Four Wire Audio NIB Connectors

Channel Configuration

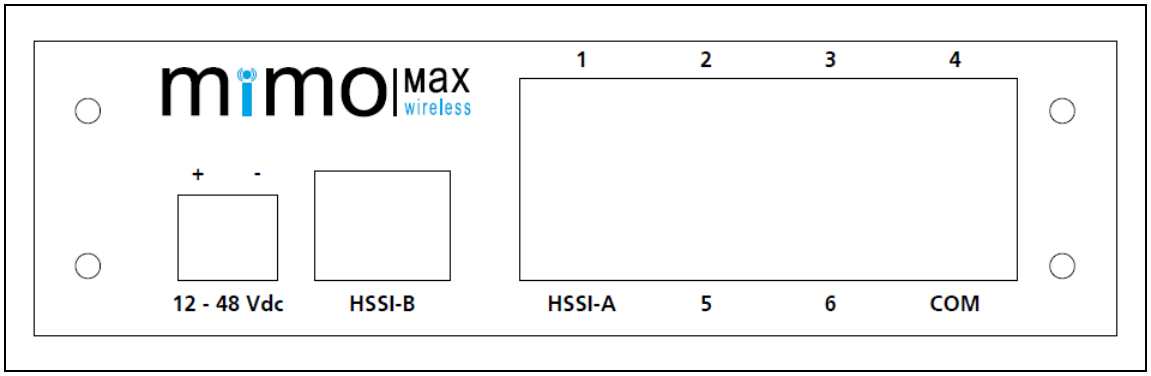
The enabled channels (audio plus UART) will be defined by the on board configuration selector. The Required bandwidth of the FWA configuration shall not exceed the available bandwidth of the connected Radio Units. For a complete explanation of bandwidth requirements please refer to '4WA-interface-manual_########.pdf'.

FWA Configuration Table.

Description	Audio Channels	Bandwidth	Selector Value
Six Audio Channels, E & M signalling, UART enabled.	1, 2, 3, 4, 5, 6	Dynamic	0
One fixed audio channel, no E & M signalling, UART DISABLED.	5	Fixed (32 kbps)	1
Two audio channel, E & M signalling, UART enabled.	5, 6	Dynamic	3
One fixed audio channel, no E & M signalling, UART enabled.	5	Fixed (64 kbps)	5
Two fixed audio channels, no E & M signalling, UART enabled.	5, 6	Fixed (96) kbps	6

NOTE: The limited channel modes utilise audio channels 5 and 6 only. Connections to the other audio channels will be ignored when one of these modes is selected.

The Front Panel



Standard Four Wire Audio IO Panel

Connector	Description
12 – 48 Vdc	Input Power
HSSI-B (RJ45)	Not Used
HSSI-A (RJ45)	Connection to Radio Unit
COM (RJ45)	RS232 UART Channel
1 (RJ45)	Audio Channel One
2 (RJ45)	Audio Channel Two
3 (RJ45)	Audio Channel Three
4 (RJ45)	Audio Channel Four
5 (RJ45)	Audio Channel Five
6 (RJ45)	Audio Channel Six

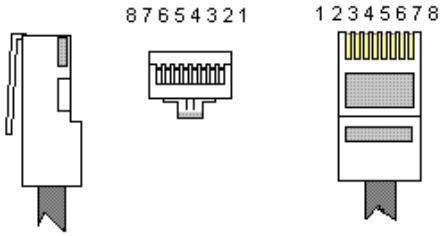
Connector Definitions

Power Connector

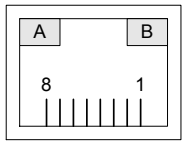
(Phoenix Contact MSTBA 2,5 HC/2-G-5,08 Header)

Pin	Signal	Polarity		Description
-	NEGATIVE	0 volts	- volts	DC Input (12 to 48 VDC) (Polarity must be observed)
+	POSITIVE	+ volts	0 volts	

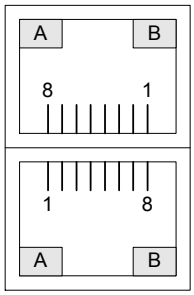
RJ45 Pin Numbering



RJ45 Plug (std and shielded)



RJ45 Socket



Stacked RJ45 Socket

HSSI-A Connector (RJ45 socket)

Provides direct connection to MiMOMax Radio Unit. Utilises a one-to-one connecting lead (shielded cable and plugs).

Pin	Signal	Description
1,2	Transmit Data	Data Output From FWA To Radio Unit
7,8	Transmit Timing	Data Timing From FWA To Radio Unit
4,5	Receive Data	Data Input To FWA From Radio Unit
3,6	Receive Timing	Data Timing To FWA From Radio Unit
Shield	Ground	Cable Shield

The HSSI-A connector provides connectivity to the Radio Unit through a one-to-one shielded patch cable. The shield is required to provide a ground connection between the Radio Unit port and the Four Wire Audio box. Without this grounding correct operation cannot be guarantied.

COM (RS232) Connector (RJ45 socket)

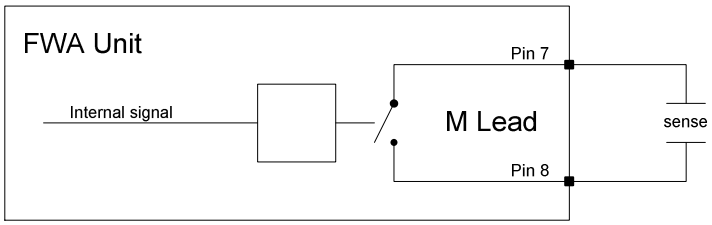
An unshielded adapter (RJ45 socket to DB9 plug) is available.

Pin	Signal	Description
5	Transmit Data	Data Output From FWA NIB
2	Receive Data	Data Input To FWA NIB
6	Signal Ground	Signal Reference
1,3,4,7,8	N/A	Not Connected
Shield	Ground	Cable Shield

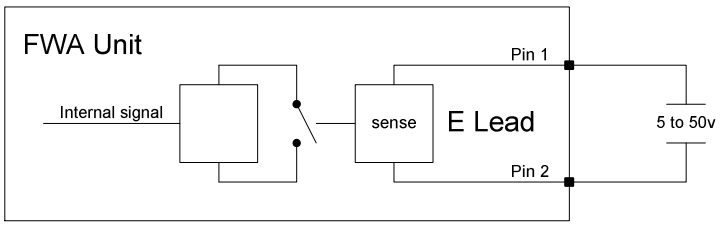
Four Wire Audio Connector (RJ45 socket)

Pin	Signal	Description
1	E-Lead (SIGNAL)	Signalling Input
2	E-Lead (GND)	Signalling Input
3	Audio Input A	Audio To FWA From Connected Equipment
4	Audio Output A	Audio From FWA To Connected Equipment
5	Audio Output B	Audio From FWA To Connected Equipment
6	Audio Input B	Audio To FWA From Connected Equipment
7	M-Lead (SIGNAL)	Signalling Output
8	M-Lead (GND)	Signalling Output

Four Wire Audio E & M Wiring



The FWA Unit internally provides a switch across the M_Lead pins. The external sense circuit is required to provide it's own signal which will allow a switch open or closed state to be sensed.



The FWA Unit internally senses a DC voltage across the E_Lead pins. A DC voltage between 5 and 50v will allow the audio presented to the associated audio port to pass to the other end.