OWNER'S MANUAL

————————————

DS SERIES DATA SWITCH

FOR MODELS
DS3
DS6
DS9

ABOUT THIS OWNER'S MANUAL

This document provides information required for installing and operating your Bay Tech equipment. It should allow the user to connect, power up, and access an applications menu where peripheral equipment can be controlled. We recommend reading this manual carefully, while placing special emphasis on correct cabling and configuration. If you have any problems with your installation, please contact a BayTech Applications Engineer at **228-467-8231**, call toll free from anywhere in the United States using **1-800-523-2702** or contact us at our Web Site, www.baytechdcd.com.

BayTech manufactures many remote site management products, data switches, data collection multiplexers, remote power controllers, and peripheral print sharers. If you would like information on any of these products, please contact BayTech Customer Service at the numbers previously listed.

Conventions used in this manual include:

> **CAUTION:** This term is used to denote any condition that could possibly result in physical harm to personnel or damage to equipment.

> **IMPORTANT:** This term is used to denote conditions that could result in the loss of communications or to highlight the proper functioning of equipment.

> **NOTE:** This term is used to denote items of interest to the user.

> **<cr>:** Carriage Return or ENTER

The information in this document is subject to change without notice. The statements, configurations, technical data, and recommendations in this document are believed to be accurate and reliable, but are presented without express or implied warranty. Users must take full responsibility for their applications of any products specified in this document. The information in this document is proprietary to Bay Technical Associates, Inc.

In the interest of improving internal design, operational function, and/or reliability, Bay Technical Associates, Inc reserves the right to make changes to the products described in this document without notice.

Bay Technical Associates, Inc does not assume any liability that may occur due to the use or application of the product(s) or circuit layout(s) described herein.

This manual replaces BayTech Publication U140A121-03 and incorporates BayTech Addendum Z140A187.

We welcome any comments you may have about our products, and we hope that you will continue to look to BayTech for your data communication needs.

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INTRODUCTION TO THE DATA SWITCH (DS) SERIES

BayTech's DS-Series Data Switch provides a single dialup or EIA-232 gateway to multiple EIA-232 devices. Used for accessing remote equipment or simply switching between multiple ports, the DS-Series Data Switch provides a full duplex connection between the host and up to 32 peripherals. In a typical application, the host module connects to a local or remote computer, and the peripheral port modules connect to devices such as routers, hubs, servers, and Data Service Units (DSU's). The DS-Series Data Switch is also compatible with other BayTech products including the Remote Power Control (RPC) unit.
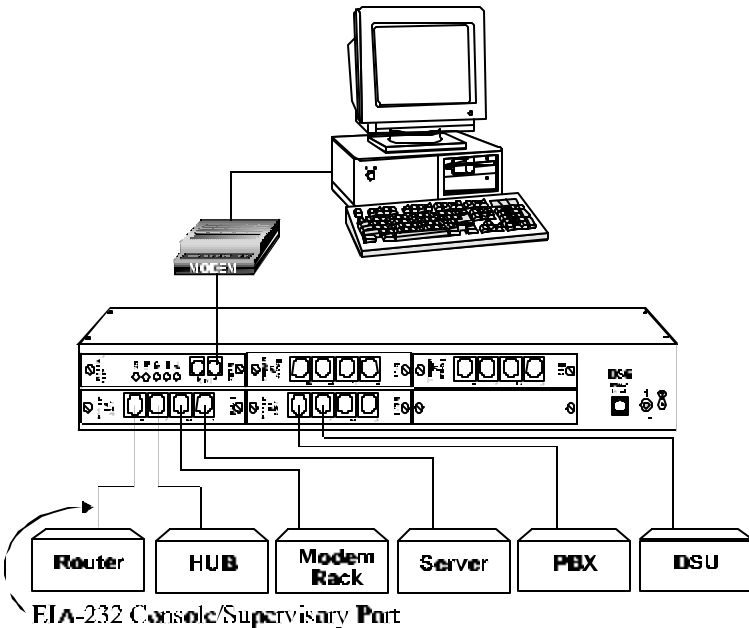
The DS-Series Data Switch is available in three chassis sizes. The DS3, DS6, and DS9 have 3, 6, and 9 expansion slots respectively, providing a maximum of 8, 20, or 32 device connections.

Table 1 provides a brief description of user programmable features available for the DS-Series Data Switch modules. Look for a detailed description of each feature at the page number given.

PROGRAMMABLE FEATURES OF THE DS MODULES

Highlighted features indicate items most often programmed

FEATURE	DESCRIPTION	ACTION	PAGE NO.
DS71 or DS71-MD2 HOST MODULE			
Serial Port Configuration	Sets serial port speed of the DS71 and DS71-MD2 **Default = 9600, 8, 1, N, Xon/Xoff Disabled**	Enter baud rate, data bits, stop bits, parity, and Xon/Xoff	26
Port Device Name	Uniquely identifies the port (or device connected to the port). **Default = Host EIA-232 and Host MODEM (DS71-MD2 only)**	Enter the device name	32
Port Select Code	ASCII character string used to select a port or module. **Default = $BT**	Enter Port Select Code	33
Attention Character	A character sent in sequence five times to invoke the main menu. **Default = ;**	Enter Attention Character	34
Disconnect Time Guard	Provides reliable binary data transmission. **Default = Disabled**	Enable/Disable Disconnect Time Guard	35
Port ID Echo	Echoes the module number and port number when you connect to the port. **Default = Disabled**	Enable/Disable Connect Port ID Echo	36
Header	Unit information that appears upon login **Default = DS71 or DS71-MD2**	Enable/Disable Header	37
Password	Password protection for dial-up and EIA-232 connections. **Default = Disabled**	Enable/ Disable, and Program Password	38
Menu	Provides a menu interface for device selection, and configuration. **Default = Enabled**	Enable/Disable Menu	39
Auto Connect Port	Allows automatic connection to a specified port upon dial-up or EIA-232 connection. **Default = Disabled**	Enable,/Disable, and Program Auto Connect Port.	40
DCD Logon/Logoff (DS71 only)	External modem returns to logoff state when DCD line goes low. **Default = Enabled**	Enable/Disable menu selection and make hardware jumper change	42

Table 1

PROGRAMMABLE FEATURES OF THE DS MODULES (con't)

FEATURE	DESCRIPTION	ACTION	PAGE NO.
DS71-MD2 HOST MODULE			
Rings to Answer(*)	The number of times the modem rings before it automatically answers. **Default = 2 rings**	Enter number of rings to auto answer	44
Modem to Modem Xon/Xoff(*)	ASCII character used to stop or start transmission of data. **Default = Disabled**	Enable/ Disable Modem to Modem	44
Connectivity Timeout(*)	Configures the amount of connectivity (5 to 255 minutes) before modem disconnects. **Default = 60 minutes**	Enter timeout in minutes. Enter 0 to disable	45
Escape Character(*)	Allows ASCII characters to be interpreted as commands instead of data. **Default = 43 (+)**	Enter the character you wish to use as an escape	46
Unit ID	Unique ID for DS-Series unit. **Default = DS71 or DS71-MD2**	Enter unit ID	47
DS74 PERIPHERAL I/O MODULE			
Serial Port Configuration	Sets serial port speed for each I/O port on the DS74. **Default = 9600, 8, 1, N, Xon/Xoff Disabled, RTS/DTR Low**	Enter baud rate, data bits, stop bits, parity, Xon/Xoff, and DTR/RTS line driver	50
Port Device Name	Unique ID for each I/O port as displayed on the main menu. **Default = Device A, Device B, Device C, Device D, etc**.	Enter port device name	50

Table 1 (con't)

PROGRAMMABLE FEATURES OF THE DS MODULES (con't)

FEATURE	DESCRIPTION	ACTION	PAGE NO.
DS73TP NETWORK MODULE			
Module IP Address	IP Address for the DS73TP to access the network. **Default = 0.0.0.0**	Enter the IP Address in dotted decimal format 0.0.0.0	52
Dial-in IP Address	IP Address for the network to access the DS73TP. **Default = 0.0.0.0**	Enter the IP Address in dotted decimal format 0.0.0.0	53
Subnet Mask	Consists of four bytes, each byte ranging from 0 to 255. **Default = 0.0.0.0**	Enter the Subnet Mask in dotted decimal format 0.0.0.0	54
Gateway	Consists of four bytes, each byte ranging from 0 to 255. **Default = 0.0.0.0**	Enter the Gateway in dotted decimal format. 0.0.0.0	55
Primary DNS	Primary Domain Name System address. **Default = 0.0.0.0**	Enter Primary DNS Address	55
Secondary DNS	Secondary Domain Name System address. **Default = 0.0.0.0**	Enter Secondary DNS Address	56
Primary NBNS	Primary Net BIOS Name Server. **Default = 0.0.0.0**	Enter Primary NBNS Address	57
Secondary NBNS	Secondary Net BIOS Name Server. **Default = 0.0.0.0**	Enter Secondary NBNS Address	57
User Name	Unique User ID. **Default = user1**	Enter User Name up to 8 characters	58
Password	Password for the Dial-Up PPP. **Default = BTA**	Enter Password up to 8 characters	58
Module Name	Unique ID for the module. **Default = DS73TP**	Enter Module Name up to 8 characters	59

DS-SERIES QUICK START

This section, "Quick Start," describes the basic steps required to set up and configure your DS-Series. If you need to acquaint yourself further with setup, configuration, and operations, see "Detailed Operations and Configuration" beginning on page 15.

EIA-232 SERIAL CONNECTION

Using the 9FMJ45PC-4 adapter and the MJ08X007 (8 pin crossed) cable, connect the serial port of your computer to the MJ-45 port labeled "EIA-232" on the DS71 or DS71-MD2 module.

Load serial port communications software. Set serial communications parameters to 9600 bps, 8 data bits, 1 stop bit, and no parity.

OPERATION

Accessing Main Menu   Power on the DS series module. The following header and main menu appears if using the DS71:

> **Data Switch Series - F.2.01**
> **Bay Technical Associates**
> **Unit ID: DS71**
> **Port Select Code: $BT**
> **Attention Character: ;**
>
> **Device A   (2,1)...............1**
> **Device B   (2,2)...............2**
> **Device C   (2,3)...............3**
> **Device D   (2,4)...............4**
> **Configure................................C**
> **I/O Modules Reset..................RM**
> **Unit Reset..............................RU**
> **Exit.......................…..............X, ENTER**
> **Logout.......................................T**
> **Enter Request:**

> **<u>NOTE</u>:** The DS71 and DS71-MD2 have some menus that are different. Where this situation occurs it will be addressed.

Or this menu if the DS71-MD2 is used:

Data Switch Series - F.0.13
Bay Technical Associates
Unit ID: **DS71-MD2**
Port Select Code: **$BT**
Attention Character: ;

Use the "Attention Character" to display the remainder of the menu.

Device A   (2,1)...............1
Device B   (2,2)...............2
Device C   (2,3)...............3
Device D   (2,4)...............4
Configure................................C
I/O Modules Reset..................RM
Unit Reset..............................RU
Exit.......................…..............X
Logout.....................................T
Enter Request:

<u>NOTE</u>: Depending on the DS series model, the menus may vary according to the number of DS74 modules installed in the unit.

If this is not an initial set-up and Password has already been enabled, you are prompted to login. After logging in successfully, access the main menu by sending the attention character five times (;;;;;).

Selecting a Device

From the main menu, select the number of the device you wish to access, followed by <cr>. To return to the main menu, send the attention character five times (;;;;;).

DS SERIES MODULE CONFIGURATION

Accessing Configuration Menu

From the DS-Series Main Menu, select C, "Configuration," followed by <cr>. The following selection menu appears:

```
Configuration
Module 1 ...............................................1
Module 2 ...............................................2
Module 3 ...............................................3
Select Port ...........................................S
Exit ......................................................X
Enter Request :
```

To configure a module, enter the number associated with it, followed by <cr>. For detailed configuration of each module refer to:

DS71 or DS71-MD2   page 24
DS74   page 49
DS73   page 51

INSTALLATION

UNPACKING

Compare the unit and serial number of the equipment you received to the packing slip located on the outside of the box. Log this information on the sheet on page 61. Inspect equipment carefully for damage that may have occurred in shipment. If there is damage to the equipment or if materials are missing, contact BayTech customer service at 228-467-8231 or call toll free inside the United States at 800-523-2702. At a minimum, you should receive the following:

a.   The DS-Series Unit

b.   This manual with any applicable addendum(s).

c.   1 ea 9FMJ45PC4 adapter

d.   1 ea MJ08X007(MJ45) cable

e.   1 ea #AA1580-5 (XFO028) 15 VAC transformer

f.   1 ea RJ-11 telco cable -- RJ04X007 (DS71-MD2 only).

g.   1 ea 25MMJ45MD-6 adapter (DS71 only)

> **NOTE:** Keep the shipping container and packing material in the event future shipment is required.

PREPARING THE INSTALLATION SITE

The installation area should be clean and free of extreme temperatures and humidity. Allow sufficient space behind the unit for cabling.

POWER

CAUTION: This unit is intended for indoor use only. Do not install near water or expose this unit to moisture. To prevent heat buildup, do not coil the power cord when in use. Do not use extension cords. Do not attempt to make any internal changes to the power source. Do not attempt to modify any portion or component of a DS-Series Data Switch unless specifically directed to; as in Appendix E of this manual. BayTech must perform any internal changes.

CAUTION: High-voltage surges and spikes can damage this equipment. To protect from such power surges and spikes, this unit must have a good earth ground. A grounding screw connection is located near the power switch on the back of the unit.

CAUTION: Before removing or replacing any modules, turn off main power switch located on the DS-Series Base Unit. Communication to the DS-Series Data Switch will be disrupted while power is off.

CABLING

MJ-45 CABLES AND ADAPTERS

IMPORTANT: The DS-Series host communications modules have an MJ-45 port which uses an 8-pin crossed modular cable to connect to a local EIA-232 device such as a computer terminal or external modem. Most serial computers do <u>not</u> have MJ-45 connections; therefore an adapter is provided with this unit to convert from a DE-9 connector to an MJ-45 connector (Bay Tech Part No. 9FMJ45PC-4). An adapter to convert from a DB-25 connector to an MJ-45 connector is also available from Bay Tech, upon request (Bay Tech Part No. 25FMJ45PC-4). The 8-pin crossed modular cable is configured to operate with these adapters.

CAUTION: All power should be removed from the DS Series unit prior to removing or installing cables.

Figures 1 and 2 provide visual representation of an MJ-45 receptacle and plug; pin number assignments are given in Table 2.
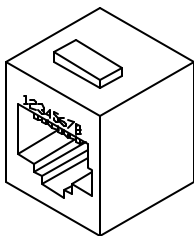
Fig. 1: MJ-45 Receptacle   **Fig. 2: MJ-45 Plug**
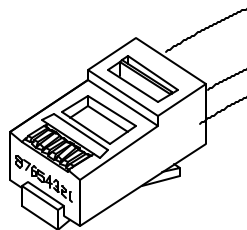
DS73TP CONNECTION

You should connect a straight cable between the MJ-45 ports of the DS73TP module and the network hub. The "LINK" light will light green when a good link has been established.

Tables 2 and 3 define the pin layout for the DS71 or DS71-MD2 and DS74.

DS71 EIA-232 MJ-45 Pin/Signal Definition		
Pin	EIA-232 Signal	Description
1	Handshake Out	(DTR) Line Driver Inactive State = High: +12V when power is applied. Used as a handshake line to enable/disable the receiving of characters.
2	Gnd	Signal ground
3	Handshake Out	(RTS) Line Driver Inactive State = High: +12 V when power is applied. Not used to enable/disable.
4	TX Out	Transmit Data (data out)
5	RX In	Receive Data (data in)
6	Handshake In	(DSR) Handshake In. –12V when not used.
7	Gnd or DCD In	Signal ground when Jumper JP6-2 is connected to JP6-3. In order for the DS71 to take advantage of "DCD Logon/Logoff" and "Auto Connect Port", Jumper JP6-2 is connected to JP6-1 providing DCD In.
8	Handshake In	(CTS) Used as a handshake line to enable/disable the receiving of characters.

Table 2 DS71 PIN SIGNAL DEFINITION

DS74 EIA-232 MJ-45 Pin/Signal Definition		
Pin	EIA-232 Signal	Description
1	Handshake Out	(DTR) Line Driver Inactive State = Low: Used as a handshake line to enable/disable the receiving of characters. –12V when port is not selected unless programmed differently.
2	Gnd	Signal ground
3	Handshake Out	(RTS) Line Driver Inactive State = Low: Used as a handshake line. –12V when port is not selected unless programmed differently.
4	TX Out	Transmit Data (data out)
5	RX In	Receive Data (data in)
6	Handshake In	(DSR) Handshake In. +12V when not used.
7	Gnd	Signal ground
8	Handshake In	(CTS) Used as a handshake line to enable/disable the receiving of characters.

Table 3 DS74 PIN SIGNAL DEFINITION

The DS74 module has four MJ-45 ports for connecting to peripheral devices. BayTech has a complete line of modular adapters and cables that may be helpful with your installation. For more information on these cables and adapters, contact BayTech's Applications Engineers.

MODEM CONNECTIONS

In addition to the MJ-45 port, the DS71-MD2 Host Communications Module has two RJ-11 ports for connecting to telephone lines. You may connect either RJ-11 port to a Telco wall jack using a standard RJ-11 straight through cable. These ports are in parallel and the second port is available for another telco device.

Connect an external modem to the EIA-232 serial port on the DS71 host module by using the 25MMJ45MD-6 adapter and MJ08X007 8-bit crossed modular cable supplied with this unit.
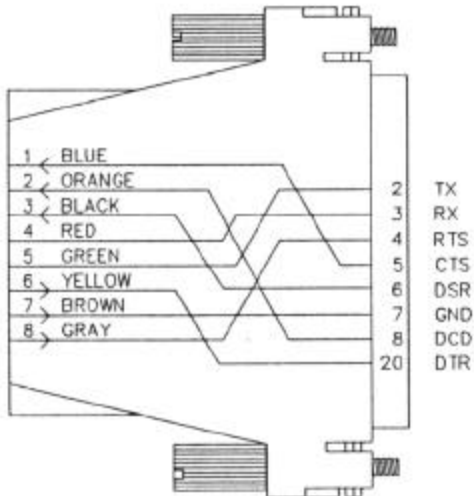
Fig 3: MD-6 MODEM Serial Port Adapter
BayTech Part No 25MMJ45MD-6

IMPORTANT: Use crossed MJ-45 cables when using modular connectors to interface the DS-Series to another BayTech product with modular connectors, such as the RPC Remote Power Control Unit.
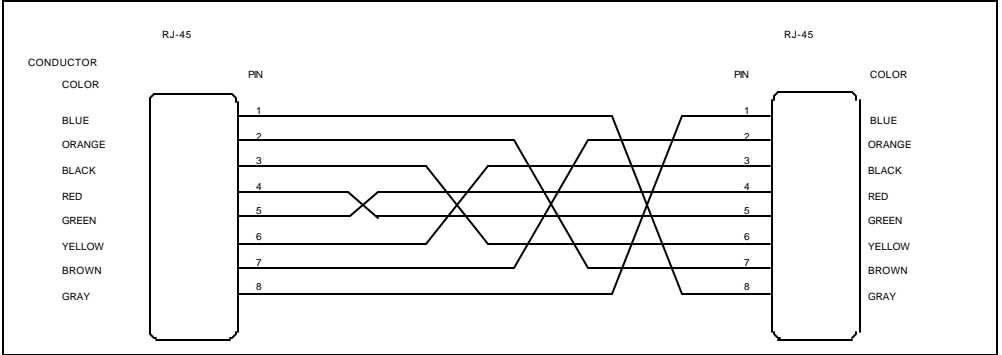
Fig 4: Crossed 8-pin Modular Cable
BayTech Part No. MJ08X007
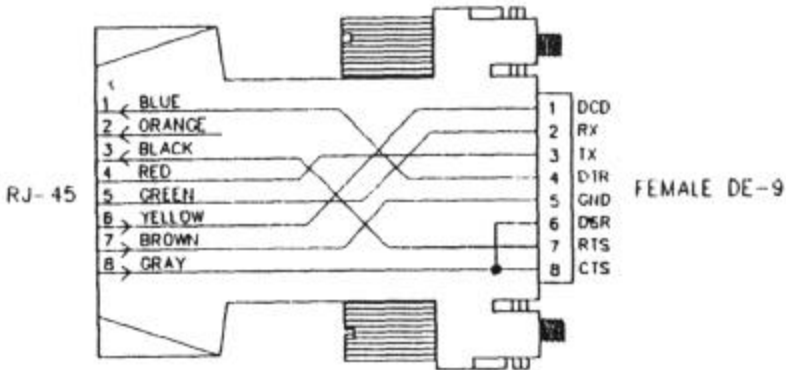
Fig 5: DE-9 PC Serial Port Adapter
BayTech Part No. 9FMJ45PC4

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DETAILED OPERATION AND CONFIGURATION

The following section, "Detailed Operation and Configuration," provides a detailed approach to accessing, operating, and configuring the DS-Series.

> **NOTE**: It is important that you type all commands correctly. Any combination of wrong entries results in an error message.

CONNECTING TO THE DS-SERIES DATA SWITCH

EIA-232 SERIAL CONNECTION

The DS71 Host Module has an MJ-45 port for connecting to a local EIA-232 device, such as a computer terminal or external modem. Most serial computers do not have MJ-45 connections; therefore, an adapter is provided with this unit to convert from a DE-9 connector to an MJ-45 connector (BayTech Part No. 9FMJ45PC-4). If you are connecting to a modem, use a modem adapter (BayTech Part No. 25MMJ45MD-6) and an MJ08X007 8-pin crossed modular cable.

BayTech also manufactures a computer/terminal adapter (BayTech Part No. 25FMJ45PC-4) for converting from a DB-25 connector to an MJ-45 connector.

If you require a different adapter than the one supplied with this unit, contact BayTech's Applications Engineers.

Using the 9FMJ45PC-4 adapter (or other adapter) and the MJ08X007 crossed modular cable, connect the serial port of your computer to the MJ-45 port labeled EIA-232 on the DS71 or DS71-MD2
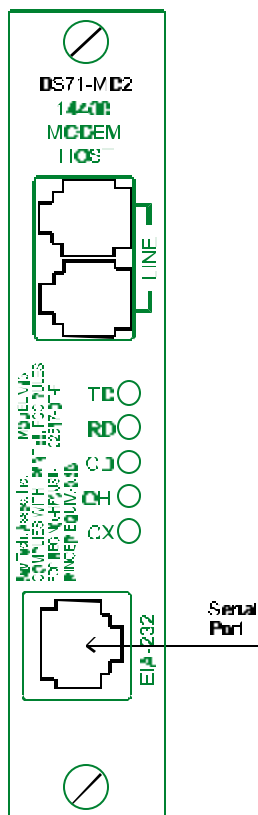
module.
Load serial port communications software.
Configure serial communications parameters
for the host terminal to match the DS71 or
DS71-MD2 module. The DS71 or DS71-
MD2 modules have factory serial
communications parameters of 9600 bps, 8
data bits, 1 stop bit, no parity, XON/XOFF
disabled.

INTERNAL MODEM   The DS71-MD2 has a 14.4K bps internal
CONNECTION   modem for remote access.
(DS71-MD2 ONLY)

IMPORTANT: The DS71-MD2 modem option has priority over
the EIA-232 serial port. If a serial port user is in configuration
mode or connected to a DS74 I/O port when a modem connection
is established, the serial port user will be "booted" off, allowing
the remote user to communicate with the DS unit.

Using the RJ04X007 (RJ-11) modular cable,
connect either port labeled "LINE" on the
DS71-MD2 module to the telco wall jack.
Using communications software, dial the
modem using the ATDT command.

NOTE: Both "LINE" ports are active and either can be used.
The second "LINE" port is available for growth.

EXTERNAL MODEM   Using the 25MMJ45MD-6 adapter (or other
CONNECTION   applicable adapter) and the MJ08X007
                        crossed cable, connect the COM (or serial)
                        port of the modem to the MJ-45 port labeled
                        EIA-232 on the DS71 or DS71-MD2
                        module. Using an RJ04X007 (RJ-11)
                        modular cable, connect the port labeled
                        "LINE" on the modem to the telco wall jack.
                        Using communications software package,

dial the modem.

10BASE-T NETWORK PORT CONNECTION

Using a straight 10Base-T cable, connect the MJ-45 port labeled ETHERNET on the DS73TP module to an MJ-45 port on the network hub. The LINK (link integrity) LED, located on the front panel of the DS73TP, illuminates when a good connection is established between the DS73TP and the hub.
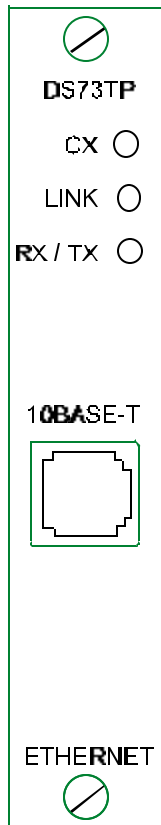
OPERATION

**ACCESSING MAIN
MENU**

Power on the DS-SERIES unit. The following header and main menu appears if using the DS71:

Data Switch Series - F.2.01
Bay Technical Associates
Unit ID：**DS71**
Port Select Code：**$BT**
Attention Character: ;

Device A   (2,1)...............1
Device B   (2,2)...............2
Device C   (2,3)...............3
Device D   (2,4)...............4
Configure.................................C
I/O Modules Reset..................RM
Unit Reset...............................RU
Exit...........................…..............X,
Logout......................................T
Enter Request:

NOTE: The DS71 and DS71-MD2 have some menus which are different. Where this situation occurs it will be addressed.

Or this menu if the DS71-MD2 is used:

Data Switch Series - F.0.13
Bay Technical Associates
Unit ID：**DS71-MD2**
Port Select Code：**$BT**
Attention Character: ;

Use the "Attention Character" to display the remainder of the menu.

Device A   (2,1)...............1
Device B   (2,2)...............2
Device C   (2,3)...............3
Device D   (2,4)...............4
Configure.................................C
I/O Modules Reset..................RM
Unit Reset...............................RU
Exit...........................…..............X
Logout......................................T
Enter Request:

NOTE: Depending on the DS-Series model, the menus may vary according to the number of DS74 modules installed in the unit.

> If this is not an initial set-up and Password has already been enabled, you are prompted to login. After logging in successfully, invoke the main menu by sending the attention character five times (;;;;;).

NOTE: Password feature is case sensitive.

SELECTING A DEVICE   There are two methods of selecting a device, menu driven selection and ASCII character string method.

Menu Driven Selection   From the main menu, select the number that corresponds to the device you wish to access, followed by <cr>. To return to the main menu, send the attention character five times (;;;;;).

ASCII Character String   Another method of selecting devices and operating the DS series is the ASCII character string method. To select a device located on a peripheral module port, send the port select code **(default is $BT),** the module number, a comma, and then the port number, followed by <cr> (there are no spaces in the string). For example, to select port 4 located on module 2, type $BT2,4<cr>. To select port 1 on module 9 (DS9 model), type $BT9,1<cr>. To disconnect, type $BT<cr>, then the attention character.

To configure a module, type $BT and the module number followed by <cr>, then $CONFIG followed by <cr>. This will allow access to the configuration menu for that module. Once configuration is complete, type X for "Exit" followed by <cr>. To access the main menu, type the attention character five times.

NOTE: You must exit main menu to send ASCII character string commands.

NOTE: While operating using the ASCII Character String method, consider placing the DS-Series in binary mode.

Binary Mode

If binary data containing the port select code is sent to a module, the DS-Series may interpret the data as a command to change ports. Binary mode prevents such an occurrence by placing the DS-Series in a mode which does not look at the data. This provides a reliable binary data transmission. However, before a connection can be made to another port, the binary mode must be terminated.

Place the port in binary mode by sending the port select code, a capital B, and a carriage return **($BTB).** For example, if using the default Port Select Code ($BT), place Module 2, Port 1 in binary mode by typing **$BT2,1<cr>$BTB<cr>.**

Terminate Binary Mode

From the terminal emulation software, send a BREAK condition command to terminate binary mode. You may have to consult the software users' manual for the specific BREAK condition command for the emulation software you are using. For example, the BREAK condition command for PROCOMM PLUS is "Alt B."

**PPP DIAL-UP
CONNECTION**

Using Windows 95Dial-Up Networking or another dial-up networking program with PPP, dial the modem connected to the host module. The Host Module sends the main menu:

**Data Switch Series - F.0.10
Bay Technical Associates
Unit ID: DS73TP
Port Select Code**: **$BT
Attention Character: ;**

Device A	**(2,1)**...............**1**	
Device B	**(2,2)**...............**2**	
Device C	**(2,3)**...............**3**	
Device D	**(2,4)**...............**4**	
DS73	**(3,1)**...…….......**5**	

**Configure................................C
I/O Modules Reset..................RM
Unit Reset...............................RU
Exit...X
Logout.....................................T
Enter Request:**

From the host module main menu, select the DS73TP module connected to the network or exit from the main menu and send the ASCII character string to select the DS73TP module. The DS73TP sends the following header and prompts for user name.

NOTE: User name and password are case sensitive.

**DS73TP Ethernet Module
F.0.01 Copyright (c) 1997
Bay Technical Associates**

Enter User Name:

Enter User Name. (**Default User Name is user1**.) The DS73TP responds:

Enter Password:

Enter Password. (**Default Password is**

BTA. The DS73TP responds:

Login Successful

Once login is successful and a network connection has been established, Telnet (using the IP Address) to any device on the network.

<u>NOTE</u>: A Windows 95 dial-up networking tutorial is provided for your convenience in Appendix C.

CONFIGURATION

DS71 OR DS71-MD2 CONFIGURATION

If you are using the Menu Selection Method, select C, "Configure," followed by <cr> from the DS-Series Main Menu. The following selection menu appears:

```
Configuration
Module 1 ..............................................1
Module 2 ..............................................2
Module 3 ..............................................3
Select Port ...........................................S
Exit .....................................................X
Enter Request :
```

If you are using the ASCII Character String Method, exit main menu, then select the module to configure. To select Module #1, type $BT1<cr>. The DS71 or DS71-MD2 responds "Requested Connection Made." Send the ASCII configuration command $CONFIG. The configuration menu appears.

Enter the number of the module to configure, followed by <cr>. To configure the host module 1, select #1. The following configuration menu appears for the DS71:

```
Copyright(C) Bay Technical Associates 1998
DS71 Data Switch Series - Host Module
Revision F.2.01
Module 1
Status.................……………....…......1
Serial Port Configuration...………......2
Port Device Name...........…………….3
Port Select Code............…………..4
Attention Character.........…………....5
Disconnect Timeguard.....…………....6
Connect Port ID Echo....…………......7
Login Setup...............………………8
DCD Logon/Logoff.....…………........9
Unit ID.....................………………..U
Configure Another Module....…….....C
Exit...................……………….…..X
```

Or this for the DS71-MD2;

Enter Request :Copyright (C) Bay Technical Associates
1998
DS71 Data Switch Series – V.32 Modem Host Module
Revision F.2.01
Module 1

Status ....…................................1
Serial Port Configuration 2
Port Device Name 3
Port Select Code 4
Attention Character …...........................5
Disconnect Timeguard 6
Connect Port ID Echo …........................7
Login Setup 8
Local Modem Setup.........…...............9
Unit ID ....…..........U
Configure Another Module C
Exit ....…..............X, CA

NOTE: The DS71 uses the DCD Logon/Logoff function in line item 9. The DS71-MD2 uses the Local Modem Setup function in line item 9.

STATUS

View the status of most user programmable features by selecting #1, "Status," from the configuration menu, followed by <cr>. User programmable features include Serial Port Configuration, Port Device Name, Port Select Code, Attention Character, Disconnect Time Guard, Connect Port ID Echo, Login Setup, and DCD Logon/Logoff (DS71) or Local Modem Setup (DS71-MD2).

The status of the following features appears:

Installed Modules: 1, 2, 3, …(etc)
Port Select Code is ....$BT
Attention Character is ....;
Disconnect Time Guard is ....Disabled
Port ID Echo is ....Disabled
Unit ID is ....DS71-MD2 (or DS71)
DCD Logon/Logoff is …………..Disabled (DS71 only)

NOTE: The entries in parentheses are added to help clarify what you may see in the menu. These parentheses do not appear on your screen.

Local Modem Setup: (* DS71-MD2 only)
Rings to Auto-Answer .... 2 (*)
Modem to Modem Xon/Xoff FlowControl..Disabled (*)
Modem Connectivity is ....… 60 minutes (*)
Escape Character is ....… 43 + (*)

Login Setup:
Header is .... Enabled
Password is .... Disabled
Menu is .... Enabled
Auto Connect Port is .... Module 2, Port 1
Auto Connect is .... Disabled
Strike Any Key to Continue

Port	Device Name	Baud Rate	Word Size	Stop Bits	Parity	Xon/ Xmit	Xoff/ Recv	Line DTR	Drive RTS
1	Host EIA-232	9600	8	1	None	Off	Off	High	High
2	Host Modem	57.6k	8	1	None	Off	Off	High	High

Strike any Key to Continue

Note: On the DS71 module only Port 1 will be displayed since there is no Host Modem installed.

SERIAL PORT CONFIGURATION   DS-Series host modules translate data for devices using different serial configurations. See Appendix A, "SPECIFICATIONS" for available serial parameters. **Default Serial Port Configurations are 9600 bps, 8 data bits, 1 stop bit, no parity, Xon/Xoff disabled, RTS high, and DTR low.**

DS71

From the configuration menu, select #2, "Serial Port Configuration", followed by <cr>. The DS unit displays the following table:

Module 1 Serial Port Configuration :

Port	Device Name	Baud Rate	Word Size	Stop Bits	Parity	Xon/ Xmit	Xoff/ Recv	Line DTR	Drive RTS
1	EIA-232	9600	8	1	None	Off	Off	High	High

Exit/Save.............1 Set Parity...............5
Set Baud Rate.....2 Set Xon/Xoff.........6
Set Word Size.....3 RTS Line Driver...7
Set Stop Bits........4 DTR Line Driver...8

Enter Request :

Select the corresponding number to configure baud rate, word size, stop bits, parity..

NOTE: DTR is unchangeable when configuring the serial port..

For example, to change the baud rate to 115.2K, select #2, "Set Baud Rate," followed by <cr>.

The DS71 displays the following list of available baud rates:

1 for 300
2 for 600
3 for 1200
4 for 2400
5 for 4800
6 for 9600
7 for 19200
8 for 38400
9 for 57.6K
A for 76.8K
B for 115.2K
Enter Request :

Type "B" for 115.2K baud rate. The DS71 responds with the new configuration status:

Module 1 Serial Port Configuration :

Port	Device Name	Baud Rate	Word Size	Stop Bits	Parity	Xon/ Xmit	Xoff/ Recv	Line DTR	Drive RTS
1	EIA-232	115.2K	8	1	None	Off	Off	High	High

Exit/Save..…........1 Set Parity...…..........5
Set Baud Rate….2 Set Xon/Xoff…........6
Set Word Size….3 RTS Line Driver....7
Set Stop Bits..…..4 DTR Line Driver...8
Enter Request :

Set Word Size by selecting #3, "Set Word Size." The DS71 displays the following list of available word sizes:

1 For 5
2 For 6
3 For 7
4 For 8

Enter the corresponding number for the desired word size. The DS71 responds with the new configuration status:

Module 1 Serial Port Configuration :

Port	Device Name	Baud Rate	Word Size	Stop Bits	Parity	Xon/ Xmit	Xoff/ Recv	Line DTR	Drive RTS
1	EIA-232	115.2K	8	1	None	Off	Off	High	High

Exit/Save..…........1 Set Parity...…..........5
Set Baud Rate….2 Set Xon/Xoff…........6
Set Word Size….3 RTS Line Driver....7
Set Stop Bits..…..4 DTR Line Driver...8
Enter Request :

To permanently save configuration changes, select 1, "Exit/Save," from the selection menu, followed by <cr>. The DS71 responds:

Change Host Device to Match NEW Configuration
Before Answering this Request
Save Changes Permanently ? (Y/N) :

IMPORTANT: This message reminds you to change the serial port configuration of the host terminal to match the new configuration changes made to the serial port on the host module. If they do not match, the DS71 will be unable to interpret the next command, and you will be unable to access any connected unit. If this happens, recycle power and reconfigure the unit. Make any necessary changes to the host device before answering "Save Changes Permanently?"

If you have made necessary changes to the host device, type "Y" for yes, followed by <cr>. New configuration changes are stored permanently in non-volatile memory.

DS71-MD2

From the configuration menu, select #2, "Serial Port Configuration", followed by <cr>. The DS unit asks for the Host Device number.

Enter Host Device Number (1-2) :

Selecting #1 will give the same results as the DS71 in the previous section. Selecting 2 will give the following table:

Module 1 Serial Port Configuration :

Port	Device Name	Baud Rate	Word Size	Stop Bits	Parity	Xon/ Xmit	Xoff/ Recv	Line DTR	Drive RTS
2	Host MODEM	57.6k	8	1	None	Off	Off	High	High

Exit/Save.............1 Set Parity...............5
Set Baud Rate.....2 Set Xon/Xoff..........6
Set Word Size.....3 RTS Line Dri ver...7
Set Stop Bits........4 DTR Line Driver...8

Enter Request :

Select the corresponding number to configure baud rate, word size, stop bits, parity.

NOTE: DTR is unchangeable when configuring the serial port. When configuring the Host Modem, Xon/Xoff, RTS, and DTR are hardware settings and, therefore, unchangeable.

For example, to change the baud rate to 115.2K, select #2, "Set Baud Rate," followed by <cr>.

The DS71-MD2 displays the following list of available baud rates:

1 for 300
2 for 600
3 for 1200
4 for 2400
5 for 4800
6 for 9600
7 for 19200
8 for 38400
9 for 57.6K
A for 76.8K
B for 115.2K
Enter Request :

Type "B" for 115.2K baud rate. The DS71-MD2 responds with the new configuration status:

Module 1 Serial Port Configuration :

Port	Device Name	Baud Rate	Word Size	Stop Bits	Parity	Xon/ Xmit	Xoff/ Recv	Line DTR	Drive RTS
2	Host MODEM	115.2K	8	1	None	Off	Off	High	High

Exit/Save..…........1 Set Parity..…........5
Set Baud Rate….2 Set Xon/Xoff…........6
Set Word Size….3 RTS Line Driver....7
Set Stop Bits..…...4 DTR Line Driver...8
Enter Request :

Set Word Size by selecting #3, "Set Word Size." The DS71-MD2 displays the following list of available word sizes:

1 For 5
2 For 6
3 For 7
4 For 8

Enter the corresponding number for the desired word size. The DS71 responds with the new configuration status:

Module 1 Serial Port Configuration :

Port	Device Name	Baud Rate	Word Size	Stop Bits	Parity	Xon/ Xmit	Xoff/ Recv	Line DTR	Drive RTS
2	Host MODEM	115.2K	8	1	None	Off	Off	High	High

Exit/Save..…........1 Set Parity..…........5
Set Baud Rate….2 Set Xon/Xoff…......6
Set Word Size….3 RTS Line Driver....7
Set Stop Bits..…..4 DTR Line Driver...8
Enter Request :

To permanently save configuration changes, select #1, "Exit/Save," from the selection menu, followed by <cr>. The DS71-MD2 responds:

Change Host Device to Match NEW Configuration
Before Answering this Request
Save Changes Permanently ? (Y/N) :

IMPORTANT: This message reminds you to change the serial port configuration of the host terminal to match the new configuration changes made to the serial port on the host module. If they do not match, the DS71-MD2 will be unable to interpret the next command, and you will be unable to access any connected unit. If this happens, recycle power and reconfigure the unit. Make any necessary changes to the host device before answering "Save Changes Permanently?"

If you have made necessary changes to the host device, type "Y" for yes, followed by <cr>. New configuration changes are stored permanently in non-volatile memory.

The unit returns with the following message:

Enter Host Device Number (1-2) :

If you have completed your Serial Port configuration then <cr>.

PORT DEVICE NAME

Port Device Name is a user programmable feature that uniquely identifies the port (or device connected to the port) you are configuring. The DS71 has one host device and the DS71-MD2 has two host devices. **The default name for the host device in Port 1 is EIA-232. The default name for Port 2 (MD2 only) is Host MODEM.**

Select #3, "Port Device Name," followed by <cr>. The DS71-MD2 module responds:

Enter Host Device Number (1-2)

Select the number of the host device whose Port Device Name you want to program. The DS71-MD2 responds with a menu similar to the following. The DS71 goes directly to this menu:

Module 1 Device Name :

Port	Device Name	Baud Rate	Word Size	Stop Bits	Parity	Xon/ Xmit	Xoff/ Recv	Line DTR	Drive RTS
1	**HOST EIA-232**	**9600**	**8**	**1**	**None**	**Off**	**Off**	**High**	**High**

Enter Port Device Name (Max. 16 characters):
or press ENTER for no change ....:

Enter a new port device name up to 16 characters. For example, if you are using multiple DS units on a network, and you want to name the host device Southeast Region, type "SE REGION" followed by <cr>. The module responds:

Module 1 Device Name :

Port	Device Name	Baud Rate	Word Size	Stop Bits	Parity	Xon/ Xmit	Xoff/ Recv	Line DTR	Drive RTS
1	SE REGION	9600	8	1	None	Off	Off	High	High

Enter Port Device Name (Max. 16 characters):
or ENTER for no change ....:

If you are satisfied with the new device name, press <cr>. The DS71-MD2 responds again:

Enter Host Device Number (1-2)

If there are no further changes, press <cr> to return to the configuration menu. The DS71 goes directly to the configuration menu.

PORT SELECT CODE

The Port Select Code is an ASCII character string sent by the host terminal to the DS71 or DS71-MD2 module to select an I/O port on a DS74 peripheral module. The Port Select Code can range from 1 to 8 characters and is user programmable. **Default Port Select Code is $BT.**

From the configuration menu, select #4, "Port Select Code," followed by <cr>. The host module displays the current port select code and asks if you want to change:

Port Select Code is................$BT
Change It ? (Y/N) :

Type "Y" to change the port select code, followed by <cr>. The host module responds:

Enter Port Select Code (Max. 8 characters):

Enter a new port select code followed by <cr>.   For example, if you want to identify the port select code as "BAYTECH," type BAYTECH followed by <cr>. The DS71 or DS71-MD2 module displays the new port select code and asks if you want to change.

Port Select Code is................BAYTECH
Change It? (Y/N):

If there are no additional changes, type "N" for no, followed by <cr>. The DS71 or DS71-MD2 module stores the new port select code permanently in non-volatile memory and returns to the configuration menu.

ATTENTION
CHARACTER

The Attention Character is a character used in sequence to invoke the main menu. **Default Attention Character is a semicolon (;).**

From the configuration menu, select #5, "Attention Character," followed by <cr>. The host module displays the current attention character and asks if you want to change.

Attention Character is............ ;
Change It? (Y/N):

If you want to change the attention character type "Y" for yes followed by <cr>". The DS71 or DS71-MD2 module responds:

Enter Attention Character:

Enter a new attention character. For example, if you want the attention character to be "%", type % followed by <cr>. The host module displays the new attention character and asks if you want to change.

Attention Character is............ %
Change It? (Y/N):

If there are no additional changes, type "N" for no followed by <cr>. The DS71 or DS71-MD2 module stores the new attention character in non-volatile memory and returns to the main configuration menu.

DISCONNECT TIME GUARD

When using the Attention Character Method, it is possible for the same character being sent as data from another device to be interpreted by the DS series module as the attention character. This could result in unwanted port disconnection. If enabled, the Disconnect Time Guard feature provides reliable binary data transmission by providing a one-second "timeguard" after the DS-Series receives the attention character. If more data is received within the delay period, the DS-Series treats the character as data, not an attention character; thereby preventing unwanted port disconnection. **Default Disconnect Time Guard is disabled.**

From the configuration menu, select #6, "Disconnect Time Guard," followed by <cr>. The DS series module displays the current status and asks if you want to change:

Disconnect Time Guard is..................Disabled
Enable? (Y/N, CR for no change):

Type "Y" for yes or "N" for no followed by <cr> to toggle the existing status or type <cr> for no change. The DS71 or DS71-MD2 module stores the Disconnect Time Guard selection in non-volatile memory and returns to the configuration menu.

CONNECT PORT ID ECHO

When enabled, Connect Port ID Echo identifies the module number and port number you are connected to. Choose the port device name or the module and port number to echo when a DS71 or DS71-MD2 module selects a port on a DS74 module. **Default Connect Port ID Echo is disabled.**

From the configuration menu, select #7, "Connect Port ID Echo," followed by <cr>. The DS71 or DS71-MD2 module presents the current status of Port ID Echo and asks if you want to change:

Port ID Echo is....................Disabled
Change It? (Y/N):

Type "Y" for yes followed by <cr> to toggle Connect Port ID Echo or "N" for no followed by <cr>. If you answer yes, the DS71 or DS71-MD2 module responds:

Disable Port ID Echo…................ 1
Use Module, Port number..…........2
Use Device Name........…..............3
Exit...…... X,CR

Enter Request:

If you are enabling Port ID Echo, choose #2 to echo the module and port number, followed by <cr>. Choose #3 to echo the device name, followed by <cr>. The DS71 or DS71-MD2 module stores the selected Connect Port ID Echo in non-volatile memory and returns to the configuration menu.

NOTE: If you choose #3, "Use Device Name," the programmed Port Device Name for the selected DS74 is used.

LOGIN SETUP

This configures how the host modem responds upon login. You can Enable/Disable the Header and Menu and/or Enable/Disable/Program Password and Auto Connect Port.

From the configuration menu, select #8, "Login Setup," followed by <cr>. The following menu appears:

```
Header....…....................... 1
Password..…..................... 2
Menu..........…................. 3
Auto Connect…................ 4
Exit.................…............. X, CR
```

Header

If enabled, the following header appears with the main menu upon initiation of power or after a modem connection to the host module has been established. If disabled, the header does not appear with the main menu. **Default Header is enabled.**

```
Data Switch Series – F.2.01
Bay Technical Associates
Unit ID:  DS71-MD2
Port Select Code:   $BT
Attention Character:   ;
```

NOTE: This header may appear different depending on type of module installed.

From the selection menu, select #1, "Header," followed by <cr>. The DS71 displays the current header status and asks if you want to enable:

Header is......................... Disabled
Enable? (Y/N, CR for no change):

Type "Y" for yes followed by <cr> if you want to enable Header status. Type "N" for no followed by <cr> if you want to disable Header. Enter <cr> for no change.

Password

To change Password or Enable/Disable Password upon login, select #2, "Password," from the selection menu, followed by <cr>. **Default Password is BTA, disabled.** The DS71 or DS71-MD2 module responds:

Change Password.....................1
Enable/Disable......................... 2
Exit.......................................…..X, CR

To change the current password, select #1, "Change Password," followed by <cr>. The DS71 or DS71-MD2 module responds:

Enter New Password (1 - 8 char., CR to end):

Enter the new password up to 8 ASCII characters followed by <cr>. The DS71 or DS71-MD2 module stores the new password in non-volatile memory and returns to the selection menu.

To toggle Password status, select #2, "Enable/Disable," followed by <cr>. The DS71 or DS71-MD2 module displays the current status and asks if you want to enable:

Password is .... Disabled
Enable? (Y/N, CR for no change):

Enter "Y" for yes followed by <cr> if you want to enable Password. Type "N" for no followed by <cr> if you want to disable Password. Enter <cr> no change.

Menu   Enable/Disable Menu upon login**. Default menu is enabled.** If disabled,the following header appears upon login without the main menu:

Data Switch Series - F.2.01
Bay Technical Associates
Unit ID: DS71-MD2
Port Select Code: $BT
Attention Character: ;

NOTE: This header may appear different depending on type of module installed.

NOTE: To invoke the main menu when disabled, enter the attention character five times (;;;;;).

If enabled, the following header and menu appears:

Data Switch Series - F.0.10
Bay Technical Associates
Unit ID: **DS71**
Port Select Code: **$BT**
Attention Character: ;

Device A   (2,1)...............1
Device B   (2,2)...............2
Device C   (2,3)...............3
Device D   (2,4)...............4
Configure..................................C
I/O Modules Reset...................RM
Unit Reset................................RU
Exit...X
Logout......................................T
Enter Request:

Select #3, "Menu," from the selection menu, followed by <cr>. The DS71 or DS71-MD2 module displays the current menu status and asks if you want to enable:

Menu is........................... Disabled
Enable? (Y/N, CR for no change):

Type "Y" for yes followed by <cr> if you want to enable Menu. Type "N" for no followed by <cr> if you want to disable Menu. Type <cr> for no change.

NOTE: If Auto Connect Port is enabled, Header and Menu are automatically disabled.

Auto Connect Port   If Auto Connect Port has been enabled, then the initiation of power to the DS71 or DS71-MD2 module will connect the user to the designated I/O port. This also happens when a modem connection is established.

NOTE: The auto connect port has priority over the login setup menu. If Auto Connect Port is enabled, the header and main menu are automatically disabled.

IMPORTANT: Auto Connect Port works with the DS71 upon dial-up or EIA-232 connection. If a DS71-MD2 is installed in the DS-Series Unit, the auto connect feature works only upon dial-up connection. **Auto connect port will not work with a DS71-MD2 serial connection.**

Select # 4, "Auto Connect Port," from the selection menu, followed by <cr>. The following Auto Connect Port menu appears:

Auto Connect Port is..............Module 2, Port 1
Auto Connect is ....Enabled

Change Auto Connect Port 1
Enabled/Disabled......…..................2
Exit...............................…...............X,CR

Enter Request :

The DS71 or DS71-MD2 module displays the current auto connect port and its current status. To change the auto connect port module number and port number, select #1, "Change Auto Connect Port," followed by <cr>. The DS71 or DS71-MD2 module responds:

Auto Connect Port is .... Module 2, Port 1
Enter Auto Connect Module (2 to 9):

Enter the module to connect automatically, followed by <cr>. The DS71 or DS71-MD2 module responds:

Enter Auto Connect Port (1 to 4):

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Enter the port to connect automatically, followed by <cr>. The DS71 or DS71-MD2 module stores the new settings in non-volatile memory and returns to the Auto Connect Port menu.

Toggle Auto Connect Port feature by selecting #2, "Enable/Disable," from the Auto Connect Port menu followed by <cr>. The DS71 or DS71-MD2 module displays the current auto connect port status and asks if you want to enable. **Default Auto Connect Port is disabled.**

**Auto Connect Port is ....Disabled
Enable ? (Y/N, CR for no change):**

Type "Y" for yes followed by <cr> if you want to enable Auto Connect Port. Type "N" for no followed by <cr> if you want to disable Auto Connect Port. Type <cr> for no change. The DS71 or DS71-MD2 module stores Auto Connect Port configuration in non-volatile memory and returns to the Auto Connect Port menu.

DCD LOGON/LOGOFF (DS71 only)

When enabled, DCD Logon/Logoff prevents unwanted modem connections by requiring login before a modem connection is established (DCD high). If a disconnection occurs (DCD low), the DS-Series will logoff. If another connection is established (DCD high), login will be required before resuming normal operations.

IMPORTANT: This setting is crucial to the proper operation of the Auto Connect Port and the Password Security functions. The J-6 jumper must be in the forward (pin 1-2) position on the board. The board comes from the factory in this condition. (See Appendix D for the location of J6.) The EIA-232 port on the DS71 module should be connected to the external modem via an MJ08X007 Crossed Pin Modular Cable and a 25MMJ45MD-6 MODEM adapter. Do not move any other jumpers on the board.

From the configuration menu, select #9, "DCD Logon/Logoff," followed by <cr>. The DS-series module displays the current DCD Logon/Logoff status and asks if you want to change: **DCD logon/logoff factory default is enabled:**

**DCD Logon/Logoff mode is................. Enabled
Enable ? (Y/N, CR for no change) :**

Type "Y" for yes followed by <cr>. Type "N" for no followed by <cr>. Type <cr> for no change.

LOCAL MODEM SETUP (DS71-MD2 ONLY) The DS71-MD2 has an internal 14.4K bps modem. Programmable modem characteristics include number of rings to answer, modem to modem Xon/Xoff handshaking, amount of inactivity before the modem automatically disconnects (connectivity time-out), and the escape character, used to tell the modem the information you are sending is a command and not data (command mode).

From the configuration menu, select #9, "Local Modem Setup," followed by <cr>. The following Local Modem Setup menu appears:

Local Modem Setup:
Rings to Answer......…...........................1
Modem to Modem Xon/Xoff...................2
Connectivity Time-Out............................3
Escape Character......…......................4
Exit...........................…...................X
Enter Request:

Rings to Answer

Configure the number of rings (1 - 4) for the modem to answer. For example, if the rings to auto-answer are 3, the modem will answer following the third ring. **Default Rings to Answer is 2.**

Select #1, "Rings to Answer," from the Local Modem Setup menu, followed by <cr>. The DS71-MD2 displays the current setting for number of rings to auto-answer and asks if you want to change:

Rings to Auto-Answer......................2
Change It? (Y/N) :

Type "Y" for yes followed by <cr>. The DS71-MD2 responds:

Enter Number of Rings to Auto-Answer (1 to 4)

Enter the number of times you want the modem to ring before it answers, followed by <cr>. The DS71-MD2 stores the change in non-volatile memory and returns to the Local Modem Setup menu.

Modem to Modem Xon/Xoff

Modem to Modem Xon/Xoff is an ASCII Xon or Xoff character used by one modem signaling the other to stop or resume transmitting data. **Default Modem to Modem Xon/Xoff handshaking is disabled.**

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Select #2, "Modem to Modem Xon/Xoff," from the Local Modem Setup menu, followed by <cr>. The DS71-MD2 displays the current Xon/Xoff status and asks if you want to enable:

Modem to Modem Xon/Xoff Flow Control is .....Disabled
Enable? (Y/N, CR for no change):

Type "Y" for yes followed by <cr> if you want to enable Xon/Xoff. Type "N" for no followed by <cr> if you want to disable Xon/Xoff. Type <cr> for no change. The DS71-MD2 stores the change in non-volatile memory and returns to the Local Modem Setup menu.

Connectivity Timeout

Configure the amount of connectivity (5 to 255 minutes) before the modem automatically disconnects. Entering a time of 0 disables Connectivity Timeout. The timer starts when the modem answers (DCD high). The modem will disconnect, regardless of activity, when time runs out. **Default Connectivity Timeout is 60 minutes.**

Select #3, "Connectivity Timeout," from the Local Modem Setup menu, followed by <cr>. The DS71-MD2 displays the current setting and asks if you want to change:

Modem Connectivity Time-out is .... 60 minutes
Change It? (Y/N) :

Type "Y" for yes followed by <cr>. The DS71-MD2 responds:

Enter Connectivity Time-out (5 to 255, 0 = Disabled)
or press ENTER for no change......... :

Enter the number of connectivity minutes (5 to 255) or enter 0 to disable. The DS71-MD2 displays the new setting and asks if you want to change. If there are no further changes, type <cr>. The DS71-MD2 stores changes in non-volatile memory and returns to the Local Modem Setup menu.

Escape Character

The Escape Character (0 to 127 decimal value) allows characters to be interpreted as commands instead of data. Normal operation will not require this parameter to be changed. However, there may be a situation where an external device would echo the escape character sent to the dial-in modem. This echo could place the DS71-MD2 modem in the command mode. Changing the escape character eliminates this problem. **Default Escape Character is 43, which is 2B Hex or a plus sign (+).**

Select #4, "Escape Character," from the Local Modem Setup menu, followed by <cr>. The DS71-MD2 displays the current Escape Character and asks if you want to change:

Escape Character is............... 43 (+) Change It? (Y/N) :

Type "Y" for yes followed by <cr>. The DS71-MD2 responds:

Enter Decimal Value for Escape Character (0 to 127):
or press ENTER for no change

To change the escape character, enter the decimal value of the Hex character to be used as an escape character. The DS71-MD2 displays the new escape character and asks if you want to change. If there are no further changes type <cr>. The DS71-MD2 stores changes in non-volatile memory and returns to the Local Modem Setup menu.

UNIT ID

The unit ID (64 chars. max.) appears in the DS series module Main Menu and uniquely identifies the unit. **Default Unit ID is DS71-MD2.**

Select U, "Unit ID," from the configuration menu, followed by <cr>. The DS71 or DS71-MD2 module displays the current Unit ID and asks if you want to change:

Unit ID is DS71-MD2
Change It? (Y/N Change) :

Type "Y" for yes followed by <cr>. The DS71 or DS71-MD2 module responds:

Enter Unit ID (64 chars. max.) :

Enter the desired Unit ID, followed by <cr.> The DS71 or DS71- MD2 module stores the changes in non-volatile memory and returns to the configuration menu.

I/O MODULES RESET

From the main menu, type "RM" to select "I/O Modules Reset," followed by <cr>. The DS71 or DS71-MD2 module recycles power to all I/O ports on all peripheral modules and responds:

**I/O Modules Reset Successfully
Strike any Key to Continue**

Press any key to continue

UNIT RESET

IMPORTANT: Unit reset terminates both internal and external modem connections.

NOTE: You must be connected to a host module (DS71 or DS71-MD2 module) to reset the unit. Resetting the unit does not return user selections to their default settings.

Use the menu driven selection or the ASCII character string method to reset the DS-Series Unit:

Menu   From the main menu, type "RU" to select
Driven   "Reset Unit," followed by <cr>. The DS71
Selection   or DS71-MD2 module resets the unit and
                     responds:

                     Reset Unit……

                     Allow approximately 10 seconds for the unit
                     to reset.

ASCII   To reset the DS-Series Unit using the ASCII
Character   character string method, send the following
String   command:$BTRESET<cr>

NOTE: If you are locally connected through the serial port when the unit is reset, the DS71 or DS71-MD2 module sends the header message and returns to the Main Menu. A modem connection to the DS71-MD2 terminates when the unit resets.

DS74 CONFIGURATION   If you are using the Menu Selection Method, select C, "Configure," followed by a carriage return <cr> from the DS-series Main Menu. The following selection menu appears:

```
Configuration
Module 1 ...............................................1
Module 2 ...............................................2
Module 3 ...............................................3
Select Port ...........................................S
Exit .......................................................X
Enter Request :
```

If you are using the ASCII Character String Method, exit main menu, then select the module to configure. To select Module #2, type $BT2<cr>. The DS series responds "Requested Connection Made." Send the ASCII configuration command $CONFIG. The above configuration menu appears.

Otherwise, select the module number that corresponds to the DS74 module you want to configure. The following configuration menu appears:

```
Copyright (C) Bay Technical Associates 1998
DS71 Data Switch Series – EIA-232 I/O Module
Module 2

Status ..……...............................................1
Serial Port Configuration ......................2
Port Device Name …...........................3
Configure Another Module ..................C
Exit .......................................................X, CA

Enter Request :
```

NOTE: The Serial Port Configuration and the Port Device Name procedures are thoroughly outlined on page 26 and page 32 of this manual. Only the differences will be noted in text here.

SERIAL PORT CONFIGURATION   Selections 1-8 are fully programmable in the DS74 module. Select the parameter to change, make the change, then save to non-volatile memory.

PORT DEVICE NAME   This parameter works as previously described in this manual.

**DS73TP
CONFIGURATION**

The DS73TP peripheral communications module supports remote access to TCP/IP Ethernet networks by using the DS71 or DS71-MD2 module and the DS Series Data Switch. Remote users can dial into the system and connect to the network host from anywhere, at anytime. In-band network management is achieved using the DS73TP module via the DS71 or DS71-MD2 module and a PPP Dial-Up session

IMPORTANT: For network access, you must configure the Module and Dial-up IP addresses, Subnet Mask, and Gateway Address. The module must be reset for network changes to take effect.

From the main menu, select C, "Configuration," followed by <cr>, or exit from the main menu and send the ASCII character string $CONFIG<cr>.

The following selection menu appears:

Configuration
Module 1 1
Module 2 2
Module 3 3
Select Port ....S
Exit X
Enter Request :

From the selection menu, select the DS73TP module number, followed by <cr>. For example, If the DS73TP is installed as module 2, select #2, "Module 2." The following header appears:

DS73TP Ethernet Module
F.0.02 Copyright (C) 1997
Bay Technical Associates

Enter user name :

Enter the current user name; **default user name is user1**. The module prompts for a password:

Enter password:

Enter the current password; **Default Password is BTA**. The following configuration menu appears:

NOTE: User name and password are case sensitive.

Module IP Address:200.4.3.72 **Dial-up IP Address 200.4.3.73**
Subnet Mask:255.255.255.0 **Gateway Addr:200.4.3.1**
Primary DNS:0.0.0.0 **Secondary DNS:0.0.0.0**
Primary NBNS : **0.0.0.0** **Secondary NBNS:0.0.0.0**
Ethernet Addr:00.C0.48.1A.24.5D **Network Cable**
Connections: good

Module IP Address...............…....................................1
Dial-in IP Address.................…...............................2
Subnet Mask...............................…......................3
Gateway...................................…......................4
Primary DNS ....…....................5
Secondary DNS …..............................…...................6
Primary NBNS ....…..…...........7
Secondary NBNS ....…...............8
User Name...…...............9
Password...…….........10
Module Name ....…......…11
Exit..…….....X

Module
IP Address

The IP address is the network address assigned by your network manager for your network.The IP Address consist of four bytes, each byte ranging from 0 to 255. **This parameter must be programmed before the DS73TP accesses the network.**

From the configuration menu, select #1, "Module IP Address," followed by <cr>. The DS73TP responds:

Enter Module IP address in dotted decimal form:

Enter the Module IP Address (Example: 200.4.3.50), followed by <cr>. The DS73TP resumes the configuration menu.**Default Module IP Address is 0.0.0.0.**

If you fail to enter the Module IP Address in dotted decimal form, the DS73TP responds again:

Enter Module IP address in dotted decimal form:

The DS73TP responds indefinitely with the same request until the Module IP Address in entered in the correct form.

IMPORTANT: The Module IP Address and the Dial-Up Address must be different in order for the DS73 series module to function correctly.

NOTE: There should be no active connections while configuring the DS73TP module. The unit should be reset upon completion of configuration.

Dial-UP
IP Address

The Dial-Up IP Address consist of four bytes, each byte ranging from 0 to 255. **This parameter must be programmed before the DS-Series can be accessed on the network.**

From the configuration menu, select #2, "Dial-Up IP Address," followed by <cr>. The DS73TP responds:

Enter Dial-Up IP address in dotted decimal form:

Enter the Dial-Up IP Address (Example: 200.4.3.51), followed by <cr>. The DS73TP resumes the configuration menu. **Default Dial-Up IP Address is 0.0.0.0.**

If you fail to enter the Dial-Up IP Address in dotted decimal form, the DS73TP responds again:

Enter Dial-Up IP address in dotted decimal form:

The DS73TP responds indefinitely with the same request until the Dial-Up IP Address in entered in the correct form.

Subnet Mask

The Subnet Mask is a bit mask that identifies the network portion of the IP address, allowing the DS73TP to determine whether to send a packet directly to the client or to a gateway. The Subnet Mask consist of four bytes, each byte ranging from 0 to 255. **This parameter must be programmed before the DS-Series can be accessed on a network**.

From the configuration menu, select #3, "Subnet Mask," followed by <cr>. The DS73TP responds:

Enter Subnet Mask in dotted decimal form:

Enter the Subnet Mask (Example: 255.255.255.0), followed by <cr>. The DS73TP resumes the configuration menu. **Default Subnet Mask is 0.0.0.0.**

If you fail to enter the Subnet Mask in dotted decimal form, the DS73TP responds again:

Enter Subnet Mask in dotted decimal form:

The DS73TP responds indefinitely with the same request until the Subnet Mask is entered in the correct form.

Gateway

The Gateway is the address of a router for connection to their networks. The Gateway address consists of four bytes, each byte ranging from 0 to 255. **If your network uses gateways, this parameter must be programmed before the DS73TP can access a network.**

From the configuration menu, select #4, "Gateway," followed by <cr>. The DS73TP responds:

Enter Gateway address in dotted decimal form:

Enter the Gateway address (Example: 200.4.5.50), followed by <cr>. The DS73TP resumes the configuration menu. **Default Gateway address is 0.0.0.0.**

If you fail to enter the Gateway address in dotted decimal form, the DS73TP responds again:

Enter Gateway address in dotted decimal form:

The DS73TP responds indefinitely with the same request until the Gateway address is entered in the correct form.

Primary DNS	From the configuration menu, select #5, "Primary DNS (Domain Name Server)," followed by <cr>. The DS73TP responds: **Enter Primary DNS address in dotted decimal form:** Enter the Primary DNS address (Example: 200.4.5.53), followed by <cr>. The DS73TP resumes the configuration menu. **Default Primary DNS address is 0.0.0.0.** If you fail to enter the Primary DNS address in dotted decimal form, the DS73TP responds again: **Enter Primary DNS address in dotted decimal form:** The DS73TP responds indefinitely with the same request until the Primary DNS address is entered in the correct form.
Secondary DNS	From the configuration menu, select #6, "Secondary DNS (Domain Name Server)," followed by <cr>. The DS73TP responds: **Enter Secondary DNS** address in dotted decimal form: Enter the Secondary DNS address (Example: 200.4.5.54), followed by <cr>. The DS73TP resumes the configuration menu. **Default S**econdary **DNS address is 0.0.0.0.** If you fail to enter the Secondary DNS address in dotted decimal form, the DS73TP responds again: **Enter Secondary DNS** address in dotted decimal form:

The DS73TP responds indefinitely with the same request until the Secondary DNS address is entered in the correct form.

Primary NBNS

From the configuration menu, select #7, "Primary NBNS (Net BIOS Name Server)," followed by <cr>. The DS73TP responds:

Enter Primary NBNS address in dotted decimal form:

Enter the Primary NBNS address (Example: 200.4.5.55), followed by <cr>. The DS73TP resumes the configuration menu. **Default Primary NBNS address is 0.0.0.0.**

If you fail to enter the Primary NBNS address in dotted decimal form, the DS73TP responds again:

Enter Primary NBNS address in dotted decimal form:

The DS73TP responds indefinitely with the same request until the Primary NBNS address is entered in the correct form.

Secondary NBNS

From the configuration menu, select #8, "Secondary NBNS (Net BIOS Name Server)," followed by <cr>. The DS73TP responds:

Enter Secondary NBNS address in dotted decimal form:

Enter the Secondary NBNS address (Example: 200.4.5.55), followed by <cr>. The DS73TP resumes the configuration menu.

Default Secondary NBNS address is 0.0.0.0.

If you fail to enter the Secondary NBNS address in dotted decimal form, the DS73TP responds again:

Enter Secondary NBNS address in dotted decimal form:

The DS73TP responds indefinitely with the same request until the Secondary NBNS address is entered in the correct form.

User Name

The User Name is required when establishing a connection to the network. From the configuration menu, Select #9, "User Name," followed by <cr>. The DS73TP module responds with the current user name and asks if you want to change. **Default User Name is user1:**

Current User Name : user1
Enter User Name (8 chars. max.):

If desired, enter a new user name (8 chars. max.). The DS73TP stores the change in non-volatile memory and resumes the configuration menu.

NOTE: User Name is Case Sensitive.

Password

If enabled, password entry is required when establishing a connection to the network and before making DS73TP configurations. From the configuration menu, Select #10, "Password," followed by <cr>. The DS73TP module responds with the current password and asks if you want to change. **Default Password is BTA:**

Current Password: BTA
Enter Password (8 chars. max.):

If desired, enter a new password (8 chars. max.) followed by <cr>. The DS73TP resumes the configuration menu.

NOTE: Password Feature is Case Sensitive.

**Module
Name**
The Module Name is reported by the module for identification purposes when a connection is established. From the configuration menu, select #11, "Module Name," followed by <cr>. The DS73TP module responds with the current module name and asks if you want to change.
Default Module Name is DS73TP:

> **Current Module Name :   DS73TP**
> **Enter Module Name (8 chars. max.):**

If desired, enter a new module name (8 chars. max.) followed by <cr>. The DS73TP resumes the configuration menu.

TECHNICAL SUPPORT

BayTech has a staff of applications engineers on duty to assist you from 7 a.m. to 7 p.m. (CST or CDT), Monday through Friday. If you have problems installing, setting up, or operating your Bay Tech product, please contact BayTech's technical support office. For information on all of BayTech's data communication products, contact our Web Site at the address shown below.

If you call the BayTech support desk, please have the following information available to help the applications engineers answer your questions efficiently. Use the next page to record vital information.

a. The DS-Series model type and what modules you are using.

b. The unit and module serial numbers.

c. The host device and peripherals you have connected to the DS-Series.

d. Provide a general description of the application you are using and what you are trying to accomplish.

e. What cables and adapters are you using? What are the lengths of the cables? Who sold you the cables and adapters?

f. The name of the software emulation program you are using.

g. If possible, a printout of the configuration status.

Bay Technical Associates, Inc.
200 N. Second Street, P. O. Box 387
Bay St. Louis, MS 39520-1000, USA
Telephone: 800-523-2702
**   228-467-8231**
FAX: 228-467-4551
Web Site: www.baytechdcd.com

EQUIPMENT SETUP

DS-Series Unit Model _____

DS-Series Unit Serial Number _____

MODULE 1	MODULE 2	MODULE 3
MODEL	MODEL	MODEL
SERIAL NUMBER	SERIAL NUMBER	SERIAL NUMBER
USE	USE	USE
MODULE 4	**MODULE 5**	**MODULE 6**
MODEL	MODEL	MODEL
SERIAL NUMBER	SERIAL NUMBER	SERIAL NUMBER
USE	USE	USE
MODULE 7	**MODULE 8**	**MODULE 9**
MODEL	MODEL	MODEL
SERIAL NUMBER	SERIAL NUMBER	SERIAL NUMBER
USE	USE	USE

Type of adapters _____
_____

Type of cables _____
_____

Name of software program _____
_____

REPACKAGING, SHIPPING AND RETURNING TO THE FACTORY

If your Bay Tech unit needs service, upgrade, or repair, return it to BayTech. Before dismantling your equipment or before returning the unit for any reason, always call BayTech. The user should never attempt repairs on this unit. If you need to return the Bay Tech unit to the factory for repair, warranty work, or upgrade, follow the instructions below for repackaging and shipping.

INSTRUCTIONS FOR REPACKAGING AND SHIPPING:

a. Call BayTech to get a **Return Authorization Number**.

> **IMPORTANT:** Without this number, BayTech will not accept returns.

b. Use the original packaging if available or choose a heavy cardboard box.

c. Surround your unit with a minimum of two inches of insulation.

d. Be sure to seal the box securely with strapping or packing tape. We do not recommend masking tape or cellophane tape.

e. On the outside of the box, please write the Return Authorization Number.

f. Ship the unit to the following address:

> **Bay Technical Associates, Inc.**
> **200 N. Second Street**
> **Bay St. Louis, MS 39520-1000, USA**

FCC RADIO FREQUENCY INTERFACE STATEMENT

This equipment complies with Part 68 of the FCC Rules. On the bottom plate of this equipment is a label that contains, among other information, the FCC registration number and Ringer Equivalence Number (REN) for this equipment. If requested, provide this information to your telephone company.

The registration jack USOC for the equipment is RJ11C.

An FCC compliant telephone cord and modular plug is provided with this equipment. This equipment is designed to be connected to the telephone network or premises wiring using a compatible modular jack which is Part 68 compliant. See installation instructions for details.

The REN is useful to determine the quantity of devices that may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of RENs of all devices should not exceed five (5). To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company.

If your telephone equipment (DS71-MD2 or DS71-MD3) causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice isn't practical, you will be notified as soon as possible. You will be advised of your right to file a complaint with the FCC if you believe it is necessary.

Your telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of your equipment. If they do, you will be given advance notice so as to give you an opportunity to maintain uninterrupted service.

If you experience trouble with this equipment, please refer to page 62 for repair/warranty information. If your equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

The customer should not attempt any repairs on this unit. Please refer to page 62 if any problems arise.

This equipment may not be used on public coin service provided by the telephone company. Connection to party lines is subject to state tariffs. (Contact your state public utility commission or corporation commission for information.)

APPENDIX A

SPECIFICATIONS
Table A.1

	Base Unit	DS71 Host Module	DS71-MD2 Host Module	DS74 Peripheral Module	DS73TP Network Module
I/O Modules	3, 6, or 9	N/A	N/A	N/A	N/A
Power Requirements	115VAC, 60Hz 0.3A or 230VAC 50Hz, 0.2A	N/A	N/A	N/A	N/A
EIA-232 Serial Port		8 pin modular connector (MJ-45)	8 pin modular connector (MJ-45)	(4) 8 pin modular connectors (MJ-45)	8 pin modular connector (MJ-45)
Environment	0° to 70°C 5% to 95% humidity	0° to 70°C 5% to 95% humidity	0° to 70°C 5% to 95% humidity	0° to 70°C 5% to 95% humidity	0° to 70°C 5% to 95% humidity
Dimensions	DS3: 16 3/4"w x 7"d x 1 3/4" h DS6: 16 3/4"w x 7"d x 2 5/8"h DS9: 16 3/4"w x 7"d x 3 1/2"h	N/A	N/A	N/A	N/A
Weight	4 lbs. to 10 lbs.	N/A	N/A	N/A	N/A
Indicators	1 green power LED	1 red port-activity LED	5 red modem activity LEDs	4 red port-activity LEDs	1 green LINK integrity LED 1 red RX/TX LED 1 red CX LED
Non-Volatile Storage	8KB to hold power-up information	N/A	N/A	N/A	N/A

APPENDIX A
SPECIFICATIONS (Cont.)

	Base Unit	**DS71 Host Module**	**DS71-MD2 Host Module**	**DS74 Peripheral Module**	**DS73TP Network Module**
Interface	N/A	EIA-232	EIA-232, V.32bis (14.4K bps) MODEM	EIA-232	Ethernet, IEEE 802.3 complaint, 10Base-T
Transmission	N/A	Asynchronous	Asynchronous	Asynchronous	N/A
Protocols	N/A	N/A	N/A	N/A	PPP, TCP/IP, ARP & ICMP
Frame Types	N/A	N/A	N/A	N/A	Ethernet II and SNAP (802.3)
Handshaking	N/A	CTS/DTR; selectable Xon/Xoff	TD, RD, CD, MR, CX, CTS/DTR; selectable Xon/Xoff	CTS/DTR; selectable Xon/Xoff	N/A
Baud Rate	N/A	300, 600, 1200, 2400, 4800, 9600, 19.2K, 38.4K, 57.6K, 76.8K, or 115.2K	300, 600, 1200, 2400, 4800, 9600, 19.2K, 38.4K, 57.6K, 76.8K, or 115.2K and 14.4k (internal modem)	300, 600, 1200, 2400, 4800, 9600, 19.2K, 38.4K, 57.6K, 76.8K, or 115.2K	N/A
Word Size	N/A	5, 6, 7, or 8 bits	5, 6, 7, or 8 bits	5, 6, 7, or 8 bits	N/A
Stop Bits	N/A	1, 1 1/2, or 2 bits	1, 1 1/2, or 2 bits	1, 1 1/2, or 2 bits	N/A
Parity	N/A	Even, Odd, or None	Even, Odd, or None	Even, Odd, or None	N/A
Buffer Size	N/A	N/A	N/A	N/A	256 KB
Mounting (Optional)	Rack Mount or Desktop	N/A	N/A	N/A	N/A
Warranty	One year on parts and labor	One year on parts and labor	One year on parts and labor	One year on parts and labor	One year on parts and labor

APPENDIX B

MODEM COMMAND SUMMARY

U.S. ROBOTIC MODEMS

COMMAND	INTERPRETATION
AT&B1	**Fixed Serial Port Rate (default)**
AT&C1	**Normal CD Operations (default)**
AT&D2	**Normal DTR Operations (default)**
ATS0=1	**Auto answer telephone line in 4 or fewer rings**
ATE0	**Modem does not display keyboard commands.**
ATQ1	**Place modem into quiet mode**
AT&W0	**Save the modem's configuration in non-volatile memory**

NOTE: To send all of the above at the same time, type the following command: AT&B1&C1&D2S0=1E0Q1&W0

APPENDIX B

MODEM COMMAND SUMMARY (Cont.)

ROCKWELL CHIP SET MODEMS

COMMAND	INTERPRETATION
ATS23=59	**Fixed Serial Port Rate (default)**
AT&C1	**Normal CD Operations (default)**
AT&D2	**Normal DTR Operations (default)**
ATS0=1	**Auto answer telephone line in 4 or fewer rings**
ATE0	**Modem does not display keyboard commands**
ATQ1	**Place modem into quiet mode**
AT&W0	**Save modem's configuration in non-volatile memory**

NOTE: To send all of the above at the same time, type the following command: ATS23=59&C1&D2S0=1E0Q1&W0

APPENDIX C

WINDOWS 95 DIAL-UP NETWORKING TUTORIAL

The following instructions using <u>Windows 95 Dial-Up Networking</u> are for establishing a PPP connection to the network through a DS-Series Data Switch with a DS73TP module installed.

> **IMPORTANT:** In order to benefit from shared resources, the computer you are dialing into must be set up as a network server.

> **IMPORTANT:** The computer you are dialing from, as well as the network server must have modems installed.

> **IMPORTANT:** You must have dial-up networking installed on your computer.

MY COMPUTER
➢ From the icon menu, double click the "My Computer" icon.
➢ Double click the "Dial-Up Networking" icon.

MAKE NEW CONNECTION
➢ Double click the "Make New Connection" icon.
➢ At "Type a name for the computer you are dialing," enter a name. For example: DS-Series
➢ At "Select a Modem," select the type of modem from which you are dialing.
➢ Click "Next."
➢ Type the telephone number for the computer you want to call. Enter the following: Area Code, Telephone Number, and Country Code.
➢ Click "Next."
➢ Click "Finish." You will return to the Dial-Up Networking screen.

APPENDIX C

WINDOWS 95 DIAL-UP NETWORKING TUTORIAL (Cont.)

PROPERTIES
➢ Highlight the device you have just created.
➢ Select "File" from the Windows task bar.
➢ Select "Properties."
➢ Select "General."
➢ Select "Configure." Ensure the information is correct.
➢ Select "Options." Enable "Bring up Terminal Window after Dialing."
➢ Click "OK."
➢ Select "Server Type".
➢ In the "Server Type" Menu, select "PPP: Windows 95, Windows NT, 3.5, Internet."
➢ In the "Advanced Options;" Enable software compression.
➢ In the "Allowed Network Protocols;" Enable TCP/IP.
➢ Click "TCP/IP Settings." Enable the following settings. **You must enable Header Compression.**

- Server Assigned IP Address
- Server Assigned Name Server Address
- Use IP Header Compression
- User default gateway on remote network

➢ Click "OK" three times.
➢ You should be in the Dial-Up Networking screen.
➢ Select the device you are adding. The icon for the device you are dialing appears on the Dial-Up Networking screen.

DIAL-UP NETWORKING
➢ In the Dial-Up Networking Window, double click the device you are dialing.
➢ Click "Connect To."

APPENDIX C

WINDOWS 95 DIAL-UP NETWORKING TUTORIAL

➤ User Name. Enter the user name programmed in the DS73TP.
Default User Name is user1.
➤ Enter the password programmed in the DS73TP.
Default password is BTA.
➤ Click the "Save Password" box in the "Connect" screen.
➤ Enter the telephone number of the unit you are dialing.
➤ Enter the location you are dialing from, usually Default Location.
➤ Click "Dial Properties." Select the dialing properties from your current location.
➤ Click "OK."
➤ Click "Connect."

POST DIAL TERMINAL SCREEN

> **NOTE:** You may want to set up the DS73TP module to auto-connect at dial-up. If not auto connected, you must select the port from the DS71 or DS71-MD2 module main menu. If you are auto-connected, and decide not to enter the module, type the attention character five times to return to the DS71 or DS71-MD2 module main menu.

➤ After a successful connection is established, select the DS73TP module. The following menu appears:

DS73TP Ethernet Module F.0.02
Copyright (C) 1997
Bay Technical Associates

➤ Press F7. Windows 95 Dialer enters the user name and password.

Enter User Name:user1

Enter Password:BTA

Login successful.

➢ Use your web browser, FTP, TELNET, or any TCP/IP application to communicate on the network.

APPENDIX D - DRAWINGS
DS71 MECHANICAL LAYOUT
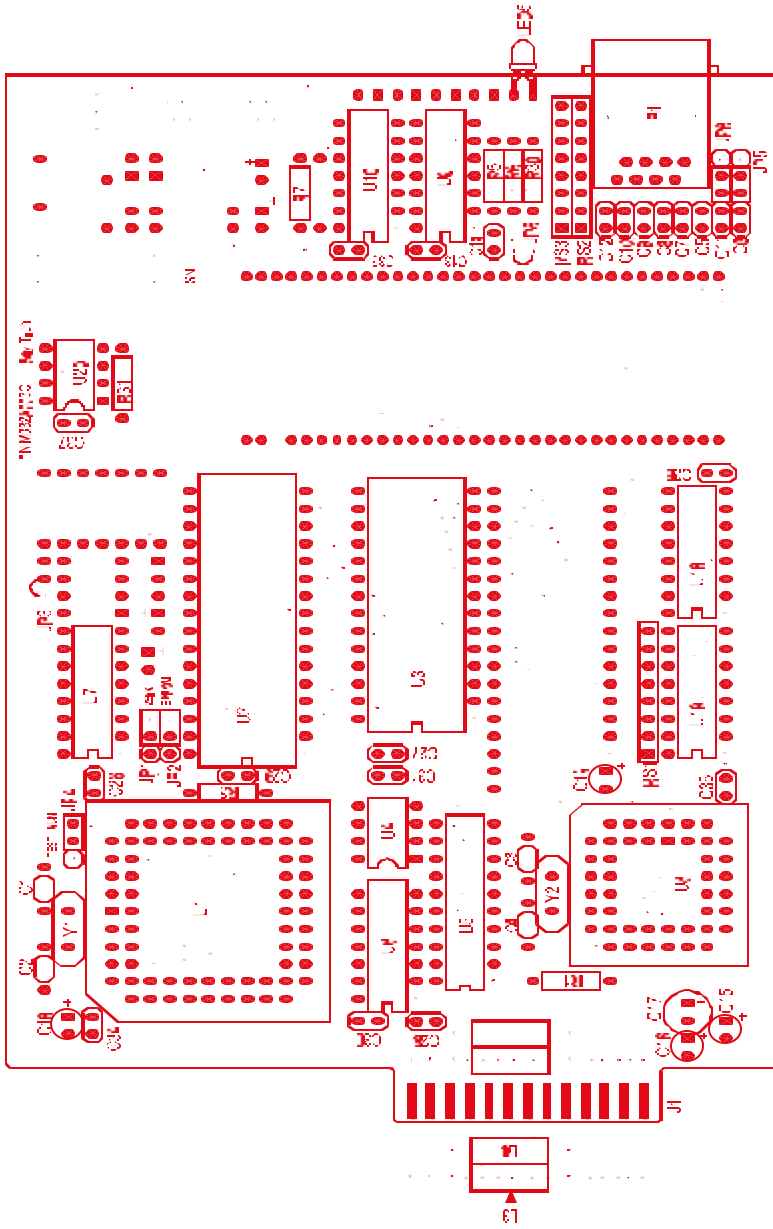
DS71-MD2 MECHANICAL LAYOUT
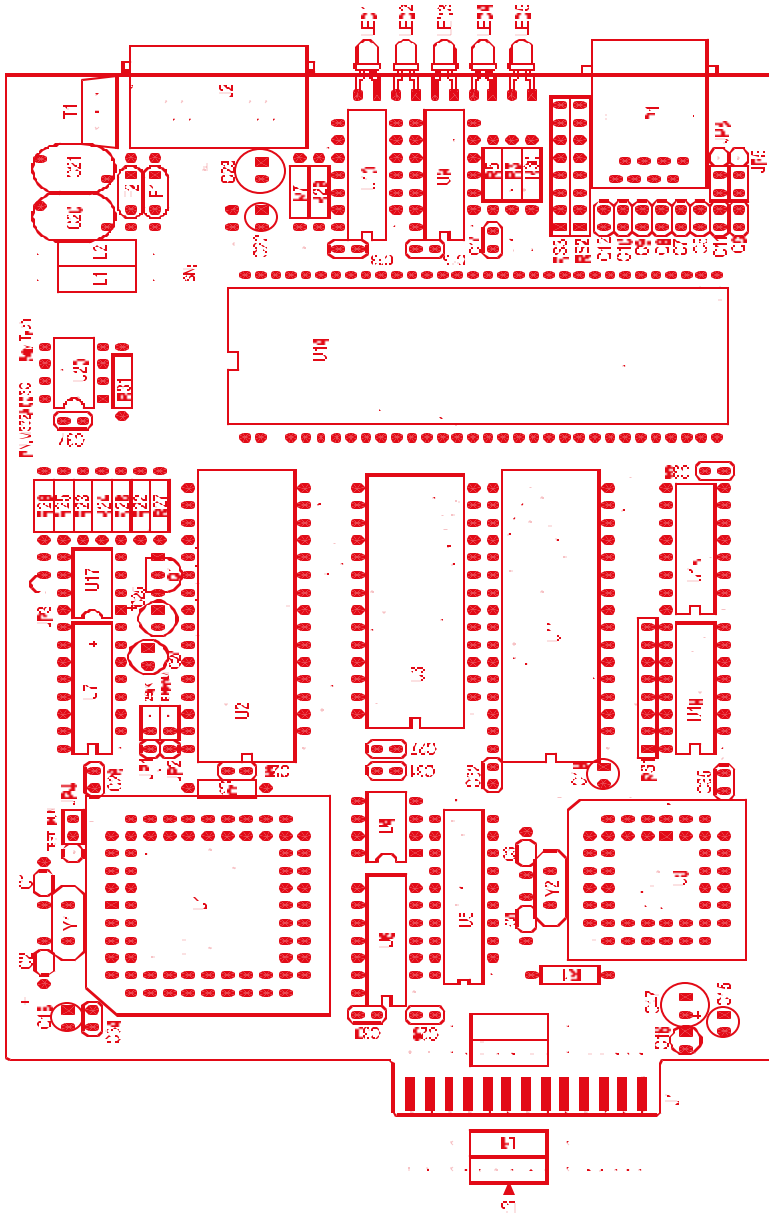
DS74 MECHANICAL LAYOUT
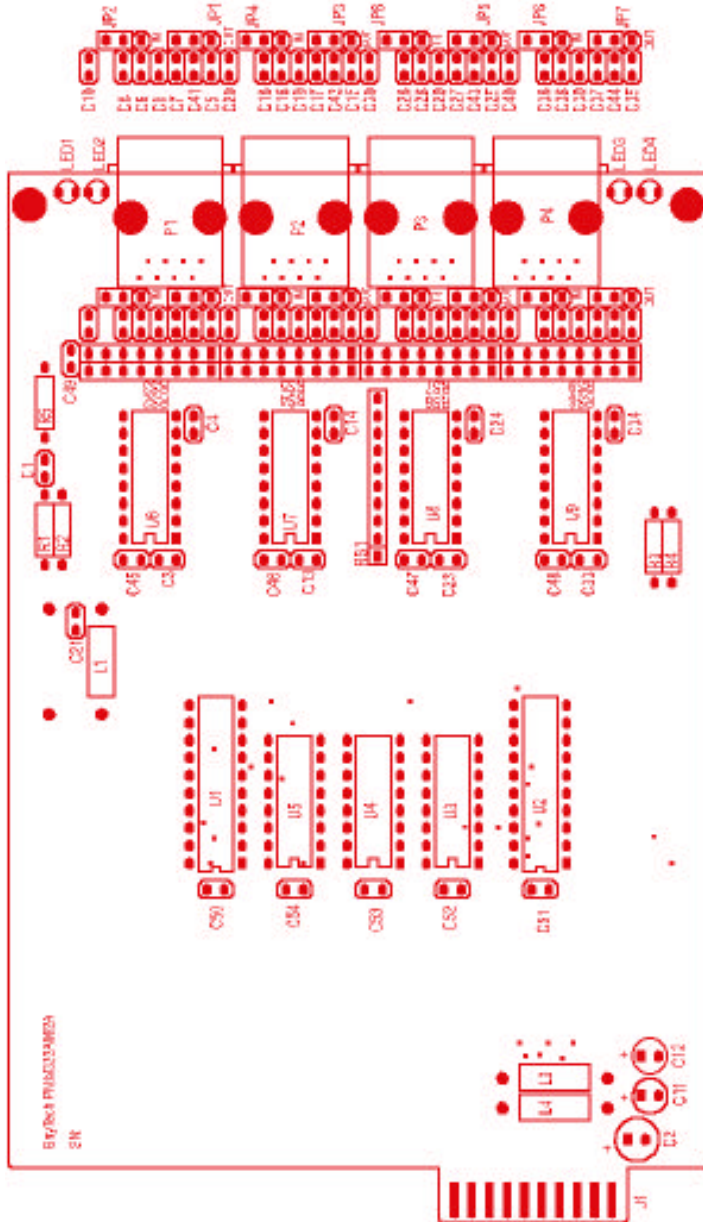
DS73 MECHANICAL LAYOUT
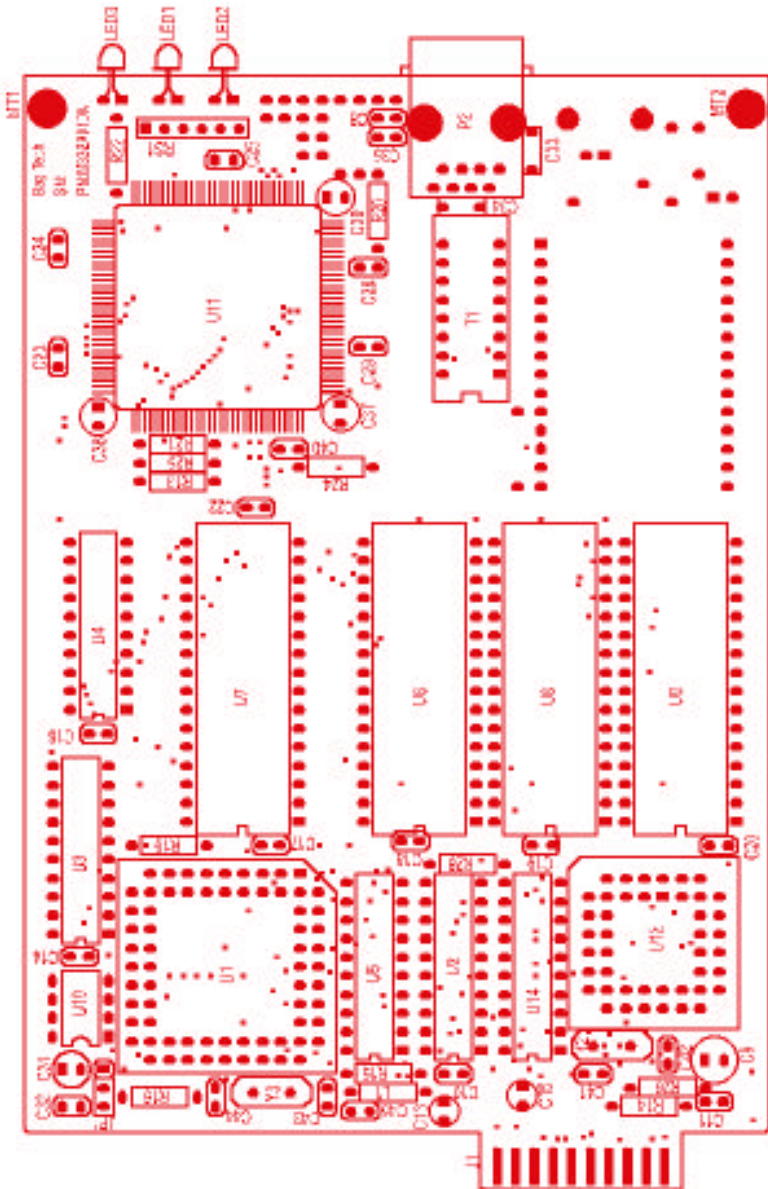
DS71 FACEPLATE LAYOUT

DS71
DAC

CX

EIA-232
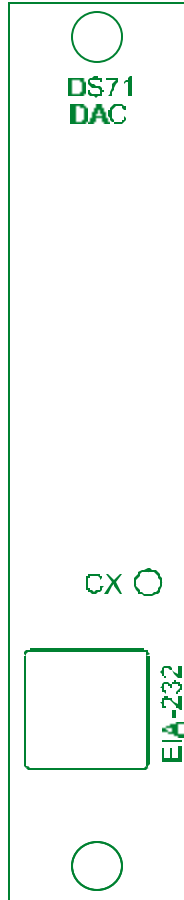
DS71-MD2 FACEPLATE LAYOUT
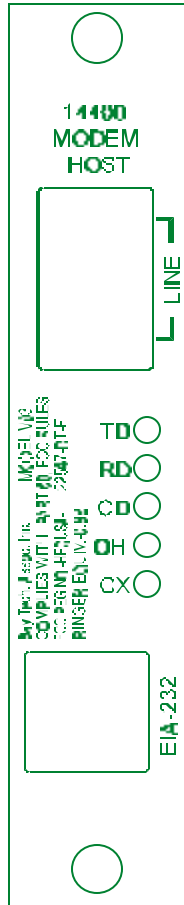
DS73TP FACEPLATE LAYOUT

DS73TP

CX ○

LINK ○

RX / TX ○

10BASE-T

ETHERNET
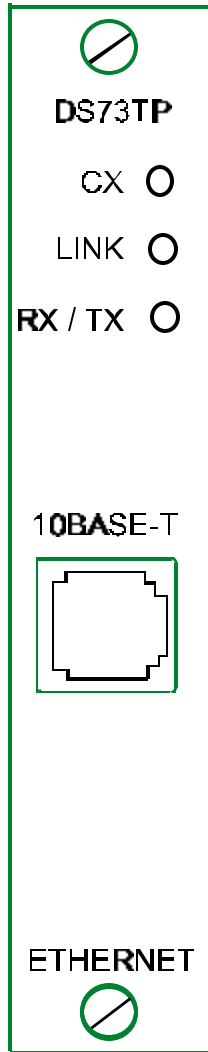
DS74 FACEPLATE LAYOUT
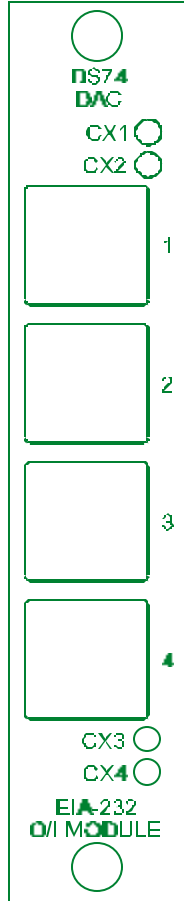
APPENDIX E

EPROM UPGRADE

If you receive an EPROM upgrade, you will need a screwdriver and an IC DIP extractor or a pair of curved needle-nose pliers

1. Remove all power from the unit by placing the power switch to the 0 position and disconnecting the power supply from the outlet.

2. Remove the appropriate module by loosening the 2 straight slotted screws that attach the module to the chassis, then pull the module out.

3. Refer to Appendix D (DS71 or DS71-MD2 module Mechanical Layouts); locate socket *U2*.

4. Remove existing EPROM from socket *U2* with IC extractor or needle-nose pliers. Gradually loosen each side of the chip, alternating pliers from side to side being careful not to bend chip pins.

5. Install the EPROM into socket *U2*. The EPROM is notched; the notch on the EPROM should line up with the notch on the socket. Seat each pin securely in its socket being careful not to bend chip pins.

6. By moving a hardware jumper, reset the DS71 or DS71-MD2 module to default configuration status.

   a. Refer to Appendix D (DS71 or DS71-MD2 module Mechanical Layouts), locate Jumper JP4.

   b. Jumper JP4 connects the two pins that are closest to the aluminum face plate on the module. These pins are labeled "RUN".

   c. Connect the two pins that are further from the face plate of the module by moving Jumper JP4. These pins are labeled "TEST".

d. Replace the module (ensure the screws are fastened to connect chassis ground) and return power to the unit. The LEDs will illuminate during the self test sequence. When the LED lights go off, the unit has reset.

e. Remove power from the unit once more. Remove the module, and move Jumper JP4 back to the two pins that are closest to the aluminum face plate on the module (RUN). Upon initiation of power, the DS71 or DS71-MD2 module will resume default configurations. Refer to Table 1 on page 2.

7. Restore power to the unit. The EPROM upgrade is complete.

APPENDIX F

ASCII CHARACTER DEFINITION

ASCII CHARACTER	DEFINITION
$BT	Releases the module to receive the attention character
$BTm	Calls up a module (where m is a module number)
$BTm,p	Calls up a module and port (where m is a module number and p is a port number)
$BTB	Locks the module in the binary mode. A "Break" signal must be sent to clear this lock
$CONFIG	Accesses the module configuration menu
$BTRESET	Resets the unit. All communication will be lost if attached via the modem

INDEX