

## Replacement & Migration

### OTA compatibility with legacy GEMDS X710™ products

The Xeta-X710 Series of radios can be utilized as direct drop-in replacements for GEMDS X710™ End Points because the Xeta-X710 has been engineered to provide over-the-air compatibility with the following MDS products.

- GEMDS 9790™ Master Station
- GEMDS X710™ (9710 A&B modes supported; 4710 compatibility currently in development)
- GEMDS SD Series™ Master Stations when operating in MDS X710 mode
- GEMDS SD Series™ when operating in MDS X710 mode

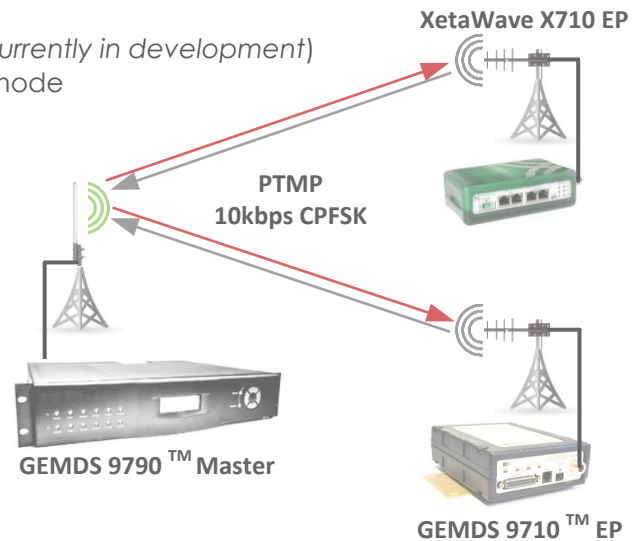
Greater sensitivity enables the Xeta-X710 to link where legacy radios might struggle.

The Xeta-X710 Series provides a superior replacement to legacy GEMDS X710™ radios and a more cost-effective alternative to GEMDS SD Series™ radios operating in legacy X710 mode.

XetaX710 radios selectively support both "A" and "B" Modes and the radio is fully Class 1, Division 2 compliant for hazardous locations.

Mounting hardware from legacy GEMDS X710™ radios is compatible with Xeta-X710 radios. XetaWave also offers optional DIN Rail adapters. For replacement of legacy radios and interfacing to existing field equipment, XetaWave eases the integration by providing the RF, Serial port and Power cable interface adapters required to pull out the GEMDS X710™ radio and plug directly into the Xeta-X710.

In addition to standard MDS X710™ features, the Xeta-X710 includes an option for a software upgrade to full XetaWave mode, enabling Ethernet traffic at significantly higher RF data rates as well as the full suite of XetaWave features. Please see the Xeta9 and Xeta4 Series data sheets for more information (Xeta9-E, Xeta4-E, uTasker OS).



### Technology Differentiators

- **Digital I/O support:** DI-1 is included as standard with the Xeta-X710. Optionally, an additional 7 x I/O channels can be added to the product, which are available once upgraded to full XetaWave mode.
- **2 x Ethernet Ports:** the Xeta-X710 includes Ethernet interfaces for Web UI access and for future Ethernet connectivity once upgraded to full XetaWave mode.
- **2 x Serial Ports:** the Xeta-X710 has 2 x RS232/422/485 interfaces that provide terminal server support once upgraded to full XetaWave mode.
- **Text-based Configuration Files:** the Xeta-X710 is configured via a Web UI accessed from either Ethernet port. Radio configurations can be created, downloaded, edited and uploaded as Text-based Configuration Files.
- **Local Diagnostics:** On-radio diagnostics provide the user with the ability to monitor numerous RF and Network oriented diagnostics including RSSI, Signal Levels, Noise Levels, Voltages, Temperature, as well as transmit and receive performance metrics.
- **Increased Transmit Power\*:** The Xeta4-X710 supports 8W transmit power compared to 5W on the MDS4710™. \* Transmit power varies by model.
- **DLINK™ Support:** the Xeta-X710 supports DLINK™ and is compatible with GEMDS Element Manager™.
- **SNMP support:** when in full XetaWave mode.

## XetaWave vs GEMDS™ – Compatibility Status

	GEMDS	XetaWave
Operational Modes	- Simplex, Half Duplex	Simplex, Half Duplex
Modulation	- Digital / CPFSK	Digital / CPFSK
Data Rates	- 9710 - 4800 @ 12.5 kHz - 9600 @ 12.5kHz - 19200 @ 25 kHz	Xeta9-X710 - Contact XetaWave - <b>9600 @ 12.5 kHz – Complete</b> - Contact XetaWave
-	4710* - 4800 @ 12.5 kHz - 9600 @ 12.5 kHz - 19200 @ 25 kHz	Xeta4-X710* - Contact XetaWave - <b>9600 @ 12.5 kHz – Complete</b> - Contact XetaWave

XetaX710 radios should **not** be used to **replace** MDSX710 radios **if**:

- The legacy system significantly utilizes Sleep modes; Xetawave radios utilize an idle mode rather than a sleep mode and consume approximately 5X the power of MDS radios (in sleep mode) @ 85mA vs 15mA. Operationally, XetaX710 radios consume similar amounts of power to MDSX710 radios, significantly less in transmit modes and slightly more in receive modes.
- The legacy system uses 25kHz channels; *these can be developed if required, please contact XetaWave.*
- The legacy system uses 4800/19200 RF data rates; *these can be developed if required, please contact XetaWave.*
- The legacy system uses Analog or Bell 202 modes; *support for Analog and Bell 202 compatible modes is available, but has not been fully tested at the time of this data sheet revision.*

\* Xeta4-X710 compatibility with the 4710 is currently in development.

## Configuration & Local Diagnostics



### Xeta9-X710 900 MHz Licensed Replacement for GEMDS™ 9710™

#### Device Information

**Device Name**

**Unit Address** 9006

**IP Address** 192.168.0.96

**Ethernet Firmware** 2.08.11991.trunk.x9.12146

**Radio 1**  
Name: Xeta9-X710  
ID: 9006, x710, Slave  
Firmware: trunk.x9.12146

**Radio 2** Disabled

**MAC Address** 70-f1-e5-01-23-6f

**Serial Number** E5.01.23.6F

#### Radio Settings

Master Tx Freq  MHz

Slave Tx Freq  MHz

Tx Power  mW

Unit Address

9600 (A)  9600B

9600M (European)

Serial Number: E50128E4  
Firmware Version: trunk.x9.12146

Diag Threshold  dBm

#### Upload new Firmware

Upload new firmware to the Xeta9-X710

No file chosen

*Note: It is NOT possible to load normal Xeta9 firmware to the Xeta9-X710. If you wish to upgrade to XetaWave mode, please contact [support@xetawave.com](mailto:support@xetawave.com)*

#### Ethernet Settings

The IP address entered here is to access this Web UI for product configuration only.

**MAC Address**

**IP Address**

**Subnet Mask**

*Note: the Xeta9-X710 is a SERIAL ONLY radio unless upgraded to full XetaWave mode.*

#### Radio Diagnostics

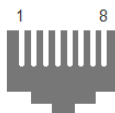
Auto Refresh  Seconds

Radio 1  
Radio Temp: 38 PA Temp: 37  
Bytes Tx: 66762 Bytes Rx: 8367  
Xmit Rate: 0 kbps Recv Rate: 0 kbps  
Input Volt: 8352  
Cur Success: 100

Freq	Noise			Signal			Fwd_Pwr	Rev_Pwr	% Avail	PA Current
	Max	Min	Avg	Max	Min	Avg				
928028750	-200	-0	0	-200	-0	0	98	0	0	0
952028750	-110	-116	-114	-74	-81	-78	0	0	0	250

#### RS232 Serial Port

Port	Baud Rate	Data	Parity	Stop	Flow Control
Serial 1	<input type="text" value="115200"/>	<input checked="" type="radio"/> 8 bits <input type="radio"/> 7 bits	<input type="radio"/> Even <input type="radio"/> Odd <input checked="" type="radio"/> None	<input type="radio"/> 1 <input type="radio"/> 1.5 <input checked="" type="radio"/> 2	<input type="radio"/> RTS/CTS <input type="radio"/> XON/XOFF <input checked="" type="radio"/> NONE



1 - Data Set Ready (DSR)

2 - Data Carrier Detect (DCD)

3 - Data Terminal Ready (DTR)

4 - Signal Ground (GND)


5 - Receive Data (RXD)

6 - Transmit Data (TXD)

7 - Request To Send (RTS)

8 - Clear to Send (CTS)

In most cases, connect TXD, RXD and GND as follows...



## XetaWave vs GEMDS™ – Technical Specifications

	GEMDS	XetaWave
Maximum Transmit Power	- 9710: 5W 4710*: 5W	Xeta9-X710: 4W Xeta4-X710*: 8W * Xeta4-X710 in development
Duty Cycle	- Continuous	Continuous
Output Impedance	- 50 Ohm	50 Ohm
Selectivity	- > 70dB	> 70dB
Sensitivity @ BER	- -110 dBm typical @ 1 x 10 <sup>-6</sup>	-115 dBm typical @ 1 x 10 <sup>-4</sup>
Interfaces	- DB25 female, RJ11 female, N-Type	Serial RJ45 female, Ethernet RJ45 female, TNC * XetaWave provides all adapters; N-TNC, DB25-RJ45
Management Configuration	- Insite (discontinued), Netview` - Radio Config SW	Underlying D-Link diagnostics supported OTA XetaConfig SW Tools, Configuration File Support
On Radio Diagnostic	- Command Line	RF Statistics, RF Ping* * Full XetaWave mode only.
Temperature	- -30 to +60C	-40 to +85C
DC Input Power	- 10.5 to 16 VDC	10V to 32 VDC
Tx Power Consumption	- 2A typical @ 5W	335mA @ 1W, 495mA @ 4W (Xeta9-X710)
Rx Power Consumption	- <125mA	290mA @ 1W, 380mA @ 4W (Xeta9-X710)
Sleep Mode	- 15mA nominal	85 mA – Idle
Functionality	- MDS X710 A code Functionality MDX X710 B code Functionality Modbus ASCII Modbus RTU DLINK Diagnostics Point to Point Point to Multipoint BELL modem operation Analog operation	MDS X710 A code Functionality MDS X710 B code Functionality Modbus ASCII Modbus RTU DLINK Diagnostics Point to Point Point to Multipoint Contact XetaWave Contact XetaWave
Size	- 2H x 5.625W x 7.25D in	1.835H x 3.45W x 6.625D in
Weight	- 2.2lbs	1.54 lbs
Humidity	- 95% @ 40C noncondensing	95% @ 40C noncondensing

### Contact

For more information or to schedule a demo, please contact us at **303.447.2745** or [sales@xetawave.com](mailto:sales@xetawave.com)



XetaWave is the ideal partner for the deployment of wireless technologies that are proven and lead the industry in performance, functionality and reliability.

XetaWave provides an industry leading 3 year warranty on its products.

All XetaWave radios are 100% designed, manufactured, and tested at its headquarters in Louisville, Colorado, USA.

