XStream
Stand-Alone Radio Modems

Long Range • Low Power • Low Cost

Wireless serial communications
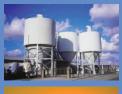
Package includes:

(1) XStream Stand-Alone Radio Modem
(1) 1/2 wave dipole antenna
(1) DB-9 male to DB-9 female serial cable
(1) Null modem adapter
(1) Serial loopback adapter
(1) 9 volt battery adapter
(1) CD with documentation and software

www.maxstream.net

DIP Switchable RS-232/422/485

MaxStream
Smart, wireless connections™

900 MHz & 2.4 GHz Stand-Alone Radio Modems

Monitoring of
remote systems

Production reporting
of active systems

Automatic meter reading
and home automation

Supervisory control
and data acquisition

Vehicle management
and asset tracking

Features

- Plug-and-communicate (no configuration required)
- True peer-to-peer networking (no "Master" radio needed)
- Source & destination addressing for point-to-multipoint networks
- DIP switchable RS-232, RS-422 or RS-485 support
- Transparent operation supports existing software & systems
- Simple configuration using standard AT or binary commands
- Retries & acknowledgements for guaranteed packet delivery
- Networking features allow up to 7 independent pairs
  (networks) to operate in close proximity
- Low power modes include shutdown pin, cyclic sleep
  & serial port sleep for current consumption as low as 1 mA
- Host interface baud rates from 1200 bps to 57.6 kbps
- Flow control with hardware XON & XOFF
- Signal strength register for link quality monitoring & debugging
- Multiple data formats (7/8/9 Bits, Even/Odd/No Parity)

Options

- 900 MHz or 2.4 GHz license-free ISM bands
- 9600 bps or 19.2 kbps over-the-air data rates
- Commercial (0° to +70° C) or industrial (-40° to +85° C) grades

XStream stand-alone radio modems were designed to provide end users with an easy to install wireless serial communication link.

These radio modems come equipped with the features of our XStream wireless OEM modules. Systems integrators love the functionality provided by the serial connection, power switch, indicator lights, high quality antenna, mounting plates and power source inputs.

The 900 MHz radio modem has the best sensitivity in the industry, making it one of the longest range, low cost radio modems available to date.

The 2.4 GHz radio modem can provide high performance and dependable operation for deployment throughout the world (visit the MaxStream website for more details).

These radio modems are perfect for applications in automatic meter reading (AMR), supervisory control and data acquisition (SCADA), home automation, security, instrument monitoring and point of sale (POS) systems among many others.

These radio modems require no configuration to operate, simply plug-and-communicate. Output serial data from any microcontroller or RS-232 port into the radio modem to send FCC & ETSI approved, frequency hopping spread spectrum data and capture it on all receivers within range on the network.

XStream stand-alone radio modems can also be configured to integrate quickly and seamlessly into any new or existing design.

MaxStream™

Specifications	900 MHz		2.4 GHz	
General				
Frequency	902-928 MHz		2.4000-2.4835 GHz	
Spreading Spectrum Type	Frequency hopping, direct FM		Frequency hopping, direct FM	
Network Topology	Point-to-multipoint, point-to-point multi-drop transparent		Point-to-multipoint, point-to-point multi-drop transparent	
Channel Capacity	7 hop sequences share 25 frequencies		7 hop sequences share 25 frequencies	
Serial Data Interface	Switch selectable RS-232/422/485		Switch selectable RS-232/422/485	
I/O Data Rate	Software selectable 1200-57,600 bps		Software selectable 1200-57,600 bps	
Power Requirements				
Supply Voltage	7-18 VDC		7-18 VDC	
Transmit Current	200 mA		200 mA	
Receive Current	70 mA		70 mA	
Power Down Current	< 1 mA		< 1 mA	
Physical Properties				
Enclosure Type	Extruded aluminum, black annodized		Extruded aluminum, black annodized	
Enclosure size	2.75" x 5.50" x 1.124" (7.90 cm x 13.90 cm x 3.80 cm)		2.75" x 5.50" x 1.124" (7.90 cm x 13.90 cm x 3.80 cm)	
Weight	7.1 oz (200 g)		7.1 oz (200 g)	
Operating Temperature	0º to +70º C (commercial) -40º to +85º C (industrial)		0º to +70º C (commercial) -40º to +85º C (industrial)	
Antenna				
Type	1/2 wave dipole whip		1/2 wave dipole whip	
Gain	2.1 dBi		2.1 dBi	
Length	6.75" (17.1 cm)		5.25" (13.3 cm)	
Connector	Reverse-polarity SMA		Reverse-polarity SMA	
Impedance	50 ohms unbalanced		50 ohms unbalanced	
Certifications				
FCC Part 15.247	OUR9XSTREAM		OUR-24XSTREAM	
Industry Canada	4214A-9XSTREAM		4214A 12008	
Europe	N/A		ETSI	
Performance				
Indoor/Urban Range	Up to 1500' (457 m)		Up to 600' (183 m)	
Outdoor LOS Range	Up to 7 mi. (11 km) w/ dipole Up to 20 mi. (32 km) w/ high-gain		Up to 3 mi. (5 km) w/ dipole Up to 10 mi. (16 km) w/ high-gain	
Serial Data Throughput	**9600 bps**	**19.2 kbps**	**9600 bps**	**19.2 kbps**
RF Baud Rate	10,000 bps	20,000 bps	10,000 bps	20,000 bps
Transmit Power Output	140 mW (21.5 dBm)	140 mW (21.5 dBm)	50 mW (17 dBm)	50 mW (17 dBm)
Receiver Sensitivity	-110 dBm	-107 dBm	-105 dBm	-102 dBm