Data Broadcast Switch

TABLE OF CONTENTS

Data Comm for Business, Inc.
PO Box 6329
Champaign, IL 61826-6329
(217) 897-6600
www.dcbnet.com

August 2, 2002
Firmware Version: 1.01

8500

1. DESCRIPTION

The DCB Data Broadcast Switch is an 8 to 32 port data broadcast device that allows any output port to become a reverse channel upon command. It was designed for use with paging systems, where paging data must be replicated to many remote paging terminals. Built upon the proven DCB Access Switch platform, it includes a control port, allowing reverse channel communication from any of the downstream paging terminals. The reverse channel selection is typically used for remote management of devices such as paging transmitters.

Ports are async, 9600 bps, 8 data bits, no parity, and one stop bit. Data to be broadcast enters the switch on the composite port. Data is replicated on the output ports. The Network Management Port is used as a control port to select reverse channel input. Reverse channel input can come from none or any one of the output ports and goes out the composite port. The reverse channel often carries reports and transmitter information back to the head end computer.

Features:

- 8 to 32 ports
- 9600 bps port speed
- 1 control port and 1 composite port
- Ideal for paging transmitter applications
- Connects to any async device
- Optional 48v power supply

2. SPECIFICATIONS

2.1 General

Port Rate
All ports fixed at 9600 bps

Data Format
1 Start bit
8 Data bits
1 Stop bit

Interface
RS-232D implemented in 8-wire RJ-45 connector

2.2 Environmental

Operation: 0 to 65° C, 10 to 85% relative humidity
Storage: -40 to 85° C, 10 to 85% relative humidity

2.3 Physical / Electrical

10¼" W x 9¾" D x 2½" H (8 and 16 port models)
10¼" W x 9¾" D x 4¼" H (24 and 32 port models)
120 VAC external power supply
30 – 43 watts, .25 - .36 amps
Optional 48vdc power supply available

3. INSTALLATION

3.1 Unpacking

The following is included with each unit:

- Unit and external power supply
- Cable for connecting the control port to a terminal or PC.
- Manual
- Information regarding warranty, maintenance contracts and repair

3.2 Location

Place the unit in a clear area where you can reach the rear panel to connect the cables. The unit has an external power supply that requires a properly grounded 120 VAC outlet.

3.3 Connections

Connect the composite port to the host computer port (data source). See Section 5 for sample cable pinouts.

Connect the network management port to the control device.(terminal or PC) using the supplied green cable and appropriate adapter. Set the device for 9600 bps, 8 data bits, no parity and one stop bit.

3.4 Operation

Data is normally passed one way from the composite port to all output ports. This is the default mode of operation. A second mode, “reverse channel”, is entered when a two character port number is received at the control port. Allowable control port entries are 00 (zero zero) through 08, 16, 24 or 32 depending on the model. Entering 00 returns the device to the default one way broadcast mode. Entering a port number between 01 and nn (nn being the highest port number present) will open a reverse channel to the selected port. While in reverse channel mode, data received on the selected port is passed out the composite port providing a full duplex link to that port. This operation continues until a 00 is received on the control port.

3.5 Control Port Commands

The control port prompt is “>> “. When you see this prompt, you can enter control port commands.

The control port accepts only two character commands followed by carriage return (Enter) or carriage return/line feed. The two characters must be numeric between 00 (zero zero) and nn (nn being the highest port number present). Any other entry will generate an error.

Entering 00 puts the Switch in normal broadcast mode. Entering 01 through nn puts the Switch in reverse channel mode to the selected port.

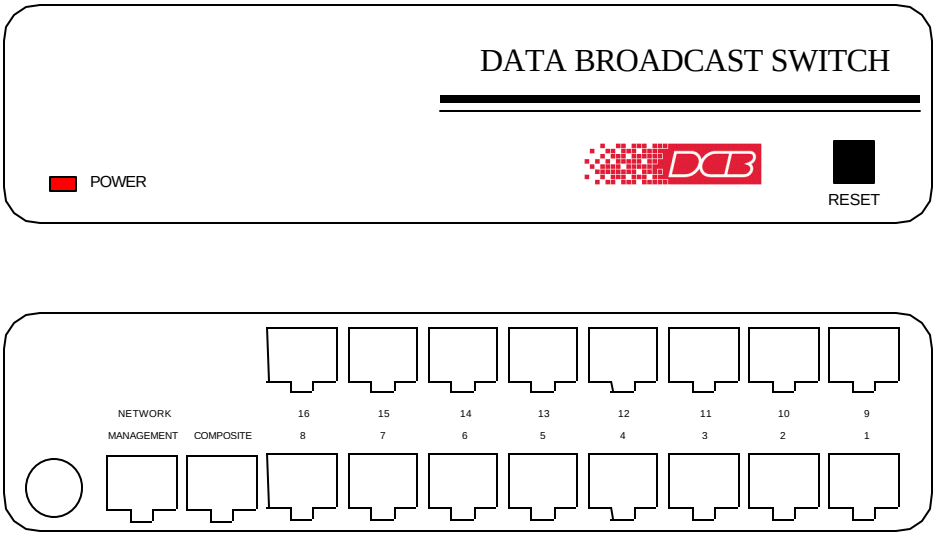
4. FRONT PANEL CONTROLS AND INDICATORS

4.1 Switches

The only switch on the unit is the RESET switch on the front panel.

4.2 Indicators

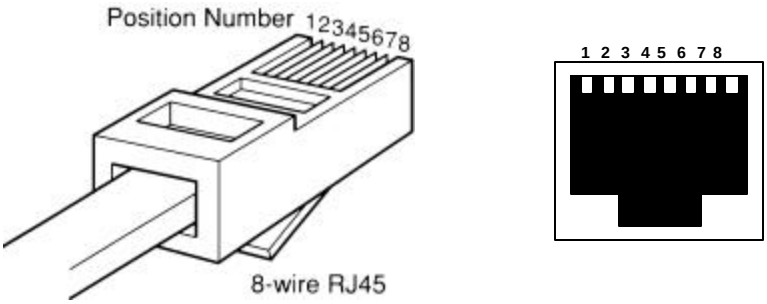
Indicator	Condition	Meaning
POWER	ON	Unit has power.



DB16, 16 Channel Unit

5. INTERFACE SIGNALS AND CABLING

5.1 Connector Location and Pin Reference



RJ-45 Plug and Jack

5.2 Port Interface

5.2.1 Composite Port

Pin	Signal	In/Out
1	Not used	
2	Not used	
3	Data Carrier Detect	IN
4	Signal Ground	-----
5	Transmit Data	OUT
6	Receive Data	IN
7	Request to Send	OUT
8	Clear to Send	IN

5.2.2 Output Ports

Pin	Signal	In/Out
1	Data Set Ready	OUT
2	Data Carrier Detect	OUT
3	Data Terminal Ready	IN
4	Signal Ground	-----
5	Receive Data	OUT
6	Transmit Data	IN
7	Clear to Send	OUT
8	Request to Send	IN

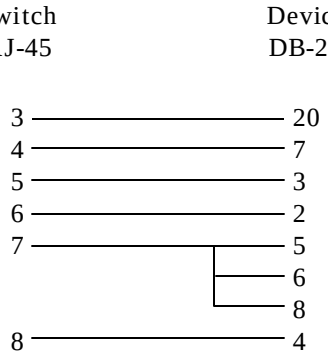
5.2.3 Network Management Port (Control Port)

Pin	Signal	In/Out
1	Not Used	
2	Not Used	
3	Data Carrier Detect	IN
4	Signal Ground	-----
5	Transmit Data	OUT
6	Receive Data	IN
7	Request to Send	OUT
8	Clear to Send	IN

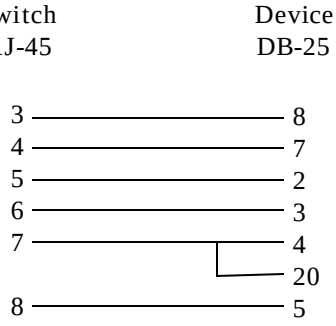
5.3 Cables

5.3.1 Composite Port

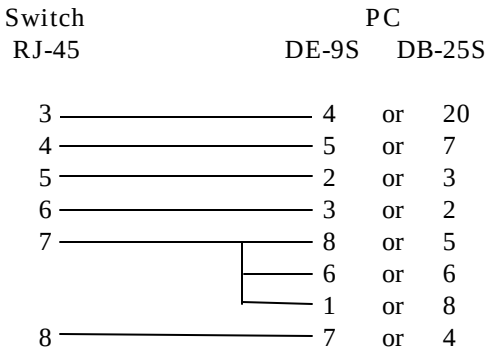
To a Device Configured as DTE



To a Device Configured as DCE

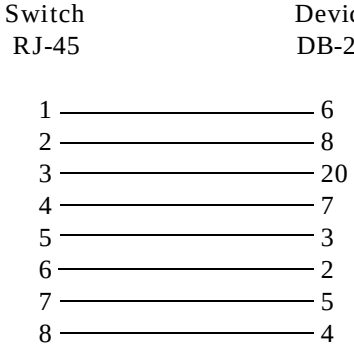


To a PC Com port

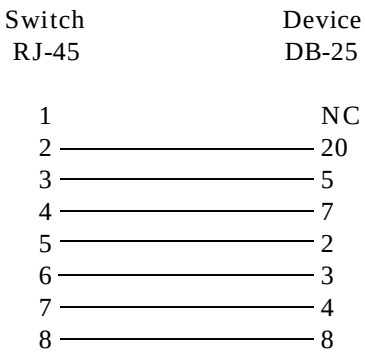


5.3.2 Output Port

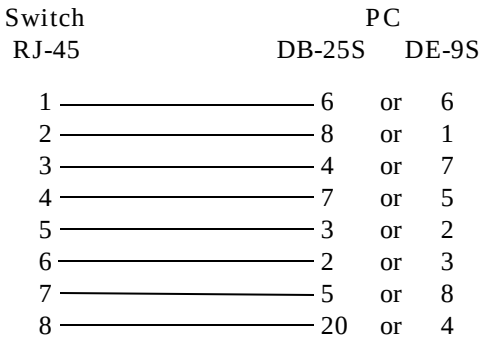
To a Device Configured as DTE



To a Device Configured as DCE

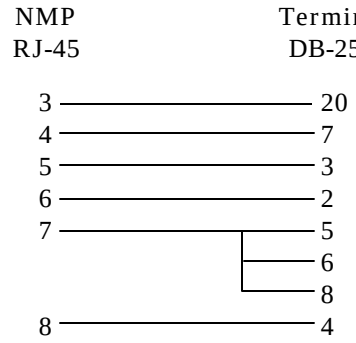


To a PC Com port

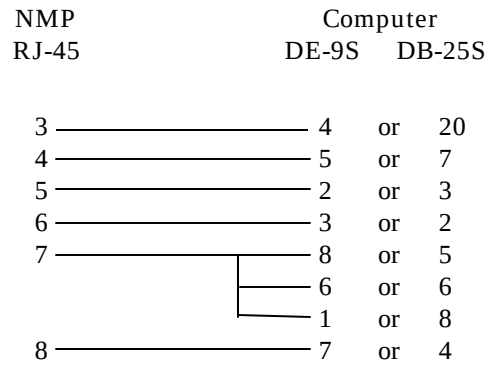


5.3.3 Network Management Port (Control Port)

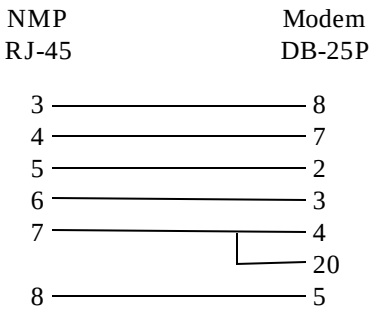
To a TERMINAL



To a PC using terminal emulation



To a dial-up MODEM for remote access



6. TROUBLESHOOTING

6.1 General Approach

When troubleshooting problems, a rational plan can save you many hours of frustration. The following is a brief outline of standard troubleshooting procedures.

1. Gather the facts to determine the exact nature of the problem.
2. Draw a picture of the system showing the equipment at both the host and remote ends and the phone lines or in-house wiring. Use this as a reference to note your observations, test steps and test results. A picture keeps you focused and often saves duplicate effort.
3. Record the front panel indications before changing anything. This is an important part of fact gathering
4. If you change anything, change only one thing at a time.
5. Use the built-in test functions, especially the loopback tests. Record your results.

7. WARRANTY

This DCB product is warranted to be free of defects in materials and workmanship for two years. Data Comm for Business, Inc. will repair or replace any equipment proven to be defective within the warranty period. All warranty work is F.O.B. Dewey, IL. This warranty is exclusive of abuse, misuse, accidental damage, acts of God or consequential damages, etc. DCB liability shall not exceed the original purchase price.

All equipment returned for repair must be accompanied by a Returned Material Authorization (RMA) number. To receive an RMA number, call (217) 897-6600 between the hours of 8 AM and 5 PM central time. Equipment must be shipped prepaid to DCB and will be returned at DCB's expense.

Ship returned items to:

Data Comm for Business
2949 CR 1000E
Dewey, IL 61840

Data Comm for Business, Inc.
PO Box 6329
Champaign, IL 61826-6329

Tel (217) 897-6600
Fax (217) 897-1331
Email support@dcbnet.com