

# SAFETY PRECAUTIONS

All the following safety and operational instructions for the prevention of harm or damage to the operator and other persons should be read before the unit is operated.

## WARNING

- ⊘ To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.
- ⊘ Do not block ventilation openings.
- ⊘ Do not place anything on top of the unit that might spill or fall into it.
- ⊘ Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Please refer all servicing to qualified service personnel.
- ⊘ Do not use liquid cleaners or aerosols for cleaning.
- ⊘ This installation should be by a qualified service person and should conform to all local codes.
- ⚠ To prevent fire or electric shock, do not overload wall outlets or extension cord.
- ⚠ This unit must be grounded to reduce the risk of electric shock hazard.

## CAUTION

### **Danger of explosion if the Lithium battery (RTC Battery) is incorrectly replaced.**

- ⊘ Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.
- ⊘ Risk of explosion if replaced by an incorrect type. Dispose of used batteries according to the instructions.

## FCC B

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### **IMPORTANT NOTE:**

#### **FCC Radiation Exposure Statement:**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

#### **Notice:**

1. *A Unshielded-type power cord is required in order to meet FCC emission limits and also to prevent interference to the nearby radio and television reception. It is essential that only the supplied power cord be used.*
2. *Use only shielded cables to connect I/O devices to this equipment.*
3. *Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.*

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# **1. PRODUCT FEATURES**

## **1.1 Product Introduction**

The **WIRELESS NVR-2028** is a storage media of digital video image, which uses hard disk drives instead of NAS devices to store video. This wireless storage media provides the user with the power of remote control of the Internet. It's an extremely stable and reliable device because it is a stand-alone system. Its local operations are very similar to the DVR's interface; hence if the user is familiar with the DVR s/he will find this media to be most convenient. You don't need to design any analog lines yourself, just use the current existing wireless network function since the device is a digital one. Again, where the NVR-2028 is an active device, it automatically, instantly and directly detects all events without having to detour via a LAN Camera.

Additionally, with the NVR-2028 you don't have to rely on a PC to save any images, because this device has done so already, being the best possible storage media for the LAN Camera.

The device additionally hosts a wireless access point (AP), so you can transmit data without a connecting cable. If, for example, you don't want to use a connecting cable in an old building that is within your surveillance system, you can use the wireless NVR-2028 instead. The same applies equally to other sites you're covering.

The wireless NVR-2028 also has the NAT function to enable direct access to the Internet. Inside the device is a Router, so you don't need to buy one as well.

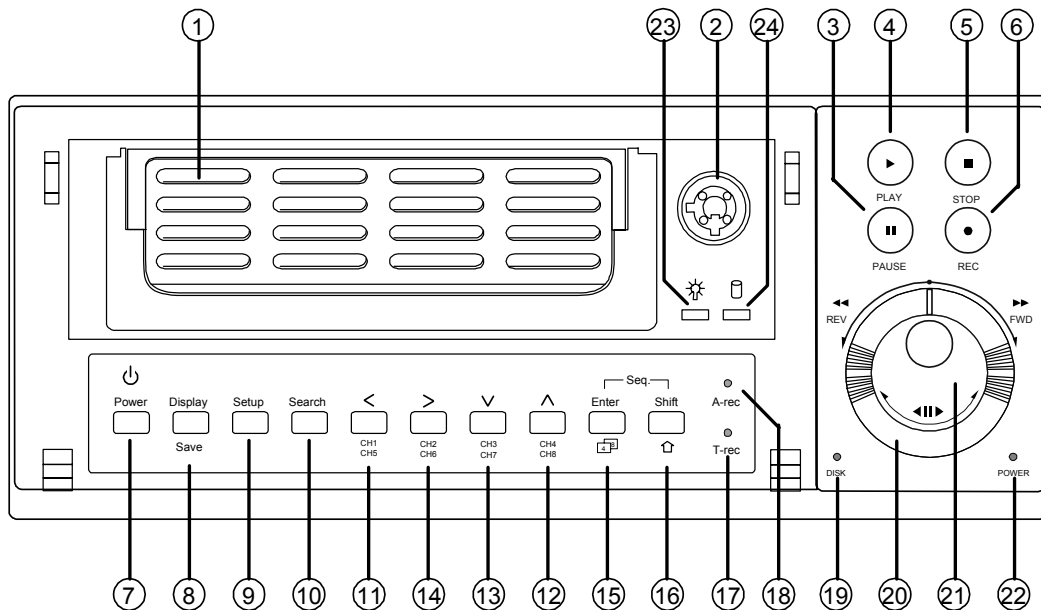
## **1.2 Product Features**

- \* Wireless access, complies with IEEE 802.11g/b.
- \* Digital recorder for the LAN Camera.
- \* Maximum link-up of 8 LAN Cameras.
- \* Zoom in/out available for every LAN Camera.
- \* Compression method: MJPEG.
- \* Maximum 2 hard-disk drive capability. (One removable)
- \* Hard-disk drive hot-swapping capability.
- \* Pre-alarm image recording.
- \* Capable of backup with various known FTP servers.
- \* Time-lapse and real-time recording.
- \* Refresh rate up to 30 IPS (25 IPS for PAL).
- \* Alarm I/O.
- \* Image quality selectable at 5 different levels for recording.
- \* Event/Timer/Alarm recording mode.
- \* Quick search by time, alarm, event, and recording list.
- \* Fast and slow playback of recorded video at various speeds.
- \* Single-picture playback.
- \* On-screen setup menu, title and system timer.

- \* Password protection.
- \* Motion detection: the user can select the range and 5 levels of sensitivity of detection.
- \* Automatic search of all available LAN cameras within the Ethernet.
- \* Disk-full warning and operation status LEDs.
- \* RS-232 communication port.
- \* Remote control via RS-232 and Ethernet ports
- \* Quick recovery after power interruptions .
- \* High stability and reliability.
- \* Operation-status record log.
- \* Distribution of live and recorded images throughout the TCP/IP network environment.
- \* Powerful PC software.
- \* Web browser: IE.
- \* Audio function included.
- \* Built-in SD card slot for copying images to an SD card.
- \* Supports the DHCP protocol.
- \* Optional 10DB corner antenna.

## 2. DESCRIPTION OF THE FRONT/REAR VIEW

### 2.1 Front View



① **Hard-disk drive compartment:**

The compartment allows you to install a hard disk drive mostly for backup purposes. Make sure the drive is well secured with the mounting screws in the mobile rack before you put the rack into the compartment. And remember to turn on the power of the compartment by locking it.

② **Hard disk compartment lock:**

The key lock secures a hard disk in place. Unlock the compartment before you remove the hard disk from the slot without turning off the device.

③ **PAUSE** button:

In a playback display, press this to freeze the display. During the freeze, press to display one frame/field of a picture at a time in the forward direction. (A green light signals in the PAUSE mode.)

④ **PLAY** button:

Press to play back a recorded video from the hard disk. (there is a green light signaling in the PLAY mode.)

⑤ **STOP** button:

Press to stop playing back a recorded video or recording video into a hard disk. (A green light comes on in the STOP mode.)

⑥ **REC** button:

Push to start recording video into a hard disk while in the live display mode. (A red light signals in the REC mode.)

⑦ **POWER** button:

Press this button for at least 3 seconds to power off. Press again to activate the device.

⑧ **DISPLAY** button:

Press to show the system operation status on the screen.

In the LANCAM SETTING mode, use these buttons to display the desired LAN Camera image on the screen.

⑨ **Setup/Save** button:

Press this to enter the setup menu. Press again to exit the setup mode.

In the SD card backup mode, press to save the desired still image to the SD card.

⑩ **Search** button:

Press to enter the search mode to access recorded video.

In the LANCAM SETTING mode, use these buttons to search for a selected LAN Camera in the LAN.

⑪⑭ **Left / Right (CH1-CH5 / CH2-CH6 )** buttons:

In the setup menu/ search mode, press these two buttons to highlight desired items in the menu setup mode.

In the live mode, press ⑪ or ⑭ buttons to select channel 1 or 2 respectively to get a full-screen display. In order to display channel 5 or 6, please press **Shift** button while pushing ⑪ or ⑭ buttons respectively to see the selected channel.

In the play mode, press ⑪ or ⑭ buttons to see channel 1 or 2 respectively, the first time as a zoom-in, small-screen display, the next time as a full-screen display. Similarly, in order to display channel 5 or 6 in the play mode, press **Shift** button while pushing ⑪ or ⑭ buttons respectively to see the selected channel, first as a zoom-in, small-screen display, and next in a full-screen view.

⑫⑬ **Up / Down ( CH4-CH8 / CH3-CH7 )** buttons:

In the setup menu/ search mode, press these two buttons to select the desired contents for programming in the setup menu mode.

In the live mode, press ⑫ or ⑬ buttons to select channel 4 or 3 respectively to get a full-screen display. In order to display channel 8 or 7, please press the **Shift** button while pushing ⑫ or ⑬ buttons respectively to see the selected channel.

In the play mode, press ⑫ or ⑬ buttons to see channel 4 or 3 respectively, first as a zoom-in, small-screen display, next as a full-screen display. Similarly, in order to display channel 8 or 7 in the play mode, press the **Shift** button while pushing ⑫ or ⑬ buttons respectively to see the selected channel, first as a zoom-in, small-screen display, and next in a full-screen view.

⑮ **Enter** Button:

Press to enter a selected item and save the setting in the menu setup mode.

In the live or play mode, this button enables the user to access the multiple-channel screen display. Pressing this button repeatedly will enable a sequential display in the following order: first, a quad-mode display of channels 1-4, and then, 5-8, and a multiple-channel display of channels 1-8, in succession.

⑯ **Shift** button:

Press the **Shift** button while pushing either the **Left / Right** buttons, or the **Up / Down** buttons, to see any corresponding channel between channels 5-8.

Press the **Shift** and **Enter** buttons simultaneously for a sequential display in the exact same order given above. (please refer to the “**NOTE**” given below)

⑰ **T-rec Indicator:**

This indicator of the timer recording mode lights up to signal the scheduled record setting is on.

⑱ **A-rec Indicator:**

This indicator of the alarm recording mode lights up to indicate the alarm record setting is on.

⑲ **DISK Indicator:**

The indicator shows the operation status of the unit's hard-disk drives. The green light indicates the hard-disk drive is storing or retrieving data. The red light signals the hard-disk drive is filling up. The orange light indicates the hard-disk is retrieving at disk-full status.

⑳ **Shuttle Ring:**

The shuttle can be moved forward and backward for playback in either direction. Turn it left to play a recorded video in the reverse direction at faster or slower speeds than the recorded speed. Turn it right to play a recorded video in the forward direction at faster or slower speeds than the recorded speed.

㉑ **Jog Dial:**

This dial can act in both a forward and a backward direction, as well as step by step. Turn it left to play a recorded video in the reverse direction. Turn it right to play a recorded video in the forward direction.

㉒ **POWER Indicator:**

Indicates the power status of the unit. The green light indicates the hard disk drive is activating. The orange light signals the hard disk drive is ready to be turn on.

㉓ **Mobile Rack Power LED:**

Indicates the power status of the Mobile Rack. The green light indicates the Mobile Rack is activating.

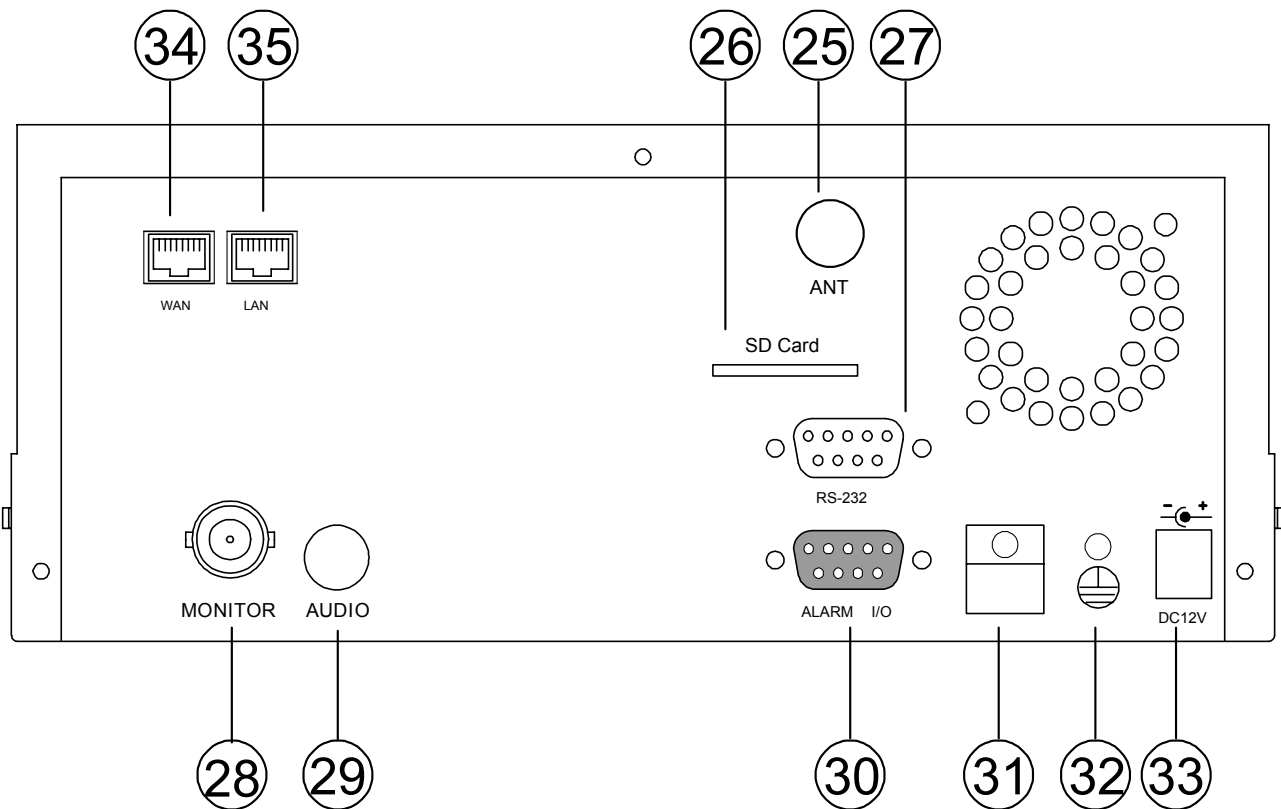
㉔ **Mobile Rack HDD LED:**

Indicates the HDD status of the Mobile Rack. The orange light indicates the HDD is storing or retrieving data.

**NOTE: Press “ Enter ” and “ Shift ” simultaneously in order to view all the channels, one by one, in sequential single-channel succession, followed by an 8-channel display, a quad-mode display of channels 1-4, and channels 5-8, and then a multiple-channel viewing, after which you have this exact same sequential order of display indefinitely.**

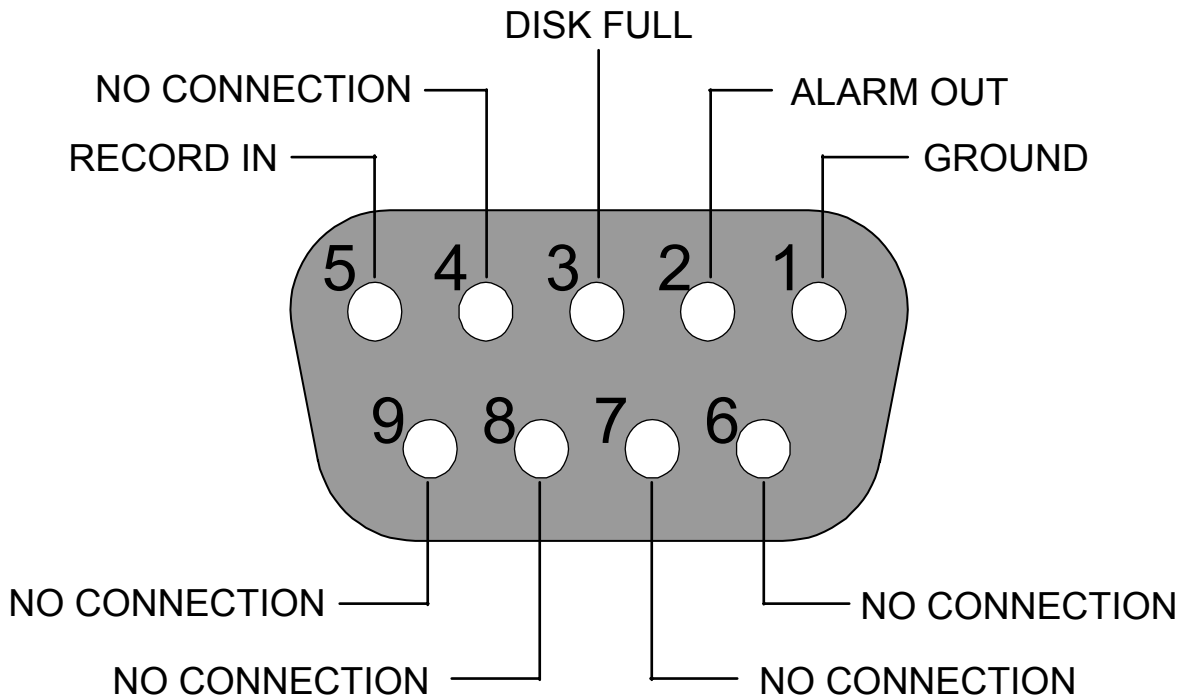


## 2.2 Rear View



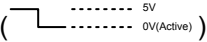
- ②⑤ **ANTENNA:** This is a standard wireless access which complies with IEEE 802.11g/b.
- ②⑥ **SD CARD Slot:** This is used for system software updating and the archiving/accessing of critical images.
- ②⑦ **RS-232 Port:** The RS-232 communication port functions as a connector to an external control device. Please refer to APPENDIX 2 for more details.
- ②⑧ **MONITOR Connector:** The connector provides the unit's composite video live signal if connected to a display device.
- ②⑨ **AUDIO OUT:** This provides the unit's audio signal to a speaker.
- ③① **ALARM I/O:** This is a 9-PIN D-SUB connector including **GROUND**, **ALARM OUT**, **DISK FULL**, and **RECORD IN** for connecting with external devices. Please refer to the next section for details.
- ③② **Wire Catch:** The wire catch secures the power cord and keeps it in place (so that it does not droop or hang loosely).
- ③③ **Ground Screw's:** The ground screw is for chassis terminal.
- ③④ **Plug Inlet:** The inlet connects to an external power supply. Connect 12 V DC UL Listed Class 2 Power Supply.
- ③⑤ **WAN PORT:** The WAN port is linked with the DSL/Cable modem's cable to the Internet.
- ③⑥ **LAN PORT:** The LAN port connects you to the local network.

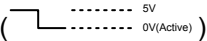
## 2.3 ALARM In/Out



### THE REAR VIEW

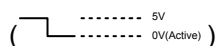
1. **GND:** Ground Contact.

2. **ALARM OUT (OUTPUT):** This is an alarm output trigger. Connect this to external devices such as buzzers or lights. (  )

3. **DISK FULL (OUTPUT):** This is a disk full output trigger. Connect this to external devices such as buzzers or lights. (  )

4. **NO CONNECTION**

5. **RECORD IN (INPUT):** This pin connects to a record trigger device for starting a record.

(  )

6. **NO CONNECTION**

7. **NO CONNECTION**

8. **NO CONNECTION**

9. **NO CONNECTION**

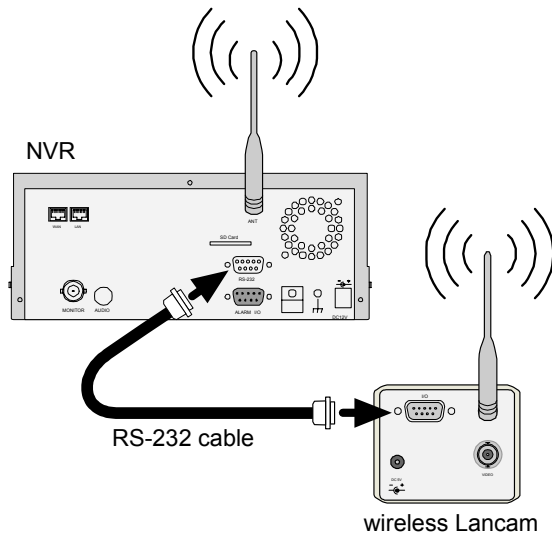
## 3. INSTALLATION

### 3.1 Basic Connection

Please follow the instructions below to connect your **WIRELESS NVR-2028** to a LANCAM or a computer and to choose a mode for connections.

#### 3.1.1 Use an RS-232 cable to install a wireless setting in a LANCAM

Use an RS-232 cable to connect a wireless LANCAM.



1. Set up all components to both the NVR and LANCAM.  
(Screw up the antenna to both the NVR and LANCAM. Screw up the lens on every LANCAM.)
2. Connect the Monitor to the NVR with a BNC cable.
3. Power on the NVR: plug the NVR power cord into the outlet.
4. Turn on every LANCAM: plug every LANCAM power cord into the outlet. Make sure the NVR is turned on before this procedure.
5. Register LANCAM to the NVR:
  - i. Connect the NVR and one of the LANCAMS with the RS-232 cable.
  - ii. Press the **Setup** button to enter the "MAIN MENU" page.
  - iii. Select the item titled "COMMUNICATION" and press the **Enter** button to access the "COMM. SETTING" page.
  - iv. Select the item termed "WIRELESS" and push **Enter** twice to access the "WIRELESS SETTING" page.
  - v. Choose the item labeled "OPERATION" and press **Enter** twice to go to the "OPERATIONAL SETTING" page.
  - vi. Select the item titled "ESSID" and push "Enter" twice to get into the "ESSID SETTING" page.
  - vii. Give "ESSID" your local wireless network name, and use the "<", ">", "^" and "v" buttons to change the existing letters to your network name.
  - viii. Press **Enter**, select "OK" and go to the "WIRELESS PAGE".
  - ix. Push **Enter** to access the "WIRELESS SETTING" page and go to the item termed "LANCAM SETUP".
  - x. Press **Enter**, choose "RS-232" and push **Enter** again, upon which the terms "Waiting" and "SETUP OK" will flash on at the bottom of the screen.

- xi. Push the **Setup** button to save the setup data.
  - xii. When the words "WAITING" flash on and off at the bottom of the screen, if the screen goes blank, you can press the "Power" button to close the device and press it again to resume its operation.
6. Go to the **IP/ACCOUNT** option on the **LANCAM SETUP** page in the NVR setup menu. Choose any channel between channels 1 to 8 to set up the LANCAM IP address. Push the **Search** button to find all LANCAM IP addresses and push the **Enter** button to choose one of them to set the channel. Repeat step 6 to set each LANCAM IP address.

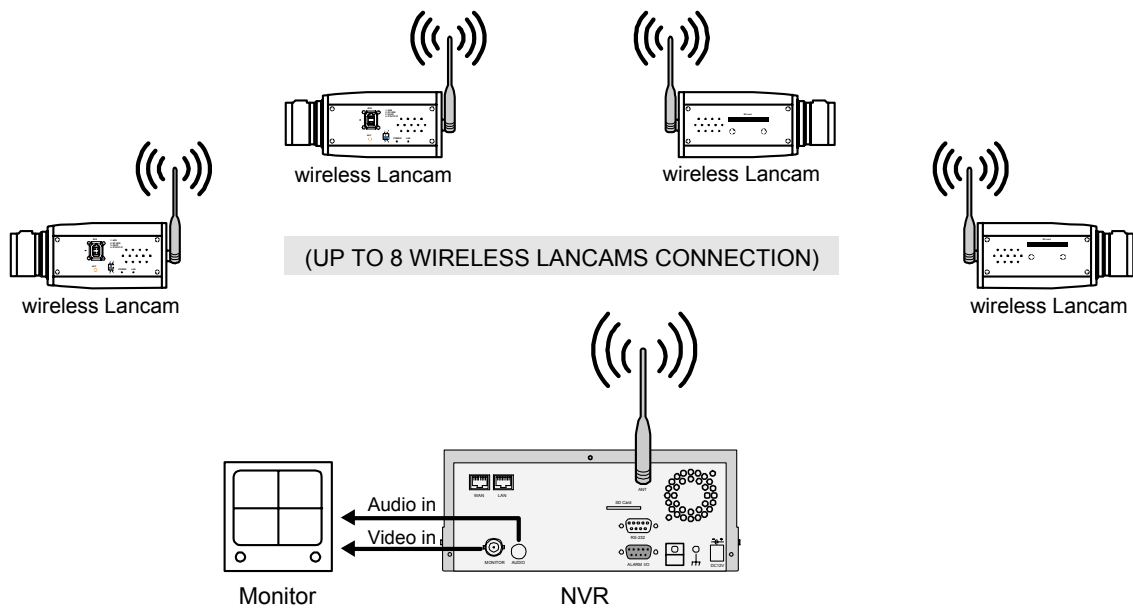
**NOTE: You need to use an RS-232 cable enclosed in our package and not any other cable, or else an error may happen.**

**NOTE: Once the LANCAM power cord is plugged into the outlet, it will scan the AP or NVR device automatically and obtain an IP address from a DHCP server. This action will continue until a DHCP server is found. If the LANCAM cannot find it after two minutes, its IP address will change to static IP mode as 192. 168. 1. 168. The user can push the DHCP DIP switch on the side of the LANCAM down and up once to reset the static IP to dynamic IP (DHCP client).**

**NOTE: If the DHCP server of the NVR-2028 is activated, the default NVR IP address is set as 192. 168. 1. 205.**

### 3.1.2 The Wireless Network Structure of the NVR and Its LANCAMs

The illustration below shows the wireless network of a **WIRELESS NVR-2028** device connected with its LANCAM client units, whose maximum number is eight.



### 3.2 Hard-Disk Drive Installation

The **WIRELESS NVR-2028** is equipped with two compartments of hard disk drive. The unit usually comes with one hard-disk drive installed in the compartment HD1, which is default-configured as a master. If you need a second hard-disk drive to be installed in the compartment HD2 (Mobile), please contact your distributors or installers for specific instructions on how to install it. Please don't serve yourself before consulting your installers. If there is only one hard-disk drive in the mobile compartment, please set the **HD2 USAGE** option to **REC** (Please refer to section 5.6) before proceeding with the recording function. The jumper-settings arrangement of installed hard-disk drives for the system (Table 3.2 A.) is shown in the tables below.

**Table 3.2 A. The jumper settings of hard disk drives in the system**

	Location	Jumper
IDE 1	Compartment HD 1	Master (Default)
IDE 2	Compartment HD 2	Master

**Table 3.2 B. Compatible hard-disk drives**

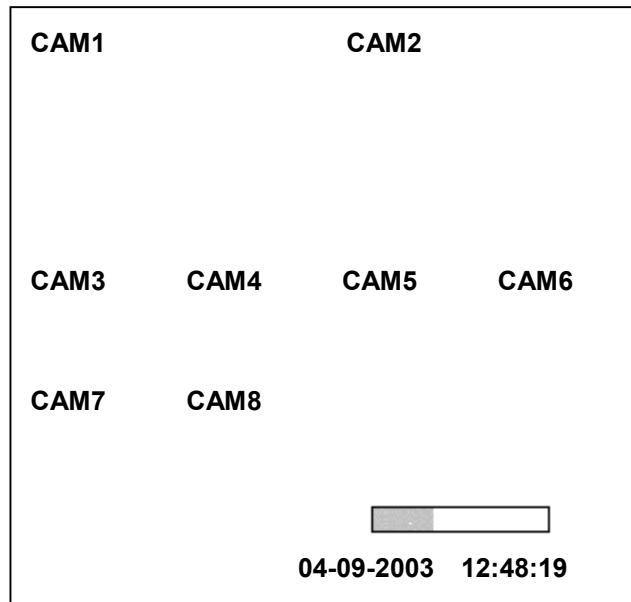
Manufacturer	Model	Capacity	Rotation
<b>Western Digital</b>	WD800AB	80GB	5400 RPM
	WD1200AB	120GB	5400 RPM
	WD800BB	80GB	7200 RPM
	WD1200BB	120GB	7200 RPM
	WD1800BB	180GB	7200 RPM
	WD2000BB	200GB	7200 RPM
	WD2500JB	250GB	7200 RPM
<b>Seagate</b>	ST380020A/P	80GB	5400 RPM
	ST340810A/P	40GB	5400 RPM
	ST320014A	20GB	5400 RPM
	ST340015A	40GB	5400 RPM
	ST380012ACE	80GB	5400 RPM
	ST3120025ACE	120GB	5400 RPM
<b>Maxtor</b>	4A160J0-1A	160GB	5400 RPM
	4R080L0-1	80GB	5400 RPM
	6Y120L0-1	120GB	7200 RPM
	6Y200P0-1A	200GB	7200 RPM
	6Y250P0-1A	250GB	7200 RPM
<b>SAMSUNG</b>	SV0802N	80GB	5400 RPM
	SV1203N	120GB	5400 RPM

**NOTE: Hard-disk drives not shown on this list have not been tested by the engineering team and are not recommended for use with this product. For the latest updated list on the recommended hard disk drives, please contact your dealers or distributors.**

### 3.3 System Information

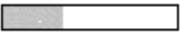
You can display system settings information as shown on **Table 3.3 A** below at any time by pressing the **Display** button (8). The recorded video information is displayed in the playback mode. The Manual Recording information is displayed in the live or recording mode. Each sequential push on the **Display** button (8) displays a different message detailed in the following example. By default, the unit displays time, date, and an indicating bar of capacity status on a monitor as shown next.

#### Default display



Press the **Display** button (8) once; the NVR will display the following sample message plus the default display. Press the **Display** button (8) again; the unit will not display any OSD message. Press the button one more time to return to the default display.

Table 3.3 A.

CH	LANCAM IP		FX
1	192.168.001.250	LIVE	
2	192.168.001.020	LIVE	
3	192.168.001.030	- - -	✖
4	192.168.001.040	OFF	
5	192.168.001.050	OFF	
6	192.168.001.060	OFF	
7	192.168.001.070	OFF	
8	192.168.001.080	OFF	
IP : 192.168.001.205    DHCP:OFF    NTSC			
	HD	SIZE	POS
FX1	20 G	39.5% R	11 HR (HD1)
	2	39 G	0.0% P
 04-09-2003 12:48:19			

#### Description of Table 3.3 A

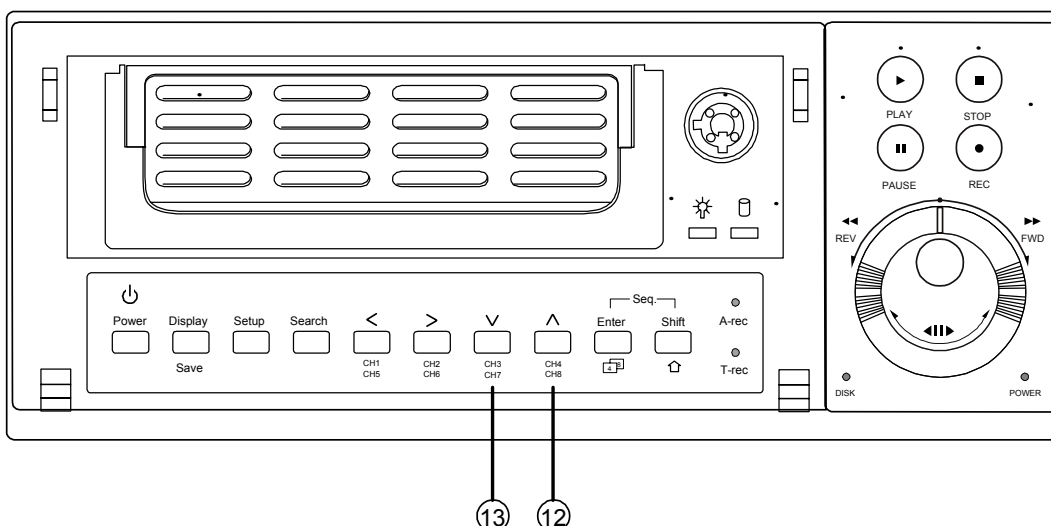
(CH): Channel  
 (LANCAM IP): LAN Camera IP address  
 (LIVE): The LAN Camera activated  
 (OFF): The LAN Camera inactivated  
 (19): The channel current display speed rate, 19 images/sec  
 (✖): Disconnection; (📞): Alarm; (🔧): login error;  
 (🚶): motion; (🔊): Audio; (🕒): Timer  
 (227K): The LAN Camera bandwidth  
 (LANCAM IP : 192 . 168 . 001 . 205): Setting of the Ethernet communication, 192.168.001.205  
 (DHCP:OFF): Only use manual setup IP address  
 (NTSC): NTSC system  
 (FX): Indicate which HDD is activated  
 (HD): Hard disk Compartment  
 (SIZE 20G): The capacity of the installed hard disk  
 (POS): Percentage of system; R: Recording; P: Playback  
 11 HR (HD1): Change per minute showing the total recording time.  
 (FX): Cannot operate at now

### 3.4 Updating System Software

If the system software of the NVR needs to be upgraded, please take the following steps to safely update it.

**Note: Before carrying out the following procedures, please ensure the SD card is working and the file of the system software is intact**

1. Create a directory named **NVRVIDEO** in the SD Card; if the directory is already there, move to Step2.
2. Copy the file of **MULTI.BIN** to the **NVRVIDEO**-directory.
3. If the wireless NVR-2028 is running, please turn it off wireless NVR first.
4. Insert the SD card into the built-in SD slot of the unit.
5. Hold down the **12 Up** and **13 Down** buttons simultaneously, and then turn on the unit.
6. Keep holding down the buttons until the NVR sounds a tone and display the message “**XXXXXX BYTES READ**” Now the NVR is updating the system software, which will take approximately 60 seconds to process.
7. Restart the unit when the device sounds a tone twice and displays the messages “**PROGRAMMING END**” and “**PLEASE RESTART**”. The process is complete.  
(If you have already followed procedures 1~5 but the unit still cannot be activated, please first check if the SD card you are using is functioning and the file is intact. And then start procedures 1 ~ 5 all over again.)
8. Verify the version of the system software. (Please refer to the section 5.7 VERSION option)



**Warning: Don't interrupt the process while the unit is updating itself and don't proceed with an SD card containing a system software of the unit, which would cause the unit to hang on.**

## 4. BASIC OPERATIONS

This section shows you how to operate and manage the NVR when it gets in the way.

### 4.1 Configuring Recording Settings

#### Recording Time Settings (Image Resolution and Image Quality Setting)

Recording time will vary depending on the image size, quality, and the capacity of the hard-disk drives. Generally, the NVR comes with a built-in hard-disk drive for continuous recording under most recording conditions. The table below shows the possible recording times based on a 20GB hard-disk drive at certain refresh rates and the corresponding image quality. With one or more hard-disk drive(s) in operation, please calculate the recording time using the table below in accordance with your requirement. For example, if the unit is set to record images with the **HIGHEST** quality at a **352 X 240** resolution, normally a 20GB hard-disk drive will be filled in 13 hours (see the gray area in the table). If the total capacity of 80GB hard-disk drives is in use under the same refresh rate, image resolution and image quality, it will be filled in 52 hours (4 times the rate of a 20GB hard-disk drive).

<b>( 352 X 240 )</b>				
<b>Audio OFF</b>		<b>Possible Recording Time HDD=20GB ( hour )</b>		
<b>Image Quality</b>	<b>HIGHEST</b>	13	19	37
	<b>HIGH</b>	18	25	52
	<b>MEDIUM</b>	24	32	66
	<b>LOW</b>	29	44	81
	<b>LOWEST</b>	43	66	137
<b>Refresh Rate ( Image/Sec )</b>		30	20	10
<b>REC Time Mode</b>		2 hr	4 hr	6 hr

<b>( 720 X 480 )</b>				
<b>Audio OFF</b>		<b>Possible Recording Time HDD=20GB ( hour )</b>		
<b>Image Quality</b>	<b>HIGHEST</b>		11	18
	<b>HIGH</b>		13	24
	<b>MEDIUM</b>		17	31
	<b>LOW</b>		23	48
	<b>LOWEST</b>		39	76
<b>Refresh Rate ( Image/Sec )</b>		30	20	10
<b>REC Time Mode</b>		2 hr	4 hr	6 hr

**NOTE:** Recording times on the tables above are estimated. For the actual available recording time of a recording configuration, refer to the system information of the NVR. (Please refer to section 3.3 system information for more details.)



## 4.2 Recording Operations

This section details the way to record video into hard-disk drives. Before commencing with the recording function, please configure the recording setting properly according to your needs.

### 4.2.1 Manual Recording

When the NVR is in live display mode, take the following steps to start recording:

- (1) In live display, press the **REC** button (6) to record video into a hard disk drive with the corresponding programmed recording settings. The monitor should display a flashing **REC** message and the **REC** button (6) will light up indicating the NVR is in the recording status.
- (2) Press the **STOP** button (5) to stop recording any time.
- (3) To access just recorded video, please refer to section 4.4 for more details.

### 4.2.2 Timer Recording

Timer recording provides two periods of time each day in a weekly table which programs the NVR to turn on and off at specified times. This way the NVR will start and stop recording according to the programmed schedule. Please take the following steps to program the scheduled recording.

- (1) Press the **Setup** button (9) to enter the **MAIN MENU**.
- (2) Select the **CLOCK / TIMER / SEQ** and press the **Enter** button (15) to enter the **CLOCK / TIMER / SEQ** page.
- (3) Select the **TIMER – SET**.
- (4) Press the **Enter** button (15) to enter the **REC SCHEDULE** table.
- (5) ● You can set up by using the “<” button (11) and the “>” button (14) to locate the specific day/hour/minute and use the “^” button (12) and the “v” button (13) to set the day/hour/minute you wish.
  - You can also set up by using the **Shuttle Ring** and the **Jog Dial**. “⊖” is the equal of the “<” button (11), “⊕” is the equal of the “>” button (14), “⬆” is the equal of the “^” button (12) and “⬇” is the equal of the “v” button (13).
  - The time is displayed in a 24-hour clock format.
- (6) To activate the programmed recording schedule, set the **TIMER ENABLE** to **ON**. As the scheduled recording is on, the red indicator of the Timer Record (17) will be on as well. To deactivate it, set to **OFF**.
- (7) After scheduling is completed, press the **Enter** button (15) and set **OK** to save the setting or select **CANCEL** to leave the page without saving the settings.
- (8) Press the **STOP** button (5) during the scheduled recording to stop it at any time. If you wish to continue the scheduled recording, press the **REC** button (6)