

Empowering Megapixel

M600 Series

M300 Series  
E Series

M200 Series

C Series



Genius Vision Digital

The next generation of HD IP Surveillance System

# GVD HD NVR Hardware Quick Installation Guide



GENIUS VISION DIGITAL

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## Recommended HDD for GVD NVR

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Recording data is one of the most important part in security industry and hard disk would be one of the most important component if users want to have their recording data safely stored.

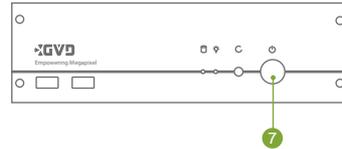
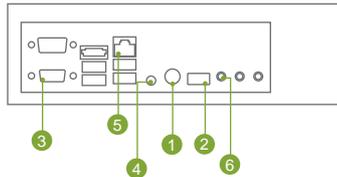
It is always recommended to use the hard disk model that GVD certifies, user can find the updated list from the URL below :

[http://www.gvdigital.com/document/Support\\_Lists/GVD\\_Certified\\_HDD\\_List.pdf](http://www.gvdigital.com/document/Support_Lists/GVD_Certified_HDD_List.pdf)

\*Please refer to the Appendix page for HDD Installation Guide

## Hardware Installation M90 Series

- 1 Connect the keyboard to the Keyboard PS2 port (purple)/USB port.
- 2 Connect the mouse to one of the USB port.
- 3 Connect the display monitor to the VGA port.
- 4 Connect the power cord to the AC power socket at the rear panel of the unit.
- 5 Plug in a CAT-6 UTP cable to the RJ-45 Gigabit LAN port, and connect the other end of the cable to a switch connecting to the camera network.
- 6 Plug in the speaker to the audio output port if necessary.
- 7 Plug in the power cord to the AC power socket of power distribution unit and the system will turn on automatically.



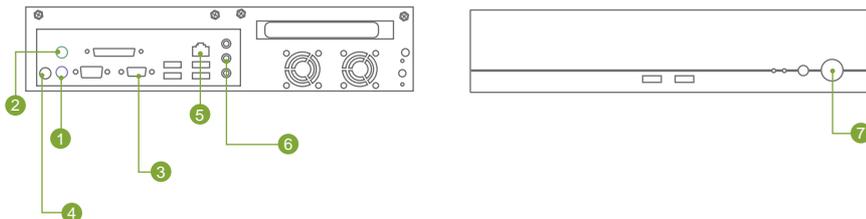
\* GVD will not be liable for any malfunction of the system if customer installed any non-certified 3rd-party application in the system.

\* For M90 series, it can support decoding resolution from D1 up to 3M

\* Please DO NOT plug any USB device other than keyboard & mouse to the machine before entering operating system.

## Hardware Installation M100 Series

- 1 Connect the keyboard to the Keyboard PS2 port (purple)/USB port.
- 2 Connect the mouse to the mouse PS2 port (green)/another USB port.
- 3 Connect the display monitor to the VGA port.
- 4 Connect the power cord to the AC power socket at the rear panel of the unit.
- 5 Plug in a CAT-6 UTP cable to the RJ-45 Gigabit LAN port, and connect the other end of the cable to a switch connecting to the camera network.
- 6 Plug in the speaker to the audio output port if necessary.
- 7 Plug in the power cord to the AC power socket of power distribution unit and the system will turn on automatically.



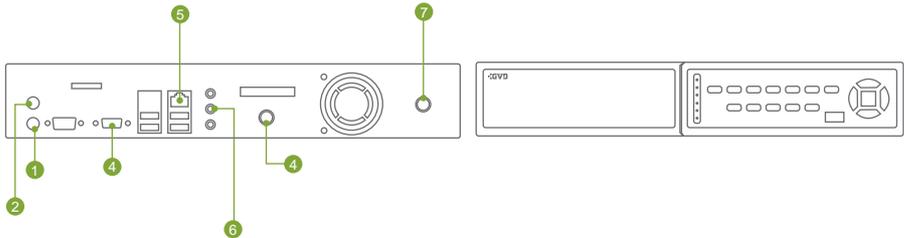
\* GVD will not be liable for any malfunction of the system if customer installed any non-certified 3rd-party application in the system.

\* For M100 series, it can support decoding resolution from D1 up to 3M.

\* Please DO NOT plug any USB device other than keyboard & mouse to the machine before entering operating system.

## Hardware Installation M150 Series

- 1 Connect the keyboard to the Keyboard PS2 port (purple)/USB port.
- 2 Connect the mouse to the mouse PS2 port (green)/another USB port.
- 3 Connect the display monitor to the VGA port.
- 4 Connect the power cord to the AC power socket at the rear panel of the unit.
- 5 Plug in a CAT-6 UTP cable to the RJ-45 Gigabit LAN port, and connect the other end of the cable to a switch connecting to the camera network.
- 6 Plug in the speaker to the audio output port if necessary.
- 7 Plug in the all power cords to the AC power socket of power distribution unit and system will turn on automatically.



\* GVD will not be liable for any malfunction of the system if customer installed any non-certified 3rd-party application in the system.

\* For M150 series, it can support decoding resolution from D1 up to 3M.

\* Please DO NOT plug any USB device other than keyboard & mouse to the machine before entering operating system.

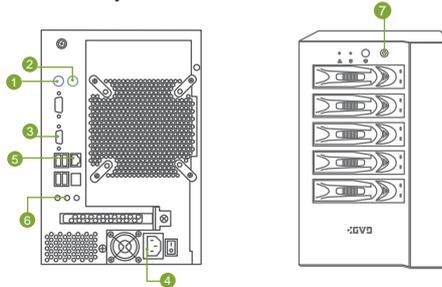
# Hardware Installation M150 Series



- 1 Reset
- 2 HDD Fail
  - On when there is HDD in exception state
  - Off when all HDDs are in normal state
- 3 Video Loss
  - On when there is channel in video loss state
  - Off when there is no channel in video loss state
- 4 Alarm
  - On when NVR has active alarm
  - Off when NVR does not have active alarm
- 5 Recording LED
  - On when NVR is recording
  - Off when NVR is not recording
- 6 Power LED
- 7 Long Duration Playback
  - (Click once to playback forward/backward 5 mins)
- 8 Short Duration Playback
  - (Click once to playback forward/backward 30 secs)
- 9 Step by Step Backward Playback
- 10 Step by Step Forward Playback
- 11 Playback Backward
- 12 Pause
- 13 Playback Forward
- 14 Manual Recording
- 15 Toggle Tour
- 16 Toggle Full Screen
- 17 Switch Pattern
- 18 Back to Live
- 19 1x1 Display
- 20 Change Viewer Focus

## Hardware Installation M200 Series

- 1 Connect the keyboard to the Keyboard PS2 port (purple)/USB port.
- 2 Connect the mouse to the mouse PS2 port (green)/another USB port.
- 3 Connect the display monitor to the VGA port.
- 4 Connect the power cord to the AC power socket at the rear panel of the unit.
- 5 Plug in a CAT-6 UTP cable to the RJ-45 Gigabit LAN port, and connect the other end of the cable to a switch connecting to the camera network.
- 6 Plug in the speaker to the audio output port if necessary.
- 7 Plug in the power cord to the AC power socket of power distribution unit and the system will turn on automatically.



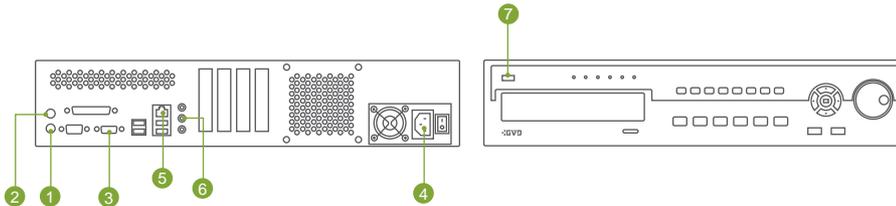
\* GVD will not be liable for any malfunction of the system if customer installed any non-certified 3rd-party application in the system.

\* For M200 series, it can support decoding resolution from D1 up to 3M.

\* Please DO NOT plug any USB device other than keyboard & mouse to the machine before entering operating system.

## Hardware Installation M350 Series

- 1 Connect the keyboard to the Keyboard PS2 port (purple)/USB port.
- 2 Connect the mouse to the mouse PS2 port (green)/another USB port.
- 3 Connect the display monitor to the VGA port.
- 4 Connect the power cord to the AC power socket at the rear panel of the unit.
- 5 Plug in a CAT-6 UTP cable to the RJ-45 Gigabit LAN port, and connect the other end of the cable to a switch connecting to the camera network.
- 6 Plug in the speaker to the audio output port if necessary.
- 7 Plug in the power cord to the AC power socket of power distribution unit and the system will turn on automatically.



\* GVD will not be liable for any malfunction of the system if customer installed any non-certified 3rd-party application in the system.

\* For M350 series, it can support decoding resolution from D1 up to 10M.

\* Please DO NOT plug any USB device other than keyboard & mouse to the machine before entering operating system.

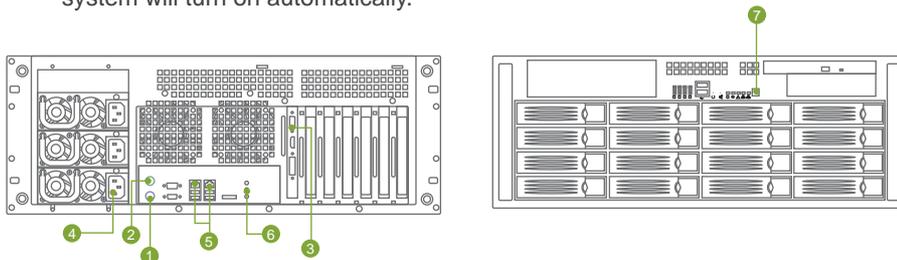
# Hardware Installation M350 Series



- 1 Power
- 2 Reset
- 3 Power LED
- 4 Recording LED
  - On when NVR is recording
  - Off when NVR is not recording
- 5 Alarm
  - On when NVR has active alarm
  - Off when NVR does not have active alarm
- 6 Video Loss
  - On when there is channel in video loss state
  - Off when there is no channel in video loss state
- 7 HDD Fail
  - On when there is HDD in exception state
  - Off when all HDDs are in normal state
- 8 Switch Monitor
- 9 Long Duration Playback
  - (Click once to playback forward/backward 5 mins)
- 10 Short Duration Playback
  - (Click once to playback forward/backward 30 secs)
- 11 Step by Step Backward Playback
- 12 Step by Step Forward Playback
- 13 Playback Backward
- 14 Pause
- 15 Playback Forward
- 16 Manual Recording
- 17 Snapshot
- 18 Toggle Tour
- 19 Toggle Full Screen
- 20 Switch Pattern
- 21 Back to Live
- 22 1x1 Display
- 23 Change Viewer Focus
- 24 Rewind Dial
  - Outer : Left = Playback backward with speed change
  - Right = Playback forward with speed change
  - Inner : Left = Playback backward frame by frame
  - Right = Playback forward frame by frame

## Hardware Installation M600 Series

- 1 Connect the keyboard to the Keyboard PS2 port (purple)/USB port.
- 2 Connect the mouse to the mouse PS2 port (green)/another USB port.
- 3 Connect the display monitor to the VGA port.
- 4 Connect the power cord to the AC power socket at the rear panel of the unit.
- 5 Plug in a CAT-6 UTP cable to the RJ-45 Gigabit LAN port, and connect the other end of the cable to a switch connecting to the camera network.
- 6 Plug in the speaker to the audio output port if necessary.
- 7 Plug in the all power cords to the AC power socket of power distribution unit and system will turn on automatically.



\* GVD will not be liable for any malfunction of the system if customer installed any non-certified 3rd-party application in the system.

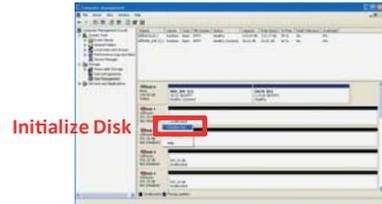
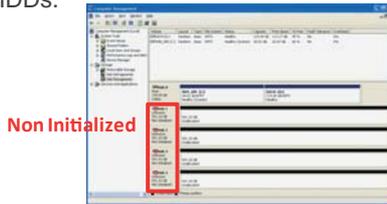
\* For M610 series, it can support decoding resolution from D1 up to 1.3M.  
For M620-M640 series, it can support decoding resolution from D1 up to 10M.

\* Please DO NOT plug any USB device other than keyboard & mouse to the machine before entering operating system.

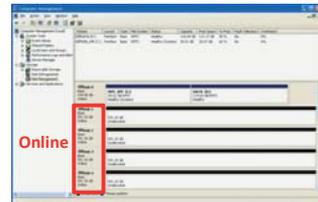
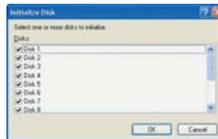
# Recording HDDs Initialize Procedures

The newly added Hard Disks need to be initialized before volume creation

- 1 Log on to Windows®.
- 2 Right click “My Computer” icon on desktop.
- 3 Select the “Manage” option.
- 4 Select the item “Disk Management” under “Storage” node for initializing the newly added HDDs.



- 5 Right click on “Non Initialized” HDDs then select the “Initialize Disk”.
- 6 User can check all checkboxes for the HDDs want to initialize then press “OK”.
- 7 All HDDs will become “Online” status.



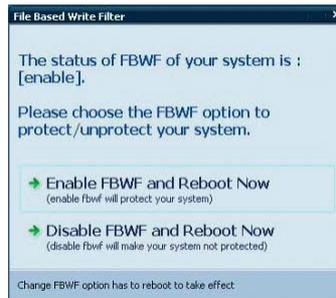
# Software Configuration

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Before configure the system, user need to disable the system protection function first and re-enable it after finishing configuration. Please follow the steps below to configure the system:

## Disable System Protection

- 1 Log on to Windows®.
- 2 Double click  on the Windows Toolbar.
- 3 Click Disable FBWF and Reboot Now.



After the reboot, user can start to configure the system as described in the following pages.

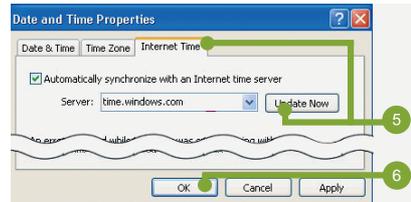
\*While in the system protection mode, all the changes made to the system will be gone after reboot.

## Date & Time/Time Zone Setup

- 1 Log on to Windows®.
- 2 Go to 'Start ► Control Panel ► Date & Time'.
- 3 Select the 'Time zone' tab, set the correct time zone and apply.
- 4 Select the Date & Time tab, set the correct date & time and apply.

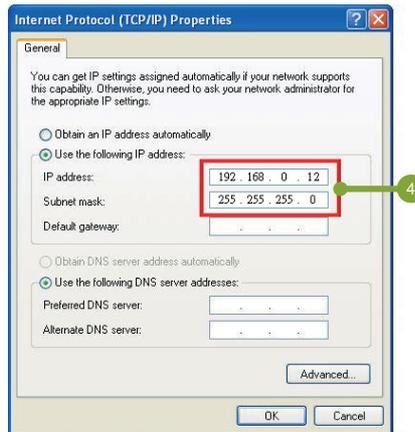


- 5 Select the 'Internet Time' tab and click 'Update Now' button to synchronize the time.
- 6 Press 'OK' to save the changes.



## Network Setup

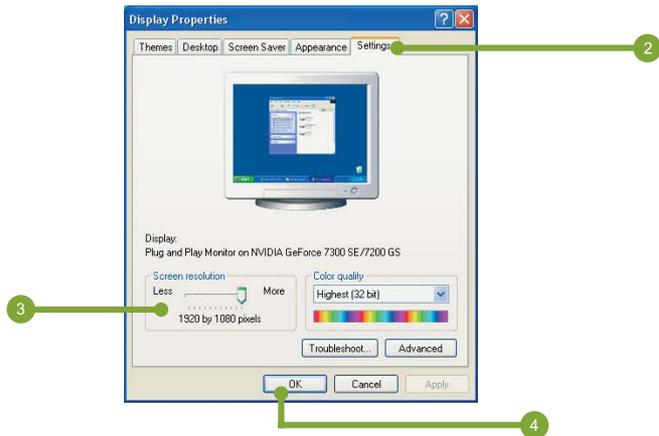
- 1 Go to 'Start ► Control Panel ► Network'.
- 2 Right mouse click on the active connection icon and select 'Properties' from the pop-up menu.
- 3 Select 'Internet Protocol (TCP/IP) and then press 'Properties'.
- 4 In the 'General' tab, set the preferred IP address and the subnet mask then press 'OK'.



\*Before conducting the network configuration, please make sure the network environment is ready. If the network is not available, contact your network administrator for further help.

# Screen Resolution Setup

- 1 Go to 'Start ► Control Panel ► Display Properties'.
- 2 Switch to Settings tab.
- 3 Change the 'Screen resolution' to 1680 x 1050 (recommend value).
- 4 Press 'OK' for saved the settings.



\*The minimum supported screen resolution is 1280 x 1024.

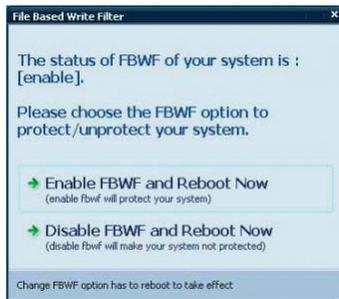
## Enable System Protection

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After the system has been configured, user needs to re-enable the system protection function in order to keep the system away from harm. Please follow the steps below to re-enable the system protection function:

### Enable System Protection

- 1 Double click  on the Windows Toolbar.
- 2 Click Enable FBWF and Reboot Now.

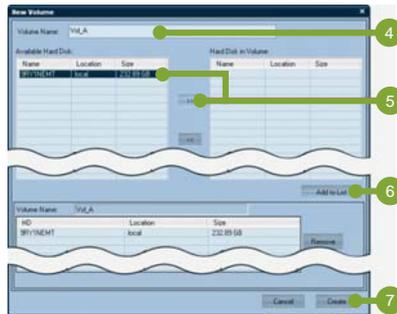


After the reboot, the system will be in the system protection mode.

\*In future, if system modification is necessary, please follow the steps "Disable System Protection" in page 6.

## Create Volume for Recording

- 1 In Windows® desktop, double click the SCM program icon ( ).
- 2 Input default username **Admin** and password **6001** to login.
- 3 In the SCM program, press the 'New Volume' button in the left panel.
- 4 Input the name of the volume in the 'Volume Name' field.
- 5 Select the preferred hard disk(s) from the available hard disk list. Click (add) button to add the selected hard disk(s) to the list of 'Hard Disk in Volume'.
- 6 Press 'Add to List' button to add the volume into queue for formatting.
- 7 Press 'Create' to continue.
- 8 The system shows a confirmation message – 'Create Volume will reallocate your hard disk and you will lose current data on the disk. Are you sure to keep doing these jobs?' Press 'Yes' to continue.



## Add Camera Automatically

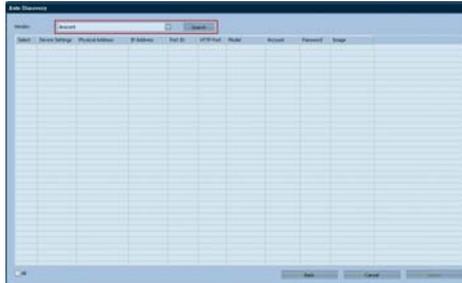


- 1 In Windows® desktop, double click the HD NVR Manager program icon (  ).
- 2 Log on HD NVR Manager using default username Admin and password 6001.
- 3 Go to Configuration Mode.
- 4 Select the 'Device' tab, click the 'Add' button. 'Add Camera Device' dialog appears as shown below.



## Add Camera Automatically (cont'd)

- 5 Select 'Auto Discovery' and the dialog appears as shown below.

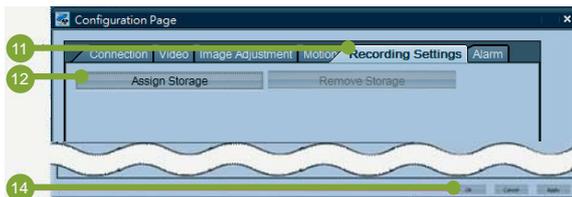


- 6 Click the 'Vendor' dropdown box and select the preferred vendor name from the list then pressing 'Search' to continue.
- 7 Input username and password of the vendor camera.
- 8 The system automatically searches all vendor's connected IP cameras in the network. The searching result will be listed.
- 9 Select the cameras to be installed and click 'Import' button.
- 10 The selected camera will be added to the system. A 'Configuration page' shows for changing the setting of the cameras.

\*Some cameras may not be added automatically. Refer to the details in the HD NVR user manual about adding a camera manually.

## Add Camera Automatically (cont'd)

- 11 To activate the recording function of the camera, select the 'Recording Settings' tab in the Configuration page.
- 12 Press the 'Assign Storage' button. An 'Assign Storage' dialog appears.



- 13 Select the preferred volume and click 'OK'.



- 14 Click 'OK' in the Configuration page to exit.

\*To set up the schedule recording, refer to the HD NVR Manager user manual for more details.

# Setup Motion Recording

## Motion Recording by Using Simple Alarm

- 1 Go to Configuration Mode



- 2 Select the camera that you want to setup for motion recording then click the modify button.



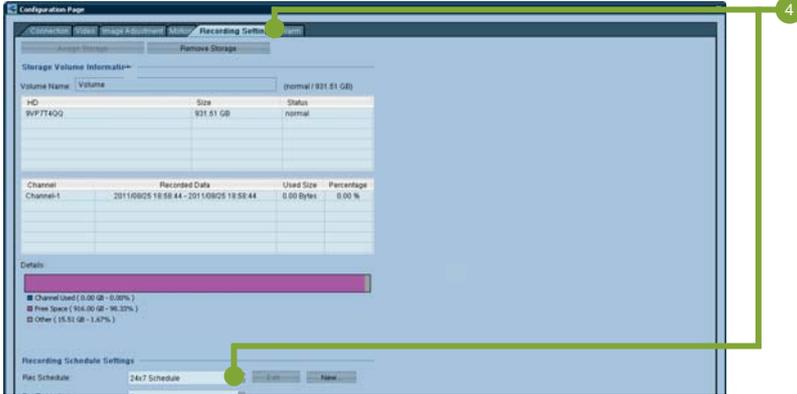
- 3 In camera's Configuration Page, select Motion tab to enable motion detection of the camera and adjust detection sensitivity to the desired level.



\*Different camera has different naming and ways to setup motion detection.

## Setup Motion Recording (cont'd)

- 4 Select Recording Settings tab and disable camera's recording.



- 5 Select Alarm tab to enable recording only when there is motion detected.



- 6 Click OK button to finish setup.

## Troubleshooting FAQ

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### **Why the IP address of System has been modified but it will return to default after system reboot?**

- User need to disable the system protection function first before configuring the IP address. Please follow the System Configuration instructions (refer to Page 12 & 16 ) to disable the protection and setup IP address again.

### **Why the Time Zone of System has been modified but it will return to default after system reboot?**

- User need to disable the system protection function before configure the time zone, please follow the Software Configuration instruction (refer to Page 12 & 13 ) to do the time zone setup again.

### **Why the resolution of System screen has been modified but it will return to default after system reboot?**

- User need to disable the system protection function before configure the screen resolution, please follow the Software Configuration instruction(refer to Page 12 & 15 ) to do the screen resolution setup again.

### **Why can't format hard disk successfully when creating volume?**

- The hard disk might be broken that you must replace it with a new hard disk and try to create the volume again.
- When the file system of OS is FAT32 and HD NVR is installed in the same drive as OS then the create volume procedures will always fail. User must convert the file system of OS to NTFS or install HD NVR in another partition other than the OS partition then try to create volume again.

## Troubleshooting FAQ (cont'd)

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### Why the system IP address information of NVR manager screen shows "0.0.0.0"?

- There are two network interface cards in the system but HD NVR always uses the newly added card by default. Disable one of the card and change IP setting if necessary then restart the HD NVR service and HD NVR Manager software.
- The network interface of NVR has not been connect to network switch yet. Please connect the network interface cable to network switch then restart the HD NVR service and HD NVR Manager software.

### Why cannot find any camera using Auto Discovery method?

- The IP address of camera does not have the same subnet with HD NVR (Ethernet card).
- The camera may not be supported by HD NVR, please check the supported cameras list at GVD website "[http://www.gvdigital.com/support\\_device.html](http://www.gvdigital.com/support_device.html)".

### Why can't get video after adding camera?

- The possible root cause might be:
  - 1 Wrong user name and password
  - 2 Wrong IP address
  - 3 Firewall or Anti-Virus software blocks the communication port required on camera (ex: 554 for Axis)
  - 4 Network wire or power cable unplug
  - 5 Total camera bandwidth is over network bandwidth.

## Troubleshooting FAQ (cont'd)

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### How to install the Anti-Virus software for GVD HD NVR?

- Before installing Anti-Virus software, please follow the instructions to disable the system protection function first (refer to page 12) and enable it after finishing software installation and configuration.
- Since HD NVR writes enormous amount of data to recording hard drives, if antivirus software scan those hard drives at the same time, it will seriously degraded the system performance and even cause the system to crash and video data loss. For those reasons, user must setup antivirus software not to scan the recording hard drives to avoid degraded performance of the system.  
HD NVR and cameras use port 80 as their transmission protocol, and the port was scanned by Anti-Virus software as well. User must configure Anti-Virus software not to scan the port or disable the HTTP checking function to avoid some Anti-Virus software from creating enormous data files.

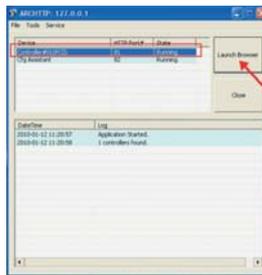
## Appendix. How to create RAID 5

This appendix chapter for M600 Series NVR only.  
RAID System Creation

- Open Areca HTTP Proxy Server GUI
  - 1 Start ► Areca Technology Corp ► ArcHttpSrvGUI ► Areca HTTP Proxy Server GUI



- 2 Select Controller #01(PCI),HTTP Port #81 and click “Launch Browser” button

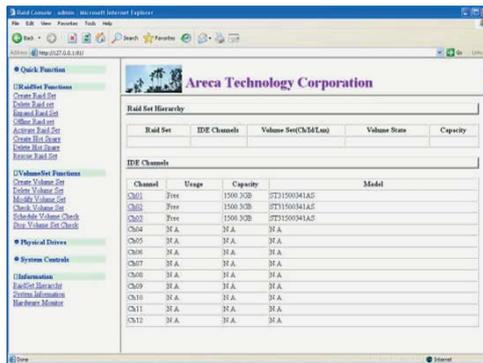


## Appendix. How to create RAID 5

- Input admin for username and 0000 for password to login.



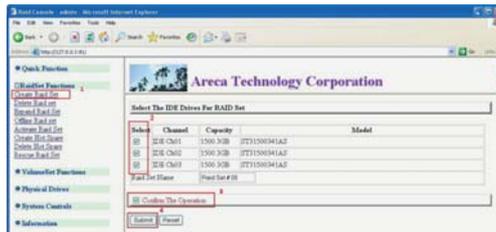
- Successfully login to RAID Console page.



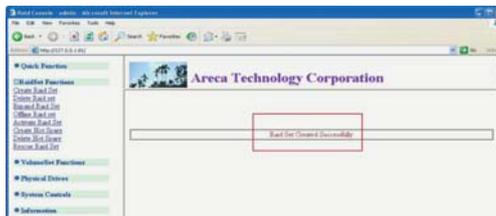
## Appendix. How to create RAID 5

- Create RAID Set

- 1 Select RaidSet Function ► Create Raid Set from the menu at the left.
- 2 Check the HDDs to be added in the Raid set (here use 3 HDDs as an example)
- 3 Check Confirm The Operation checkbox
- 4 Click Submit button to create the Raid set



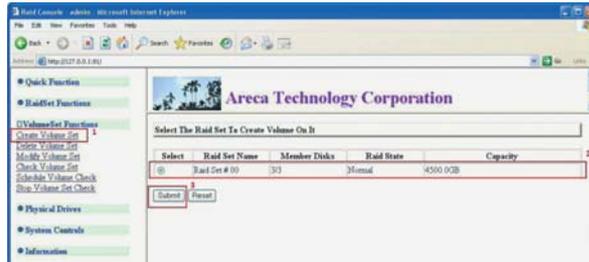
- 5 You should see the following message when the Raid set was created successfully.



## Appendix. How to create RAID 5

- Create Volume Set

- 1 Select Volume Set Functions ► Create Volume Set from the menu at the left.
- 2 Select the Raid set just created and click the Submit button.



- 3 Select the Raid level wish to create (here use Raid 5 as an example).  
\*In Raid 5, when one of the HDDs fails, we can replace it with the new HDD and the system will use the remaining two HDDs to restore original data. Thus in this example, the total capacity is  $1500\text{GB} \times 2 = 3000\text{GB}$
- 4 Input the volume size "1000" each volume to have in Select Volume Capacity field.
- 5 Check Confirm The Operation checkbox.
- 6 Click Submit button to create the Raid set  
\*The example just used 3 volumes, each with 1000GB as an example to demonstrate you how to create a Raid system, you can create different amount of volumes as you wish.

## Appendix. How to create RAID 5

The screenshot shows the RAID Configuration utility interface. The 'Enter Volume Attribute On Raid Set #00' section is highlighted. The following table represents the configuration details shown in the interface:

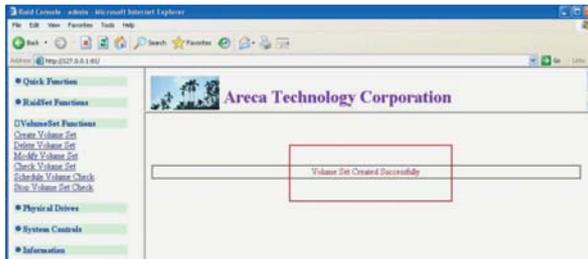
Volume Name	ARC1234VOL00
Member Disks	3
Volume Raid Level	Raid 5
Max Capacity Allowed	1000 GB
Select Volume Capacity	750 GB
Create Two TB Volume Support	No
Volume Initialization Mode	Foreground Initialization
Volume Stripe Size	64 KB
Volume Cache Mode	Write Back
Tagged Command Queuing	Enabled
SCSI Channel/SCSI ID/SCSI Lun	0/0/0

Red boxes highlight the 'Volume Initialization Mode' and 'Volume Cache Mode' fields. Red arrows point from these fields to the text 'Change to Background Initialization' and 'Change to Write Through' respectively. A 'Confirm The Operation' checkbox is also checked.

Change to Background Initialization

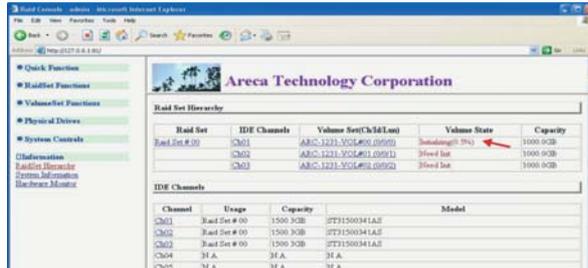
Change to Write Through

- 7 You should see the following message when the Volume set was created successfully.

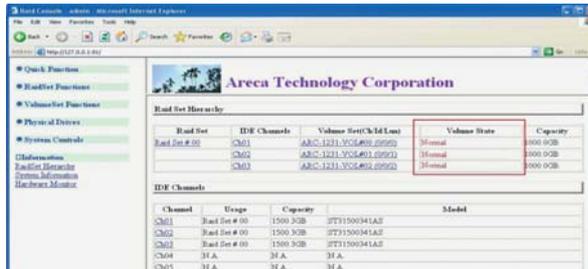


## Appendix. How to create RAID 5

- After volume set was created, it will start to partition the volume set and show you the completion rate of the process.



- After partition completed, you should see Normal in all Volume State columns.



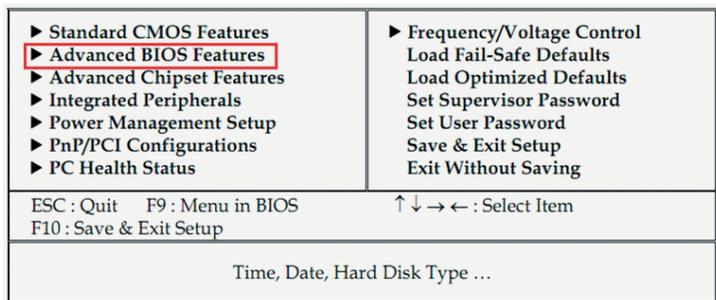
## Appendix. Change Boot Priority

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This appendix chapter is for M200-AR only.

Change M200's boot priority after creating RAID set

- 1 During system boot up, click "**Del**" key to get into BIOS.
- 2 Select "**Advanced BIOS Features**" and press Enter



- 3 Select "**Hard Disk Boot Priority**" and press Enter

## Appendix. Change Boot Priority

Advanced BIOS Features		Item Help
▶ CPU Feature	[Press Enter]	
▶ <b>Hard Disk Boot Priority</b>	[Press Enter]	
Virus Warning	[Disabled]	
CPU L1 & L2 Cache	[Enabled]	
CPU L3	[Enabled]	
Quick Power On Self Test	[Enabled]	
First Boot Device	[Hard Disk]	Menu Level ▶
Second Boot Device	[CDROM]	
Third Boot Device	[USB-CDROM]	

- 4 Change the hard disk boot priority and make the DOM device as the first boot device, e.g. Device name: SATA:PS-4G SATA Flash Drive.

### Hard Disk Boot Priority

Select Hard Disk Boot Device Priority. Use <↑> or <↓> to select a device, then press <+> to move it up, or <-> to move it down the list. Press <ESC> to exit this menu.

- 5 Press “**ESC**” key to return to the main menu.
- 6 Select “**Save & Exit Setup**” and press Enter.
- 7 Answer “**Y**” to confirm and exit BIOS.

## Appendix. HDD Installation Guide

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### M90 HDD Installation Guide

- 1 Unscrew the screws to remove the machine's cover as indicated below.



- 2 Unscrew the 4 screws to remove the HDD tray and take off the power cord.



## Appendix. HDD Installation Guide

- 3 Install HDD to the HDD tray and screw the 4 screws as indicated below.



- 4 Connect HDD with SATA & power cables then install the HDD tray back to the machine.



- 5 Install the machine's cover back.

# Appendix. HDD Installation Guide

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## M100 HDD Installation Guide

- 1 Unscrew the screws to remove the machine's cover as indicated below.



- 2 Take out the power cable as indicated below.



- 3 Unscrew the screw of the HDD tray and remove it as indicated below.



## Appendix. HDD Installation Guide

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- 4 Install HDDs to the HDD tray as indicated below.



- 5 Connect HDDs with SATA and power cables then install the HDD tray back to the machine.



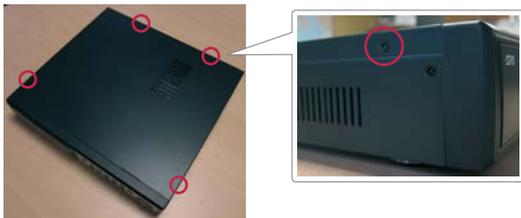
- 6 Install the machine's cover back.

## Appendix. HDD Installation Guide

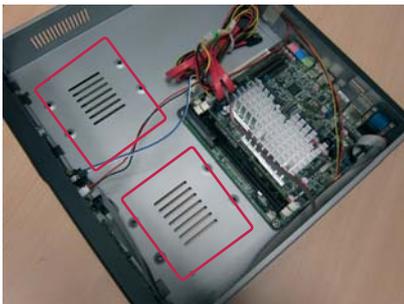
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### M150/M155 HDD Installation Guide

- 1 Unscrew the screws to remove the machine's cover as indicated below.

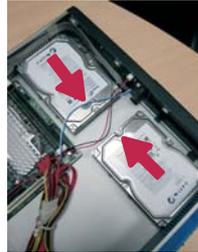


- 2 The red rectangles area indicated below is where HDDs will be installed.

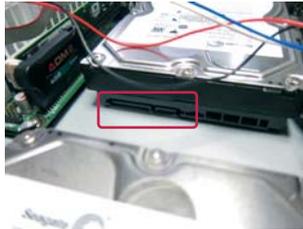


## Appendix. HDD Installation Guide

- 3 Screw the screws from the bottom side of the case to fix the HDDs.



- 4 Connect HDDs with SATA & power cables.



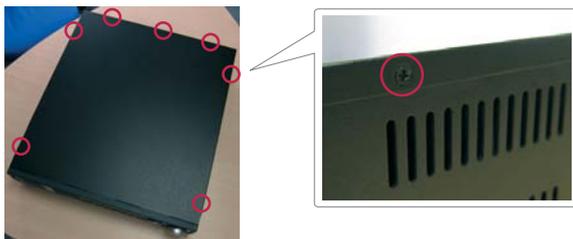
- 5 Install the machine's cover back.

## Appendix. HDD Installation Guide

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### M350 HDD Installation Guide

- 1 Unscrew the screws to remove the machine's cover.  
(2 screws at each side and 3 at the back, total 7 screws)

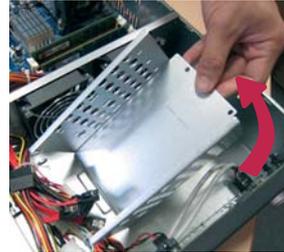
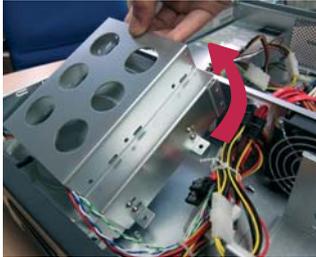


- 2 Unscrew the screws of CD-ROM & HDD trays as indicated below.



## Appendix. HDD Installation Guide

- 3 Lift the trays with care.

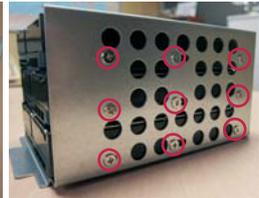


- 4 Install HDDs into both CD-ROM & HDD trays and screw the screws to fix the HDDs.

CD-ROM Tray



HDD Tray



## Appendix. HDD Installation Guide

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- 5 Install both CD-ROM & HDD tray back to the machine and connect both CD-ROM & HDDs with SATA & power cables.



- 6 After all HDDs have been installed, it will look like the picture below. Install the machine's cover back to finish HDD installation.

