MUXDVR
User's Manual

VER 2.5

00-379630DCEB5

Precautions

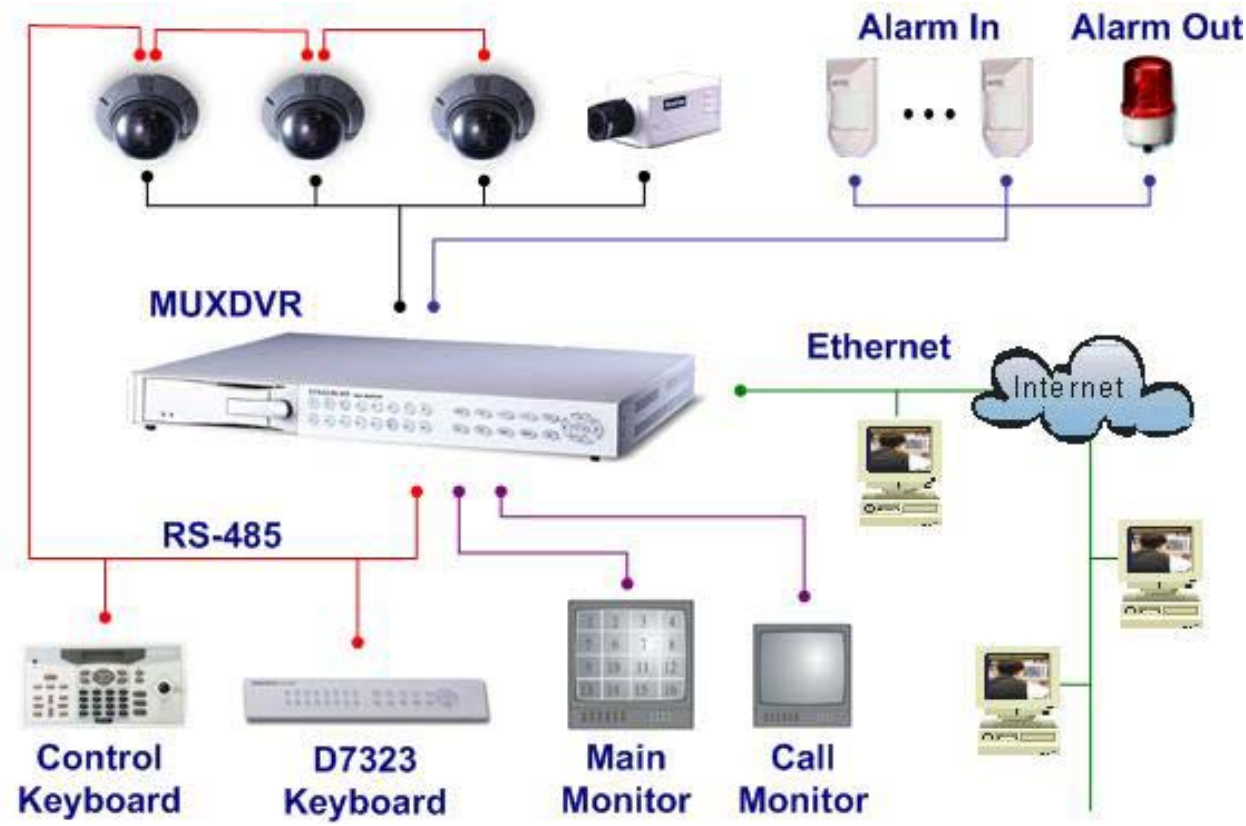
- All the safety and operation instructions should be read before the MUXDVR is operated.
- All the safety and operation instructions should be retained for future reference.
- Comply with operating instruction and notice warning information.
- Do not use strong or abrasive detergents when cleaning the MUXDVR.
- There are no user-serviceable parts inside. Contact qualified service personnel for maintenance.
- Do not expose the MUXDVR to water or moisture and do not try to operate it in wet areas. Well-chosen cover is needed when you put the MUXDVR in outdoor areas.
- Make sure that two ends of the power port are plugged.
- Do not drop metallic parts through slots or slop the MUXDVR with any liquid.
- Do not attempt to disassemble the MUXDVR.
- Contact qualified service personnel if the following situation happens:
    - The power-supply cord or plug is damaged.
    - The MUXDVR has been exposed to rain or water.
    - The MUXDVR does not operate normally by following the operating instructions.
    - The MUXDVR falls to the ground or its cover is damaged.
- When replacement parts are required, make sure that the service technician has used replacement parts specified by original seller or that these parts have the same characteristics as the original ones. Unauthorized substitutions may result in fire, electric shock, or other hazards.
- Use only with a mounting accessory recommended by original seller.
- Never push objects of any kind into this MUXDVR through openings as they may touch dangerous voltage points or short cut parts that could result in a fire or electric shock.
- Certify operating safety by qualified installer.
- If an outside cable system is connected to the MUXDVR, be sure the cable system is grounded so as to provide some protection against voltage surges and built-in static charges.
- All normal precautions to avoid component damage due to electrostatic discharge should be taken during installation and operation.
- To prevent electric shock, do not remove screws or covers.

CONTENT

1. Application & Features

MUXDVR is a cost-effective and easy-to-use multiplexed digital video recorder, equipped with proprietary real time operating system, powerful Wavelet compression engine, duplex multiplexer front-end, CD-RW and the hot swappable Hard Disc Drive.

The complete MUXDVR surveillance system is illustrated in below figure:



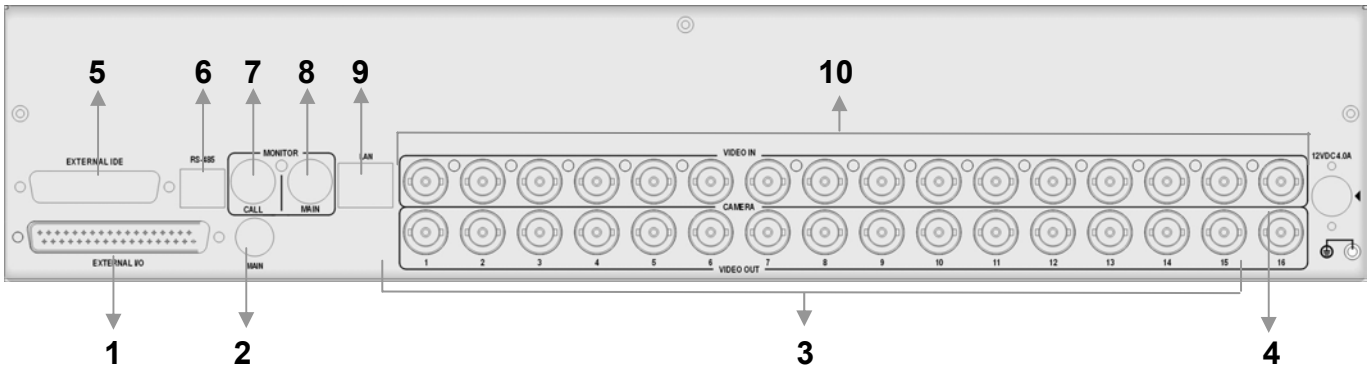
Feature

- Powerful Wavelet compression
- Proprietary real time O.S.
- Half Duplex operation: View live and playback video simultaneously
- Support NTSC and PAL system
- Programmable recording picture rate (up to 60 PPS)
- Recording priority of each camera dynamically adjusted by motion detection
- Hot swappable HDD
- Built in CD-RW for video clip export
- Data format compatible with Windows
- Powerful Alarm Processor allows flexible alarm trigger and response configuration
- Programmable motion detection area and sensitivity for each camera individually
- Different motion sensitivities available for day and night time
- Intelligent algorithm refreshing main monitor display dynamically

- User friendly video search
- Versatile multiple-windows display format
- Password to secure installation authorization
- System auto reboot after power interruption
- System software stored in nonvolatile memory, free from hard disk crash
- P/ T/ Z control available
- Remote monitoring and control through Internet or Ethernet (Optional)

2. System Connections

Before making any connections to MUXDVR, be sure to position the unit on a flat surface, or rack mount the unit for proper operation. Note that power must be off before making connections.



NO.	Item	Description
1	**External I/O**	Terminal block I/O connector for alarm in, alarm out, alarm switches, Day / Night switch, etc. See **Appendix F: <External I/O Connectors**.
2	**Main Monitor output (S-Video)**	S-Video connector for main monitor output.
3	**Video Looping**	16x BNC connectors for looping out of Video Input. The number of looping connectors depends on to the number of channels; a 16 channel MUXDVR has 16 video looping connectors.
4	**Power Jack**	DC power connection jack
5	**IDE Port**	Reserved
6	**RS-485 Port (RJ-11)**	RS-485 port for connecting to RS-485 remote keyboard.
7	**Call Monitor Output (BNC)**	BNC connector for connection to an optional Call Monitor.
8	**Main Monitor Output (BNC)**	BNC connector for main monitor output.
9	**LAN Port**	LAN port for LAN / WAN remote network connection.
10	**Video Input**	BNC connectors for Video Input streams form cameras. The number of BNC connectors depends on to the number of channels; a 16 channel MUXDVR has 16 video input connectors.

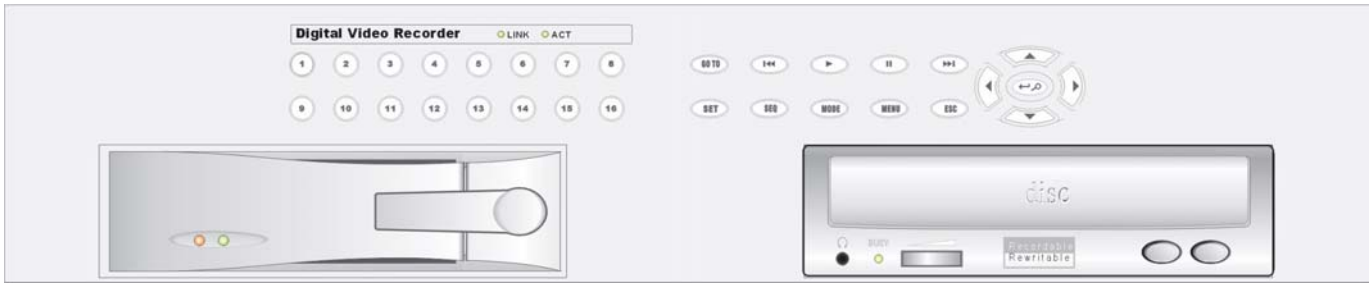
The basic rear panel connections:

- Be sure the power is OFF; if not, please shut down the unit before making any connection.
- Connect the video output from each camera to one of the video input BNC connectors of the unit.
- Connect the main monitor to the main monitor output of the unit. Choosing BNC or S-video connector depends on the connector type of your monitor.
- Connector the power adapter to the DC jack of the unit.

3. Front Panel Controls

The MUXDVR front panel controls enable you to perform preset and programmable functions. The figures below show the available buttons on the front panels. The 9 channel and 16 channel MUXDVR front panels have nine buttons for 9 channels and sixteen buttons for 16 channels, respectively.

16 CH MUXDVR



**MUXDVR starts detecting the camera and recording automatically after power is on.

3.1 LED

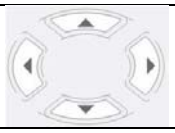
If you are networking the unit, the LEDs on the front panel tells the status of your network.

LED	Color	Description
LINK	Green	The LED will be lit when MUXDVR is connected to a network.
ACT	Green	The Led will blink when data is being transferred on the net.

3.2 Function Buttons

The function buttons on the front panel are described in the table below.

Function Button	Icon	Description
CHANNEL		Press one of these buttons to view the channel full screen. **NOTE:** The number of channel buttons corresponds to the number of channels supported by the unit.
		These buttons allow you to enter <External Devices> menu for PTZ (Pan/ Tilt/ Zoom) device controls. See **Section 6: <P/T/Z Devices Controls>** for detailed information.

GOTO		In playback mode, you can press GOTO to enter GOTO menu. This menu allows you to search for certain recorded video by date and time, or you may either go to the beginning or the end of the recorded video.
FAST REWIND		In playback mode, press this button to play recorded video in reverse direction. Press it repreatedly can change the rewind speed: x1, x2, x4 and x8. If the button has been pressed and held for 3 seconds, the MUXDVR will go to the beginning of the recorded video.
PLAY		In Live mode, press this button to start playing back recorded video. In Playback mode, press this button to stop playing (and the MUXDVR will start recording automatically). When the MUXDVR has played back to the end of the video, it will pause on the very last image ,and you can press ESC to leave the image and start recording again.
PAUSE (FREEZE)		Press this button to pause playback video or to freeze live video. During this time of pause, the pause LED would be lit.
FAST FORWARD		In playback mode, press this button to play recorded video in forward direction. Press it repreatedly to increase the speed by x1 x2, x4 and x8. If the button has been pressed and held for 3 seconds, the MUXDVR will go to the end of video.
ENTER / ZOOM		In OSD menu mode, this button is used to make the selection or save settings. In full-screened mode, this button functions as a “2x2 Zoom In” button (the LED will be lit).
SET		In multi-windows display mode, press this button to enter SET mode. The menu will appear with the cursor over the first window. Use DIRECTION buttons to move the cursor, then press the CHANNEL button to assign the camera directly. The cursor will move to next window automatically. Press ESC button to exit SET mode.
SEQ		Press to start automatic sequential sequencing mode. See **Section 2.4 Automatic Sequencing Mode**.
MODE		Press this button to select display formats (4, 5, 7, 9,10,13 and 16 windows). The camera LEDs of selected cameras should be lit.
MENU		Press this button to enter OSD setup menu (the LED will be lit).
ESC		In OSD mode, press this button to return to previous menu. At the end of playback, the MUXDVR goes to Pause mode; press ESC to return to Record mode. If you press this button and “Down Arrow” simultaneously, the MUXDVR will be shutdowned.
DIRECTION		These buttons function as directional control in OSD menu. In Zoom mode, press these buttons to view the wanted viewing area.

		In multi-window mode, the MUXDVR allows you to select one window to playback the recorded video while the MUXDVR is in Live mode. Press one of these buttons and a window cursor will be displayed. Using Direction buttons to move the cursor to desired window, and then press Play button to playback the recorded video. The password is needed before you playback the reocrded video.

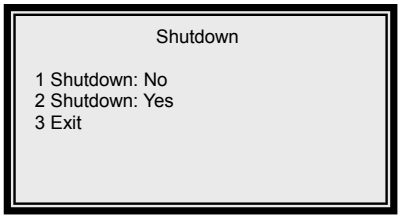
3.3 Shut Down, Power Up or Reboot the Unit

MUXDVR starts automatically after it is connected to the power source. If you must shut down the unit for any reason, please use the proper shut down and power up procedures to protect the unit from possible damages.

To shut down the unit:

Two ways are offered to shut down the unit appropriately.

- The first way of shutting down the unit is to press ESC and DOWN direction button simultaneously.
- The second way is to shut down the unit from its Main Menu. Select <Others> from the Main Menu, and then select <Shut Down>. The <Shut Down> displays as below figure. Select <Shutdown: Yes> and press ENTER to shut down the unit.



NOTE: The action completely shuts down the unit, please wait for the unit to shut down completely before removing the power.

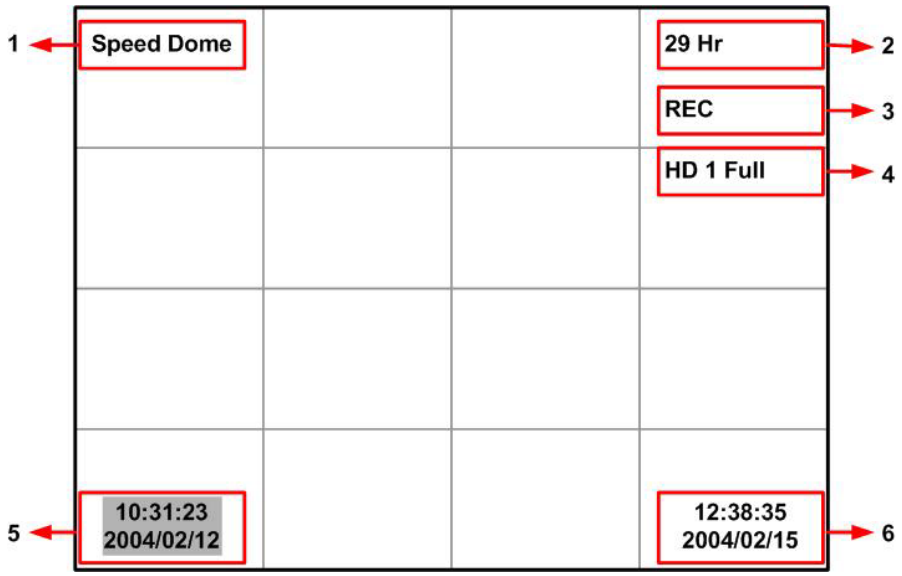
To restart the unit:

Press ESC and DOWN direction button simultaneously to restart the unit.

4. Main Monitor View Formats and Settings

4.1 OSD Indicators on the Main Monitor

There are some OSD indicators shown on the screen permanently telling the time, current status or other information.



Each OSD indicators are desicrbed in the table below:

NO.	Item	Description
1.	P/T/Z Device	If an external P/T/Z device is connected to the MUXDVR, then the connected device type will be shown on the left-top corner of the screen.

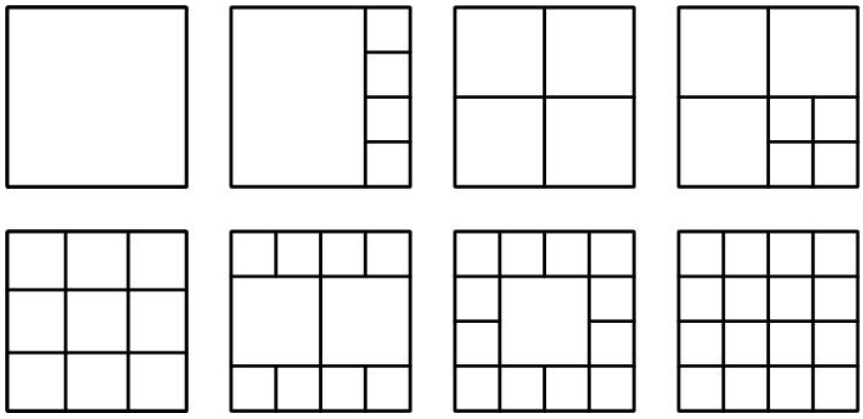
Displayed Indictor	Connected P/T/Z Device
Speed Dome	DSCP Speed Dome
PELCO Dome	PELCO Speed Dome
CRT	CHIPER Transmission Control Receiver

2.	The Rest Recording Time	If you select “non-circular” recording mode (which means “stop recording when HDD was full”), then the rest recording time will be calculateed by the unit and shown on the screen.
3.	Unit Current Status	You can tell the MUXDVR current status here, such as <REC>, <STOP>, and <PLAY>.
4.	HDD Full Indication	If the installed Hard Disk Drive is going full, the indicator would start blinking (45 minutes approximately before the Hard Disk Drive is full); and if the Hard Disk Drive had been run out of the capacity, the indictator, such as <HD1 Full>, will be permanently shown on here till the full HDD has been removed.
5.	Recorded Time Display	If you are playing back the recorded video, the recording time stamps will be shown on the screen in reverse-video format.
6.	Current Time Display	The MUXDVR current time would be showns on the position of the screen.

4.2 Selecting View Format

The main monitor displays live cameras or video playback in a versatile multi-window view format. The available view formats are illustrated below.

Press MODE to switch between available display formats; or press CHANNEL to view the selected camera channel in full view.



4.3 Assign Cameras to Windows

To assign cameras to the windows in the main monitor display, follow below steps:

- Select the desired view format.
- Press the SET button. A window cursor appears as s highlighted frame around the first window.
- Move the window cursor to the desired window using the direction buttons.
- Press any one of the CHANNEL buttons to assign the camera to the selected window. The window cursor moves to next window automatically.
- To end the assignment, press either SET or ESC.
- The MUXDVR will save setting data after 30 seconds automatically.

4.4 Select Active Window

An “Active Window” displays a live window in a close approximation of real time. You are allowed to select one window in a live view to be the “Active Window”.

To use this feature, press the direction buttons to display a window cursor. Move the cursor to the desired window using direction buttons, and the window highlighted by the cursor automatically becomes the “Active Window”.

4.5 Automatic Sequencing Mode

The function allows you to sequence all camera input views. The main monitor updates the screen every few seconds with the next series of camera views. While in sequencing mode, the LED of SEQ will be lit; and also those channel LEDs currently in display.

To start and stop sequencing, follow below steps:

- Press SEQ to toggle the automatic sequencing mode.
- There are three modes to be chosen from. Press SEQ repeatedly to choose for a desired mode.
- Press ESC to stop sequencing.

To setup the sequencing, please refer to **Appendix E: <Setup Automatic Sequecning Mode>**.

5. Viewing Live & Playback Video Image

5.1 Basic Operations

5.1.1 Switch between Live and Playback Mode

The PLAYBACK button allows you to switch between live and playback modes.

When the LED in the PLAYBACK button is OFF, all the windows contain live video images. When the LED is lit, it means the split window contains at least one channel of playback image.

Windows that contain playback video display the OSD camera titles and Date/Time stamps in reverse-video format.

The window cursors displayed in a multiple camera view display when you press any direction button. If you press PLAYBACK when the window cursor is not displayed, all of the windows are switched between live and playback. If the window cursor is visible, only the window selected by the cursor is switched to playback.

5.1.2 Digital Zoom

Pressing this button allows you to zoom any camera in full screen view to 2x image. To zoom the camera and then return to full screen view, follow below steps:

- Press any CHANNAL button to display the corresponding camera in full screen view.
- Press ZOOM to enter Zoom mode.
- While in Zoom mode, you are allowed to move the zoomed area around the original image. Use the direction buttons to move the zoomed area.
- To return to full screen image and leave Zoom mode, press either ZOOM or ESC.

5.1.3 Pause / Freeze

The function allows you pausing playback image or freeze a live view for further examination of a particular section of it.

To freeze and resume a live view, follow below steps:

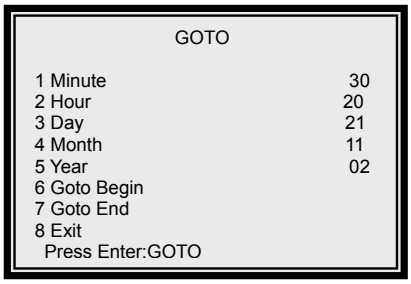
- The freeze function contains “frame freeze” and “field freeze”.
- Press PAUSE to freeze current live image in frame mode. It is suitable for static image.
- Press PAUSE again, MUXDVR freezes live image in field mode. It is suitable for dynamic image
- Press PAUSE for three times to resume the live image.

To pause and resume a video playback, follow below stops:

- Press Pause to pause the video playback.
- Continue to press Pause repeatedly to advance the frames forward. There is no backward single step (frame advance) on playback.
- Press PLAYBACK to resume the playback video and continue playing back the video.

5.2 Date / Time Playback

The function allows you to play back video that was recorded on a specific date at a specific time.



Follow below steps to perform a Date / Time playback:

- Press PLAYBACK.
- Press GOTO, the time frame of available video is displayed.
- Use UP / DOWN to select the date / time on the screen; use RIGHT/ LEFT to edit the values.
- If you want to view the initial recorded video, select <Goto Begin> and press ENTER to play back the video; if you want to view the latest recorded video, select <Goto End> and press ENTER to start playback.
- When the video is finished playback, press PLAYBACK to return to Live camera.

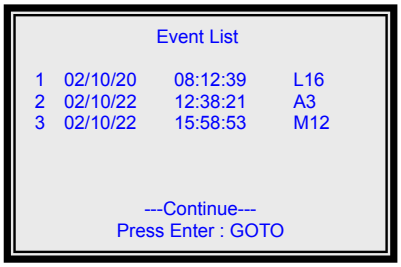
5.3 Event List Playback

When an event occurs, the event record will be listed in the “Event List” (shown as below). You can play back video that is specific to an alarm event listed in the event list.

The event list can hold up to 255 events. As some events are deleted, others are displayed.

5.3.1 Entering Event List

To access the Event List (shown as below figure), you have to enter the Main Menu. Any four-digit password is acceptable for entering the Main Menu, but only entering correct Engineer or Manuager password allows you to playback video from Event List.



After the Main Menu displays on the screen, select the first item <Event List> using UP and DOWN direction buttons, and then press ENTER on it to enter the Event List.

5.3.2 Event Playback

The list displays each event by date, time, event type and tirggered channel. The event type are described as the table below:

Event Type	Description
A	Alarm In Event
L	Video Loss Event
M	Motion Detection Event

<u>To playback an event from the list, follow below steps:</u>

- Press MENU button, then enter the correct Manager or Engineer password. The Main Menu displays.
- Select the first item from the Main Menu and press ENTER. The Event List displays.
- Use UP / DOWN direction button to select desired event video.
- If necessary, press RIGHT / LEFT to navigate to the next or previous page of events.
- Press ENTER to play back the selected event video.

5.3.3 Deleting Video from the Event List

The unit allows the Engineer (the Engineer password is required) to delete all entries form the Event List. To delete all events, follow these steps:

- Press MENU button, then enter the correct Engineer password. The Main Menu displays.
- Select <Event> and then <Clear Event List>, the confirm page displays (shown as blow).

- Select <Clear Event List: Yes> and press ENTER to start clearing the Event List.

NOTE: The procedure clears the entries only, the event video is still stored in the HDD of the unit.

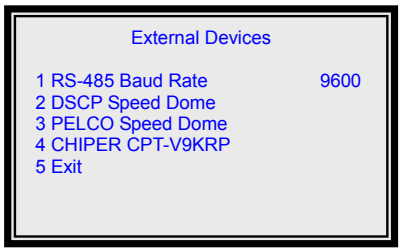
6. P/T/Z Device Controls

MUXDVR unit controls the connected P/T/Z devices, such as Dome cameras, via RS-485 communication protocol. To connect Dome cameras to the MUXDVR, please refer to **Appendix F: External I/O Connectors** These CHANNEL buttons allows you to access / control a dome camera connected to the unit.

NOTE: If you are connecting and controlling a P/T/Z device, you must go to the <Configuration Table 1> in advance to set the correspondent dome's <PTZ> item to enable.

To select the wanted P/T/Z device, follow these steps:

- While in Live mode, press the CHANNEL button corresponding to the wanted dome camera and display the camera in full view.
- Then Press the SET button. The <External Devices> menu, shown as below figure, displays on the screen.



- Select the first item to adjust the RS-485 baud rate. "Baud Rate" is a number related to the speed of data transmission in your security system. The higher the baud rate, the more bits per second that are transferred. You must ensure that the P/T/Z device is configured to the same baud rate with your MUXDVR, or the data transmission will be failed.
- After the baud rate of the P/T/Z device and the unit are configured the same, use UP / DOWN direction buttons to select the device you want to control, including DSCP speed dome camera, transmission control receivers (Good No.: CRT-V9KRP, please visit http://www.chiper.com.tw) and PELCO speed domes.

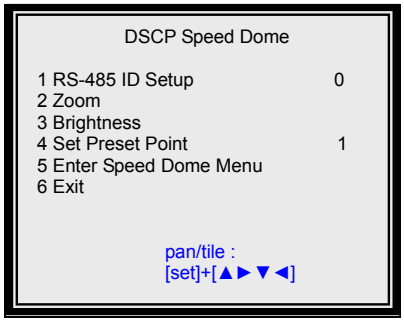
NOTE: Once the menu displays, you are allowed to pan / tile the selected P/T/Z device by pressing SET and the direction buttons simultaneously.

The items in the <External Devices> are described in below subsections:

6.1 DSCP Speed Dome Setup

If you are controlling a DSCP speed dome camera, select this item and enter it for the detailed modification.

NOTE: While in this menu, you can pan / tilt the selected DSCP Speed mode DSCP speed dome camera by pressing SET and the direction buttons simultaneously.



6.1.1 Item Descriptions

The items in this menu are described in the table below:

No.	Item	Description
1	**RS-485 ID Setup**	The item allows you to change the RS-485 ID address of the DSCP speed dome. The ID is in the range of 0 to 255. The default is 0. **NOTE:** No two devices on the same bus should have the same ID address. Make sure each device has assigned a unique ID address.
2	**Zoom**	Select this item and enter for Zoom control. Use the RIGHT (tele) and LEFT (wide) direction buttons to zoom the dome camera in or out, for viewing less or more of an area. Press ESC to exit the Zoom mode.
3	**Brightness**	Select this item and enter it for adjusting the brightness / darkness on monitors attached to the unit. Use the RIGHT and LEFT direction buttons to adjust the brightness. Press ESC to exit after the adjustment is done.
4	**Set Preset Point**	Select this item to set up the preset positions. The number of presets available depends on the dome manufacturer.
5	**Enter Speed Dome Menu**	This item allows you to configure and show the OSD menu of the dome camera selected on the monitor.

6.1.2 Setup Preset Point

To set a preset, follow below steps:

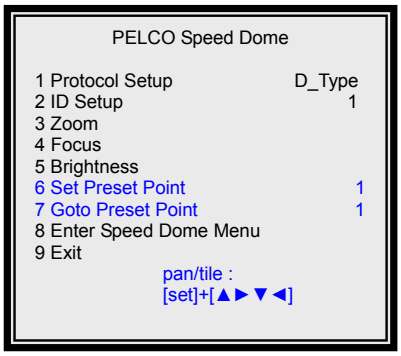
- Press direction buttons and SET simultaneously to pan/ tilt the P/T/Z device to the desired position.
- After position the dome, select the preset position a number using RIGHT and LEFT direction buttons.
- Press ENTER.

NOTE: The number of presets available depends on the dome manufacturer.

6.2 PELCO Speed Dome

This item allows you to access and configure with PELCO speed dome cameras.

NOTE: While in this sub-menu, you can pan / tilt the selected DSCP speed dome camera by pressing SET and the direction buttons simultaneously.



Item Description

The items in this menu are described in the following table.

No.	Item	Description
1	**Protocol Setup**	This item enables you to select the PELCO dome communication protocol associated you're your PELCO dome camera. Select one of the following communications protocols using the direction buttons: for dome control operations. There are two Protocol types to choose from: D_type and P_type.
2	**ID Setup**	Allows you to enter the ID of the dome using RIGHT and LEFT direction buttons. Each installed camera must be assigned a unique ID.
3	**Zoom**	Select this item and enter for Zoom control. Zoom in / zoom out the dome camera using the RIGHT and LEFT direction buttons. Press ESC to exit the Zoom mode.
4	**Focus**	Allow you to change focus back and forth between a near object and a far object. Select and enter the item, and use the RIGHT / LEFT direction buttons to focus the dome camera near or far. Press ESC to exit the mode.

5	**Brightness**	Select this item and enter it for adjusting the brightness / darkness on monitors attached to the unit. Use the RIGHT / LEFT direction buttons to adjust the brightness. Press ESC to exit after the adjustment is done.
6	**Set Preset Point**	Select this item to set up the preset positions. The number of presets available depends on the dome manufacturer. To setup preset point, see **Section 6.1.2 <Setup Preset Point>**.
7	**Goto Preset Point**	Uses after you have set up presets with the <Set Preset Point> function. This item is used to call a preset. Select the corresponding number of the desired preset position, and then press ENTER to go to the preset position.
8	**Enter Speed Dome Menu**	This item allows you to configure and show the OSD menu of the dome camera selected on the monitor.

6.3 CHIPER CRT.V9KRP

Allow you to configure and control the transmission control receiver.

NOTE: Once the menu displays, you are allowed to pan / tile the selected P/T/Z device by pressing SET and the direction buttons simultaneously.

Item Description

The items in this menu are described in the table below:

No.	Item	Description
1 I 4	**ID Setup Zoom Focus Brightness**	Please refer to the transmission control receiver's user's manual for information.
5	**Set Preset Point**	Select this item to set up the preset positions. The number of presets available depends on the dome manufacturer. To setup preset point, see **Section 6.1.2 <Setup Preset Point>**.
6	**Goto Preset Point**	Uses after you have set up presets with the <Set Preset Point> function. This item is used to call a preset. Select the corresponding number of the desired preset position, and then press ENTER to go to the preset position.
7 I 9	**Set Group Dwell Go Preset Group Stop Preset Group**	About the receiver's Group function, please refer to its user's manual for detailed information.

7. Advanced Operations

The OSD menu is composed in hierarchy architecture, it allows you to configure the MUXDVR according to the applictation enveironment. Many options can be selected via the operation of the OSD menu.

To enter this OSD menu, press the MENU button of the front panel, and then enter the password. The default passwords are listed as below: Remember to change passwords to prevent unauthorized access to the unit.

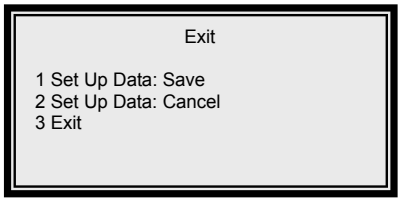
Engineer	9999
Manager	2972
User	Any four-digit number

The OSD menu appears with a highlight cursor over the first item (shown as bleow figure). Move the cursor using UP and DOWN direction buttons. To enter a sub-menu, move the cursor till over the desired item, and press ENTER. You can also select an item by pressing the CHANNEL button with the corresponding number as the item and pressing ENTER.

If you want to exit any OSD menu and return to the previous menu, you can follow either two ways: Select the last item <EXIT> in each menu and press ENTER to exit the current menu; or press ESC button repeatedly to exit.

Select <Exit> and press ENTER or pree ESC directly, the following menu is displayed. There are three choices for exit.

1. Choose <Set Up Data: Save> to save the modification and exit form the OSD menu;
2. Choose <Set Up Data: Cancel> to exit the OSD menu without saving the modification you have made and the MUXDVR will reload the setting data that saved by user last time.
3. Choose <Exit> or press ESC, MUXDVR will exit from OSD menu and all modification you have made becomes effective until power off or MUXDVR reset and MUXDVR doesn't save all modification. So, MUXDVR will reload the setting data that saved by user last time when reset MUXDVR or re-power up.

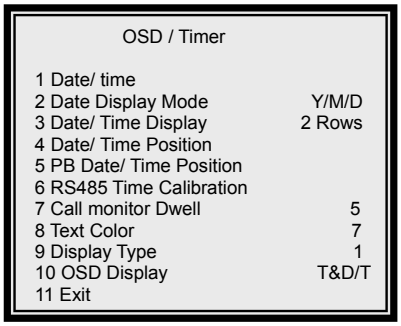


7.1 Event List

The alarm events are listed in the Event List by date and time of occurrence. You can play back video using this list to locate the wanted event. Please see **Section 5.3 <Event List Playback>** for information about playing back an alarm event from the Event List.

7.2 OSD/ Timer

Allow you to set the current date/ time, and other On-Screen-Display (OSD) parameters. Select <OSD / Timer> from the Main Menu and press ENTER. The menu displays as below figure.



7.2.1 Item Description

The items in the <OSD / Timer> menu are described in the following table.

No.	Item	Description
1	**Date / Time**	Used to set the current date and time on the unit. Please see **Section 7.2.2 Setup Date / Time**.
2	**Date Display Mode**	Select a format of date OSD display. You can select Y/M/D, M/D/Y or D/M/Y using RIGHT / LEFT. **NOTE:** Y=Year, M=Month, and D=Day.
3	**Date / Time Display**	Set the date / time OSD to 1 or 2 rows. Using RIGHT / LEFT to change the setting.
4	**Date / Time Position**	Allows you to move Date / Time OSD to any position. To move the Date / Time OSD, follow these steps: ● Select <Date/Time Position> from the menu and press ENETR. ● Move the Date / Time OSD using direction buttons. ● Press ESC to exit when finished.
5	**PB Date / Time Position**	Allows you to move the Date/ Time OSD of recorded video to any position. Follow below steps: ● Select <Date/Time Position> from the menu and press ENETR. ● Move the Date / Time OSD using direction buttons. ● Press ESC to exit when finished.
6	**RS-485 Time Calibration**	RS-485 is used for multi-point communications: many devices can be connected to the same bus. Select <RS-485 Time Calibration> and press ETNER, all MUXDVR timers will be synchronized immediately.

7	**Call Monitor Dwell**	The call monitor is always switching full screen video of all installed cameras, <Call Monitor Dwell> allows you to set the Dwell Time between switching. The timer value ranges from 1 to 255 seconds.
8	**Text Color**	<Text Color> allows you to select one from 16 different colors for all OSD on the screen.
9	**Display Type**	Allows you to select one from 6 different text types, such as Reverse, Bold, for on Date / Time OSD.
10	**OSD Display**	Allows you to select which information you want to display; you can choose from these options: ● T&D/T(camera title and date/time) ● Title ● D/T(date/time) ● OFF.

7.2.2 Setup Date/ Time

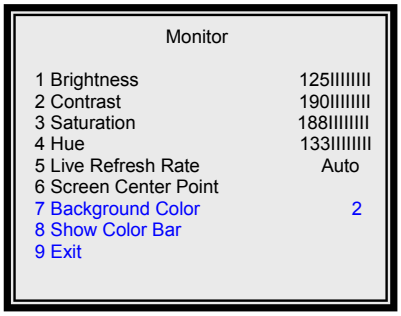
The menu allows you to setup local date / time of this unit. Select <Date / Time> from the <OSD / Timer> menu and press ENTER to change the settings. The following menu displays on the screen.

To save the modification(s), select <Exit / Update> and press ENTER, the adjusted setting(s) will be memorized. If you don't want to save the modifications, select <Exit / Without Update> and press ENTER, the adjusted setting(s) will be discarded.

NOTE: The modifications resets the date and time used by this unit to record video, but it does not change the date and time of previously recorded data that is stored in the HDD.

7.3.Monitor

The <Monitor> menu allows you to tune the quality of the displayed image. Select <Monitor> from the Main Menu and press ENTER. The following menu is displayed.



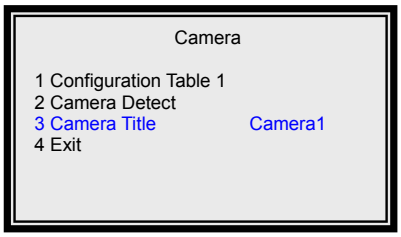
Item Description

Items on the <Monitor> menu are described in the following table.

No.	Item	Description
1 I 4	**Brightness** **Contrast** **Saturation** **Hue**	Item 1~4 involve adjusting the brightness, contrast, saturation and hue of your monitor using the RIGHT / LEFT direction buttons to adjust the value.
5	**Live Refresh Rate**	Allows you to adjust the camera refresh rate on the Main monitor. <Fix> means each camera has the same refresh rate. <Auto> means the camera with more motion will get higher refresh rate automatically. Select <Fix> or <Auto> using RIGHT / LEFT direction buttons.
6	**Screen Center Point**	Allows you to move the center point of the main monitor. To setup the screen center point, follow these steps: ● Select <Screen Center Point> form the <Monitor> menu, and press ENTER. ● Pan / Tile the monitor to a wanted position using direction buttons. ● Press ESC button to exit when finished.
7	**Background Color**	Allows you to select 1 from 16 different colors for the background color of the following situations: ● video-loss ● camera un-installed ● covert situations.
8	**Show Color Bar**	Allows you to fine tune the monitor's performance using color bar pattern generated by the MUXDVR.

7.4 Camera

The <Camera> menu provides access to the configuration parameters that can be set for each camera. Select <Camera> form the Main Menu and press ENTER for setting camera titles.



7.4.1 Item Description

Items in this menu are described in the following table.

No.	Item	Description
1	**Configuration Table 1**	The table is used to set the parameters that configure each camera connected to the unit. Please see **Section 7.4.2 <Configuration Table 1>** for configuring the parameters in the table.
2	**Camera Detect**	Allows you to detect the cameras that are installed on the unit. The recording rate is distributed across all cameras on enabled channels. If a camera in not installed, we strongly recommend to disable it by setting <Install> to <•> for this camera in the <Configuration Table 1>. Otherwise that channel will be considered as “video loss”. Besides, the HDD storage space is wasted.
3	**Camera Title**	Allows you to change the name of each camera connected to the unit. Cameras are numbered 1 through 16 by default. See **Section 7.4.3 <Change Camera Title>** for changing the name of each camera.

7.4.2 Configuration Table 1

Configuration Table 1 contains multiple parameters that can be configured for each installed camera. The default values for the parameters in the <Configuration Table 1> are shown in the next page.

To select item and change values on the <Configuration Table 1>, follow these steps:

- Move to the desired item using the UP / DOWN direction buttons.
- Then use RIGHT / LEFT direction button to select the wanted camera.
- Press ENTER to change the value of the selected camera.
- Press ESC to exit when finished.

Configuration Table 1

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Install	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
Covert	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
PTZ	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
Termination	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
Gain Control	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
REC Priority	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Alm REC Prio	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Call Seq	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

ESC For Return

7.4.2.1 Item Description

The items in <Configuration Table 1> are described in the following table.

Item	Description
Install	Used to manually enable / disable the channels. Every channel is "installed" by default; you may uninstall any one of them manually (√ = camera installed; • = camera not installed). **NOTE:** Once a channel is un-installed, all related functions are disabled.
Covert	Allows you to choose camera inputs to be invisible on both main monitor and call monitor while continuing to record those camera inputs. The default setting is every camera visible (√ = covert; • = not covert).
PTZ	Allows you to enable / disable the external P/T/Z devices. Please see **Section 6 <P/T/Z Device Controls** for more information.
Termination	Used to enable / disable the terminal resister of each camera. If the camera loop-back connector is not used, the terminal resister should be enabled to get correct signal termination; this is the default condition. Otherwise, the terminal resister should be disabled (√ = Terminal resister is enabled; • = Terminal resister is disabled).
Gain Control	Allows you to set the video input gain for each installed camera. The value ranges form 1 to 16.
REC Priority	Allows you to set the recording priority for each camera under normal state (no alarm occurred). Please see **Section 7.4.2.2 <Setup REC Priority>** for setting the recording priority of all installed cameras.
Alarm REC Priority	Allows you to set the recording priority when an alarm is triggered for the current channel, either by Alarm In or by Motion.
Call Seq	The call monitor displays full screen video of all installed cameras in sequence. The item allows you to setup the sequence of camera displayed on the call monitor. See **Section 7.4.2.3 <Setup Call Monitor Sequence>** for setting the sequence.

7.4.2.2 REC Priority

Allow you to set the recording priority for each camera under normal state. The camera assigned with a higher priority will be record more frequently.

To setup the recording priority, move to the wanted camera and select the value of it. The value ranges from 1 to 16; the value <1> stands for the lowest priority and <16> for the highest priority.

If a camera is not installed, the priority will be automatically set to <0>.

Example:

If you set the PPS to “30”, the record priority of channel to level ”4”, and the record priority of all rest channels to level “1’, then each channel’s PPS can be count by below formula.

Situation 1: No alarm event happens.

$$\text{Channel 1 PPS} = 30 * \frac{4}{4+1+1+1+1+1+1+1+1+1+1+1+1+1+1+1} = 6.31$$

$$\text{Channel 2 PPS} = 30 * \frac{1}{4+1+1+1+1+1+1+1+1+1+1+1+1+1+1+1} = 1.58$$

$$\text{Channel 3 PPS} = 30 * \frac{1}{4+1+1+1+1+1+1+1+1+1+1+1+1+1+1+1} = 1.58$$

Situation 2: An alarm event happens on channel 2.

$$\text{Channel 1 PPS} = 30 * \frac{4}{4+8+1+1+1+1+1+1+1+1+1+1+1+1+1+1} = 4.61$$

$$\text{Channel 2 PPS} = 30 * \frac{8}{4+8+1+1+1+1+1+1+1+1+1+1+1+1+1+1} = 9.23$$

$$\text{Channel 3 PPS} = 30 * \frac{1}{4+8+1+1+1+1+1+1+1+1+1+1+1+1+1+1} = 1.15$$

7.4.2.3 Call Seq

During normal operation, the call monitor displays a programmable sequence of cameras.

To setup the sequence of each camera, move to the wanted camera, and then press ENTER repeatedly to select its display sequence. The value ranges from 0 to 16. <0> means the camera is skipped.

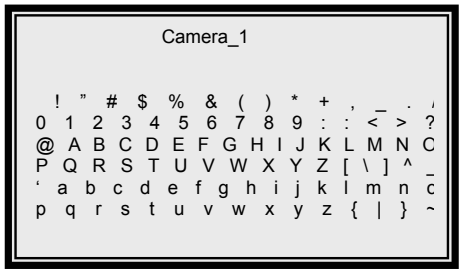
Those un-installed or converted cameras won’t be displayed on call monitor.

7.4.3 Change Camera Title

The cameras are named 1through 16 by default. The <Camera Title> menu allows you to change a custom title (up to 12 characters) for each camera. Select <Camera Title> form <Camera> menu, the menu displays as below figure.

Follow these steps to enter a new title for a camera.

- Select a camera using RIGHT / LEFT direction buttons, and then press Enter to enter a virtual table (shown as right figure).

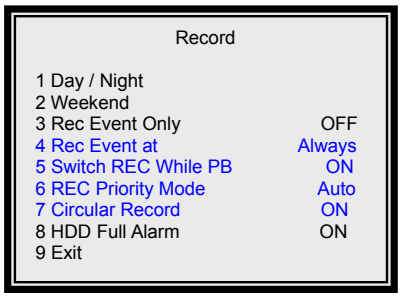


- Press direction buttons to position the cursor in the title entry field above the virtual keyboard, and press ENTER to select it.
- In necessarily, you can use MODE to erase the character you select mistakenly. To erase the character, press MODE repeatedly till the cursor over character that wants to be changed. Then pick another desired character to replace it using the direction buttons. The first entry, a blank, in the virtual keyboard is used as the Space button.

7.5 Record

This <Record> menu allows you to set up all the parameters related to recording, ex. REC Quality, PPS (Picture Per Second)…

In the Main Menu, move the cursor to <Record> and press ENTER. The following menu is displayed.



Once the recording quality is changed, the total record time will be changed as well. The table below is offered for your reference (the PPS is set to 60).

HDD size	Total Record Time (Hour)				
	Quality: Ultra	Quality: Super	Quality: High	Quality: Normal	Quality: Low
40 GB	5	7	9	12	15
80 GB	10	14	18	24	30
120 GB	15	21	27	36	45
160 GB	20	28	36	48	60

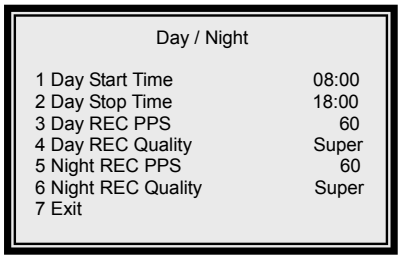
7.5.1 Item Description

Items on the menu are described in the following table.

NO.	Item	Description
1	**Day / Night**	Allows to set the day time, night time, day PPS (picture per second), night PPS, day recording quality and night recording quality. See **Section 7.5.2 <Day / Night>** for setting those parameters.
2	**Weekend**	Sets weekend start time, end time, PPS and quality. See **Section 7.5.3 <Weekend>**.
3	**REC Event Only**	Determines how long an event is recorded form the camera on which it occurs to the unit. See **Section 7.5.4 <Record Event Only>** for more information.
4	**REC Event At**	Determines when the unit records event video. See **Section 7.5.5 <Record Event At>** for more information.
5	**Switch Rec While PB**	If set to <ON> and an event is triggered while you are playing back the video, the unit will switch back to Live camera (and starts recording) automatically to alert you to the event.
6	**REC Priority Mode**	Allow you to select the record priority mode. Use RIGHT / LEFT direction buttons to select <Setup> or <Auto>. <Setup> indicates priority mode will follow the value set in configuration table; <Auto> indicates the camera with most motion will get higher priority automatically.
7	**Circular Record**	Circular recording enables the unit to continuously record video without stopping. If set to <ON>, when the HDD is full the unit than begins to reclaim the storage taken by the oldest previously recorded video, and stores new video over those reclaimed spaces. If set to <OFF>, the recording will be stopped when the HDD is full, and a flash highlighted message (HDD Full) will be shown on the screen when the rest recording time is about 45 minutes; and the beeper will start beeping when the rest recording time is about 15 minutes.
8	**HDD Full Alarm**	If set to <ON>, the beeper starts beeping when the rest recording time is about 15 minutes; and the beeper will stop beeping after you insert a new HDD. The other way to stop the beeper is to select “OFF” for this item.

7.5.2 Day/ Night

The <Day / Night> menu allows you to schedule recording times for day and night. Select <Day / Night> form the <Record> menu. The following menu displays as below figure.



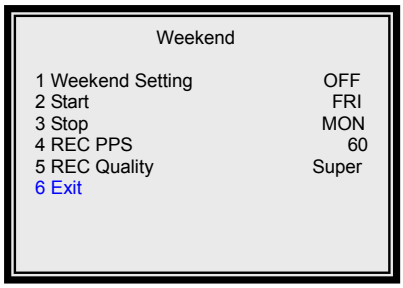
Item Description

Parameters are described in the table that follows.

No.	Item	Description
1	**Day Start Time**	Determines the beginning of recording for day time. Use the DIRECTION buttons to enter the start time.
2	**Day Stop Time**	Determines the end of recording for day time.
3	**Day REC PPS**	Set the day recording PPS. The higher the number of pictures per second, the smoother the video playback appears to you, but it'll take more storage space.
4	**Day REC Quality**	Set up the day recording quality. A superior picture quality affects a better playback, but will fill the hard disk faster; total record time will be shorter.
5	**Night REC PPS**	Set the night recording PPS.
6	**Night REC Quality**	Set the night recording quality.

7.5.3 Weekend

This menu allows you to set up weekend start/ stop time, record PPS and record quality.



Item Description

Items on the <Weekend> menu are described as below table.

No.	Item	Description
1	**Weekend Setting**	Determines whether a weekend schedule is in effect. **NOTE:** If the item is set "OFF", all related weekend functions will be disabled.
2	**Start**	Set up the beginning of recording for weekend schedule.
3	**Stop**	Set up the end of recording for weekend schedule.
4	**REC PPS**	Allows you to set weekend recording PPS.
5	**REC Quality**	Allows you to set up the weekend recording quality

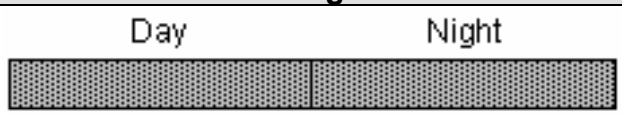
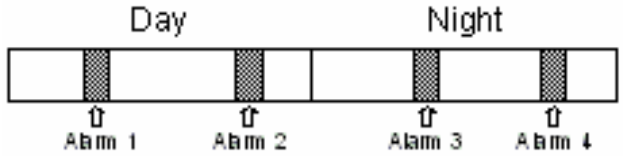
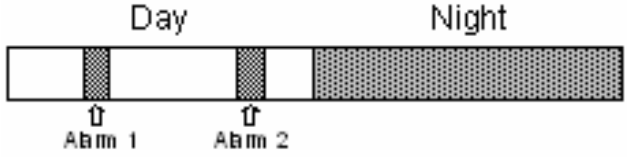
7.5.4 REC Event Only

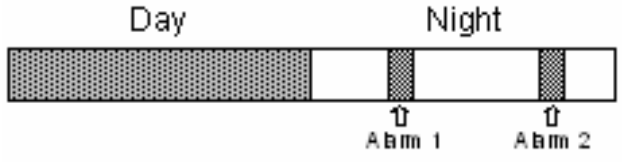
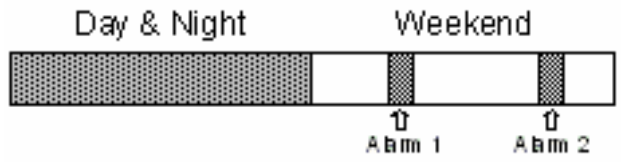
The item you set determines how long an event is recorded from the camera on which it occurs to the unit.

Select <OFF> to record not only during event occurrence but also in normal situation. Select other options to record only when an event (either Alarm or Motion events) is trigger. For example, if you select "15 sec", MUXDVR starts recording when an event is triggered, and it keeps recording for 15 seconds.

7.5.5 REC Event At

The unit can be set to record event video only. In this case, you can decide the recording duration form <Always>, <Night>, <Day> and <Weekend>. For example, if "Weekend" is selected (the <Weekend setting> must be set to <ON>), then the MUXDVR records event recording only on weekends; and if "always" is selected, the unit won't record image until an event is triggered.

Record Event Only	Record Event At	Recording Status
Option 1: **OFF**		
Option 2: **15 Sec** Option 3: **30 Sec** Option 4: **45 Sec** Option 5: **1 Min** Option 6: **3 Min** Option 7: **5 Min** Option 8: **10 Min** Option 9: **20 Min** Option 10: **30 Min**	Option 1: **Always**	
	Option 2: **Day**	

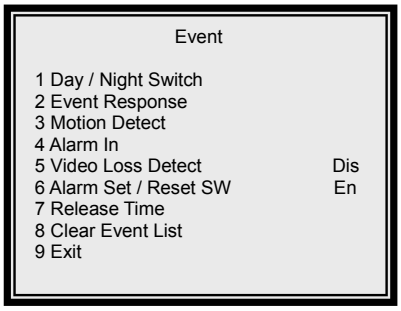
	Option 3: **Night**	
	Option 4: **Weekend**	

■ Recording Mode □ Normal Status (Non-recording Mode)

7.6 Event

This menu allows you to configure how the EVENT condition is handled and how the unit responses. In the Main Menu, select <<Event> and press ENTER. The following menu is displayed.

NOTE: When an alarm is triggered, you can press the ESC button and the alarm channel button simultaneously to switch the call monitor to the alarm channel; and start switching by pressing these two buttons again.



7.6.1 Item Description

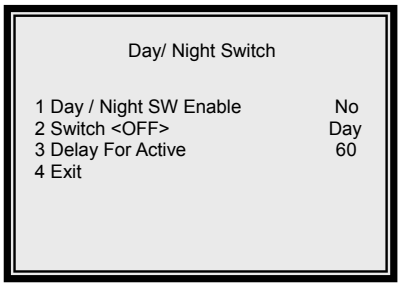
Items on the <Event> menu are described as below table.

No.	Item	Description
1	**Day / Night Switch**	Determines the alarm processor behavior in response to an external Day / Night switch. See **Section 7.6.2 <Day / Night Switch>** for more information.
2	**Event Response**	Determines the unit behavior in response to an alarm event. See **Section 7.6.3 <Event Response>** for more information.
3	**Motion Detect**	Allows you to set motion detection alarm parameters for each installed camera on the unit. See **Section 7.6.4 <Motion Detect>** for more information.
4	**Alarm In**	Enable / Disable alarm input detection, according to the parameters set in <Configuration Table 2> Set to <ON> to enable alarm input detection, and <OFF> to disable alarm input detection. See **Section 7.6.5 <Alarm In>** for more information.

5	**Video Loss Detect**	Enables or disables “Video Loss” as an alarm event. Set to <En> to enable “Video Loss” alarm events, and <Dis> disables “Video Loss” alarm events.
6	**Alarm Set / Reset SW**	Enables or disables the Alarm Set / Reset input. Select <EN> to activate the alarm output by an Alarm Set signal (even if no alarm event has actually occurred), or deactivate the alarm output by an Alarm Reset signal after an alarm is triggered. Select <Dis> to disable the Alarm Set / Reset input.
7	**Release Time**	The <Release Time> menu allows you to set the “release time” of each alarm sources, including Motion Detection, Video Loss and Alarm In. The release time defines how long time after the alarm trigger condition disappears; the same condition should be ignored to avoid false alarm being re-triggered. See **Section 7.6.6 <Release Time>** for more information.
8	**Clear Event List**	Select <Clear Event List: YES> to clear event list, and < Clear Event List: NO> to abort the action. **NOTE:** The action will not clear the video.

7.6.2 Day/ Night Switch

Allows you to enable or disable the “Day/ Night Switch” signal from the external I/O connector. User can connect this signal to an external NO (Normal Open) type contact switch, then use it to change the alarm process operation during day time and night time. Move to 1 Day/ Night Switch and press ENTER button, the sub-menu will appear.



NOTE: If you switch the day/ night through the attached external I/O Board, you change all the day/ night related setting at the same time, which including day/ night REC PPS and REC quality.

Item Description

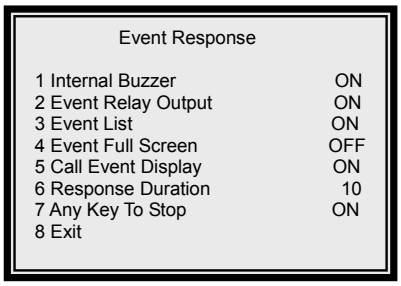
Items on the <Day / Night Switch> menu are described as below table.

No.	Item	Description
1	**Day/ Night SW Enable**	Determines whether the Day / Night switch settings are used. Select <Yes>, the position of the Day / Night switch overrides the alarm schedule time frames. Select <No>, the Day / Night switch is ignored, and the alarm processor follows the time

		frames as defined in day, night and weekend schedules.
2	**Switch <OFF>**	Determines whether the alarm setting follows Day or Night settings when the Day / Night SW is set to <Yes> and the Day / Night Switch is activated. Select Day or Night for the appropriate schedule when the Day / Night switch is activated. **Switch Mode / Item Select** | **Switch Close** | **Switch Open** **Switch <OFF>: Day** | Night | Day **Swith <OFF>: Night** | Day | Night
3	**Delay For Active**	Sets the delay time between the moment the switch setting changed and the moment the change takes effect. This function is designed to avoid the operator triggering a false event by mistake.

7.6.3 Event Response

This <Event Response> menu allows you to set how the MUXDVR responds to the triggered event. In the <Event> menu, select <Event Response> and press ENTER. The following menu is displayed as below figure.



Item Description

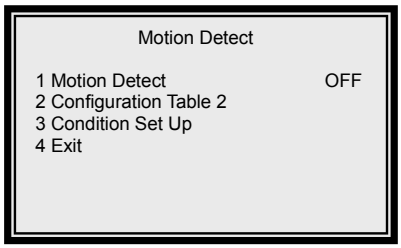
Items on the <Event Response> menu are described as below table.

No.	Item	Description
1	**Internal Buzzer**	Enable or disable the internal buzzer. If set to <ON>, the buzzer is activated in response to an alarm, and if select <OFF>, the buzzer is not activated.
2	**Event Relay Output**	This item allows you to enable/ disable the alarm output pins. There are two alarm output signals of the external I/O connector: Alarm N.O. (normal open) and Alarm N.C. (normal close), these signals are driven by an on-board relay and used to drive a light or siren to warn the operator of alarm events.
3	**Event List**	Enable or disable the Event List function. The events will be logged in the non-volatile memory. The first column is the item number, followed by the date and time of the event and the “type of event”: “A” represents Alarm Input, “L” represents Video Loss, and “M” represents Motion Detection. The last column is the channel number of the event.
4	**Event Full Screen**	Enable or disable the full screen display of alarmed camera

		output. If enabled, and an alarm event occurs on any camera input, the video from that alarmed camera is displayed on the Main Monitor in full screen until the alarm expires.
5	**Call Event Display**	If enabled, the call monitor will switch to the corresponding camera when an alarm event is triggered. If disabled, the call monitor follow the call monitor switching sequence during alarm events.
6	**Response Duration**	Setup the duration of the buzzer and Alarm out relay function after an alarm is triggered. The value ranges from 1 second to 9999 seconds.
7	**Any Key To Stop**	If enabled, and an alarm is triggered on any camera, you can turn the buzzer and alarm relay responses off by pressing any button on the front panel.

7.6.4 Motion Detect

This <Motion Detect> allows you to configure motion detection alarms for each camera attached to the unit. Select <Motion Detect> from <Event> menu and press ENTER. The following menu is displayed.



7.6.4.1 Item Description

Items on the <Motion Detect> menu are described as below table.

No.	Item	Description
1	**Motion Detect**	Enable/ disable the motion detect function of the unit
2	**Configuration Table 2**	Allows you to enable/ disable the day and night motion detect functions. The way of changing values on the <Configuration Table 2> is similar with that of <Configuration Table 1>, please refer to **Section 7.6.5.2 <Configuration Table 2>.**
3	**Condition Set Up**	Used to set up the detection area and sensitivity for each camera input for one or both of these conditions.

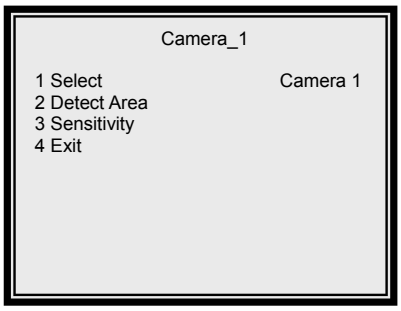
7.6.4.2 Setup Motion Detection

To setup motion detection parameters for a camera, follow these steps:

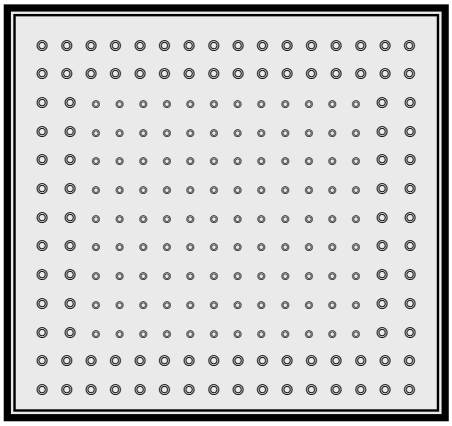
- Select <Motion Detect> form <Motion Detect> menu and choose <ON>.
- Select <Configuration Table 2> and press ENTER. The table contains three parameters for motion detection that you set for each camera. By default, Day motion detection is defined via <Condition 1>, and Night and Weekend motion detection is defined via <Condition 2>. These settings can be changed to <1>, <2>, or <N> by pressing the

ENTER button over the indicated table entry for each camera in the table. Press ESC when you have completed these entries for the desired cameras.

- Select <Condition Set Up> for setting up the detection area and sensitivity. The <Condition Set Up> menu is displayed as below figure.

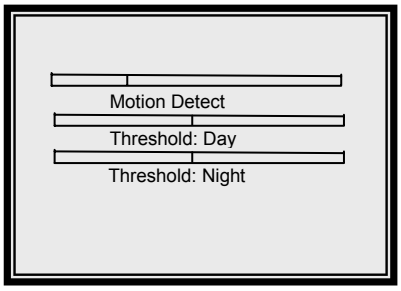


- Select <Detect Area> and press ENTER. The detect area is displayed as below figure. The detect area allows you to set the detection area for each camera. The area consists of 192 (16 x 12) detection grids.



Use the direction buttons to select wanted grid, and press ENTER to enable or disable the selected grid. Press SET to select or de-select all of the grids. You can also press MODE to change the size of the cursor. Press ESC when you complete the detect area setting.

- Select <Sensitivity> and press ENTER, the sensitivity threshold is displayed in the following figure.

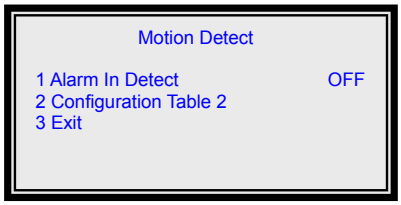


The sensitivity threshold allows you to set the sensitivity level for each camera by

defining a threshold for the alarm. When the amount of “Motion Detect”exceeds the threshold value, a motion alarm is triggered. Use RIGHT / LEFT direction buttons to set up the day and night threshold value, respectively. Press ESC when you complete the setting.

7.6.5 Alarm In

This menu allows you to enable or disable alarm input detection. If you select “OFF”, all alarm input signals will be ignored, the alarm processor will ignore the setup of configuration table2. If you select “ON”, the alarm processor will function as defined in “Day/Night” and “Configuration Table2”. Select <Alarm In> from <Event> menu and press ENTER. The following menu is displayed.



7.6.5.1 Item Description

Items on the <Alarm In> menu are described as below table.

No.	Item	Description
1	**Alarm In Detect**	Enable / Disable alarm input detection, according to the parameters set in <Configuration Table 2> Set to <ON> to enable alarm input detection, and <OFF> to disable alarm input detection.
2	**Configuration Table 2**	Allows you to enable/ disable the day and night motion detect functions. The way of changing values on the <Configuration Table 2> is similar with that of <Configuration Table 1>, please refer to **Section 7.6.5.2 <Configuration Table 2>.**

7.6.5.2 Configuration Table 2

This is one of the entry points to the configuration table 2. You can configure Alarm In & Motion Detection operation for Day/Night time. Configuration Table 2 contains multiple parameters that can be configured for each installed camera. The default values for the parameters in the <Configuration Table 2> are shown in the following table.

Configuration Table 2

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Alm In Type	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Day:Alm In	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
Day:Motion	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
Night:Alm In	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
Night:Motion	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V

ESC For Return

To select item and change values on the <Configuration Table 2>, follow these steps:

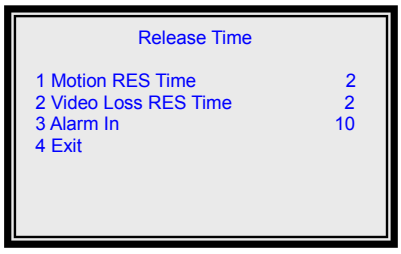
- Move to the desired item using the UP / DOWN direction buttons.
- Then use RIGHT / LEFT direction button to select the wanted camera.
- Press ENTER to change the value of the selected camera.
- Press ESC to exit when finished.

The items in <Configuration Table 2> are described in the following table.

Item	Description
Alm In Type	This item define signal type of external alarm sensor is Normal-Open or Normal-Close: O=Normal-Open, C=Normal-Close.
Day : Alm In	This item define each Alarm In pin is enabled or not during Day time, √=enabled, • =disabled.
Day : Motion	This item decide motion detection enabled or not during Day time. √=enabled, • =disabled.
Night : Alm In	This item define each Alarm In pin is enabled or not during Night time, √=enabled, • =disabled.
Night : Motion	This item decide motion detection enabled or not during Night time. √=enabled, • =disabled.

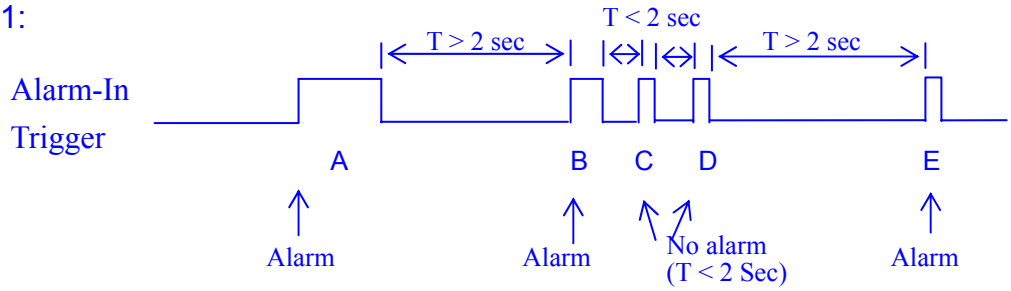
7.6.6 Release Time

This menu allows you to set the “release time” of any alarm source: motion detection, video loss or alarm in. The release time defines how long time after the alarm trigger condition disappears, the same condition should be ignored to avoid false alarm being re-triggered.



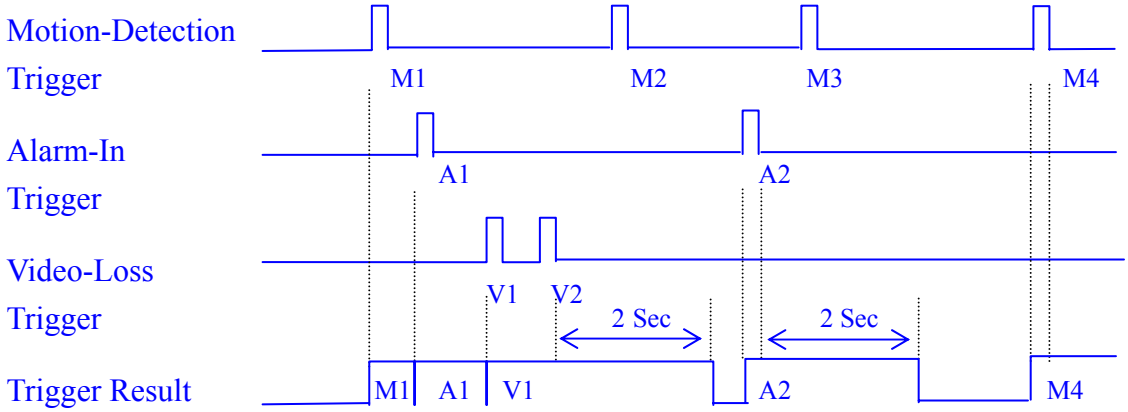
Example-1: Assume that alarm input has occurred for one particular channel as shown below. The alarm will be triggered at the rising edge of signal-A, the response duration timer will start to count, and the multiplexer will stay in alarm status. When the alarm signal ends (falling edge), the timer of alarm-in release time (2 sec) will start to count. If another alarm input detected before the timer times out (e.g. C, D), then, the alarm inputs will be ignored, and the release timer will be reset.

Example 1:



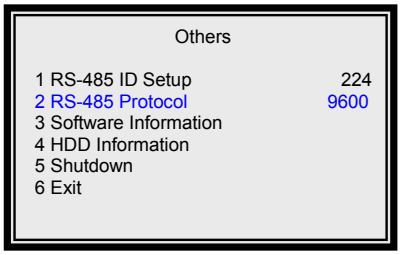
Example-2 : Assume that 3 types alarm source have occurred on one particular channel as shown below. Video-Loss has the highest priority, the next is Alarm-In, and Motion-Detection has the lowest priority. In other words, Alarm-In-A1 can trigger another alarm during Motion-Detection-M1 alarm, and Video-Loss-V1 can trigger another alarm during Alarm-In-A1 alarm., the Motion-Detection-M2 will be passed over during Video-Loss-V1 alarm.

Example 2:



7.7 Others

The <Others> menu allows you to setup RS-485 ID / protocol, view certain system information, such as software, hard disk drive information, and shut down the unit. Select <Others> form the Main Menu and press ENTER, the following menu is displayed.



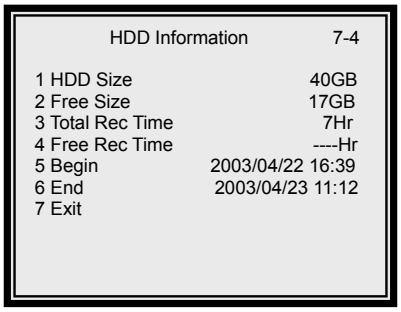
7.7.1 Item Description

Items on the <Others > menu are described as below table.

No.	Item	Description
1	**RS-485 ID Set Up**	Allows you to change the RS-485 ID address of the unit. **NOTE:** No two devices on the same RS-485 bus should have the same ID address. Make sure device ID assignments are unique.
2	**RS-485 Baud Rate**	Allows you to choose the RS-485 baud rate form 38400, 19200, 9600, 4800 and 2400.
3	**Software Information**	Displays the software and hardware information such as CPU Filename, FPGA Filename, Date, Video System, DSP board Hardware and DSP board software.
4	**HDD Information**	Display information about your hard disk drive(s) and available storage capacity. See **Section 7.7.2 <HDD Information>** for more information.
5	**Shutdown**	Allows you to shutdown the unit.

7.7.2 HDD Information

The <HDD Information> menu displays the HDD size, the rest capacity, and others HDD information. Select <HDD Information> form <Other> menu and press ENTER, the following menu is displayed as below figure.



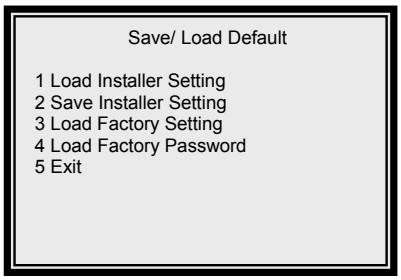
Item Description

Items on the <HDD Information> menu are described as below table.

No.	Item	Description
1	**HDD Size**	Displays the hard disk drive capacity in the unit.
2	**Free Size**	Displays the available space the current HDD leaves.
3	**Total Rec Time**	Displays the total recording time the current HDD provides for saving recorded video.
4	**Free Rec Time**	Displays the available time for saving video. If the DVR records in linear mode (the system will not overwrite files when the HDD is full), the available recording time will be calculated and shown on the screen automatically; or, if the DVR is set to circular mode, the OSD display on the screen will be “- - - - Hr”.

7.8 Save/ Load Default

The <Save / Load Default> menu allows you to save current settings. Select <Save / Load Default> form Main Menu and press ENTER. The following menu is displayed.



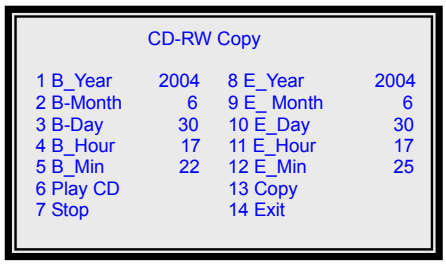
Item Description

The items in the <Save / Load Default> menu are described in the following table.

NO.	Item	Description
1	**Load Installer Setting**	Allows you to recall the “Installer’s Configuration” from the on-board non-volatile memory. Select <Save / Load: Yes> to load the installer setting, or < Save / Load: No> to cancel.
2	**Save Installer Setting**	Allows you to save the current setting as “Installer’s setting”. This operation can only be executed with engineer password; otherwise, “Illegal Operation” message will be displayed on the screen.
3	**Load Factory Setting**	Allows you to recall the “Factory’s Default” from the read only memory. The initial factory default password is 9999.
4	**Load Factory Password**	Allows you to reload the factory password in case you forget your private password.

7.9 CD-RW Copy

This <CD-RW> menu allows you to export video to the CD-R/W and burn the video into a CD. Select <CD-RW Copy> form the Main Menu and press ENTER, the followin menu is displayed as below figure.



To export video to the CD-R/W, follow below steps.

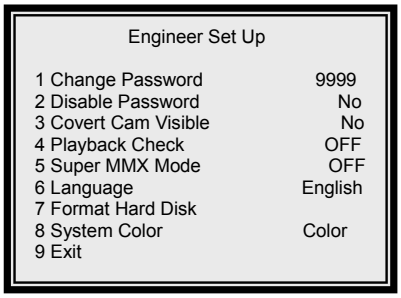
- Enter the beginning year, month, day, hour and minute of the desired video (item 1~5).
- Enter the end year, month, day, hour and minute of the desired video (item 8~12).
- After the beginning and end time is entered, press <Copy> to start burning the selected

video into a CD.

- When the burning procedure is completed, you can choose <Play CD> and press ENTER to play the CD.

7.10 Engineer Set Up

The <Engineer Set Up> menu allows engineers to change critical system information on the unit. To enter this menu, engineer's password is required. Select <Engineer Set Up> form the Main Menu and press ENTER, the following menu is displayed as below figure.



7.10.1 Item Description

The items in the <Engineer Set Up > menu are described in the following table.

No.	Item	Description
1	**Change Password**	You can change the password to any four-digit number using RIGHT / LEFT buttons. Press ESC to exit when the password is changed. **NOTE:** If you forget the changed password, you can recall the factory password by using <Load Factory Password> in <Save Load Option> menu.
2	**Disable Password**	Allows you to enter the OSD menu without requiring password. You can save a lot of time while setting the DVR. This item will be restored to the default setting <No> automatically after you power off and on the DVR.
3	**Covert Cam Visible**	Allows you to turn on / turn off covert camera in playback. Select <YES> to playback the video from covert cameras. Select <NO> to display no video from covert cameras in playback.
4	**Playback Check**	Allows you to check the internal cabling of MUXDVR is functioning correctly or not, usually the “Error Fields” would be a very small number if the system functions correctly. If you choose “ON”, the information will be displayed after you exit OSD menu mode.
5	**Super MMX Mode**	This function is used for Matrix-Multiplexer system. See **7.10.2 <Super MMX Mode>** for more information.
6	**Language**	Allows you to select your native language for the OSD menu. Use RIGHT / LEFT direction buttons to select wanted language. Language selection takes effect immediately upon selection.
7	**Format Hard Disk**	Allows you to format the hard disk. See **7.10.3 <Format Hard Disk>** for more information.
8	**System Color**	Allows you to choose “Color” or “Mono” for the system color.

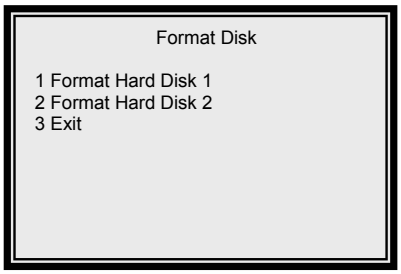
7.10.2 Super MMX Mode

Select <Yes>, the call monitor display will depend on RS-485 command. The call monitor output of DVR 1~16 must be connected to the video input of DVR 17; you can monitor any camera of 256 cameras. Please also refer to control keyboard user manual. If you want to control MUXDVR by computer or other devices, please refer to **Appendix G: <RS-485 Command Set>**. If you select ‘OFF’, the call monitor will work as defined in <Configuration Table1> and <Event >.

The system skeleton and setup guide is described in Appendix H: Super MMX and Super MPX System Setup.

7.10.3 Format Hard Disk

The <Format Hard Disk> menu allows you to format the HDD(s). Note that formatting the hard disk completely removes data. The data cannot be recovered. From the <Engineer Set Up> menu, select <Format Hard Disk> and press ENTER, the following menu is displayed.



To format Hard Disk(s), follow below steps:

- Choose the desired hard disk you plan to format. Select <Format Hard Disk 1> or <Format Hard Disk 2> form the menu.
- Press ENTER to start the formatting procedure.
- Press ESC to exit when the procedure is completed.

NOTE: If you want to use any new HDD, the new HDD should be formatted to FAT32 on the MUXDVR unit before installing. If the HDD you want to install was used on other machine with other file system, you should follow the procedure as well.

Appendix A: Specification

Model Name	MUXDVR	
Compression Method	Wavelet	
Video System	NTSC	PAL
Resolution-Live Video	720 x 480 pixels	720 x 576 pixels
Resolution-Recorded	720 x 240 pixels	720 x 288 pixels
Recording Rate	Up to 60 PPS	Up to 50 PPS
Recording Device	Hot swappable HDD	
Video Export	CD-RW (Optional)	
Recording Quality	Ultra / Supper / High / Normal / Low	
Video Input	BNC x 16, 1.0 Vp-p, 75 ohm.	
Video Looping Through	BNC x 16, 1.0 Vp-p, 75 ohm.	
Main Monitor Output	BNC x 1, S-VHS x 1, 1.0 Vp-p, 75 ohm.	
Call Monitor Output	BNC x 1, 1.0 Vp-p, 75 ohm.	
Alarm Input	x 16, DSUB 37 pin male (TTL level)	
Alarm Output	x 1, DSUB 37 pin male, 2.0 A / 24 V	
Network Interface	Ethernet (10/100 Base-T) (Optional function)	
Remote Control	RS-485 DSCP	
Playback Speed	Fast Forward / Rewind (x1~x8), picture by picture	
Zoom	Yes	
Power Supply	DC 12 V / 4 A	
Title	12 characters	
Alarm List	Up to 255 events	
Dimensions	1U : 432 x 44 x 400mm (W x H x D) 2U : 432 x 88 x 400mm (W x H x D)	
Operating Temperature	0~40°C	

Appendix B: Supported HDD

The supported HDDs are listed as below:

Brand	Capacity	Rotation Speed	Part Number
Maxtor	40GB	5400 RPM	4D040k2
Maxtor	80GB	5400 RPM	4D080H4
Maxtor	80GB	7200 RPM	D740X-6L
Maxtor	80GB	7200RPM	6Y080P0
Maxtor	120GB	7200RPM	6Y120P0
Maxtor	160GB	7200RPM	6Y160P0
Maxtor	200GB	7200RPM	6Y200P0
Maxtor	250GB	7200RPM	7Y250P0

Notice:

1. We strongly suggest do NOT use Seagate products, because them might have overheated problems while the MUXDVR operating.
2. We had compared other brand HDDs with Maxtor HDDs, we recommend user to use Maxtor HDDs with 8MB cache buffer that would bring DVR the optimum stability.

Appendix C: HDD Quick Installation Guide

The MUXDVR is equipped with a mobile rack, the HDD is hot-swappable. You can exchange the HDD when the HDD is full. The following figures illustrate how to install HDD into the removable cartridge.

Step1: Pull the active-handle outwards and unlock with the miniature key provided (Figure 1).

Step2: Pull the handle outwards till the carrier body is out of the cartridge (Figure 1).

Step3: Push the release latch to slide the top cover backwards and remove it (Figure 1).

<Figure 1>

Step4: Insert the DC power cable and IDE cable on the HDD. Make sure the HDD is set to "**Master**" (Figure 2).

<Figure 2>

Step5: Position the HDD into carrier body and slide the top cover back to secure. Secure the HDD using the screws provided (Figure 3).

Step6: Slide the carrier body back in the cartridge frame and lock it with the key provided. Then push the active-handle inwards (Figure 4).

<Figure 3>

<Figure 4>

Appendix D: Hard Disk Error Message

Some messages will be shown on the screen when the H.D.D. cannot operate.

◆ **Message:** HDD Detect Time Out

Symptom: The system checks H.D.D. but gets no response over 30 seconds

Possible reason: H.D.D. power on failure

Countermeasure: 1). Wait for the DVR resets the H.D.D. automatically; 2). Power off and on again

◆ **Message:** No Hard Disk

Symptom: No HDD has been found by the system.

Possible reason: 1). No H.D.D; 2). H.D.D. detects failure

Countermeasure: 1). Insert a formatted (FAT 32) H.D.D; 2). Check the power/ IDE bus connectors, ensure they have been connected well; and then insert the H.D.D. again.

◆ **Message:** Check HDD Bus

Symptom: IDE bus error or H.D.D. Master/ Slave jumper error.

Possible reason: 1).The cable of IDE connectors may be damaged; 2). H.D.D. jumper may not be set to “Master”.

Countermeasure: 1). Check the cable of IDE connectors; it may be damaged; 2). Check the H.D.D. cable; ensure it has been connected with the cartridge well; 3). Check H.D.D. jumper; the jumper has to be set to “Master”.

◆ **Message:** Unknown HDD

Symptom: 1). The H.D.D. format is not acceptable.
2). The file system is not acceptable.

Possible reason: 1). The H.D.D. had been formatted with “NTFS” file system; 2). The H.D.D. had been partitioned or the HDD had not been formatted with “FAT32” file system.

Countermeasure: Enter OSD menu and format the H.D.D. again.

◆ **Message:** HDD Detect Fail

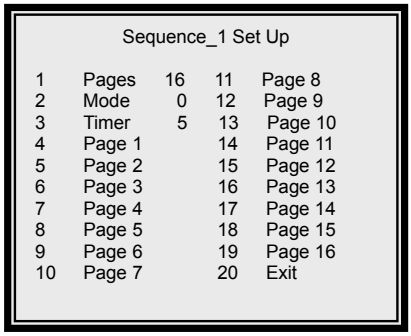
Symptom: 1). The HDD is unusable.
2). The file system is not acceptable.

Possible reason: 1). Other unknown reasons. 2). The H.D.D. had been partitioned or the HDD had not been formatted with “FAT32” file system.

Countermeasure: 1). Exchange the H.D.D. for a new one. 2). Enter OSD menu and format the H.D.D. again.

Appendix E: Setup Automatic Sequencing Mode

The call monitor display full screen video of all installed cameras in sequence. While the unit is in sequencing the camera on the call monitor, press <SET> to toggle the <Sequence Set Up> menu (shown as below figure). Press MODE to exit the <Sequence Set Up> menu. The number on the top is to remind you which sequence is being set.

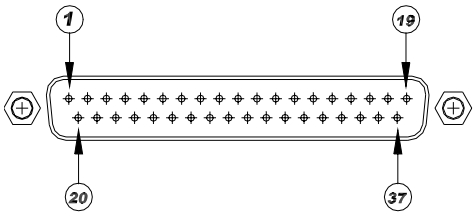


Items on the Seup menu are described in the following table.

NO.	Item	Description
1	**Pages**	Detemines the total number of pages for this sequence. The maximun value is 16, which means that each sequence can have up to 16 pages.
2	**Mode**	Determines which display mode will be used in this sequence. “0“ represents “full screen” mode, …and “7” represents 16-windows mode.
3	**Timer**	Allows you to set the dwelltime between page switching.
4 I 19	**Page**	These items allow you to setup each page. Press <Enter> for page setup. Use directional buttons to change each page’s channel setting.

Appendix F: External I/O Connectors

External I/O Port (37pin DSUB)



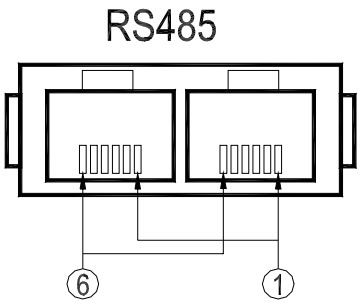
Pin No.	Definition	Direction	Pin No.	Definition	Direction
1	GND	Power	20	Reserved	Input
2	GND	Power	21	Reset Alarm	Input
3	GND	Power	22	Day / Night output	Output
4	GND	Power	23	Day / Night switch	Input
5	Reserved	-	24	Set Alarm	Input
6	Reserved	-	25	Reserved	-
7	Alarm NO	Output	26	Alarm In 13	Input
8	Alarm COM	Output	27	Alarm In 12	Input
9	Alarm NC	Output	28	Alarm In 11	Input
10	GND	Power	29	Alarm In 10	Input
11	GND	Power	30	Alarm In 9	Input
12	GND	Power	31	Alarm In 8	Input
13	GND	Power	32	Alarm In 7	Input
14	GND	Power	33	Alarm In 6	Input
15	GND	Power	34	Alarm In 5	Input
16	Alarm In 16	Input	35	Alarm In 4	Input
17	Alarm In 15	Input	36	Alarm In 3	Input
18	Alarm In 14	Input	37	Alarm In 2	Input
19	Alarm In 1	Input			

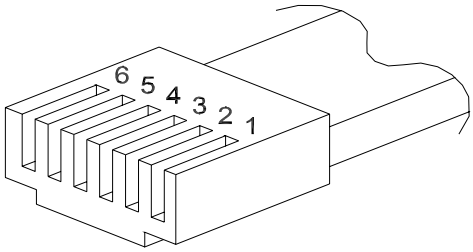
External I/O Board

There is an “External I/O board” included in the MUXDVR box. You can connect it to the External I/O port; the pins are identified as the definitions listed on the board. Three pins are listed but of no use: VCR Trigger, RS-232 RX and RS-232 TX.

RS-485 (RJ11)

The default RS-485 port connector is RJ11 6P6C connector.





RJ11 Cable 6P6C pin definition:

Pin No.	Definition	Direction
1	DA (D +)	I/O
2	-	Reserved
3	GND	Ground
4	DA (D +)	I/O
5	DB (D −)	I/O
6	DB (D −)	I/O

Appendix G: RS-485 Command Set

The texts of Data 0, 1 is in **ASCII** code format (**Normal Command**)

Command		OP_code	Data 0,1	Note
Channel select		A0H	“01” ~ ”0G”	Channel 1~16
Screen mode select	Right		“MR”	Detail setting must reference User’s manual
	Left		“ML”	
Sequence			“S1” ~ ”S3”	Sequence 1~3
Up key			“DU”	
Down key			“DD”	
Left key			“DL”	
Right key			“DR”	
Zoom/Enter			“DZ”	
Play key			“KV”	
Freeze/Pause			“KA”	
Set			“KS”	
ESC			“KE”	
List			“KL”	
Date/Time			“SD”	
Title			“ST”	
Menu			“SP”	
Key Lock			“SK”	Lock/ Un_Locked
Goto			“SR”	
Fast Rewind			“RW”	x1,x2,x4,x8
Fast Forward			“FF”	x1,x2,x4,x8
Universal End			“UE”	
Goto Time1		BDH	Data1, Data0	Year & Month
Goto Time2		BEH	Data1, Data0	Day & Hour
Goto Time3		BFH	Data1, Data0	Minute & “G”

PS: Goto Time1: Year=00~99 (it means 2000~2099); Month=01~12

Goto Time2: Day=01~31; Hour=00~23

Goto Time3: Minute=00~59; “G” ASCII=47H

Example:

If the Keyboard ID is 00H, the MUXDVR ID is E0H.

If you want to select camera 0 on the main monitor, you can use ‘**01**’ command.

(The ASCII Code of ‘01’ is **30H** & **31H**.)

Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6
Receiver ID	Transmitter ID	OP Code	Data0	Data1	Checksum
E0H	00H	A0H	30H	31H	41H

NOTE:

1. The time interval between byte and byte must be shorter than 2ms, and the time interval between 2 commands (6 bytes/command) must be longer than 2ms.
2. Checksum = Byte1 .xor. Byte2 .xor. Byte3 .xor. Byte4 .xor. Byte5

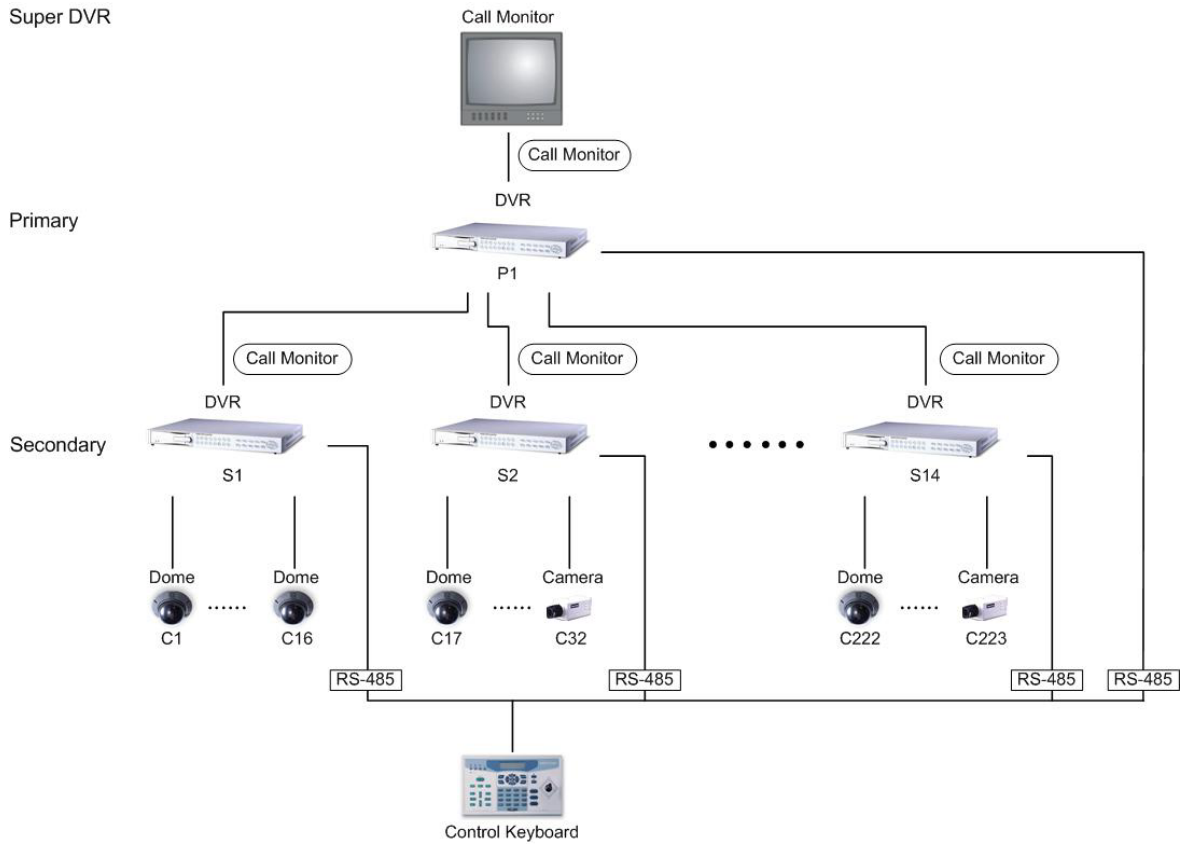
Appendix H: Super MMX & Super MPX System Setup

1. MMX (Multiplexer-Matrix)

Purpose: by using the call monitor output of the MUXDVR/multiplexer array to mimic (or emulate) a small matrix system, each one of the camera can be selected to be displayed on the system monitor.

Ex: when users want to view camera 32, in keyboard's speed dome mode, press camera number 32, then Enter, the system monitor will show the video from camera 32. If camera 32 happens to be a dome camera, he may use the joystick to control it immediately.

System diagram:



Notice:

(1) All MUXDVRs shown in the diagram can be Triplex Multiplexer.

(2) All MUXDVRs / multiplexers must enable Super MMX (in OSD menu)

(3) Choose "Super MMX" from "System Monitor Setting" in keyboard's "System Setting"

(4) All devices must be connected to the same RS485 bus. In security system, the Dome Cameras are mapping to each channel of the MUXDVR / multiplexer. For example, Dome 1 is mapped to channel 1 of S1 (MPX 1). Dome 24 is mapped to channel 8 of S2 (MPX 2)… and so on. When using keyboard as a system controller, please set up each device's ID according to the following table:

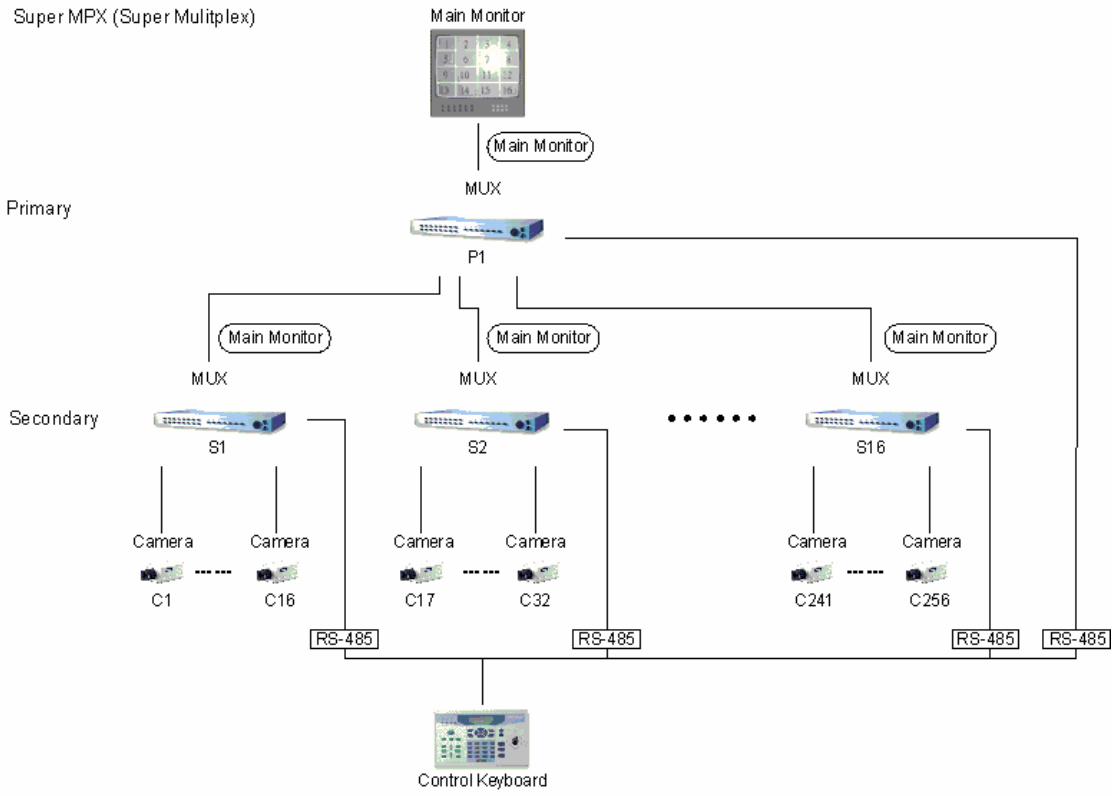
(5) The ID of MUXDVR / multiplexer P1 (Primary) is 255.

MPX NO	MPX ID	Camera ID	Remark
1	E0H, 224	01H – 10H, 1~16	Channel 1~16 of MPX #1
2	E1H, 225	11H – 20H, 17~32	
3	E2H, 226	21H – 30H, 33~48	
4	E3H, 227	31H – 40H, 49~64	
5	E4H, 228	41H – 50H, 65~80	
6	E5H, 229	51H – 60H, 81~96	
7	E6H, 230	61H – 70H, 97~112	
8	E7H, 231	71H – 80H, 113~128	
9	E8H, 232	81H – 90H, 129~144	
10	E9H, 233	91H – A0H, 145~160	
11	EAH, 234	A1H – B0H, 161~176	
12	EBH, 235	B1H – C0H, 177~192	
13	ECH, 236	C1H – D0H, 193~208	
14	EDH, 237	D0H – DFH, 209~223	Only 15 Dome can be connect
15	EEH, 238	None	Can connect to normal camera
16	EFH, 239	None	Can connect to normal camera

2. Super MPX (Super Multiplexer Mode)

Purpose: use Main Monitor instead of Call Monitor, the feature of selecting particular camera to the system monitor is the same as MMX mode. Besides of this, by setting the multiplexers correctly, all of the cameras in this system can be displayed on the system monitor sequentially. Ex: set the P1 multiplexer to Full Screen Sequence mode, dwell time = 3 seconds. Set S1 to S16 multiplexer to 4x4 display mode. Then in 48 seconds, all 256 cameras will be displayed on the system monitor sequentially.

System Diagram:



Notice:

(1) All Multiplexers shown in the diagram can be MUXDVRs.

(2) Choose “Super MPX” from “System Monitor Setting” in keyboard’s “System Setting”

(3) All the device must be connected to the same RS485 bus, the RS485 ID for each device must be set up as indicated in the above table.

Appendix I: Windows Application Software

MUXDVR is equipped with hot swappable hard disk drive(s). You can remove the HDD form the unit and installed it to the PC for recorded video viewing, printing, exporting JPEG file or Clipping a segment of video.

The file format of MUXDVR is compatible with Windows O.S; you can process recorded video data under Windows 98, 2000 and XP systems.

Notice:

(1) You can read any file from MUXDVR's HDD under Windows OS.

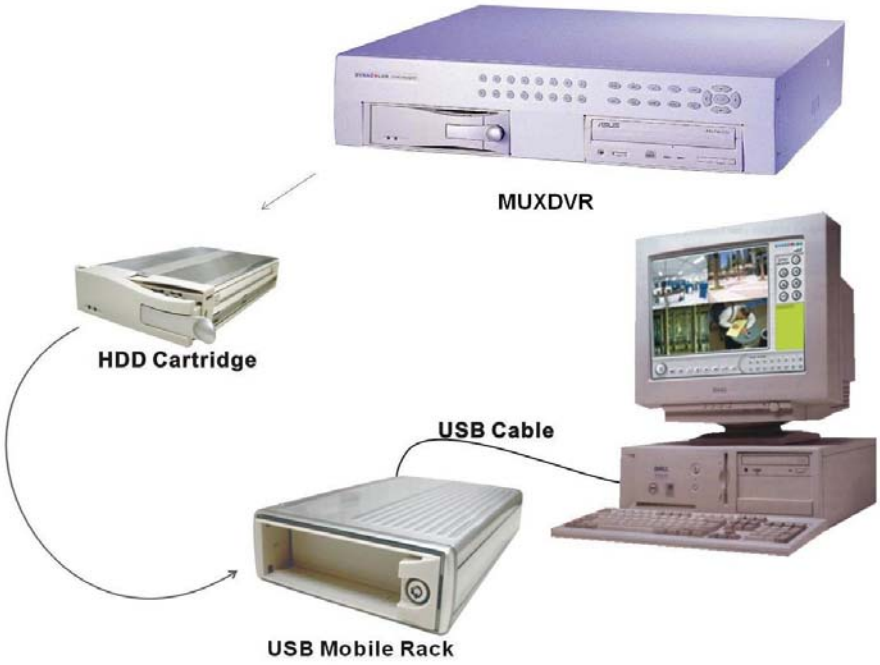
(2) Don't write anything into MUXDVR's HDD under Windows. That will cause some problems when this HDD be plugged into MUXDVR.

Download the Application Software

The Windows-based software application enables you to access above function. You can find all relative software on CD-R that attached to the MUXDVR. Please visit www.dynacolor.com.tw for downloading the software. After Window AP is downloaded and installed on your PC, the shortcut of the Application Software will be generated on the desktop of your PC, the icon is shown as below figure.

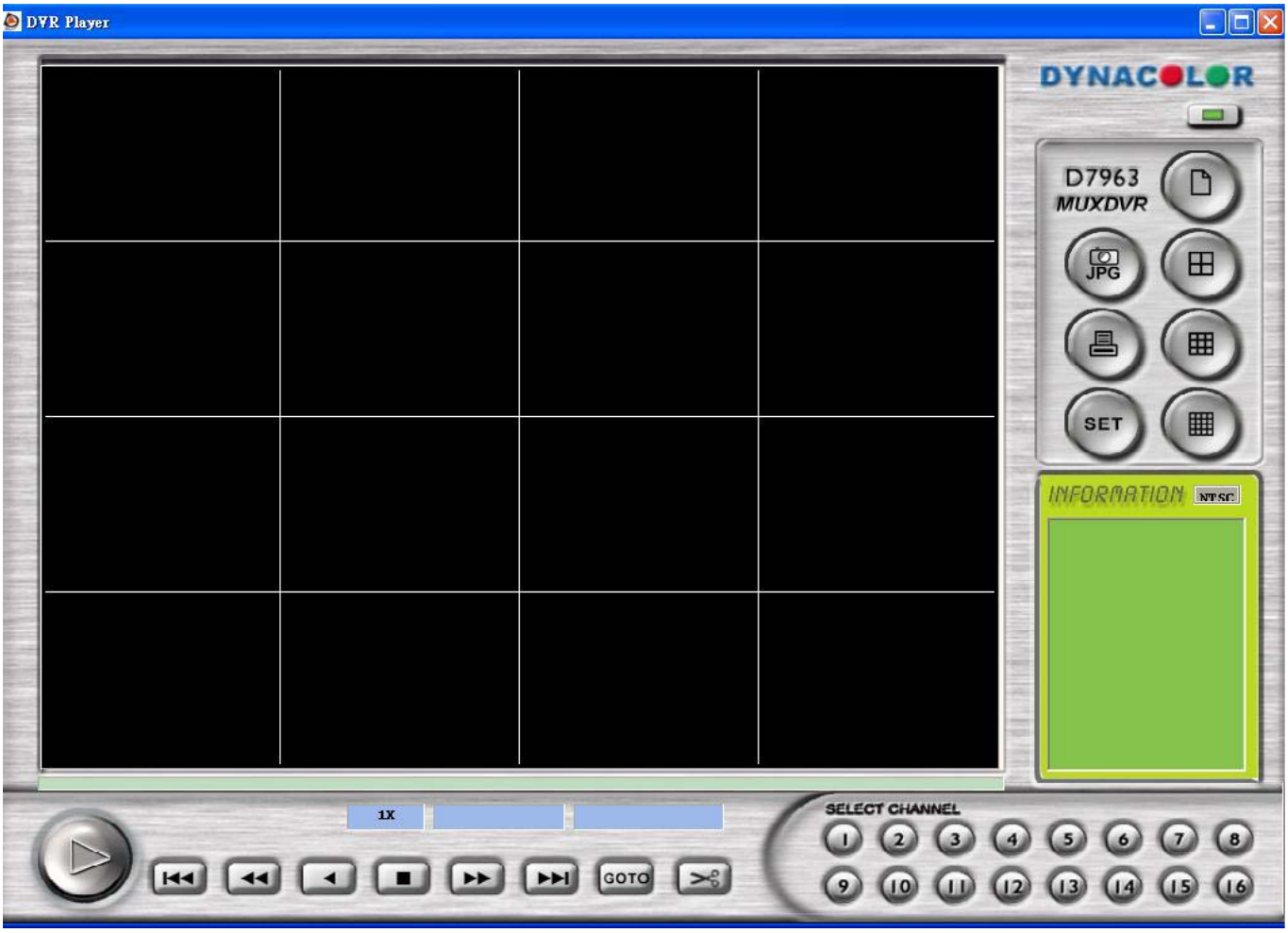
Connect the USB Mobile Rack to PC

Remove the HDD Cartridge form MUXDVR and insert it to a USB Mobile Rack, then connect the USB Mobile Rack and the PC with a USB Cable.


MUXDVR
HDD Cartridge
USB Cable
USB Mobile Rack

Starting the Window Application

Double click the icon on the desktop with the left mouse button, the Main Window displays as below figure.



Windows Application Operations

The Main Window displays with the function button on the right and bottom. These function buttons are described in the below table.

Button	Icon	Description
Open File		Click to search and open wanted recorded video file. Click the button, and the <Open File List> window displays. Press Browse to search for the wanted file stored in the HDD. And press Open to open the selected file.
Display Mode		While you are playing back recorded video, click one of these buttons to choose wanted display mode, including 4, 9 and 16 multi-window display mode.

Save Image		Click to save current display image as a JPEG image file and store it in the HDD of your PC.
Print Out		If your PC is connected with a printer, click this button can print out current recorded image.
Set		Used to assign a camera to desired window. Click the button and a yellow window cursor appears on the multi-window. Assigning the wanted camera to the window by clicking the corresponding Channel button. The window cursor will automatically move to next window for another assignment.
Playback		Click to start playing the recorded video, and click again to pause.
Go to Begin		While you are playing recorded video, click this button to go to the first image of the playback video.
Fast Rewind		Click to play the recorded video in reverse direction. Click repeatedly to change the playback speed: x1, x4, x8, x16, x32 and x64.
Rewind Playing		Click to rewind playing the recorded video at normal speed.
Stop		Click to stop playing the recorded video.
Fast Forward		Click to play the recorded video in forward direction. Click repeatedly to change the playback speed: x1, x4, x8, x16, x32, and x64.
Go to End		While you are playing back recorded video, click this button to go to the end image of the playback file.
GOTO		While you are playing back recorded video, click for searching the playback video of certain date and time.
Video Clipping		Click to clip a small period of video for transferring more easily. Click once to start clipping and click again for stop.
Channel 1~16		Click one of these buttons to view the channel full screen.

Appendix J: Remote Access over the Web (Optional)

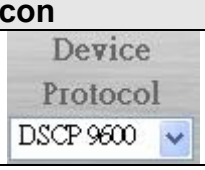
Users are capable of accessing live and recoded video from remote site through Internet with Ethernet port connected, it is an optional function.

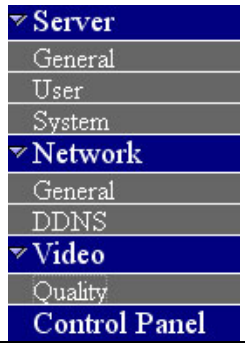
Starting the Main Window

Start you Internet browser first either by clicking on its desktop icon, or by using the <Start> menu to access it. Then enter the correct IP address of the remote unit in the Address field at the top of the browser. When the connection is made successfully, the Main Window will display on the screen as below figure.

Function Buttons on the Main Window

Through the control panel, users are capable of controlling and setting the unit remotely, the function buttons on the control panel are described in the below table.

Buttons	Icon	Description
Device Protocol		Allows you to set the connected device protocol. For a communication to be successful, each device must recognize and follow the same standard.
Zoom In / Zoom Out		If the remote unit has been connected with any dome camera, you can zoom in or zoom out the camera using the two buttons.

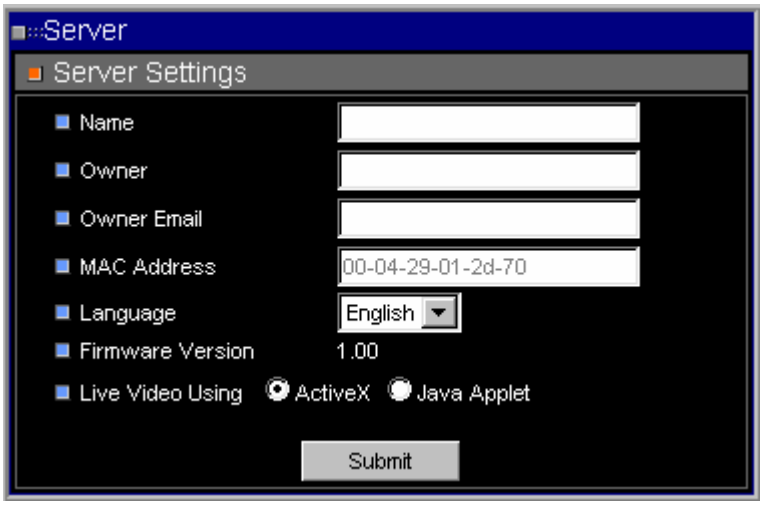
Iris Near / Iris Far		Used to open and close the iris on the dome camera. Proper adjustment will ensure the correct exposure depending on the camera's situation and the lighting levels.
Preset Pt.		Use to set up dome control preset positions. **<u>To set a preset point, follow these steps:</u>** ● Access full screen by clicking a Channel button. ● Pan and tilt the dome camera to a desired position. ● Enter a number for naming the preset point ● Click <Set>. **<u>To call the preset point, follow these steps:</u>** ● Enter the number of the desired preset point. ● Click <Go> to call the preset point. **<u>If you want to clear a preset point, follow below steps:</u>** ● Enter the number of the preset point you want to clear. ● Click <Clear> to clear the preset point.
Step Degree		Used to set the step degree of dome camera. The value ranges form 1 to 15 degree.
Direction buttons		If the <Pan/ Tilt> box is checked (default), these buttons are used to pan/ tilt the connected dome cameras. Choose a wanted camera through "P/ T/ Z ID" before you tried to pan/ tilt it. If the <Pan/ Tilt> box is not checked, these buttons are used to select OSD menu items of speed dome camera.
Menu/ Enter		In normal status, this button is used to enter the OSD menu of connected speed dome camera. In speed dome OSD menu, the button is used as <Enter> button.
MUXDVR-control buttons		The usages of these buttons are similar to those buttons on the remote unit's front panel. Please see **<u>Section 3.2 <Function buttons></u>** for more information.
Server		Click and a server Setup menu displays The item list of the Setup menu is displayed on the left-top of the browser (shown as below). See next subsections for more information. 
GET ID		Press to detect the remote unit's ID and show the on the screen.

Password		Enter the correct password in the field and press <Send> for entering the remote unit's OSD menu, or playing back video.
Channel Buttons		The number of these channel buttons corresponds to the number of channels supported by the unit. Click one of these buttons to view the channel full screen. **Note:** You can select OSD menu items either by using the direction buttons or click on the corresponding Channel buttons. For example, if you want to select MUXDVR menu item 3 Monitor, you can just press Channel Button "3" on the right side.
MUXDVR ID		Used to set the remote unit ID.

Server Setup

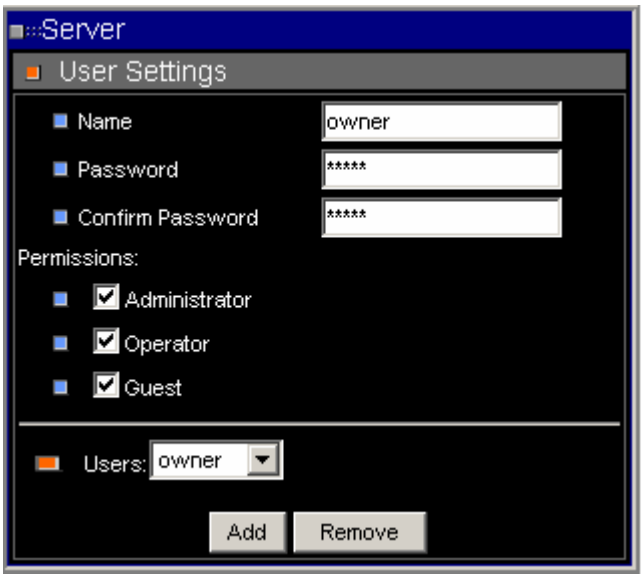
The items are described in the following tables.

Server Settings



Server: General	
Name	Enter the name of the remote unit.
Owner	Enter the name of the unit owner
Owner Email	Enter the owner email
MAC Address	The MAC address will be detected and shown on the test box automatically.
Language	Select the OSD language.
Firmware Version	Shows the firmware version of the remote unit. The item is for read only.
Live Video Using	Select <ActiveX> or <Java Applet> for viewing images.

User Settings



Server: User	
Name	To add a new user, the user's name, password and permission are required entering. Enter the new user's name in this field.
Password	Enter a new password for the new user.
Confirm Password	Confirm the new password
Permissions	Select the new user permission for accessing the unit. The default password is listed as below table.

User Permission	ID	Password
Administrator	owner	owner
Operator	operator	operator
Guest	guest	guest

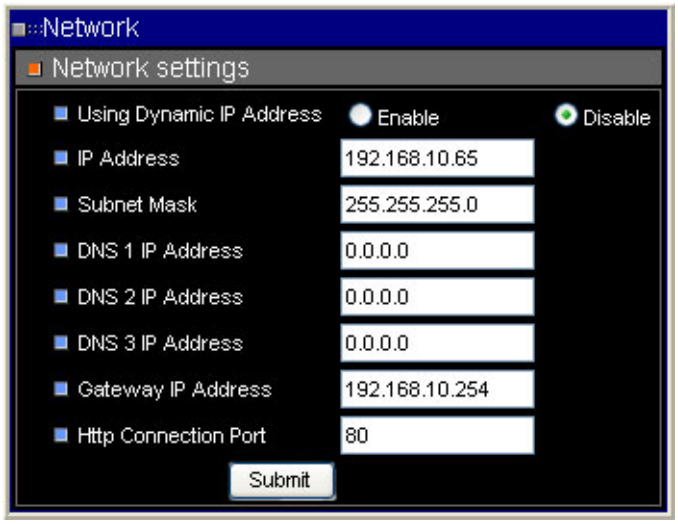
Users List	Click to view all authorized users. You can also select one user from the list and press <Remove> to remove the user form the list.

System Commands

Server: System	
Save Changes	Click to save the changes you have made.
Reboot System	Click to reboot system without saving the changs

Network Setup

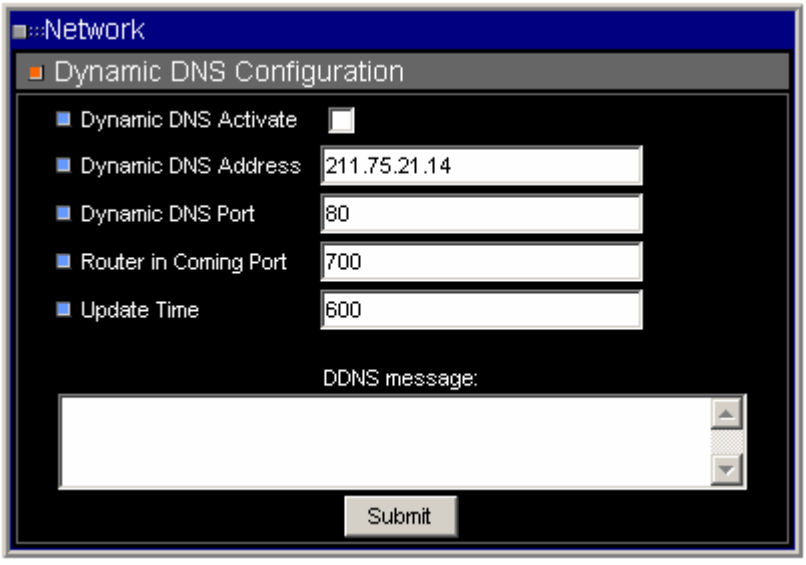
Network settings



Network: General	
Using Dynamic IP Address	Enable or disable dynamic IP addresses for this unit on the network.
IP Address	Allows you to configure the IP address of the remote unit.
Subnet Mask	Allows you to enter the subnet mask for the unit.
DNS 1 IP Address	Allows you to specify the IP address of the Domain Name System associated with the unit
DNS 2 IP Address	
DNS 3 IP Address	
Gateway IP Address	Allows you to specify the IP address of the gateway associated with the unit.
Http Connection Port	Sets the Http connection port.

Dynamic DNS Configuration

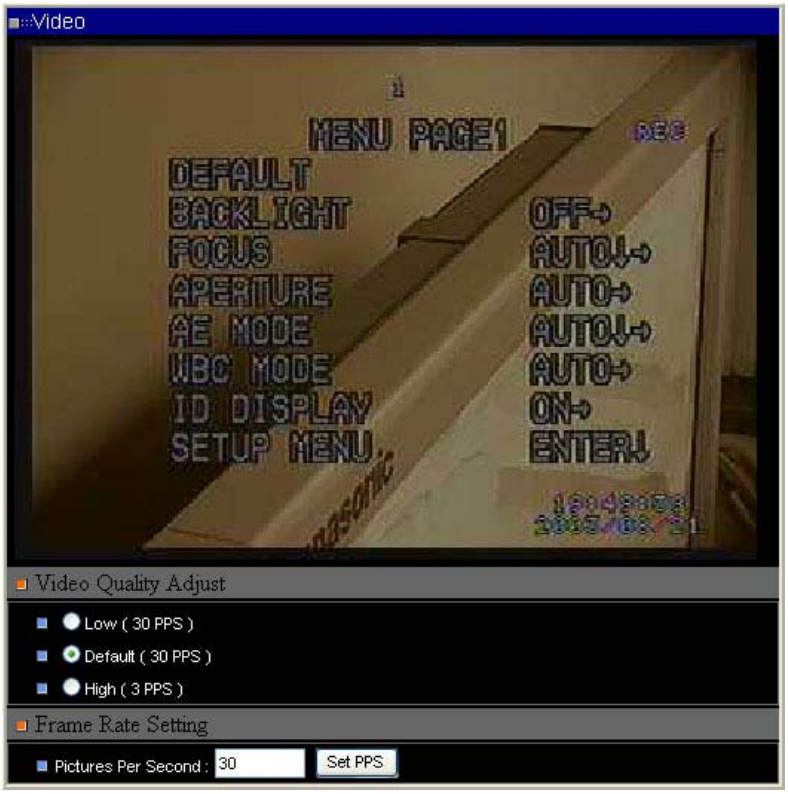
This sub-menu allows you to set the DDNS settings (Figure 6).



Network: DDNS	
Dynamic DNS Active	Enable or disable Dynamic DNS active
Dynamic DNS Address	Enter the Dynamic DNS address
Dynamic DNS Port	Allows to set the Dynamic DNS port
Router in Coming Port	Allows to set the router in coming port
Update Time	Enter the update time

Video

This sub-menu allows you to set the video quality and PPS (Picture Per Second) (Figure7).



Video: Quality	
Video Quality Adjust	Allows setting the video quality to Low, Default and High level.
Frame Rate Setting	Allows setting the frame rate of the unit.