

PowerSCSI! Setup v4.0

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Installing PowerSCSI!

PowerSCSI! Setup provides the user with two ways to install the drivers and utilities.

The Express option uses default settings to make the installation quick and simple. This option is recommended for less experienced computer users. The express option asks the user to choose between the settings "Optimize for Performance" or "Optimize for Memory Size".

The Custom option provides the ability to change the default settings for the system. This option is intended for experienced SCSI users.

[Introduction to PowerSCSI!](#)

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Introduction to PowerSCSI!

PowerSCSI! is a universal application interface developed by Future Domain that allows applications to work seamlessly with most SCSI peripherals. PowerSCSI! can be thought of as "middleware" because it functions between the application software and the SCSI device. PowerSCSI! controls SCSI peripherals through the operating system and the actual hardware consisting of the controller and cable.

Once PowerSCSI! is installed, it operates in the background, managing input/output (I/O) calls from application software to any number of SCSI peripherals, including CD-ROM, hard disk drives, magneto-optical drives, digital cameras, scanners, and tape drives.

PowerSCSI! provides device-level support for:

Hard Disk
CD-ROM

PowerSCSI! provides SCSI interface support for:

ASPI
Int 4Bh

PowerSCSI! supports all the Future Domain controllers and ICs that uses any of the following host-bus interfaces:

ISA
MCA
EISA
PCMCIA
PCI

Introduction to SCSI

SCSI (Small Computer System Interface) is an intelligent interface that allows computers to communicate with various types of devices. A SCSI system is composed of a SCSI controller, a SCSI bus, one or more SCSI devices located at different IDs, and termination.

SCSI Controller

The SCSI controller can be an ISA, MCA, EISA, PCI, or PCMCIA card that fits into a slot in the computer. It provides the SCSI interface between the computer and the SCSI devices. SCSI may also be provided on a system motherboard, in which case a connector is provided to attach SCSI devices to the system.

SCSI Bus

A SCSI bus is an electrical interface that connects SCSI devices with a SCSI controller.

SCSI Device Types

SCSI supports a wide variety of devices which include hard disks, tape drives, printers, processors, WORMs, CD-ROMs, scanners, medium-changers (jukeboxes), magneto-optical devices, and communication devices.

SCSI ID

A SCSI bus can support up to eight devices. Each device on the SCSI bus is addressed by a unique number between zero and seven, called the SCSI (or Target) ID. The Future Domain SCSI controller is located at SCSI ID 7, leaving IDs ranging from zero to six free.

SCSI Logical Unit Number (LUN)

Each SCSI ID may have up to 8 devices. These devices are addressed by their Logical Unit Number (LUN). Typically only one device is present at each ID, and is assigned a logical unit number of 0.

SCSI Termination

For SCSI to work properly, the SCSI bus must be terminated. To terminate a SCSI bus, you must put terminating resistors at each end of the bus. A bus may have three configurations: external devices only, internal devices only, or external and internal devices.

Terminating a SCSI bus with external devices only:

Termination must be supplied on the last external device on the chain, and on the SCSI controller.

Terminating a SCSI bus with internal devices only:

Termination must be supplied to the last device on the chain, and on the SCSI controller.

Terminating a SCSI bus with internal and external devices:

Termination must be supplied to the last internal device on the internal chain, and to the last external device on the external chain. Also, termination on the SCSI controller must be removed.

SCSI Disconnect / Reconnect

Not all SCSI transactions can be processed immediately. For example, rewinding a tape or scanning a document can take a long time, as can seeking to a sector on a CD-ROM or hard disk. These operations can tie up the CPU unnecessarily while waiting for the device to complete the task. In these cases, the SCSI specification has defined a way for a device to disconnect from the SCSI bus, thus freeing the SCSI bus for other SCSI transactions or freeing the CPU from being tied to the SCSI bus waiting for the operation to complete.

When the disconnected device completes its operation it can reconnect to the bus, causing a hardware interrupt. When this interrupt occurs, control is returned back to that SCSI operation, which then completes.

The disconnect/reconnect mechanism provides overlapped I/O functionality by allowing multiple outstanding SCSI requests with different devices to be in process at the same time.

Custom Installation

The Custom Setup provides the advanced computer user more control over the PowerSCSI! installation.

Select the box next to the option to be installed. The "More" buttons will open the configuration screens that provide further customization.

DOS Future/CAM(TM) Drivers

The DOS Future/CAM drivers provide a SCSI CAM (Common Access Method) interface to all Future Domain controllers under DOS. For more information on these DOS drivers, select from one of the following topics:

[Future/CAM 8-bit DOS Drivers](#)
[Future/CAM 16-bit DOS Drivers](#)
[Future/CAM 32-bit PCI DOS Drivers](#)
[Future/CAM 32-bit EISA DOS Driver](#)

Windows Future/CAM(TM) Drivers

The Windows Future/CAM drivers provide a SCSI CAM interface to all Future Domain controllers under Windows. Each of these drivers execute in 32-bit protected mode which gives the best performance under Windows. For more information on these Windows drivers, select from one of the following topics:

[Future/CAM 8-bit Windows Driver](#)
[Future/CAM 16-bit Windows Driver](#)
[Future/CAM 32-bit PCI Windows Driver](#)
[Future/CAM 32-bit EISA Windows Driver](#)

Hard Disk Support

Hard disk support is normally provided by the ROM BIOS that comes with the Future Domain controller. PowerSCSI! provides drivers that improve hard disk performance under DOS and Windows. For more information on these drivers, select from one of the following topics:

[Int 13h DOS Driver](#)
[32-bit Disk/File Access Windows Driver](#)

SCSI Interface Support

PowerSCSI! supports most SCSI third party applications by providing support for the various SCSI interfaces available today. For more information on these supports, select from one of the following topics:

[CD-ROM Driver](#)
[ASPI Manager](#)
[Int 4Bh Driver](#)
[SCSI2GO PCMCIA Configuration](#)
[SCSI2GO PCMCIA Auto-Configuration](#)

Setup Optimization

PowerSCSI! provides two ways to configure the SCSI drivers. Selecting "Optimized for Performance" loads drivers that provide better performance, but requires more system memory. To maximize free system memory, select "Optimized for Memory Size".

Note: The PowerSCSI! drivers may be relocated to available upper memory blocks using a memory manager such as QEMM, 386MAX, MEMMAKER, and RAMSETUP.

Future/CAM 8-Bit DOS Drivers

PowerSCSI!'s Future/CAM drivers manage all SCSI transactions on the SCSI bus. All SCSI I/O requests made by the applications are processed by Future/CAM. These drivers provide the CAM interface support for all controllers based on the 950/9C50 ICs, which include the following Future Domain controllers:

TMC-850M
TMC-850MER
TMC-850MEX
TMC-860M
TMC-885M

Multitasking 8-Bit Future/CAM Driver

The multitasking version (DCAM950.EXE) provides full CAM support which includes the SCSI device disconnect/reconnect feature and the queuing of CAM commands. This driver provides the best performance for most configurations.

To manually configure this driver in the CONFIG.SYS file, use the following syntax:

DEVICE=[drive:][path]DCAM950.EXE /<Memory_Address> <IRQ> [/<Memory_Address> <IRQ>]

Where:

For each 8-bit controller supported, command line parameters are required which specify Memory Address and IRQ. Each 8-bit controller installed must have a unique Memory Address/IRQ.

<Memory_Address>	(C800, CA00, CE00, DE00, E800, or EC00).
<IRQ>	IRQ (3, 4, 5, 10, 11, 12, 14, or 15)

Example:

DEVICE=C:\PWRSCSI!\DCAM950.EXE /CA00 5

Note: The TMC-850M/MER/MEX only support IRQ 3 and 5. The other IRQ selections are for older 950 based controllers (TMC-860M and TMC-885M).

Singletasking 8-Bit Future/CAM Driver

The singletasking version (MCAM950.SYS) provides all the CAM functionality except it does not support SCSI device disconnect/reconnect and all CAM commands are processed serially.

To manually configure this driver in the CONFIG.SYS file, use the following syntax:

DEVICE=[drive:][path]MCAM950.SYS

Parameters: None

Example:

DEVICE=C:\PWRSCSI!\MCAM950.SYS

Future/CAM 8-Bit Windows Driver

PowerSCSI!'s Future/CAM drivers manage all SCSI transactions on the SCSI bus. All SCSI I/O requests made by the applications are processed by Future/CAM. This driver (V9FCAMD.386) provides real-mode, 16-bit protected mode, and 32-bit protected mode CAM interface for all controllers based on the 950/9C50 ICs, which include the following Future Domain controllers:

TMC-850M
TMC-850MER
TMC-850MEX
TMC-860M
TMC-885M

This driver is a 32-bit protected mode Windows VxD driver. This means the driver is executed in 32-bit protected mode which is the native operational mode in Windows.

To manually configure the V9FCAMD.386 driver in the [386 Enh] section of the SYSTEM.INI file, use the following syntax:

DEVICE=[drive:][path]V9FCAMD.386
FDC950=<Memory_Address> <IRQ> [<Memory_Address> <IRQ>]

Where:

<Memory_Address> (C800, CA00, CE00, DE00, E800, or EC00)
<IRQ> IRQ (3, 4, 5, 10, 11, 12, 14, or 15)

Example:

```
[386 Enh]
DEVICE=C:\PWRSCSI\V9FCAMD.386
FDC950=CA00 5
```

Note: The TMC-850M/MER/MEX only support IRQ 3 and 5. The other IRQ selections are for older 950 based controllers (TMC-860M and TMC-885M).

Future/CAM 16-Bit / 32-Bit PCI DOS Drivers

PowerSCSI!'s Future/CAM drivers manage all SCSI transactions on the SCSI bus. All SCSI I/O requests made by the applications are processed by Future/CAM. These drivers provide the CAM interface support for all controllers based on the 1800/18C50/18C30/36C70 ICs, which include the following Future Domain controllers:

- TMC-1650
- TMC-1660
- TMC-1670
- TMC-1680
- TMC-1610M
- TMC-1610MER
- TMC-1610MEX
- MCS-600/700
- TMC-3260
- SCSI2GO PCMCIA Card

Multitasking 16-Bit / 32-Bit PCI Driver

The multitasking version (DCAM18XX.EXE) provides full CAM support which includes the SCSI device disconnect/reconnect feature and the queuing of CAM commands. This driver provides the best performance for most configurations. Though the support for the 16-bit controller and the 32-bit PCI controllers are both provided by the same driver, this driver automatically distinguishes the two types of controllers and operate in the best allowable data transfer mode for the controller.

To manually configure this driver in the CONFIG.SYS file, use the following syntax:

DEVICE=[drive:][path]DCAM18XX.EXE [/P:<IOPort>,<IRQ>] [/A<n>] [/16BIT:<n>] [/APM] [/S] [/M]

Where:

/P	Indicates support for hot-plug controller (for SCSI2GO PCMCIA card only)
<IOPort>	I/O Port space (140 or 170)
<IRQ>	IRQ (3, 5, 10, 11, 12, 14, or 15)
/A<n>	Sets controller n to Asynchronous negotiation
/16BIT:<n>	Forces 16-bit data transfer on controller n
/APM	Enables Advanced Power Management support
/S	Enables Advanced Power Management device spin up/down support
/M	Disables the display of parameter option messages

Example:

(Configuration for SCSI2GO PCMCIA card)
DEVICE=C:\PWRSCSI!\DCAM18XX.EXE /P:140,5 /APM

(Configuration for regular desktop system)
DEVICE=C:\PWRSCSI!\DCAM18XX.EXE /APM

Singletasking 16-Bit / 32-Bit PCI Drivers

The singletasking version (MCAM18XX.SYS) provides all the CAM functionality except it does not support

SCSI device disconnect/reconnect and all CAM commands are processed serially. As with the multitasking version, this driver automatically distinguishes the 16-bit controllers from the 32-bit PCI controllers and processes SCSI commands using the best feature of each.

DEVICE=[drive:][path]MCAM18XX.SYS [/P:<IOPort>,<IRQ>] [/A<n>] [/16BIT:<n>] [/APM] [/S] [/M]

To manually configure this driver in the CONFIG.SYS file, use the following syntax:

Where:

/P	Indicates support for hot-plug controller (for SCSI2GO PCMCIA card only)
<IOPort>	I/O Port space (140 or 170)
<IRQ>	IRQ (3, 5, 10, 11, 12, 14, or 15)
/A<n>	Sets controller n to Asynchronous negotiation
/16BIT:<n>	Forces 16-bit data transfer on controller n
/APM	Enables Advanced Power Management support
/S	Enables Advanced Power Management device spin up/down support
/M	Disable the display of parameter option messages

Example:

(Configuration for SCSI2GO PCMCIA card)
DEVICE=C:\PWRSCSI\MCAM18XX.SYS /P:140,5 /APM

(Configuration for regular desktop system)
DEVICE=C:\PWRSCSI\MCAM18XX.SYS /APM

Future/CAM 16-Bit / 32-Bit PCI Windows Driver

PowerSCSI's Future/CAM drivers manage all SCSI transactions on the SCSI bus. All SCSI I/O requests made by the applications are processed by Future/CAM. This driver (V18FCAMD.386) provides real-mode, 16-bit protected mode, and 32-bit protected mode CAM interface for all controllers based on the 1800/18C30/18C50/36C70 ICs, which include the following Future Domain controllers:

- TMC-1650
- TMC-1660
- TMC-1670
- TMC-1680
- TMC-1610M
- TMC-1610MER
- TMC-1610MEX
- MCS-600/700
- TMC-3260
- SCSI2GO PCMCIA Card

This driver is a 32-bit protected mode Windows VxD drivers. This means that the driver is executed in 32-bit protected mode which is the native operational mode in Windows. Though the support for the 16-bit controllers and the 32-bit PCI controllers are both provided by the same drivers (V18FCAMD.386), this driver automatically distinguishes the two types of controllers and operate in the best allowable data transfer mode for the controllers.

To manually configure the V18FCAMD.386 drivers in the [386 Enh] section of the SYSTEM.INI file, use the following syntax:

DEVICE=[drive:][path]V18FCAMD.386
FDC18XX=[P:<IOPort>,<IRQ>] [A<n>] [16BIT:<n>] [APM] [S]

Where:

P:	Indicates support for hot-plug controller (for SCSI2GO PCMCIA card only)
<IOPort>	I/O Port space (valid values are 140 or 170)
<IRQ>	IRQ (3, 5, 10, 11, 12, 14, or 15)
A<n>	Sets Controller n to Asynchronous negotiation.
16BIT:<n>	Forces Controller n to do 16-bit I/O.
APM	Enables Advanced Power Management support.
S	Enables Advanced Power Management device spin up/down support.

Example:

(Configuration for SCSI2GO PCMCIA card)
[386 Enh]
DEVICE=C:\PWRSCSI\V18FCAMD.386
FDC18XX=P:140,5 APM

(Configuration for regular desktop system)
[386 Enh]
DEVICE=C:\PWRSCSI\V18FCAMD.386
FDC18XX=APM

Future/CAM 32-Bit EISA DOS Driver

PowerSCSI!'s Future/CAM drivers manage all SCSI transactions on the SCSI bus. All SCSI I/O requests made by the applications are processed by Future/CAM. The 32-bit EISA DOS Future/CAM driver (DCAM7EX.EXE) provides the CAM interface support for the TMC-7000EX controller. Only one DOS driver is provided for this controller. This is a multitasking Future/CAM driver that provides full CAM support including the SCSI device disconnect/reconnect feature and the queuing of CAM commands.

To manually configure this driver in the CONFIG.SYS file, use the following syntax:

DEVICE=[drive:][path]DCAM7EX.EXE

Parameters: None.

Future/CAM 32-Bit EISA Windows Driver

PowerSCSI!'s Future/CAM drivers manage all SCSI transactions on the SCSI bus. All SCSI I/O requests made by the applications are processed by Future/CAM. The 32-bit EISA Windows Future/CAM driver (VEXFCAMD.386) provides real-mode, 16-bit protected mode, and 32-bit protected mode CAM interface to the TMC-7000EX controller.

This driver is a 32-bit protected mode Windows VxD driver. This means that the program code is executed in 32-bit protected mode which is the native operational mode in Windows.

To manually configure the VEXFCAMD.386 driver in the [386 Enh] section of the SYSTEM.INI file, use the following syntax:

DEVICE=[drive:][path]VEXFCAMD.386

Parameters: None.

ASPI Manager

Future Domain's ASPI manager (ASPIFCAM.SYS) interfaces ASPI based drivers and applications to all Future Domain controllers and ICs. If the ASPI driver or application to be used is capable of command posting and/or disconnect/reconnect, turn these features on and use the multitasking DOS Future/CAM driver and/or Windows Future/CAM driver.

To manually configure this driver in the CONFIG.SYS file, use the following syntax:

DEVICE=[drive:][path]ASPIFCAM.SYS [/D] [/O] [/M]

Where:

/D	Enables SCSI disconnect/reconnect feature
/O	Enables posting of ASPI commands
/M	Disables the display of parameter option messages

Int 4Bh SCSI Interface Driver

Future Domain's Int 4Bh interface driver (INT4BCAM.SYS) interfaces interrupt 4Bh based drivers and applications to all Future Domain controllers and ICs.

To manually configure this driver in the CONFIG.SYS file use the following syntax:

DEVICE=[drive:][path]INT4BCAM.SYS

CD-ROM Driver

PowerSCSI!'s CD-ROM driver (FD CD.SYS) supports CD-ROM Data, Audio, Photo-CD, CD-XA, and CD-I Digital Video for SCSI-1 and SCSI-2 CD-ROM devices. This driver supports up to a maximum of 24 SCSI CD-ROM devices, only limited by the available drive letters in DOS/Windows.

To enable CD-ROM support, FD CD.SYS must be loaded in the CONFIG.SYS and the CD-ROM Extensions must be loaded in the AUTOEXEC.BAT file. To manually configure the CD-ROM driver in CONFIG.SYS, use the following syntax:

DEVICE=[drive:][path]FD CD.SYS [/D:MSCD0001] [/R] [/Z] [/L] [/P:<HBA>,<ID>:<DriveCount>] [/T] [/M]

Where:

/D:???????	Identification string to CD-ROM Extensions
/R	Forces SCSI bus reset upon driver initialization
/Z	Displays drive size
/L	Indicates support for one hot-plug drive (for SCSI2GO PCMCIA card only)
/P	Indicates support for hot-plug drive(s) (for SCSI2GO PCMCIA card only)
<HBA>	Identifies the path (controller) number (0 thru 3)
<ID>	Identifies the Target ID (0 thru 6)
<DriveCount>	Number of drive letters to allocate
/T	Force the use of the proprietary Future Domain OEM Toolkit interface.
/M	Disables the display of parameter option messages

Note 1: The /L parameter and the /P parameter are mutually exclusive.

Note 2: If the system is attached to a network, add the LASTDRIVE statement in the CONFIG.SYS file. For example, if the last drive letter allocated is drive E, add

LASTDRIVE=E

to the CONFIG.SYS file. In this case, network drive letters will be added starting at drive F.

Note 3: The CD-ROM Extensions program is required to allow DOS/Windows to assign a drive letter and to access the CD-ROM.

Example:

(Configuration for SCSI2GO PCMCIA card)
DEVICE=C:\PWRSCSI!\FD CD.SYS /D:MSCD0001 /P:0,5:1

(Configuration for regular desktop system)
DEVICE=C:\PWRSCSI!\FD CD.SYS /D:MSCD0001

32-Bit Disk/File Access Under Windows

32-Bit Disk Access under Windows

PowerSCSI's 32-bit Disk Access driver for Windows (FDSCSI.386) is a 32-bit protected mode VxD driver that increases disk performance by bypassing the Int 13h BIOS interface in Windows enhanced mode. This driver requires the presence of a Windows Future/CAM driver and a ROM BIOS on the SCSI controller. This driver does not operate if the DOS hard disk driver (FDBIOS.SYS) is loaded in the CONFIG.SYS.

To manually configure this driver in the [386 Enh] section of the SYSTEM.INI file, use the following syntax:

[386 Enh]

DEVICE=[drive:][path]INT13.386

DEVICE=[drive:][path]FDSCSI.386

32-Bit File Access under Windows for Workgroups v3.1x

Windows for Workgroups v3.1x or higher has a new feature called 32-bit file access. This feature further increases performance of hard disks under Windows.

To enable this feature from the Windows desktop, perform the following steps:

1. From the Main Group in the Program Manager, double click on the "Control Panel" icon.
2. Double click on the "386 Enhanced" icon.
3. Click on the "Virtual Memory" button.
4. Click on the "Change>>" button.

If 32-bit file access is available on the system, there will be an option "Use 32-Bit File Access" on the screen. Select the option to enable this feature.

Int 13h DOS driver

PowerSCSI's Int 13h driver for DOS (FDBIOS.SYS) provides SCSI hard disk service under DOS v5.0 and later. This driver provides both IOCTL and Int 13h support for hard disk.

To manually configure this driver in the CONFIG.SYS file, use the following syntax:

DEVICE=[drive:][path]FDBIOS.SYS [/L] [/P:<HBA>,<ID>:<DriveCount>[,P]] [/M]

Where:

/L	Indicates support for one hot-plug drive (for SCSI2GO PCMCIA card only)
/P	Indicates support for hot-plug drive(s) (for SCSI2GO PCMCIA card only)
<HBA>	Identifies the path (controller) number (0 thru 3)
<ID>	Identifies the Target ID (0 thru 6)
<DriveCount>	Number of drive letters to allocate
[,P]	Indicates whether a primary partition is present
/M	Disables the display of parameter option messages

Note: The /L parameter and the /P parameter are mutually exclusive

Example:

(Configuration for SCSI2GO PCMCIA card)
DEVICE=C:\PWRSCSI\FDBIOS.SYS /P:0,5:1,P

(Configuration for regular desktop system)
DEVICE=C:\PWRSCSI\FDBIOS.SYS

SCSI2GO PCMCIA Configuration

Setup detects the number of SCSI2GO PCMCIA card(s) supported on the system. It also sets the default I/O Port and IRQ system resources for each card. To change any of the settings, click on the down arrow next to the setting and select a new value.

The "Force 16-Bit I/O" option is only used for the IBM 720 Notebook.

To modify the auto-configuration of SCSI devices, click on the "Settings.." button.

SCSI2GO PCMCIA Client Driver

PowerSCSI!'s client driver (FDCLIENT.SYS) provides support for the SCSI2GO PCMCIA card. It acts as a client driver for Card and Socket services. It is responsible for allocating/de-allocating hardware resources (IRQs and I/O port space) when the SCSI2GO PCMCIA card is inserted or ejected. The command line parameters to configure FDCLIENT.SYS in the CONFIG.SYS file are as follows:

DEVICE=FDCLIENT.SYS /S<n>:<IOPort>,<IRQ> [/S<n>:<IOPort>,<IRQ>]

Where:

/S<n>	PCMCIA slot number n (0-based)
<IOPort>	I/O Port space (140 or 170)
<IRQ>	IRQ (3, 5, 10, 11, 12, 14, or 15)

Note: Hardware settings (both I/O port space and IRQ) must not conflict with any existing hardware.

Example:

DEVICE=C:\PWRSCSI!\FDCLIENT.SYS /S0:140,5

SCSI2GO PCMCIA Auto-Configuration

PowerSCSI! provides SCSI2GO PCMCIA card users the ability to auto-configure SCSI devices without rebooting. Auto-Configuration allows the addition and removal of SCSI devices attached to the SCSI2GO card at anytime while the machine is running. Due to the constraints imposed by the electrical signals on the SCSI bus, modification to the configuration can only be made if the SCSI2GO card is not plugged in the PCMCIA slot. After changing the device configuration, the SCSI2GO card can be safely inserted into the PCMCIA slot and PowerSCSI! will automatically detect the new configuration without the need to reboot.

Default Auto-Configuration Support

If Setup detected no SCSI2GO PCMCIA card or no SCSI device, the default configuration includes support for one CD-ROM and one hard disk. To change this support, select the Custom option to configure the system as required.

SCSI2GO PCMCIA Device Auto-Configuration

PowerSCSI! provides the capability for auto-configuration of SCSI devices. If Setup detected SCSI devices connected to the SCSI2GO PCMCIA card, the device information will be displayed. To configure additional devices for auto-configuration, select the desired SCSI ID and provide the necessary information for the device. This will allow the addition of the specified device in the future without executing the PowerSCSI! setup again.

SCSI Device ID

The SCSI ID of the device on the system. To add/remove a device, select/de-select the box next to the desired ID.

Note: If Setup detected a device that is not a CD-ROM nor a hard disk on a SCSI ID, the SCSI ID box cannot be modified.

Device Type

The device type can be either a hard disk or CD-ROM.

Number of Drive Letters to Allocate

This is the number of drive letter(s) that DOS requires for the device. This number is usually one for CD-ROMs. For hard disks, this is the number of partitions on the drive.

Primary Partition Exist?

This is only used for hard disks. If there is a primary partition on the hard disk, click on the box next to the word "YES".

Specifying the Target Directory

PowerSCSI! Setup needs to know where to copy the drivers and utilities on the hard disk. The default directory is C:\PWRSCSI!. To have the PowerSCSI! drivers and utilities copied to a different directory, type the new path in the box and click "OK". If the path specified does not exist, Setup will create it.

Missing CD-ROM Extensions

Support for CD-ROM devices requires the CD-ROM Extensions. One version of the CD-ROM Extensions is called MSCDEX.EXE. It is distributed with DOS v6.X and later. A similar version from Corel is called CORELCDX.COM. Either one of these programs can be used to provide full CD-ROM support for the system.

Additional Features of Future/CAM 16-Bit / 32-Bit PCI Drivers

Force Asynchronous Data Transfer Mode

The 16-Bit / 32-Bit PCI Future/CAM drivers (DCAM18XX.EXE, MCAM18XX.SYS, and V18FCAMD.386) support SCSI asynchronous, synchronous and fast synchronous data transfers. The data transfer mode is determined when the controller negotiates with the SCSI device for its supported data transfer mode.

Unfortunately, there are some devices that may negotiate for synchronous or fast synchronous data transfer mode, but does not behave well during actual data transfer. If this situation occurs, the user has to force the asynchronous data transfer mode on that controller. The controller number (0, 1, 2, or 3) refers to the number assigned by the Future/CAM driver.

Advanced Power Management (APM) Support

Advanced Power Management is a feature supported by most portable systems (laptops, notebooks, etc..) and some "Green PC" machines. This feature is now supported in PowerSCSI! and can be enabled and disabled as desired. The user may also allow the spin up/down of devices when the system goes to APM mode.

IRQ Selection for 8-Bit Controllers

PowerSCSI! Setup has detected one (or more) 8-bit controller(s) on the system. The multitasking DOS and Windows Future/CAM drivers require the IRQ setting used by each 8-bit controller found in the system. Provide the hardware IRQ used by each 8-bit controller found (distinguished by the controller's memory address) by selecting the radio button corresponding to the IRQ number.

Note: Each 8-bit controller must have a unique IRQ setting. The IRQ setting is determined by the jumpers that are located on the controller. If needed, refer to the controller's user's manual on how to set the jumpers.

No IRQ Selection for 8-Bit Controllers

The multitasking DOS Future/CAM driver (DCAM950.EXE) and Windows Future/CAM driver (V9FCAMD.386) require the use of a hardware IRQ to support advanced features like disconnect/reconnect and queuing of CAM commands.

If there is no available IRQ on the system, Setup can configure the system to use the singletasking version of the DOS driver (MCAM950.SYS) and disable the Windows driver support. In addition, the advanced features on Future Domain's ASPI manager (ASPIFCAM.SYS), such as SCSI disconnect/reconnect and ASPI command posting, will be disabled.

Updating and Backing up of System Files

PowerSCSI! Setup will update the appropriate system files (CONFIG.SYS, AUTOEXEC.BAT, and SYSTEM.INI) with the necessary changes for the user.

Copies of the old system files will be saved using the same file names but with the incrementing number in the extension (i.e. CONFIG.\$01, AUTOEXEC.\$01, and SYSTEM.\$01). These backup files may be renamed by typing the new names in the appropriate boxes.

To choose not to have PowerSCSI! Setup update a system file, deselect the appropriate "Update" box

Multiple Configuration System Files

PowerSCSI! Setup handles multiple configuration system files created under MS-DOS v6.0 and later in a different way. The multiple configuration system files (CONFIG.SYS and AUTOEXEC.BAT) allow users to create multiple ways of configuring how the operating system starts up. PowerSCSI! Setup cannot presume how the user wants to configure the operating system's start-up and will not update the files. However, the modifications that are required to enable the PowerSCSI! drivers will be saved in files (with the .MCF extension) which may be used to update the multiple configuration system files.

