E-COMMS INC.

E-DATA

RS-232 Data Switch User's Guide

7. Warranty

E-COMMS products are manufactured and assembled by our staff in our own facilities. They are trouble-free in normal use and perform to their stated levels. If a problem occurs during the first two years of use, we will repair or replace the unit at no charge. If you have a problem, call for an RMA before shipping any equipment back to us to prevent any delays.

8. Notice to Users

The following notice is required under Section 15.105 of the Federal Communications Commission's Rules:

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his or her own expense.

Printed in U.S.A.

1. General Description

The *E-DATA* RS-232 Data Switch module is a seven-port data switch that uses DB-9 data connectors. *E-DATA* is designed for use as part of an *E-COMMANDER* network administration system.

The *E-DATA* connects data signals from one of up to seven RS-232 data ports to a COMMON RS-232 data port, based on instructions from the *E-COMMANDER* module or (in the stand-alone version of the *E-DATA* module) from an RS-485 data port on the *E-DATA*. The switch connects eight signals from the data port connectors to the corresponding pins on the COMMON port.

E-DATA is most often used to share inputs to a network analyzer among multiple signal sources, but it can also be used in any other application in which it is necessary to switch seven sources to a single destination, or one source to any of seven destinations. By connecting additional *E-DATA* units to the data ports, it's possible to switch among as many as 113 sources.

2. Front Panel Indicators

The *E-DATA* front panel (shown in Figure 1) includes the following LED indicators:

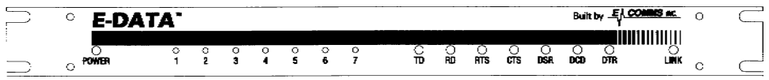

Figure 1: The E-DATA front panel

POWER

The red POWER LED lights when the *E-DATA* module is receiving external power.

NUMBERED PORTS

The seven numbered port LED indicators show the current status of each data port. When a port is currently connected to the COMMON port, the corresponding red LED lights.

PORT SELECT

The Port Select push-button is a stepping switch. Push the button to change the currently selected data port to the next higher numbered port. If the current data port is the highest number in the sequence, the *E-DATA* will cycle to off, then back to data port 1.

LINK

The LINK LED flashes when the *E-DATA* module is exchanging data with other modules in an *E-COMMANDER* system. When a system is operating normally, the LINK LEDs on each module lights and goes dark in sequence, so the LEDs in a stack appear to be stepping down the stack.

5. Type the number of the data port you want to connect to the COMMON port. Press the Enter key to send your request to the *E-DATA* module.
6. Press the Esc key to return to the main *E-COMMANDER* menu.

6. Specifications

Dimensions

Height	1.75 inches
Width	19 inches
Depth	12 inches
Weight	6 lb.

Operating Environment

Temperature Range (operating)	0° - 45° C
Temperature Range (storage)	25° - +75° C
Maximum Humidity	95% (non-condensing)
Power Supply Requirement	120 VAC or 240 VAC, 60 Hz
Power Consumption	2 amps maximum
Data Ports	1 Common (DTE) port 7 Switchable DCE ports

Signal Leads

Pin #	Signal
1	DCO
2	RX
3	TX
4	DTR
5	GNO
6	OSR
7	RTS
8	CTS
9	NC

5. Operation cont.

4. Type **public** (all lower case letters) and press the Enter key. The Main Menu will appear:

```
E-COMMANDER
Copyright (c) 1996 E-COMMS, Gig Harbor, WA
   Type:         Ethernet-TP
   Description:
   Location:
   IP Address:    198.140.167.33

S - Setup    M - Monitor     P - Passthrough

Module:
1 - Type
   Description:  E-POWER-2
2 - Type         E-DATA
   Description:
Type a number and <enter> for a module menu,
<-> to page up, <+> to page down or
<esc> to disconnect                Command:
```

5. Type the number on the line in the module list that shows the *E-DATA*. For example, in the sample shown here, type **2** and press the Enter key. The following menu will appear:

```
Module 2
     Type:            E-DATA
     Description:

Port:
1 - OFF

2 - OFF

3 - OFF

4 - ON

5 - OFF

6 - OFF

7 - OFF

Type a number and <enter> to change a port,
<0> to clear all ports, <-> to page up, <+>
to page down or <esc> to return to the main
menu       Command:
```


3. Rear Panel Connectors

SIGNAL LEADS

When signals pass through the *E-DATA* module, the LEDs that correspond to each signal light and go dark to identify the signal leads that are currently sending or receiving signals.

The *E-DATA* rear panel (shown in Figure 2) contains the following connectors and controls:

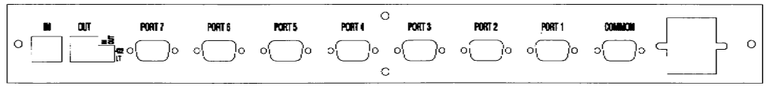

Figure 2: The E-DATA rear panel

AC Power

The AC Power input is a standard IEC three-pin 120V AC connector.

COMMON

The COMMON port is an DB-9 RS-232 data connector. The data signals on the COMMON port are identical to the signals on the currently active numbered port connector.

PORT 1 through PORT 7

The numbered port connectors are DB-9 data connectors. The data signals on the currently active port connector pass through the *E-DATA* to the COMMON port.

OUTPUT SELECTOR

The two-position Output Selector switch selects the type of data link between the *E-DATA* module and the next module in the *E-COMMANDER* stack. Set the switch to LT (light) for an optical link, or to 422 for a cable connection.

IN

The IN connector is the RS-422 link between the *E-DATA* module and the previous module in the *E-COMMANDER* stack. The IN and OUT connectors are not used when the modules in the system stack use the optical link.

OUT

The OUT connector is the RS-422 link between the *E-DATA* module and the next module in the *E-COMMANDER* stack.

4. Installation

Follow these steps to install the *E-DATA* :

1. Mount the *E-DATA* module in an equipment rack. If you are using the Visible Light Link to exchange control signals between an *E-COMMANDER* control module and the *E-DATA*, the *E-DATA* unit must be placed directly under another *E-COMMANDER* system module.

2. Set the 422/VLP switches on the rear panel to 422 for cable connections between the E-DATA module and other modules in the *E-COMMANDER* stack, or set the switches to VLP for visible light link connections.
3. If you are using an RS-422 link between modules, install a cable from the previous module in the system to the IN connector and another cable from the OUT connector to the next module in the stack.
4. Install cables from the numbered Port connectors on the rear panel of the *E-DATA* to the devices you want to monitor from the *E-DATA* COMMON port.
5. Install another data cable from the COMMON port to the modem, network analyzer, router or other shared RS-232 device.
6. Plug the power cable supplied with the *E-DATA* unit into the AC power input on the *E-DATA*.
7. Plug the other end of the power cable into a 120 VAC outlet.
8. Complete the installation of the other modules in the *E-COMMANDER* stack and the *E-MANAGER* software.

5. Operation

If it is necessary to switch data signals from more than seven sources, multiple *E-DATA* modules may be stacked in a "daisy chain" configuration. To switch signals from up 13 sources, connect the COMMON port on the second *E-DATA* module to Port 7 on the first module. For more signal sources, connect another *E-DATA* module to Port 7 of the second module, and so forth.

Follow these steps to use *E-MANAGER* software to control an *E-DATA* module:

1. Perform a poll that includes the *E-COMMANDER* stack with the *E-DATA* module you want to operate.
2. Click on the picture of the *E-DATA* module in the *E-COMMANDER* stack. The dialog box shown in Figure 3 will appear.

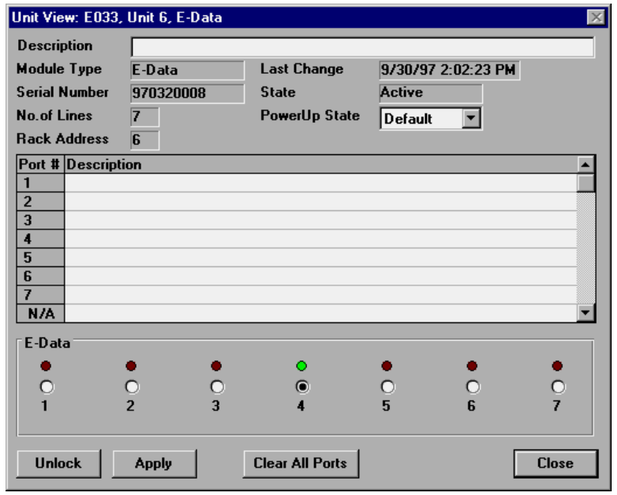

Figure 3: The E-DATA dialog box.

4. Click on the Lock button at the bottom of the dialog box.
5. Click on the radio button over the number of the data port you want to connect to the COMMON port.
6. Click on the Apply button to send your instruction to the *E-DATA* module. The color-coded indicator in the dialog box will change to green.

To control the *E-DATA* from a local terminal or through a modem or telnet session connected to the *E-COMMANDER* control unit, follow these steps:

1. Connect a computer or modem to the serial I/O connector on the *E-COMMANDER* module. If you're using a local computer or terminal, use a null modem connector.
2. If you're using a modem, set up a telephone connection to the a remote computer or terminal. If you're using a telnet connection, use your telnet client program or terminal emulator to set up a connection to the *E-COMMANDER*'s IP address.
3. When the connection to the *E-COMMANDER* unit is in place, press a key on the terminal keyboard. The following message will appear:

```
E-COMMANDER
Copyright (c) 1996 E-COMMS, Gig Harbor, WA
Enter write community name:
```