

# A MegaRAID Service Monitor

Power Console Plus does not run as a Windows NT Service. The MegaRAID Service Monitor runs as a Windows NT service. It logs events to the Application log (MEGARAILOG) under Windows NT.

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**Power Console Plus Internal Messages** Power Console Plus logs the following messages to RAID.LOG:

Message Number	Message
1	Power Console Plus has been started again.
2	An adapter change has occurred.
3	Notify messages: <ul style="list-style-type: none"><li>• drive state change</li><li>• start a reconstruction</li><li>• enclosure alert</li><li>• etc.</li></ul>
4	Begin any operation (initialize, rebuild, etc.) on any physical or logical drive.
5	An error occurred during an operation (initialize, rebuild, etc.) on a physical or logical drive.
6	Complete any operation (initialize, rebuild, etc.) on any physical or logical drive.
7	Successfully abort any operation (initialize, rebuild, etc.) on any physical or logical drive.
8	An error occurred while attempting to abort any operation (initialize, rebuild, etc.) on any physical or logical drive.
9	Failure to start any operation (such as an initialize) on a logical drive.
10	Drive state change for any channel and target.
11	Configuration file written.
12	SCSI sense data.
13	Battery status.

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## MegaRAID Service Monitor

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The MegaRAID Service Monitor Program is a Windows NT Service Process. The monitor program tracks status changes for hardware devices. The monitor program runs in the background. It polls the status of the resources connected to the MegaRAID adapters every 10 to 15 seconds.

The monitor program, MegaService Monitor, can be started automatically the same time Windows NT starts or you can start it manually after you log into Windows NT. If installed, this program logs peripheral device activities and status changes to Event Viewer. Event Viewer logs changes whether Power Console Plus is running or not. The changes are also stored in View Log, which records changes only when Power Console Plus is running. Status changes are stored in the MEGARAID.LOG file.

This filename could be different if the system has been customized. The contents of the displayable activity log include all status changes and device activities.

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**Contents**            The filename for the MegaService Monitor is:

- MEGASERV.EXE
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**Installation**        Installation is done through Installshield.

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**Starting the Monitor Program with Windows NT** The monitor program is a service; it can be started automatically when set to Automatic in services. Automatic is the default setting. Go to the Windows NT DOS shell. MEGACTRL.EXE can be in any path. Type

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MEGACTRL -START
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and press <Enter>.

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## MegaRAID Monitor Program

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**Command Line Options** The MEGACTRL command line options are:

Option	Description
-start	Start the monitor program when Windows NT is started. This option can be selected from the Windows NT Services Utility.
-stop	Stop the monitor program. This option can be selected from the Windows NT Services Utility.
-add	Add the monitor program to the Services Utilities. This option can only be used when running MEGACTRL from the DOS prompt.
-pause	Stop the monitor program temporarily. Use the -RESUME option to start the monitor program after it has been stopped. This option can be selected from the Windows NT Services Utility.
-resume	Start the monitor program after it has been stopped using the -PAUSE command line option. This option can be selected from the Windows NT Services Utility.
-del	Remove the monitor program to the Services Utilities. This option can only be used when running MEGACTRL from the DOS prompt.

The Start, pause, resume or stop command-line option can also be issued in the Services Utility. Only -add and -del should be executed from the DOS Shell.

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**Starting the Monitor Program Automatically** You can start the monitor program automatically or you can start it manually using the Services Utility. Type

MEGACTRL -start

at the DOS prompt and press <Enter> to start the monitor program automatically. Before starting the monitor program each time, make sure the program is added or is already in the Services Utilities.

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**Adding the Monitor Program** To add the monitor program to the Services Utilities, type

MEGACTRL -add

at the DOS prompt and press <Enter>.

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**Deleting the Monitor Program** To delete the monitor program from the Services Utilities, type

MEGACTRL -del

from the DOS prompt and press <Enter>.

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## Event Types

Valid event types recorded in the Log Viewer include:

Event types	Severity Level	Log Messages
<b>General Events</b>		
	Informational	RAID Monitor Service Ver. # <i>Month,Day,Year</i> Started
Drive Media Errors	Warning	Adapter # Channel # Target #: Media Error Count= #, Other Error Count= #
	Informational	Initial Check Consistency Schedule: Enable Flag: # Date: MM/DD/YY Day of Week # Hour of Day: # Week(s): # Weeks N is after every N weeks Weeks 0 All Day of Week ignored Enable Flag 0 Sunday 1 Monday 2 Tuesday 3 Wednesday 4 Thursday 5 Friday 6 Saturday
	Warning	Adapter # Logical Drive # is in Checking Consistency Progress
	Informational	Adapter # Logical Drive #: Check Consistency is in PROGRESS # %
	Informational	Registration Server Alert Message: REG-SERV Service Started
	Informational	Registration Server Alert Message: Register Server Successful
	Error	Cannot Allocate Memory Spaces.
	Error	No Adapter Found.
	Error	Fail to Create Thread megaserv.exe
	Error	Service Program Ver X.YZ started
	Informational	Initial Check Consistency Schedule is rescheduled as: EnableFlag=0 or 1 Date: MM/DD/YYYY DayOfMonth=x HourOfDay=yy Weeks=zz
	Informational	Check Consistency is rescheduled as: EnableFlag=0 or 1 Date: MM/DD/YYYY DayOfMonth=x HourOfDay=yy Weeks=zz
<b>Logical Drive Status:</b>		
Logical drive is deleted or added	Informational	Adapter #: The Number of Logical Drive is changed to #
Logical drive is not optimal or the logical drive state changed	Warning	Adapter #: Logical Drive # is Degraded
Logical drive is not optimal or the logical drive state changed	Error	Adapter #: Logical Drive # is Offline
Logical drive initialization status	Warning	Adapter #:Logical Drive # is in Initialization Progress.
Logical drive initialization status	Informational	Adapter #:Logical Drive #: Initialization is OVER
<b>Physical Drive Status:</b>		

Event types	Severity Level	Log Messages
Physical drive state changed	Informational	1.Adapter #: Logical Drive # is Optimal
Physical drive state changed	Warning	Adapter #: Logical Drive # is Degraded
Physical drive state changed	Warning	Adapter #: Logical Drive # is Offline
Physical drive state changed	Informational	2. Physical Drive # is changed to READY
Physical drive state changed	Error	Physical Drive # is changed to FAILED
Physical drive state changed	Informational	Physical Drive # is changed to REBUILD
Physical drive state changed	Informational	Physical Drive # is changed to Hotspare
Physical drive state changed	Warning	Physical Drive # is changed to Absent
Physical drive format status	Warning	Physical Drive # is in Format Progress.
Physical drive format status	Informational	Physical Drive #: Format over
<b>Physical Drive Error:</b>		
Physical drive error or the error count differs from the last check	Warning	Media Error Count = # Other Error Count =#
	Warning	Display the last seven SenseData structure entries. Each SenseData structure has 14 or 16 bytes.
<b>For SAF-TE-compliant boxes:</b>		
	Informational	Adapter # Channel # Target # [ Fans= #, Power Supplies= #, Slots= # & Temperature Sensors= # ]: SAFE-TE Information
Temperature is over threshold or back to normal	Warning	Temperature Sensor # is ?? Degree: Out of Range
	Warning	Temperature Sensor # is Normal
Fan is not operational or its status changed since last check	Informational	Status of Fan # =0x##: Operational
	Warning	Status of Fan # =0x##: Malfunctioning
	Warning	Status of Fan # =0x##: Unknown Status
	Warning	Status of Fan # =0x##: Status Not Reportable
Power supply is not operational or its status changed since last check	Informational	Status of Power Supply # =0x##: Operational and On
	Warning	Status of Power Supply # =0x##: Operational and Off
	Warning	Status of Power Supply # =0x##: Malfunctioning and Commanded On
	Warning	Status of Power Supply # =0x##: Malfunctioning and commanded Off
	Warning	Status of Power Supply # =0x##: Not Present
	Warning	Status of Power Supply # =0x##: Present
	Warning	Status of Power Supply # =0x##: Unknown Status
	Warning	Status of Power Supply # =0x##: Status Not Reportable
Device slot ID number changed	Warning	Device Slot # ID=#: The associated physical drive ID has changed. Physical Drive # is Removed/Power Off. Physical Drive # is Added/Power On.  <i>These messages are not currently available.</i>

Event types	Severity Level	Log Messages
<b>Battery Status:</b>		
Battery backup module/pack missing or added	Warning	Battery Backup Module is Missing
	Warning	Battery Backup Module present but Battery Backup Pack is Missing
	Informational	Battery Backup/Pack present
Battery temperature out of range or back to normal	Warning	Battery Temperature OUT OF RANGE
	Informational	Battery Temperature GOOD
Battery Voltage low or normal	Warning	Battery Voltage LOW
	Informational	Battery Voltage GOOD
Battery fast charging in progress/failed/completed	Warning	Battery Fast Charging IN PROGRESS
	Warning	Battery Fast Charging FAILED
	Informational	Battery Fast Charging COMPLETED
Number of battery charge cycles	Informational	"No of Charge Cycles = ??"
Since the monitor program scans the bus periodically, it checks for devices and compares with the previous results. If not a match, it logs messages.	Warning	Physical drive is Removed/Powered Off
	Warning	Physical drive is Added/Powered On  The Power On/Off feature is not implemented in the current version because the monitor program only scans the bus once at the beginning of program execution. It cannot detect later device changes.

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## Event Types, Continued

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**Event Message IDs** Each event log message has its unique ID number. For general events, the event message ID is three digits:

ID Fields		
First digit	<b>Test Type ID</b>	<b>Status</b>
	1	Logical Drive Status
	2	Physical Drive Status
	3	Physical Drive Error Count
	4	SAF-TE Box Status
	5	Battery Status
last two digits	Two digit event code	

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**Event Message IDs for Test Events** For test-related events, the event message ID is four digits:

ID Fields		
First digit	<b>Test Type ID</b>	<b>Status</b>
	1	Logical Drive Status
	2	Physical Drive Status
	3	Physical Drive Error Count
	4	SAF-TE Box Status
	5	Battery Status
Second digit	Severity Level	
	1	Informational
	2	Warning
	3	Error
last two digits	Two-digit event code	

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**Note:** There may be slight variations in these message contents because the MEGASERV.EXE and MEGACTRL.EXE utility programs are updated frequently.

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