%	R661	,036-15100-00,	RES M/F 0805 10K 5%
R279	,036-17100-00,	RES M/F 0805 1M 5%	R665	,036-16100-00,	RES M/F 0805 100K 5%
R280	,036-15100-00,	RES M/F 0805 10K 5%	R669	,036-15470-00,	RES M/F 0805 47K 5%
R282	,036-15560-00,	RES M/F 0805 56K 5%	R673	,036-16100-00,	RES M/F 0805 100K 5%
R283	,036-15560-00,	RES M/F 0805 56K 5%	R677	,036-15470-00,	RES M/F 0805 47K 5%
R284	,036-17100-00,	RES M/F 0805 1M 5%	R681	,036-13100-00,	RES M/F 0805 100E 5%
R285	,036-10000-00,	RES M/F 0805 ZERO OHM	R685	,036-15150-00,	RES M/F 0805 15K 5%
R286	,036-14220-00,	RES M/F 0805 2K2 5%	R689	,036-12100-00,	RES M/F 0805 10E 5%
R287	,036-15100-00,	RES M/F 0805 10K 5%	R693	,036-16100-00,	RES M/F 0805 100K 5%
R288	,036-15120-00,	RES M/F 0805 12K 5%	R696	,036-15560-00,	RES M/F 0805 56K 5%
R289	,036-16100-00,	RES M/F 0805 100K 5%	R701	,036-12220-00,	RES M/F 0805 22E 5%
R290	,036-13560-00,	RES M/F 0805 560E 5%	R702	,036-17100-00,	RES M/F 0805 1M 5%
R291	,036-10000-00,	RES M/F 0805 ZERO OHM	R703	,036-17100-00,	RES M/F 0805 1M 5%

R706	,036-15150-00,	RES M/F 0805 15K 5%	R873	,036-15330-00,	RES M/F 0805 33K 5%
R708	,036-16100-00,	RES M/F 0805 100K 5%	R874	,036-14470-00,	RES M/F 0805 4K7 5%
R710	,036-13100-00,	RES M/F 0805 100E 5%	R875	,036-15470-00,	RES M/F 0805 47K 5%
R711	,036-13100-00,	RES M/F 0805 100E 5%	R876	,036-14470-00,	RES M/F 0805 4K7 5%
R712	,036-12100-00,	RES M/F 0805 10E 5%	R877	,036-14470-00,	RES M/F 0805 4K7 5%
R713	,036-12220-00,	RES M/F 0805 22E 5%	R879	,036-15100-00,	RES M/F 0805 10K 5%
R714	,036-12100-00,	RES M/F 0805 10E 5%	RV210	,040-05100-23,	POT 10K LOG PCB 15MM SLOT SFT
R717	,036-14270-00,	RES M/F 0805 2K7 5%	RV220	,042-05500-05,	RES PRESET SMD 50K CER 4MM SQ
R718	,036-16100-00,	RES M/F 0805 100K 5%	RV805	,042-05200-05,	RES PRESET SMD 20K CER 4MM SQ
R719	,036-16100-00,	RES M/F 0805 100K 5%	SK200	,240-10000-05,	CONN SMD SKT 8W 2R M-MATCH
R720	,036-15390-00,	RES M/F 0805 39K 5%	SK205	,240-02020-05,	SKT STEREO PHONE JACK PCB MTG
R721	,036-15100-00,	RES M/F 0805 10K 5%	SK310	,240-02100-44,	SKT COAX MINI JACK PCB MT ANG.
R722	,036-15100-00,	RES M/F 0805 10K 5%	SK420	,240-02100-44,	SKT COAX MINI JACK PCB MT ANG.
R723	,036-14270-00,	RES M/F 0805 2K7 5%	SK805	,240-10000-07,	CONN SMD SKT 16W 2R M-MATCH
R725	,036-15390-00,	RES M/F 0805 39K 5%	SK810	,240-04020-42,	SKT 44 PIN SMD PLCC
R727	,036-15100-00,	RES M/F 0805 10K 5%	SW101	,232-00020-26,	BUTTON 232-00010-26 SWITCH
R728	,036-15100-00,	RES M/F 0805 10K 5%	SW230	,232-00010-26,	SWITCH PUSH SPDT R-ANG PCB MTG
R734	,036-13470-00,	RES M/F 0805 470E 5%	T610	,050-00016-50,	COIL TAIT NO 650 455KHZ
R735	,036-13470-00,	RES M/F 0805 470E 5%	T86730	,036-15100-10,	RES M/F 0805 10K 1%
R736	,036-13470-00,	RES M/F 0805 470E 5%			
R742	,036-13150-00,	RES M/F 0805 150E 5%			
R743	,036-13150-00,	RES M/F 0805 150E 5%			
R744	,036-12220-00,	RES M/F 0805 22E 5%			
R746	,036-12220-00,	RES M/F 0805 22E 5%			
R747	,036-12220-00,	RES M/F 0805 22E 5%			
R748	,036-15470-00,	RES M/F 0805 47K 5%			
R749	,036-15470-00,	RES M/F 0805 47K 5%			
R750	,036-12220-00,	RES M/F 0805 22E 5%			
R752	,036-12220-00,	RES M/F 0805 22E 5%			
R753	,036-17100-00,	RES M/F 0805 1M 5%			
R754	,036-14100-00,	RES M/F 0805 1K 5%			
R756	,036-16470-00,	RES M/F 0805 470K 5%			
R757	,036-16470-00,	RES M/F 0805 470K 5%			
R758	,036-14120-00,	RES M/F 0805 1K2 5%			
R759	,036-13330-00,	RES M/F 0805 330E 5%			
R760	,036-13180-00,	RES M/F 0805 180E 5%			
R762	,036-13100-00,	RES M/F 0805 100E 5%			
R763	,036-13100-00,	RES M/F 0805 100E 5%			
R765	,036-13680-00,	RES M/F 0805 680E 5%			
R766	,036-14100-00,	RES M/F 0805 1K 5%			
R767	,036-13680-00,	RES M/F 0805 680E 5%			
R769	,036-13180-00,	RES M/F 0805 180E 5%			
R771	,036-14820-00,	RES M/F 0805 8K2 5%			
R772	,036-15220-00,	RES M/F 0805 22K 5%			
R774	,036-14820-00,	RES M/F 0805 8K2 5%			
R775	,036-14680-00,	RES M/F 0805 6K8 5%			
R777	,036-14220-00,	RES M/F 0805 2K2 5%			
R784	,036-12680-00,	RES M/F 0805 68E 5%			
R785	,036-14330-00,	RES M/F 0805 3K3 5%			
R786	,036-12100-00,	RES M/F 0805 10E 5%			
R787	,036-12100-00,	RES M/F 0805 10E 5%			
R790	,036-13220-00,	RES M/F 0805 220E 5%			
R791	,036-13100-00,	RES M/F 0805 100E 5%			
R792	,036-14100-00,	RES M/F 0805 1K 5%			
R801	,036-16150-00,	RES M/F 0805 150K 5%			
R802	,036-15470-00,	RES M/F 0805 47K 5%			
R808	,036-12100-00,	RES M/F 0805 10E 5%			
R809	,036-14470-00,	RES M/F 0805 4K7 5%			
R810	,036-14470-00,	RES M/F 0805 4K7 5%			
R811	,036-14470-00,	RES M/F 0805 4K7 5%			
R812	,036-14470-00,	RES M/F 0805 4K7 5%			
R813	,036-14470-00,	RES M/F 0805 4K7 5%			
R815	,036-15470-00,	RES M/F 0805 47K 5%			
R816	,036-16150-00,	RES M/F 0805 150K 5%			
R818	,036-14470-00,	RES M/F 0805 4K7 5%			
R819	,036-14470-00,	RES M/F 0805 4K7 5%			
R821	,036-15470-00,	RES M/F 0805 47K 5%			
R822	,036-15470-00,	RES M/F 0805 47K 5%			
R824	,036-14220-00,	RES M/F 0805 2K2 5%			
R825	,036-14220-00,	RES M/F 0805 2K2 5%			
R826	,036-14220-00,	RES M/F 0805 2K2 5%			
R827	,036-14220-00,	RES M/F 0805 2K2 5%			
R828	,036-14220-00,	RES M/F 0805 2K2 5%			
R829	,036-14220-00,	RES M/F 0805 2K2 5%			
R830	,036-14220-00,	RES M/F 0805 2K2 5%			
R831	,036-14220-00,	RES M/F 0805 2K2 5%			
R832	,036-14220-00,	RES M/F 0805 2K2 5%			
R833	,036-14220-00,	RES M/F 0805 2K2 5%			
R835	,036-14220-00,	RES M/F 0805 2K2 5%			
R836	,036-14220-00,	RES M/F 0805 2K2 5%			
R837	,036-14220-00,	RES M/F 0805 2K2 5%			
R840	,036-14220-00,	RES M/F 0805 2K2 5%			
R841	,036-14220-00,	RES M/F 0805 2K2 5%			
R842	,036-14220-00,	RES M/F 0805 2K2 5%			
R843	,036-14220-00,	RES M/F 0805 2K2 5%			
R845	,036-13470-00,	RES M/F 0805 470E 5%			
R846	,036-13470-00,	RES M/F 0805 470E 5%			
R847	,036-13470-00,	RES M/F 0805 470E 5%			
R848	,036-14470-00,	RES M/F 0805 4K7 5%			
R850	,036-13470-00,	RES M/F 0805 470E 5%			
R853	,036-14470-00,	RES M/F 0805 4K7 5%			
R854	,036-14470-00,	RES M/F 0805 4K7 5%			
R855	,036-14470-00,	RES M/F 0805 4K7 5%			
R859	,036-16150-00,	RES M/F 0805 150K 5%			
R861	,036-16150-00,	RES M/F 0805 150K 5%			
R863	,036-16150-00,	RES M/F 0805 150K 5%			
R865	,036-16100-00,	RES M/F 0805 100K 5%			
R867	,036-16100-00,	RES M/F 0805 100K 5%			
R871	,036-15470-00,	RES M/F 0805 47K 5%			
R872	,036-14470-00,	RES M/F 0805 4K7 5%			

Item T867-35-0000

Revision/Variant C
Date created 25/05/98

No Ref	,352-00010-29,	NUT M4 NYLOC HEX
No Ref	,308-01007-01,	HANDLE BASE STATION SERIES II
No Ref	,312-01052-02,	LID TOP T800 SER II PTND
No Ref	,312-01053-02,	LID BOTTOM T800 SER II PTND
No Ref	,316-06619-00,	PNL FRT EX, NO EX OUT SER II
No Ref	,349-00020-36,	LIM)SCREW TT M3X8m PANTORX BLK
No Ref	,X867-35-0000,	DEV)T867-35-0000 MAIN BRD ASSY
No Ref	,349-00020-45,	SCRW T/T M4X20MM P/POZ BZ
No Ref	,410-01082-01,	CRTN 10 T800 KIWI 423X410X360
No Ref	,353-00010-24,	WSHR M4 FLAT ST BZ A4M1957
No Ref	,362-00010-33,	GROMMET LED MTG 3MM
No Ref	,365-00011-53,	LABEL 104*37MM
No Ref	,365-00100-20,	LABEL WHITE S/A 28X11MM
No Ref	,399-00010-51,	BAG PLASTIC 75*100MM
No Ref	,410-01081-01,	CRT T800 SERIES II
No Ref	,349-00020-43,	SCRW T/T M4X12MM P/POZ BZ

Item X867-35-0000

Revision/Variant B
Date created 25/05/98

#C269	,015-21470-01,	CAP CER 0805 4P7+-1/4P NPO 50V
#C294	,015-22470-01,	CAP CER 0805 47P 5% NPO 50V
#C295	,022-06470-02,	CAP MYLAR 470N 10% 50V
#C384	,015-22180-01,	CAP CER 0805 18P 5% NPO 50V
#R264	,036-15270-00,	RES M/F 0805 27K 5%
#R265	,036-15180-00,	RES M/F 0805 18K 5%
#R266	,036-15560-00,	RES M/F 0805 56K 5%
#R298	,036-16100-00,	RES M/F 0805 100K 5%
#R386	,036-13100-00,	RES M/F 0805 100E 5%
%C733	,015-23470-08,	CAP CER 0805 470P 10% X7R 50V
%R200	,030-50000-20,	RES AI ZERO OHM 4X1.6
%R203	,030-50000-20,	RES AI ZERO OHM 4X1.6
%R550	,036-14470-00,	RES M/F 0805 4K7 5%
%R715	,036-14100-00,	RES M/F 0805 1K 5%
%R726	,036-13100-00,	RES M/F 0805 100E 5%
=IC700	,539-00010-41,	TCXO 12.8MHZ +-2.5PPM -30 +70C
C201	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C202	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C204	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C205	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C207	,014-07470-00,	CAP TANT CHIP 4U7 3.5 X 2.8MM
C209	,015-25470-08,	CAP CER 0805 47N 10% X7R 50V
C210	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C211	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C213	,014-08100-00,	CAP TANT CHIP 10M 16VW +-20%
C215	,014-08220-01,	(L)CAP TANT 22UF10V276MSER
C217	,015-24220-08,	CAP CER 0805 2N2 10% X7R 50V
C219	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C221	,014-08220-01,	(L)CAP TANT 22UF10V276MSER
C223	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C225	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C227	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C229	,015-23150-01,	CAP CER 0805 150P 5% NPO 50V
C230	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C232	,015-23150-01,	CAP CER 0805 150P 5% NPO 50V
C233	,016-08470-01,	CAP EL SMD 6*4 47U 16V
C235	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C237	,014-07100-02,	CAP TANT CHIP 1U0 3.2 X 1.6MM
C239	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C241	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C242	,014-08100-00,	CAP TANT CHIP 10M 16VW +-20%
C243	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C245	,015-23150-01,	CAP CER 0805 150P 5% NPO 50V
C247	,015-23150-01,	CAP CER 0805 150P 5% NPO 50V
C249	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C251	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C253	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C255	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C257	,015-22470-01,	CAP CER 0805 47P 5% NPO 50V
C259	,015-25470-08,	CAP CER 0805 47N 10% X7R 50V
C260	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C261	,014-07470-00,	CAP TANT CHIP 4U7 3.5 X 2.8MM
C263	,020-09100-04,	CAP ELE RA 100M 10V 6.3X9MM
C265	,020-07470-92,	CAP BI-P RA 4M7 50V 6X11 5 LS
C267	,015-24470-08,	CAP CER 0805 4N7 10% X7R 50V
C271	,015-22470-01,	CAP CER 0805 47P 5% NPO 50V
C273	,015-25470-08,	CAP CER 0805 47N 10% X7R 50V
C275	,015-23120-01,	CAP CER 0805 120P 5% NPO 50V
C277	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C279	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C281	,015-25220-08,	CAP CER 0805 22N 10% X7R 50V
C283	,015-21470-01,	CAP CER 0805 4P7+-1/4P NPO 50V
C285	,015-21470-01,	CAP CER 0805 4P7+-1/4P NPO 50V
C287	,020-09100-04,	CAP ELE RA 100M 10V 6.3X9MM
C289	,015-25470-08,	CAP CER 0805 47N 10% X7R 50V
C291	,014-08220-01,	(L)CAP TANT 22UF10V276MSER
C293	,015-27100-10,	CAP CER 0805 1M+80-20% Y5V 16V
C304	,015-24470-08,	CAP CER 0805 4N7 10% X7R 50V
C308	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C309	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C312	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C316	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C317	,015-23100-01,	CAP CER 0805 100P 5% NPO 50V
C318	,015-23100-01,	CAP CER 0805 100P 5% NPO 50V
C320	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C324	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C330A	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C330B	,016-08100-01,	CAP EL 6X4 10M 20% 16V
C332	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C334	,015-25100-08,	CAP CER 0805 10N 10% X7R 50V
C336	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C338	,015-25150-08,	CAP CER 0805 15N 10% X7R 50V
C340	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C342	,015-06100-08,	CAP CER 1206 100N 10% X7R 50V
C344	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C346	,015-24100-08,	CAP CER 0805 1N 10% X7R 50V
C349	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C350	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C353	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C356	,015-22560-01,	CAP CER 0805 56P 5% NPO 50V
C359	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C362	,015-23680-08,	CAP CER 0805 680P 10% X7R 50V
C365	,015-22180-01,	CAP CER 0805 18P 5% NPO 50V
C368	,015-22390-01,	CAP CER 0805 39P 5% NPO 50V

Q530	,000-10008-07,	S) XSTR SMD BC807 PNP SOT23 AF	R293	,036-15470-00,	RES M/F 0805 47K 5%
Q540	,000-10008-07,	S) XSTR SMD BC807 PNP SOT23 AF	R294	,036-14470-00,	RES M/F 0805 4K7 5%
Q550	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R295	,036-14270-00,	RES M/F 0805 2K7 5%
Q610	,000-10008-07,	S) XSTR SMD BC807 PNP SOT23 AF	R296	,036-14100-00,	RES M/F 0805 1K 5%
Q620	,000-00012-15,	S) XSTR BD234 PNP AF PWR TO126	R297	,036-14560-00,	RES M/F 0805 5K6 5%
Q630	,000-50011-30,	S) XSTR AI BC557B PNP TO92 AF	R299	,036-14270-00,	RES M/F 0805 2K7 5%
Q660	,000-10008-17,	S) XSTR SMD BC817-25 NPN SOT23	R302	,036-15220-00,	RES M/F 0805 22K 5%
Q670	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R304	,036-14270-00,	RES M/F 0805 2K7 5%
Q710	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R306	,036-15100-00,	RES M/F 0805 10K 5%
Q720	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R308	,036-16100-00,	RES M/F 0805 100K 5%
Q730	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R310	,036-15220-00,	RES M/F 0805 22K 5%
Q740	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R312	,036-14150-00,	RES M/F 0805 1K5 5%
Q750	,000-10008-07,	S) XSTR SMD BC807 PNP SOT23 AF	R314	,036-13150-00,	RES M/F 0805 150E 5%
Q760	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R316	,036-15100-00,	RES M/F 0805 10K 5%
Q770	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R318	,036-14220-00,	RES M/F 0805 2K2 5%
Q775	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R320	,036-14100-00,	RES M/F 0805 1K 5%
Q780	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R322	,036-12220-00,	RES M/F 0805 22E 5%
Q785	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R324	,036-13470-00,	RES M/F 0805 470E 5%
Q790	,000-10003-12,	S) XSTR SMD BFR31 N JFET SOT23	R326	,036-13470-00,	RES M/F 0805 470E 5%
Q795	,000-10057-10,	S) XSTR SMD BR571 NPN SOT23	R328	,036-13470-00,	RES M/F 0805 470E 5%
Q810	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R330	,036-12220-00,	RES M/F 0805 22E 5%
Q820	,000-10008-17,	S) XSTR SMD BC817-25 NPN SOT23	R332	,036-15470-00,	RES M/F 0805 47K 5%
Q830	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R334	,036-15100-00,	RES M/F 0805 10K 5%
Q840	,000-10008-57,	S) XSTR SMD BCW70 NPN SOT23 SS	R336	,036-14100-00,	RES M/F 0805 1K 5%
Q850	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R338	,036-14100-00,	RES M/F 0805 1K 5%
Q860	,000-10008-48,	S) XSTR SMD BCW60 NPN SOT23 SS	R340	,036-16100-00,	RES M/F 0805 100K 5%
R160	,036-12100-00,	RES M/F 0805 10E 5%	R342	,036-15150-00,	RES M/F 0805 15K 5%
R201	,036-13560-00,	RES M/F 0805 560E 5%	R344	,036-15470-00,	RES M/F 0805 47K 5%
R202	,036-14100-00,	RES M/F 0805 1K 5%	R345	,036-12220-00,	RES M/F 0805 22E 5%
R204	,036-14220-00,	RES M/F 0805 2K2 5%	R346	,036-16120-00,	RES M/F 0805 120K 5%
R205	,036-13220-00,	RES M/F 0805 220E 5%	R348	,036-14470-00,	RES M/F 0805 4K7 5%
R206	,036-14100-00,	RES M/F 0805 1K 5%	R350	,036-14100-00,	RES M/F 0805 1K 5%
R207	,036-14390-00,	RES M/F 0805 3K9 5%	R352	,036-15150-00,	RES M/F 0805 15K 5%
R208	,036-13560-00,	RES M/F 0805 560E 5%	R354	,036-15150-00,	RES M/F 0805 15K 5%
R209	,036-15100-00,	RES M/F 0805 10K 5%	R356	,036-14100-00,	RES M/F 0805 1K 5%
R210	,036-14220-00,	RES M/F 0805 2K2 5%	R359	,036-13100-00,	RES M/F 0805 100E 5%
R212	,036-16100-00,	RES M/F 0805 100K 5%	R360	,036-12680-00,	RES M/F 0805 68E 5%
R213	,036-15100-00,	RES M/F 0805 10K 5%	R362	,036-13100-00,	RES M/F 0805 100E 5%
R214	,036-14820-00,	RES M/F 0805 8K2 5%	R364	,036-14150-00,	RES M/F 0805 1K5 5%
R215	,036-16100-00,	RES M/F 0805 100K 5%	R366	,036-12470-00,	RES M/F 0805 47E 5%
R216	,036-16100-00,	RES M/F 0805 100K 5%	R368	,036-15100-00,	RES M/F 0805 10K 5%
R217	,036-14100-00,	RES M/F 0805 1K 5%	R370	,036-13560-00,	RES M/F 0805 560E 5%
R218	,036-16150-00,	RES M/F 0805 150K 5%	R372	,036-14150-00,	RES M/F 0805 1K5 5%
R219	,036-14220-00,	RES M/F 0805 2K2 5%	R374	,036-13330-00,	RES M/F 0805 330E 5%
R221	,036-14150-00,	RES M/F 0805 1K5 5%	R376	,036-14150-00,	RES M/F 0805 1K5 5%
R223	,036-17100-00,	RES M/F 0805 1M 5%	R377	,036-14120-00,	RES M/F 0805 1K2 5%
R224	,036-14680-00,	RES M/F 0805 6K8 5%	R378	,036-14120-00,	RES M/F 0805 1K2 5%
R225	,036-17100-00,	RES M/F 0805 1M 5%	R380	,030-53150-20,	RES FILM AI 150E 5% 0.4W 4X1.6
R226	,036-15100-00,	RES M/F 0805 10K 5%	R382	,030-53150-20,	RES FILM AI 150E 5% 0.4W 4X1.6
R227	,036-14220-00,	RES M/F 0805 2K2 5%	R384	,036-11330-00,	RES M/F 0805 3E3 5%
R229	,036-16470-00,	RES M/F 0805 470K 5%	R387	,036-14180-00,	RES M/F 0805 1K8 5%
R230	,036-16100-00,	RES M/F 0805 100K 5%	R388	,036-14180-00,	RES M/F 0805 1K8 5%
R231	,036-15100-00,	RES M/F 0805 10K 5%	R389	,036-14180-00,	RES M/F 0805 1K8 5%
R232	,036-16330-00,	RES M/F 0805 330K 5%	R390	,036-11330-00,	RES M/F 0805 3E3 5%
R233	,036-16100-00,	RES M/F 0805 100K 5%	R392	,036-14180-00,	RES M/F 0805 1K8 5%
R235	,036-14470-00,	RES M/F 0805 4K7 5%	R394	,036-12220-00,	RES M/F 0805 22E 5%
R237	,036-15470-00,	RES M/F 0805 47K 5%	R396	,036-14180-00,	RES M/F 0805 1K8 5%
R238	,036-15470-00,	RES M/F 0805 47K 5%	R502	,036-13330-00,	RES M/F 0805 330E 5%
R239	,036-14150-00,	RES M/F 0805 1K5 5%	R505	,036-15150-00,	RES M/F 0805 15K 5%
R241	,036-14470-00,	RES M/F 0805 4K7 5%	R510	,036-13680-00,	RES M/F 0805 680E 5%
R242	,036-14220-00,	RES M/F 0805 2K2 5%	R515	,036-12560-00,	RES M/F 0805 56E 5%
R244	,036-15100-00,	RES M/F 0805 10K 5%	R520	,036-16120-00,	RES M/F 0805 120K 5%
R245	,036-16100-00,	RES M/F 0805 100K 5%	R525	,036-15470-00,	RES M/F 0805 47K 5%
R247	,036-15100-00,	RES M/F 0805 10K 5%	R530	,036-15220-00,	RES M/F 0805 22K 5%
R248	,036-16100-00,	RES M/F 0805 100K 5%	R535	,036-15100-00,	RES M/F 0805 10K 5%
R249	,036-16100-00,	RES M/F 0805 100K 5%	R540	,036-14220-00,	RES M/F 0805 2K2 5%
R251	,036-16100-00,	RES M/F 0805 100K 5%	R545	,036-14470-00,	RES M/F 0805 4K7 5%
R253	,036-16100-00,	RES M/F 0805 100K 5%	R555	,036-14470-00,	RES M/F 0805 4K7 5%
R254	,036-16100-00,	RES M/F 0805 100K 5%	R560	,036-13470-00,	RES M/F 0805 470E 5%
R255	,036-15100-00,	RES M/F 0805 10K 5%	R609	,036-14100-00,	RES M/F 0805 1K 5%
R256	,036-15470-00,	RES M/F 0805 47K 5%	R613	,036-13560-00,	RES M/F 0805 560E 5%
R257	,036-16330-00,	RES M/F 0805 330K 5%	R615	,036-13100-00,	RES M/F 0805 100E 5%
R258	,036-16150-00,	RES M/F 0805 150K 5%	R617	,036-10000-00,	RES M/F 0805 ZERO OHM
R259	,036-15220-00,	RES M/F 0805 22K 5%	R619	,036-01100-10,	RES 1 OHM 1 WATT 2512 CHIP
R260	,036-15470-00,	RES M/F 0805 47K 5%	R621	,036-01100-10,	RES 1 OHM 1 WATT 2512 CHIP
R262	,036-15470-00,	RES M/F 0805 47K 5%	R625	,036-14100-00,	RES M/F 0805 1K 5%
R263	,036-14470-00,	RES M/F 0805 4K7 5%	R629	,036-03270-10,	RES 270 OHM 1 WATT 2512 CHIP
R267	,036-14220-00,	RES M/F 0805 2K2 5%	R633	,036-14680-00,	RES M/F 0805 6K8 5%
R268	,036-13100-00,	RES M/F 0805 100E 5%	R637	,036-12220-00,	RES M/F 0805 22E 5%
R269	,036-15100-00,	RES M/F 0805 10K 5%	R641	,036-14150-00,	RES M/F 0805 1K5 5%
R270	,036-14120-00,	RES M/F 0805 1K2 5%	R645	,036-13470-00,	RES M/F 0805 470E 5%
R271	,036-16390-00,	RES M/F 0805 390K 5%	R649	,036-14470-00,	RES M/F 0805 4K7 5%
R272	,036-13560-00,	RES M/F 0805 560E 5%	R653	,036-15100-00,	RES M/F 0805 10K 5%
R273	,036-15120-00,	RES M/F 0805 12K 5%	R655	,036-10000-00,	RES M/F 0805 ZERO OHM
R274	,036-15150-00,	RES M/F 0805 15K 5%	R656	,036-10000-00,	RES M/F 0805 ZERO OHM
R275	,036-14270-00,	RES M/F 0805 2K7 5%	R657	,036-15100-00,	RES M/F 0805 10K 5%
R277	,036-16100-00,	RES M/F 0805 100K 5%	R661	,036-15100-00,	RES M/F 0805 10K 5%
R278	,036-16120-00,	RES M/F 0805 120K 5%	R665	,036-16100-00,	RES M/F 0805 100K 5%
R279	,036-17100-00,	RES M/F 0805 1M 5%	R669	,036-15470-00,	RES M/F 0805 47K 5%
R280	,036-15100-00,	RES M/F 0805 10K 5%	R673	,036-16100-00,	RES M/F 0805 100K 5%
R282	,036-15560-00,	RES M/F 0805 56K 5%	R677	,036-15470-00,	RES M/F 0805 47K 5%
R283	,036-15560-00,	RES M/F 0805 56K 5%	R681	,036-13100-00,	RES M/F 0805 100E 5%
R284	,036-17100-00,	RES M/F 0805 1M 5%	R685	,036-15150-00,	RES M/F 0805 15K 5%
R285	,036-10000-00,	RES M/F 0805 ZERO OHM	R689	,036-12100-00,	RES M/F 0805 10E 5%
R286	,036-14220-00,	RES M/F 0805 2K2 5%	R693	,036-16100-00,	RES M/F 0805 100K 5%
R287	,036-15100-00,	RES M/F 0805 10K 5%	R696	,036-15560-00,	RES M/F 0805 56K 5%
R289	,036-16100-00,	RES M/F 0805 100K 5%	R701	,036-12220-00,	RES M/F 0805 22E 5%
R290	,036-13560-00,	RES M/F 0805 560E 5%	R702	,036-17100-00,	RES M/F 0805 1M 5%
R291	,036-10000-00,	RES M/F 0805 ZERO OHM	R703	,036-17100-00,	RES M/F 0805 1M 5%
R292	,036-14470-00,	RES M/F 0805 4K7 5%	R706	,036-15150-00,	RES M/F 0805 15K 5%

R708	,036-16100-00,	RES M/F 0805 100K 5%	R874	,036-14470-00,	RES M/F 0805 4K7 5%
R710	,036-13100-00,	RES M/F 0805 100E 5%	R875	,036-15470-00,	RES M/F 0805 47K 5%
R711	,036-13100-00,	RES M/F 0805 100E 5%	R876	,036-14470-00,	RES M/F 0805 4K7 5%
R712	,036-12100-00,	RES M/F 0805 10E 5%	R877	,036-14470-00,	RES M/F 0805 4K7 5%
R713	,036-12220-00,	RES M/F 0805 22E 5%	R879	,036-15100-00,	RES M/F 0805 10K 5%
R714	,036-12100-00,	RES M/F 0805 10E 5%	RV210	,040-05100-23,	POT 10K LOG PCB 15MM SLOT SFT
R717	,036-14270-00,	RES M/F 0805 2K7 5%	RV220	,042-05500-05,	RES PRESET SMD 50K CER 4MM SQ
R718	,036-16100-00,	RES M/F 0805 100K 5%	RV805	,042-05220-07,	RES PRE 22K CAR 6MM FLAT D/ADJ
R719	,036-16100-00,	RES M/F 0805 100K 5%	SK200	,240-10000-05,	CONN SMD SKT 8W 2R M-MATCH
R720	,036-15390-00,	RES M/F 0805 39K 5%	SK205	,240-02020-05,	SKT STEREO PHONE JACK PCB MTG
R721	,036-15100-00,	RES M/F 0805 10K 5%	SK310	,240-02100-44,	SKT COAX MINI JACK PCB MT ANG.
R722	,036-15100-00,	RES M/F 0805 10K 5%	SK420	,240-02100-44,	SKT COAX MINI JACK PCB MT ANG.
R723	,036-14270-00,	RES M/F 0805 2K7 5%	SK805	,240-10000-07,	CONN SMD SKT 16W 2R M-MATCH
R725	,036-15390-00,	RES M/F 0805 39K 5%	SK810	,240-04020-42,	SKT 44 PIN SMD PLCC
R727	,036-15100-00,	RES M/F 0805 10K 5%	SW101	,232-00020-26,	BUTTON 232-00010-26 SWITCH
R728	,036-15100-00,	RES M/F 0805 10K 5%	SW230	,232-00010-26,	SWITCH PUSH SPDT R-ANG PCB MTG
R734	,036-13470-00,	RES M/F 0805 470E 5%	T610	,050-00016-50,	COIL TAIT NO 650 455KHZ
R735	,036-13470-00,	RES M/F 0805 470E 5%	T86720	,036-15100-10,	RES M/F 0805 10K 1%
R736	,036-13470-00,	RES M/F 0805 470E 5%			
R742	,036-13150-00,	RES M/F 0805 150E 5%			
R743	,036-13150-00,	RES M/F 0805 150E 5%			
R744	,036-12220-00,	RES M/F 0805 22E 5%			
R746	,036-12220-00,	RES M/F 0805 22E 5%			
R747	,036-12220-00,	RES M/F 0805 22E 5%			
R748	,036-15470-00,	RES M/F 0805 47K 5%			
R749	,036-15470-00,	RES M/F 0805 47K 5%			
R750	,036-12220-00,	RES M/F 0805 22E 5%			
R752	,036-12220-00,	RES M/F 0805 22E 5%			
R753	,036-17100-00,	RES M/F 0805 1M 5%			
R754	,036-14100-00,	RES M/F 0805 1K 5%			
R756	,036-16470-00,	RES M/F 0805 470K 5%			
R757	,036-16470-00,	RES M/F 0805 470K 5%			
R758	,036-14120-00,	RES M/F 0805 1K2 5%			
R759	,036-13330-00,	RES M/F 0805 330E 5%			
R760	,036-13180-00,	RES M/F 0805 180E 5%			
R762	,036-13100-00,	RES M/F 0805 100E 5%			
R763	,036-13100-00,	RES M/F 0805 100E 5%			
R765	,036-13680-00,	RES M/F 0805 680E 5%			
R766	,036-14100-00,	RES M/F 0805 1K 5%			
R767	,036-13680-00,	RES M/F 0805 680E 5%			
R769	,036-13180-00,	RES M/F 0805 180E 5%			
R771	,036-14820-00,	RES M/F 0805 8K2 5%			
R772	,036-15220-00,	RES M/F 0805 22K 5%			
R774	,036-14820-00,	RES M/F 0805 8K2 5%			
R775	,036-14680-00,	RES M/F 0805 6K8 5%			
R777	,036-14220-00,	RES M/F 0805 2K2 5%			
R784	,036-12680-00,	RES M/F 0805 68E 5%			
R785	,036-14330-00,	RES M/F 0805 3K3 5%			
R786	,036-12100-00,	RES M/F 0805 10E 5%			
R787	,036-12100-00,	RES M/F 0805 10E 5%			
R790	,036-13220-00,	RES M/F 0805 220E 5%			
R791	,036-13100-00,	RES M/F 0805 100E 5%			
R792	,036-14100-00,	RES M/F 0805 1K 5%			
R801	,036-16150-00,	RES M/F 0805 150K 5%			
R802	,036-15470-00,	RES M/F 0805 47K 5%			
R808	,036-12100-00,	RES M/F 0805 10E 5%			
R809	,036-14470-00,	RES M/F 0805 4K7 5%			
R810	,036-14470-00,	RES M/F 0805 4K7 5%			
R811	,036-14470-00,	RES M/F 0805 4K7 5%			
R812	,036-14470-00,	RES M/F 0805 4K7 5%			
R813	,036-14470-00,	RES M/F 0805 4K7 5%			
R815	,036-15470-00,	RES M/F 0805 47K 5%			
R816	,036-16150-00,	RES M/F 0805 150K 5%			
R818	,036-14470-00,	RES M/F 0805 4K7 5%			
R819	,036-14470-00,	RES M/F 0805 4K7 5%			
R821	,036-15470-00,	RES M/F 0805 47K 5%			
R822	,036-15470-00,	RES M/F 0805 47K 5%			
R824	,036-14220-00,	RES M/F 0805 2K2 5%			
R825	,036-14220-00,	RES M/F 0805 2K2 5%			
R826	,036-14220-00,	RES M/F 0805 2K2 5%			
R827	,036-14220-00,	RES M/F 0805 2K2 5%			
R828	,036-14220-00,	RES M/F 0805 2K2 5%			
R829	,036-14220-00,	RES M/F 0805 2K2 5%			
R830	,036-14220-00,	RES M/F 0805 2K2 5%			
R831	,036-14220-00,	RES M/F 0805 2K2 5%			
R832	,036-14220-00,	RES M/F 0805 2K2 5%			
R833	,036-14220-00,	RES M/F 0805 2K2 5%			
R835	,036-14220-00,	RES M/F 0805 2K2 5%			
R836	,036-14220-00,	RES M/F 0805 2K2 5%			
R837	,036-14220-00,	RES M/F 0805 2K2 5%			
R840	,036-14220-00,	RES M/F 0805 2K2 5%			
R841	,036-14220-00,	RES M/F 0805 2K2 5%			
R842	,036-14220-00,	RES M/F 0805 2K2 5%			
R843	,036-14220-00,	RES M/F 0805 2K2 5%			
R845	,036-13470-00,	RES M/F 0805 470E 5%			
R846	,036-13470-00,	RES M/F 0805 470E 5%			
R847	,036-13470-00,	RES M/F 0805 470E 5%			
R848	,036-14470-00,	RES M/F 0805 4K7 5%			
R850	,036-13470-00,	RES M/F 0805 470E 5%			
R853	,036-14470-00,	RES M/F 0805 4K7 5%			
R854	,036-14470-00,	RES M/F 0805 4K7 5%			
R855	,036-14470-00,	RES M/F 0805 4K7 5%			
R859	,036-16150-00,	RES M/F 0805 150K 5%			
R861	,036-16150-00,	RES M/F 0805 150K 5%			
R863	,036-16150-00,	RES M/F 0805 150K 5%			
R865	,036-16100-00,	RES M/F 0805 100K 5%			
R867	,036-16100-00,	RES M/F 0805 100K 5%			
R871	,036-15470-00,	RES M/F 0805 47K 5%			
R872	,036-14470-00,	RES M/F 0805 4K7 5%			
R873	,036-15330-00,	RES M/F 0805 33K 5%			

Device PCB Circuit
T867 Grid Reference Index

Device	PCB	Circuit
A2	nil	1-A1
BOTFIDA	2:A8	10-J6
BOTFIDB	2:P2	10-K6
BOTHOLE	2:B1	10-C6
BOTSLOT	2:P1	10-D6
C201	1:C1	2-B8
C202	1:C1	2-C8
C204	1:A2	2-E8
C205	1:A2	2-E8
C207	1:C7	2-B6
C209	1:C6	2-D6
C210	1:C7	2-K0
C211	1:B7	2-F8
C213	1:B6	2-G8
C215	1:B6	2-G8
C217	1:C6	2-H8
C219	1:C6	2-H7
C221	1:D5	2-G6
C223	1:C5	2-J6
C225	1:C3	2-K7
C227	1:B4	2-K7
C229	1:B3	2-L7
C230	1:B4	2-J0
C232	1:A4	2-M7
C233	1:A5	2-N7
C235	1:B5	2-K5
C237	1:C4	2-K5
C239	1:C4	2-L4
C241	1:B4	2-M6
C242	1:B4	2-L6
C243	1:B4	2-P6
C245	1:C5	2-A4
C247	1:C5	2-B4
C249	1:D4	2-C4
C251	1:C3	2-E4
C253	1:D3	2-E3
C255	1:D3	2-D2
C257	1:D3	2-F2
C259	1:C6	2-J2
C260	1:D8	2-H0
C261	1:C6	2-K2
C263	1:D6	2-L3
C265	1:D6	2-N4
C267	1:C8	2-P3
#C269	1:C8	2-P3
C271	1:C8	2-Q3
C273	1:C8	2-Q4
C275	1:D3	2-E1
C277	1:C4	2-G1
C279	1:B4	2-G1
C281	1:B5	2-J1
C283	1:B5	2-K0
C285	1:D7	2-L0
C287	1:C6	2-M1
C289	1:C8	2-N1
C291	1:D7	2-P1
C293	1:D7	2-Q1
#C294	1:D7	2-Q0
#C295	1:D6	2-Q0
C304	1:F7	3-A8
C308	1:F8	3-C8
C309	1:F4	3-Q8
C312	1:F8	3-D8
C316	1:F8	3-D9
C317	1:F8	3-E8
C318	1:F8	3-F9
C320	1:F8	3-G8
C324	1:F8	3-H9
C330A	1:F8	3-N8
C330B	1:F8	3-N8
C332	1:E8	3-B5
C334	1:E8	3-D4

Device	PCB	Circuit
C336	1:E8	3-D6
C338	1:E8	3-F5
C340	1:E8	3-F5
C342	1:E8	3-G6
C344	1:D8	3-J5
C346	1:E8	3-J6
C349	1:F5	3-C2
C350	1:F5	3-E3
C353	1:F5	3-D0
C356	1:F5	3-F1
C359	1:F5	3-F1
C362	1:F5	3-G2
C365	1:F5	3-G2
C368	1:E5	3-H2
C370	1:E5	3-K3
C373	1:E5	3-L4
C376	1:E6	3-L4
C379	1:E6	3-K3
C382	1:F5	3-L2
C383	1:F6	3-L3
#C384	1:F6	3-L2
C385	1:E6	3-P4
C388	1:E6	3-Q4
C394	1:E6	3-P3
#C395	1:E6	3-P3
C396	1:E7	3-Q3
C399	1:E8	3-R4
C503	1:K6	5-L9
C505	1:K6	5-M6
C510	1:J5	5-C0
C513	1:H5	5-G2
C535	1:K5	5-M2
C550	1:K4	5-M0
C605	1:L6	6-D8
C610A	1:M5	6-F8
C610B	1:M5	6-G8
C611A	1:L5	6-H8
C611B	1:M5	6-J8
C623	1:N6	6-N8
C625	1:M6	6-Q8
C626	1:M6	6-R8
C628	1:M6	6-R8
C630	1:N5	6-K5
C631A	1:M5	6-M6
C634	1:M5	6-M4
C636	1:M5	6-M4
C638	1:M6	6-P5
C640	1:M5	6-R6
C655	1:M4	6-C1
C660	1:L5	6-K1
C665	1:L5	6-K1
C670	1:L6	6-L1
C673	1:L5	6-P2
C677	1:L6	6-P1
C681	1:M5	6-R3
C684	1:M6	6-R3
C687	1:L6	6-Q1
C690	1:L6	6-R1
C693	1:L6	6-R1
C700	1:K4	7-A8
C703	1:J3	7-B7
C705	1:J3	7-B7
C706	1:J2	7-B5
#C707	1:K4	7-C8
C708	1:J2	7-C9
C709	1:K4	7-D9
C710	1:J3	7-E8
C712	1:H2	7-E7
%C713	1:H2	7-E6
C720	1:J3	7-F8
C722	1:J4	7-G8
C724	1:J4	7-H6
C725	1:J4	7-J6
C726	1:K4	7-J6
C727	1:J3	7-J8
C729	1:H3	7-M8

Device	PCB	Circuit
%C733	1:J3	7-M5
C735	1:J2	7-A1
C736	1:J2	7-B1
C740A	1:H2	7-B4
C740B	1:H2	7-B3
C741A	1:H2	7-C4
C741B	1:G2	7-C3
C742A	1:H2	7-D4
C742B	1:H3	7-D3
C743	1:H2	7-B1
C745	1:G3	7-D1
C750	1:H4	7-Q7
C757	1:G4	7-F5
C759	1:G4	7-G4
C761	1:G3	7-J4
C762	1:G3	7-K4
C764	1:H3	7-J2
C765	1:G3	7-K2
C767	1:H3	7-K3
C769	1:H4	7-N4
C770	1:H4	7-N4
C772	1:G4	7-N2
C774	1:H4	7-P2
C776	1:H4	7-N1
C782	1:G2	7-N1
C784	1:G2	7-Q1
C786	1:G2	7-R1
C788	1:G3	7-P0
C790	1:G3	7-Q0
C792	1:G3	7-Q0
C810	1:L3	8-K8
C812	1:L2	8-F5
C813	1:K2	8-H5
C822	1:M2	8-B2
C823	1:M3	8-C2
C824	1:M2	8-C1
C826	1:N3	8-C0
C827	1:N3	8-D0
C828	1:N3	8-E0
C830	1:N3	8-R1
C838	1:N4	8-F0
C841	1:N2	8-K2
C844	1:M2	8-L2
C910	1:P7	9-E6
C920	1:P7	9-F6
C930	1:P6	9-G6
D111	1:P4	1-R1
%D205	1:B2	2-D9
D220	1:B4	2-E9
D220	1:B4	2-P7
D220	1:B4	2-P6
D230	1:B7	2-R5
D240	1:D4	2-C4
D240	1:D4	2-B2
D250	1:D3	2-E2
D250	1:D3	2-D3
D260	1:C2	2-C2
D260	1:C2	2-C2
D270	1:C2	2-C1
D270	1:C2	2-C1
D340	1:F5	3-D2
D350	1:F5	3-E2
D360	1:F5	3-E2
D610	1:N6	6-L6
D610	1:N6	6-K6
D620	1:N4	6-B1
D620	1:N4	6-B2
D630	1:M5	6-G2
D630	1:M5	6-G3
D635	1:M4	6-G3
D640	1:L5	6-M1
D640	1:L5	6-M2
D710	1:J3	7-L8
D710	1:J3	7-L8
D720	1:H3	7-P8
D720	1:H3	7-P8

Device	PCB	Circuit
D730	1:H3	7-H1
D740	1:H3	7-K2
D810	1:M2	8-B7
E3	nil	1-E2
H9	nil	1-P9
IC210	1:C7	2-J0
IC210	1:C7	2-Q0
IC210	1:C7	2-K2
IC210	1:C7	2-L1
IC210	1:C7	2-C6
IC220	1:D6	2-P0
IC220	1:D6	2-M3
IC220	1:D6	2-D5
IC230	1:B4	2-H0
IC230	1:B4	2-J0
IC230	1:B4	2-L5
IC230	1:B4	2-N6
IC230	1:B4	2-G1
IC240	1:D4	2-F3
IC250	1:D3	2-E1
IC260	1:D8	2-N0
IC260	1:D8	2-H0
IC260	1:D8	2-Q2
IC260	1:D8	2-Q3
IC260	1:D8	2-N3
IC330	1:F8	3-M0
IC330	1:F8	3-E9
IC330	1:F8	3-M8
IC610	1:M5	6-G8
IC630	1:N5	6-K5
IC640	1:M5	6-F1
IC640	1:M5	6-Q6
IC640	1:M5	6-N6
IC650	1:L5	6-F4
=IC700	1:K3	7-A8
IC710	1:J2	7-E8
IC710	1:J2	7-C6
IC710	1:J2	7-G0
IC710	1:J2	7-D6
IC710	1:J2	7-D7
IC710	1:J2	7-D6
IC710	1:J2	7-C6
IC720	1:J3	7-P6
IC720	1:J3	7-J0
IC720	1:J3	7-N7
IC720	1:J3	7-M7
IC720	1:J3	7-K7
IC720	1:J3	7-F8
IC720	1:J3	7-K0
IC730	1:J4	7-H8
IC730	1:J4	7-G7
IC740	1:H2	7-D1
IC750	1:H4	7-N3
IC750	1:H4	7-H5
IC750	1:H4	7-Q7
IC820	1:L4	8-N2
IC830	1:N3	8-J0
IC830	1:N3	8-Q1
IC830	1:N3	8-J0
IC830	1:N3	8-J1
IC830	1:N3	8-C0
L335	1:F5	3-E3
L340	1:F5	3-F2
L345	1:F5	3-H2
L355	1:E5	3-J3
L360	1:E6	3-K3
L365	1:E6	3-M3
L370	1:E6	3-N2
L375	1:E6	3-M4
L380	1:E6	3-N4
L385	1:E6	3-P3
L390	1:E7	3-R4
L750	1:G4	7-R0
L910	1:P7	9-F7
L920	1:P7	9-G7
M8	nil	1-L2

T867 Preliminary PCB Information

T867 Grid Reference Index

<u>Device</u>	<u>PCB</u>	<u>Circuit</u>	<u>Device</u>	<u>PCB</u>	<u>Circuit</u>	<u>Device</u>	<u>PCB</u>	<u>Circuit</u>	<u>Device</u>	<u>PCB</u>	<u>Circuit</u>
O10	nil	1-M0	Q660	1:L5	6-N1	#R265	1:C8	2-P3	R384	1:E5	3-L4
P4	nil	1-H8	Q670	1:L6	6-Q2	#R266	1:C8	2-P3	#R386	1:E6	3-M2
P100	1:P6	1-R8	Q710	1:J3	7-K8	R267	1:C8	2-R2	R387	1:E6	3-M4
P150	1:P2	1-Q4	Q720	1:J3	7-K8	R268	1:D2	2-C0	R388	1:E6	3-N4
P160	1:P2	1-Q4	Q730	1:H3	7-N8	R269	1:C2	2-C1	R389	1:E6	3-N4
P170	1:P2	1-Q3	Q740	1:H3	7-N8	R270	1:C3	2-D1	R390	1:E7	3-Q3
P204	1:D1	2-A8	Q750	1:G4	7-F3	R271	1:C3	2-E1	R392	1:F6	3-P2
P208	1:D1	2-A8	Q760	1:H3	7-H3	R272	1:C4	2-G2	R394	1:E7	3-Q3
P215	1:D4	2-A2	Q770	1:H3	7-H1	R273	1:C5	2-G2	R396	1:F7	3-Q2
P217	1:D4	2-A2	Q775	1:H3	7-K3	R274	1:C4	2-G1	R502	1:K6	5-K9
P219	1:D2	2-A1	Q780	1:H3	7-K3	R275	1:C4	2-H0	R505	1:K6	5-L8
P225	1:D2	2-A0	Q785	1:H3	7-K2	R277	1:B5	2-J1	R510	1:K6	5-L7
P230	1:C5	2-B0	Q790	1:H4	7-M3	R278	1:B5	2-J0	R515	1:H6	5-J5
P231	1:D8	2-B0	Q795	1:G3	7-P0	R279	1:B5	2-K0	R520	1:J5	5-C1
P233	1:C1	2-R9	Q810	1:M2	8-E7	R280	1:B5	2-K0	R525	1:J5	5-D1
P235	1:C1	2-R9	Q820	1:L2	8-D5	R282	1:D7	2-K1	R530	1:J5	5-D0
P237	1:B7	2-R8	Q830	1:L2	8-D5	R283	1:D7	2-L1	R535	1:J5	5-E1
P239	1:C7	2-R8	Q840	1:L2	8-F5	R284	1:D7	2-L0	R540	1:K5	5-H2
P240	1:C7	2-R8	Q850	1:M2	8-G5	R285	1:C8	2-M0	R545	1:K5	5-J1
P243	1:B7	2-R7	Q860	1:L4	8-B3	R286	1:C7	2-M0	%R550	1:K5	5-K2
P244	1:B7	2-R7	R6	nil	1-L5	R287	1:D9	2-M0	%R553	1:K5	5-K1
P245	1:B8	2-R6	%R150	1:P2	1-R4	R288	1:C6	2-M2	R555	1:K5	5-K1
P247	1:B8	2-R6	R160	1:P2	1-R3	R289	1:D9	2-M0	R560	1:K5	5-M0
P248	1:B7	2-R6	%R200	1:B2	2-D9	R290	1:C8	2-N2	R609	1:L6	6-B8
P249	1:C7	2-R5	R201	1:B2	2-E9	R291	1:C8	2-N1	R613	1:L6	6-C8
P251	1:C7	2-R5	R202	1:C1	2-F9	R292	1:D8	2-Q2	R615	1:M5	6-F9
P255	1:D4	2-R4	%R203	1:B3	2-D8	R293	1:D9	2-Q2	R617	1:M5	6-J8
P257	1:C2	2-R4	R204	1:C7	2-B6	R294	1:D9	2-Q1	R619	1:M6	6-L8
P259	1:B8	2-R3	R205	1:C7	2-D6	R295	1:D8	2-R1	R621	1:M6	6-L8
P261	1:B8	2-R3	R206	1:B7	2-G8	R296	1:D6	2-P0	R625	1:N6	6-L7
P263	1:B2	2-R2	R207	1:B6	2-G8	R297	1:D7	2-P1	R629	1:M5	6-P6
P267	1:C8	2-N2	R208	1:B6	2-G8	#R298	1:D7	2-Q0	R633	1:M5	6-Q8
P269	1:D8	2-P2	R209	1:C6	2-H8	R299	1:C7	2-R0	R637	1:N5	6-K6
P271	1:C9	2-N1	R210	1:B6	2-H7	R302	1:E7	3-A7	R641	1:N5	6-L4
P273	1:D9	2-P0	R212	1:D4	2-F6	R304	1:F7	3-B7	R645	1:N5	6-L5
P275	1:D7	2-Q0	R213	1:C4	2-G6	R306	1:F8	3-C8	R649	1:M5	6-M5
P290	1:D5	2-F0	R214	1:D4	2-G6	R308	1:F8	3-C9	R653	1:M5	6-Q4
P291	1:D5	2-F0	R215	1:C4	2-H6	R310	1:F8	3-C9	R655	1:L5	6-E4
P805	1:M2	8-A7	R216	1:C3	2-K7	R312	1:F8	3-D8	R656	1:L5	6-E4
P810	1:L3	8-A5	R217	1:A4	2-M8	R314	1:F8	3-D7	R657	1:M5	6-D1
P820	1:L4	8-M8	R218	1:B4	2-N7	R316	1:F8	3-E8	R661	1:M5	6-E3
P825	1:L4	8-M8	R219	1:B4	2-N8	R318	1:F8	3-E9	R665	1:M5	6-E2
P830	1:L4	8-M8	R221	1:B7	2-R7	R320	1:F8	3-G9	R669	1:M5	6-E2
P835	1:L4	8-M7	R223	1:B4	2-K6	R322	1:F8	3-H8	R673	1:M5	6-E0
P840	1:L4	8-M7	R224	1:C4	2-K5	R324	1:F8	3-J8	R677	1:M4	6-F4
PL100	1:P3	1-F0	R225	1:B4	2-L5	R326	1:F8	3-J7	R681	1:L5	6-L2
PL205	1:C5	2-J8	R226	1:B4	2-L4	R328	1:F8	3-K8	R685	1:L5	6-N2
PL210	1:C3	2-H4	R227	1:B4	2-M4	R330	1:F8	3-M8	R689	1:L6	6-Q3
PL215	1:C4	2-K3	R229	1:B4	2-M7	R332	1:E7	3-C5	R693	1:L6	6-Q1
PL220	1:C4	2-H2	R230	1:B4	2-M6	R334	1:E8	3-D6	R696	1:M6	6-Q1
Q210	1:C6	2-J8	R231	1:B4	2-M6	R336	1:E8	3-D5	R701	1:K4	7-A9
Q220	1:B3	2-L7	R232	1:B4	2-M5	R338	1:E8	3-D4	R702	1:K4	7-C9
Q230	1:A4	2-M8	R233	1:B4	2-M6	R340	1:E8	3-D5	R703	1:J3	7-C8
Q240	1:B7	2-Q7	R235	1:B4	2-P6	R342	1:E8	3-F5	=R705	1:K3	7-A7
Q250	1:B7	2-R5	R237	1:B7	2-Q7	R344	1:E8	3-F6	R706	1:J3	7-B6
Q260	1:C4	2-F3	R238	1:B7	2-R7	R345	1:E8	3-F7	R708	1:H3	7-C7
Q270	1:D2	2-D1	R239	1:B8	2-R6	R346	1:E8	3-F6	R710	1:H2	7-E7
Q305	1:F7	3-B8	R241	1:B8	2-Q6	R348	1:E8	3-G5	R711	1:J2	7-B6
Q310	1:F8	3-G8	R242	1:B7	2-Q5	R350	1:E8	3-H5	R712	1:J3	7-E9
Q315	1:F8	3-J8	R244	1:C6	2-A5	R352	1:E8	3-J6	R713	1:J4	7-F8
Q320	1:E8	3-A5	R245	1:D4	2-D4	R354	1:D8	3-J6	R714	1:J3	7-E9
Q325	1:E7	3-C5	R247	1:C3	2-E4	R356	1:E8	3-K6	%R715	1:K4	7-H6
Q330	1:E8	3-D4	R248	1:D3	2-E3	R359	1:F4	3-B2	R717	1:J4	7-H7
Q335	1:E8	3-E6	R249	1:D4	2-F3	R360	1:F5	3-C2	R718	1:J4	7-H7
Q340	1:E8	3-G6	R251	1:C4	2-G4	R362	1:F4	3-C2	R719	1:J4	7-J6
Q345	1:D8	3-H6	R253	1:C6	2-J2	R364	1:F5	3-D2	R720	1:J3	7-K7
Q365	1:E5	3-J2	R254	1:C6	2-K3	R366	1:F5	3-D1	R721	1:J3	7-K9
Q370	2:E6	3-N3	R255	1:C7	2-K2	R368	1:E5	3-D0	R722	1:J3	7-K8
Q510	1:J5	5-D1	R256	1:D8	2-M3	R370	1:F5	3-E1	R723	1:H3	7-M7
Q520	1:J5	5-H2	R257	1:D8	2-N5	R372	1:F5	3-G1	R725	1:J4	7-N7
Q530	1:J5	5-H0	R258	1:D8	2-N4	R374	1:E5	3-J2	%R726	1:J3	7-N6
Q540	1:K5	5-L2	R259	1:D6	2-P4	R376	1:E5	3-J2	R727	1:H3	7-N9
Q550	1:K5	5-M0	R260	1:D8	2-N4	R377	1:E5	3-J3	R728	1:H3	7-N8
Q610	1:L6	6-E8	R262	1:D8	2-N3	R378	1:E5	3-J3	R734	1:H2	7-A2
Q620	1:N6	6-P8	R263	1:C8	2-P3	R380	1:E5	3-J4	R735	1:J2	7-A2
Q630	1:M6	6-P5	#R264	1:C8	2-P3	R382	1:E5	3-J4	R736	1:J2	7-A2

<u>Device</u>	<u>PCB</u>	<u>Circuit</u>	<u>Device</u>	<u>PCB</u>	<u>Circuit</u>	<u>Device</u>	<u>PCB</u>	<u>Circuit</u>	<u>Device</u>	<u>PCB</u>	<u>Circuit</u>
R742	1:H2	7-B4	R865	1:N4	8-E0	T83725	1:F2	10-D8			
R743	1:H2	7-C5	R867	1:N3	8-E1	TOPFIDA	1:A3	10-H6			
R744	1:G2	7-D4	R871	1:N3	8-G2	TOPFIDB	1:P8	10-H6			
R746	1:H3	7-E4	R872	1:M4	8-H1	TOPHOLE	1:B9	10-B6			
R747	1:H3	7-E5	R873	1:N3	8-G1	TOPSLOT	1:P9	10-C6			
R748	1:J2	7-A1	R874	1:N3	8-H0	TP206	1:C5	2-H7			
R749	1:J2	7-B1	R875	1:N3	8-G0	TP305	1:D8	3-L6			
R750	1:H4	7-Q7	R876	1:N3	8-H0	TP308	1:E8	3-G6			
R752	1:G4	7-F5	R877	1:M2	8-K2	TP601	1:N5	6-K9			
R753	1:G4	7-F3	R879	1:N2	8-L3	TP602	1:L6	6-R9			
R754	1:G3	7-F3	RV210	1:B7	2-F9	TP603	1:L5	6-J2			
R756	1:G3	7-G5	RV220	1:A4	2-M6	TP604	1:L4	6-M6			
R757	1:G4	7-G4	%RV300	1:F9	3-D7	TP607	1:M4	6-J9			
R758	1:H3	7-H4	RV805	1:N4	8-F1	TP710	1:H4	7-H5			
R759	1:H3	7-J4	S7	nil	1-G2	TP715	1:J2	7-C6			
R760	1:H3	7-K4	SK200	1:D5	2-F0	V5	nil	1-G5			
R762	1:H3	7-K4	SK200	1:D5	2-F0						
R763	1:H4	7-L4	SK200	1:D5	2-F0						
R765	1:H3	7-H2	SK200	1:D5	2-F0						
R766	1:G3	7-J3	SK200	1:D5	2-F0						
R767	1:H3	7-K2	SK200	1:D5	2-F0						
R769	1:H3	7-L3	SK200	1:D5	2-F0						
R771	1:H4	7-M3	SK200	1:D5	2-F0						
R772	1:G4	7-M2	SK200	1:D5	2-F0						
R774	1:H4	7-M2	SK200	1:D5	2-F0						
R775	1:H4	7-N2	SK205	1:B5	2-A5						
R777	1:H4	7-R2	SK310	1:E7	3-R3						
R784	1:G3	7-P1	SK420	1:M8	1-M8						
R785	1:G3	7-Q1	SK501	1:G6	5-D6						
R786	1:G2	7-Q1	SK502	1:G6	5-D5						
R787	1:G2	7-R2	SK503	1:G6	5-D4						
R790	1:G3	7-P0	SK504	1:G5	5-D3						
R791	1:G3	7-Q0	SK505	1:G5	5-D2						
R792	1:G3	7-Q0	SK513	1:H5	5-H3						
R801	1:M2	8-D7	SK522	1:H6	5-K5						
R802	1:M2	8-D7	SK531	1:K6	5-N6						
R808	1:M2	8-B4	SK532	1:K5	5-N5						
R809	1:L2	8-D5	SK533	1:K5	5-N4						
R810	1:L3	8-D6	SK534	1:K5	5-N3						
R811	1:L2	8-E6	SK535	1:K5	5-N2						
R812	1:L2	8-D5	=SK710	1:K3	7-A7						
R813	1:L2	8-D4	SK805	1:K3	8-Q9						
R815	1:L2	8-F4	SK805	1:K3	8-Q7						
R816	1:L2	8-F4	SK805	1:K3	8-Q5						
R818	1:M2	8-F5	SK805	1:K3	8-Q7						
R819	1:M2	8-F5	SK805	1:K3	8-Q8						
R821	1:M4	8-B3	SK805	1:K3	8-Q7						
R822	1:M4	8-E3	SK805	1:K3	8-Q8						
R824	1:L4	8-L8	SK805	1:K3	8-Q6						
R825	1:L4	8-L8	SK805	1:K3	8-Q8						
R826	1:L4	8-L8	SK805	1:K3	8-Q6						
R827	1:L4	8-L7	SK805	1:K3	8-Q6						
R828	1:L4	8-L7	SK805	1:K3	8-Q9						
R829	1:L4	8-P9	SK805	1:K3	8-Q6						
R830	1:L3	8-P9	SK805	1:K3	8-Q9						
R831	1:L3	8-P9	SK805	1:K3	8-Q7						
R832	1:L3	8-P8	SK805	1:K3	8-Q8						
R833	1:L3	8-P8	SK810	1:M3	8-H5						
R835	1:L3	8-P8	SL201	2:D1	2-B9						
R836	1:L3	8-P8	SL202	2:D1	2-B8						
R837	1:L3	8-P7	SL203	2:D2	2-B1						
R840	1:L3	8-P7	SL204	2:D2	2-B1						
R841	1:L3	8-P7	SL320	1:E9	3-E4						
R842	1:L3	8-P6	SL501	2:J5	5-F0						
R843	1:L3	8-P6	SL810	1:M2	8-C7						
R845	1:M4	8-Q5	SW230	1:B8	2-B4						
R846	1:L2	8-Q4	T210	1:B2	2-C8						
R847	1:L2	8-Q4	T610	1:L5	6-N2						
R848	1:L2	8-J4	T837-	1:D2	10-D8						
R850	1:K2	8-Q4	T837	1:D2	10-E8						
R853	1:M4	8-N3	T837_	1:D2	10-E8						
R854	1:M4	8-N3	T83710	1:F2	10-A8						
R855	1:M2	8-B0	T83713	1:F2	10-B8						
R859	1:N2	8-C1	T83715	1:F2	10-B8						
R861	1:N2	8-D1	T83720	1:F2	10-C8						
R863	1:N3	8-E1	T83723	1:F2	10-C8						

Part D T869 Power Amplifier



Caution: There are no user serviceable components in this power amplifier. Refer all servicing to your nearest approved Tait Dealer or Service Centre.

This part of the manual is divided into five sections, as listed below. There is a detailed table of contents at the start of each section.

Section	Title
1	General Information
2	Circuit Operation
3	Initial Adjustment
4	Fault Finding
5	PCB Information

1 T869 General Information

This section provides a brief description of the T869 PA, along with detailed specifications and a list of types available.

The following topics are covered in this section.

Section	Title	Page
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1.2	Specifications	1.4
1.2.1	Introduction	1.4
1.2.2	General	1.4
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1.4	Standard Product Range	1.7

1.1 Introduction

The T869 is an FM base station power amplifier designed for single or multichannel operation within the frequency range 220 to 285MHz. The output power capability is 20 to 100W.

The PA comprises a broad band drive amplifier whose output is split via a quadrature hybrid to drive two paired, push-pull final stages. The outputs from both push-pull pairs are then recombined using a quadrature hybrid combiner and filtered before being fed to the output socket. Operating two pairs of push-pull finals in quadrature offers two major advantages over single ended types:

- improved intermodulation performance in the presence of high signal levels from adjacent transmitters;
- enhanced reliability: if one of the four output transistors fails, the transmitter can still produce at least one quarter of its rated power.

Furthermore, the inherent operation of the push-pull pairs within the quadrature architecture provides a further advantage of suppressing even order harmonics.

VSWR and thermal protection is incorporated into the basic design, while monitoring and alarm signals are available for both forward and reverse power. The output power is adjustable from the front panel.

The main PCB is mounted directly on a die-cast chassis/heatsink. Extensive use is made of the latest surface mount technology. Effective RF isolation between the PA control circuitry and RF stages is achieved by internal metal shields.

Forced air cooling for the heatsink is provided by a fan, which is activated whenever the transmitter is keyed. Thermal sensors will also activate the fan automatically if the internal temperature reaches an unacceptable level.

The T869 has a width of 120mm, occupying a double module in a Tait rack shelf which will accommodate up to seven standard modules to give an attractive and convenient installation.

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

Power Output:

Rated Power	.. 100W
Range Of Adjustment	.. 20 to 110W (typical)

Input Power .. 600mW ±150mW

Duty Cycle Rating: .. 100W continuous to +60°C

Intermodulation (PA with output isolator) .. -70dBc or -40dBi¹ with 25dB isolation & interfering signal of -30dBc

Mismatch Capability:

Ruggedness	.. infinite VSWR
Stability	.. 5:1 VSWR (all phase angles)

Supply Voltage:

Operating Voltage	.. 10.8 to 16V DC
Standard Test Voltage	.. 13.8V DC
Polarity	.. negative earth only
Polarity Protection	.. diode

Supply Current:

Standby	.. 50mA
Transmit	.. 20A (16A typical @ 270MHz)

1. dBi denotes the level of the intermodulation product relative to the interfering signal.

Spurious Emissions:

Conducted	- Transmit	.. -36dBm to 1GHz
		-30dBm to 4GHz
	- Standby	.. -57dBm to 1GHz
		-47dBm to 4GHz
Radiated	- Transmit	.. -36dBm to 1GHz
		-30dBm to 4GHz
	- Standby	.. -57dBm to 1GHz
		-47dBm to 4GHz

Dimensions:

Height	.. 191mm
Width	.. 120mm
Length	.. 340mm

Weight: .. 3.5kg

1.3 Product Codes

The three groups of digits in the T860 Series II product code provide information about the model, type and options fitted, according to the conventions described below.

The following explanation of T860 Series II product codes is not intended to suggest that any combination of features is necessarily available in any one product. Consult your nearest Tait Dealer or Subsidiary for more information regarding the availability of specific models, types and options.

Model

The Model group indicates the basic function of the product, as follows:

T86X-XX-XXXX T865 receiver
 T867 exciter
 T869 100W power amplifier

Type

The Type group uses two digits to indicate the basic RF configuration of the product.

The first digit in the Type group designates the frequency range:

T86X-XX-XXXX '1' for 220-244MHz
 '2' for 243-270MHz
 '3' for 265-285MHz

The second digit in the Type group indicates the channel spacing:

T86X-XX-XXXX '0' for wide bandwidth (25kHz)
 '3' for mid bandwidth (20kHz)
 '5' for narrow bandwidth (12.5kHz)

Options

T86X-XX-XXXX The Options group uses four digits and/or letters to indicate any options that may be fitted to the product. This includes standard options and special options for specific customers. '0000' indicates a standard Tait product with no options fitted. The large number of options precludes listing them here.

1.4 Standard Product Range

The following table lists the range of standard T865 types (i.e. no options fitted) available at the time this manual was published. Consult your nearest Tait Dealer or Subsidiary for more information.

Frequency Range (MHz)	220-244 ^a	243-270	265-285
PA Type: T869-	10-0000	20-0000	30-0000

- a. In the United States only, the T869-10-0000 operates from 217-244MHz.

You can identify the receiver type by checking the product code printed on a label on the rear of the chassis (Figure 1.1 in Part A shows typical labels). You can further verify the receiver type by checking the placement of an SMD resistor in the table that is screen printed onto the PCB (refer to Section 5.1 for more details).

2 T869 Circuit Operation

This section provides a basic description of the circuit operation of the T869 PA.

The following topics are covered in this section.

Section	Title	Page
2.1	Introduction	2.3
2.2	RF Circuitry	2.5
2.3	Control Circuitry	2.6
2.3.1	Power Control	2.7
2.3.2	Driver Power Level	2.7
2.3.3	Thermal Protection	2.7
2.3.4	Forward And Reverse Power Alarms	2.7
2.3.5	Forward And Reverse Power Metering	2.8
2.3.6	Fan Control Circuitry	2.8

Figure	Title	Page
2.1	T869 High Level Block Diagram	2.3
2.2	T869 Main Circuit Block Identification	2.4
2.3	T869 Control Circuitry Block Diagram	2.6
2.4	T869 Fan Control Logic Diagram	2.8

2.1 Introduction

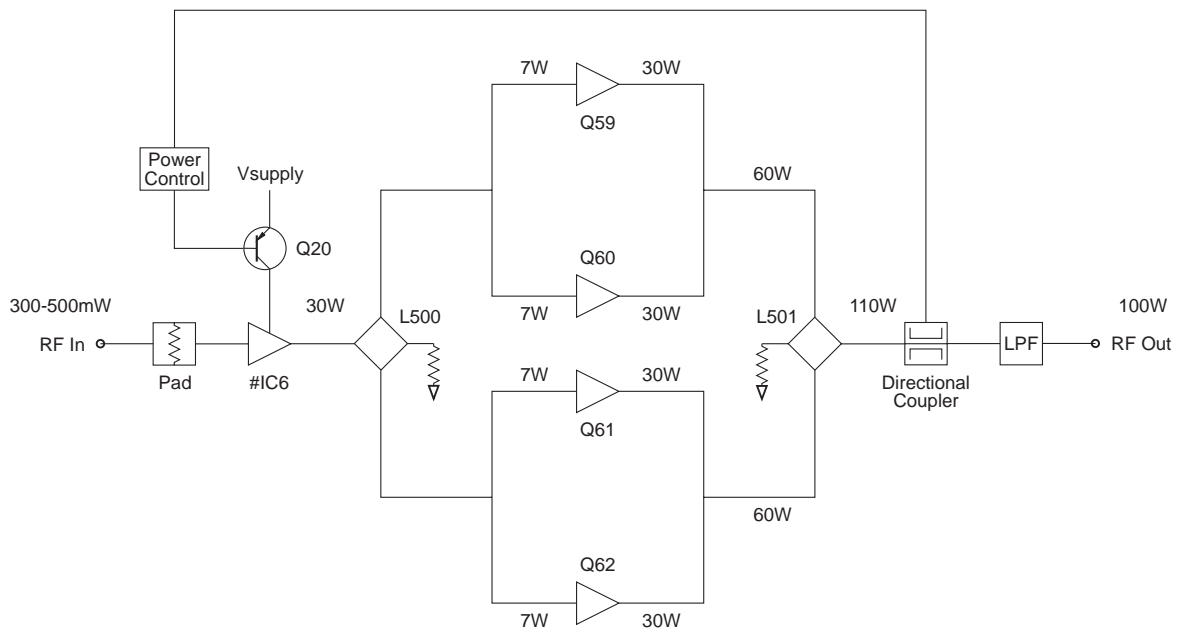
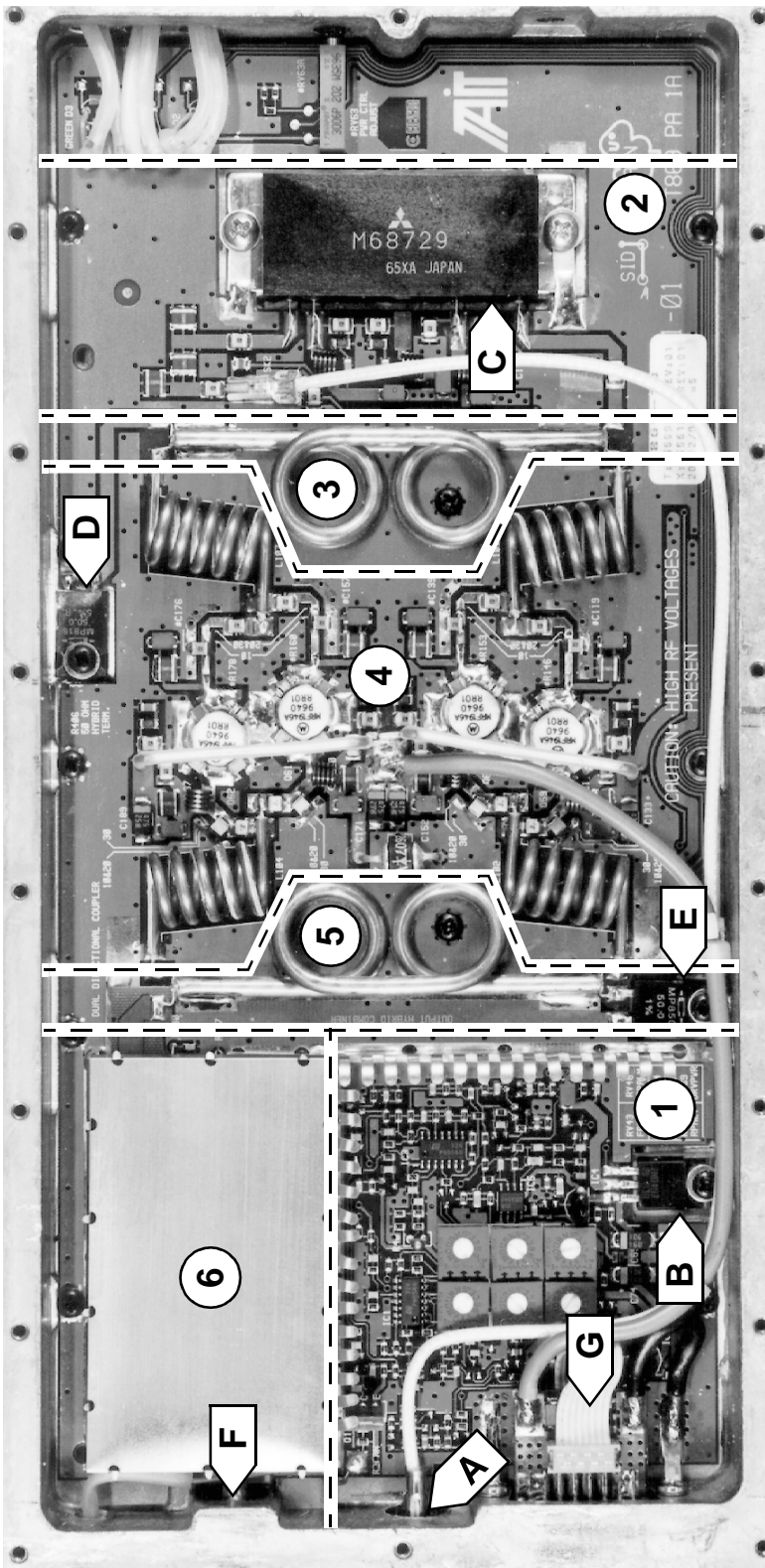


Figure 2.1 T869 High Level Block Diagram

The T869 comprises a two stage RF power amplifier with extensive control circuitry:

- the input stage consists of an RF power module which increases the drive level to approx. 20W (30W typical);
- the final stage is composed of four transistors (Q59, Q60, Q61, Q62) whose outputs are combined to provide the rated output power.

The configuration of each of the main circuit blocks may be seen on a functional level in Figure 2.1, while Figure 2.2 shows their location on the PCB.



- Key:**
- | | | | |
|---|---------------------------------------|---|---|
| 1 | power control & alarms | A | RF input |
| 2 | drive amplifier | B | power control transistor (Q20) |
| 3 | input splitter | C | power module |
| 4 | final amplifiers | D | input hybrid termination |
| 5 | output combiner | E | output hybrid termination |
| 6 | low pass filter & directional coupler | F | RF output |
| | | G | D-range connector (incl. DC in, alarm & metering outputs - refer to Section F2.2) |

Figure 2.2 T869 Main Circuit Block Identification

2.2 RF Circuitry

(Refer to the RF section circuit diagram in Section 5.)

The driver stage of the T869 consists of an RF power module which delivers 20-30W to the final transistors. This signal is split via a 3dB quadrature hybrid (L500) and used to drive two isolated push-pull stages (Q59, Q60, Q61, Q62). The outputs from these push-pull stages are recombined by L501 and passed to the antenna socket via the directional coupler and low pass filter.

The directional coupler senses forward and reflected power, which is rectified (D100 & D101) and passed to the control circuitry for metering, alarm and power control purposes.

Power control is via a series pass transistor (Q20), which controls the supply voltage on #IC6 pin 2 (T869-10 & T869-20) or pins 2 and 3 (T869-30).

2.3 Control Circuitry

(Refer to the control section circuit diagram in Section 5.)

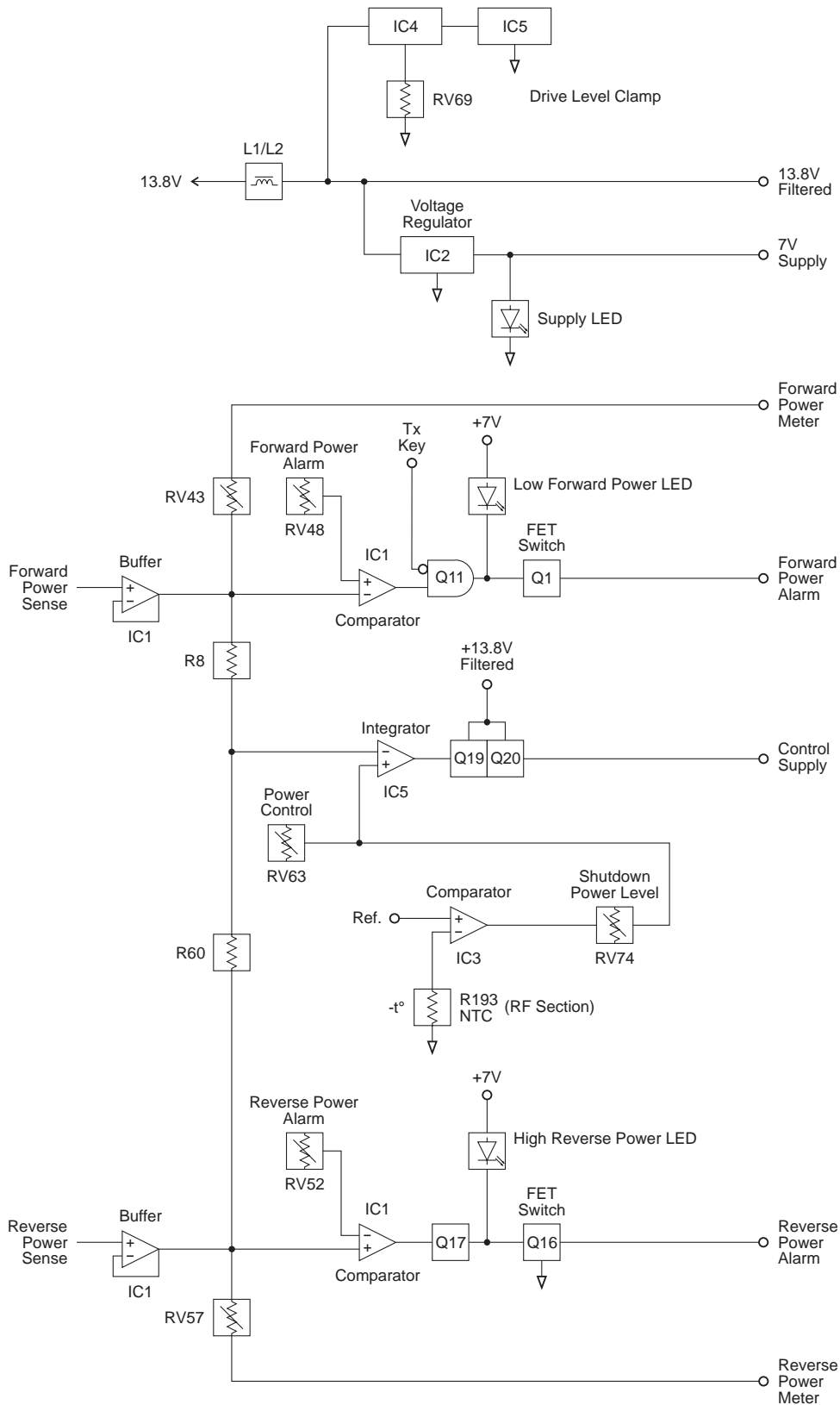


Figure 2.3 T869 Control Circuitry Block Diagram

2.3.1 Power Control

The DC voltages from the directional coupler representing forward and reflected power are buffered by the two voltage followers, IC1 pins 1, 2 & 3 and pins 8, 9 & 10. Their outputs are summed at an integrator (IC5 pins 1, 2 & 3), which drives the series pass control elements (Q19 & Q20).

Forward and reflected power are summed so that, under high output VSWR, the power control turns the PA down. This is because the control loop adjusts for the same DC voltage from the directional coupler that would have been present if there were no reflected power.

2.3.2 Driver Power Level

The maximum output power of the T869 can be limited by placing a ceiling on the driver output power level using RV69 (accessible through the side cover). For example, if RV69 is set for a maximum output power of 50W, the range of adjustment using RV63 (front panel power adjust) will be 20 to 50W.

Note: The driver power level clamp (RV69) is factory set to give a maximum power output of 110W. The unit may be damaged if this level is increased.

2.3.3 Thermal Protection

At excessively high temperatures, the output power will automatically reduce to a pre-set level (set by RV74), thus preventing the PA from overheating.

A thermistor controlled voltage divider (R85, R193) applies a voltage to a comparator with hysteresis (IC1 pins 12, 13 & 14).

The output current from the comparator is summed into the power control network via RV74 so that the power level to which the PA must turn down may be set.

2.3.4 Forward And Reverse Power Alarms

If forward power drops below, or reverse power rises above, presettable limits, alarms may be triggered.

The alarm outputs are open drain configuration and are low under normal conditions (i.e. forward and reverse power levels are normal).

IC1 pins 12, 13 & 14 and pins 5, 6 & 7 form comparators with thresholds adjusted via RV48 and RV52 respectively. The inputs are from the forward and reverse power signals from the directional coupler, buffered by IC1 pins 1, 2 & 3 and pins 8, 9 & 10. Thus, the power levels at which the forward and reverse power alarms are triggered are defined by RV48 and RV52 respectively.

2.3.5 Forward And Reverse Power Metering

Forward and reverse power signals from the two IC1 buffers are available for metering purposes. The output currents are adjustable via RV43 (forward power) and RV57 (reverse power).

2.3.6 Fan Control Circuitry

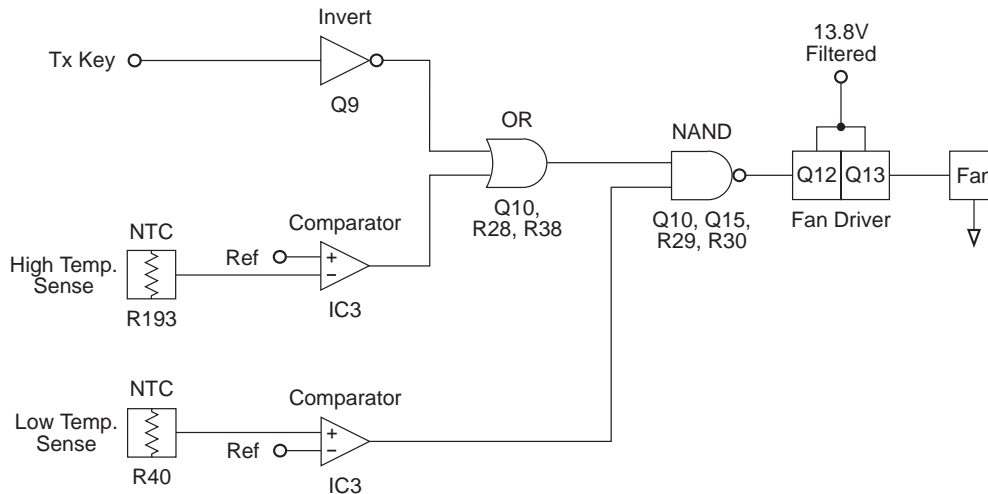


Figure 2.4 T869 Fan Control Logic Diagram

Comparator IC3 pins 12, 13 & 14 are set to trigger at heatsink temperatures greater than +70°C, and pins 1, 2 & 3 at temperatures greater than -10°C.

A logic AND function is applied to the comparator outputs by Q10 and Q15, thereby turning on the fan unconditionally (via Q12 and Q13) if the heatsink temperature exceeds +70°C.

A logic OR function is applied to comparator IC3 pins 12, 13 & 14 and Tx KEY signals, thereby turning on the fan when the transmitter is keyed and the temperature is between -10°C and +70°C.

If the temperature drops below -10°C, Q15 is turned off, preventing Q10 from activating the fan.

3 T869 Initial Adjustment

The following section describes the full adjustment procedure to be carried out before operating the T869.

Note: The T869 requires no RF tuning or alignment.

Refer to Section 5 where the parts lists, grid reference index and diagrams will provide detailed information on identifying and locating components.

The following topics are covered in this section.

Section	Title	Page
3.1	Test Equipment Required	3.3
3.2	Preliminary Checks	3.3
3.3	Setting The Output Power	3.4
3.4	Limiting The Maximum Output Power	3.5
3.5	High Temperature Shutdown Power Level	3.5
3.6	Remote Forward Power Meter Calibration	3.5
3.7	Remote Reverse Power Meter Calibration	3.5
3.8	Setting Alarm Levels	3.6
3.8.1	Forward Power	3.6
3.8.2	Reverse Power	3.6

Figure	Title	Page
3.1	Test Equipment Set-up	3.3
3.2	Modifications To Limit Maximum Output Power	3.5

3.1 Test Equipment Required

- DC power supply capable of delivering 30A at 13.8V.
- Multimeter or DMM (e.g. Fluke 77).
- RF power meter (e.g. HP 435 series or Bird Wattmeter).
- 100W 30dB attenuator.
- 100W 3dB 50 ohm pad.
- 'BNC' to 'N' type adaptors (e.g. Amphenol, Greenpar).
- Appropriate trimming tools.

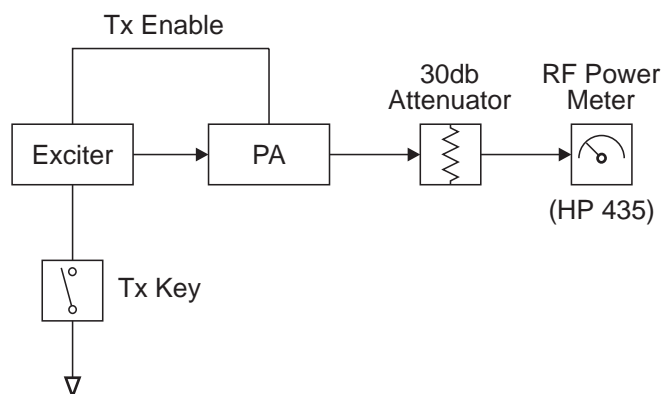


Figure 3.1 T869 Test Equipment Set-up



Caution: Do not connect attenuators or DC blocks between the T867 and T869 or the cyclic keying circuitry will not function correctly.

3.2 Preliminary Checks

Check for short circuits between the positive rail and earth.

Set up the test equipment as in Figure 3.1.

Connect the T869 to a 13.8V DC supply.

Check that the quiescent current is <50mA.

To key the transmitter, earth the key line (pin 13) on the exciter.

Check that the power supply is still at 13.8V under load.

Check that the regulated power control supply is approximately 7V.

Note: The output power and alarm levels should be set with the cover shield on. If the cover is removed for other adjustment procedures, make a final check of the output power and alarm levels with the cover shield on.

3.3 Setting The Output Power



Caution: If the temperature shutdown power level has not yet been set or is unknown, check that the unit does not overheat while setting the output power.

Note 1: Cables and connectors can easily cause a power loss of several watts if either too long or poorly terminated. Always use the shortest possible leads (or connectors instead of leads) between the T869 and power meter set-up.

Note 2: You will need appropriate extension leads if you wish to carry out the adjustment procedures with the T869 withdrawn from the rack in the latched position. Alternatively, disconnect and withdraw the T869 and reconnect it behind the rack.

Note 3: The actual power used may be limited by regulatory requirements.

Connect the exciter output to the PA input via a thru-line wattmeter with a 1W full scale reading. Special BNC/N leads will be required.

Connect an RF power meter to the PA output. Set the front panel power control preset (RV63) and the driver power clamp (RV69) fully clockwise.

Key on the drive source.

Check that the power output exceeds 120W.

Note: If the output power level is low, check that the temperature shutdown circuit has not activated by verifying that IC3 pin 8 is low.

Adjust RV69 to reduce the maximum power output to 110W.

Adjust RV63 to set the power output to the required level (e.g. 100W).

3.4 Limiting The Maximum Output Power

Refer to the control section circuit diagram in Section 5.

Two chip resistors are provided on the PCB if there is a requirement to set an absolute limit to the maximum output power. These two resistors are normally bypassed by a zero Ohm resistor (LINK2).

Remove LINK2 as shown in Figure 3.2 to bring R88 & R89 into circuit.

You can now limit the maximum output power by selecting the appropriate values for R88 & R89. For example, to limit the output power to 100W, set R88 to 470 Ω and R89 to 1k.

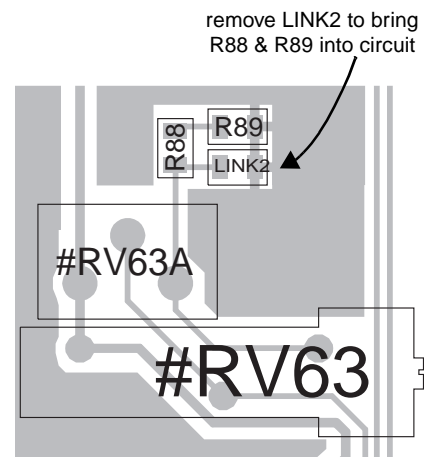


Figure 3.2 Modifications To Limit Maximum Output Power

3.5 High Temperature Shutdown Power Level

Set RV63 (power control) to the required output power.

Earth pin 9 of IC3 (the pad at NTC R193 is convenient).

Adjust RV74 (shutdown power level) for an output power of 40W.

Remove the earth from pin 9 of IC3 (or the pad of R193).

3.6 Remote Forward Power Meter Calibration

If a remote meter is connected, adjust the forward power meter calibration control (RV43) for the remote reading to agree with the RF power meter reading.

3.7 Remote Reverse Power Meter Calibration

If a remote meter is connected, connect a 50 ohm 3dB pad (with the output open circuit) to the PA output.

Apply RF drive and Tx key.

Adjust the reverse power meter calibration control (RV57) for a quarter of the forward power reading.

3.8 Setting Alarm Levels

Note: If forward and reverse power metering is being used, set up their calibration (Section 3.6 and Section 3.7) before setting the alarm levels.

3.8.1 Forward Power

Power up the T869 and adjust the front panel power control (RV63) so that the output power is at the alarm level required (e.g. 80W if the PA normally operates at 100W).

Adjust the forward power alarm set control (RV48) so that the forward power alarm LED lights.

Check the alarm level setting by adjusting the power up and down and observing the alarm LED. A few watts hysteresis can be expected.

Readjust RV63 for the normal operating level.

Note: Remote indication is available at D-range pin 3.

3.8.2 Reverse Power

Power up the T869 and adjust the front panel power control (RV63) for the normal operating power level.

Place a known mismatch of the required value (e.g. 3:1 VSWR) and adjust the reverse power alarm set control (RV52) so that the reverse power alarm LED lights.

Example: A VSWR of 3:1 can be simulated by connecting an unterminated 3dB pad (100W) to the PA output. This will result in a return loss of 6dB.

Note: Remote indication is available at D-range pin 4.

4 T869 Fault Finding

The following test procedures and fault finding flow charts may be used to help locate a hardware problem, however they are by no means a complete fault finding procedure. If the fault still exists after having progressed through them in a logical manner, contact your nearest authorised Tait Dealer or Service Centre. Further assistance may be obtained from the Customer Support Group, Radio Systems Division, Tait Electronics Ltd, Christchurch, New Zealand.

Refer to Section 5 where the parts lists, grid reference index and diagrams will provide detailed information on identifying and locating components.

The following topics are covered in this section.

Section	Title	Page
4.1	Visual Checks	4.3
4.2	Component Checks	4.3
4.3	DC Checks	4.3
4.4	RF Checks	4.4
4.5	Fault Finding Charts	4.7
4.5.1	PA	4.7
4.5.2	Power Control	4.8
4.5.3	Fan Control Circuitry	4.9

Figure	Title	Page
4.1	Positioning Of Test Leads	4.6

4.1 Visual Checks

Remove the cover from the T869 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, 4, 5 and 6 of Part A.

4.2 Component Checks

If you suspect a transistor is faulty, you can assess its performance by measuring the forward and reverse resistance of the junctions. Unless the device is completely desoldered, first make sure that the transistor is not shunted by some circuit resistance (e.g. a base choke). Use a good quality EVM (e.g. Fluke 75) for taking the measurements (or a 20k ohm/V or better multimeter, using only the medium or low resistance ranges).



Caution: Before operating the PA, replace any RF base chokes removed while making measurements.

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.

4.3 DC Checks

Check that +13.8V is present on the collectors of Q59, Q60, Q61 and Q62. Make this measurement when the transmitter is not keyed.

Check that approximately 8-13.8V is present on pin 2 of #IC6 (the level is dependent on RV69 being set to maximum).

Check that +13.8V is present at pin 4 of IC1.

Check that approximately +12V is present at pin 8 of IC5 (the level is dependent on RV69 being set to maximum).

Check that +7.0V is present at the output of regulator IC2.

4.4 RF Checks

The PA Fault Finding Chart (Section 4.5.1) provides a systematic approach for locating a fault in the RF circuitry. Use this chart in conjunction with Figure 4.1, which shows the locations of the 50Ω input and output test points for RF module #IC6 and RF transistors Q59-Q62.

Device	Input Connection	Output Connection
#IC6	input BNC connector or SK2	C116
Q59 & Q60	junction of L500 & L101	junction of L102 & L501
Q61 & Q62	junction of L500 & L107	junction of L104 & L501

Note 1: Use good quality 50Ω coax for the "flying" test leads.

Note 2: Ensure each output is terminated in a 50Ω load of the correct power rating.

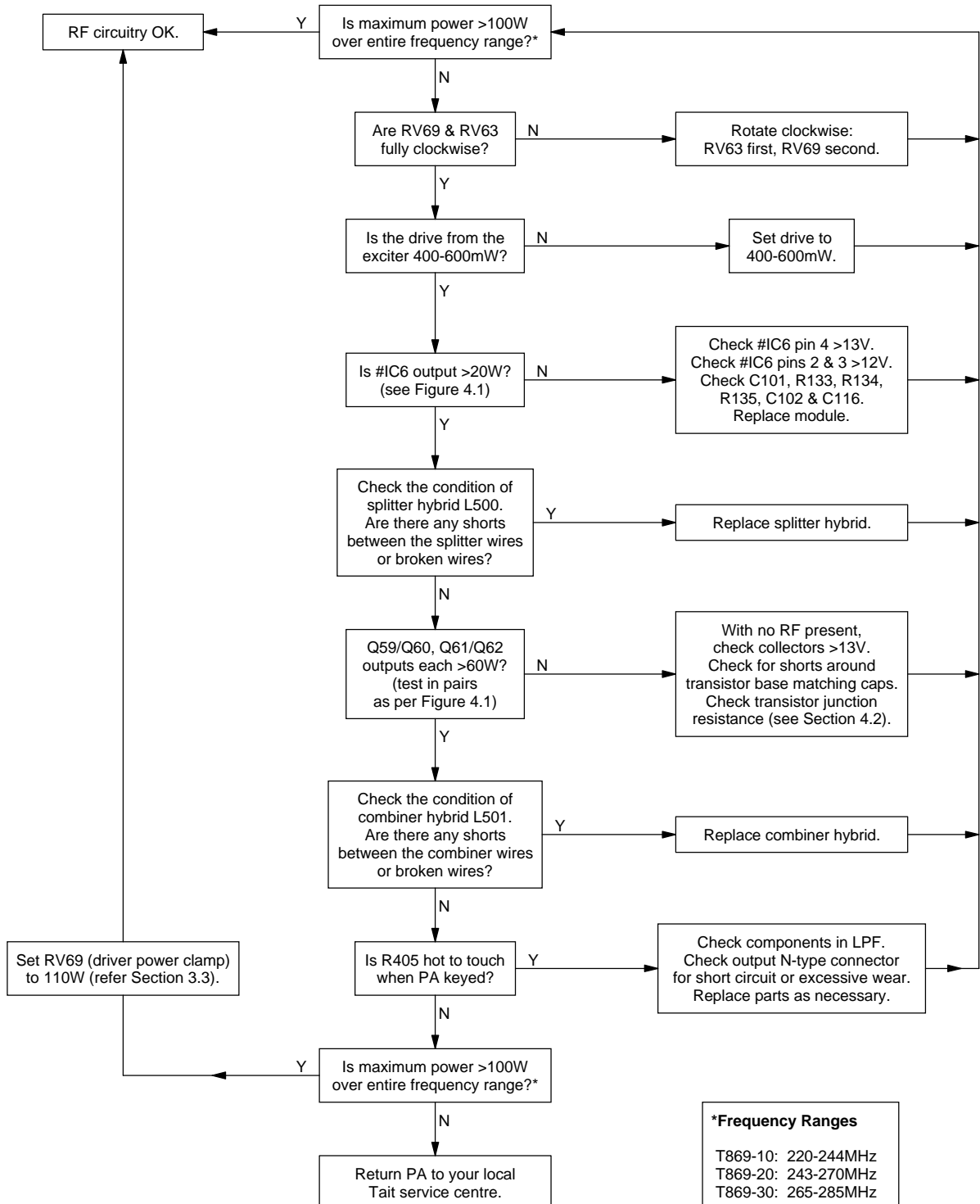
For problems with the power control circuitry, refer to the Power Control Fault Finding Chart (Section 4.5.2).

replace A4 pages D4.5/D4.6 with A3 pages D4.5/D4.6

replace A4 pages D4.5/D4.6 with A3 pages D4.5/D4.6

4.5 Fault Finding Charts

4.5.1 PA

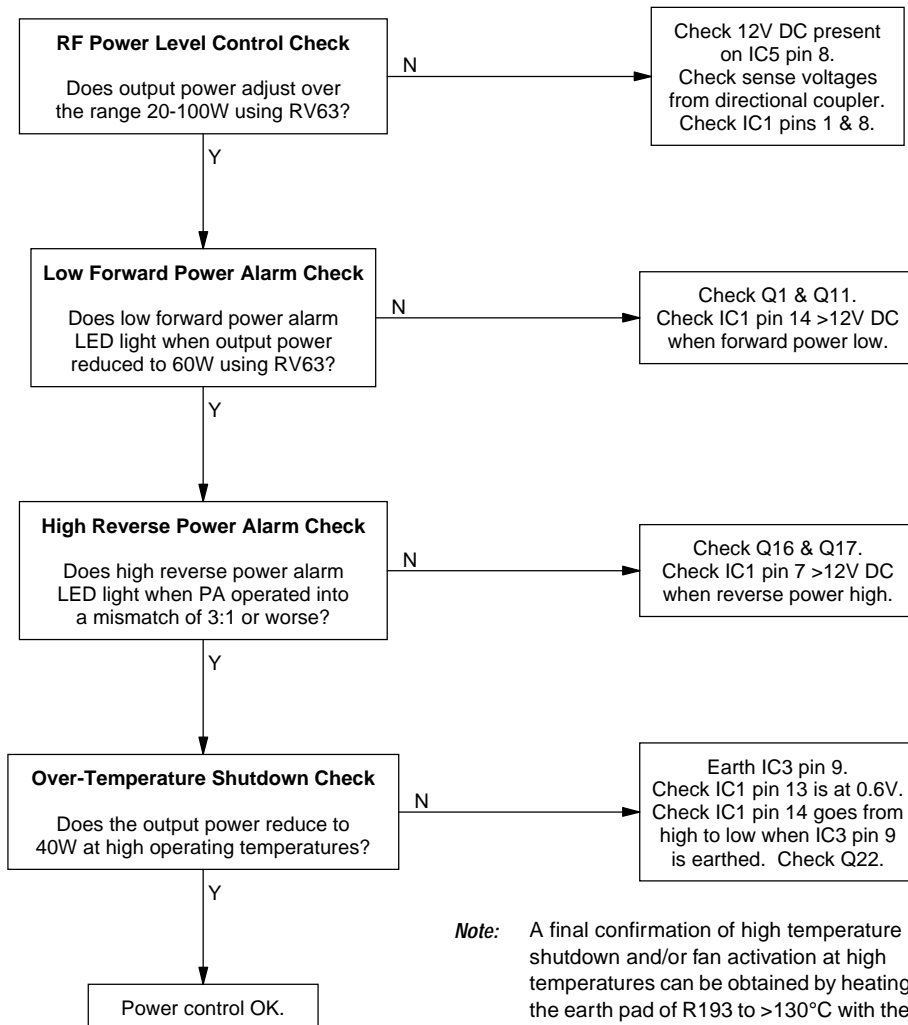


4.5.2 Power Control

Approximate voltages (@ 260MHz) under normal operating conditions:

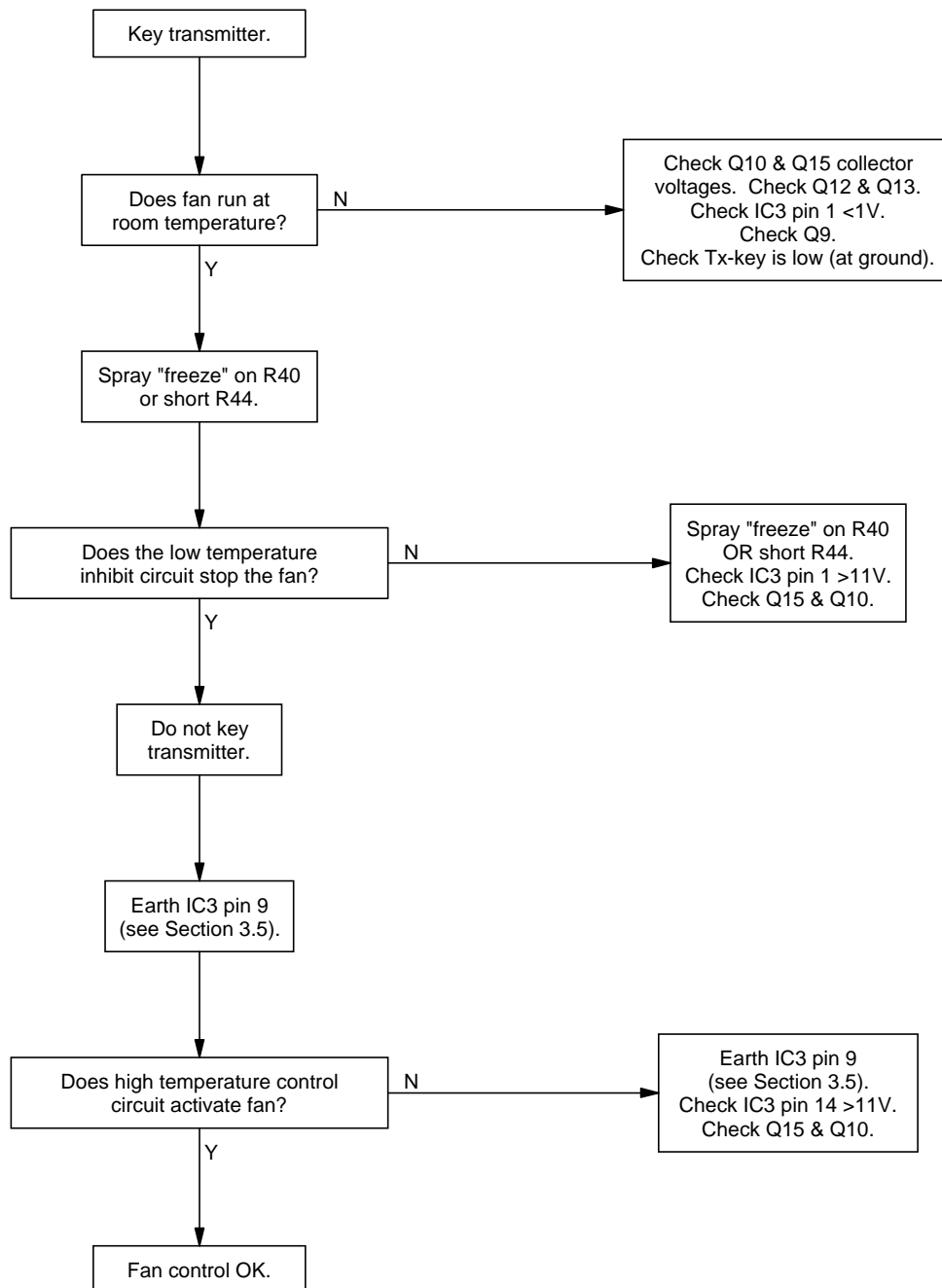
Forward & Reverse Power Measurement	Output Power	
	40W	100W
forward power at IC1 pin 1	2V	—
forward power at IC1 pin 2	—	3.2V
reverse power at IC1 pin 8	0.5V	—
reverse power at IC1 pin 2	—	0.8V

Caution
The following voltage checks are all done with RV69 (driver power clamp) set to maximum.



Note: A final confirmation of high temperature shutdown and/or fan activation at high temperatures can be obtained by heating the earth pad of R193 to >130°C with the tip of a soldering iron. Take care not to damage R193.

4.5.3 Fan Control Circuitry



5 T869 PCB Information

This section provides the following information on the T869 power amplifier:

- parts lists
- grid reference index
- exploded view mechanical drawing
- PCB layouts
- circuit diagrams.

Section	Title	IPN	Page
5.1	Introduction		5.1.3
5.2	T869 Power Amplifier PCB	220-01371-01	5.2.1

5.1 Introduction

PCB Identification

All PCBs are identified by a unique 10 digit “internal part number” (IPN), e.g. 220-12345-00, which is screen printed onto the PCB (usually on the top side). The last 2 digits of this number define the issue status, which starts at 00 and increments through 01, 02, 03, etc. as the PCB is updated. Some issue PCBs never reach full production status and are therefore not included in this manual. A letter following the 10 digit IPN has no relevance in identifying the PCB for service purposes.

Note: It is important that you identify which issue PCB you are working on so that you can refer to the appropriate set of PCB information.

Parts Lists

The 10 digit numbers (000-00000-00) in this Parts List are “internal part numbers” (IPNs). Your spare parts orders can be handled more efficiently if you quote the IPN and provide 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, D1, R121, etc.) and those without (miscellaneous and mechanical).

Those with a circuit reference are grouped in alphabetical order and then in numerical order within each group. Each component entry comprises three or four columns, as shown below:

Ref	Var	IPN	Description
C126		015-06100-08	CAP CER 1206 CHIP 100N 10% X7R 50V
C127		020-09220-01	CAP ELECT RADL 220M 16V 10X12.5MM
C128		015-06100-08	CAP CER 1206 CHIP 100N 10% X7R 50V
C129		015-06100-08	CAP CER 1206 CHIP 100N 10% X7R 50V
&C130	10	015-25100-08	CAP CER 0805 CHIP 10N 10% X7R 50V
&C130	15	015-24470-08	CAP CER 0805 CHIP 4N7 10% X7R 50V
&C130	20	015-25100-08	CAP CER 0805 CHIP 10N 10% X7R 50V
&C130	25	015-24470-08	CAP CER 0805 CHIP 4N7 10% X7R 50V
C131		015-24100-08	CAP CER 0805 CHIP 1N 10% X7R 50V
C132		015-24470-08	CAP CER 0805 CHIP 4N7 10% X7R 50V
C133		015-05470-08	CAP CER 1206 CHIP 47N 10% X7R 50V

circuit reference - lists components in alphanumeric order

variant column - indicates that this is a variant component which is fitted only to the product type listed

description - gives a brief description of the component

Internal Part Number - order the component by this number

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

Variant Components

A variant component is one that has the same circuit reference but different value or specification in different product types. Variant components are indicated by a character prefix such as “&”, “#” or “=”.

Grid Reference Index

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 alphanumeric order, along with the appropriate alphanumeric grid references, as shown below:

Device	PCB	Circuit
C126	2:A6	2-R7
C127	1:A8	2-P4
C128	2:B7	2-P2
C129	2:C12	2-E3
&C130	2:D8	2-B8
C131	2:C9	2-H6
C132	2:D8	2-B8
C133	2:D6	2-E1

components listed in alphanumeric order

PCB layout reference
circuit diagram reference

component location on the sheet

sheet number

component location on the layer

layer number -
1 = top side layer
2 = bottom side layer

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 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.

5.2 T869 Power Amplifier PCB

This section contains the following information.

IPN	Section	Page
220-01371-01	Parts List	5.2.3
	Mechanical & Miscellaneous Parts	5.2.6
	Mechanical Assembly	5.2.7
	Rack Frame Guide Mechanical Assembly	5.2.8
	Grid Reference Index	5.2.9
	PCB Encoding Errors	5.2.11
	PCB Layout - Bottom Side	5.2.13
	PCB Layout - Top Side	5.2.14
	Control Section Circuit Diagram	5.2.15
	RF Section Circuit Diagram	5.2.16

T869 Parts List (IPN 220-01371-01)

How To Use This Parts List

The components listed in this parts list are divided into two main types: those with a circuit reference (e.g. C2, D1, R121, etc.) and those without (miscellaneous and mechanical).

Those with a circuit reference are grouped in alphabetical order and then in numerical order within each group. Each component entry comprises three or four columns: the circuit reference, variant (if applicable), IPN and description. A number in the variant column indicates that this is a variant component which is fitted only to the product type listed.

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

Parts List Amendments

206-00010-15	RG223/U coax	} These three components comprised the exciter/PA connecting cable and have been incorporated into one sub-assembly under the IPN 219-02592-00 (710018).
240-00100-10	BNC connector	
240-00100-06	N-type connector	
220-01152-02	Teflon directional coupler PCB. IPN changed to 220-01153-XX to avoid confusion with T858/9 directional coupler PCB (710055).	

T869 Mechanical & Miscellaneous Parts (220-01371-01)

IPN	Legend	Description	IPN	Legend	Description
012-04100-05	29	CAP F/THRU 1N SUPPR FLTR STUD MTG	319-01190-01	3	SHIELD WALL HARMONIC FILTER T869PA
012-04150-01	21	CAP CER F/THRU 1N5 NO LEAD	319-01201-00	49	SHIELD LID HARMONIC FILTER T869PA
051-00006-02		SOLDER SPRING 1.3MM A4M1877 Support for front panel LED solder joints.	319-01202-00	4	SHIELD T869PA CONTROL CIRCUITRY
051-00642-00	27	COAX T869 SEMI-RIGID N-TYPE EXTENSION	319-30035-00	E	SPACER A4M1469 FRT PNL
065-00010-13	20	BEAD FERRITE 7D 1.9X0.9X3.8MM STACK POLE	319-30064-00	31	SPACER HSINK RF MODULE T869PA
200-00010-03		WIRE T/C 0.9MM	319-30065-00		SPACER T869PA WIRELINE 2.5MM THICK Fits between PCB and heatsink under L500/L501.
201-00030-02		WIRE #1 T/C WIRE 7/0.2MM PVC RED	345-00040-06	D	SCREW M3X8MM PAN POZI ST BZ
201-00050-25		CABLE AUTO 154 RED 41/0.3MM PVC DC+ from D-range PCB.	345-00040-09	B	SCREW M3X6MM CSK POZI TRUNCATED HEAD ST BZ
201-00050-26		CABLE AUTO 154 BLACK 41/0.3MM PVC DC- from D-range PCB.	345-00040-16	22	SCREW M3X20MM PAN POZI ST BZ
205-00010-12		CABLE FLAT RBBN 16 CORE 16/7/0.1 GREY D-range PCB loom.	345-00040-20	48	SCREW M3X8MM BUTTON SKT HD BLACK ZINC PHOS
206-00010-11		CABLE COAX 50 OHM RG316-U PTFE Coax from BNC connector to SK2.	349-00010-59	34	(L) SCREW 6-32 X 3/8 STEEL PAN PHILLIPS TAPTITE ZP
206-00010-15		CABLE COAX 50 OHM RG223/U DOUBLE SCRNR Exciter/PA connecting cable.	349-00020-07	8	(L) SCREW 4-40 X 5/16 PAN POZI TAPTITE BLACK
220-01152-02	2	PCB TEFLON BOARD DIRNL COUPLER	349-00020-09	9	SCREW TAPTITE 4-40X3/8 IN PAN POZI BLACK
220-01371-01	1	PCB T869 PA MAIN BRD	349-00020-43	42	SCREW TAPTITE M4X12MM PAN POZI BZ
240-00010-55	19	PLUG 15 WAY D RANGE WIRE WRAP PINS PNL MTG (PL1)	349-00020-49	40	SCREW TAPTITE M4X35MM PAN POZI BZ
240-00020-56		PLUG 8WAY 2ROW (2X4) CORD MTG IDC MICROMATCH D-range PCB/main PCB loom.	352-00010-29	47	NUT M4 NYLOC HEX
240-00026-23		CONN PADDLE BD 8 WAY MICRO MATCH 0-215570-8 D-range PCB/main PCB loom.	352-00010-35	11	NUT 8-32 UNC HEX RF PWR XSTR MTG
240-00100-06		PLUG COAX N TYPE CORD MTG CAPTIVE CONTACT Exciter/PA connecting cable.	353-00010-10	13	WASHER M3 FLAT 7MMX0.6MM ST BZ
240-00100-10		PLUG COAX BNC CORD MTG CAPTIVE & CLAMPED Exciter/PA connecting cable.	356-00010-01	30	TAG SOLDER 3MM SHORT M132/3.2
240-00100-43		PLUG COAX MINI PIN PLUG CRIMP 1.5D COAX Coax from BNC connector to SK2.	356-00010-03	23	TAG SOLDER 3MM LONG M614/3.2
240-02010-54		SKT 15WAY DRANGE PNL MTG 125 DEG C Matching socket for D-range plug PL1.	356-00010-05	33	TAG SOLDER 4MM LONG M6144/4.2
240-02100-06	26	SKT COAX N TYPE PNL MTG OPEN TERMN	357-00010-45	41	CLAMP CABLE 4.8MM P CLIP
240-02100-17	38	SKT COAX BNC PNL JACK CRIMPED FOR RG316	360-00010-41	51	BUSH SHORTY BLACK HEYCO B-187-125
240-06010-14		CLAMP LATCHING 15 WAY D RANGE Cover for D-range socket.	362-00010-07	15	GASKET SIL INSULATING TO-220
240-06010-15	24	BLOCK LATCHING 15WAY D RANGE	362-00010-13	17	BUSH INSULATING 1.1MM TOP HAT
240-06010-44	25	HOOD CONN UHF & N-TYPE	362-00010-33	44	GROMMET LED MTG 3MM LO CURRENT LEDS
258-00010-03	39	FAN 12V 119 X 119 X 25MM TUBE AXIAL	365-00100-20		LABEL WHITE S/A 28X11MM QUIKSTIK RW718/4
302-05204-00	28	BRKT A3M2314 F/THRU MTG T859	365-01391-01		(L)LABEL BLNK 30X10.8MM TAMPERMARK VOID MATT SILVR
303-23146-00	50	COVER SIDE T869PA	369-00010-14		TIE CABLE NYLON 100X2.6MM
306-01010-00	45	FERRULE A4M948 HANDLE FXD EQUIP	399-00010-56		BAG PLASTIC 200X250MM
308-01007-00	46	HANDLE A4M949 FXD EQUIP	400-00020-07		SLEEVING 2MM SIL RUBBER
308-13120-00	6	HSINK DCAST T869PA MACHINED & DRILLED	400-00020-30		HEATSHRINK 3MM
316-06597-00	43	PNL FRT COMPL T869 PA	410-00010-43		PKG T296 AMPAC REF 73-46
318-01011-00	C	RAIL A2M1872 BOTTOM PA			
318-01012-00	A	RAIL A3M1873 TOP PA			
319-01152-00	18	SHIELD A3M2250 F/THRU MTG			

replace A4 pages D5.2.7/D5.2.8 with A3 pages D5.2.7/D5.2.8

replace A4 pages D5.2.7/D5.2.8 with A3 pages D5.2.7/D5.2.8

T869 Grid Reference Index (IPN 220-01371-01)

How To Use This Grid Reference Index

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 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.

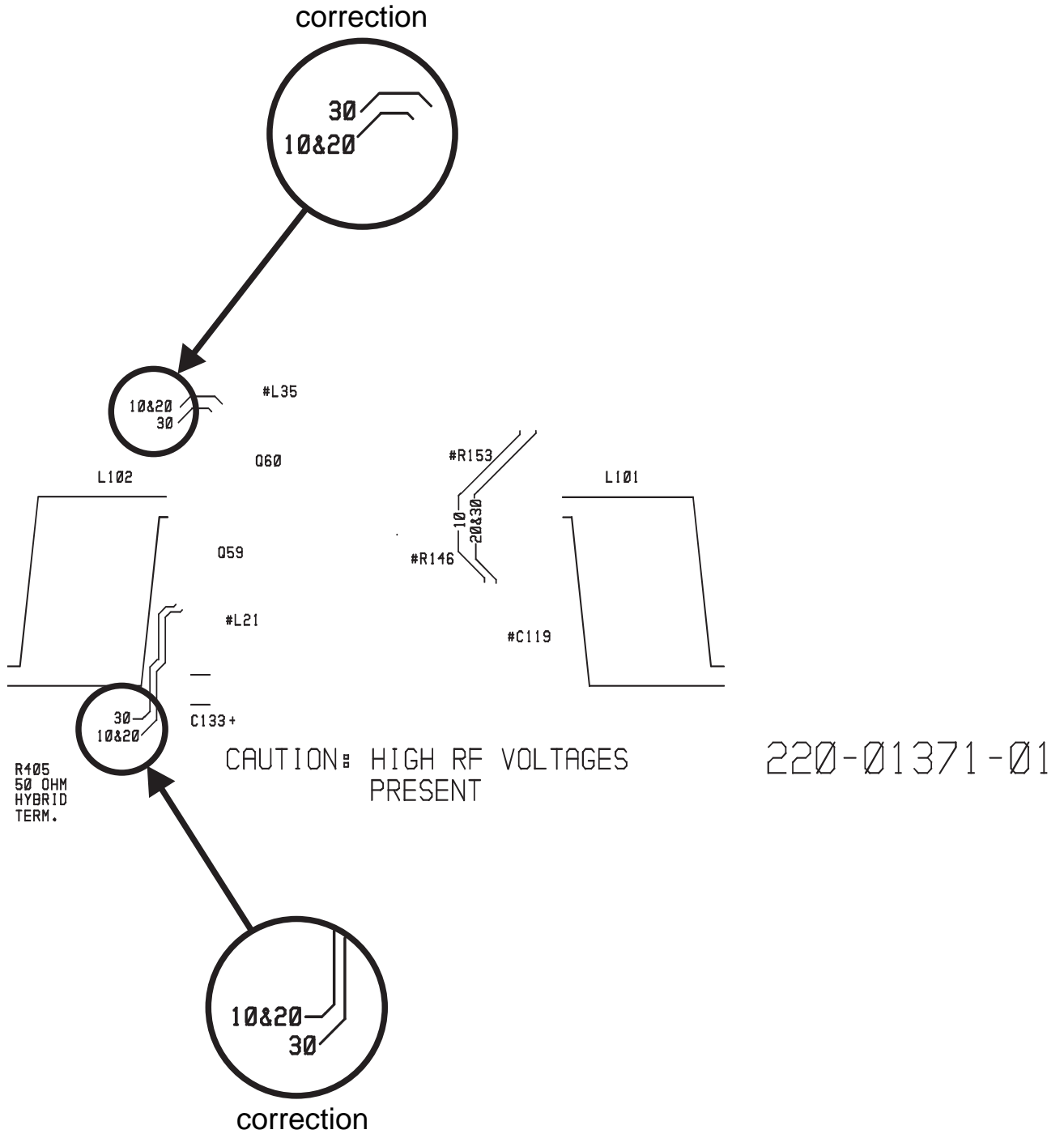
Device	PCB	Circuit	Device	PCB	Circuit	Device	PCB	Circuit	Device	PCB	Circuit
C2	1:B3	1-B5	C111	1:M5	2-D6	C203	1:B6	2-V4	L45*	1:K5	2-I4
C3	1:B3	1-C5	C112	1:M4	2-E6	C205	1:B6	2-W4	L46*	1:J5	2-I4
C4	1:B4	1-D5	C115	1:M4	2-E7	C210	1:C6	2-U9	L47*	1:J5	2-I3
C8	1:A4	1-B4	C116	1:M2	2-E5	C211	1:C5	2-V9	L48	1:J5	2-I3
C9	1:A4	1-C4	C118	1:J3	2-H9	C340	1:B3	1-B5	#L50	1:H5	2-M3
C10	1:B4	1-E4	#C119	1:J3	2-I9	D1	1:P7	1-C5	L51	1:H5	2-M3
C11	1:B4	1-G3	C121	1:J3	2-J9	D2	1:P6	1-C3	L55*	1:H5	2-M4
C15	1:C5	1-J5	C122	1:H3	2-J9	D3	1:P8	1-D3	L56*	1:H6	2-N4
C18	1:D5	1-M5	C124	1:H3	2-K9	D4	1:B4	1-G3	L59*	1:J6	2-H1
C19	1:D5	1-N5	C125	1:H3	2-L9	D4	1:B4	1-G3	L60*	1:J6	2-I1
C20	1:D4	1-L5	C127	1:G3	2-N9	D5	1:C2	1-F1	L62*	1:J7	2-I1
C21	1:D5	1-M4	C128	1:G3	2-O9	D5	1:C2	1-E1	L63	1:J7	2-I0
C22	1:D5	1-N4	C130	1:H2	2-M8	D7	1:G5	1-B0	#L67	1:H7	2-L1
C23	1:D5	1-N4	C132	1:H2	2-L8	D8	1:D3	1-G0	L68	1:G7	2-L0
C28	1:B5	1-O5	C133	1:G2	2-M8	D8	1:D3	1-F0	L75*	1:H6	2-M1
C29	1:B5	1-O4	C134	1:H2	2-M8	D100	1:E7	2-R5	L77*	1:H6	2-N1
C30	1:B5	1-P4	C138	1:K4	2-H6	D101	1:D6	2-R4	L80	1:D7	2-R5
C31	1:A5	1-P5	#C139	1:J4	2-I6	IC1	1:C4	1-F5	L83	1:D7	2-S4
C36	1:D4	1-L3	C140	1:J4	2-J6	IC1	1:C4	1-E3	L85	1:D6	2-T5
C37	1:D4	1-L3	C141	1:J4	2-J6	IC1	1:C4	1-H0	L86	1:C6	2-U5
C38	1:E5	1-N3	C143	1:H4	2-K6	IC1	1:C4	1-G2	L87	1:C6	2-U5
CC39	1:D5	1-N3	C144	1:H4	2-L6	IC1	1:C4	1-I5	L88	1:C7	2-U4
C44	1:B3	1-B2	C146	1:H4	2-N6	IC2	1:B2	1-C0	L89	1:B6	2-V5
C45	1:B3	1-B2	C147	1:H4	2-O6	IC3	1:D4	1-K0	L92	1:C6	2-U9
C46	1:B4	1-C2	C149	1:H4	2-M6	IC3	1:D4	1-G0	L101	1:K3	2-H9
C47	1:B4	1-C2	C151	1:J4	2-L5	IC3	1:D4	1-M4	L102	1:G3	2-O6
C51	1:B3	1-F1	C152	1:H5	2-M5	IC3	1:D4	1-M3	L104	1:G6	2-P4
C52	1:C5	1-H2	C153	1:H4	2-M5	IC3	1:D4	1-M0	L107	1:K6	2-G1
C57	1:N4	1-B1	C156	1:K6	2-H4	IC4	1:D3	1-E0	L500	1:L5	2-F4
C58	1:P4	1-C1	#C157	1:J5	2-I3	IC5	1:D3	1-F0	L501	1:F5	2-P5
C59	1:N4	1-C1	C159	1:J6	2-J3	IC5	1:D3	1-N0	LINK1	1:C2	1-E1
C63	1:B2	1-B0	C160	1:J5	2-J3	IC5	1:D3	1-N1	LINK2	1:P6	1-L1
C64	1:B2	1-C0	C162	1:H5	2-L3	#C6	1:M4	2-C5	LINK140	1:H3	2-N7
C68	1:D3	1-D0	C163	1:H6	2-L3	L1	1:N4	1-B1	LINK150	1:H6	2-N1
C69	1:C2	1-F0	C165	1:H5	2-N3	L2	1:N4	1-C1	P1	1:N4	1-A1
C70	1:D3	1-G0	C166	1:H6	2-O4	L3	1:M6	2-A5	P2	1:N3	1-B0
C74	1:C2	1-K1	C168	1:H5	2-N3	L5	1:M5	2-C6	P4	1:B6	2-W5
C75	1:D4	1-M1	C170	1:J5	2-M2	L6	1:M4	2-D6	P5	1:A5	1-P4
C80	1:D4	1-J0	C171	1:H5	2-M2	L7	1:M4	2-E6	PL1	1:N4	3-I2
C81	1:E4	1-K0	C172	1:H5	2-N2	L8	1:E3	1-P1	PLD1	1:B3	3-G3
C82	1:D4	1-M0	C175	1:J6	2-H1	L9	1:M5	2-C8	Q1	1:B3	1-B5
C86	1:D3	1-N2	#C176	1:J7	2-I1	L10	1:M4	2-D8	Q4	1:A4	1-B5
C87	1:D3	1-N2	C178	1:H7	2-J1	L11	1:M4	2-E8	Q5	1:B4	1-C4
C89	1:D3	1-O1	C179	1:H6	2-J1	L15*	1:J3	2-H9	Q6	1:A5	1-D4
C90	1:D3	1-P1	C181	1:H6	2-K1	L16*	1:J3	2-I9	Q7	1:B4	1-D4
C91	1:D3	1-P2	C182	1:H7	2-L1	L17*	1:J3	2-I9	Q9	1:D5	1-N5
C92	1:D3	1-P2	C184	1:G6	2-N1	L18	1:J2	2-I8	Q10	1:D5	1-N4
C93	1:E3	1-P1	C185	1:G6	2-O1	#L21	1:H3	2-L9	Q11	1:B4	1-C5
C96	1:D4	1-N0	C187	1:H7	2-M0	L22	1:G3	2-L8	Q12	1:B5	1-P4
C97	1:D3	1-N0	C188	1:H7	2-L0	L25*	1:H3	2-M9	Q13	1:B5	1-P5
C98	1:E4	1-O0	C189	1:G7	2-M0	L26*	1:H3	2-N9	Q15	1:E5	1-N3
C99	1:E3	1-P0	C190	1:H7	2-M0	L29*	1:K4	2-H6	Q16	1:B3	1-B3
C100	1:M5	2-B5	C192	1:D7	2-R5	L30*	1:J4	2-I6	Q17	1:B4	1-C3
C101	1:M6	2-A5	C193	1:E7	2-R5	L31*	1:J4	2-I6	Q19	1:D3	1-O1
C102	1:M6	2-C5	C195	1:D6	2-R3	L32	1:J4	2-I6	Q20	1:D2	1-P1
C106	1:M5	2-C5	C196	1:D7	2-S3	#L35	1:H4	2-L6	Q22	1:D4	1-L0
C107	1:M5	2-D5	C198	1:E6	2-S4	L36	1:H4	2-L6	Q23	1:D4	1-N0
C108	1:M4	2-E5	C199	1:D6	2-T4	L39*	1:H4	2-M6	Q25	1:E3	1-O0
C110	1:M5	2-C6	C202	1:C7	2-U4	L40*	1:H4	2-N6	Q26	1:E3	1-O0

*printed

<u>Device</u>	<u>PCB</u>	<u>Circuit</u>	<u>Device</u>	<u>PCB</u>	<u>Circuit</u>	<u>Device</u>	<u>PCB</u>	<u>Circuit</u>	<u>Device</u>	<u>PCB</u>	<u>Circuit</u>
Q59	1:H3	2-K9	R101	1:E4	1-J0						
Q60	1:H4	2-K6	R102	1:D4	1-K0						
Q61	1:H5	2-K3	R103	1:D4	1-L0						
Q62	1:H6	2-K1	R104	1:D4	1-L0						
R1	1:P7	1-C6	R105	1:D4	1-M0						
R2	1:B5	1-E5	R106	1:D4	1-M0						
R3	1:B5	1-E5	R107	1:D4	1-M0						
R4	1:B4	1-F5	R108	1:D4	1-M0						
R5	1:B4	1-G5	R114	1:D3	1-M2						
R6	1:B4	1-G5	R115	1:D3	1-N1						
R7	1:B4	1-H5	R116	1:D3	1-O2						
R8	1:C5	1-H5	R117	1:D3	1-O2						
R9	1:C5	1-J5	R122	1:D3	1-M0						
R10	1:C5	1-J5	R123	1:E4	1-N0						
R13	1:B4	1-B5	R124	1:D3	1-N0						
R14	1:A4	1-B5	R125	1:D3	1-N0						
R15	1:A4	1-B4	R126	1:E4	1-O0						
R16	1:A4	1-C4	R127	1:E3	1-P0						
R17	1:A4	1-C4	R128	1:E3	1-P0						
R18	1:A5	1-C4	R133	1:M7	2-B4						
R19	1:A4	1-C4	R134	1:M7	2-B4						
R20	1:A4	1-D4	R135	1:M7	2-B5						
R21	1:B4	1-D4	R138	1:M5	2-C6						
R26	1:B5	1-L5	R139	1:M5	2-D6						
R27	1:D5	1-M5	R140	1:M4	2-E6						
R28	1:D5	1-N5	R145	1:J2	2-I8						
R29	1:B5	1-O4	#R146	1:J3	2-K8						
R30	1:B5	1-O5	R147	1:H2	2-L8						
R31	1:A5	1-O5	R148	1:H3	2-M8						
R33	1:D4	1-L5	R152	1:J4	2-I6						
R34	1:D4	1-M5	#R153	1:J4	2-K6						
R35	1:D5	1-K4	R154	1:J4	2-L5						
R36	1:D4	1-L4	R155	1:H4	2-M6						
R37	1:D5	1-N4	R159	1:J5	2-I3						
R38	1:E5	1-N4	#R160	1:J6	2-K3						
R40	1:C4	1-L3	R171	1:J5	2-M3						
R41	1:C4	1-K3	R172	1:H5	2-M3						
R42	1:D4	1-K3	R177	1:J7	2-I0						
R43	1:D5	1-L3	#R178	1:J6	2-K1						
RV43	1:C4	1-G4	R180	1:H7	2-L0						
R44	1:C5	1-M3	R181	1:H7	2-M0						
R45	1:D4	1-M3	R187	1:E6	2-R5						
R46	1:D5	1-N3	R189	1:D7	2-R4						
R47	1:E5	1-N2	R193	1:C6	2-T9						
RV48	1:C4	1-G5	R405	1:E2	2-Q5						
R51	1:P8	1-D3	R406	1:K8	2-F4						
R52	1:P7	1-C3	SK1	1:N4	3-H3						
RV52	1:C3	1-E3	SK2	1:M6	2-A5						
R53	1:B4	1-D3									
R54	1:B4	1-D2									
R55	1:B4	1-D2									
R56	1:C4	1-E2									
R57	1:B3	1-E3									
RV57	1:C3	1-F2									
R58	1:C4	1-F2									
R59	1:B3	1-C1									
R60	1:C5	1-H3									
R61	1:C5	1-I2									
R62	1:C5	1-I2									
#RV63	1:P5	1-L1									
#RV63A	1:P5	1-L1									
R68	1:B2	1-C0									
R69	1:B2	1-C0									
RV69	1:C3	1-E0									
R71	1:D3	1-E0									
R72	1:D2	1-F0									
RV74	1:C3	1-L0									
R84	1:E4	1-I1									
R85	1:D4	1-J1									
R86	1:D4	1-J1									
R87	1:C3	1-K1									
R88	1:P6	1-L1									
R89	1:P6	1-L1									
R90	1:E3	1-M1									
R91	1:D4	1-M1									
R100	1:E4	1-I0									

T869 PCB Encoding Errors (IPN 220-01371-01)

The following diagram shows corrections to the encoding printed on the top side of the PCB.



Part E T860 VCO PCB Information

This part of the manual is divided into the sections listed below. These sections provide parts lists, PCB layouts and circuit diagrams for the T860 VCO PCB. There is a detailed table of contents at the start of each section.

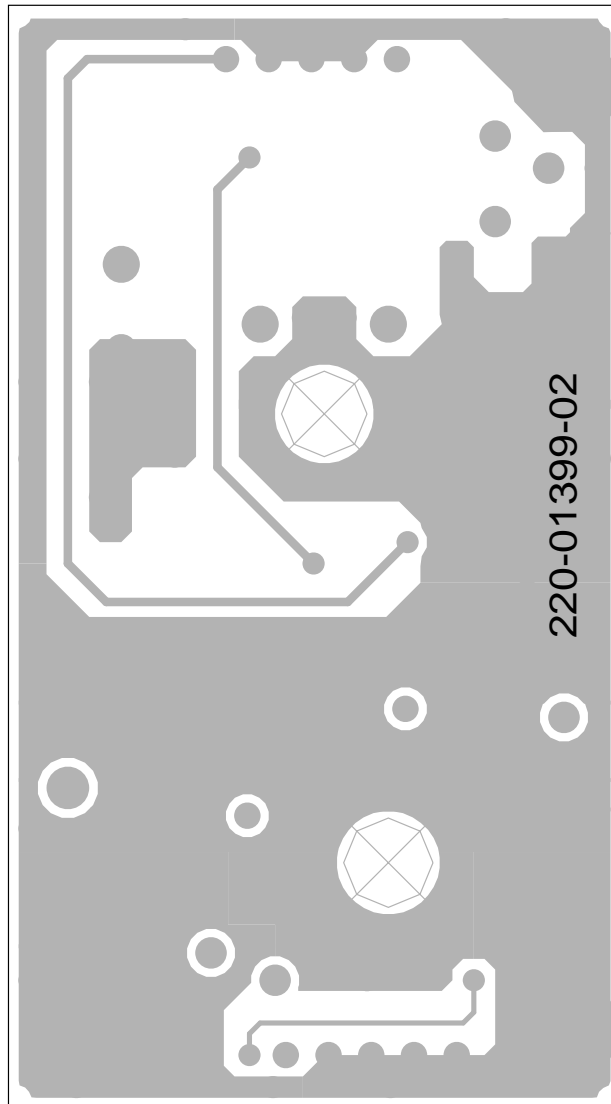
Section	Title	IPN	Page
1	T860 VCO PCB	220-01399-02	1.1

1 T860 VCO PCB

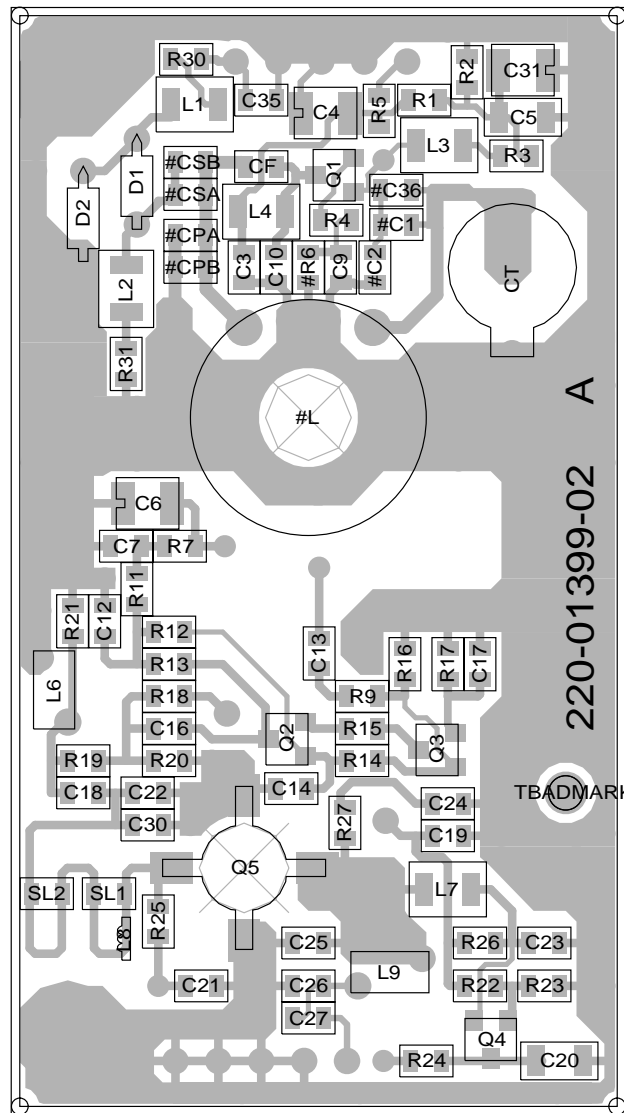
This section contains the following information.

IPN	Section	Page
220-01399-02	Parts List	1.3
	PCB Layout - Bottom Side	1.5
	PCB Layout - Top Side	1.6
	Circuit Diagram	1.7

Ref	Var	IPN	Description	Ref	Var	IPN	Description
R7		036-12220-00	RES M/F 0805 22E 5%				
R9		036-12560-00	RES M/F 0805 56E 5%				
R11		036-12220-00	RES M/F 0805 22E 5%				
R12		036-14270-00	RES M/F 0805 2K7 5%				
R13		036-13180-00	RES M/F 0805 180E 5%				
R14		036-14100-00	RES M/F 0805 1K 5%				
R15		036-12100-00	RES M/F 0805 10E 5%				
R16		036-14100-00	RES M/F 0805 1K 5%				
R17		036-12560-00	RES M/F 0805 56E 5%				
R18		036-14100-00	RES M/F 0805 1K 5%				
R19		036-12180-00	RES M/F 0805 18E 5%				
R20		036-13270-00	RES M/F 0805 270E 5%				
R21		036-13270-00	RES M/F 0805 270E 5%				
R22		036-14220-00	RES M/F 0805 2K2 5%				
R23		036-14680-00	RES M/F 0805 6K8 5%				
R24		036-14100-00	RES M/F 0805 1K 5%				
R25		036-12220-00	RES M/F 0805 22E 5%				
R26		036-12180-00	RES M/F 0805 18E 5%				
R27		036-13220-00	RES M/F 0805 220E 5%				
R30		036-12470-00	RES M/F 0805 47E 5%				
R31		036-12120-00	RES M/F 0805 12E 5%				
		220-01399-01	PCB T860 SERIES VCO TUNABLE				
		345-00040-10	SCRW M3*6MM P/POZ ST BZ				
		350-00016-42	SPACER 5MM HI 8MM ST 2.5MM HO				
		353-00010-10	WSHR M3 FLAT 7MM*0.6MM ST BZ				
		353-00010-13	WSHR M3 S/PROOF INT BZ				



T860 VCO PCB (IPN 220-01399-02) - Bottom Side



T860 VCO PCB (IPN 220-01399-02) - Top Side

Part F Installation

This part of the manual is divided into the sections listed below. These sections give a brief description of the basic rack mounting and wiring procedures for the T865 receiver, T867 exciter and T869 power amplifier.

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2.1	T800-41-0002 Double Guide Kit	2.1
2.2	T867 Chassis Connectors	2.1
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