



# TA703 Base Station Changeover Module

The TA703 Changeover Module provides automated failure protection for Tait T800 base stations using a stand-by transmitter and receiver.

On the changeover module, a front panel switch selects which set of equipment is active during normal operation, relegating the other to stand-by.

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## Features

- 19" (483mm) rack mounting
- compact size
- multiple parameter monitoring
- user adjustable thresholds
- remote reporting (with the addition of Selcall)

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## System Operation

A fully duplicated base station system consists of a duplicate pair of transmitters receivers, power supplies and the TA703 changeover module.

In the unlikely event of the active equipment developing a fault, the stand-by equipment is brought into operation, typically within one second.



When the system performs a changeover, the source of the fault is indicated on the front of the unit and, with (optional) Selcall fitted, the base station can signal the faulty condition to a remote receiving site or mobile or handportable radio.

## Mounting

The changeover unit comes in a single, one unit high rack module with LED indicators and controls on the front panel. It connects to the base station via rear mounted D-range connectors to the individual racks containing the base equipment.

It is compatible with five, 25 and 50 Watt base stations. Most systems, along with the changeover unit, can be accommodated within a standard six unit high rack cabinet.

Controls on the front panel allow the user to select the normally active base station, and reset a fault indication. Each of the failure thresholds is individually adjustable from the front panel. Indicators show the status of the unit and in the event of a failure give diagnostic information.



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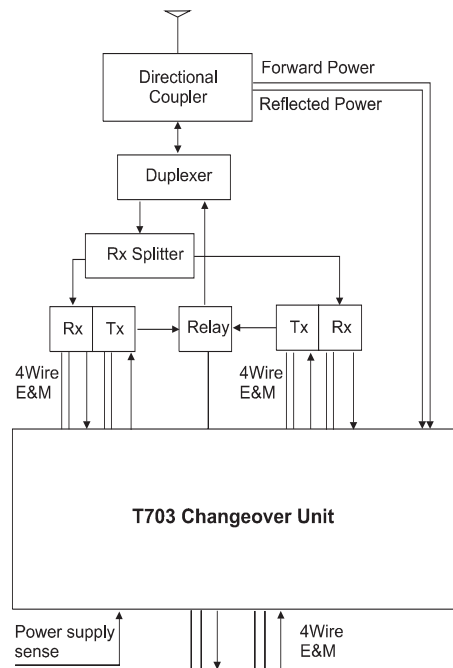
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**Base Station Protection for Single Antenna**

**Operation**

The changeover unit has a four wire audio input with E and M signalling which is switched to the operational base station. In the event of a failure the four wire audio and E and M lines are switched to the stand-by base station which then takes over operation.

The four wire input has the same specification as the T800 base station equipment. Connection to the changeover unit is via a D-range connector mounted on its rear panel.

So that both receivers can operate in parallel, the antenna (or duplexer output) is fed via a splitter to each of them. This allows Received Signal Strength Indication (RSSI) measurement and mute states of the two receivers to be continuously compared.

In a single antenna system only one transmitter at a time is connected to the duplexer and hence to the antenna. The switching of the transmitters is achieved using a coaxial relay which switches the active transmitter to the duplexer under normal operation. If a fault occurs then the coaxial relay is switched to enable the stand-by transmitter.

Forward and reverse power indications may be derived from the directional coupler internal to the transmitter power amplifier or an externally mounted one.

An external directional coupler, which may be provided as part of the changeover unit, can be placed in the path between the antenna and the duplexer.

**Fault Sensing**

The unit monitors six parameters to establish that the active base station is functioning correctly.

For all except receiver mute, the unit takes samples at 100mS intervals. If eight successive samples fall beyond the threshold, the changeover unit switches to the stand-by equipment.

In the case of receiver mute, if the stand-by receiver's mute is open for more than one second whilst the active receiver's mute is closed, the active receiver is assumed to be faulty and the changeover unit switches.

Fault Parameter	Nominal Threshold
Power supply voltage	10.8v
Transmitter forward power	50% of nominal power
Transmitter reverse power	50% of nominal power
RSSI	6dB differential between Rx's
Receive Mute	1 second

**Disclaimer:**

The information presented in this document was believed to be correct at the time of printing. It is issued for guidance purposes only. For further information please check with your nearest Tait office or authorised dealer.