G-SPEED™ eS Windows Installation Guide



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IMPORTANT SAFEGUARDS





The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating maintenance (servicing) instructions literature accompanying the appliance.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE APPLIANCE TO RAIN OR MOISTURE.

- 1. READ INSTRUCTIONS All the safety and operating instructions should be read before the unit is operated.
- 2. RETAIN INSTRUCTIONS The safety and operating instructions should be retained for future reference.
- 3. HEED WARNINGS All Warnings on the unit and in the operating instructions should be adhered to.
- 4. FOLLOW INSTRUCTIONS All operating and use instructions should be followed.
- 5. ATTACHMENTS Do not use attachments not recommended by the unit's manufacturer as they may cause hazards
- 6. WATER AND MOISTURE Do not use this unit near water-for example, near a bathtub, washbowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool.
- 7. ACCESSORIES Do not place this unit on an unstable cart, stand, tripod, bracket or table. The unit may fall, causing serious injury and serious damage to the unit.
- 8. VENTILATION Openings in the front and back of the unit are provided for ventilation to ensure reliable operation and to protect it from over heating. These openings must not be blocked or covered. This unit should never be placed near or over a radiator or heat source. This unit should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided.
- 9. POWER SOURCES This unit should be operated only from the type of power source indicated on the rating label. If you are not sure of the type of power supply in your facility, consult your local dealer or power company.

- 10. GROUNDING AND POLARIZATION This equipment is supplied with a power cord with a US style 3-wire grounding type plug at one end and a 3-wire IEC standard connector at the other. The 3wire grounding type plug will fit into a US style grounding type power outlet and the IEC connector is intended to plug into the Medéa unit. The 3-wire grounding type plug is a safety feature. If you are unable to insert the plug into the outlet, do not force it. Contact your electrician to replace the obsolete outlet. DO NOT DEFEAT THE SAFETY PURPOSE OF THE GROUNDING TYPE PLUG. For use in Foreign Countries, contact your local Medéa dealer or representative to obtain a power cord with a locally compatible 3-wire grounding plug on one end and a 3-wire IEC standard connector on the other.
- 11. POWER-CORD PROTECTION Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paving particular attention to cords at plugs, convenience receptacles and the point where they exit the unit.
- 12.SERVICING

Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltages or other hazards. (See Caution Symbol at rear of power supply chasis.) Refer all servicing to qualified service personnel.

WICHTIGE SICHERHEITSHINWEISE



Dieses Symbol soll den Benutzer darauf aufmerksam machen, dass er hier unisolierte gefährliche Spannung innerhalb des Gehäuses antrifft, die ausreichend gefährlich ist um einen Stromschlag hervorzurufen.

Dieses Symbol ist gedacht um den Anwender darauf hinzuweisen, dass sich im Handbuch wichtige Hinweise befinden.

WARNUNG: UM DIE GEFAHR EINES ELEKTRISCHEN SCHLAGES ZU VERRINGERN, DARF DAS GERÄT WEDER REGEN NOCH FEUCHTIGKEIT AUSGESETZT WERDEN.

1

- 1. LESEN SIE DIE HINWEISE Lesen Sie bitte alle Sicherheitshinweise und die Bedienungsanleitung bevor Sie das Gerät in Betrieb nehmen.
- 2. AUFBEWAHREN DER HINWEISE Bewahren Sie die Bedienungsanleitung und alle Sicherheitshinweise für spätere Verwendung auf.
- 3. BEACHTEN SIE DIE WARNUNGEN Alle Warnungen and Hinweise auf dem Gehäuse und in der Anleitung sollten unter allen Umständen beachtet werden.
- 4. FOLGEN SIE DEN ANWEISUNGEN Alle Benutzer -und Bedienungsanweisungen sollten befolgt werden.
- 5. ERWEITERUNGEN Benutzen Sie keine Erweiterungen, die nicht vom Hersteller empfohlen wurden um Gefahren zu vermeiden.
- 6. WASSER UND FEUCHTIGKEIT
- Benutzen Sie das Gerät nicht in der Nähe von Wasser-z.B. Badewanne, Waschschüssel. Spüle, Waschwanne, feuchter Fußboden oder in der nähe eines Pools.
- 7. ZUBEHÖR Stellen Sie das Gerät nicht auf einen wackeligen Rollcontainer, Ständer, Stativ, Regal oder Tisch. Das Gerät könnte herunterfallen, was einen bleibenden bzw. irreparablen Schaden an dem Gerät hervorrufen könnte.
- 8. BELÜFTUNG

Öffnungen an der Vor- und Rückseite des Gerätes sind für die Belüftung vorgesehen, um eine zuverlässige Funktion zu garantieren und gegen Überhitzung vorzubeugen. Diese Öffnungen dürfen weder verstellt noch zugedeckt werden. Das Gerät sollte niemals in

der Nähe einer Heizung oder einer anderen Wärmequelle aufgestellt werden. Das Gerät sollte außerdem nicht in einem Einbaugehäuse wie einem Schrank, oder einem Rack installiert werden, solange eine ausreichende Belüftung nicht sichergestellt ist.

9. NETZANSCHLUB (STROMVERSORGUNG) Das Gerät sollte nur mit der Spannungsversorgung, die auf dem Geräteaufkleber ausgewiesen ist. betrieben werden. Sollten Sie nicht sicher sein. welche Art der Spannungsversorgung in Ihrem Betrieb ver wendet wird, fragen Sie bei Ihrem

Händler oder der Stromversorgungsgesellschaft nach

10. ERDUNG UND POLUNG Zur Ausstattung gehört ein Stromkabel mit einem amerikanischen Schutzkontakt Stecker mit Erdung auf der einen Seite und einem Kaltgeräte Stecker auf der anderen (IEC Standard). Der Schutzkontaktstecker passt in eine amerikanische Schutzkontaktsteckdose und de Kaltgerätestecker in ihr Medea Gerät. Der Schutzkontaktstecker ist eine Sicherheitseinrichtung. Sollten Sie ihn nicht ich Ihre Steckdose stecken können, wenden Sie keine Gewalt an. Setzen Sie sich mit Ihrem Elektriker in Verbindung um die Steckdose auszuwechseln. Zerstören Sie unter keinen Umständen die Sicherheitseinrichtung an Ihrem Stecker. Zur Anwendung in anderen Ländern setzen Sie sich mit Ihrem Medea Händler in Verbindung, der Ihnen ein Landesübliches Stromkabel mit einem Schutzkontaktstecker auf der einen und einem Kaltgerätestecker auf der anderen Seite zur Verfügung stellt.

11. STROMKABEL ISOLIERUNG Stromkabel sollten so gelegt werden, dass man nicht auf sie tritt, oder Geganstände auf ihnen stehen bzw. gegen sie stoßen. Besondere Aufmerksamkeit sollte Leitungen und Steckern, sowie Kupplungen und die Stelle an der sie das Gerät verlassen. gewidment werden.

12. SERVICE Versuchen Sie keinesfalls das Gerät selbständig zu warten, oder das Gehäuse zu öffnen. Dies kann Sie gefährlicher Spannung oder andern Gefahren aussetzen. Überlassen sie alle Wartungsarbeiten qualifiziertem Service Personal

Page 2



El símbolo del rayo con flecha dentro de un triángulo equilátero tiene por objeto alertar al usuario de la presencia de voltaie peligroso y sin aislamiento en el interior del producto que pudiera ser de la sufidente magnitud como para constituir el riesgo de recibir una descarga eléctrica

El símbolo de el signo de exclamación dentro de un triángulo equilátero tiene por objeto alertar al usuario de la existencia de instrucciones importantes para la operación y mantenimiento (servicios) en

ADVERTENCIA: PARA PREVENIR LA POSIBILIDAD DE PROVOCAR UN INCENDIO O DE RECIBIR UNA DESCARGA ELÉCTRICA, NO EXPONGA ESTE

10. PUESTA A TIERRA Y POLARIZACIÓN El equipo se entrega con un cable alimentador con un enchufe con puesta a tierra de 3 alambres en un extremo y un enchufe estándar IEC (Comité Electrotécnico Internacional) de tres alambres en el otro. El enchufe con puesta a tierra de 3 alambres se conecta a un tomacorri ente con puesta a tierra y el conector IEC tiene por objeto enchufarse a una unidad Medea. El enchufe con puesta a tierra de 3 alambres es una medida de seguridad. Si no le es posible conectar el enchufe a un tomacorriente, no lo fuerce. Póngase en contacto con un electricista para sustituir el tomacorriente obsoleto. NO FRUSTRE LA MEDIDA DE SEGURIDAD INCORPORADA POR EL ENCHUFE CON PUESTA A TIERRA. Para uso en países extranjeros, póngase en contacto con su distribuidor local de Medea o su representante para obtener un cable alimentador con un enchufe con puesta a tierra de 3 alambres en un extremo y un enchufe estándar IEC de tres alambres en el otro

- 11. PROTECCIÓN DEL CABLE ALIMENTADOR Los cables alimentadores se deberán de colocar de manera que se evite que sean pisados o pellizcados por algún equipo o mueble puestos encima de ellos o contra ellos, poniendo especial atención al enchufe del cable alimentador, receptáculos de protección o el punto en que se conectan a la unidad.
- No intente dar servicio a esta unidad por sí mismo en virtud de que abrir la unidad o retirar alguna cubierta lo puede exponer a voltajes peli grosos u otros riesgos. Permita que el servicio lo realice personal de servicio calificado.

MISES EN GARDE IMPORTANTES



Le symbole d'éclair dans un triangle équilatéral indique la présence d'une tension suffisamment élevée pour engendrer un risque de chocs électriques.

Le point d'exclamation dans un triangle équilatéral indique que le manuel d'utilisation inclus avec l'appareil contient d'importantes recommandations quant au fonctionnement et à l'entretien de ce demier.

MISE EN GARDE: AFIN DE PRÉVENIR TOUT RISQUE D'INCENDIE OU D'ÉLECTROCUTION, NE PAS EXPOSER L'APPAREIL À LA PLUIE NI À L'HUMIDITÉ.

- 1. LIRE LES DIRECTIVES Lire toutes les directives concernant la sécurité et le fonctionnement de l'appareil avant de l'utiliser
- 2. CONSERVER LES DIRECTIVES Conserver les directives concernant la sécurité et le fonctionnement de l'appareil pour référence ultérieure.
- 3. RESPECTER LES MISES EN GARDE Bespecter toutes les mises en garde sur l'appareil et dans le manuel d'utilisation.
- 4. SUIVRE LES DIRECTIVES Suivre toutes les directives concernant le fonctionnement et l'utilisation de l'appareil.

5. ACCESSOIRES Ne nas utiliser d'accessoires non recommandés par le fabricant de l'appareil, car ils peuvent représenter un danger

6. EAU ET HUMIDITÉ



Ne pas utiliser l'appareil dans un endroit où il risque d'être mouillé, notamment dans un sous-sol humide et à proximité d'une baignoire d'un lavabo, d'un évier, d'une cuve à lessive ou d'une piscine.

7. BAIES ET SUPPORTS Ne pas placer l'appareil dans une baie ou sur un support, un trépied, une console ou une table instable. L'appareil pourrait tomber et subir des dommages importants ou infliger de araves blessures.

8. AÉRATION

Le boîtier de l'appareil comporte des fentes d'aération à l'avant et à l'arrière pour assurer le bon fonctionnement de l'appareil et le protéger de la surchauffe. Ces fentes ne doivent pas être obstruées ni recouvertes. Éloigner l'appareil de toute source de chaleur telle les radiateurs et autres éléments de chauffage. Ne pas placer l'appareil dans un meuble encastré tel une bibliothèque ou un bâti qui ne procure pas une aération adéquate.

9 ALIMENTATION

Ne brancher l'appareil que dans une prise de courant du type décrit sur l'étiquette signalétique. En cas de doute sur le type

d'alimentation disponible, consulter la compagnie d'électricité ou le distributeur local.

10. MISE À LA TERRE ET POLARISATION Le cordon d'alimentation fourni avec l'appareil est doté d'une fiche polarisée à trois branch es de style américain à une extrémité et d'un connecteur femelle CEI standard à l'autre extrémité. La fiche polarisée à trois branches peut être branchée dans une prise de courant polarisée de style américain et le connecteur CEI doit être rac cordé à l'appareil

Medea. La fiche polarisée à trois branches 1 constitue une mesure de sécurité. Si elle ne s'insère pas aisément dans la prise, ne pas la forcer. Contacter un électricien pour remplacer la prise désuète. NE PAS TENTER DE CONTOURNER CETTE MESURE DE SÉCURITÉ. Pour utiliser l'appareil à l'étranger, se procurer un cordon d'alimentation compatible avec la configuration électrique locale auprès du distributeur ou du représentant Medea local.

11. PROTECTION DU CORDON D'ALIMENTATION Les cordons d'alimentation doivent être placés de manière qu'ils ne soient pas piétinés ou écrasés par des objets et une attention 1 particulière doit être portée à la fiche, à la prise et au point de sortie de l'appareil.

12 RÉPARATION

1

Ne pas tenter de réparer l'appareil, car l'ouverture ou le retrait du boîtier peut vous exposer à des tensions dangereuses ou à d'autres risques. Confier toute réparation à un technicien qualifié.

1. INTRODUCTION

Thank you for purchasing G-SPEED eS from G-Technology, Inc. (G-Tech)! Specifically designed for professional content creation applications, G-SPEED eS features a high-speed 3Gbit/sec eSATA interface and when used in conjunction with the optional G-Tech PCI Express (PCIe) RAID controller provides RAID 0, 1, 5, 10 and JBOD functionality with **greater than 2TB support** in Windows 32bit environments. Up to four G-SPEED eS units can be attached to the G-Tech RAID controller for storage capacities to 16 TB and data rates over 600 MB/sec. G-SPEED eS supports multi-stream video editing workflows.

2. SAFETY PRECAUTIONS

The disk drives contained in your G-SPEED eS are delicate electronic instruments and are susceptible to damage due to excessive physical shock. Place the unit in a vented area away from moisture or liquids. Please handle the unit with care. Do not open the case. Doing so will void the warranty. *If the Product is returned with damage caused by improper handling, the warranty will be void and liability will rest with the user.*

3. SYSTEM REQUIREMENTS

- PCIe equipped workstation
- Microsoft Windows 2000/XP/2003/Vista
- G-Tech PCIe RAID Controller or third party port multiplier aware eSATA host adapter



Optional G-Tech 4-port, PCI e x4 RAID Controller



4. WHAT'S IN THE BOX

Take a moment to ensure that the following items are included in the box. If anything is missing, please call G-Tech at (310) 449-4599. Please keep the shipping container and packing materials. In the unlikely event that you need to return G-SPEED eS to us for any reason, you must use the G-Tech shipping container. If the Product is returned damaged caused by improper packaging, the warranty will be void and liability will rest with the user.



- G-SPEED eS storage system
- 4 removable SATA drive modules (installed in unit)
- (2) disk module keys
- 1-meter eSATA cable
- AC Power cable
- Optional G-Tech PCIe RAID controller
- Configuration Utility & Installation CD

5. G-SPEED eS OVERVIEW



6. OPTIONAL G-TECH PCIe RAID CONTOLLER OVERVIEW

The optional G-Tech PCIe RAID controller connects G-SPEED eS to your PCIe equipped workstation and provides RAID 0, 1, 5, 10 & JBOD functionality. You will choose your level of RAID protection when you set up the G-SPEED eS in Section 8. For an explanation of supported RAID levels, please refer to Appendix B.



G-SPEED eS is also compatible with third-party Windows port multiplier aware eSATA host adapters. Refer to your host adapter documentation to set up G-SPEED eS with these boards.

7. G-SPEED eS AUDIBLE ALARMS

7.1 The G-SPEED eS enclosure is equipped with an audible alarm that sounds when:

1. The internal temperature of the G-SPEED eS enclosure reaches a temperature of 60° centigrade

and/or

2. When the main FAN fails or the RPM of the fan slows to a state where the fan can longer adequately cool the system.

In addition to the audible alarm, the Temperature/Fan Warning LED located on the front bezel of G-SPEED eS will illuminate.



If you hear an audible alarm and see the RED warning LED on the front of G-SPEED eS, stop using G-SPEED eS immediately. Check to see if the fan is spinning and move the unit to a cooler location. If the problem persists, contact G-Tech Support.

- **7.2** The G-Tech RAID controller is also equipped with an audible alarm that sounds when:
 - 1. A disk drive failure occurs

or

2. When the G-SPEED eS is removed from the RAID controller without first selecting "Unplug" in the Array Maintenance menu in the web GUI.



If you hear an audible alarm coming from the G-Tech RAID controller, see Section 11 "What to do in the Event of a Disk Drive Failure". See Appendix B.1.7.2 for information on the proper way to hot "Unplug" G-SPEED eS.

8. SETTING UP G-SPEED eS WITH THE G-TECH PCIe RAID CONTROLLER

Connecting G-SPEED to your workstation and configuring your system takes just a few steps as outlined below. For this example we will be installing G-SPEED eS on a Windows XP system. The installation is similar for Windows 2000, 2003 and Vista.

8.1 Installing the G-Tech PCIe RAID Controller

1. Install the G-Tech RAID controller into an available PCIe slot in your workstation.



2. Secure the RAID controller in place.

8.2 Attaching G-SPEED eS to the G-TECH RAID Controller

- 1. Attach one end of the supplied eSATA cable to the eSATA port located on the back of G-SPEED eS.
- 2. Attach the other end of the eSATA cable to Port 1 (port closest to motherboard) on the G-Tech RAID controller as shown below.

PORT 1 PORT 2 PORT 3 PORT 4



- **3.** Attach the power cord to the back of G-SPEED eS and connect the other end to AC power.
- 4. Power on G-SPEED eS.

8.3 Installing the G-Tech PCIe RAID Controller Software

There are three steps required to fully install the software for the G-SPEED eS Controller.

- 1. Install the Windows driver
- 2. Update the Controller firmware
- 3. Installing the web GUI



Check for software updates at http://www.g-technology.com/Support/

- 1. Install the G-SPEED eS Windows driver
 - a. Power on the workstation
 - b. Insert the G-Tech Product CD into the CD-ROM drive

When the CD loads a welcome screen may appear. Close this window.



c. When the system boots the "Found New Hardware Wizard" will appear. Select "Install from a list or specific location" and click <Next>.



d. Select "Don't Search, I will choose the driver to install" and click <Next>.



e. Click <Have Disk>.

Found New Hardware Wizard	
Select the device driver you	want to install for this hardware.
Select the manufacturer an have a disk that contains the have a disk the have a disk that contains the have a disk that have a disk that	nd model of your hardware device and then click Next. If you he driver you want to install, click Have Disk.
Manufacturer Adaptec Compaq Mylex Unknown Manufacturer UNSUP INS driver is digitally signed. Telt me why, driver signing is imp	Model Adaptec AHA-151X/AHA-152X or AIC-6260/AIC-6360 SC Adaptec AHA-154X/AHA-164X SCSI Host Adapter (non-p
	< Back Next > Cancel

f. Click on the <Browse> Button and navigate to the CD-ROM drive containing the G-Tech Product CD. Continue to "\Manuals-Drivers\G-SPEED eS\PC\GSeS Driver Winv1.0\" Select the folder for your operating system and click <OK>.

Install F	rom Disk	×
5	Insert the manufacturer's installation disk, and then make sure that the correct drive is selected below.	OK Cancel
	Copy manufacturer's files from: D:\Manuals-Drivers\G-SPEED eS\PC\GSeS Drive	Browse

g. Select "G-SPEED eS RAID Controller and click <Next>.

Found New Hardware Wizard	
Select the device driver you want to ins	tall for this hardware.
Select the manufacturer and model of you have a disk that contains the driver you v	ur hardware device and then click Next. If you want to install, click Have Disk.
Model	
G-SPEED eS RAID Controller	
This driver is not digitally signed! <u>Tell me why driver signing is important</u>	Have Disk
	< Back Next > Cancel

h. When the Windows Logo warning screen appears click <Continue Anyway>.



i. The RAID controller driver will install and the Wizard will complete. Click <Finish>.



j. A new "Found New hardware Wizard" will open for the "G-Tech RCM device." Click <Next>.



k. As before, click on "Don't search. I will choose the driver to install."



I. Select "G-SPEED es RAID Controller" and click <Next>.

Found New Hardware Wizard	
Select the device driver you want to ir	nstall for this hardware.
Select the manufacturer and model of y have a disk that contains the driver you	vour hardware device and then click Next. If you u want to install, click Have Disk.
Model	
G-SPEED eS RAID Controller	
This driver is not digitally signed! <u>Tell me why driver signing is important</u>	Have Disk
	< Back Next > Cancel

m. The RCM Device driver will install and the Wizard will complete. Click <Finish>. This completes the driver installation.

Found New Hardware Wiz	ard
	Completing the Found New Hardware Wizard
	The wizard has finished installing the software for:
	G-Tech RCM Device
	Click Finish to close the wizard.
	< Back Finish Cancel

- n. Remove the G-Tech Product CD.
- **o.** Restart your workstation.

- 2. Update the G-SPEED eS Controller firmware
 - a. Insert the G-Tech Product CD into the CD-ROM / DVD drive. When the disk loads a welcome screen should appear. Click on the <Manuals / Drivers> link.





NOTE: If the Menu screen does not appear, the "autorun" feature may not be enabled on your workstation. To load the menu manually go to the START menu and click on "Run." Enter the drive letter of your CD-ROM containing the Product CD and then "autorun.exe." For example "D:\autorun.exe"

 b. This will open Windows Explorer. Navigate to the "G-SPEED eS\PC\GSeS Firmware-v2.2c" folder. Double-click "hptflash.exe" to launch the flash utility.



c. Click <Open...>.

🎟 HighPoint	Flash Utility 🛛 🗙
Controller:	[0] G-SPEED Controller
BIOS Image:	Open Config
Flash Model: 9	ST 39√F020 (0xD6BF)
	Flash! Backup Exit

d. Select "rr231.xpm.22c" and click <Open>.

Open			•	? 🗙
Look in: 间	GSeS Firmware-v2.2c	- 🗢 🖻) 💣 🎟 -	
rr231xpm.	xe 22c			
File name:	rr231xpm.22c		Oper	
Files of type:		•	Cance	

e. Click <Flash!> to begin the update process.

🎟 HighPoin	t Flash Utility 🛛 🔀
Controller:	[0] G-SPEED Controller
BIOS Image:	DtManuals-Drivers\G-SPEED eS\POpenConfig
Flash Model:	SST 39VF020 (0xD6BF)
	Flash! Backup Exit

f. When the process is completed click <OK>.

Controller.	1010-01-00	Congrat	ulation 🔀		
BIOS Image:	GSeS Firm	(į)	Successful!	Open	Config
Passed !			ОК		

- g. Remove the G-Tech Product CD.
- **h.** Restart your workstation.

3. Installing the G-SPEED eS Web GUI.

 a. Insert the G-Tech Product CD. When the disk loads a welcome screen should appear. Click on the <Manuals / Drivers> link.



b. Navigate to the folder:

"Manuals-Drivers\G-SPEED eS\PC\GSeS WEB GUI-vX.X" Double click on "Setup.exe" and follow the onscreen instructions, accepting the defaults.

GSeS WEB GUI-v1.4.7					- 0	×
File Edit View Favorites Tools Help						R.
🔇 Back 🔹 🔿 🕘 🍠 🔎 Search 🜔 Fol	ders					
Address D:(Manuals-Drivers)(G-SPEED eSIPC)(G	ises W	EB GUI-v1.4.7			M 🔁	Go
Folders	×	Name 🐣	Size	Туре	Date Modified	D
G-DRIVE mini	~	INST32LEX_	292 KB	EX_File	10/2/1990 3:15 PM	
G-DRIVE O		_ISDel.exe	27 KB	Application	10/2/1998 3:06 PM	
G-MINI		Setup.dl	34 KB	Application Extension	9/29/1998 1:34 PM	
G-PLAY		sys1.cab	178 KB	Cabinet File	10/11/2007 6:39 AM	
G-RAID2		syst.hdr	4 KB	HDR File	10/11/2007 6:39 AM	
G RAID mini	100	U_user1.cab	5 KB	Cabinet File	10/11/2007 6:39 AM	
G SAFE		_user1.hdr	5 KB	HDR File	10/11/2007 6:39 AM	
H C GSATA		data1.cab	1,262 KB	Cabinet File	10/11/2007 6:39 AM	
I C G-SPEED		data1.hdr	13 KB	HDR File	10/11/2007 6:39 AM	
B G SPEED es	12	DATA.TAG	1 KB	TAG File	10/11/2007 6:39 AM	
H CO MAC		ang.dat	5 KB	DAT File	9/18/1998 11:12 AM	
a pro		layout.bin	1 KB	BIN File	10/11/2007 6:39 AM	
E CSeS Driver Win v1.0		📼 os.dat	1 KB	DAT File	7/27/1998 2:41 PM	
CSeS Emurany2 2	1.10	Setup.exe	70 KD	Application	10/2/1998 3:04 PM	
CSAS WEI CILLUT & 7		SETUP.INI	1 KB	Configuration Settings	10/11/2007 6:39 AM	
Product-Brochures		setup.ins	78 KB	Internet Communicati	9/18/2007 5:56 AM	
Control Panel		🚾 setup.lid	1 KB	LID File	10/11/2007 6:39 AM	
Shared Documents	¥	<				1
7 objects (Disk free space: 0 bytes)	-			1.92 MB	My Computer	

c. When the installation is complete click <Finish>.



d. The Web GUI is ready to be launched and configure your G-SPEED eS.

9. SETTING UP G-SPEED eS USING THE WEB GUI

The G-Tech RAID controller web GUI is used to configure and monitor the G-SPEED eS system. The GUI is accessed using any web browser such as Safari, Internet Explorer or equivalent. This section will describe how to setup the G-SPEED eS on a Windows workstation.

NOTE: Windows 2000 / XP are 32 bit operating systems with a built-in limitation that logical disks cannot be greater than 2TB (2048GB). The G-SPEED eS RAID Controller overcomes this barrier with a new technology, Variable Sector Size (VSS). VSS increases the sector size presented to the operating system making it possible to now have logical disks of up to 16TB.

9.1 Accessing the G-Tech PCIe RAID Controller Web GUI

1. Open your web browser and enter the following address:

https://localhost:7402

2. The following Security Alert window will appear. Click the <YES> button.

Securit	y Alert 🛛 🔀
P	Information you exchange with this site cannot be viewed or changed by others. However, there is a problem with the site's security certificate.
	The security certificate was issued by a company you have not chosen to trust. View the certificate to determine whether you want to trust the certifying authority.
	The security certificate date is valid.
	The security certificate has a valid name matching the name of the page you are trying to view.
	Do you want to proceed?
	Yes No View Certificate



NOTE: For easy access to the G-SPEED eS Web GUI save the web address in your favorites

3. Enter "**admin**" as the User Name and "**0000**" (four zeros) as the Password and click on the <Login > button.

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Note: See appendix A.4.5 for instructions on changing the password.

4. The main screen of the web GUI will appear as shown below. Each of the four drives in the unit are displayed in the "Physical Device Information" section of the GUI.

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Note: The G-SPEED eS is shipped initialized as a RAID 0 array formatted for Mac OSX. This configuration needs to be deleted and re-created to function correctly on your Windows workstation. Section 9.2 covers this process.



NOTE: Please refer to APPENDIX A for detailed information on the features of the G-Tech RAID Controller web GUI.

9.2 Configuring the RAID level of G-SPEED eS

The G-SPEED eS/G-Tech RAID controller combination can be configured in RAID 0, 1, 5, 10 and JBOD. (See Appendix B for an explanation of RAID levels) Follow the directions below to setup the system

- 1. Launch the G-Tech RAID Controller web GUI.
- Click on the "Maintenance" Link and the window shown below will appear. Click on <Delete> in the Array Maintenance Window.



3. Click the <OK> button to proceed.





WARNING: This will delete any data stored on G-SPEED eS!

4. The GUI will refresh and the array is now deleted. Click the <Create Array> button. The "Create Array" page will appear.



5. The Create Array page is where you configure the new array and all its parameters. In this example we will setup a RAID 0 array. (To set up a different RAID level simply select it from the dropdown menu labeled "Array Type.")

Select RAID 0 for "Array Type", enter G-SPEEDeS for "Array Name"

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NOTE: In this example we are creating a RAID 0 array. The system can also be set up in RAID 1, 5, 10 or JBOD mode by selecting the appropriate setting in the "Array Type" pull-down.



NOTE: When creating redundant arrays (RAID 1 or RAID 5) the initialization process takes time. For RAID 5 it takes approximately 1hr 45m per TB of final capacity.

6. Click the <Select All> to quickly select all the disks for the array.



7. To create an array less than the maximum available, enter the value in MB in the Capacity field.



8. If you are creating an array of Greater than 2TB, choose the value for Variable Sector Size as indicated in the table below.

(According to The max line sparse on the selected disks)	Maumum (Mt	5)
Sector Size:		
		Greate

Array Capacity	Sector Size
Up to 2TB	512
2TB -> 4TB	1k
4TB -> 8TB	2k
8TB -> 16TB	4k



NOTE: Windows 2000 / XP are 32 bit operating systems with a built-in limitation that logical disks cannot be greater than 2TB (2048GB). The G-SPEED eS RAID Controller overcomes this barrier with a new technology, Variable Sector Size (VSS). VSS increases the sector size presented to the operating system making it possible to now have logical disks of up to 16TB.

9. Click <OK> on the warning message that appears.

Microso	ft Internet Explorer 🛛 🛛 🕅
2	Using a sector size other than 512 bytes may cause compatibility issues and result in restricted functionality. Do you want to continue?
	Irres) x1

- **10.** Click the <Create> button and the array will begin to initialize. A popup will appear confirming the array has been created and is now initializing. Click <OK>.
- **11.** The GUI will reload indicating that the G-SPEED eS has completed initializing the RAID 0 array.

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1/1/4 Hitachi HD5721010KLA330 GTA100PAG372PA	1.00 TB 0.00	D GB
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NOTE: When creating redundant arrays (RAID 1 or RAID 5) the initialization process takes time. For RAID 5 it takes approximately 1hr 45m per TB of final capacity.

12. Your G-SPEED eS is now ready to be formatted for use with your operating system. See Appendix D for detailed instructions on using Disk Management to format the G-SPEED eS for Windows XP.

10. CONFIGURING TWO G-SPEED eS UNITS IN RAID 5 MODE

Follow the directions below to configure two G-SPEED eS arrays in RAID 5 mode using the G-Tech RAID controller.

- **1.** Ensure that the G-Tech RAID controller is properly installed and the driver and web GUI are loaded.
- **2.** Attach both G-SPEED eS units to the G-Tech RAID controller as shown below, power the units and restart your computer



3. Launch the G-Tech RAID Controller web GUI. With the two units attached to the G-Tech RAID controller, the GUI will display information like that shown below.

C Technology.inc	G SF Configuration	DEE Utility	eS eS			www.g-technology.com
Manage	Events 1	lasks	Settings Driv	ve Status Logo	ut	
		Log	ical Device I	nformation		
Name	Туре	Capacity	Cache Policy	OS Name	Status	
G-SPEED-es	RAID 0	3.00 TB		GS DISK 1_0	Normal	Maintenance
G-SPEED-us	RAID 0	3.00 TB		GS DISK 1_1	Normal	Maintenance
Create Array						
		Phy	sical Device I	Information		
Location	Model				Capacity	Max Free
1/1/1	Hitachi HDS721	1075KLA330	GTA200P8G0PPE	A	750.07 G	B 0.00 GB
1/1/2	Hitachi HDS721	1075KLA330	GTA200P8G0PSB/	A	750.07 G	B 0.00 GB
1/1/3	Hitachi HDS721	1075KLA330	GTA200P8G0R22	A	750.07 G	B 0.00 GB
1/1/4	Hitachi HDS721	075KLA330	GTA200P8G0PNB	A	750.07 G	B 0.00 GB
1/2/1	Hitachi HDS721	075KLA330	GTA200P8C0R26	A	750.07 G	B 0.00 GB
1/2/2	Hitachi HDS721	075KLA330	GTA200P8G0W6K	A	750.07 G	B 0.00 GB
1/2/3	Hitachi HDS721	075KLA330	GTA200P8G0P7R	^	750.07 G	B 0.00 GB
1/2/4	Hitachi HDS721	1075KLA330	GTA200P8G0W87	٨	750.07 G	B 0.00 GB
Restan Beeper	Mute					

4. Click on the "Maintenance" link next to the array with "OS Name" GS Disk 1_0. The window shown below will appear.

Logical Device Information					
Name	Type	Capacity Cache Policy OS Nan	ne Status	\frown	
G-SPEED-eS	RAID 0	3.00 TB GS DIS	iK 1_0 Normal	Maintenance	
G-SPEED-eS	RAID 0	Array Maintenand	ce prmal	Maintenance	
Create Array		G SPEED eS Chiere - Device_1_1_1 Device_1_1_2 C SPEED eS Chiere Unplug Ref Ref	ume)		
Location	Model	Device_1_1_4	COCE/ORLM apacity	Max Free	
1/1/1	Hitachi HDS721		Close 50.07 GB	0.00 GB	
1/1/2	Hitachi HDS721		50.07 GB	0.00 GB	
1/1/3	Hitachi HDS721	75KLA330-GTA200P8G0R22A	750.07 GB	0.00 GB	

5. Click the <Delete> button. The following window will appear.





WARNING: This will delete any data stored on G-SPEED eS.

- **6.** Click the <OK> button to delete the array.
- Repeat the procedure for GS Disk 1_1. Click on the "Maintenance" link next to the array with "OS Name" GS Disk 1_1. The window below will appear.



8. Click the <Delete> button and the following window will appear.

?	All data on the array you selected will be deleted. Do you want to contine?
	OK Cancel



WARNING: This will delete any data stored on G-SPEED eS.

9. Click the <OK> button to delete the array. Both arrays have now been deleted as shown below. Click the <Create Array> button. The "Create Array" window will appear.

● ● 0 承 → C /	G-Tech G-S + 😤 https://localhost:3	PEED eS Configuration Utility	Array Management	oogle
CA G-SPEED es	Apple (33) + Amazon	eBay Yahoo! News (92) v		
G-Technology. Inc.	G SPE Configuration Utilit	y ED eS		www.g-technology.com
Manage	Events Tasks	Settings Drive Statu	is Logout	
		Logical Device Inform	ation	
Name	Type Capacity	Cache Policy	OS Name	Status
Create Array)	Physical Davice Inform	ation	
Location	Model	Physical Device Inform	Capacity	Max Free
1/1/1	Hitachi HDS721075KL	A330-GTA200P8G0PPEA	750.07 GB	750.07 GB
1/1/2	Hitachi HDS721075KL	A330-GTA200P8G0PSBA	750.07 GB	750.07 GB
1/1/3	Hitachi HD9721075KL	A330-GTA200P8G0R22A	750.07 GB	750.07 GB
1/1/4	Hitachi HDS721075KL	A330-GTA200P8G0PNBA	750.07 GB	750.07 GB
1/2/1	Hitachi HDS721075KL	A330 GTA200P8G0R26A	750.07 GB	750.07 GB
1/2/2	Hitachi HDS721075KL	A330-GTA200P8G0W6KA	750.07 GB	750.07 GB
1/2/3	Hitachi HDS721075KL	A330-GTA200P8G0P7RA	750.07 GB	750.07 GB
1/2/4	Hitachi HD\$721075KL	\330-GTA200P8G0W87A	750.07 GB	750.07 GB
G-Technology, Inc	r Mute)			

 10. In this window select the following values as shown: Select RAID 5 for "Array Type:", Enter G-SPEED-eS-R5 for "Array Name:", Select Foreground for "Initialization Method:"

and Write Back for "Cache Policy:"

Click <Select All> button to select all disks then click the <Create> button to begin the initialization process.

000	G-Tech G-SPEED eS Configuration Utili	ity Create Array	8
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Gebendegete Gebendegete Manage	PEED eS n Utility Tasks Settings Drive Sta	www.g	rteahnalagy aam
	Create Array		
Array Type:	RAID 5		
Array Name:	G-SPEED-eS-R5		
Initialization Method:	Foreground		
Cache Policy:	Write Back		
Number of RAID5 member disks:	3 🛟		
Available Disks: Capacity:(According to the max free space on the selected disks)	Select All Location Model Image: Select All Image: Select All A	Capacity 75KLA330- 750.07 A GB 75KL330- 750.07 A GB 75KL330- 750.07 A GB 75KL330- 750.07 A GB 75KL330- 750.07 75 GB	Max Free 750.07 68 750.07 68 750.07 68 750.07 68 750.07 68 750.07 68 750.07 68 68 750.07 68
G-Technology, Inc. Web RAID Man	gement 1.6.2		

- **11.** A popup will appear confirming the array has been created and is now initializing. Click <OK>.
- **12.** The GUI will reload indicating that the G-SPEED eS is initializing.

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CA G-SPEED es	Apple (33) * Amazon eBay Yahoo! News (92) *		
G	S SPEED eS	****	v.g-technology.com
G-Technology Inc.	Events Tasks Settings Drive Status Logo	ut	
	Logical Device Information		
Name	Type Capacity Cache Policy OS Name Status		
G-SPEED-eS	RS RAID 5 5.25 TB Write Back Initializing (Fe	oreground) 0%	Maintenance
Create Array			
	Physical Device Information		
Location	Model	Capacity	Max Free
1/1/1	Hitachi HDS721075KLA330-GTA200P8C0PPEA	750.07 GB	0.00 GB
1/1/2	Hitachi HDS721075KLA330-GTA200P8C0P5BA	750.07 GB	0.00 GB
1/1/3	Hitachi HDS721075KLA330-GTA200P8G0R22A	750.07 GB	0.00 GB
1/1/4	Hitachi HDS721075KLA330-GTA200P8G0PNBA	750.07 GB	0.00 GB
1/2/1	Hitachi HD\$721075KLA330-GTA200P8G0R26A	750.07 GB	0.00 GB
1/2/2	Hitachi HDS721075KLA330-GTA200P8G0W6KA	750.07 GB	0.00 GB
1/2/3	Hitachi HDS721075KLA330-GTA200P8G0P7RA	750.07 GB	0.00 GB
1/2/4	Hitachi HDS721075KLA330-GTA200P8G0W87A	750.07 GB	0.00 GB
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Technology, Inc.	Web RAID Management 1.6.2		

- The RAID 5 initialization process takes approximately 1hr 45m per TB of final capacity. Once the initialization process is complete, the GUI will indicate "Type" as RAID 5 and "Status" as Normal.
- **14.** Your G-SPEED eS is now ready to be formatted for use with your operating system. See Appendix D for detailed instructions on using Disk Management to format the G-SPEED eS for Windows XP.

11. WHAT TO DO IN THE EVENT OF A DISK DRIVE FAILURE

The G-Tech RAID controller continually monitors the health of each of the disk drives in G-SPEED eS. In the event of a disk failure, an audible alarm will sound. The web GUI will also report the failed drive and its physical position.



NOTE: If G-SPEED eS was configured in a protected RAID mode (RAID 1, 5 or 10), a drive failure does not result in data loss. However, the array is now in an unprotected state and the failed drive should be replaced as soon as possible to avoid data loss.

Follow the steps below to identify and replace a failed drive.

- **1.** Launch the web GUI.
- 2. Mute the alarm by clicking on the <Beeper Mute> button.
- **3.** The GUI will display information like that shown below. An exclamation mark on the G-SPEED eS icon indicates that the "Status" of the array is **Critical**. The lower portion of the GUI indicates which drive in which G-SPEED eS unit has failed.

C	G SPEED e	S		w g-technology o
Manage	Events Tasks Settings I	Drive Status Log	jout	
	Logical Device	Information		
Name	Type Capacity Cache Policy	OS Name	Status	
G-SPEED-e	S-R5 RAID S 5.25 TB Write Back	GS DISK 1_0	Critical	Maintenance
Location	Physical Devic Model	e Information	Capacity	Max Free
Location	Model		Capacity	Max Free
= 1/1/1	Hitachi HDS721075KLA330-GTA200P8G0P	FEA	750.07 GB	0.00 68
1/1/3	Hitachi HDS721075KLA330-GTA200P8G0R	224	750.07 GB	0.00 68
1/1/4	Hitachi HDS721075KLA330-GTA200P8G0P	NBA	750.07 GB	0.00 GB
1/2/1	Hitachi HDS721075KLA330-GTA200P8G0R	26A	750.07 GB	0.00 GB
1/3/2	Hitachi HDS721075KLA330-GTA200P8G0V	VEKA	750.07 GB	0.00 GB
1/2/3	Hitachi HDS721075KLA330-GTA200P8G0P	7RA	750.07 GB	0.00 GB
1/2/4	Hitachi HD5721075KLA330-GTA200P8G0V	87A	750.07 GB	0.00 GB
Rescan Beepe	r Mute			



In this example there are two G-SPEED eS units connected to the G-Tech RAID controller. Drive 3 of the G-SPEED eS connected to Port 2 of the G-Tech RAID controller has failed.

4. Remove the failed drive (In this example Drive 3, of the G-SPEED eS connected to port 2 of the G-Tech RAID controller) by inserting the provided key in to the lock hole and gently sliding the drive module out of the enclosure.









WARNING: Make absolutely sure that you remove the failed drive indicated by the GUI. If multiple G-SPEED eS units are connected to the G-Tech RAID controller, it is a good idea to follow the cable to ensure you know which Port # the array is connected to on the RAID controller.



REMOVING THE WRONG DRIVE WILL RESULT IN THE LOSS OF THE ARRAY AND ALL OF THE CONTENT STORED ON G-SPEED eS.

 Replace the failed drive with a new disk module and secure in place. Once the drive has spun up to speed, the GUI will indicate that the array is rebuilding (The "Status" shows **Rebuilding** and the percentage complete) as shown below. The rebuild time is approximately 2 hours per TB.

	Log	ical Device	Information		
Type	Capacity	Cache Policy	OS Name	Status	
RAID 5	5.25 TB	Write Back	GS DISK 1_0	Rebuilding 0%	Maintenance
	Type RAID 5	Type Capacity RAID 5 5.25 TB	Type Capacity Cache Policy RAID 5 5.25 TB Write Back	Type Capacity Cache Policy OS Name RAID 5 5.25 TB Write Back GS DISK 1_0	Type Capacity Cache Policy OS Name States RAID 5 5.25 TB Write Back GS DISK 1_0 Rebuilding 0%

6. Once the rebuild is complete, G-SPEED eS is back to **Normal** and protecting your valuable data once again.



12. TECHNICAL SUPPORT

If you encounter any difficulties while installing G-SPEED, please contact G-Tech Technical Support via one of the following ways:

Telephone: (310) 449-4599 Fax: (310) 449-4670 E-mail: <u>support@g-technology.com</u> Internet: <u>http://www.g-technology.com/support</u>

When contacting Technical Support, make sure to be in front of your computer and have the following information readily available:

- Your G-SPEED eS serial number (on bottom of unit)
- Operating system and version
- Computer brand and model
- eSATA host adapter brand and model
- Amount of memory installed
- Other devices attached to your computer

13. LIMITED WARRANTY

G-Technology Inc. (G-Tech) warrants your Product against any defect in material and workmanship, under normal use, for the designated warranty period. If the Product should become defective within the warranty period, G-Tech, will at its discretion, repair or replace the Product. Repair or replacement parts or Products will be furnished on an exchange basis and will be either new or reconditioned. All replaced parts or Products shall become the Property of G-Tech. This warranty shall not apply if the Product has been damaged by accident, misuse, abuse or as a result of unauthorized service or parts. Warranty service is available to the purchaser by obtaining a Return Material Authorization number (RMA) and by delivering the Product during the warranty period to an authorized G-Tech service facility or to G-Tech. The purchaser shall bear all shipping, packing and insurance costs and all other costs, excluding parts and labor, necessary to effectuate repair, replacement or refund under this warranty. All returned Product must be shipped to G-Tech in the original shipping container.

For more information on how to obtain warranty service, an RMA number or to acquire shipping materials, contact G-Tech at 1653 Stanford Street, Santa Monica, CA 90404, (310) 449-4599 or <u>support@g-technology.com</u>.

IN THE EVENT A PRODUCT BECOMES DEFECTIVE DURING THE WARRANTY PERIOD, THE PURCHASER'S EXCLUSIVE REMEDY SHALL BE REPAIR OR REPLACEMENT AS PROVIDED ABOVE. INCIDENTAL OR CONSEPROUENTAL DAMAGES, INCLUDING WITHOUT LIMITATION LOSS OF DATA, ARISING FROM BREACH OF ANY EXPRESS OR IMPLIED WARRANTY ARE NOT THE RESPONSIBILITY OF G-TECH AND, TO THE EXTENT PERMITTED BY LAW, ARE HEREBY EXCLUDED BOTH FOR PROPERTY DAMAGE, AND TO THE EXTENT NOT UNCONSCIONABLE, FOR PERSONAL INJURY DAMAGE.

APPENDIX A: WEB GUI



1. Manage:

Array: This is the main screen of the G-SPEED eS web GUI. G-SPEED eS is configured and monitored from this page. (See Appendix A.1 for details)

Devices: Hard drive parameters are modified on this page (you should not make any changes on this page as the drives are configured for optimal performance with the G-SPEED eS.

Spare Pool: When configured in protected mode drives can be assigned to a "spare pool" (sometimes called hot spare). These drives will be automatically added to the Array in the event of a drive failure.

- 2. Events: All events of the G-SPEED eS controller are recorded here, such as array changes and failures. These events can be emailed by setting up email notification under the "Settings" tab.
- **3.** Tasks: Schedule the G-Tech controller to automatically verify the integrity of the RAID volume.
- **4. Settings**: Configure the G-SPEED eS controller settings such as login password and email notification. See Appendix A.4 for details
- **5. Drive Status**: Check the status of all connected hard drives including detailed SMART data.
- 6. Logout: Say goodbye

A.1 Manage: Array



- 1. Name: Array name (as shown in GUI only).
- 2. Type: Displays RAID level of array.
- 3. Capacity: you guessed it... capacity of the array.
- **4. Cache Policy**: Displays current write cache policy for RAID protected arrays. For more info see appendix B.1.7.7
- **5. OS Name**: Controller assigned name that will display in Disk Utility.
- 6. Status: Displays current status of array.
 Normal: All systems go
 Critical: Drive failure has occurred
 Initializing: Building RAID 1, 5 or 10 array
 Rebuilding: Parity data being reconstructed



7. Maintenance: Displays configuration and maintenance options for current array. The options differ depending on RAID level of the array.

RAID 0



7.1 Delete: Deletes current Array



WARNING: THIS OPERATION WILL DELETE THE ARRAY AND ALL DATA ON IT!!

7.2 Unplug: This will disconnect the Array from the controller. Be sure to close all files before using this option. This enables the arrays to be unplugged from the system without causing an alarm.



NOTE: While the controller is "hot pluggable," we recommend shutting the system down when connecting or disconnecting G-SPEED eS from the controller.

7.3 Rename: Renames array as displayed in the GUI.

7.4 OCE/ORLM:

Online Capacity Expansion: It is possible to expand the capacity of an existing array when additional G-SPEED eS units are added to the system.Online RAID Level Migration: it is possible to change the RAID level of an existing array.

7.5 Shows the devices currently part of the Array, their location and status.



"Device_Controller#_Port#_Drive#"

evide_controller#_port#_prive

RAID 5

7.6 Verify: Verifies the integrity of the RAID set.

7.7 Change Cache Policy: This option is available for RAID 5 arrays.

Write-back: (Default) Data written to the array is cached. This will result in higher performance, but data loss may occur in case of a power failure.

Write-through: Data written to the array is always passed directly to the disks. Subsequent reads may still be completed from the cache, if appropriate

		Log	ical Device I	nformation		
Name	Туре	Capacity	Cache Policy	OS Name	Status	9
COLED-eS	2 . 0	3. 3 B	4	HP 5 SK 1_0	NG a	Maintenance
GUEED-eS		3. 9 8	4	HP SK 1_0	N O al	Mainten

8. Create Array

Click on "Create Array" and the following will appear.

GSF Configuration	DEED eS	www.6	-technology com
Manage Events	Tasks Settings Drive Status Logout		
	Create Array		
Array Type: 🚺	RAID 5		
Array Name: 2	G-SPEEDeS-R5		
Initialization Method: 3	Foreground		
Cache Policy: 4	Write Back		
Number of RAID5 member disks:	-1 *		
Available Disks: 6	Select All Location Model Image: Control and Control an	Capacity 750.07 GB 750.07 GB 750.07 GB 750.07 GB	Max Free 750.07 GB 750.07 GB 750.07 GB 750.07 GB
Capacity:(According to the max free space on the selected disks)	Maximum (MB) (MB)		

- 8.1 Array Type: select the RAID level for new array
- **8.2 Array Name**: This is the name that will be displayed in the MAIN page of the GUI.
- **8.3 Initialization Method**: Sets the priority of the RAID creation process.

Foreground: All controller resources are used for the creation process and the array is not available until complete.

Background: Minimal controller resources are used for the creation process and the array is available for immediate use.



NOTE: RAID protection is not available until initialization is complete

8.4 Cache Policy: This option is available when creating a RAID 5 array.

Write-back: Data written to the array is cached. This will result in higher performance, but data loss may occur in case of a power failure.

Write-through: Data written to the array is always passed directly to the disks. Subsequent reads may still be completed from the cache, if appropriate

- 8.5 Select All: Simple method to select all disks.
- **8.6 Available Disks**: Displays disks currently available for array creation, showing location, drive model, serial number, size of the disk and current free capacity.

Location: "Controller#/Port#/Drive#"

- 8.7 Available Disks: Enter the desired capacity of the new array. Default is the Maximum capacity available.
- **8.8 Create**: As expected, selecting this will begin the array creation process.

Location	Model	Capacity	Max Free
1/22	hi HDS721075KLA330-GTA200P8G0PPEA	75.77 GB	0. C B
1/1/2	Hitachi HDS721075KLA330-GTA200P8G0PSBA	750.07 GB	0.00 GB
1/1/3	Hitachi HDS721075KLA330-GTA200P8G0R22A	750.07 GB	0.00 GB
1/1/4	Hitachi HDS721075KLA330-GTA200P8G0PNBA	750.07 GB	0.00 GB

9. Location: Shows the location of disks attached to the controller.

Location: "Controller#/Port#/Drive#"

- **10. Model**: Displays the drive model and serial number of disks currently attached to the controller.
- **11. Capacity**: Displays the advertised capacity of the disks currently attached to the controller.
- **12. Max Free**: Displays the maximum free capacity of the disks currently attached to the controller.
- **13. Rescan:** Rescans the eSATA bus to detect any new devices attached.
- 14. Beeper Mute: Mutes audible beeper.



NOTE: Beeper will sound when a drive fails or an array is disconnected from the system without first selecting "Unplug" in the Array Maintenance menu.

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Appendix A.4: Settings

Manage Events Tasks Settings Drive Status Logout
Auto Dobuild
🗹 Enable auto rebuild. 🗌 Uhange
M Enable audible alarm.
Dahuild Driority 🧿
Set Rebuild Priority: Medium
SAI-IL 4
Set SAF-TE Config File: no config file 💌 Change
✓ Restrict to localhost access.
Port Number: 7402
Change
Password 6
Password:
Confirm:
Change Password
SMTP Setting 🕖
Enable Event Notification
Server Address (name or IP):
Mail From (E-mail address):
Login Name:
Descuerds
SMTP PurL: 25
Change Setting
Dociniente 0
E-mail Name Event Level
E man Name Even Even
Add Recipient 9
E-mail:
Namer
Found Lounds Defense alian Determine Demon
Add Test
Ser Harddisk reiniberatore rulestiold (C); po

- **1. Auto Rebuild**: Enables or disables the auto-rebuild feature. When enabled, a critical RAID 5 or RAID 1 array will automatically rebuild when a new drive is inserted. See Section 12 for details.
- 2. Audible Alarm: Enables or disables the audible alarm
- **3. Rebuild Priority**: Sets the amount of controller CPU time dedicated to rebuilding an array. Higher Priority will rebuild the array faster, however the array will be less responsive to the system.
- **4. SAF-TE**: This feature is not currently supported.
- **5.** Listening Port: The port used to connect to the G-SPEED web GUI. "Restrict to local access" disables network users to access the GUI. Default is Port 7402.
- 6. Password: Changes login password. Default is 0000
- **7. SMTP Setting**: Email server information necessary for email notification. Enter your server information here.
- 8. Recipients: A list of current email recipients.
- **9. Add Recipient**: Add email addresses for email notification. Select Event level to trigger an email.

Information: Informational events are sent Warning: Warning events are sent Error: Error events are sent

Test: Sends a test email to the new account

10.HDD Temperature Threshold: Adjusts the threshold of the hard drive temperature to trigger a warning email. Default is 50°C, however today's disk drives can operate up to 60°C.

APPENDI X	B: RAID levels	explained

	Description	Advantage	Disadvantage	Ideal For
0	Disk striping	Offers the highest performance and a useable storage capacity of 100% of total available storage capacity	No fault tolerance - failure of one drive in the array results in complete data loss	Content creation applications requiring highest storage capacity
1	Mirroring	Maximum level of data protection as identical data is written to multiple drives	Useable storage space is 50% of total available capacity	Applications in which data security is paramount
5	Disk striping with distributed parity	High read performance, medium write performance with data protection in case of a drive failure.	Useable storage capacity equals total capacity of all drives in the array less the capacity of one drive. For example, a 4x 1TB RAID 5 yields a useable capacity of 3 TB. Disk failure results in slight drop in performance	Content creation applications requiring data protection
10	Mirror of striped drive pairs	Higher performance than RAID 1 with same level of data protection.	Useable storage space is 50% of total available capacity	Content creation applications requiring data protection
JBOD	Just-a- bunch-of- disks	Each drive can be accessed as an individual volume. Useable storage capacity is 100% of total available storage.	No fault tolerance	Audio applications

APPENDIX C: Notes

When the G-Tech web GUI is open dropped frames may occur in editing applications such as Final Cut Pro and Premiere Pro. We recommend not having the GUI open while working in these programs.

It is recommended not to exceed the standard eSATA cable length of 1 meter (3 feet).

Up to (4) G-SPEED eS storage units can be attached to the G-Tech RAID controller for up to 16TB of capacity and over 600 MB/sec of performance.

Replacements / extra G-SPEED eS disk modules are available for purchase online at: <u>www.g-technology.com/products/g-speed-es.cfm</u>

APPENDIX D: Formatting G-SPEED eS using Windows XP Disk Management

 Open Disk Management by right clicking on <My Computer> from the Start Menu and selecting "Manage."



2. Select "Disk Management"

🗏 Computer Management						. 🗆 🛛
E File Aution View Window F ← → 🕒 🖽 😢 🕄 😡	юļ					_8×
Computer Management (Lovi) System Loos E E Lovi Liver Started Fullers F F Lovi Liver and Groups F F F Lovi Liver and Alerts Device Manager F Removel Manager F Removel Storage Disk Management F Storage Disk Management F Storage	Wulame Layout Image: C(c) PartUlian Image	Type File System Bask NTF5 (L) 31,16 GB NTF5 (Lothy Cychen) 3/25,-/4 GB Unallocated	Status Healthy (System)	Capatly 34.46 GB	Free Space 4.83 GB	% Free 1 14 %
د 📃 ک	Inalocated	I 'smary parhhon				

3. The "Initialize Wizard" will appear. Click <Next> and accept all the default values.



4. When the Wizard completes you will see the G-SPEED eS listed as Disk X (in this example Disk 1). It will also show the capacity and "Unallocated." Right click on the bar as shown and select "New Partition."



5. The "New Partition Wizard" will open, click <Next>.



6. Follow the prompts, accepting the default values. When you reach this screen, enter the values as shown. Select "Perform a quick format" and then click <Next>.

New Partition Wizard				
Format Partition To store data on this partition, you must format it first.				
Choose whether you want to format t	his partition, and if so, what settings you want to use.			
O Do not format this partition				
 Format this partition with the format 	llowing settings:			
File system:	NTFS			
Allocation unit size:	Default			
Volume label:	G-SPEED eS			
Perform a quick format				
Enable file and folder co	mpression			
	<back next=""> Cancel</back>			

7. The Wizard will complete and bring you back to the Main Disk Management screen. The G-SPEED eS will format in just a few seconds and be ready to use!

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