

DC440

Fast SCSI-2 Bus Master  
Host Adapter

USER'S  
MANUAL

**PROMISE  
TECHNOLOGY, INC.**

*Delivering the Promise of  
Storage Controller Performance*

Document Number: M00440010

**DC440**  
**FAST SCSI-2 Bus Master**  
**HOST ADAPTER**

***User's Manual***

**PROMISE**  
**TECHNOLOGY, INC.**

*Delivering the Promise of*  
*Storage Controller Performance*

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## Technical Support

For faster service, please have the following information available:

1. Product Model & Serial #
2. Description of Problem

Technical service is available from the following sources:

24-Hour BBS:  
1-408-452-1267

User Settings are:  
14,400 baud,  
8 data bits,  
no parity,  
1 stop bit

Dial-In Telephone Support:  
1-408-452-1180 (8:30am - 4:30pm PST)

Fax Support (for questions):  
1-408-452-1534

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Each DC440 Host Adapter is equipped with an FCC compliance label and shows an FCC identification number. The full text of the associated label is:

## RADIO FREQUENCY INTERFERENCE STATEMENT

**CAUTION:** Changes or modifications to the DC440 not expressly approved by PROMISE TECHNOLOGY, INC. could void the user's authority to operate this equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and, if not installed and used in accordance with the instruction may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult PROMISE Technology, Inc. or an experienced radio/TV technician for help.

This device complies with Part 5 of the FCC Rules. Operation is subject to the following conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**NOTE:** Only digital device equipment CERTIFIED CLASS B should be attached to this equipment and that must have shielded cables.

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## Chapter 1

Introduction

Thank you for choosing PROMISE Technology's DC440. This advanced FAST SCSI-2 Host Adapter gives you the ability to obtain the highest levels of performance from your SCSI devices on VL bus PC systems. The DC440 takes full advantage of a wider, faster 32-bit bus master VL bus and the FAST SCSI-2 interface to create a "superhighway" of data flow between the computer and your SCSI devices.

The DC440 can manage up to 7 SCSI devices at once. An advanced peripheral interface has also been placed on the card for two standard floppy drives (1.2MB and 1.44MB) and a complete set of I/O ports (2 serial, 1 bi-directional parallel, and 1 game). Our parallel port's bi-directional design also allows you to interface with a variety of external peripheral devices. The host adapter also provides an IDE interface for hard drives or CD-ROMs.

For the majority of installations, the card's factory default settings will allow you to simply install your DC440 and begin getting enhanced response and data transfer times. If you need to customize your particular system (to handle an existing host adapter card, for example), this manual provides an easy guide to help you quickly get up and running for most any situation.

**Why Use An Intelligent Bus Master Host adapter?**

Using the DC440 intelligent host adapter frees your computer's valuable CPU processor from having to manage the data flow

to and from your SCSI devices. The DC440 uses PROMISE Technology's proprietary Bus Master ASIC chip and a separate 80286 CPU processor to manage and provide high-speed, 32-bit direct memory access between your SCSI devices and system memory. This is accomplished without any intervention by the system CPU. Relieving the system CPU of controlling data transfers to and from your SCSI devices greatly boosts your system's performance.

### Highlights of the DC440 Intelligent Host Adapter

The following information offers a broad overview of the major features of your new PROMISE DC440. It is divided into four basic areas:

#### SCSI-2 Peripherals Support

#### Advanced Hardware Design

#### Standards Compatibility

#### Host Interface Features



External and Internal SCSI-2 Peripherals Support	
Features	Benefits
Supports up to 7 independent SCSI devices simultaneously	Expands peripherals options for PC that is internally "maxed out"
Bundles Corel SCSI driver software	Provides support for widest range of SCSI devices
Synchronous data transfer	Faster data transfers of up to 10MB/sec between DC440 and SCSI devices that boost overall system performance
Asynchronous data transfer	Allows you to connect SCSI devices that support asynchronous data transfers at highest possible rates of up to 7MB/sec.
Simultaneous support of FAST SCSI-2, synchronous and/or asynchronous peripheral devices	Permits user to connect faster SCSI devices with slower SCSI devices for widest range of SCSI device usage.
Connect/disconnect features	Allows DC440 to communicate with other SCSI devices while one SCSI device retrieves the data requested by the DC440. Enhances overall SCSI and system performance
Industry standard SCSI-2 external connector.	Easy physical connection of external SCSI devices to SCSI bus
Industry standard 50-pin internal SCSI device(s) connector	Easy physical connection of internal SCSI devices to SCSI bus

Advanced Hardware Design	
Features	Benefits
Promise Technology proprietary Bus Master ASIC and on-board, 16-bit 80286 CPU chip provides highspeed Bus Master DMA control.	Frees your system CPU from disk I/O data handling and boosts overall system performance
Widely-adapted NCR53CF94-2 or compatible SCSI engine	Provides proven SCSI reliability
Onboard BIOS chip	Allows you to easily upgrade the configuration, and built-in hardware settings information for quick host adapter setup
Supports two floppy drives (5-1/4" 1.2MB or 3-1/2" 1.44 MB)	Do not need separate controller for floppy drives
Provides 2 serial communication ports (RS232), 1 bi-directional parallel port for printers and/or other external bi-directional devices, and 1 game port	No need for additional adapter to connect other communication and printer devices. Saves valuable expansion slots in your system.
Includes IDE port on board	Supports a variety of IDE devices including disk drives, and CD-ROMs.

Standards Compatibility	
Features	Benefits
Complies with VESA 2.0 specifications	Highest level of hardware compatibility
Compatible with DOS 6.2, Windows 3.1, Windows for Workgroups 3.11, Windows NT 3.1, OS/2 2.1, SCO UNIX 3.2.4.2, UNIX SVR 4.0.2, Netware 3.11, 3.12, 4.01, Banyan 5.52, LANTastic 6.0	Wider range of software compatibility with your SCSI devices

Host Interface Features	
Features	Benefits
32-bit VL Bus Master design supports burst mode and host CPU write back cache operation	Highest VL bus data transfer rate possible boosts overall system performance
Standard mailbox protocol implementation	Adaptec 1540/1542 compatibility offers various operating systems support for the DC440 without needing additional software device drivers. Enhances performance under multi-user operating systems
Can coexist with another DC440 Host Adapter or other disk controllers	Enables connecting more SCSI devices or the use of existing other type of hard drives.



## ***CONFIGURE AND INSTALL THE DC440 INTELLIGENT HOST ADAPTER***

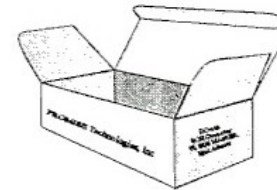
This section is designed to help you quickly prepare the DC440 for installation into your personal computer. Please read through this section closely BEFORE attempting to install your DC440. However, for many users, re-setting your DC440's jumpers will NOT be necessary. The factory settings are already designed to handle a majority of configurations.

If you feel no need to follow the more detailed step by step installation and configuration procedure given here, you may skip this chapter and refer to Appendix A for the Quick Install reference guide.

### **Unpacking Your DC440**

When you receive the DC440, the package should contain the items listed below:

- DC440 SCSI Host Adapter
- DC440 User's Manual
- Corel SCSI Device Driver Disks (6) and Manual
- One 50-pin internal SCSI cable
- One IDE drive cable
- One floppy disk drive cable
- I/O cable set (2 serial, 1 parallel, 1 game)



If ANY of the contents are missing or appear to be damaged, please contact your reseller or distributor immediately.

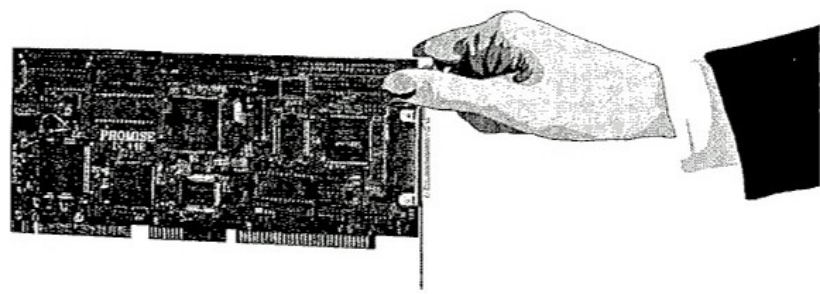
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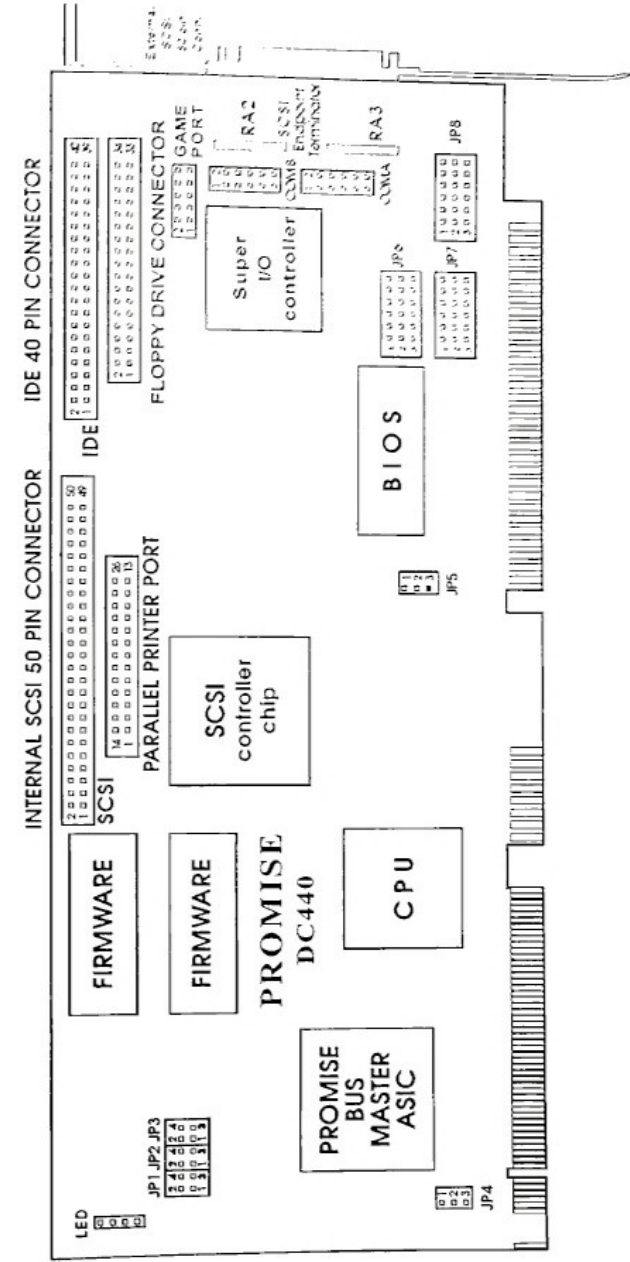
**CAUTION IN HANDLING AND INSTALLING!**

We want you to be completely comfortable in installing your DC440. So be careful when installing the system. The DC440, like any valuable part of your computer system, is susceptible to static electricity.

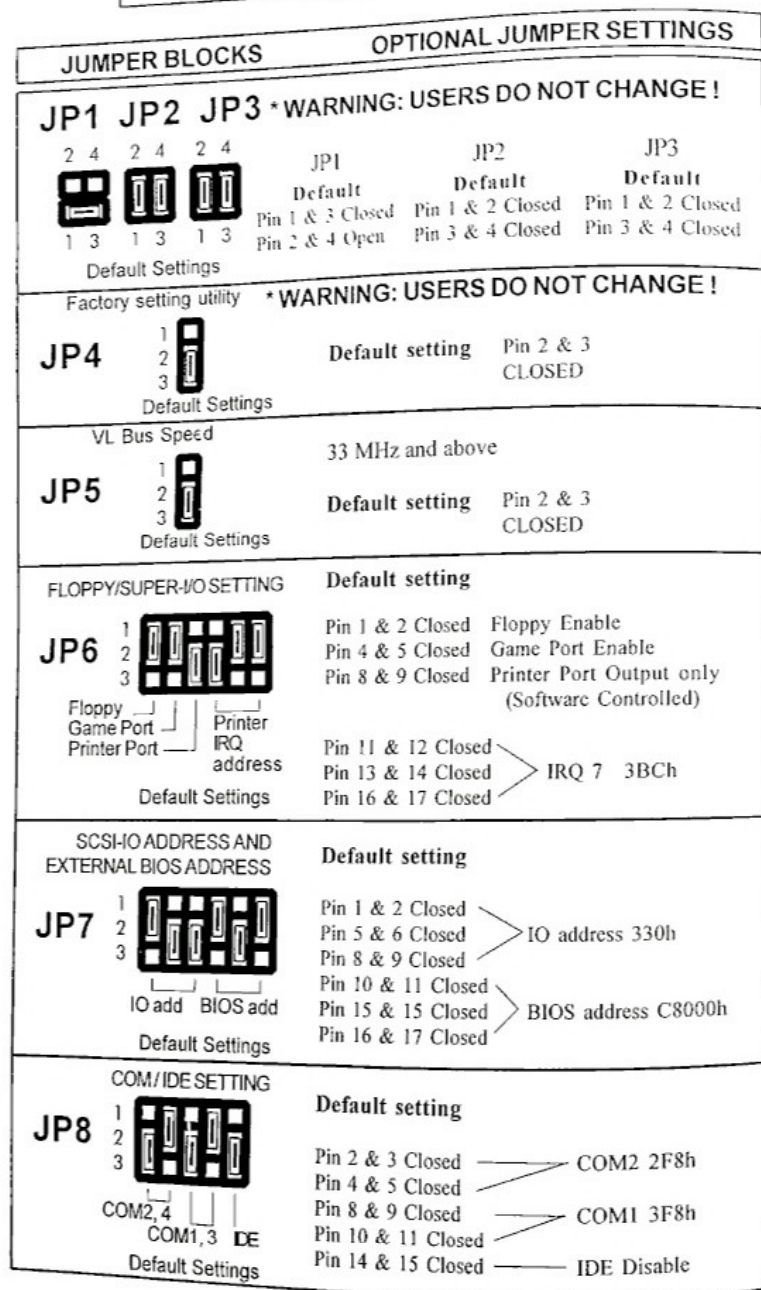
Be extra careful in handling your new unit. ALWAYS ground yourself by touching exposed metal on your computer's grounded metal chassis BEFORE handling your DC440 intelligent host adapter. Keep the product inside its protective wrapping until just before you want to install it. This will prevent unnecessary product failures and disappointment.



**DC440 BOARD LAYOUT  
MAJOR CHIPS, CONNECTORS AND JUMPERS**



# DEFAULT JUMPER SETTINGS



# CONFIGURE & INSTALL

Installing your DC440 and setting up the complete SCSI bus from scratch is a six-step process as illustrated in the flow-chart below:

## Step 1

DC440 Non-SCSI Set-up (Floppy & I/O)

## Step 2

SCSI BUS Set-up (Bus Termination)

## Step 3

SCSI Device Set-up

## Step 4

DC440 SCSI Set-up

## Step 5

Cable Connections Internal & External

## Step 6

BIOS SCSI Advanced Setup Utility





**JP1, JP2, JP3 and JP4**

Jumpers JP1, JP2, JP3 and JP4 have been set at the factory. Only authorized technicians should change these settings.

**Step 1**

DC440  
Non-SCSI  
Set-up  
(Floppy & I/O)

**Step One: Configuring the Non-SCSI I/O ports of the DC440**

In this step, you will be guided through the I/O floppy drive and IDE jumper settings to determine which of these devices you wish to control.

The DC440 provides support for two floppy disk drives (5-1/4" 1.2MB and/or 3-1/2" 1.44MB) and, with its super I/O ASIC chip, provides 2 serial, 1 bi-directional parallel, and 1 game port. The host adapter also provides an IDE interface for hard drives or CD-ROMs.

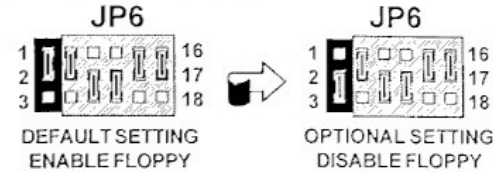
The factory default settings of your DC440 ENABLES support for all of the above I/O devices, except the IDE port.

Should your system already contain individual adapters that control your I/O device(s), you have the option to use your previous individual adapters to control these non-SCSI I/O devices.

**Disabling or Enabling the Floppy Controller of Your DC440**

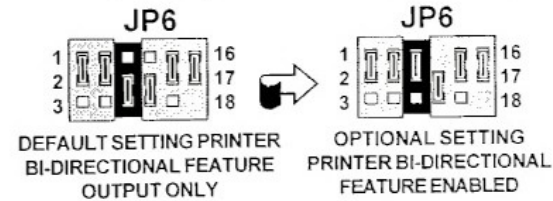
The floppy support features of your DC440 are set "ENABLED" as default setting from the factory with pins 1 & 2 jumpered on JP6.

The DC440 has been set by the factory with the floppy controller ENABLED. If you wish to disable that, so as to use another floppy controller, then move the JUMPER from pins 1 & 2, to 2 & 3 on JP6, as indicated below.



**Bi-Directional Parallel Port**

The parallel port on the DC440 is bi-directional which allows both output and input of data. This port design permits you to connect various external input devices (external hard disk drives, CD-ROMs, etc...) that have a parallel port interface connector. Due to certain application software compatibility problems, the factory default setting has disabled the bi-directional parallel port feature, making it output only.



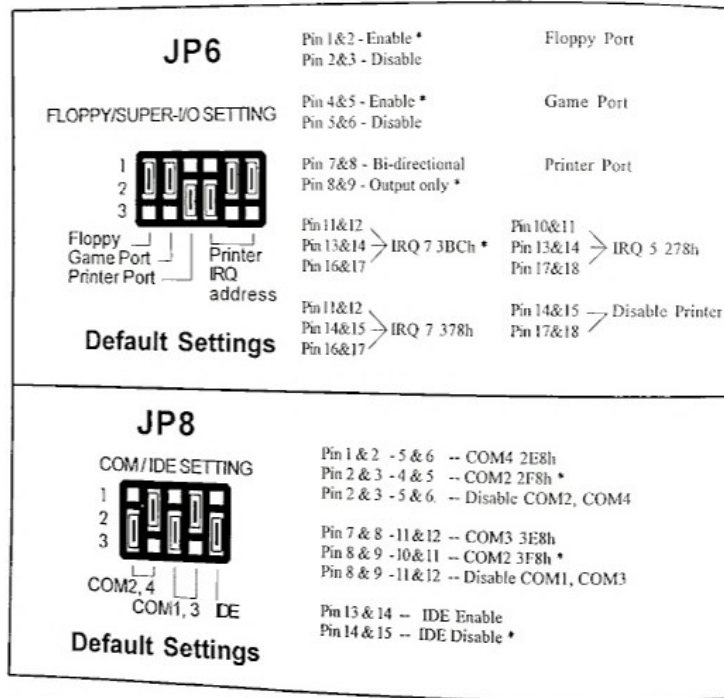
To enable this feature, locate JUMPER JP6 and simply move the indicated jumper from the disabled position (jumper pins 8 & 9) to the enabling position (jumper pins 7 & 8) as shown in black areas of illustration immediately above.

**Disabling or Changing I/O Support Settings**

If you use the DC440 for I/O support, you would need to change the factory default settings ONLY if they conflict with other adapter cards in your system (i.e. network adapters, etc...).



The following chart table (jumper blocks JP6 & JP8) shows various jumper settings to enable or disable support of the DC440's I/O ports. To change the settings, simply move the indicated jumpers to the locations listed in the chart as indicated. The jumpers illustrated show the factory default setting, with the default pin descriptions indicated by "\*" \* ".



\* Indicates FACTORY DEFAULT SETTING

**Step 2**

**SCSI BUS Set-up (Bus Termination)**

**Step Two: Preparing the SCSI Bus**

The SCSI Bus you are about to setup is external to your computer system's internal VL bus and consists of the DC440 intelligent host adapter and up to 7 SCSI devices. The DC440 plays an essential part on your SCSI bus handling data flow and communication between the two different bus designs.

**Identifying the Endpoints of the SCSI Bus**

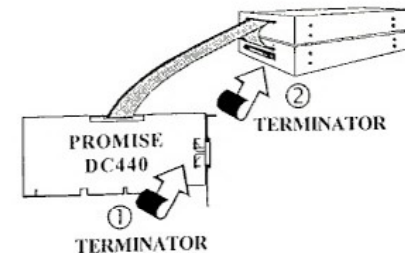
In preparing the SCSI bus, locate the two physical endpoints on the SCSI bus path (including the DC440). There are three basic methods of connecting devices to the SCSI Bus.

**1. Internal SCSI Devices Only**

The illustration below shows: Arrow #1 identifies the SCSI board internal terminator on the SCSI DC440 (RA2, RA3), one end point of the SCSI Bus.

The internal devices are connected to the DC440 SCSI board at the SCSI HDD 50 pin connector. The ribbon cable identifies pin No.1 on it's connector with a dark or marked edge.

Arrow #2 identifies a terminator in place at the last internal device, the other end point of the SCSI Bus.



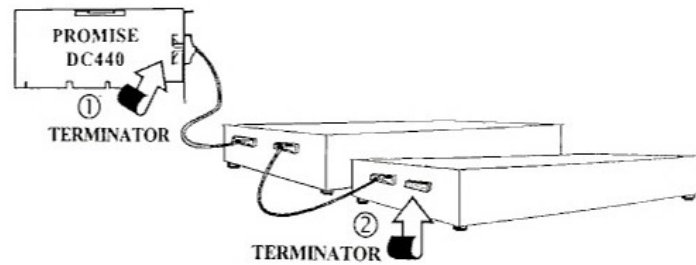
## 2. External SCSI Devices Only

The illustration below shows:  
 Arrow #1 identifies the device terminator in place on the SCSI board (RA2, RA3), one end point of the SCSI Bus.

External devices are connected to the SCSI DC440 board at the external 50 pin connector.

Arrow #2 identifies the device terminator in place at the last external device, the other end point of the SCSI Bus.

Each external SCSI device should come with a terminator (resistor pack). If it is removed to allow the addition of other SCSI devices, make sure you retain this terminator for possible future use.



## 3. Combining Internal and External SCSI Devices

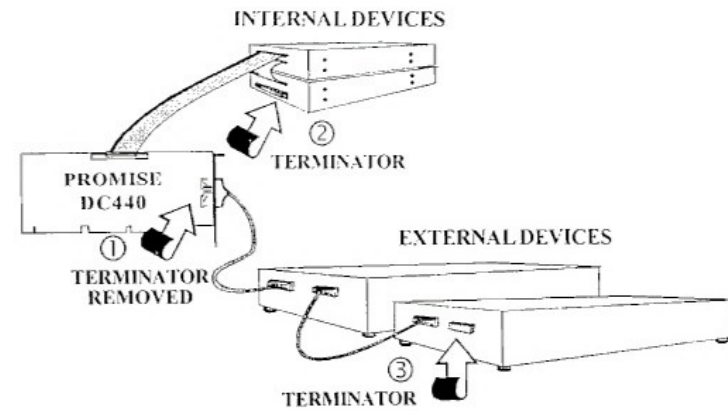
The next illustration shows:  
 Arrow #1 identifies that the terminator (RA2, RA3) has been removed from the DC440.

The internal devices are connected to the SCSI DC440 board at the SCSI HDD connector by a 50 pin ribbon cable.

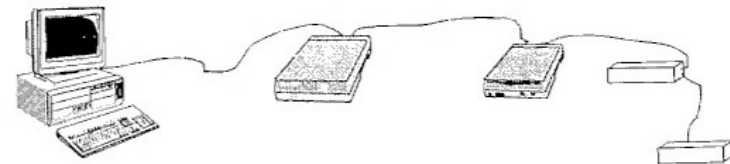
Arrow #2 identifies the internal device terminator on the last internal device, one end point of the SCSI Bus.

The external devices are connected to the DC440 external 50 pin connector.

Arrow #3 identifies the external device terminator on the last external device.



There can be a combination total of seven internal and external SCSI devices connected to the FAST SCSI-2 Bus Master HOST ADAPTER, DC440.



### Proper Termination of the SCSI Bus

To properly terminate the SCSI bus, the terminators or resistors of the two end point devices, (including the DC440) must be physically left ON the device or switched ON.

Any other SCSI device that is installed between the end point devices must have their terminators (or resistors) REMOVED or switched OFF.

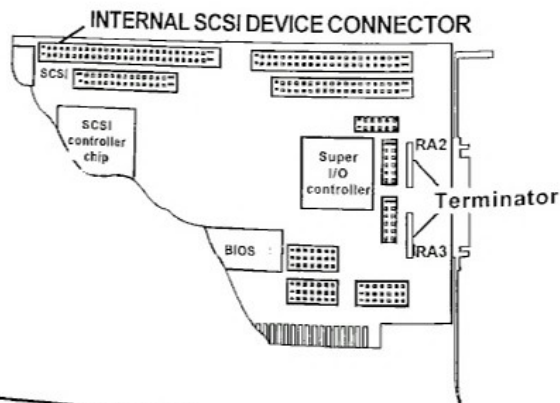


**Note:**

Save the terminators (resistor packs) for possible future use.

### DC440 Termination

PROMISE Technology assumes that the DC440 will be placed at one of the endpoints of the SCSI bus so the DC440 is terminated by DEFAULT. If the DC440 is NOT one of the endpoint devices on your SCSI bus, you MUST remove terminators RA2 and RA3 located as shown in illustration below.



Only standard single-ended SCSI devices are supported by the DC440. Be certain that all your SCSI devices are single-ended designs. Differential-ended SCSI devices MAY BE damaged if connected to your DC440 intelligent host adapter. Please refer to your SCSI device's manual to determine if it is single-ended or differential-ended prior to final installation.

### Step 3

SCSI Device Set-up

### Step Three: Configuring the SCSI ID of the DC440 and Other SCSI Devices

In this step, we guide you through the proper settings for your internal and/or external SCSI hardware devices (SCSI ID numbers).

Each separate device attached to the SCSI bus, including the DC440, is identified by its own unique SCSI ID number (from 0 to 7). The SCSI ID performs the following functions:

1. It determines the priority of data access of the device on the SCSI bus in case two or more devices try to transmit or receive data at the same time. According to standard SCSI conventions, the higher number has higher priority.
2. The ID number defines the address of each device -- including the DC440 host adapter (since it becomes a part of the SCSI bus). Without a proper SCSI ID for a device, the bus will ignore the device as part of the system.

Each device on the SCSI bus must have a unique SCSI ID number. Should two devices be set to the same number, one of them must be changed.



Separate SCSI devices with the same SCSI ID can operate in your computer system IF they are placed on separate SCSI bus paths of multiple SCSI bus systems (SCSI bus A and SCSI bus B). Each SCSI host adapter only searches the device ID numbers on its own SCSI bus path.



**Note:** You should change a device's SCSI ID number only if it conflicts with another device on the same SCSI bus.

### Setting the SCSI ID of the DC440

The DC440 SCSI ID number by default is set to 7, the highest priority. We recommend the DC440 intelligent host adapter have the highest priority ID on the SCSI Bus to reduce the possibility of data errors and insure the fastest disk response.

SCSI ID of DC440 is configured by software. If you need to change the default setting, you must first install and attach the DC440 to the SCSI Bus. The DC440 SCSI ID number can only be changed **AFTER** powering-up your system and using the Advanced SCSI Set-Up Menu (please refer to Step 6 for more information about the Set-Up Menu) from the host adapter's BIOS.

### Setting the SCSI ID of Other Devices

To change the SCSI ID of any of your other SCSI devices, please refer to their respective User's Guides. Most of these settings are configured using jumpers or switches on the device itself and detailed information should be contained in the device manual.



If you have a bootable hard drive, make sure to set the SCSI ID number to 0.

You have completed preparing your internal and external SCSI devices. The next step is to prepare your DC440 Host Adapter for installation.

#### Step 4

DC440  
SCSI  
Set-up

#### Step Four: Final Preparation of DC440 for Installation

In this step, we take you through proper setup of the DC440 itself (device termination settings, SCSI ID number, port address, host external BIOS, IRQ interrupt settings).

It is important to ensure that your DC440 maintain its own unique I/O port address in order for your system's CPU to communicate directly with this device. Many systems have two or more port address-assigned expansion cards (DC440 and another SCSI adapter, network card, communications card, etc...). Check to make sure that the I/O port addresses of these devices do not conflict.

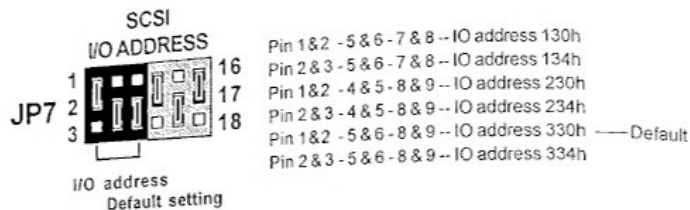


Having two adapters with the same I/O address will prevent the system from booting up.



### Changing I/O Port Address of DC440

The default setting of the DC440 is 330h. Please refer to Jumper JP7 (page 2-8) for other possible address and jumper settings of the DC440.



To change the I/O port address, simply move the jumpers of the jumper block (JP7) to the desired setting on the pins as indicated in the black area of the above illustration.

### Changing IRQ Interrupt Request Setting of the DC440

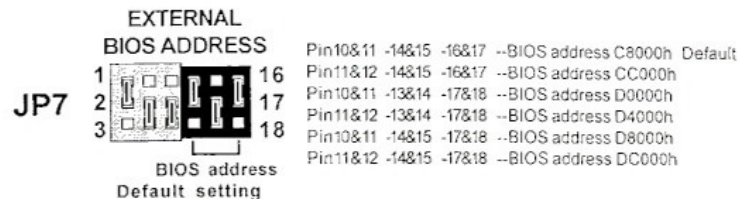
The DC440 also has its own IRQ number (default=IRQ 15). A conflict between two adapters or other devices of the IRQ settings will result in system boot-up difficulties. Check the IRQ settings of other adapters and devices in your system and change them first if possible.

### The DC440's External BIOS Setting

As an intelligent SCSI host adapter, the DC440 comes with its own BIOS chip, separate from that found on the main computer motherboard. This external BIOS provides easy configuration of the DC440.

### Changing External BIOS Address

Should the address of the External BIOS conflict with another adapter BIOS address, simply move the jumper positions on JP7 as indicated in the black area of the illustration below to the desired position of other possible address settings. The default BIOS address is C8000h.



PROMISE recommends that you check the BIOS address of the other adapter cards in your system and make necessary changes to them BEFORE installing the DC440 to avoid possible boot problems.

### Step 5

Cable Connections  
Internal &  
External

### Step Five: Physically Installing the DC440 in your VL Bus PC

In this step, we show you the proper cabling connections between your SCSI devices and DC440 to operate with your system.

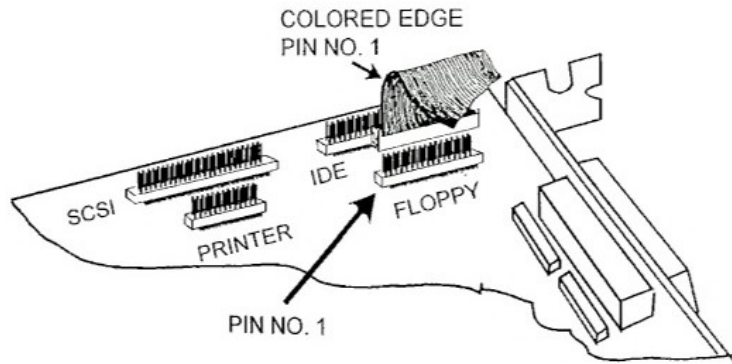
Make sure that the power to your computer system is turned off. Please refer to your PC's system manual for instructions on opening your system and adding add-on adapters to the system.

Once you have removed the system cover, locate an empty VL bus slot. Make sure that your VL slot supports the "Bus Master" feature. Remove the corresponding metal slot cover behind the VESA slot. Align the DC440 along the VESA slot and carefully plug it into the slot. Make sure that the DC440 is well-seated in the slot and pushed all the way down. Do not force it into place. It should fit firmly and tightly as you apply pressure.

**Connecting Optional Floppy Drives to the DC440**

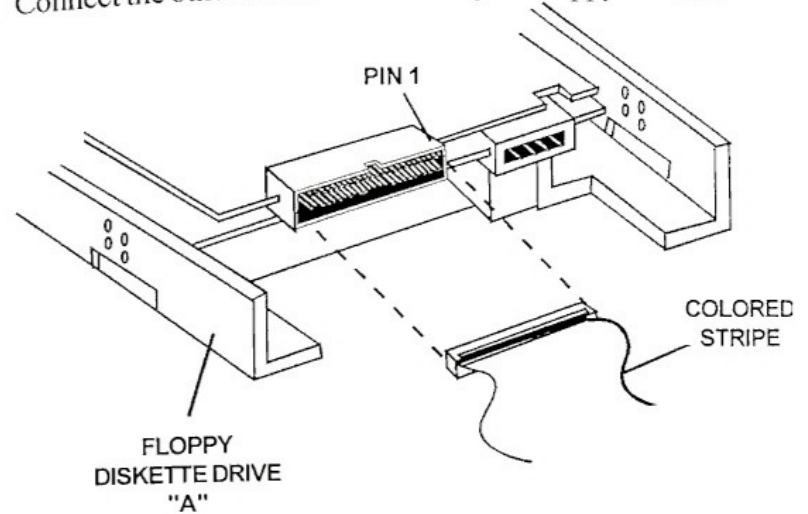
Once you have identified the proper connections, proceed with the steps below:

1. Make sure that the colored or marked edge of the floppy cable is aligned with Pin 1 of the 34-pin floppy connector on the DC440 (marked FLOPPY).

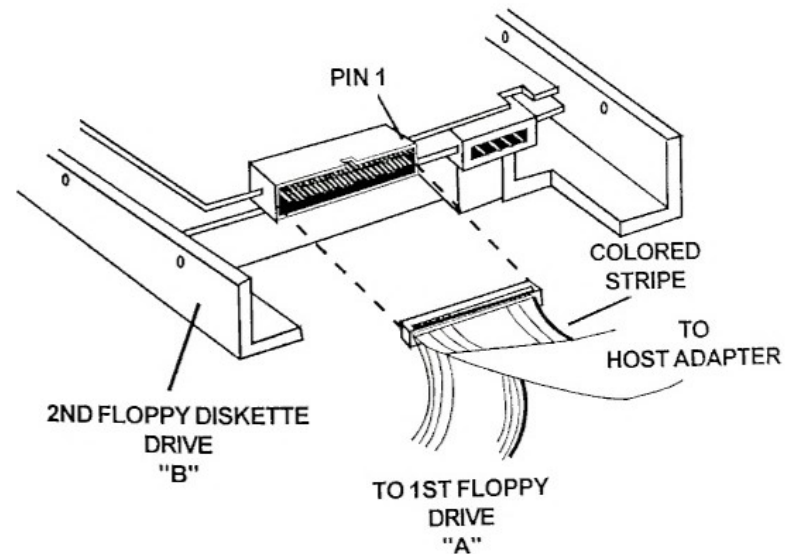


**Note:** Pin 1 is indicated on the PCB by the floppy connector

2. Connect the other end of the cable to your floppy drive A.



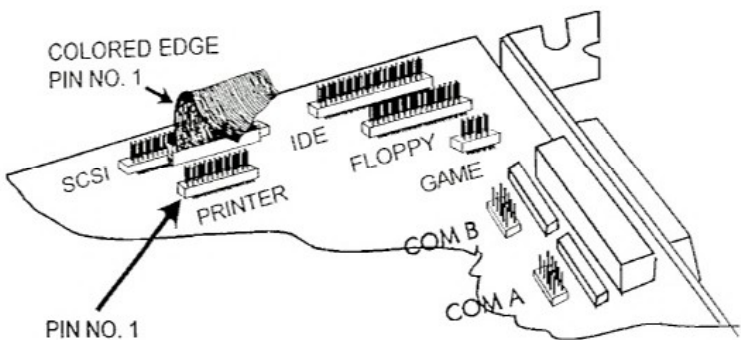
3. Connect the middle connector of the floppy cable to the floppy drive B (if applicable).



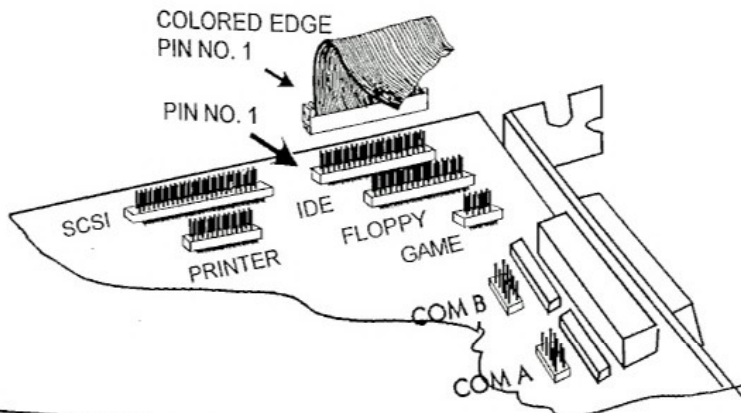
### I/O Cable Connections

Users must attach the included I/O cable set to the DC440 using the cable's connector plug. Install the I/O device faceplates in the closest available expansion slots to the DC440. Securely attach the faceplates to the chassis with an available mounting screws.

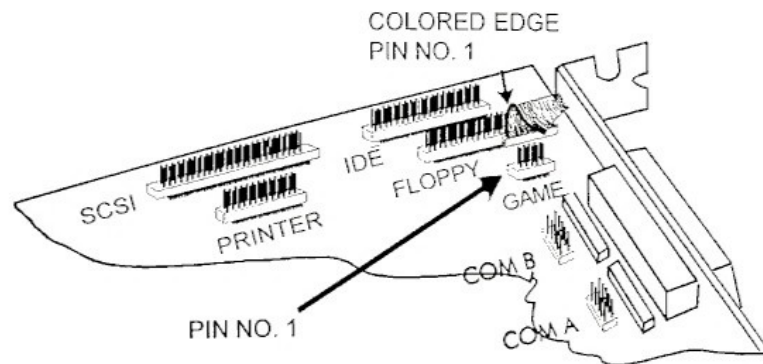
1. The Parallel printer port has the 26 pin connector, located as indicated below:



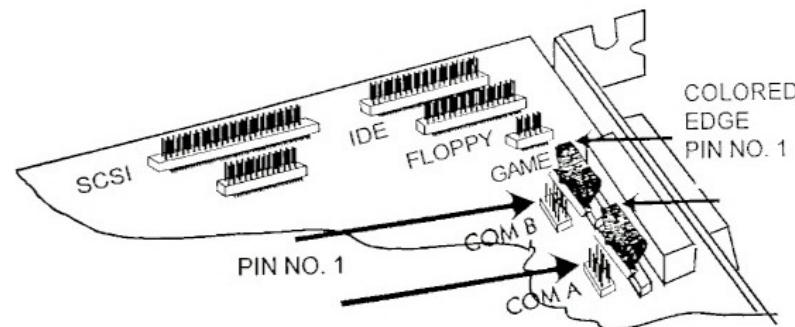
2. The IDE I/O port has the 40 pin connector, located as indicated below.



3. The Game Port has a 10 pin connector, located as indicated below.



4. The two COM ports are as indicated below with 10 pin connectors.

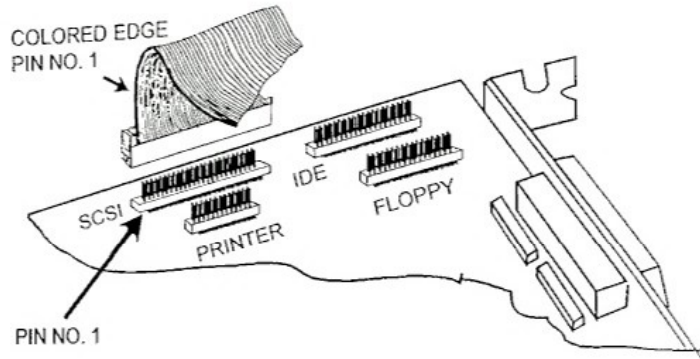




### Connecting the Internal SCSI Devices

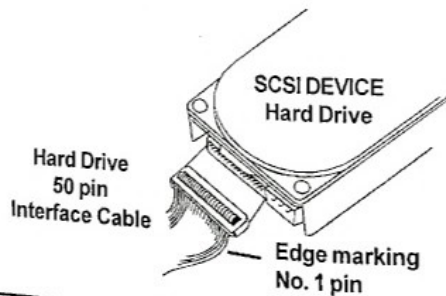
This is a simple process involving just five easy steps:

1. Connect the 50-pin SCSI cable to the 50-pin connector on the DC440 (marked SCSI HDD) as depicted in illustration below.



**Note:** Make sure to align the colored side of the cable to the Pin 1 of the DC440 (the pin that is farthest away from the back plate of the DC440).

2. Connect the other end of the cable to the SCSI device with the termination plugs.



**Note:** Make sure the colored edge of the cable is aligned with the Pin 1 of the 50-pin connector of the device. If Pin 1 is not clearly marked on the device, please refer to the user manual of the device.

3. Connect the middle connector of the cable to the second internal SCSI device (if any). Verify the pin 1 connection.



Failure to connect Pin 1 of the cable (colored edge of the cable to Pin 1 of the device(s)) will damage the DC440.

4. Double check the cable connection and make sure the cable is properly installed.

**Note:** Make sure all your adapter boards are properly seated and all your internal devices are properly screwed in and secured.

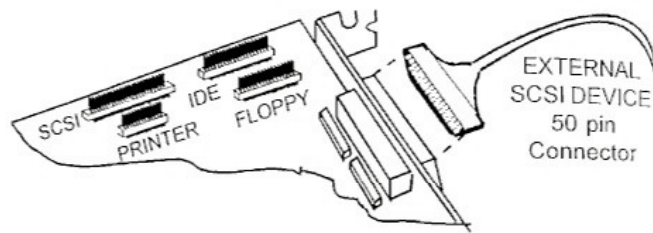
5. Close the system with the enclosure.



### Connecting the External SCSI Devices

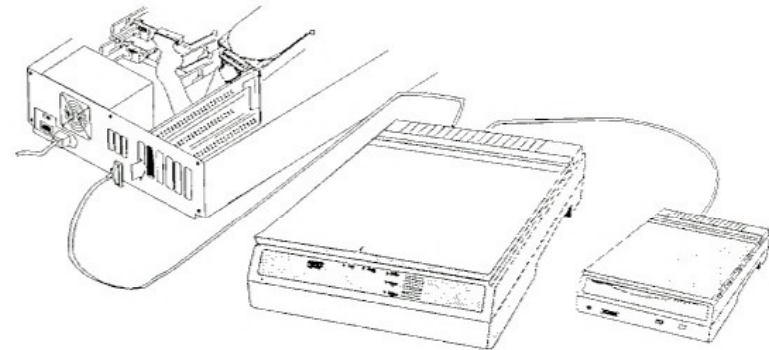
The external SCSI devices are connected in a daisy-chained fashion one after another. Follow this process to connect all external SCSI devices:

1. Connect one end of the external SCSI cable to the external connector of the DC440.



2. Connect the other end of the cable to the external SCSI device.
3. Is this the ONLY external SCSI device you will connect?  
If YES, go to Step 6. If NO, go to Step 4.
4. **IF YOU HAVE MORE THAN ONE EXTERNAL SCSI DEVICE**, connect the second SCSI device to the first with another 50 pin external cable and so on, as shown in the diagram on the next page. This is a daisy-chain format.
5. Terminate the last SCSI device and go to Step 7.
6. **IF THIS IS THE ONLY EXTERNAL SCSI DEVICE YOU WOULD BE CONNECTING**, terminate this SCSI device (refer to the user manual of the SCSI device to learn how to terminate the device).

7. You have completed physically installing your DC440 and connecting all the SCSI devices.
8. Connect all the external parallel and serial devices, that you would be using with your system, to the corresponding ports.
9. Double check all the connections one more time and power-up the system.



### Step 6

BIOS SCSI  
Advanced  
Setup  
Utility

### Step Six: BIOS SCSI Advanced Setup Utility

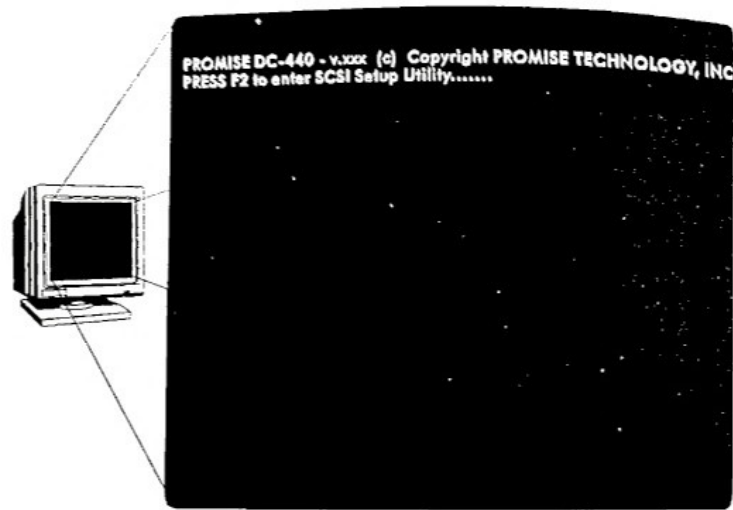
Now you are ready to power-up your PC system.

Once you power-up your system, with the help of the built-in utilities contained in the external BIOS of your DC440, you can either Verify, Modify or Optimize the DC440 settings. The built-in utilities also let you verify the installed SCSI device configuration and add more devices to the SCSI Bus.

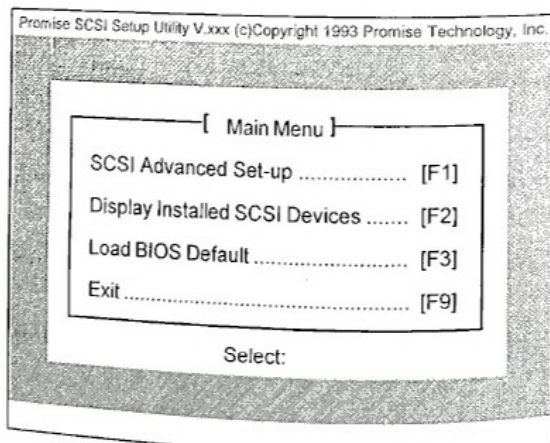
The following instructions guide you through the various Advanced Setup option steps:

### Getting the Main Menu Screen

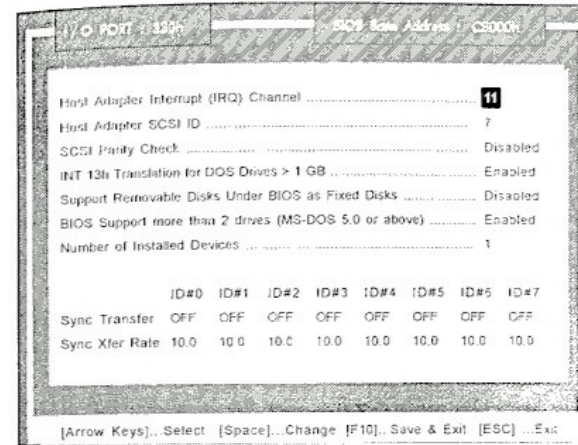
1. Once the system checks memory during a system boot, the following message will appear on the screen (for about 3 sec.):



2. Press the F2 key to enter the DC440 SCSI Main Menu. The following screen will be displayed on the system monitor:



3. Press F1 to go to the SCSI Advanced Set-Up Menu



### Changing Settings in the Advanced Set-Up Menu

- a. Use the arrow keys to highlight the desired field to change
- b. Use the space bar to change the highlighted setting to the desired setting
- c. To save the setting and exit, press F10.

### Host Adapter IRQ Setting

As explained in Step 4, the DC440 default setting for IRQ is 11. You need to change this setting ONLY if the IRQ setting of another add-on card in your system has the same setting and you are unable to change the IRQ setting of the other device. Refer to page 2-8 for JUMPER settings for optional IRQ addresses. Your DC440 has five (5) possible IRQ settings:

IRQ 9                      IRQ 11 (default)                      IRQ 15  
 IRQ 10                      IRQ 12

Once you have changed the IRQ setting, (and other desired settings in this menu) exit the DC440 Advanced SCSI Set-Up Menu.

### SCSI ID

As described in Step 3 (page 2-13), in the event that two SCSI devices on the same SCSI bus have the same SCSI ID, those devices will not be recognized at boot-up.

The default and the recommended SCSI ID for your DC440 is 7. In most cases this does NOT need to be changed. You should change this ONLY if the ID of another SCSI device can not be set other than 7.

### Parity Check


On the SCSI bus, a built-in safety feature called Parity Check insures the integrity of your data. When the SCSI device sends information across the SCSI Bus, it also sends a parity bit. The parity bit tells the DC440 if the information (data) is valid. Not all SCSI devices support Parity Checking. Please refer to your SCSI device's user manual to be certain that it supports Parity Checking.

### Interrupt 13h Translation for DOS drives > 1GB

This feature is built into your DC440 to support hard disk drives larger than 1GB under DOS. By enabling INT 13h, DC440 can also support hard drives of up to 8GB each. This gives a possible hard drive capacity per SCSI bus of up to 56GB (7 SCSI drives with the capacity of 8GB each!!).

### Support Removable Disks Under BIOS as Fixed Disks

With this feature Enabled, you can use your SCSI removable hard disk drive as a fixed disk drive WITHOUT any additional device drivers.


 Note: Assign SCSI ID #0 to your removable hard drive will make it bootable



With this feature Enabled, your removable disk drive acts just like a fixed disk drive. Removing the media during disk access or while the system power is on could damage the media or cause data loss.

### BIOS Supports More Than 2 Drives (MS-DOS 5.0 or above)

Usually DOS can only support up to two hard disk drives. The default setting of "More Than 2 Drives" feature "Enabled" allows you to connect up to 7 hard disk drives without additional device drivers.

 Note: The above is true only for MS-DOS version 5.0 and above. To support more than 2 hard disk drives under earlier MS-DOS versions, Corel DOS ASPI manager need to be installed.



### Number of Installed Devices

This number refers to the number of SCSI devices (not including the DC440) internal and external, that you have installed in the system. Set this number accordingly.



If the number of devices is set larger than the actual number of devices connected, it can take a longer time to boot.

### Sync Transfer

A SCSI device responding with an acknowledgement for EACH request by the DC440 performs an Asynchronous Data Transfer (maximum rate is 7MB/sec). A SCSI device responding with acknowledgements for MULTIPLE DC440 requests performs Synchronous Data Transfers (maximum data transfer is 10MB/sec).

This data transfer characteristic is governed by the SCSI devices. Even though most of the newer SCSI devices support Synchronous Data Transfer, older SCSI devices may not support this. The DC440 must be told, by turning the corresponding Sync Transfer ON or OFF, whether each SCSI device installed supports Synchronous or Asynchronous modes.



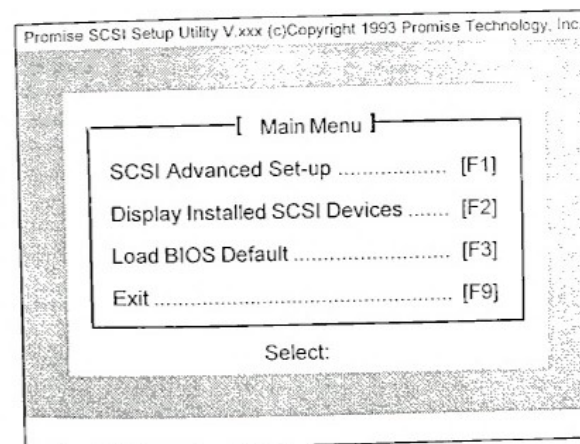
The DC440 default for all devices is Synchronous Data Transfer OFF. Devices that do support synchronous data transfers can obtain better performance with this feature ON.

### Sync Transfer Rate

The advance feature to set the sync transfer rate suitable to a particular device allows flexibility of control for a more reliable performance from that device. The space bar changes the rate values between 5.0 MB/Sec to 10.0 MB/Sec for any device.

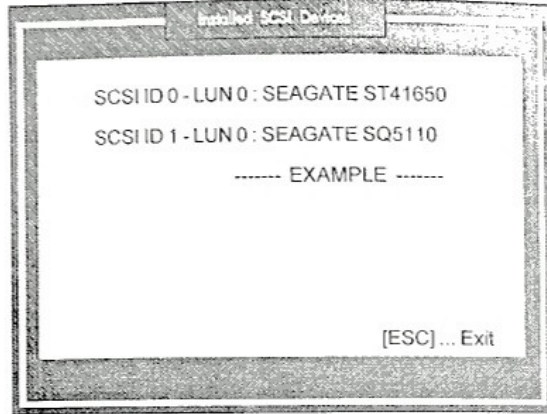
### Exiting the Advanced SCSI Setup Menu

1. Press F10 to save your newly changed settings and exit to the main menu.

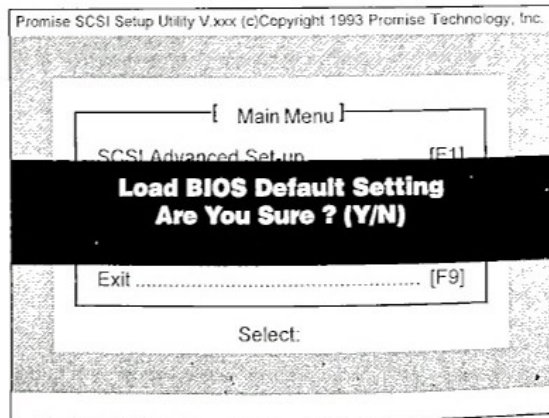



2. Do you want to display ALL your SCSI devices on screen?  
If YES, go to number 3. If NO, go to number 6.

- Press F2. The screen below shows SCSI device ID #, LUN # and the device brand name and the model number.



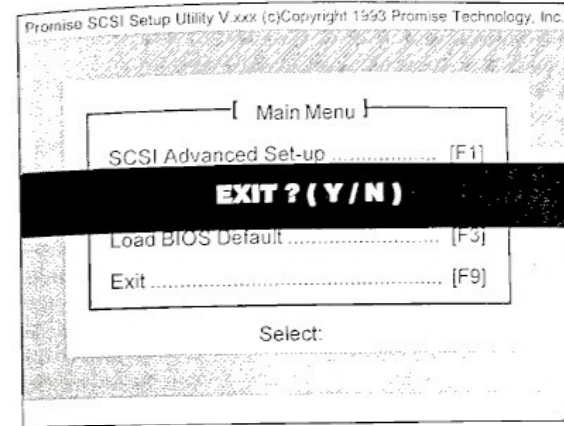
- Press the ESC key to return to the main menu screen.
- Press F3 to re-load all factory BIOS defaults.



 Note: If you change any settings in the SCSI Advanced SetUp Menu and wish to return all settings to factory default, Press F3.

- Press F9 key to exit the SCSI Advanced Setup Utility.

This brings you to the Exit Menu shown below:



If you need to go back to the SCSI set-up menu press "N".  
If you wish to EXIT, press "Y".

If there is a bootable SCSI hard drive as part of the SCSI bus you just installed, please go to your system's CMOS (refer to your system's user guide). Make sure to set the reference to both hard drive 1 and 2 in your CMOS as NOT INSTALLED. Otherwise your SCSI drive will NOT BOOT.



You have completed the final-configuration of the DC440!



**Congratulations, you have just completed the DC440 configure and install procedures.**



Operating System Support

This chapter describes how your DC440 works with different operating systems.

The DC440 uses an Adaptec 1540/1542 compatible protocol for the Host Interface. The external BIOS of the DC440 supports up to 7 hard disk drives (DOS 5.0 or above only) and allows you to install DOS. Other operating systems such as OS/2, WindowsNT, UNIX, Novell 4.x have built-in support for the 1540/1542. This allows you to install these operating systems WITHOUT having to install specific drivers for them.

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**To use your DC440 with DOS after correct installation, just go to a DOS prompt.**

Your hard disk drive(s) is now ready for partitioning and formatting according to your requirements. If you have questions about partitioning and formatting, please refer to your DOS manual.

DOS/Windows 3.x

The DC440 external BIOS supports up to a 7 hard disk drives (with MS DOS 5.0 and later versions). This may include removable hard disk drives (if you have enabled "Support Removable Disks Under BIOS as Fixed Disks" in the external BIOS PROMISE Advanced SCSI Setup).

If you are using SCSI devices other than hard disk drives (or more than 2 hard disk drives and DOS versions prior to 5.0), you ARE REQUIRED to install CorelSCSI device drivers. Please refer to CorelSCSI manual for proper driver installation and user-instructions.



WindowsNT

The WindowsNT operating system provides all the popular SCSI adapter supports including Adaptec 1540/1542. The DC440 provides full compatibility mode with Adaptec 154x. Before installing the WindowsNT you should first install the DC440 as described in Chapter 2 and make sure that there are no conflicts with other adapters installed in your system.

1. After installing the DC440 and the SCSI devices, insert the WindowsNT boot diskette into drive "A" and boot the system.
2. When the initial setup screen appears, choose the "Express Setup".
3. The WindowsNT setup will automatically scan the installed SCSI adapters.
4. The DC440 will be detected, and the screen will show:  
Found: Adaptec 154X
5. You may now choose to partition or reformat your drive. If the drive is already partitioned and formatted, you may choose to install the WindowsNT without reformatting the drive.
6. After you decide how you want to partition/reformat your drive, the Setup will start to copy files from the CD-ROM to your hard drive. (If you have the floppy version, you should be prompted to insert the floppy diskettes.)
7. When all the files have been copied to your system, you will be prompted to remove the diskette and reboot the system.

OS/2 ver 2.1x

The DC440 supports OS/2 2.1x through the OS/2 provided Adapter Device Driver (ADD). The DC440 provides full compatibility mode with the Adaptec 154x adapter family.

To install OS/2 2.1x, you need to install DC440 as described in the Chapter 2. Make sure that there are no hardware conflicts with others adapters installed in your system.

1. After installing the DC440 and the SCSI devices, insert the OS/2 boot diskette into drive "A" and boot the system.
2. Follow the OS/2 installation instruction disk for the hard disk preparation.
3. When the system configuration menu appears, choose the Adaptec 1540, 1542 for the SCSI Adapter support.
4. Follow the OS/2 instruction to complete the installation.
5. When all the files have been transferred to your system, you will be prompted to remove the diskette and reboot the system.
6. After the OS/2 installation, you are ready to use your SCSI devices such as hard disks and CD ROMs. If you have other SCSI devices such as WORMs and Tapes, please use the following instructions to complete your installation.
7. To install Corel Applications/Device drivers, you should install the ASPI manager ((OS2ASPI.DMD)) from your OS/2 package.

8. Manually add one line in your CONFIG.SYS by any text editor.

BaseDev= OS2:ASPLDMD

9. Reboot the system.
10. Insert the Corel OS/2 Application diskette in the drive "A", run the SETUP.EXE in the diskette. Follow the instruction in the Corel manual and complete the installation.

### Netware 3.12/4.01

Before you start the Netware operating system installation, follow the procedure described in Chapter 2, to install and configure the DC440 in your system. The DC440 provides full compatibility mode with Adaptec 154x adapter family.

1. After installing the DC440 and the SCSI devices, create a MS-DOS boot partition on your Netware boot drive. (If you are not familiar to the procedure, please refer to the DOS user manual)
2. If you need to use other SCSI devices such as CD-ROMs or tape drives under DOS, please refer to the Corel SCSI user's manual for device driver installation.
3. Install the Novell Netware operating system onto your boot drive as described in your Netware documentation. During the Installation procedure, when prompted to choose from a list of drivers for the hard disk controller, select AHA1540.DSK or AHA15xx.DSK then follow the instruction to complete the installation.
4. Reboot the system.

**SCO UNIX 3.2.x**

The SCO UNIX 3.2.x has the built-in support for DC440 through Adaptec 154x compatibility mode, after you have installed the DC440 and properly configured the Interrupt and I/O port setting, follow the installation procedure in your SCO installation manual to install the operating system.

1. Insert the SCO UNIX N1 diskette in drive A.
2. Reboot the system.
3. Choose Fresh Installation in the Installation Selection.
4. Select Fully Configurable Initialization to setup the disk partition.
5. Select Floppy Diskette for media (or other media like CD ROM).
6. Follow the instruction to complete the installation.
7. Reboot the system.

**Chapter 4****TROUBLE SHOOTING****Device Termination**

Termination must be set accordingly for the SCSI Bus.

**Related Problem**

Failure to set the proper device termination(s) will cause your SCSI devices to go undetected.

**Best Advice**

Internal setup: Terminate the last SCSI device on the SCSI cable.

External setup: Terminate the last SCSI device on the cable.

Internal & External setup: Terminate the last SCSI device on the cable. Terminating resistor packs must be removed on the DC440.

**SCSI ID Assignments**

SCSI devices must have their ID set from ID 0 through ID 7

No two SCSI IDs can share the same address on the same bus.

**Most Common Related Problem:**

SCSI devices will not be detected.

**Best Advice**

Check all SCSI ID numbers for conflicts.

**SCSI Cable Attachments**

SCSI cable must be hooked up properly.



**Related Problem**

Poor connection of the SCSI cable will hang system and/or caused undetected SCSI devices.

**Best Advice**

**Internal setup:** Be sure pin 1 of ribbon cable is attached to pin 1 of SCSI device and to pin 1 of 50-pin adapter port.

**External setup:** Be sure the external SCSI cable is securely attached to the external SCSI device and to the mini-SCSI connector on the backplate of the adaptor.

**DC Power Attachment**

Supply voltages to SCSI devices.

**Related Problem**

SCSI device(s) is undetected by system.

**Best Advice**

Any SCSI device must be hooked up to a DC power supply unless that device provides its own source of power.

**Compatibility Conflicts**

Try to determine if the conflicts are caused by your hardware setup or software configuration. Always use your SCSI device manual reference guide for cross referencing as you troubleshoot.

**Static Discharge**

Be sure you are grounded before touching your DC440.

**Related Problem**

Erratic device behavior or "dead" device.

**Best Advice**

Simply place your fingertips on the chassis of the power supply before touching the DC440. This will discharge any built-up static electricity from your body.

**Adapter Jumper Settings**

Note all existing jumper settings.

**Related Problem**

Previously working devices or peripherals no longer respond or work erratically after DC440 is installed.

**Best Advice**

Be sure all jumper settings are not conflicting with other devices or peripherals

**JP6 Floppy & Super I/O Settings**

Make note of all existing floppy/super I/O settings.

**Related Problem(s)**

Floppy drive fails Game Port does not respond and/or Parallel Port reports not on line.

**Best Advice**

**Floppy Port setting:** Properly set floppy port address. Check JP6 Jumper and make sure it is enabled.

**Game Port setting:** Disable this port if not in use.

**Parallel Port setting:** Be sure the IRQ and Address is not conflicting with any other device and be sure Port is enabled and Address is set.

**JP7 SCSI I/O Address and External BIOS Address**

Note all existing SCSI I/O addresses and BIOS Addresses

**Related Problem**

Adapter is not on-line.

**Best Advice**

Be sure the default I/O address is not conflicting with other peripherals.

Be sure the external BIOS does not interfere with another external BIOS address.

**JP8 COM/IDE Settings**

Note all existing COM port address settings.

**Related Problem**

Serial ports are not working properly and/or IDE device not working

**Best Advice**

Be sure the com-ports and port addresses are not conflicting with other peripherals.

If IDE switch is set for Enable on DC440, attached IDE device must be bootable.

**COMMONLY REPORTED PROBLEMS****System hangs at start-up**

Answer: Adapter is not seated properly in bus slot. Re-seat the adapter.

**Adapter is not responding**

Check port address, and IRQ for proper jumper settings.

**No SCSI device detected**

Check whether all internal/external cables to the Host Adapter are properly attached.

**No boot device**

Boot device is not formatted to boot. Verify boot partition and format as bootable device.

**Floppy drives failed to work**

Check DC power cable attachment and interface ribbon cable.

**SCSI interface devices not acknowledged by Host Adapter**

Check power, ID address, and termination on device. Make necessary change if problem found.

**ERROR MESSAGES**

A list of the most common built-in error messages for the DC440 PROMISE Host Adapter appears in the next section. Each error message represents a certain sequence of tasks which the host adapter has detected or failed to perform. Please refer to the Error Message Listing for a possible cause of failure.

1. Error - Cannot get base I/O port address.  
Initialization Failure - BIOS is not installed. Press any key to continue.

**Cause**

BIOS could not get the base I/O port address from Host Adapter.

## Solution

- a. Turn Power Off.
- b. Check the jumper settings for I/O port and BIOS address. Make sure there is no conflict with other peripherals in the system.
- c. Turn Power On.

*If the error persists, Host Adapter may be malfunctioning*

2. Error - SCSI Adapter is not ready!  
Please press system RESET button or turn POWER OFF, then ON again.

## Cause

Hardware is not ready.

3. Bus master operation test failed!  
The main board may not support VL-Bus bus master operation.

## Cause

Mother board does not support Bus Master.

## Solution

Try different VL-Bus slot.

4. Error - SRAM read/write test failed.  
Initialization Failure - BIOS is not installed. Press any key to continue.

## Cause

SRAM on Host Adapter failed.

## Solution

1. Turn POWER OFF.
2. Check the jumper settings for BIOS address. Make sure there is no conflict with other peripherals in the system.
3. Turn POWER ON.

*If the error persists, Host Adapter may be malfunctioning.*

5. BIOS failed to obtain the number of installed devices.  
Initialization Failure - BIOS is not installed. Press any key to continue.

## Cause

BIOS can't get the number of installed devices.

Solution Turn POWER OFF, then ON again.

*If the error persists, host adapter may be malfunctioning.*

6. Error - Host adapter initialization failed.  
Initialization Failure - BIOS is not installed. Press any key to continue.

## Cause

Error occurred when BIOS was reading the host adapter configuration, or initializing mailboxes.

## Solution

Turn POWER OFF, then ON again.

*If the error persists, host adapter may be malfunctioning.*



7. Failed to read EEPROM or checksum was incorrect. Load default value .....

## Cause

BIOS can't read EEPROM or find the content of EEPROM checksum error.

## Solution

If the Host Adapter is newly installed: Ignore the error message. After saving EEPROM once, the error message will not appear again.

If the Host Adapter has previously saved its EEPROM:

- Turn POWER OFF.
- Turn POWER back ON.
- Go to Advance Setup and SAVE the contents.

*If the error persists in next bootup, the host adapter may be malfunctioning*

8. Time out Error.

Error - SCSI Inquiry Command failed.

Initialization Failure - BIOS is not installed. Press any key to continue.

## Cause

No response from the Host Adapter when BIOS issued "Inquire SCSI device" command.

## Solution

- Turn POWER OFF.
- Then turn POWER ON again.

*If the error persists, host adapter may be malfunctioning*

9. Error - SCSI Inquiry Command failed.  
Initialization Failure - BIOS is not installed. Press any key to continue.

## Cause

Error was detected in "Inquiry SCSI devices" command.

## Solution

- Turn POWER OFF.
- Turn POWER ON again.

*If the error persists Host Adapter may be malfunctioning.*

10. No SCSI device exists! Press any key to continue .....

## Cause

BIOS can't find any installed SCSI device.

## Solution

- Enter Setup Menu.
- Check if "Number of installed devices" is same as the actual number of SCSI devices.
- Save setting to EEPROM.

*If the error persists at next boot of system, Host Adapter may be malfunctioning.*

11. Fatal Error - Cannot write to EEPROM.  
Initialization Failure - BIOS is not installed. Press any key to continue.

## Cause

BIOS can't write to EEPROM on host adapter.

## Solution

- a. Turn POWER OFF.
- b. Turn POWER ON again.

*If the error persists, Host Adapter may be malfunctioning.*



## QUICK INSTALLATION GUIDE

To install your DC440 and complete the SCSI bus setup from scratch is a six-step process:

### Step One:

The factory default settings of your DC440 ENABLES support for 2 serial ports, 1 bi-directional parallel port, 1 game port and floppy controller.

To disable or change the two serial ports, parallel port (including disabling the bi-directional feature of the parallel port), game port and floppy controller, please refer to the jumper location table and settings in Appendix C. To disable or change the settings, simply move the indicated jumpers to the location shown in the chart table.

**Note:** You need to change the factory settings ONLY if these features conflict with the existing adapters in your system.

### Step Two:

To set up the SCSI bus you MUST properly terminate the two end points of the SCSI bus. Properly identify the end point devices of your SCSI bus. Once you have located the two end points of the SCSI bus, please refer to the user guide of the devices that are attached to the end points and properly terminate them. By default the DC440 is terminated. If the DC440 is not placed at one of the end points of the SCSI bus, you must remove the resistor packs RA2 and RA3. Please refer to page 2-3 to locate RA2 and RA3.

**Step Three:**

Set up the SCSI devices by allocating them with a unique number (0-7) to each device. Please refer to your SCSI device user guides to set or change their ID numbers. The DC440 SCSI ID number by default is set to 7, the highest priority. To ensure reliable operation, do not change this default setting. The ID setting of the DC440 is software configurable. If you must change this ID number, go to Advanced SCSI Setup Menu after powering up the system. Please refer to Step 6.

**Note:** Set ID number for the SCSI boot-up hard disk drive to zero.

**Step Four:**

DC440 set up.

**Port Address:**

The default port address of the DC440 is 330h. Please refer to chart table in Appendix C for other possible address and jumper settings.

**IRQ setting:**

The default IRQ setting of the DC440 is IRQ 11. If you need to change this IRQ, you must go to Advanced SCSI Setup Menu upon powering up the system. Please refer to Step Six.

**External BIOS setting:**

The default BIOS address of DC440 is C8000h. Please refer to Appendix C to change the address of the external BIOS of the DC440.

**Step Five:**

Installing the DC440 in your PC system.

Make sure that the power to your computer system is turned off. Once you have removed the system cover, locate an empty VL bus slot.

**MAKE SURE THAT THE SLOT YOU SELECT SUPPORTS BUS MASTER**

(Please refer to your system board user guide). After removing the corresponding metal slot cover behind the VL slot, carefully plug the DC440 into the VL bus slot.

Connect the internal SCSI devices to the DC440 using the supplied 50 PIN SCSI cable. See location of internal SCSI connector on page 2-3.

Close the system with the system enclosure.

Connect your external SCSI devices to the external SCSI connector of the DC440. The external SCSI devices are connected in a daisy-chained fashion.

**Step Six:**

SCSI Advanced Setup Menu.

With the help of the built-in utilities contained in the external BIOS of the DC440, you can either Verify, Modify or Optimize the DC440 settings. The built-in utilities also let you verify the installed SCSI devices configuration and add more devices to the SCSI bus.

Getting to the main menu: Once the system checks memory, the following message will appear on the screen:



"Promise DC440-v.xxx (c) Copyright PROMISE Technology, Inc. Press F2 to enter SCSI Setup Utility....."

Press F2 Key to enter the DC440 SCSI Main Menu.

Press F1 to go to the SCSI Advanced Setup Menu.

Changing settings in the Advanced Setup Menu.

1. Use the arrow keys to highlight the desired field to change.
2. Use the space bar to change the highlighted setting to the desired setting.
3. To save the settings and exit, Press F10.

For detailed information for each item in the Advanced SCSI Setup Menu, please refer to Chapter 2, Step 6.

If you want to display your SCSI devices on screen Press F2 of the Main Menu. If not, Press F9 in the Main Menu to exit the Advanced SCSI Setup. Once you Press F9, the system will reboot.

**Note:** If you do have a SCSI bootable hard disk drive, remember to go to your system BIOS setup and change the Drive 1 and 2 settings to "Not Installed". Failure to do so will result in not booting your SCSI hard disk drive.

## DC440 PHYSICAL SPECIFICATIONS & PIN ASSIGNMENTS

1. Physical Dimensions            9.5" x 4.2"
2. Power Requirement  
   Operating Voltage            +5V @ 7.5A  
   Power Voltages                +12V -12V
3. Environmental Requirement  
   Temperature limits           0 - 50°C (32 - 122°F)  
   Relative Humidity            5% to 95%

### 4. INTERNAL SCSI connector pin assignments

pin #	signal name	pin #	signal name name
1	GND	2	SD0
3	GND	4	SD1
5	GND	6	SD2
7	GND	8	SD3
9	GND	10	SD4
11	GND	12	SD5
13	GND	14	SD6
15	GND	16	SD7
17	GND	18	SDP
19	GND	20	GND
21	GND	22	GND
23	GND	24	GND
25	NC	26	TERMINATOR POWER
27	GND	28	GND
29	GND	30	GND
31	GND	32	AIN
33	GND	34	GND
35	GND	36	BSY
37	GND	38	ACK
39	GND	40	RST
41	GND	42	MSG
43	GND	44	SEL
45	GND	46	C/D
47	GND	48	REQ
49	GND	50	I/O

**DC440**  
**PHYSICAL SPECIFICATIONS & PIN ASSIGNMENTS**

5. External SCSI connector pin assignments

pin #	signal name	Pin #	signal name
1	GND	26	SD0
2	GND	27	SD1
3	GND	28	SD2
4	GND	29	SD3
5	GND	30	SD4
6	GND	31	SD5
7	GND	32	SD6
8	GND	33	SD7
9	GND	34	SDP
10	GND	35	GND
11	GND	36	GND
12	GND	37	GND
13	NC	38	TERMINATOR POWER
14	GND	39	GND
15	GND	40	GND
16	GND	41	ATH
17	GND	42	GND
18	GND	43	BSY
19	GND	44	ACK
20	GND	45	RST
21	GND	46	MSG
22	GND	47	SEL
23	GND	48	C/D
24	GND	49	REQ
25	GND	50	I/O

**DC440**  
**PHYSICAL SPECIFICATIONS & PIN ASSIGNMENTS**

6. Floppy Disk Drive connector pin assignments

pin #	signal name	pin #	signal name
1	GND	2	Reduced Write
3	GND	4	Reserved
5	GND	6	Drive Select 3
7	GND	8	Index
9	GND	10	Drive Select 0
11	GND	12	Drive Select 1
13	GND	14	Drive Select 2
15	GND	16	Motor On
17	GND	18	Direction Select
19	GND	20	Step
21	GND	22	Write Data
23	GND	24	Write Gate
25	GND	26	Track 00
27	GND	28	Write Protect
29	GND	30	Read Data
31	GND	32	Side : Select
33	GND	34	Diskette Change

7. Serial Ports - (COM1 & COM2) connector pin assignments

pin #	signal name	pin #	signal name
1	DCD	6	DSR
2	RX	7	RTS
3	TX	8	CTS
4	DTR	9	RI
5	Ground	10	not used

DC440  
PHYSICAL SPECIFICATIONS & PIN ASSIGNMENTS

8. Game Port connector pin assignments

pin #	signal name	pin #	signal name
1	VCC	6	GPO1
2	BIT4	7	BITS
3	BPO0	8	VCC
4	Ground	9	VCC
5	Ground	10	not used

9. Parallel Port connector pin assignments

pin #	signal name	pin #	signal name
1	Strobe	14	AUTO FD (auto feed)
2	Data 0	15	ERROR
3	Data 1	16	INIT (initialize printer)
4	Data 2	17	SELINP (select input)
5	Data 3	18	Ground
6	Data 4	19	Ground
7	Data 5	20	Ground
8	Data 6	21	Ground
9	Data 7	22	Ground
10	ACK (acknowledge)	23	Ground
11	BUSY	24	Ground
12	PE (paper end)	25	Ground
13	SEL (select)		

\* Pins 2 - 9 are bi-directional when pins 7 and 8 of JUMPER JP6 are ON.

OPTIONAL JUMPER SETTINGS

**JUMPER BLOCKS**      **OPTIONAL JUMPER SETTINGS**

**JP1 JP2 JP3 \* WARNING: USERS DO NOT CHANGE !**

Jumper	Default
JP1	Pin 1 & 3 Closed Pin 2 & 4 Open
JP2	Pin 1 & 2 Closed Pin 3 & 4 Closed
JP3	Pin 1 & 2 Closed Pin 3 & 4 Closed

Default Settings

---

**Factory setting utility \* WARNING: USERS DO NOT CHANGE !**

**JP4** Default setting Pin 2 & 3 CLOSED

Default Settings

---

**VL Bus Speed**

**JP5** Pin 2 & 3 - 33 MHz and above ———— Default  
Pin 1 & 2 - 25 MHz only

Default Settings

---

**FLOPPY/SUPER-I/O SETTING**

**JP6** Pin 1&2 - Enable (Default) Floppy Port  
Pin 2&3 - Disable  
Pin 4&5 - Enable (Default) Game Port  
Pin 5&6 - Disable  
Pin 7&8 - Bi-directional Printer Port  
Pin 8&9 - Output only (Default)

Pin 11&12 → IRQ 7 3BCh  
Pin 13&14 → IRQ 5 278h  
Pin 16&17 → (Default)  
Pin 17&18 →

Pin 11&12 → IRQ 7 378h  
Pin 14&15 → Disable Printer  
Pin 16&17 → Pin 14&15  
Pin 17&18 →

Default Settings

---

**SCSI-I/O ADDRESS AND EXTERNAL BIOS ADDRESS**

**JP7** Pin 1&2 - 5&6 - 7&8 -- IO address 130h  
Pin 2&3 - 5&6 - 7&8 -- IO address 134h  
Pin 1&2 - 4&5 - 8&9 -- IO address 230h  
Pin 2&3 - 4&5 - 8&9 -- IO address 234h  
Pin 1&2 - 5&6 - 8&9 -- IO address 350h (Default)  
Pin 2&3 - 5&6 - 8&9 -- IO address 334h

Pin 10&11 -14&15 -16&17 --BIOS addr.C8000h (Default)  
Pin 11&12 -14&15 -16&17 --BIOS addr.CC000h  
Pin 10&11 -13&14 -17&18 --BIOS addr.D0000h  
Pin 11&12 -13&14 -17&18 --BIOS addr.D4000h  
Pin 10&11 -14&15 -17&18 --BIOS addr.D8000h  
Pin 11&12 -14&15 -17&18 --BIOS addr.DC000h

IO add BIOS add  
Default Settings

---

**COM/IDE SETTING**

**JP8** Pin 1&2 - 5&6 -- COM4 2E8h  
Pin 2&3 - 4&5 -- COM2 2F8h ———— Default  
Pin 2&3 - 5&6 -- Disable COM2, COM4

Pin 7&8 -11&12 -- COM3 3E8h  
Pin 8&9 -10&11 -- COM2 3F8h ———— Default  
Pin 8&9 -11&12 -- Disable COM1, COM3

COM2, 4 COM1, 3 IDE  
Default Settings

Pin 13&14 -- IDE Enable  
Pin 14&15 -- IDE Disable ———— Default



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PROMISE Technology, Inc. ("PROMISE") warrants that for two (2) years from the time of the delivery of Product to the original end user of the product: (1) it will conform to PROMISE's specifications, and (2) it will be free from defects in material and workmanship under normal use and service. This warranty shall not apply to defects resulting from the following causes: improper or inadequate maintenance by the end user; unauthorized modification, operation outside the environmental specification for the product, abuse, result of an accident, misuse, negligence, misapplication, natural or personal disaster; or from maintenance other than by PROMISE or an authorized service center.

This warranty:

- (1) applies only to products which are new and in cartons on the date of purchase
- (2) is not transferable
- (3) is valid only when accompanied by a copy of the original purchase receipt

### PRODUCT WARRANTY SERVICE

If you suspect the product is not working properly or if you have any questions about your product, call our Technical Support Department (408)-452 1180 weekdays from 8:30 a.m. to 4:00 p.m. Pacific Standard Time. The technicians at this number can help you determine whether the Product requires repair. If the

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Product needs repair, our Customer Support Department representatives at this number will give you a return merchandise authorization ("RMA") number. Then return the Product with a copy your proof of purchase to:

PROMISE Technology, Inc.  
Customer Support Department  
1460 Koll Circle, San Jose, CA 95112

Packaging guidelines for returning Products:

- (1) Use the original shipping carton and packing;
- (2) Include a summary of the Problem(s) with product;
- (3) Write an attention line on the box with the RMA number; and
- (4) Include a Copy of proof of purchase.

You are responsible for the cost of insurance and shipment on the product to PROMISE. Note that damage incurred due to improper transportation or packaging is not covered under the above warranty.

In repairing the unit(s), PROMISE may elect to replace parts with new or reconditioned parts, or replace the entire unit with a new or reconditioned unit. In the event of replacement, the replacement unit will be warranted for the remainder of the two (2) year period or thirty days, whichever is longer.

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