ABACOM Technologies

ARX8-9600 Intelligent Simplex RS-232 RF Modules
ATX8-9600

The ARX8 and ATX8-9600 simplex wireless RS-232 modules feature transparent connectivity at 9600bps, 8, N, 1. The RF communications protocol is taken care of by the on-board microcontrollers and error checking is automatically performed at the receiver end, allowing only valid data to be output to the serial port. Communication status LED's provide visual confirmation of data being transmitted and received. Power is supplied via a 9V battery snap.
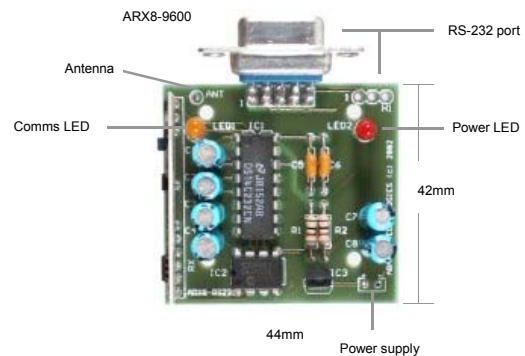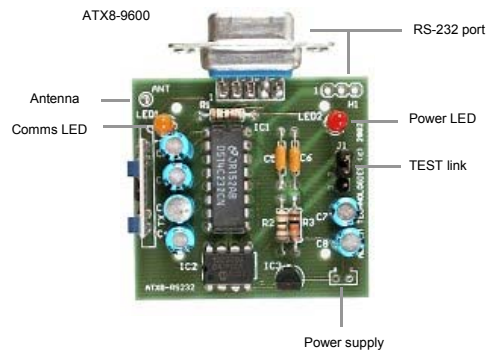
The ATX8-9600 includes a convenient jumper enabled TEST LINK mode. When in this mode, a preset 8 byte message will continuously be transmitted. Reception is easily verified by the ARX8-9600 receiver's communication LED. A link test may therefore be performed without connecting the modules to any hosts.

The ATX8-9600 transmitter module implements clear to send flow control (CTS) for use in applications that require more than 8 bytes of data is to be transmitted. Using the CTS flow control line, any amount of data may be transmitted.

Features

- **Wide supply range: 5.5Vdc to 12Vdc**
- **315MHz & 433MHz AM versions**
- **Up to 300ft open field range**
- **On-board 1/4 wave wire antenna**
- **DCE configured serial port**
- **Convenient TEST LINK mode**
- **Communications LED's**
- **Transparent Operation**
- **9600,8,N,1 serial protocol**
- **DB9 female connector**
- **Alternative 3 pin header serial port**
- **Designed for Hammond Enclosure (1593P)**
- **Small size: 42 x 44 x 15mm (excl. connector)**

The module's serial ports are configured as DCE and require a **"straight through"** serial extension cable when connecting the ATX8-9600 and ARX8-9600 modules to 9 pin serial port DTE hosts such as PC's.

ATX8-9600 — RS-232 port, Antenna, Comms LED, Power LED, TEST link, Power supply

ARX8-9600 — RS-232 port, Antenna, Comms LED, Power LED, 42mm, 44mm, Power supply

DB9 Pinout	Designation
ARX8-9600 Receiver	
1,3,4,6,7,8,9	N/C
2	TXD (output)
5	Ground
ATX8-9600 Transmitter	
1,2,7,9	N/C
3	RXD (input)
4,6	DTR,DSR Linked
5	Ground
8	CTS (output)

Connection

Connect the modules to the host serial port via a straight through serial extension cable. This assumes that the serial connector at the host is a 9 pin D type connector and the host is configured as DTE. If the host RS232 port is a 25 pin D type connector then a crossover connection is required for the data lines.

Once connected to their respective hosts, the modules may be powered up. The Green power LED's will be ON.

Communication Setup

The ATX8 and ARX8 host's serial ports should be configured for 9600baud, 8 data bits, No parity, 1 Stop bit and flow control set to None. This configuration allows for the ATX8 to transmit up to maximum of 8 bytes per transmission. For applications that require the transmission of more than 8 bytes, the ATX8 transmitters host serial port must be configured as above, except FLOW CONTROL must be set to HARDWARE. This configuration allows for as many bytes to be transmitted as required. The ATX8-9600 will transmit the data in 8 byte packets.

Operation

The ATX8-9600 automatically detects the start and end of a transmission. When transmitting, the amber LED of the ATX8 will be ON and the amber LED on the ARX8-9600 will be ON indicating reception of valid data.

TEST Mode

The ATX8-9600 includes a TEST mode jumper J1. For normal operation, the jumper is in position 1 & 2 and for TEST mode the jumper is in position 2 &3. In this mode the ATX8-9600 will continually transmit its internal 8 byte message to the ARX8-9600. The amber communications LED's on the ATX8-9600 and ARX8-9600 will be ON. This mode is useful for diagnostics purposes range tests, and optimal module position tests. No connection to a host is necessary in this mode, however if the ARX8-9600 is connected to a PC terminal, the test message <ABACOM> will scroll the display.

Power Supply

The modules accept power supplies of between 7.5Vdc and 15Vdc. The ARX8-9600 and ATX8-9600 are supplied with 9V battery snap connectors for user convenience. However, if the modules are to be powered continuously for extended periods, the user may consider using alternate power supplies such as dc wall adaptors.

The table below provides the typical current consumption of the ARX8-9600 and ATX8-9600. As indicated, power may be conserved simply by removing the Power LED. This may be performed at the discretion of the user. Removing the Power LED's will not affect the normal operation of the modules.

With Power LED	Standby Current	Transmitting	Receiving
ARX8	9mA		10mA
ATX8	7mA	12mA	
Without Power LED			
ARX8	4mA	5mA	
ATX8	1.2mA		6mA