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MXACU Connections

Please refer to the rear panel diagram (Figure 1) at the end of this document.

Connections to the Automatic Changeover Unit are made at the rear and allow connections to the two MX800 transceivers, a common 2/4 wire E&M line port, a common RS232 port and a common line IO interface port. The changeover unit switches these three common ports either to the 'A' MX800 when it is selected or the 'B' MX800 transceiver when it has been selected.

Connector configuration and orientation is such that the MXACU can be installed in a rack with the 'A' side MX800 above and the 'B' side MX800 below the ACU. The RJ45 line connection, the D15 line IO, the D9 monitor and D9 serial connections are directly above/below the corresponding MX800 ports.

An internal coaxial changeover relay is connected to both MX800 RF transmitter outputs and this switches transmitter output to a common antenna port. Only one MX800 transmitter is enabled at any time, with both transmitters completely disabled during the switch over sequence.

The ACU has a D9 (CN2) digital logic IO port that can be interfaced to a supervisory system to provide an operating status of the ACU and the current fault status of the connected MX800s.

Provision is also made on the ACU for addition of a PSTN modem and an Ethernet network interface for alternate methods of communication to the ACU from a remote location.

1 CN1

Connector: D15 Female

Use: Switched equipment's Line IO port

| Pin | Function | Note |
|-----|----------------------|---|
| 1 | ALM2 output | Mirrors current selected MX800 ALM2 output. Open collector. |
| 2 | Switched from CN1A/B | Selected MX800 CN1 pin 2 func. |
| 3 | Switched from CN1A/B | Selected MX800 CN1 pin 3 func. |
| 4 | Switched from CN1A/B | Selected MX800 CN1 pin 4 func. |
| 5 | ALM3 output | Mirrors current selected MX800 ALM3 output. Open collector. |
| 6 | ALM1 output | Mirrors current selected MX800 ALM1 output. Open collector. |
| 7 | Switched from CN1A/B | Selected MX800 CN1 pin 7 func. |
| 8 | TTR enable input | Ground to enable TTR mode on current selected MX800 |
| 9 | Switched from CN1A/B | Selected MX800 CN1 pin 9 func. |
| 10 | GND | |
| 11 | Switched from CN1A/B | Selected MX800 CN1 pin 11 func. |
| 12 | PTT input | Ground to enable transmitter on current selected MX800 |
| 13 | Switched from CN1A/B | Selected MX800 CN1 pin 13 func. |
| 14 | Mute output | +5 indicates mute open on current selected MX800 |
| 15 | Switched from CN1A/B | Selected MX800 CN1 pin 15 func. |

2 CN1A or CN1B

Connector: D15 Male

Use: MX800 Line IO ports

| Pin | Function | Note |
|-----|--------------------------|------------------|
| 1 | ALM2 | Input from MX800 |
| 2 | Relay switched to CN1-2 | |
| 3 | Relay switched to CN1-3 | |
| 4 | Relay switched to CN1-4 | |
| 5 | ALM3 | Input from MX800 |
| 6 | ALM1 | Input from MX800 |
| 7 | Relay switched to CN1-7 | |
| 8 | TTR enable | Output to MX800 |
| 9 | Relay switched to CN1-9 | |
| 10 | GND | |
| 11 | Relay switched to CN1-11 | |
| 12 | PTT | Output to MX800 |
| 13 | Relay switched to CN1-13 | |
| 14 | Mute | Input from MX800 |
| 15 | Relay switched to CN1-15 | |

3 SK5

Connector: RJ45 (8 Way modular) Female

Use: Switched 4 wire port

| Pins | Function | Note |
|--------|--------------|--|
| 1 to 8 | 4 Wire + E/M | Identical pin out to option board fitted inside the MX800. |

4 SK5A or SK5B

Connector: RJ45 (8 Way modular) Female

Use: MX800 4 Wire ports

| Pins | Function | Note |
|--------|--------------|--|
| 1 to 8 | 4 Wire + E/M | When MX800 'A' equipment is selected, all 8 pins of SK5A are switched to SK5. (or SK5B when 'B' is selected) |

5 TB1

Connector: Removable 6 way screw terminal block

Use: ACU DC power supply

| TB1 Pin | TB1 Function | Note |
|---------|-----------------------|-----------------------------|
| 1 | +12V DC Power Input A | DC supply input diode OR-ed |
| 3 | +12V DC Power Input B | DC supply input diode OR-ed |
| 5 | +12V DC Power Input C | DC supply input diode OR-ed |
| 2,4,6 | GND | |

6 TB2

Connector: Removable 6 way screw terminal block

Use: ACU External Accessories

| TB2 Pin | TB2 Function | Note |
|---------|---------------------------|--------------------------------|
| 1 | +12 switched TRM output | Turn around mixer option |
| 3 | +12 switched relay output | Use for external RF coax relay |
| 5 | +12 switched aux output | Reserved |
| 2,4,6 | GND | |

7 CN2

Connector: D9 Female

Use: ACU Digital IO

Outputs: NPN open collector (Active low)

| Pin | Function | Note |
|-----|-------------------------|------------------------------|
| 1 | Reserved | Future use |
| 2 | Reserved | Future use |
| 3 | Reserved | Future use |
| 4 | Reserved | Future use |
| 5 | GND | |
| 6 | Base 'A' fault output | Active = fault detected |
| 7 | Base 'B' fault output | Active = fault detected |
| 8 | Current selected output | Inactive = 'A', Active = 'B' |
| 9 | ACU health output | Toggles @ 1Hz while healthy |

8 CN4

Connector: D9 Male

Use: ACU Serial Port

| Pin | Function | Note |
|-----|----------------|------|
| 2 | RX Data input | |
| 3 | TX Data output | |
| 5 | GND | |

9 CN4A or CN4B

Connector: D9 Female

Use: MX800 Serial ports

| Pin | Function | Note |
|-----|----------------|----------------------------------|
| 2 | TX Data output | Connect direct to CN4-2 of MX800 |
| 3 | RX Data input | Connect direct to CN4-3 of MX800 |
| 5 | GND | Connect direct to CN4-5 of MX800 |

10 CN2A or CN2B

Connector: D9 Male

Use: MX800 Monitor ports

| Pin | Function | Note |
|-----|--------------------------|----------------------------------|
| 1 | GND | Connect direct to CN2-1 of MX800 |
| 2 | Analogue RSSI input | Connect direct to CN2-2 of MX800 |
| 3 | Disable PTT output | Connect direct to CN2-3 of MX800 |
| 4 | Analogue rev power input | Connect direct to CN2-4 of MX800 |
| 5 | Analogue VDC sense input | Connect direct to CN2-5 of MX800 |
| 6 | Analogue fwd power input | Connect direct to CN2-6 of MX800 |
| 9 | Analogue tone output | Connect direct to CN2-9 of MX800 |

Figure 1

MXACU Rear Panel Connections

