

# Part F Installation

This part contains information for installing the TA703-01-0000 Change Over Module with two T800 Base Stations. It details the following information:

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# 1 Introduction

The TA703-01-0000 T800 Change Over Module is a 1U rack unit designed to be mounted in a standard 19" Base Station rack. It should be positioned between the two T800 Base Stations it monitors, with Base A above and Base B below.

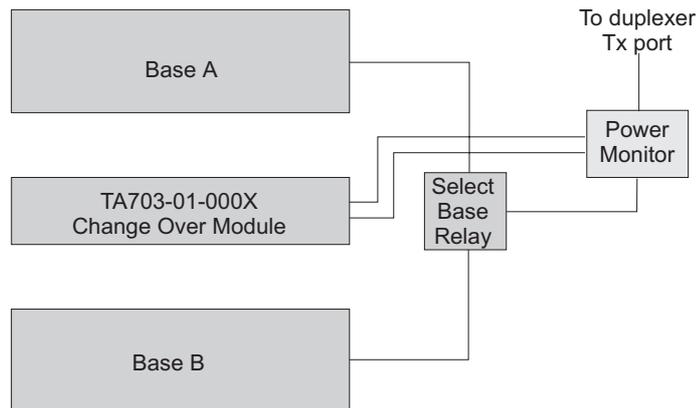
## 1.1 Power Monitor Options

The Change Over Module variants have several power monitor options.

- The Change Over Module can function with a single, or dual power monitors, depending upon its application. (See next page)
- Instead of a power monitor, the module can use the Power Amplifier Forward and Reverse Power meter or alarms generated inside a 50/100W power amplifier. For 25W transmitters, a T1500-52-0000 Tx Alarm and Multichannel Kit can be fitted to generate these alarms.

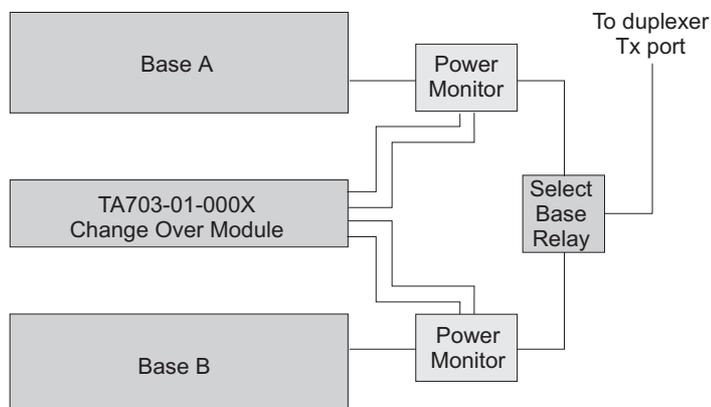
### Single Power Monitor

A single power monitor installed between the relay and the duplexer monitors power to the active base as designated by the relay.



### Dual Power Monitors

Where two power monitors are installed, they are fitted between each base and the relay.





## **2 Rack Installation**

The TA703-01-0000 Change Over Module slides between the two Base Station racks from the front, and is secured in place by screws (not supplied) appropriate to the rack, through the slots at either end of the module front panel. Fibre washers are recommended to prevent damage to the front panel finish.

All connections between the Change Over Module and the two T800 bases are made from the rear of the rack.

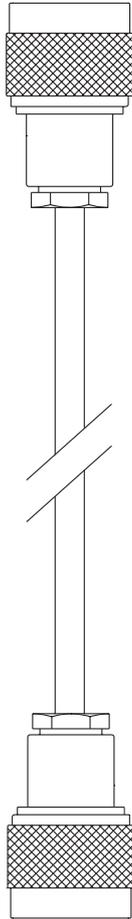
Like the two T800 Base Stations, the module requires earthing, by connecting the earth tag on the module rear panel to the Base Station rack.



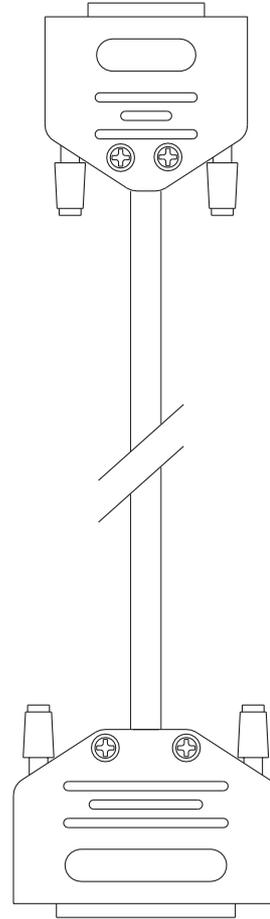
## 3 Connection to Typical T800 Base

### 3.1 Installation Kits

Each Kit contains eight cables. Note that the IPN of the D Range Backplane to Change Over Module cable is different for each kit variant.



6 x N-type male to N-type male cable  
IPN 219-02701-00

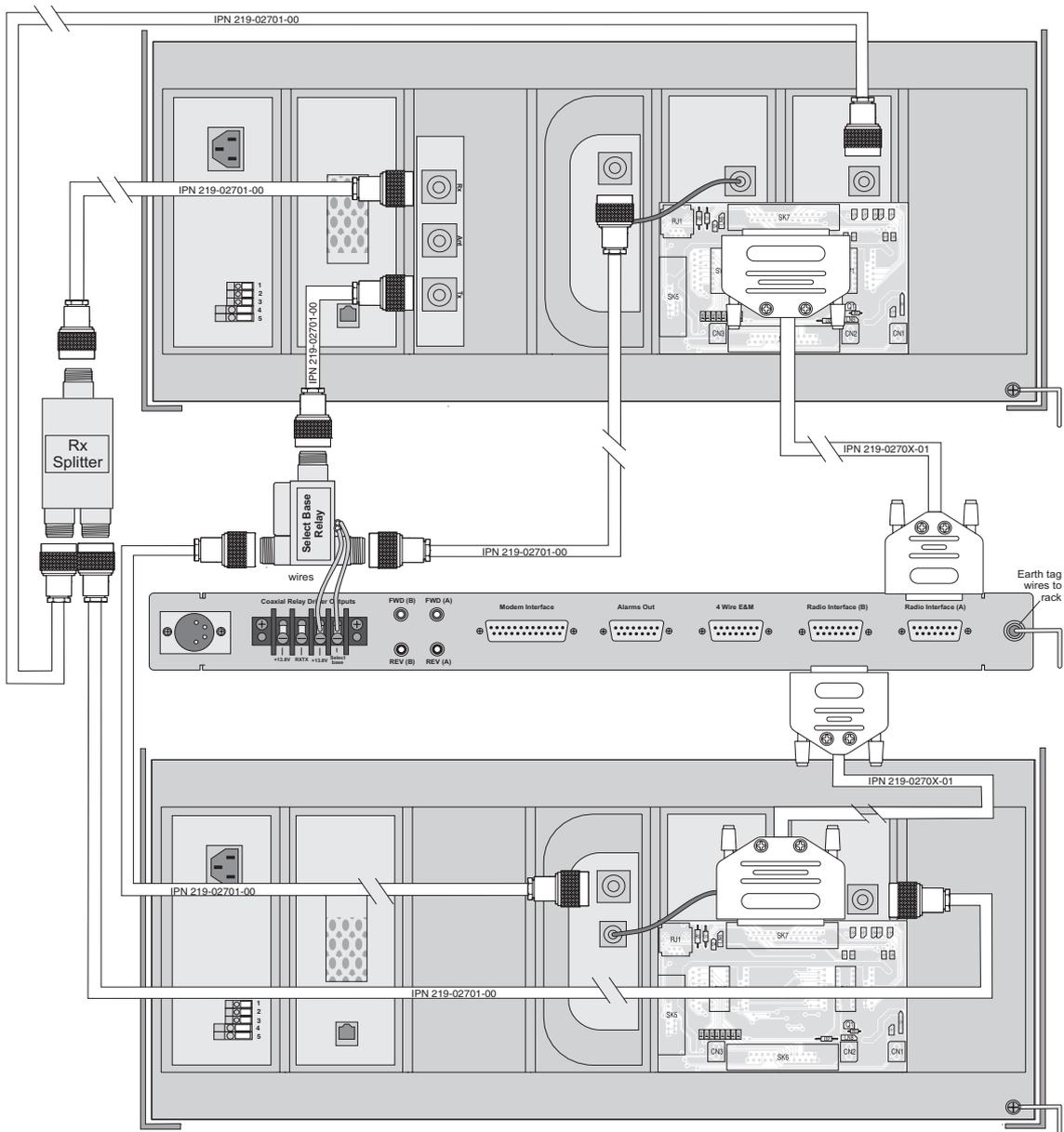


2 x 15 way to 25 way D Range cable  
IPN 219-02702-01 (kit TA703-11-0010)  
IPN 219-02703-01 (kit TA703-11-0011)  
IPN 219-02700-01 (kit TA703-11-0012)

### 3.2 Installation

This diagram shows the rear of a typical T800-50-0000 Backplane Base Station rack and the correct position of the wires and installation kit cables. Please note:

- the module has an earth tag which requires a wire connection to the rack frame.
- the diagram shows connection details only - cable lengths are **not** to scale
- the duplexer is shown fitted into Base A, but may be mounted on a separate tray above the Change Over Module.
- the splitter and relay can be mounted separately in one of the T800 racks or on a separate tray above the Change Over Module.
- the duplexer-to-antenna cable is not supplied
- the wires connecting the relay to the relay driver outputs on the rear of the Change Over Module are not supplied. Details are on the following page.
- power monitor connections are documented later in this section.



The table below describes placement of the connectors.

Cable IPN	Cable Description	TA703	T800 Base Station
219-02701-00	N-Type to N-Type Cable	RX(A)	Receiver (A) rear socket
		RX(B)	Receiver (B) rear socket
		TX (ANT)	Duplexer Tx socket
		Rx (ANT)	Duplexer Rx socket
		Tx (A)	PA (A) rear socket
		Tx (B)	PA (B) rear socket
219-0270X-01*	15 Way to 25 Way D Range Cable	Base (A)	Backplane PCB SK7
		Base (B)	Backplane PCB SK7

\* This IPN refers to 219-02700-01, 219-02702-01 or 219-02703-01.

### Relay Installation - Select Base Station Function

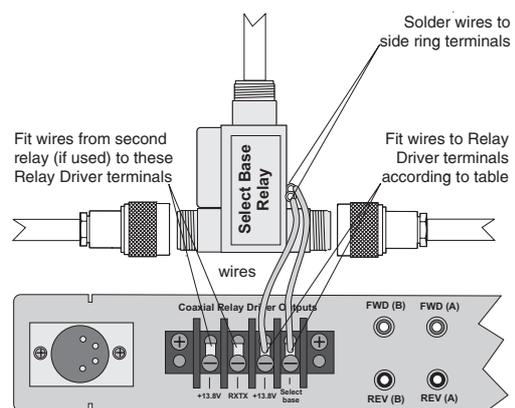
The Relay requires hard-wiring to the rear panel terminal block (labelled Relay Driver Outputs). The table below shows which terminals to use.

Note: Applications without a duplexer require a second coaxial relay to perform the RxTx change over in simplex base station systems. This second relay connects to the remaining two relay terminals (labelled +13.8V and RxTx) in the same way as the first.

Relay Driver Outputs Terminal	Relay
+13.8V	Relay side terminal
Select Base	Relay side terminal

The following instructions and diagram describe the correct installation procedure.

1. Cut two 7/0.2 PVC wires to required length.
2. Strip both ends of each 10mm and tin.
3. Solder one wire to each of the relay side ring terminals.
4. Remove screw from Relay Driver Outputs terminal labelled +13.8V.
5. Fit one wire into terminal and replace screw.
6. Remove screw from Relay Driver Outputs terminal labelled Select Base.
7. Fit remaining wire into terminal and replace screw.



Note: Reverse Voltage Transient Protection diode is built into the TA703-01-0000 circuitry.



## 4 Power Monitor Installation

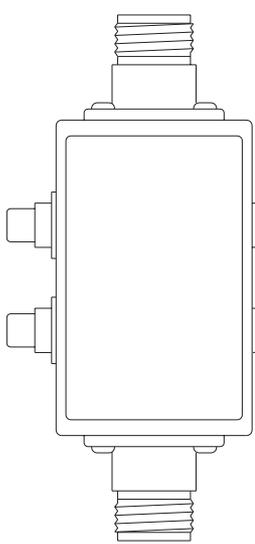
A single, or pair of Power Monitors monitor transmitter forward and reverse power. The unit is placed in series with the Transmitter Antenna Cable, preferably after the duplexer. The kits provide for a choice of installation options:

- installed directly in series with the antenna port of the duplexer via the barrel adapter provided
- connected to the duplexer via the coaxial cable provided.

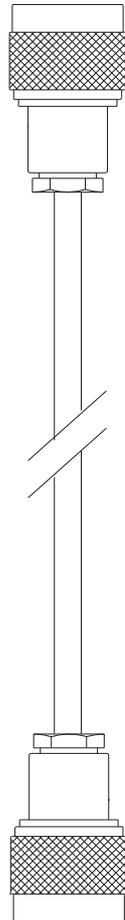
A second Power Monitor kit is required if Base A and Base B are monitored separately.

### 4.1 Power Monitor Kits - all variants

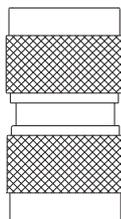
Each kit contains the following items:



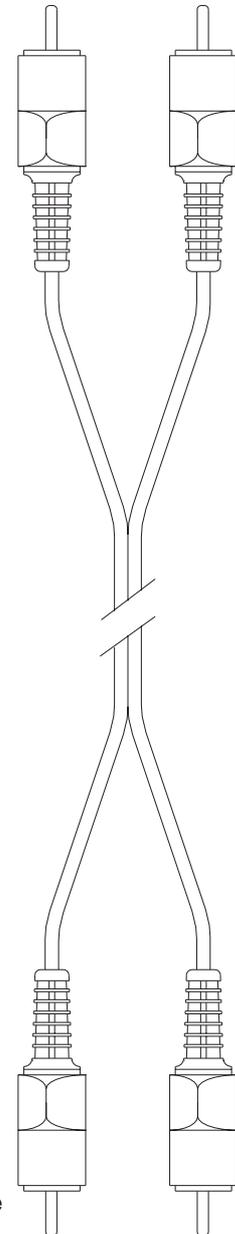
1x Dual Power Monitor  
 IPN 009-00000-01 (30-88MHz)  
 IPN 009-00000-02 (118-512MHz)  
 IPN 009-00000-03 (806-960MHz)



1 x N-type male/N-type male cable  
 IPN 219-02701-00



1 x N-type male /N-type male adapter  
 IPN 240-06020-04



2x Twin Phono/Phono Cable  
 IPN 219-00025-82

More details of the cables follow in the Wiring Specifications section.

## 4.2 Cable Installation

The power monitor connects via the twin phono/phono cable to the rear of the Change Over Module via either the A or B pair of RCA (phono) cable sockets at the rear of the module.

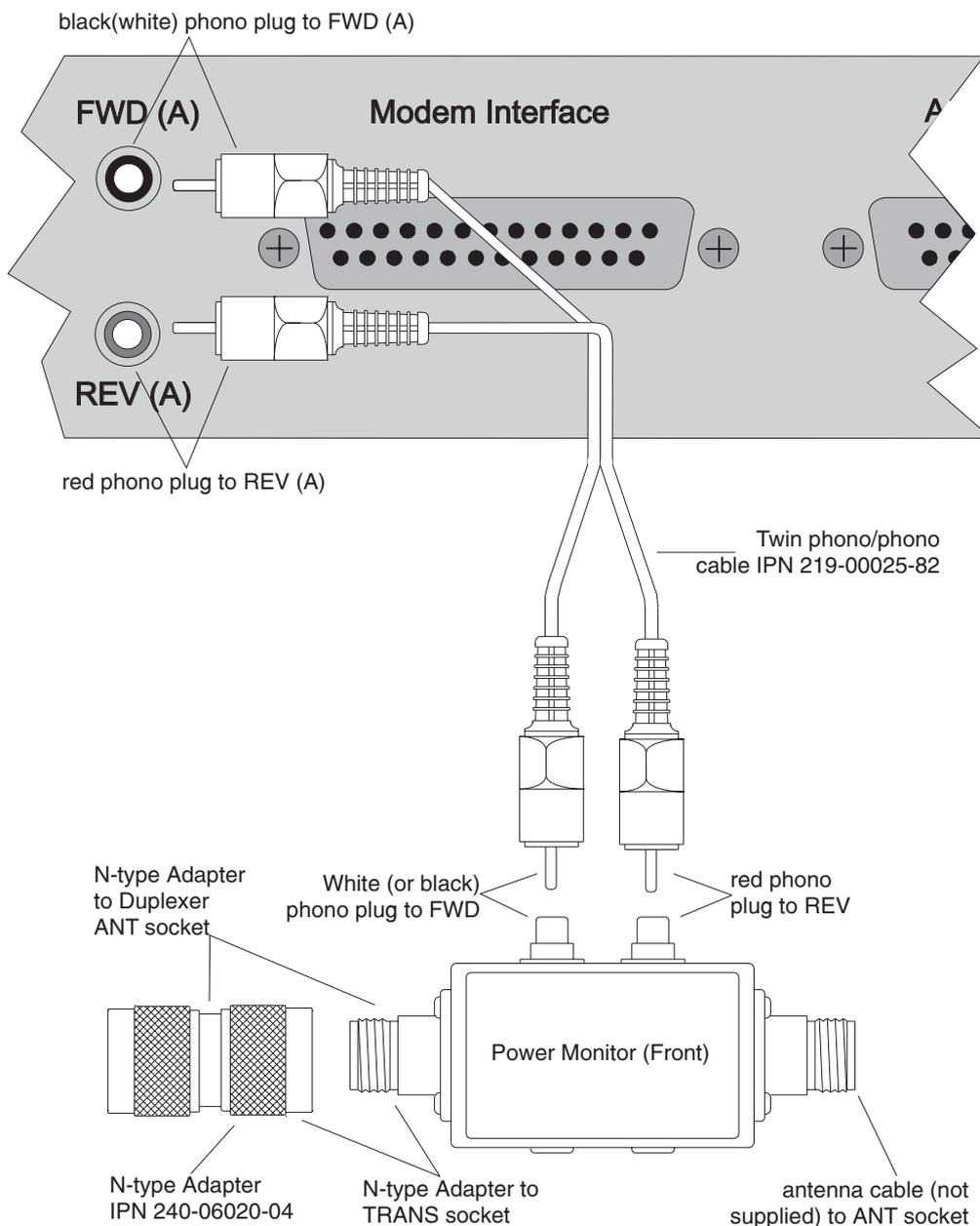
**Note:** The black RCA connector is for forward power measurement. The red RCA connector is used for reverse power measurement

The Power Monitor also connects to the duplexer, and each kit provides two options to do this, either via an N-type to N-type adaptor, or using an N-type to N-type coaxial cable.

Two internal links on the Change Over Module PCB may require setting after installation. See Link Setting instructions that follow.

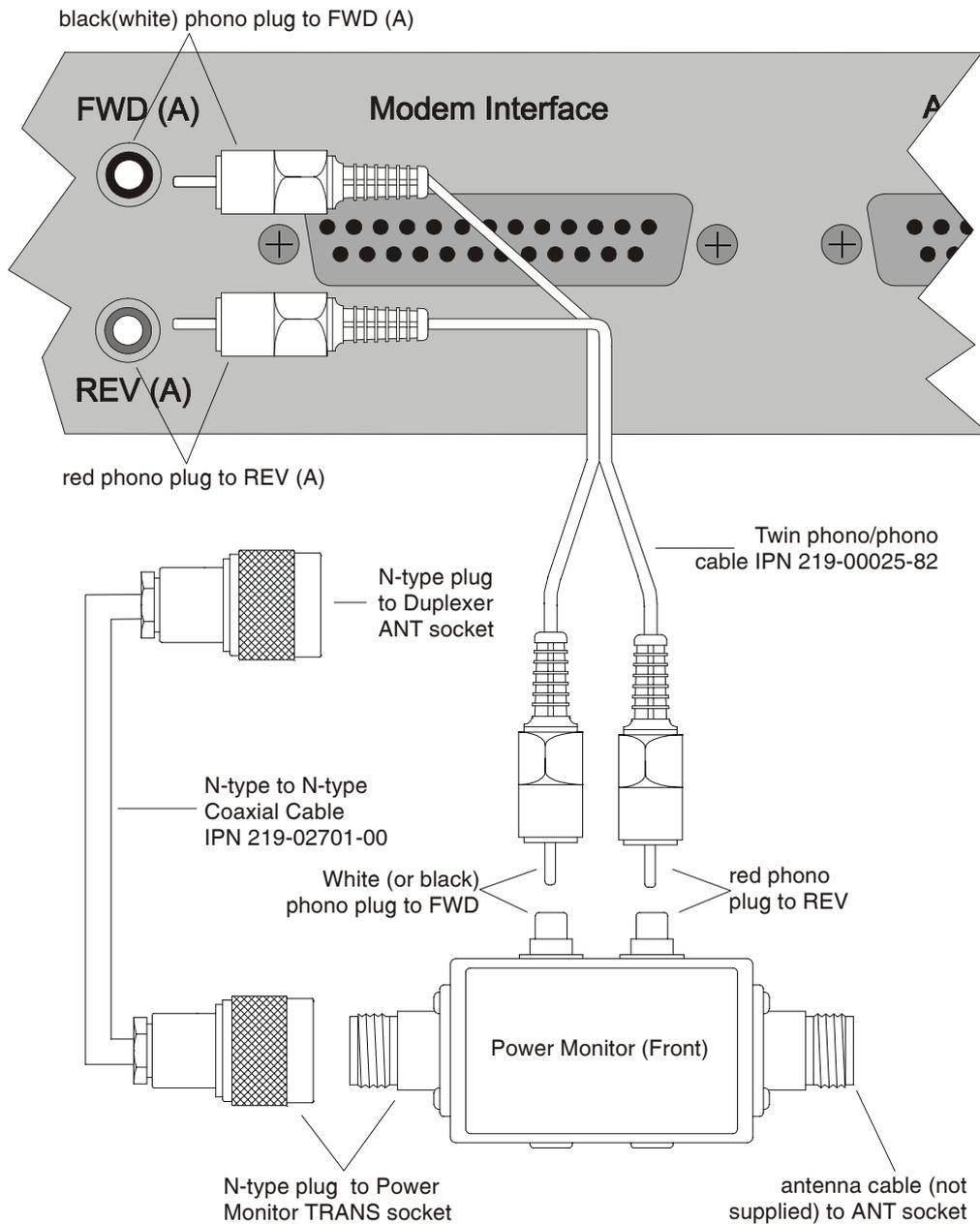
### N-type Adapter Installation Option

The diagram below shows typical installation of a single Power Monitor using the N-type to N-type adaptor.



## Cable Installation Option

The diagram below shows typical installation of a single Power Monitor using the N-type to N-type adapter.



## Link Setting - Single Power Monitor

Where a single power monitor is used, the inputs of Base A and Base B must be linked together on the PCB. The correct position for the adjustable dip switch links are:

- SW201-5 ON
- SW201-8 ON

### 4.3 Installation - Two Power Monitors

A second Power Monitor is required if Base A and Base B are monitored separately. Where two power monitors are required, each Power Monitor connects via its twin RCA cable to the A and B pairs of RCA (phono) sockets on the rear of the Change Over Module.

**Note:** The black RCA connectors are for forward power measurement. The red RCA connectors are used for reverse power measurement.

From this point, installation will vary according to the individual base setup. For example, there may be either a single, or two duplexers, and a single, or two antennae. Follow the instructions for a single power monitor, noting that extra adaptation may be required.

**Note:** Link setting for two power monitors is different from the single power monitor setting. See below.

#### Link Setting - Two Power Monitors

Where two power monitors are used, the inputs of Base A and Base B must **not** be linked together on the PCB. The correct position for the adjustable dip switch links are:

- SW201-5 OFF
- SW201-8 OFF