P3FY-A028-01

SCSI アレイコントローラカード PG-144B ご使用前に

この度は、弊社のＳＣＳＩアレイコントローラカードをお買い求めいただきまして、まことにありがとうございます。本書は、本製品に添付されている「ＳＣＳＩアレイコントローラカード PG-144B(eXtremeRAID 2000)取扱説明書」の記述を補足しております。本製品をご利用になる前に必ずお読みください。

2001 年 7 月 富士通株式会社

1 制限事項

1.1 メモリの搭載制限について

本製品に接続されたハードディスクに OS をインストールする場合(本製品から OS をブートする場合)、サーバ本体に搭載できるメモリ容量は最大 4GByte となります。

2 留意事項

2.1 GAM Client の起動について

GAM Client の起動時またはサインオン時にアプリケーションエラーが発生し、GAM が終了してしまうことがあります。いったん本現象が発生すると、そのままでは GAM Client を起動することができなくなるため、以下の手順で GAM Server サービスの再起動を行ってください。

Windows NT の場合

1. コントロールパネルからサービスを実行します。
2. Mylex Global Array Manager Server を選択します。
3. 「停止」をクリックし、確認画面で「はい」をクリックします。サービスが停止します。
4. 「開始」をクリックします。サービスが開始します。
5. 「閉じる」をクリックしてサービスウィンドウを閉じてください。

Windows 2000 の場合

1. 「スタート」ボタンから、「プログラム」-「管理ツール」を選択し、「コンピュータの管理」をクリックします。
2. 左に表示されるツリーから「サービスとアプリケーション」をダブルクリックしてください。
3. 「サービス」を選択してください。ウィンドウ右側にサービスの一覧が表示されます。
4. サービスの一覧から「Mylex Global Array Manager Server」を選択し、マウスの右ボタンをクリックします。表示されたメニューから「再起動」をクリックしてください。サービスが再起動さ

れます。

5. 「コンピュータの管理」ウィンドウを閉じてください。

2.2 PG-143B との混在搭載について

本製品を SCSI アレイコントローラカード PG-143B と混在搭載してご使用になる場合は、以下の点に注意してください。

- **Accelerated Driver のインストールは行わないでください。**

- **EzAssist にて設定を行う場合、必ず以下のメッセージが表示されてから[Alt-R]を押して EzAssist を起動してください。**

  eXtremeRAID 2000 BIOS Version x.xx-xx (date)
  Mylex Corporation
  (略)
  <eXtremeRAID 2000 x GB Disk BIOS is enabled>
  Press <ALT-M> for BIOS options
  Press <ALT-R> for RAID Configuration options

  EzAssist 起動直後の画面のコントローラのリストに eXtremeRAID 2000 が表示されていない場合、PG-143B の EzAssist を起動している可能性があります。
  誤って、PG-143B の EzAssist を起動してしまった場合は、サーバを再起動して本製品の EzAssist を起動しなおしてください。

2.3 容量拡張について(EzAssist)

EzAssist にてフィジカルパックの容量拡張(Add Capacity to Existing Disk Array)を実行するにあたって、追加するハードディスクを選択した後に図 2-1 の画面が表示されることがあります。

図 2-1

図 2-1 は追加可能なハードディスクがまだ余っていることを示していますが、ここでは必ず「No」を選択してください。「Yes」を選択してさらにディスクを追加した場合、容量拡張処理が実行されないことがあります。

2.4 バックグランド処理の終了通知について(EzAssist)

本製品を複数枚搭載している状態で、EzAssist にて初期化、一貫性チェック、容量拡張、リビルド、フォーマットを実行した場合、2 枚目以降のコントローラの各処理の終了通知画面が Controller 0 と

して表示されます。各処理の終了を知るには、ハードディスクのアクセスLEDが点灯していないことを確認してください。

2.5 ローレベルフォーマットについて(EzAssist)

EzAssist でハードディスクをローレベルフォーマットする場合、ハードディスクのフォーマット実行中には、同じコントローラに接続されたハードディスクに対するフォーマット以外の操作は行わないでください。**特にコントローラの切り替えやデバイスのリスキャンなどの操作は行わないでください。**ハードディスクのフォーマットに失敗することがあります。必ずハードディスクのアクセスLEDによりフォーマットが終了したことを確認してから、他のの操作を行ってください。万一、フォーマットに失敗した場合は、EzAssist を終了してサーバを再起動してから、再度フォーマットを行ってください。

2.6 ロジカルドライブの削除について(EzAssist)

EzAssist の「Define Logical Drives」では「Delete Last」を選択した場合に、以下の画面が表示されることがあります。この画面は現在削除しようとしているロジカルドライブが既に定義済みのロジカルドライブであることを示しています。この画面が表示された場合は、必ず[No]を選択してください。既に定義済みのロジカルドライブを削除する場合は、取扱説明書の「3.15 ロジカルドライブの削除」を参照してください。

図 2-2

「Define Logical Drives」の「Delete Last」で既に定義済みのロジカルドライブを削除してしまった場合、フィジカルパック内のロジカルドライブを全て削除した場合であっても、該当のフィジカルパックを構成していたハードディスクの状態が Online のままとなってしまうことがあります。

3 エラーコード一覧

以下の内容は Windows NT および Windows 2000 のイベントビューア･システムログに、ソース「Server Control」のイベントとして書き込まれます。[]内は、イベント ID と種類を表しています。

ServerView をインストールしていない場合、イベントのロギングが行われません。サーバ本体に付属のソフトウェアガイドを参照して、ServerView のインストールと設定を行ってください。

■ **Parity check was started at disk array adapter in slot X (Server Y). [10208/情報]**

一貫性チェックが開始されました。

■ **Parity check was successfully completed at disk array adapter in slot X (Server Y).**

[10209/情報]

一貫性チェックが正常に完了しました。データは一貫性が保たれています。

■ **Parity check was cancelled at disk array adapter in slot X (Server Y). [10210/情報]**

一貫性チェックがキャンセルされました。

■ **Logical drive X at disk array adapter in slot Y is offline (Server Z). [10214/エラー]**

ハードディスクが Dead となり、ロジカルドライブ X が Offline 状態となりました。ロジカルドライブの運用をこのまま続けることはできません。アレイ構成を再度作成し直し（このとき全てのデータは消失します）、バックアップからデータをリストアする必要があります。

■ **Logical drive X at disk array adapter in slot Y is critical (Server Z). [10215/エラー]**

ハードディスクがDeadとなり、ロジカルドライブXがCritical状態となりました。GAMでDeadとなったハードディスクを確認した上で、取扱説明書を参照して、Dead 状態になったハードディスクの交換･リビルド作業を行ってください。

■ **Logical drive X at disk array adapter in slot Y is online (Server Z). [10216/情報]**

ロジカルドライブ X が Online 状態になりました。

■ **Physical device X on channel Y at disk array adapter in slot Z is now ONLINE (Server W). [10218/情報]**

Channel-Y、ID-X のハードディスクが Online 状態になりました。

■ **Automatic rebuild of system drive X was startedat disk array adapter in slot Y at server Z. [10222/情報**

スタンバイリビルド、またはホットスワップにより自動的にリビルドが開始されました。

■ **Manual rebuild of system drive X was startedat disk array adapter in slot Y at server Z. [10223/情報]**

手動でリビルドが開始されました。

■ **Rebuild of system drive X was successfully completed at disk array adapter in slot Y at server Z. [10224/情報]**

リビルドが正常に終了しました。

■ **Rebuild of system drive X was cancelled at disk array adapter in slot Y at server Z. [10225/情報]**

リビルドがキャンセルされました。

■ **Rebuild of system drive X finished at disk array adapter in slot Y:new device failed at server Z. [10227/エラー]**

リビルド処理中に、何らかの理由で新しく交換したハードディスクが Dead になり、リビルドに失敗しました。取扱説明書を参照し、Dead 状態になったハードディスクの交換･リビルド作業を行ってください。

■ **Rebuild of system drive X finished at disk array adapter in slot Y:system drive failed at server Z. [10228/エラー]**

リビルド処理中に、ロジカルドライブが Offline 状態となり、リビルドに失敗しました。ロジカルドライブの運用をこのまま続けることはできません。アレイ構成を再度作成し直し(このとき全てのデータは消失します)、バックアップからデータをリストアする必要があります。

■ **Initialization of system drive X started at disk array adapter in slot Y at server Z. [10229/情報]**

ロジカルドライブ X の初期化処理が開始されました。

■ **Initialization of system drive X successfully finished at disk array adapter in slot Y at server Z. [10230/情報]**

ロジカルドライブ X の初期化処理が正常に終了しました。

■ **Initialization of system drive X canceled at disk array adapter in slot Y at server Z. [10231/情報]**

ロジカルドライブ X の初期化処理がキャンセルされました。

■ **Initialization of system drive X failed at disk array adapter in slot Y at server Z. [10232/エラー]**

初期化処理中に、ロジカルドライブが Offline 状態となり、ロジカルドライブの初期化に失敗しました。ロジカルドライブの運用をこのまま続けることはできません。アレイ構成を再度作成し直し(このとき全てのデータは消失します)、バックアップからデータをリストアする必要があります。

■ **New system drive X created at disk array adapter in slot Y at server Z. [10233/情報]**

新たなロジカルドライブが作成されました。

■ **System drive X deleted at disk array adapter in slot Y at server Z. [10234/情報]**

ロジカルドライブ X が削除されました。

■ **RAID capacity expansion on system drive X started at disk array adapter in slot Y at server Z. [10235/情報]**

容量拡張処理が開始されました。

■ **RAID capacity expansion on system drive X successfully finished at disk array adapter in slot Y at server Z. [10236/情報]**

容量拡張処理が正常に終了しました。

■ **RAID capacity expansion failed on system drive X at disk array adapter in slot Y at server Z. [10237/エラー]**

容量拡張処理中に、ロジカルドライブが Offline 状態となり、容量拡張に失敗しました。ロジカルドライブの運用をこのまま続けることはできません。アレイ構成を再度作成し直し(このとき全

てのデータは消失します)、バックアップからデータをリストアする必要があります。

■ **Physical device X on channel Y at disk array adapter in slot Z is now HOTSPARE (Server W). [10250/情報]**

Channel-Y、ID-X のハードディスクがホットスペアになりました。

■ **Physical device X on channel Y at disk array adapter in slot Z is unconfigured (Server W). [10256/エラー]**

Channel-Y、ID-X のハードディスクが未使用状態になりました。

■ **Physical device X on channel Y at disk array adapter in slot Z was added (Server W). [10257/エラー]**

Channel-Y、ID-X にハードディスクが追加されました。

■ **Physical device X on channel Y at disk array adapter in slot Z was removed (Server W). [10258/エラー]**

Channel-Y、ID-X のハードディスクが取り外されました。

■ **The Battery Backup Unit power on SCSI controller in slot X is OK (Server Y). [10277/情報]**

バッテリは十分に充電されています。(充電率が設定した閾値を超えました。)

4 正誤表

取扱説明書本文に誤りがございましたので、ここに謹んでお詫び申し上げますとともに、下記の通り訂正させていただきます。

1. ページ 3-8 の表 3-2 「アレイカード･プロパティ一覧」のデフォルトの設定値は以下の表のようになります。

表 3-2 アレイカード･プロパティ一覧

プロパティ	パラメータ	デフォルト設定
Global	Automatic Rebuild Management	Enabled
	StorageWorks Fault Management	Disabled
	Background Process Rate (%)	50
	Drive Size Coercion	Enabled
Startup	Disk Spin Up	On Command
	Number of Disk Drives per Spin	2
	Initial Delay (seconds)	5
	Delay Between Spins (seconds)	6
Advanced	Patrol Read:	Disabled
	Ratrol Read Delay(hours)	0
	Temporary Offline	Disabled
	Device Health Monitoring(S.M.A.R.T)	Disabled
	S.M.A.R.T Polling Interval(minutes)	0
Physical Drive SCSI Properties	Bus Speed (MHz)	80
	Tag Queuing	16
	Bus Width	16

2. ページ 6-15 の表 6-1 の GAM の Controller Options の設定値は以下の表が正しい設定となります。

表 6-1

パラメータの種類	パラメータ	デフォルト設定
Global Parameters	Enable Automatic Rebuild Management	Enable
	Enable Background Initialization	Enable
	Enable Auto Drive Sizing	Enable
	Rebuild Rate	50
	Cache Line Size (KB)	8
Startup Parameters	Spin-up	On Command
	Device Between Spins	2
	Initial Delay	5
	Sequential Delay	5
Clustering Parameters	Enable Clustering	Disable
	Controller Host ID	7
Temporarily Offline RAID Array	Enable	Disable
Device Health Monitoring (S.M.A.R.T/I.E.C)	Enable Polling	Disable
	Polling Interval	0
Patrol Read	Start Automatically on Start Up	Disable
	Delay between Iterations	0

GAM 上で Controller Options の設定を変更した場合は、必ず EzAssist にて Startup プロパティの再設定を行ってください。

Additional Notes on Use of RAID Controller U160 4Channels (RAID Card) PG-144B

Thank you for your purchase of the Fujitsu RAID Card. This document provides additional explanations for the User Guide that is supplied with this product. Read this document before you start using this product.

July 2001, Fujitsu Limited

1 Checking the Contents of the Package

Check that the following items are included in the package before using this product. If any item is missing contact a Fujitsu sales person.

- **RAID Card**
- **CD-ROM (1disc)**
  ”RAID Card PG-143B/144B User Guide”
- **User Guide(JP)**

2 Features of RAID Card

The specifications of this product are as follows.

Table 2-1 Specifications

Type	Channel	BBU*1	Cache	Supported RAID Level	Supported OS*2*3
PG-144B	4	Present	128MB	RAID 0,1,5,0+1(6)	Windows NT Windows 2000

*1: BBU is for the backup of cache data.
*2: TCP/IP is essential for all supported operating systems.
*3: Please apply the latest Service Pack with each operating system.

The following tables give the default settings for BIOS, EzAssist and GAM. Always use this product with the following settings.

Table 2-2 BIOS Setting

Default Setting
BIOS enabled
CD-ROM boot disabled
8GB drive geometry

Table 2-3 Controller Properties (EzAssist)

Properties	Parameters	Default Settings
Global	Automatic Rebuild Management	Enabled
	StorageWorks Fault Management	Disabled
	Background Process Rate (%)	50
	Drive Size Coercion	Enabled
Startup	Disk Spin Up	On Command
	Number of Disk Drives per Spin	2
	Initial Delay (seconds)	5
	Delay Between Spins (seconds)	6
Advanced	Patrol Read:	Disabled
	Ratrol Read Delay(hours)	0
	Temporary Offline	Disabled
	Device Health Monitoring(S.M.A.R.T)	Disabled
	S.M.A.R.T Polling Interval(minutes)	0
Physical Drive SCSI Properties	Bus Speed (MHz)	80
	Tag Queuing	16
	Bus Width	16

Table 2-4 Controller Options (GAM)

Kinds of Parameters	Parameters	Default Settings
Global Parameters	Enable Automatic Rebuild Management	Enable
	Enable Background Initialization	Enable
	Enable Auto Drive Sizing	Enable
	Rebuild Rate	50
	Cache Line Size (KB)	8
Startup Parameters	Spin-up	On Command
	Device Between Spins	2
	Initial Delay	5
	Sequential Delay	5
Clustering Parameters	Enable Clustering	Disable
	Controller Host ID	7
Temporarily Offline RAID Array	Enable	Disable
Device Health Monitoring (S.M.A.R.T/I.E.C)	Enable Polling	Disable
	Polling Interval	0
Patrol Read	Start Automatically on Start Up	Disable
	Delay between Iterations	0

EXCEPTION : Depending on the system you are using, the setting pattern may differ from those in the tables. If so, follow the instructions on your system.

If changing configuration in “Controller Options” on GAM, confirm and set the “Startup Properties” in “Controller Properties” of EzAssist again.

3 Installation of BDIMM

Before using this product it is necessary to install a BDIMM (**B**attery **D**ual **I**nline **M**emory **M**odule) to this product. This section explains the procedure by which BDIMM is installed on the RAID card. The method of installing BDIMM is roughly divided into the following two steps.

- Connect the battery plug with the socket of BDIMM.
- Install BDIMM on the RAID card.

3.1 How to install

1. Turn BDIMM inside out. Confirm the location of the battery, the 14-pin connector, the standoff posts, the red and black lead wires, the socket, and the battery plug.

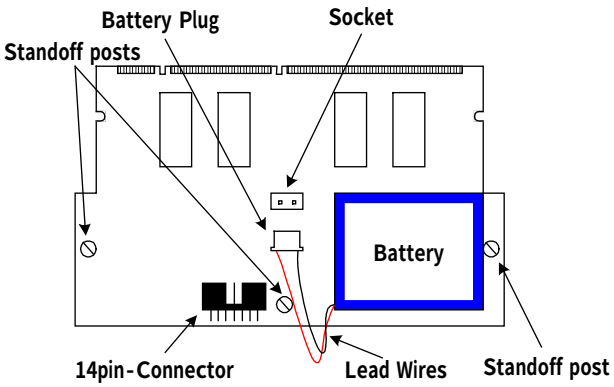

Figure 3-1

2. Insert the battery plug in the socket. Arrange the lead wires of the battery along the side of the battery. (See Figure 3-2)

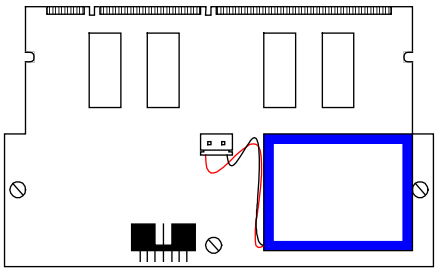

Figure 3-2

If the lead wires are out of place, they may be cut or shorted out when the 14-pin connector is connected to the controller.

3. Remove the screw from three standoff posts. Don't detach the standoff posts from the board of BDIMM.

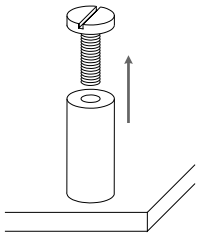

Figure 3-3

4. Align both bottom corners of the BDIMM card into the memory ejector sockets. See Figure 3-4 for an enlargement of the left bottom corner.

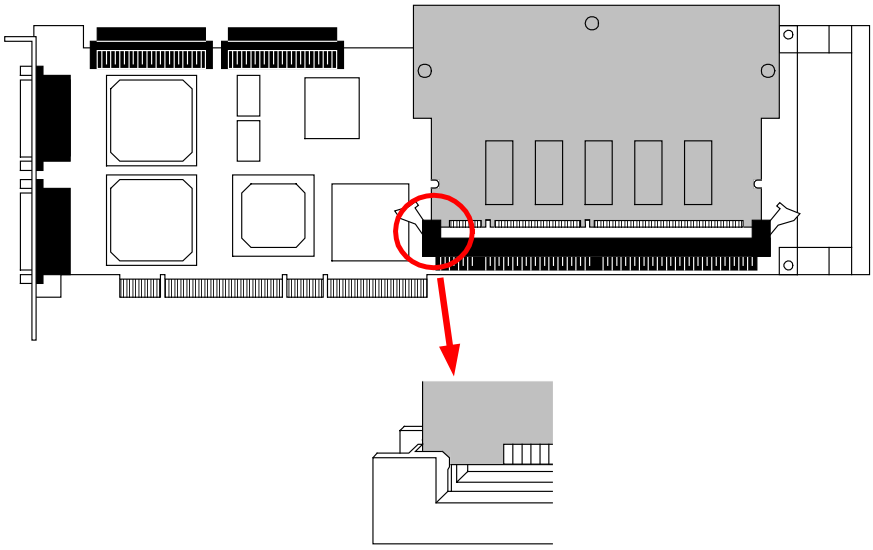

Figure 3-4

At the same time confirm that the position of the 14-pin connector matches up. Insert the board of BDIMM in the memroy slot of the RAID card firmly.

Insert BDIMM board until the lever at both ends of the memory slot shut. (See Figure 3-5)

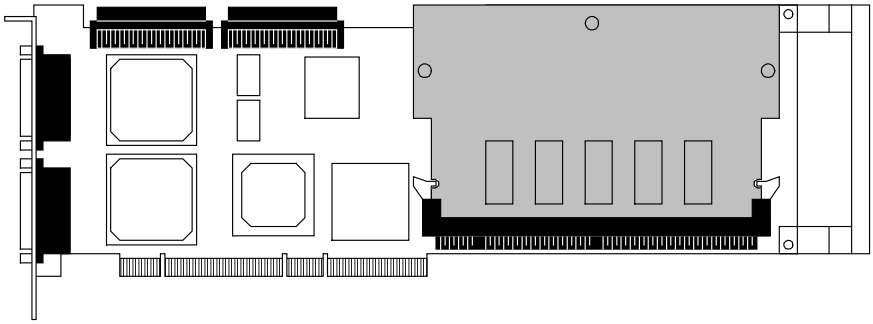

Figure 3-5

5. Turn the RAID card inside out. Attach and tighten the three screws of the figure below, and fix BDIMM board firmly.

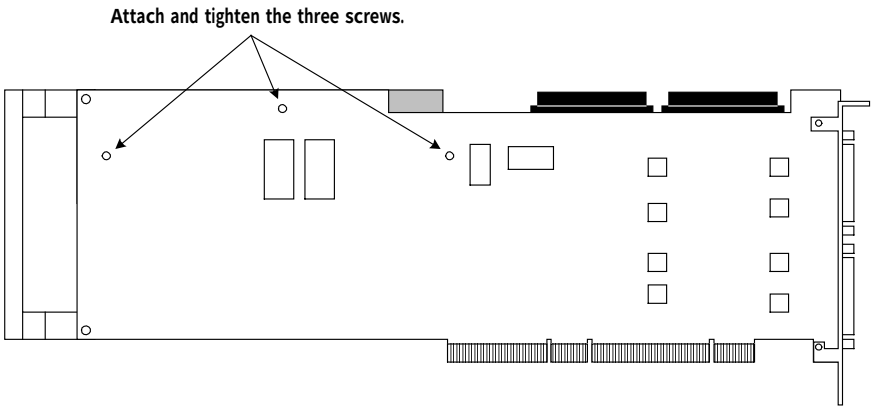

Figure 3-6

Installing BDIMM is completion.

4 Making Floppy Disks

This product doesn't include floppy disks of drivers and tools. Before using this product make following backup disks using ServerWizard or ServerStart CD-ROM.

Table 4-1

Floppy Disks	Number of Disks
Windows 2000 Drivers Disk	1
Windows NT Drivers Disk	1
GAM for Windows 2000	3
GAM for Windows NT4.0	3

Refer to "Software Guide" supplied with the server about how to make backup disks.

5 User Guide CD-ROM

The documents contained in this CD-ROM are as follows:

Table 5-1 Contents of CD-ROM

Filename	Document's Title
ER2000.pdf	eXtremeRAID™ Installation Guide
Ezassist.pdf	RAID EzAssist™ Configuration Utility User Reference Guide
Gamcpci.pdf	Global Array Manager™ Client Software for Mylex PCI Disk Array Controllers with Workstation Array Manager™ Installation Guide and User Manual
Gamsrvr.pdf	Global Array Manager™ Server Software Installation Guide and User Manual
PCIDrvr.pdf	PCI Disk Array Controller Drivers Installation Guide and User Manual

For Driver Installation instructions, refer to PCIDrvr.pdf.
For Hardware Installation instructions, refer to ER2000.pdf.

When using GAM refer to Gamcpci.pdf, Gamsrvr.pdf.

For EzAssist , refer to Ezassist.pdf

6 Restriction

6.1 Restriction of memory

If installing OS in hard disk attached with this product (when OS is booted from this product), the maximum memory capacity that can load it to the server is 4GByte. In this case, don't install memory more than 4GByte in a server.

7 Attentions

Take note of the following attentions when handling this product.

7.1 Concerning GAM Client

GAM Client may be down with application error in startup or sign-on. When this phenomenon occurs once, GAM Client gets impossible to be used. GAM Server service needs to be activated again by following procedures.

Windows NT

1. Run “Service” from “Control Panel”.
2. Select “Mylex Global Array Manager Server”
3. Click “Stop” and click “Yes” in the confirmation window. The service will stop.
4. Click “Start” to start the service.
5. Click “Close” to close service window.

Windows 2000

1. Select “Programs”-“Administrative Tools”-“Services” from “Start” menu.
2. Select “Mylex Global Array Manager Server” from the service list and click right button. Click “Restart” in the menu. The service will be restarted.
3. Close “Services” window.

7.2 About using simultaneously with RAID Card PG-143B

Pay attention to the following points if using this product simultaneously with RAID Card PG-143B.

- **Do NOT install “Accelerated Driver (macdisk.sys)”.**

- **When using EzAssist, press [Alt]+[R] to start EzAssist after the following messages appear**

  eXtremeRAID 2000 BIOS Version x.xx-xx (date)
  Mylex Corporation
  …
  <eXtremeRAID 2000 x GB Disk BIOS is enabled>
  Press <ALT-M> for BIOS options
  Press <ALT-R> for RAID Configuration options

  If no controller is shown in the controller list, wrong version of EzAssist might be activated. When starting the EzAssist of PG-143B wrongly, reboot the server and restart valid EzAssist for this product. Don’t use EzAssist of PG-143B to set up this product.

7.3 About “Add Capacity” by EzAssist

When using “Add Capacity to Existing Disk Array” of EzAssist, the notice window(Figure 7-1) may be shown after the hard disks is selected.

Figure 7-1

Select [No] always. Add capacity process may not run, if selecting [Yes] and adding the hard drives.

7.4 Completion message of background task (EzAssist)

When multiple PG-144B are in a system, controller number in completion message of background tasks (Initialize, Add Capacity, Consistency Check, Rebuild and Format) becomes zero. Confirm that LED of hard disks does not blink to know completion of background tasks.

7.5 About formating hard disk (EzAssist)

When formating hard disk with EzAssist, don’t do operation except a format for hard disks connected to a current controller during format. **Don’t do operation of changing target RAID card and Rescaning for new devices especially.** A format may be failed. Don’t do another operation until confirming that a format was completed by LED of hard disks. Confirm a completion of format by LED of hard disks. If a format was failed in, format it again after rebooting the server.

7.6 When deleting logical drives (EzAssist)

When “Delete Last” was selected in “Define Logical Drive(s)” of EzAssist, the following window may be indicated. This window shows that logical drive which is going to be deleted currently is logical drive defined already. When this windows was indicated, always select [No]. When deleting logical drives defined already, use “Perform Administration on” – “Logical Drive” – “Advanced Options” – “Delete Logical Drive”. Only the last logical drive can be deleted.

Figure 7-2

8 Precautions

Take note of the following precautions when handling this product.

8.1 Installing this product in the server

⚠ WARNING

Before installing this product in the server, be sure not only to turn off the server and all other devices connected with it, but for safety unplug their power cords from the AC outlets. If this product is installed with the server and connected devices turned on, it may cause malfunction, fire, electric shock, etc.

⚠ CAUTION

While the server is operating, the temperature of this product is extremely high. When removing this product from the server, wait for quite a while, after turning off server, before touching this product.

- ✓ Don’t connect this product with any device (CD-ROM drive, MO drive, DAT drive, etc.) other than hard disks.
- ✓ Don’t connect any hard disks to this product other than those specified for the server
- ✓ Don’t connect any SCSI cable except the specified cable for this product.
- ✓ If an internal/external SCSI connector is used, don’t use the external/internal connector of the same channel.
- ✓ Don’t connect this product with hard disks which have the same capacity but different rotational speed.
- ✓ Pre-used hard disk drives may contain unnecessary partition table data or RAID configuration data. This data may cause unexpected problems. Please execute a low level format of the drives prior to connecting them physically to this product.

8.2 Precaution about using this product

- ✓ For the IRQ(interrupt level) of this product, refer to the instructions provided with the server. If nothing is specified with the server, avoid IRQ sharing with another card.
- ✓ When connecting a hard disk that was previously used in a disk array to a general SCSI adapter, always perform a low level reformat before it is used with the SCSI adapter.
- ✓ While the server is turned on, don't remove any hard disks except for replacing a failed hard disk with another (hot-swap).
- ✓ When turning on the server again immediately after turning it off, wait for 10 seconds or more to avoid reset problems.
- ✓ This product does not support clustering.

8.3 Precautions concerning EzAssist

- ✓ Don't put a bootable CD-ROM in the CD-ROM drive of the server when executing EzAssist. If a bootable CD-ROM is present it is possible that EzAssist will not activate.
- ✓ Don't use "Automatic Configuration" and "Assisted Configuration" features. These features are not supported. Please use "Custom Configuration" to configure disk arrays.
- ✓ If changing configuration using "Custom Configuration" feature. Be sure to backup the current configuration before connecting the hard disks.
- ✓ Hard disks comprising a physical pack should be the same model, with the same storage capacity and rotational speed.
- ✓ The spare disk must also be the same model, with the same capacity and rotational speed as other hard disks comprising the physical pack.
- ✓ Don't set different RAID levels for logical drives in the same physical pack.
- ✓ Don't do initialize more than one logical drive simultaneously using the "Initialize Drive" function.
- ✓ Always set "Stripe Size" to 64KB in the logical drive definition.
- ✓ Always set "Spanning" function of "Custom Configuration" feature to disabled.
- ✓ Always set "Read Cache" in Device Configuration to Enabled.
- ✓ Always set "Write Cache" in Device Configuration to Disabled.
- ✓ Don't use "Update Flash Code" feature unless otherwise stated.
- ✓ Be sure to use flash data provided by Fujitsu, if required.
- ✓ Don't use "Restore Configuration" and "Clear Configuration" features except when instructed by your Fujitsu service engineer. If these features are used, current configuration and data are erased.
- ✓ Don't use "Make Drive Offline" and "Make Drive Online" features except when instructed by your Fujitsu service engineer. If these features are used, the data may become unreliable.
- ✓ When using "Check Consistency" function, usually select "No" when the message "Repair Inconsistent data?" is shown. If "Yes" is selected, then the redundant data part (parity data or mirror data) will be restored to make it consistent. But the data part being used by the operating system is not changed.
- ✓ When a consistency error is detected in "Check Consistency", do as follows.
  - If a consistency error occurs in "Check Consistency" after using "Make Drive Online" or "Restore Configuration" the data in the logical drive concerned may be corrupted. It will be necessary to re-initialize the logical drive and re-install the correct data.
  - If a consistency error occurs when running a "Check Consistency" for a regular check run "Check Consistency" again selecting "Yes" when the message "Repair

Inconsistent data?" is shown. After this consistency error is detected you should rerun "Check Consistency" again by selecting "No" following the message "Repair Inconsistent data?" to confirm that consistency is now OK.

8.4 Precautions when installing Windows NT

- ✓ Apply the latest service pack for Windows NT.
- ✓ You will not be able to perform correct installation of Windows NT if your system environment contains one of the following:
  - There is more than one logical drive.
  - The first logical drive (#0) has capacity of more than 1024MB.
  - The system drive is not partitioned.

  In that case create an 8MB MS-DOS partition on the logical drive onto which you wish to install Windows NT. When setting up partitions during Windows NT installation, delete the DOS partition created earlier, and instead create a new partition for Windows NT.

  If you are running initialization in the background, do not turn off the system's power just after setting up the MS-DOS partition on the screen. Wait a few minutes.
- ✓ If you intend to perform background initialization without using EzAssist, do not turn off the system's power when the system is rebooting during Windows NT installation. Instead execute a reset as instructed by Windows NT to reboot the system.
- ✓ Before driver installation, be sure to configure disk arrays using EzAssist.

8.5 Precaution about GAM

- ✓ Install ServerView to record events of this product in Windows Event Viewer. And refer to Software Guide supplied with the server, and set it up to record Mylex trap into event log.
- ✓ Do not interrupt the "Expand Array" process, or you will lose data.
- ✓ Don't use the "Open Configuration" and "Clear Configuration" features unless instructed to do so by a Fujitsu service engineer. If these features are used, current configuration and data are erased.
- ✓ The "Enclosure Information" in Administration menu is not supported. This function cannot be used to monitor the enclosure.
- ✓ "Settings" in Administration menu is not supported. Don't use this function.
- ✓ Don't use "Automatic Configuration" and "Assisted Configuration" features. These features are not supported. Please use "Manual Configuration" to configure disk arrays.
- ✓ Hard disks comprising a physical pack should be the same model, with the same storage capacity and rotational speed.
- ✓ The spare disk must also be the same model, with the same storage capacity and rotational speed as the other hard disks in the physical pack.
- ✓ Don't set different RAID levels for logical drives in the same physical pack.
- ✓ Don't initialize more than one logical drive simultaneously.
- ✓ Always set "Stripe Size" to 64KB in logical drive definition.
- ✓ Always set "Cache Size" to 8KB in logical drive definition.
- ✓ Don't use the logical drive during initialization if you use "Initialize Logical Drives" feature in Administration menu.
- ✓ Don't use "Make Offline" and "Make Online" features except when instructed by your Fujitsu service engineer. If these features are used, data may become corrupted.
- ✓ This product doesn't support "Statistic View" in View menu.

- ✓ This product doesn't support "Performance Analysis" in Administration menu.
- ✓ The "Current Power" and "Maximum Power" values shown in "Intelligent Battery Backup Unit" window is only an approximate value. The values may differ from actual time due to battery degradation.
- ✓ When using "Consistency Check" function, usually select "No" when the message "Restore consistency if …" is shown. If "Yes" is selected, then the redundant data part (parity data or mirror data) will be restored to make it consistent. But the data part being used by the operating system is not changed.
- ✓ When a consistency error is detected in "Consistency Check", do as follows.
  - If a consistency error occurs in "Consistency Check" after using "Make Online" or "Restore Configuration" the data in the logical drive concerned may be corrupted. It will be necessary to re-initialize the logical drive and re-install the correct data.
  - If a consistency error occurs when running a "Consistency Check" for a regular check run "Consistency Check" again selecting "Yes" when the message "Restore consistency if …" is shown. After this consistency error is detected you should rerun "Consistency Check" again by selecting "No" following the message "Restore consistency if …" to confirm that consistency is now OK.

8.6 Battery Precautions

- ✓ Battery life deteriorates with time. It will need to be replaced about every one and a half years..
- ✓ A new battery can hold cache data for 60 hours, but this storage capability will shorten over time.
- ✓ Be sure to replace the battery to a schedule.
- ✓ Battery replacement is at the customers cost.
- ✓ The battery is recyclable. At the end of its useful life, ensure that you adhere to your local state and local laws, when disposing of this item. It may be illegal to dispose of this battery into the normal municipal waste system. Check with your local solid waste officials for details in your area for recycling options or proper disposal.