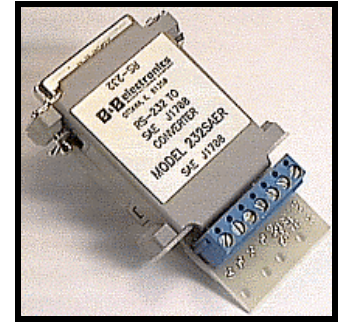


# RS-232 to SAE J1708 Converters $\text{\textcircled{C}}$

## Models 232SAER & J1708P1



### Description

The models 232SAER and J1708P1 will allow any computer with an RS-232 port to communicate with vehicles using the SAE J1708 specification. SAE J1708 is the specification for serial communications between microcomputer systems in heavy-duty vehicle applications.

The 232SAER and J1708P1 convert half-duplex RS-232 transmit and receive data signals to the SAE J1708 differential communications specification. The converter is port-powered from the RS-232 port handshake lines, and may be optionally powered by a 12VDC supply. The RS-232 side of the converter is a DB25 female, and is configured as a DCE device. The J1708P1 is set to priority one (1.25ms), which is reserved for immediate access to the bus. The 232SAER is set to priority four (2.0ms), which is reserved for prompt access to the bus.

### Installation

The RS-232 side of the 232SAER and J1708P1 will connect directly to a computer RS-232 port, or any other DTE RS-232 port. To connect to a DCE RS-232 device, a null-modem connection must be made. Pin outs of the units' RS-232 port are given in Table 1. The 232SAER and J1708P1 are powered from the handshake lines of the host RS-232 port. The unit will derive power from the lines in either the high or low state, however, setting the lines to their high (space) state will provide maximum power for the converter. If the handshake lines are not available, an external 12 VDC supply must be connected to the terminal blocks of the 232SAER and J1708P1.

**NOTE: When using an external supply, the supply should be connected only to specifically labeled power inputs (power jack, terminal block, etc.). Connecting an external power supply to the handshake lines may damage the unit. Contact technical support for more information on connecting an external power supply to the handshake lines.**

### Operation

In addition to converting signal levels to and from the SAEJ1708 specification, the 232SAER/J1708P1 provides some timing information through the RS-232 CTS line. The SAEJ1708 specification requires the transmitter to verify that the network idle state continues to exist to within 1/2 bit time prior to transmission. The CTS line on the 232SAER and J1708P1 provides a method for the host software to monitor the network with this resolution. If the network has been idle, the CTS line goes high. Each bit transmitted on the network will cause the CTS line to go low for two milliseconds for the 232SAER and 1.25 milliseconds for the J1708P1. By checking the CTS line before transmitting the host software can avoid network collisions.

**Table 1. DB-25 Pin outs**

Pin	Function	Direction
2	Transmit Data	Input
3	Receive Data	Output
5	Clear To Send	Output
7	Ground	-----
4	Request To Send	Input*
20	Data Terminal Ready	Input*

\*Pins 4 and 20 used only to power the converter

**Table 2. Terminal Descriptions**

Terminal	Function
1	Data A
2	Data A
3	Data B
4	Data B
5	Ground
6	+12VDC in

#### DECLARATION OF CONFORMITY

Manufacturer's Name: B&B Electronics Manufacturing Company  
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 707 Dayton Road  
 Ottawa, IL 61350 USA  
 Model Numbers: 232SAER & J1708P1  
 Description: RS-232 to SAE J1708 Converter  
 Type: Light industrial ITE equipment  
 Application of Council Directive: 89/336/EEC  
 Standards: EN 50082-1 (IEC 801-2, IEC 801-3, IEC 801-4)  
 EN 50081-1 (EN 55022, IEC 1000-4-2)  
 EN 61000 (-4-2, -4-3, -4-4, -4-5, -4-6, -4-8, -4-11)  
 ENV 50204  
 EN 55024

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