



**INSTEK DIGITAL**



A complete system to provide high resolution, long term digital video storage and IP based CCTV solution on a scalable and reliable platform

NVR (3U) Quick Start Guide

THANK YOU FOR PURCHASING A QUALITY PRODUCT FROM INSTEK DIGITAL.

THIS QUICK START GUIDE WILL PROVIDE YOU WITH QUICK INSTRUCTIONS NEEDED TO CONFIGURE YOUR DVR (SERVER) AND ALSO VIEW THE VIDEO FROM COMMAND CENTER LITE (CLIENT SOFTWARE).

INSTEK DIGITAL SEPERATES THE CLIENT SOFTWARE FROM THE SERVER INTO TWO SEPERATE ENTITIES.THE REASONING BEHIND THIS SETUP IS THAT IT ALLOWS YOU (THE CUSTOMER) TO PLACE YOUR SERVER IN A SECURE, TAMPER-PROOF LOCATION FOR FURTHER ENHANCING YOUR SECURITY PROTOCOLS.

**The MatriVideo™ NVR is a complete network based video recording solution supporting various IP video compression formats (H.264, MPEG-4, and MJPEG). The MatriVideo™ NVR can render and display video feeds from any camera source via the Ethernet.**

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## NETWORK CONNECTION OVERVIEW



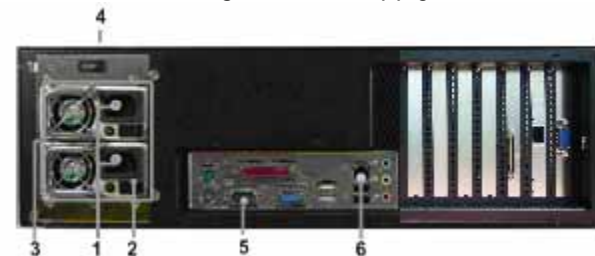
## FRONT PANEL OF THE 3U NVR



## REAR PANEL OF THE 3U NVR



Single Power Supply



Dual Power Supply

1. Power Socket
2. Power Switch
3. Dual Power Supply(Dual Power Model)
4. Main Power Switch(Dual Power Model)
5. COM1 for External I/O Module (RS-232)
6. Ethernet(RJ45)

## STEP 1: CONNECT YOUR NVR

- a. Carefully remove the 4 screws from the front handles to open the front panel.



- b. Use your thumb to press the key hole of the HDD tray and push it up to unlock the HDD tray. Remove the HDD trays from the front panel carefully. Secure the HDD inside the tray with 4 screws each. Insert the HDDs (with the trays) back into their slots from HD0~HD7.



- c. Secure the DVR front panel by tightening the 4 screws.
- d. Connect the NVR to your existing network infrastructure.

## STEP 2: POWER ON THE NVR

- a. Connect the power cord.
- b. Power on the NVR from the rear panel. The booting process will take a few minutes to complete.
- c. Once the boot-up is complete, you will see the following information: (System Version, IP Address, Network Connectivity Information, and the System Date & Time) on the front LCD Panel.

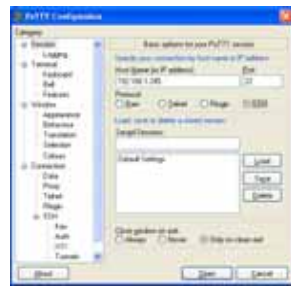


## STEP 3: INSTALL COMMAND CENTER LITE

- a. Insert the Command Center Lite CD into the CD-ROM drive of your personal laptop or desktop and run the Command Center Lite Setup application setup.

## STEP 4: CONFIGURE THE NVR

- Configure NVR either via putty (see step b) or connect a keyboard and a monitor directly to NVR (jump to step c).
- Putty is an SSH program used to connect to the NVR remotely. On your laptop or desktop, navigate to: Start → All Programs → Instek Digital → Command Center Lite → Putty. A telnet window will open. Enter the IP address of the NVR in the box labeled, "Host Name or IP Address". (IP address is displayed on the front LCD panel of the NVR, default IP: 192.168.1.245). Click on the "Open" button to start a remote connection (telnet session) to the NVR.

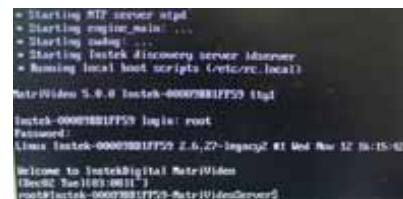


- The NVR uses an Embedded Linux Operating System and is password protected for your own safety. Once the keyboard and monitor is connected to the NVR, you will see the login prompt on the monitor. The NVR default username is: root and the password is: id

Connection via Putty:



Direction Connection via the NVR:



- Under the OS prompt, type in *hds*m to run the hDVR System Manager application.



- Change the Time Zone:  
System Configuration → Time Zone Change → Select Continent or Area → Select Country/Region. Press "Yes" to confirm.
- Change the Date/Time:  
System Configuration → Date/Time Change → Press Proceed to stop the process and wait for a few seconds → Use [TAB], Up Arrow, Down Arrow to change Year, Month and Date. Use [TAB], Up Arrow, Down Arrow to change the Hour, Minutes and Seconds → Press "Proceed" to accept the changes.
- Change the IP Address:
- To ensure the video recording quality between the IP cameras and NVR, MatriVideo NVR is designed with multiple network interfaces. Connect eth1 of the NVR to the same segment as the IP cameras and connect eth0 of the NVR to the same segment as the Command Center or nCCTV. Here is an example outlining the eth0 configuration:

System Configuration → Network Settings → IP Configuration → Select eth0 → Enable eth0 → Static IP Configuration → Enter the IP address, Netmask, Gateway → Press "OK" to proceed. The eth0's IP address is changed to "192.168.1.10" in the document. Please wait for a few moments for the changes to take effect.

Notice: Keep the value of MTU as default (1500) unless you have other devices such as a SAN connected to the same network.



- Note:** eth1 should be set in a different network segment, corresponding with the network segment of the IP Camera (Ex: 192.168.2.x) to provide sufficient bandwidth for IP streaming.
- Change IP Address of eth2 (Optional):  
Set up and differentiate a second network segment.
  - Add Storage to the NVR: The first HDD will be added automatically to the NVR. Any subsequent HDDs will need to be added via hDSM.
  - Add Storage to the NVR, Part II: From hDSM → Storage Management → Add Storage Repository → Select the available storage to add individually or alternatively select "All" to add the entire storage repository and then select "OK". Subsequently proceed to the menu: "Detect Available Disk Volume" to check the status of the HDDs. The status of the HDDs should be "In Use".
  - Remember to go back to the hDSM main menu → hDVR → Start to start the NVR services. This will take a few seconds to complete.

## STEP 5: SUBSCRIBE THE NVR

- Run the Command Center Lite / Command Center software. During the first run, you will be asked to subscribe (or add) the NVR to the video recorder subscription list.
- Enter the IP address, Command Port, Live Port and the Playback Port of the NVR.  
Command Port: 80,  
Live Port: 3514  
Playback Port: 60006

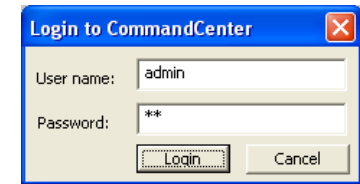
Live Port: 3514

Playback Port: 60006

Note: Do not change these port numbers if connecting the NVR in a LAN environment.



- Hit the "Add" button to continue. Add additional NVRs in a similar fashion. When all the NVRs have been added, hit "Next" to continue.
- Finish the configuration wizard and log into Command Center. The default username is : admin, and the default password is: id

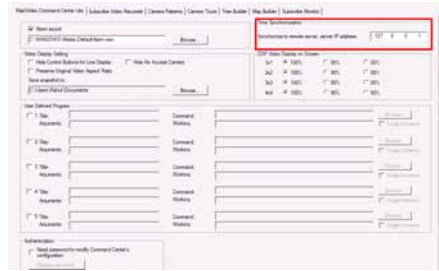


## STEP 6: TIME SYNC WITH THE NVR

- Click on the MatriVideo Command Center Setup (or Command Center Lite) tab on the bottom left corner of the screen.



- Type in the IP address of the archive server or an available time server. This will keep the time in sync between the Archive Server and your laptop/desktop running Command Center Lite and the NTP server.



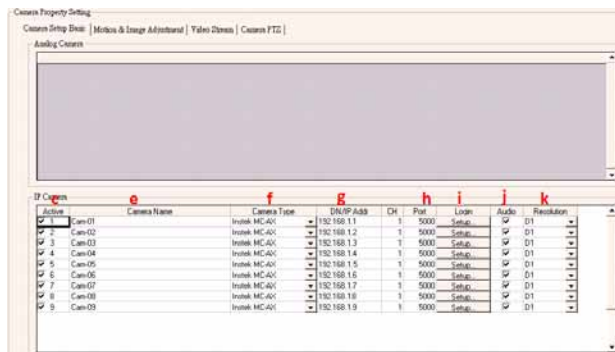
**STEP 7: SETUP THE CAMERA NAME  
/BITRATE/FRAMERATE/24x7  
RECORDING**

- a. Right click on NVR IP address on the camera tree. From the menu selection, select "Video Recorder Setup". The default username is "admin" and the default password is "id"



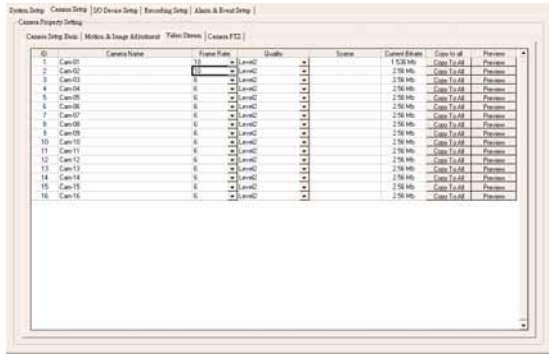
- b. Select the "Camera Setup" tab.
- c. Select the "Camera Setup Basic" tab. Check the "Active" box next to the camera name(s) to enable each individual camera(s).

Note: Please refer to the camera manual to configure the IP address of each camera prior to this configuration.

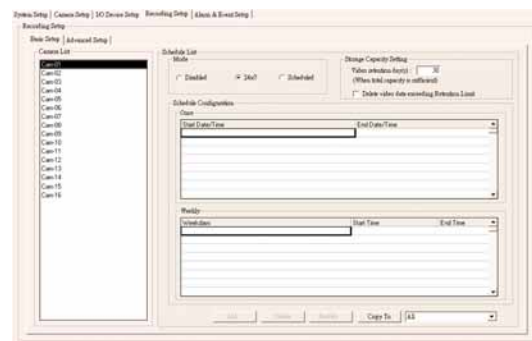


- d. If you are using the Instek MC-series cameras, please refer to the "Instek MC-AX Quick Start Guide".
- e. Under the "IP Camera" table, enter the "Camera Name".

- f. Select the "Camera Type".
- g. Enter the "IP Address" of the IP cameras accordingly. NDS is also supported if available on the surveillance network.
- h. "Port" number is dependent on the IP camera. "Ch" number is the channel number of the video server. Please refer to IP camera or video server manual for additional information.
- i. The "Login" option is only used to access the camera configuration settings. Refer to the camera user manual for additional information.
- j. Check "Audio", if supported. Refer to the camera user manual for additional information.
- k. Select the "Resolution".
- l. Click on the "Video Stream" tab to setup the Frame Rate and Bitrate (Quality) for each individual camera.



- m. To setup 24x7 recording, click on "Recording Setup" tab and then click on the "Basic Setup" tab. Select a camera from the camera panel and change its recording mode to "24x7".



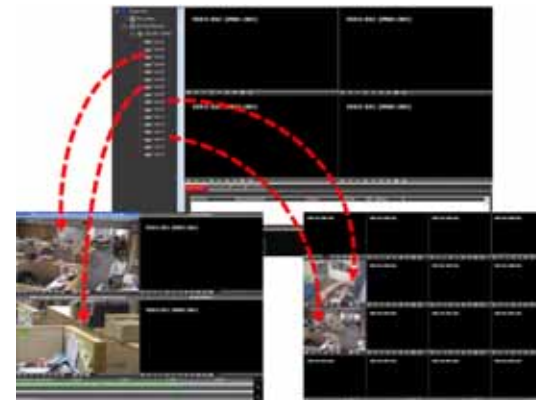
- n. Remember to exit the Command Center (or Command Center Lite) application and run the program again.

**STEP8: VIEW THE VIDEO**

- a. Click on the "+" icon next to the IP address of the NVR to expand your camera tree.



- b. Drag and drop the video source from the camera tree to the blank patterns (1x1, 2x2, 3x or 4x4) to view your video.



**CONTACT INFORMATION**

We would like to graciously thank you for investing your faith in Instek Digital and being a valuable part of our corporation. Instek Digital's prime goal is to deliver leading technology in addition to exceptional customer service and technical support.

Instek Digital technical support representatives are always available to answer any of your support related questions or concerns. Please refer to our website for your regional support contacts:

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