

Buffer Serial Data from 4 Different Devices **CE**

Model 232BSS4



Description:

Our most intelligent and versatile switch, the 232BSS4 provides communication to four devices from one serial port. Each port contains a dedicated UART and an 8K byte transmit and receive buffer, allowing each port to be configured independently for data rate, data format, and protocol. The Master port can send and receive data from one Slave port while the other Slave ports continue to buffer data. The Master can also broadcast the same message to two or more Slave ports at once.

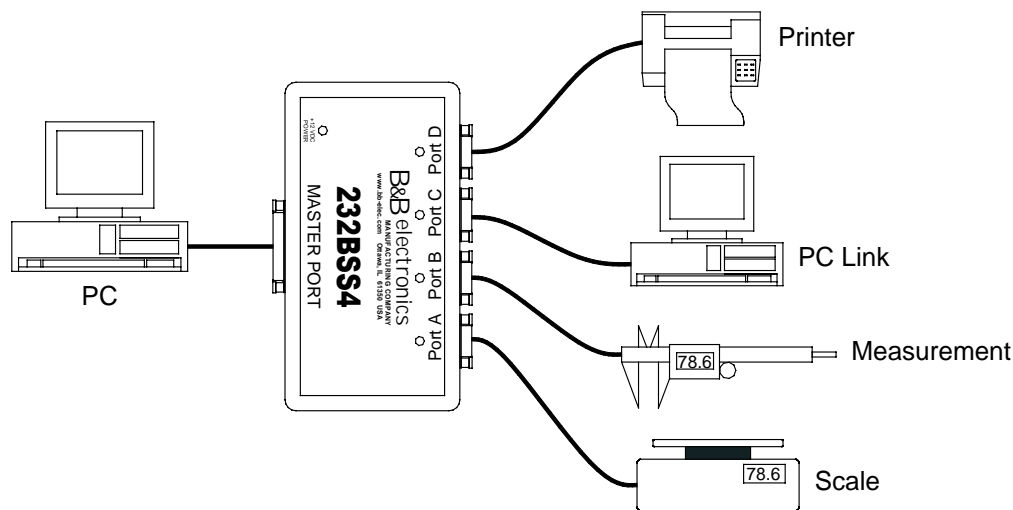
The 232BSS4 can be configured to send data automatically to the Master port from each of the Slave ports when data is present with an optional preamble identifying the port. It can also provide two-way communications between the Master port and one Slave port at a time. Switching and control is done through user-defined three or four character command strings. All control sequences are stripped from the data stream, making the switch transparent to the Slave devices. The PC setup software provided walks the user through all possible parameters.

Switches can be cascaded to expand the 232BSS4 to more than four ports. Two units can also be used back-to-back to provide automatic connection between devices over a single data channel. LEDs on the 232BSS4 indicate when the unit is powered up and which port is selected to send data to the Master port.

Applications:

- Broadcast to multiple receiving devices
- Collect data from multiple measuring devices on one port
- Monitor multiple process parameters on one port
- Collect data from ports with different protocols and data formats
- Automatic inventory management
- Use two units back-to-back as a multiplexer. Send from any port on Unit#1 to any port on Unit#2 automatically.
- Cascade multiple switches to expand to more than four ports

Single Unit Operation:



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Auto Select Mode:

In Auto Select Mode, the 232BSS4 sends data automatically from the Slave ports to the Master port. The user defines how long the switch spends on each port and how long the port has to be inactive before switching to the next. Each timeout is programmable in 1mS increments up to 35 seconds. A preamble of up to four characters can be transmitted to the Master device telling it which Slave is sending data. At any time, the Master port can override the automatic switching to select one device or to broadcast to any combination of the four Slave ports. When released, the automatic switching picks up right where it left off.

Smart Switch Mode:

When configured in Smart Switch Mode, commands from the Master are used to select a single port for transmit and receive, or to broadcast the same message to multiple ports at once. The switch can be configured to ignore commands when DTR is not present from the Master, allowing the transmission of binary files without the possibility of erroneous switching. Alternatively, a command can be sent to the switch to ignore commands for a specific amount of time from zero to five minutes.

The 232BSS4 commands can be set to be either three or four characters long. The first two or three characters can be programmed to any value through the setup software. The third or fourth character is the actual command.

Thus the command sequence would look like:

{Char1}{Char2}{Char3}{Command Character}

Char1-3 would be defined by the user through the setup software.

Char3 would only be sent if the 232BSS4 was set up for a four character command.

Command Summary:

Three Character Command Format:

Char1	Char2	Command Char	Control Char
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Control Char is only needed for Tx Only, Clear Buffer, and Ignore Commands

Four Character Command Format:

Char1	Char2	Char3	Command Char	Control Char
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Control Char is only needed for Tx Only, Clear Buffer, and Ignore Commands

Table 2.1 - 232BSS4 Command Summary

Function	Command Character	Control Character	Comments
Select Port A Tx & Rx	“A”	None	Switching Command
Select Port B Tx & Rx	“B”	None	Switching Command
Select Port C Tx & Rx	“C”	None	Switching Command
Select Port D Tx & Rx	“D”	None	Switching Command
Deselect All Ports	EOT	None	Switching Command
Tx Only to Specific Ports	“S”	Dec 0 to 15	Use to Broadcast
Clear Buffer on Specific Ports	“X”	Dec 0 to 15	Clear the Receive Buffer
Ignore Commands	“T”	“0” to “9”	Sets Timer Value

Values in quotes “ ” are ASCII characters.

Dec is an abbreviation for decimal value.

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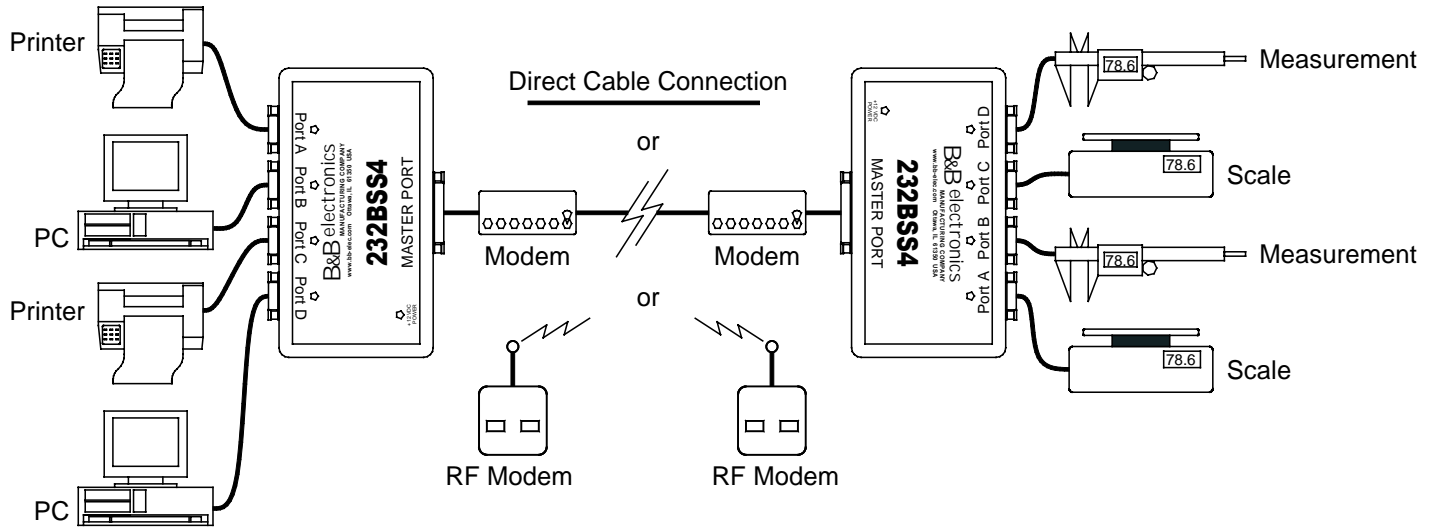
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Back-to-Back Operation:



Two Smart Switches can be connected together through their Master ports with a null modem cable or over a modem link. With both set up in Automatic Switching mode, any port on Unit#1 can send to any combination of ports on Unit#2 over the single Master channel, effectively creating a simple multiplexer. Hardware handshaking on the RTS/CTS lines holds off data from the Slaves. The setup software walks the user through the configuration and automatically sets the Slave port preambles.

Specifications:

- Interface: RS-232 asynchronous
- Data Format: 7 or 8 data bits, even, odd, or no parity
(Master does not support 7 data bits with no parity)
- 1 stop bit (fixed)
- Data Rate: 1200 to 115.2 kbps
- Flow Control: Hardware (RTS/CTS) or None
- Power Requirements: +10 to +15 VDC @ 60 mA max.
- Power Connector: 2.5 mm phone jack (+ Tip)
- Recommended Supply: B&B Model 232PS (sold separately)
- Operating Temperature: 0° to 70° C
- Data Connectors: Master DB25 female (DCE)
Slaves DB9 male x 4 (DTE)
- Dimensions: 7.5 x 4.6 x 1.2 in. (19.0 x 11.7 x 3.0 cm)
- Setup Software: PC compatible, Windows 95/98/NT/2000/XP
- Supplied Accessories: CDROM with Setup Program
Instruction Manual

DECLARATION OF CONFORMITY	
Manufacturer's Name:	B&B Electronics Manufacturing Company
Manufacturer's Address:	P.O. Box 1040 707 Dayton Road Ottawa, IL 61350 USA
Model Numbers:	232BSS4
Description:	RS-232 4-Port Buffered Smart Switch
Type:	Light industrial ITE equipment
Application of Council Directive:	89/336/EEC
Standards:	EN 50082-1 (IEC 801-3, IEC 801-4) EN 50081-1 (EN 55022) EN 61000 (-4-2, -4-3, -4-4, -4-6, -4-8) ENV 50204
 William H. Franklin III, Director of Engineering	
	

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