

PART

# G

## Additional information

This part provides a glossary of terms.

---

### Contents

Glossary .....	G-3
Accessory connector compatibility .....	G-8



---

# Glossary

---

**Note:** Terms that appear in *italics* are also defined in this glossary.

## **active**

The 'on' (asserted) state of a signal or indicator.

## **ADC**

Analog to digital converter. An electronic device that outputs binary data dependant upon the magnitude of voltage input.

## **ANR**

Automatic Noise Reduction

## **brownout**

A dip in the supply voltage sufficient to put the control section into hardware reset.

## **calibration**

The process of determining the *calibration data* for a radio. Calibration is normally only carried out during product manufacture or major service.

## **calibration data**

The set of coefficients for each of the electronic tuning variables, as a function of frequency, which allows the radio to calculate the *configuration data* for any frequency it operates on. The *calibration data* is unique for each radio.

## **call**

A complete exchange of information between two or more parties. In *trunked mode*, this may occur on the *control channel* or on a *traffic channel*.

## **CCTM**

Computer controlled test mode. The operating mode of the radio whereby computer equipment can control various radio functions by

sending commands down a serial link to the radio.

## **channel**

A receive/transmit frequency pair.

## **chassis, old/new**

See "New chassis" on page A-5 and "Accessory connector compatibility" on page G-8

## **configuration**

The determination and setup of the *configuration data* for a given frequency from the programmed *calibration data* (i.e. electronic tuning).

## **configuration data**

The data set corresponding to the value of the electronic tuning variables on a given channel. This is calculated for each frequency from the *calibration data*.

## **control channel**

The *channel* used by a *trunking system* to control the radio.

## **conventional mode**

The mode of operation whereby the radio behaves as a conventional two-way radio (i.e. non-trunked operation).

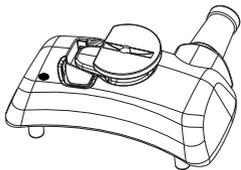
## **CTCSS**

Continuous Tone Controlled Squelch System. Continuous, subaudible coding on the channel for the purpose of segregating user groups.

## **D-Clip**

Accessory connector with protruding 'D' which allows the radio to be hung from a belt loop (TOPA-CA-103). The new and old D-Clips have different *quarter turn* tips. The old D-Clip has hooks on the locating posts. The

new D-Clip has a green dot on the outside at the bottom left corner. The D-Clip must be checked for compatibility with the *chassis* before use (see “Accessory connector compatibility” on page G-8).



### **DAC**

Digital to analog converter. An electronic device that outputs a voltage dependent upon the value of binary data input.

### **database**

The set of programmable data points that allows the product to be customised for a particular application or mode of operation.

### **DC**

Direct current.

### **DCS**

Digitally coded squelch. Continuous, subaudible coding (repeating digital code sequence) on the *channel* for the purpose of segregating user groups.

### **delayed**

Key action. The input is not actioned until it has been stable for the duration of the debounce interval.

### **dialled string**

A sequence of characters entered via the keypad. May contain *numbers, labels, '\*' or '#'*. Used to initiate *calls* or invoke special functions.

### **dialling**

The act of entering a number or label by typing in successive characters on the keyboard.

### **DSP**

Digital signal processor.

### **DTMF**

Dual tone multiple frequency. Method of encoding digits (0 to 9) and characters (A to F), each as a pair of eight standard tones.

### **economy mode**

When the radio is cycling between the *receive mode* and *standby state*. Available on Tait Orca conventional radios.

### **ECR**

External call request.

### **EPROM**

Erasable programmable read only memory.

### **EPTT**

External press-to-talk.

### **ESN**

The MPT1343 defined electronic serial number of the radio.

### **FFSK**

Fast frequency shift keying. The signalling method employed in trunked radios. Data is represented by 1 cycle of 1200 Hz (logic 1) or 1.5 cycles of 1800 Hz (logic 0) and is transmitted at 1200 baud.

### **fixed (indicators)**

Do not time out of their own accord. Generally indicate mode of operation or state.

### **green chassis/accessory**

‘Green’ chassis/accessory may be used in reference to the new *chassis* or associated accessories. This is due to the green seal used behind the quarter turn tip hole in the new *chassis* and a green dot on the lower left corner of the accessory connector.

## **G-STAR**

General Electric status and reporting system. Signaling is used to identify individual radio users by assigning a unique number to each radio. This is sent out each time the radio transmits, and is decoded by the dispatcher, giving a visual identification of the radio in use.

## **idle**

The state of the radio in *trunked mode* when it is not engaged in a call or call setup, or in *conventional mode* when the radio is not transmitting.

## **IF**

Intermediate frequency.

## **inactive (indicator)**

The 'off' (unasserted) state of a signal or indicator.

## **label**

A plain language word (1 to 8 characters long) that is defined to represent a valid dialed string at radio programming time.

## **LCD**

Liquid crystal display.

## **LED**

Light emitting diode.

## **LPF**

Low pass filter.

## **MCU**

Micro control unit.

## **mute**

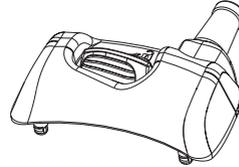
The receive audio gating element. When active, receive audio is passed to the speaker. The decision to activate/deactivate the audio signal path is based on an evaluation of signaling codes (*CTCSS*, *DCS*, *Selcall*) contained in the audio information (contrast with *squelch*).

## **number**

A simple *string* that corresponds to an MPT1343 defined called party identifier.

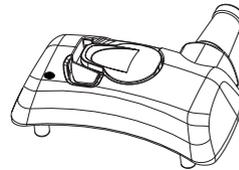
## **P-Clip**

Accessory connector (without protruding 'D' or lock spring tab), designed for use with the old *chassis*. There are small hooks on the locating posts.



## **P-Clip, Green**

Accessory connector (without protruding 'D'), designed for use with the new *chassis*. It has a green dot on the outside at the bottom left corner.



## **PA**

Power amplifier.

## **PABX**

Private automatic branch exchange.

## **PCB**

Printed circuit board.

## **PLL**

Phase locked loop.

## **PLCC**

Plastic leaded chip carrier.

## **PMR**

Private mobile radio.

**programming mode**

The mode of operation of the radio in which computer equipment can read from and write to the radio *database*.

**PSTN**

Public switched telephone network.

**quarter turn**

This is the part of the accessory connector that rotates 90 degrees to lock the connector to the radio. The quarter turn tip is the end with the lugs.

**RAM**

Random access memory.

**receive mode**

This is the state wherein the radio is producing a valid busy output, irrespective of whether any audio output is produced at the speaker terminals. The +5V-ECON supply is on, and sufficient time has elapsed for various circuit blocks to settle.

**RF**

Radio frequency.

**RSN**

The radio's unique serial number.

**RSSI**

Received signal strength indicator.

**SCI**

Serial communications interface. This is the serial interface from the radio to an external device, normally utilising transmit and receive data, signal and ground lines.

**Selcall**

Selective calling. Sequential tone burst coding on the channel for the purpose of selecting an individual or group with which to communicate.

**selecting**

The act of picking a *label* from a displayed list using the arrow keys.

**signalling**

Non-voice coding on the channel for the purpose of identifying parties and/or segregating user groups, e.g. *CTCSS*, *DCS*, *Selcall*.

**SMD**

Surface mount device.

**SOIC**

Small outline integrated circuit.

**SOT**

Small outline transistor.

**squelch**

The channel busy detection circuitry. The decision to activate/deactivate the audio signal path is based on a signal-to-noise measurement on the received *RF* signal (the squelch circuitry precedes the *mute* circuitry).

**standby state**

This is essentially when the +5V-ECON line is off. That is, when the radio is drawing the minimum current, while still being switched on.

**string (simple)**

A sequence of the characters 0 to 9, \*, #, which instructs the radio to initiate a call or perform some other function.

**successful (call)**

A *call* for which a *traffic channel* is assigned.

**system restart**

The action taken by the radio (e.g. in response to the '^' character received on the *SCI*) where it immediately ceases current operation, then behaves as though it has just been switched on.

**TCXO**

Temperature compensated crystal oscillator (voltage controlled). The frequency reference for the *RF* part of the radio.

**test mode**

The operating mode of the radio whereby computer (computer equipment can control various radio functions by sending controlled) commands down a serial link to the radio.

**traffic channel**

The channel used by the radio for the duration of a *call*.

**transmit mode**

The radio has validated a request and commenced or completed the sequence of switching out of *receive mode*. This does not necessarily imply that *RF* is being generated.

**trunked mode**

The mode of operation of the radio whereby the radio obeys commands on the *control channel* and generally operates as proscribed in MPT1343.

**trunking system**

The infrastructure comprising repeaters and radios required to support a number of *control channels* and *traffic channels*.

**Two-tone**

Also known as Type 99. In-band, two tone sequential signaling used to control the muting of a radio. Used for selective calling of individual units or groups of units. Tait Orca radios are able to decode Two-tone individual, group and super group calls.

**VCO**

Voltage controlled oscillator. The oscillator that generates either the on-channel signal to drive the transmitter, or the local oscillator to mix incoming *RF* signals to the *IF* of the radio. The instantaneous frequency of the VCO is determined by a combination of the synthesis-

er (*PLL*) and the modulation signals TCXO-MOD and VCO-MOD.

**VOX**

Voice operated transmit.

# Accessory connector compatibility

Attempting to use an incompatible accessory connector with a particular chassis will result in damage to both the radio and connector. See “New chassis” on page 5.

The following table shows the compatibility of

the old and new accessory connectors with the various chassis.

How to identify a P-Clip, Green P-Clip or D-Clip accessory connector is explained in the Glossary.

Connector	Elan, Excel or Eclipse	TOP 5000 (01 Chassis)	TOP 5000 (02 Chassis)	TOP 5000 (current chassis)
				
Old P-Clip†	✓	✓	✓	✗
Old P-Clip† (Enhanced/Hardened)	✓	✓	✓	✗
New Green P-Clip (with green dot)	✗	✗	✗	✓
Old D-Clip‡	✗	✓	✓	✗
New D-Clip (with green dot)	✗	✗	✗	✓
Old Vehicle Kit	✓	✓	✓	✗
New Vehicle Kit (with green quarter turn tip)	✓	✓	✓	✓
Old Dummy Cover	✓	✓	✓	✗
New Dummy Cover	✗	✗	✗	✓

\* The graphic shows the shape of the hole for the accessory connector’s quarter turn tip on the back of the radio.

† There is a green seal inside the chassis.

‡ The old P-Clip and old D-Clip both have small hooks on the locating posts. This requires the accessory connector to be held at an angle of 15 degrees while the posts are inserted. See M5000-00-103 for details.

---

# Notes

---