GeoVision inc.
The Vision of Security

Quick Start Guide

The Vision of Security

GV-Storage System

FC CE RoHS

This guide is designed to assist the new user in getting immediate results from the GV-Storage System. For advanced information on how to use the GV-Storage System, please refer to *GV-Storage System User's Manual*.

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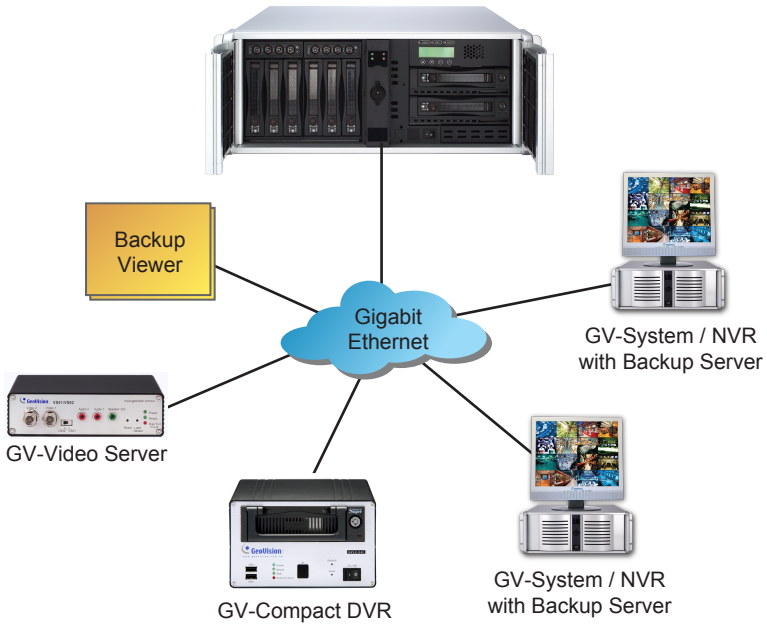
Working with GV Products

GV-Storage System can work in conjunction with these GV products to save data: GV-System version 8.2, GV-Video Server version 1.4, GV-Compact DVR and GV-NVR.



Note:

- GV-System version 8.2 and GV-NVR provides Backup Server and Backup Viewer functions. Backup Server allows you to back up recorded data to GV-Storage System automatically, while Backup Viewer allows you to access the data from any computer. For details see *Surveillance System User's Manual*.
- For the connection with GV-Video Server and GV-Compact DVR, see their own user's manuals.

Package List

- GV-Storage System
- AC Power Cord x 2
- Lock Key x 2
- Self-Stick Rubber Pad x 4
- GV-Storage System User's Manual on software CD
- GV-Storage System Quick Start Guide on software CD

Before You Begin

Before starting, prepare the following items:

- Check Certification List in Appendix to confirm the hardware setting is fully supported
- A DVR server of **GV-System version 8.2** with a network interface card (NIC)
- CAT 5e or CAT 6 LAN cables for one management port and two iSCSI data ports (CAT 6 cable is recommended for best performance)
- Prepare storage system configuration plan
- Network information of management and iSCSI data ports, including static IP addresses, subnet mask, and default gateway
- A Gigabit Layer 2 or Layer 3 managed stackable switch
- CHAP security information, including CHAP username and secret (Optional)

Usage Notice

Please pay attention to the following notice when you use the storage system.

- **Recommended Hard Drive**

  To avoid compatibility issues between the storage system and hard drives, we strongly suggest you use **Seagate Barracuda ES series drives**. For details on drive models, see Certification List in GV-Storage System User's Manual.

- **Replacing Hard Drives**

  Don't turn off the power of the drive bay when replacing the hard dive, otherwise RAID failure could occur.

- **Before Power Off**

  It is better to execute "Shutdown" through LCD panel menu to flush the data from cache to physical disks before power off.

- **UDV (User Data Volume) Restriction**

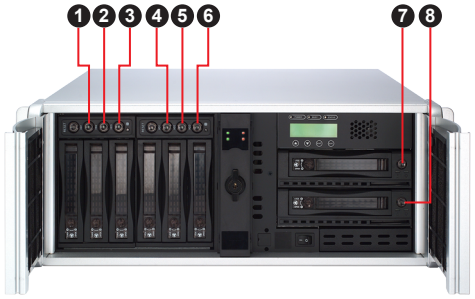
  Don't assign the same UDV to more than one DVR host for recording usage; otherwise you may suffer data lost or corrupt.

- **Initiator Node Name Restriction**

  The Initiator node name only accepts lower-case letters. Use lower-case letters for **Host** name in the storage system, otherwise you cannot establish the connection between the storage system and DVR.

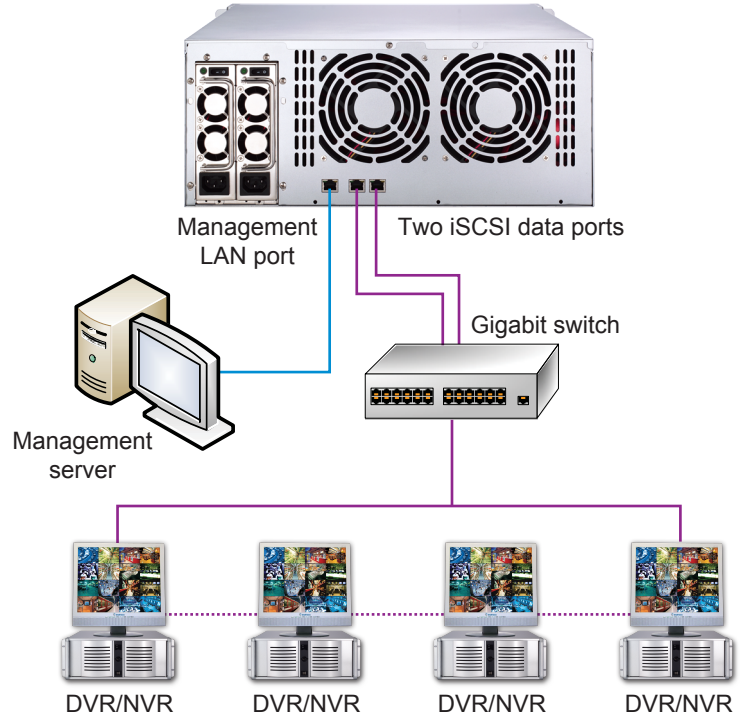
- **Order of Hard Drive Slots**

  Remember the order of hard drive slots on the storage system. When you see the warning message "Error: Disk, <slot> is failed", remove the failed hard drive in the correct slot. **If you remove the hard drive in the wrong slot, you could suffer data loss.**



Step 1 Install on a Network

1. Connect the unit's management port to the network on which you will manage the storage system. The default IP address of the management port is http://192.168.0.200
2. Using LAN cables, connect the unit's iSCSI data ports to a Gigabit switch.
3. Install hard drives.
4. Using the two provided power cords, connect the unit's two power supplies to a different power source/circuit.

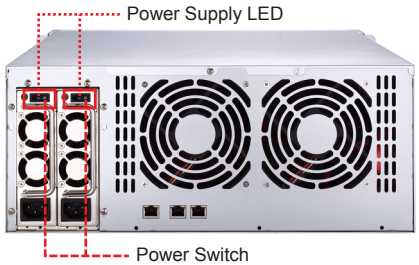


For details see *3.3 Installing on the Network* in *GV-Storage System User's Manual*.

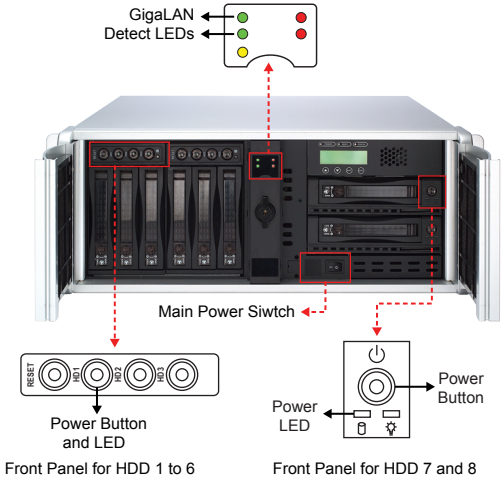
Step 2 Turn on the Power

1. Turn on the two power switches on the rear panel.
2. Turn on the main power switch on the front panel.
3. Check status of powering on to ensure that everything is running smoothly.
   - **Power Supply LED**: The two LEDs on the rear panel should turn green.
   - **GigaLAN Detect LED**: The two LEDs on the front panel should turn green.
   - **Drive Bay LED**: Power LEDs for all drive bays containing hard drives should light up.

Rear Panel



Front Panel



Step 3 Login

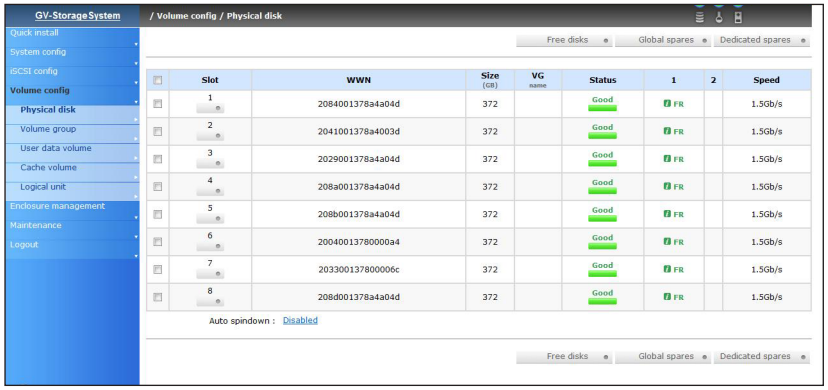
On the management server, open the browser and enter the default IP:
http://192.168.0.200
Click any function on the left side of window; enter the default login name **admin** and password **admin**.

Step 4 Create a RAID Volume

There are two methods to create a RAID volume.

1. If only one host connects to the storage system, you may use the Quick Install function to create a volume quickly. For this, follow the instructions in Part I.
2. If more than one host connects to the storage system, you need to create an independent volume for each host for data storage. For this, follow the instructions in Part II.

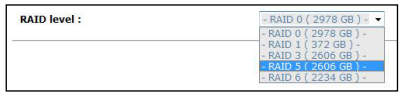
Before creating a volume, please make sure all hard disks are installed in the system properly by selecting / **Volume config / Physical disk**. The status of hard disks should show “Good”.



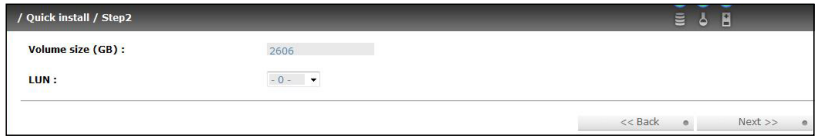
(Figure: Eight physical disks are inserted to slot 1 to slot 8. The size of each disk is 372GB. The status of the disks is good.)

Part I: Use “Quick Install”

1. Select **Quick install**, and choose **RAID level** from the drop-down list. Click **Next**.



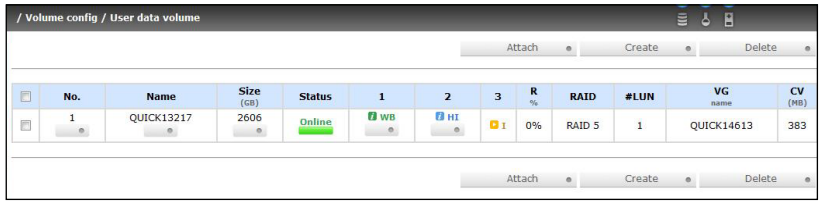
2. Type **Volume size** and select a **LUN** number. By default, the maximum volume size is shown. Click **Next**.



(Figure: the maximum volume size is 2606GB, and 1 LUN (No. 0) is attached.)

Note: If using OS such as Windows XP, Windows 2000 or Windows Vista 32 bits, click **Cancel** when this warning message pops up "*LBA 64 Support? Choose Cancel. It will change the sector size to 4K. The maximum capacity is up to 16 TB. This volume can not be Dynamic Disk.*"

3. Click **Confirm** if all setups are correct. Then a page with the “User data volume” is created.



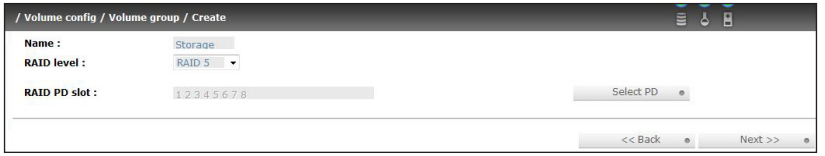
(Figure: a RAID 5 user data volume with the UDV name “QUICK13217”, named by the system itself, with the total available volume size 2606GB, and attached with 1 LUN.)

Note: The UDV (user data volume) created by “Quick Install” is accessible by every host. Access control of host would show as a wildcard “*”. To see and modify the volume, select **\ Volume config \ Logical unit**.

Part II: Create an independent volume for each host

In this example, three UDVs (user data volume) are created in one VG, and assigned for three different hosts DVR system, Video Server and Compact DVR for data storage.

1. Create VG (Volume Group).



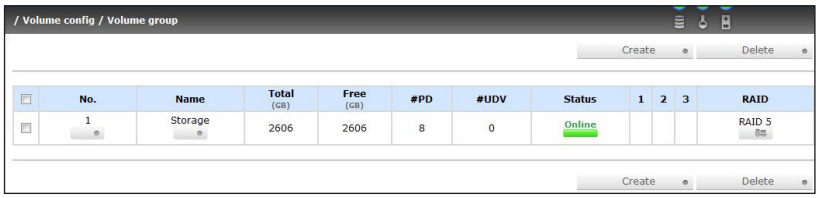
a. Select **/ Volume config / Volume group**.

b. Click **Create**.

c. Type a VG Name, select a RAID level, press **Select PD** to choose the RAID PD slot(s), and then press **Next**.

d. Check the outcome. Press **Confirm** if all setups are correct.

e. A VG has been created.



(Figure: Create a RAID 5 with 8 physical disks, named “Storage”. The total size is 2606GB. Because of no related UDV there, free size still remains 2606GB.)

2. Create UDV (User Data Volume).

a. Select **/ Volume config / User data volume**.

b. Click **Create**.

c. Type a UDV name, choose a VG Name and enter a size to the UDV. Decide the stripe height, block size, read/write mode and set priority. Finally click **Confirm**.

d. A UDV has been created.

e. Do one more time to create another UDV.

(Figure: Create three UDVs named “UDV-1”, “UDV-2” and “UDV-3”, related to “Storage” VG. The size of “UDV-1” is 1000GB, the size of “UDV-2” is 800GB and the size of “UDV-3” is 806GB. The status of these UDVs are online, write back, high priority with cache volume 383MB. “UDV-1” is initialing about 2%. There is no LUN attached.)

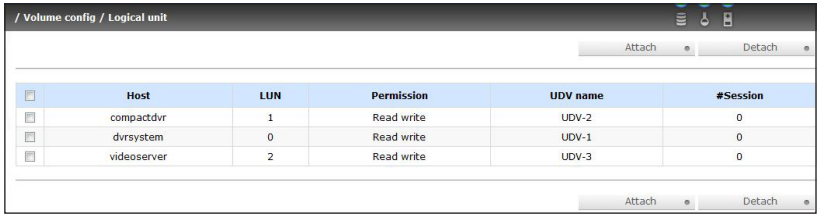
3. Attach LUN to UDV.

a. In / Volume config / User data volume, select a UDV and press **Attach**.

b. Enter **Host**, which is an initiator node name for access control. Choose **Permission** to Read-write for data storage, and then click **Confirm**.

c. A LUN and host have been created.

d. Do one more time to create another LUN and host.



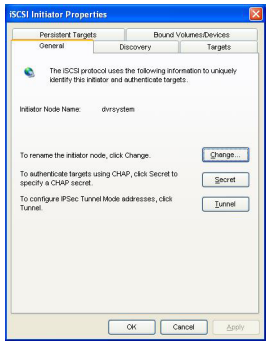
(Figure: UDV-1 is attached to LUN 0 which only initiator node named “dvrsystem” can access. UDV-2 is attached to LUN 1 which only initiator node named “compactdvr” can access. UDV-3 is attached to LUN 2 which only initiator node named “videoserver” can access.)

4. Done. The RAID volumns have been created.

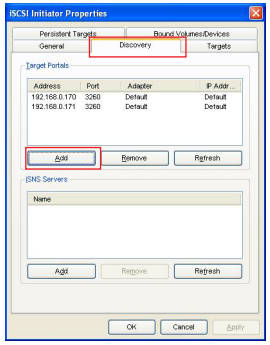
Step 5 Configure Initiator on DVR Host

The DVR host needs to run and set up the iSCSI Initiator to request access for storage. The Microsoft iSCSI Software Initiator is available as a free download from Microsoft Download Center.

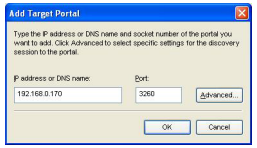
1. Run **Microsoft iSCSI Initiator.**



2. To add target portals, click the **Discovery** tab and click **Add**.

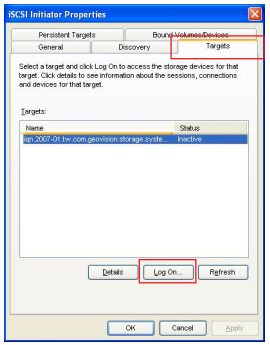


3. Type the IP address of GV-Storage System, and click **OK**. By default, the IP address of iSCSI data port 1 is **192.168.1.1**, and iSCSI data port 2 is **192.168.2.1**. If both data ports are used for connection to the DVR host, add two data port IPs respectively.

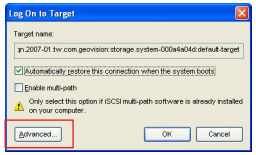


(Figure: In this example, we added iSCSI data port 1 of 192.168.0.170 and iSCSI data port 2 of 192.168.0.171 as target portals.)

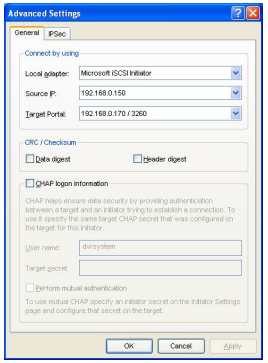
4. Click the **Targets** tab and click **Log On**.



5. Select **Automatically restore this connection when the system boots** and click **Advanced**.



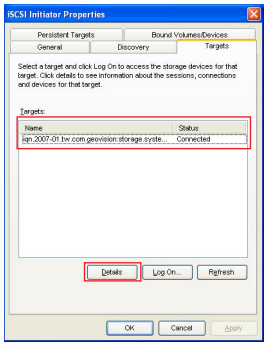
6. Select **Local Adaptor** to Microsoft iSCSI Initiator, select **Source IP** to the host IP and select **Target Portal** to iSCSI data port 1. If the CHAP authentication is enabled at the storage system, select **CHAP logon information** and type a valid username and target secret (password). Click **OK**.



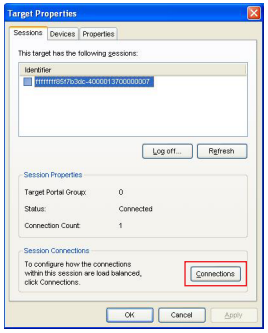
(Figure: In this example, the DVR IP address is 192.168.0.150. The iSCSI data port 1 is 192.168.0.170)

7. When the connection with the storage system is established, the status changes into “Connected”. At this step, you can already use the iSCSI disk by the operation similar to the case to increase a local disk. Refer to step 13.

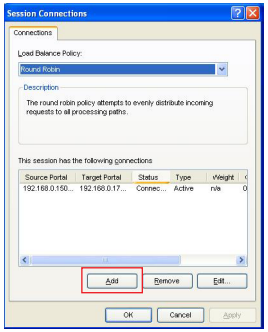
   If the iSCSI data port 2 is used for connection to the DVR host, click **Details** and keep on the following steps.



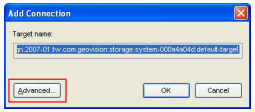
8. Click **Connections**.



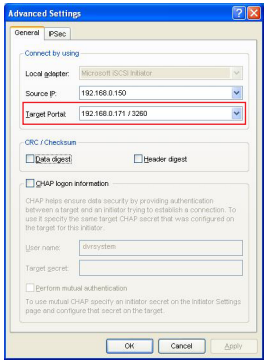
9. Click **Add**.



10. Click **Advanced**.

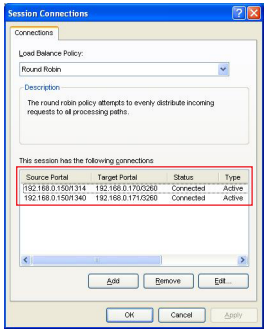


11. Select **Target Portal** to iSCSI data port 2, set up the CHAP authentication if necessary and click **OK**.

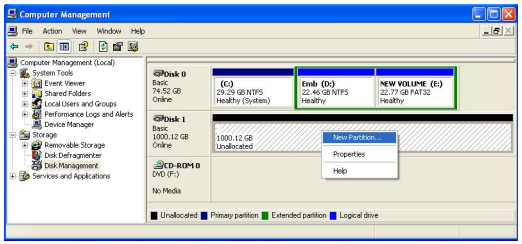


(Figure: In this example, the iSCSI data port 2 is 192.168.0.171.)

12. Now you can see the status of both Source Portals displays “Connected”. Click **Apply**.



13. When connecting to the iSCSI disk at the first time, it is necessary to format it as well as a local disk. Run Windows **Disk Management** to configure a disk. Note the settings of the formatted partition should be **Basic disk storage** and **NTFS file system**.

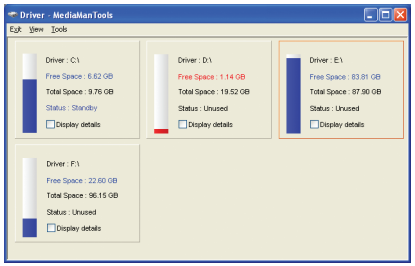


For details see *Chapter 7 About iSCSI Initiator* in *GV-Storage System User's Manual.*

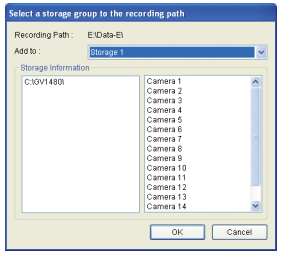
Step 6 Add the iSCSI Disk to Recording Path

After formatting the iSCSI disk, you can add it to the recording path and use it for recording.

1. Click the Windows **Start** button, point to **Programs**, click **GV folder** and select **Hot Swap HDD Tool**.



2. Right-click the iSCSI drive, and select **Add for recording.**
3. Select a storage group from **Add to** drop-down list. Click **OK** to automatically configure the iSCSI drive to the recording path.



4. To verify the iSCSI drive is added successfully, check if the status of the drive displays "Standby". Or in GV-System, click the **Configure** button, point to **General Setting**, select **System Configure**, click the **Set Location** button, and then select **Storage Group Folder** to confirm the new recording path.

To automatically back up recorded files to the storage system, and to access the files from any computer, see Backup Server and Backup Viewer respectively in Surveillance System User's Manual.