



**TDR-22XX series
Digital Recording System**

**Installation and Operation Manual
V 1.01**

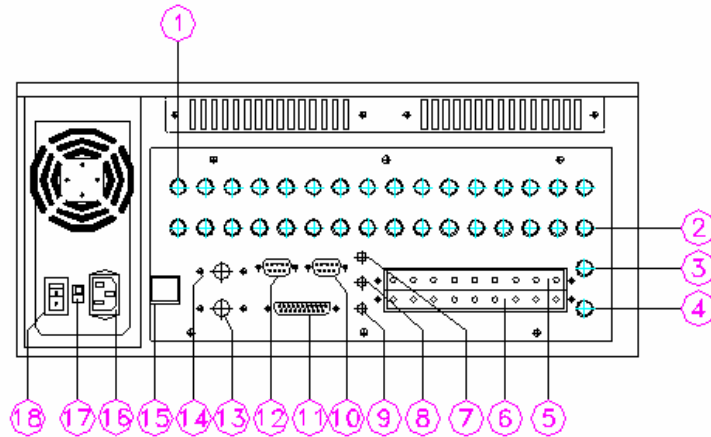
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CHAPTER 1: INSTALLATION

Place the Digital Recording System on the flat surface or mount it on the 19" rack.

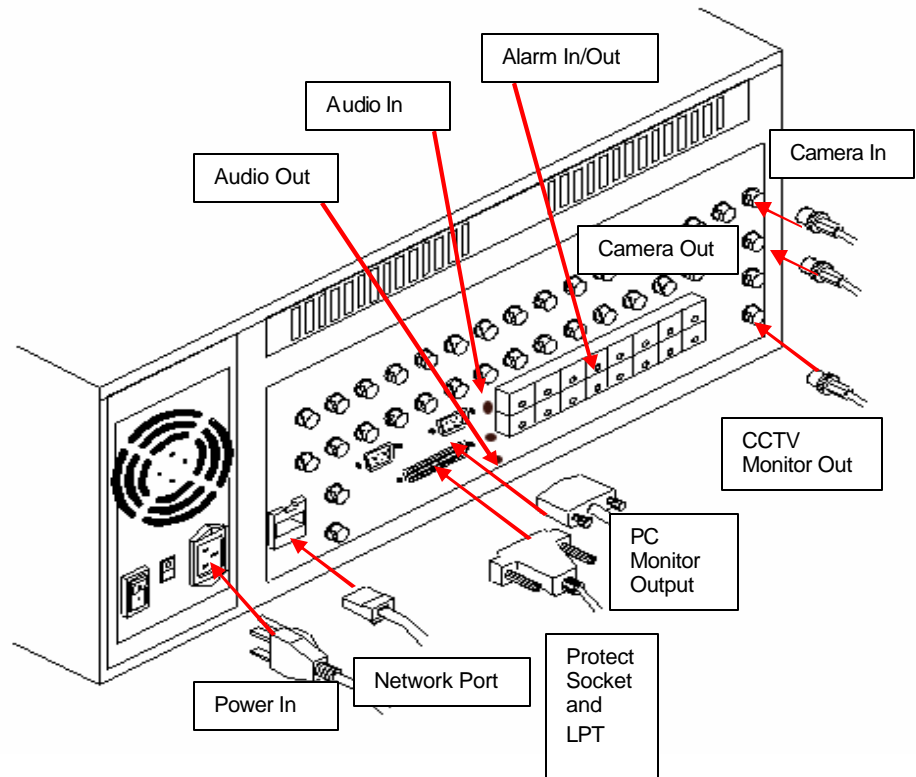


* For TDR-2209 there are only 9 camera Inputs and 9 Loop through outputs on the back board. For TDR-2204 there are only 4 camera Inputs and 4 Loop through outputs on the back board.

1. **Camera Inputs**
2. **Loop Through output**
3. **Reserved**
4. **CCTV Monitor output**
5. **Alarm Inputs**
6. **Alarm Outputs**
7. **Audio In**
8. **Microphone Jack**
9. **Audio Out**
10. **COM series port**
11. **Printer (LPT) port**
12. **PC Monitor Output**
13. **Mouse (PS/2)**
14. **Keyboard (PS/2)**
15. **Network port (RJ-45)**
16. **AC Power Input**
17. **115/230 VAC Power Switch (option)**
18. **Power Supply Switch (option)**

Step 1: Connect the Cables

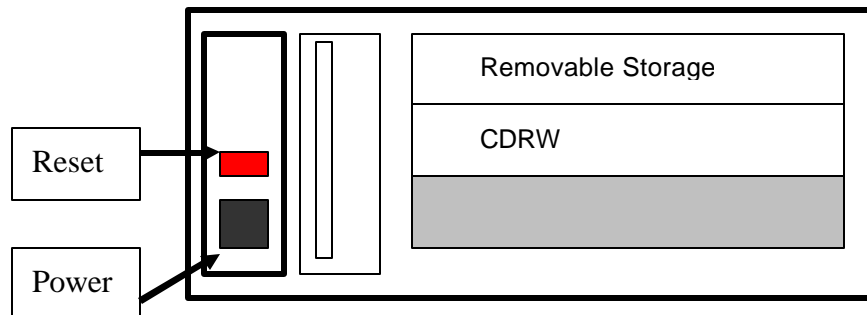
Connect all the necessary connector and signal cables into the correct ports.



* For TDR-2209 there are only 9 camera Inputs and 9 Loop through outputs on the back board. For TDR-2204 there are only 4 camera Inputs and 4 Loop through outputs on the back board.

Step 2: Turn on the System

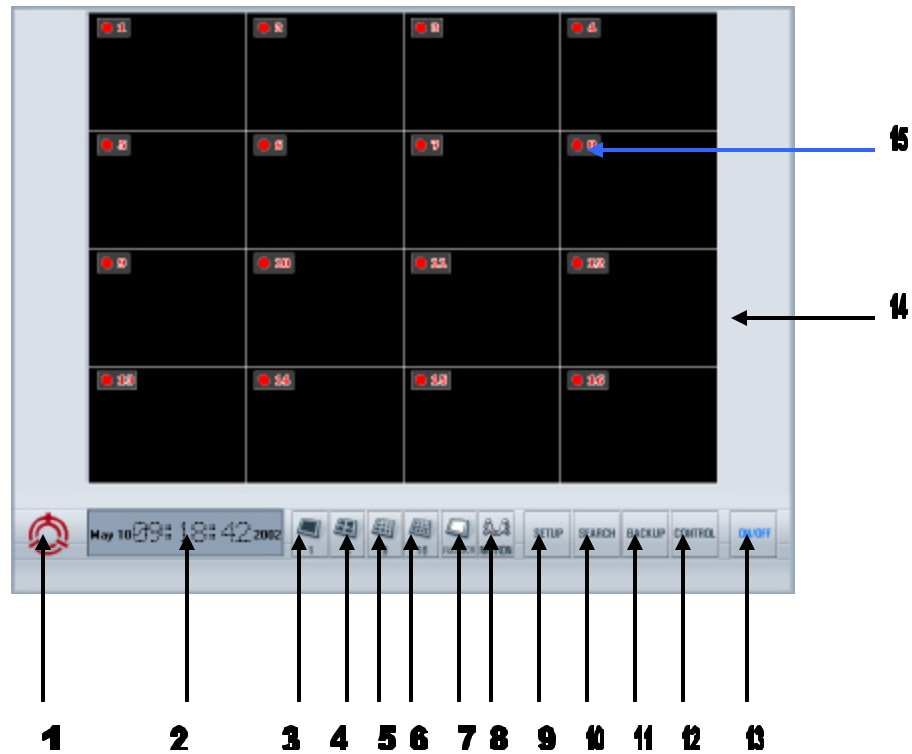
Turn on the power by push the power button on the front panel.



CHAPTER 2: WATCH MODE

Turn on the system. The main screen of TATUNG TDR-22XX series appears as below.

Note: For TDR-2209 there are only 9 channels split the screen.
For TDR-2204 there are only 4 channels split the screen



The buttons and icons on the screen are described below:

1. **Company LOGO**
This is the logo of TATUNG Company of America.
2. **DATE/TIME Window**
This window displays the date and time.
3. **1 Sequence Button**
Click to select the 1-window (1x1) format. Only 1 camera can be displayed at a time. The sequential dwell time can be adjusted in SETUP mode.
4. **4 Sequence Button**
Click to select the 4-window (2x2) format. Up to 4 cameras can be displayed at the same time. The sequential dwell time can be adjusted in SETUP mode.
5. **9 Sequence Button**
Click to select the 9-window (3x3) format. Up to 9 cameras can be displayed at the same time. The sequential dwell time can be adjusted in SETUP mode.
6. **16 Button**
Click to select the 16-window (4x4) format. Up to 16 cameras can be displayed at the same time. The sequential dwell time can be adjusted in SETUP mode.

Note: For TDR-2209, the Button of 9 Sequence and the button of 16 will show the all 9 channel at same time. : For TDR-2204, the Button of 4 Sequence, the button of 9 Sequence and the button of 16 will show the all 4 channel at same time.

7. Full SCR Button

This button allows you to hide all buttons and icons and enlarge the display windows to the FULL SCREEN. You have to right click to get back to normal. Once you get the full screen, if you LEFT click, the screen can not go back to normal, instead, the picture the mouse arrow sitting on will be enlarged to full screen.

8. Motion Button

Click to enable the motion tracking function. This is a very powerful function which allows you to track a moving object from one channel to another. All image windows this object passed by will be enlarged one by one.

9. Setup Button

Click to switch to SETUP MODE. The setup mode includes buttons of CHANNEL, SCHEDULE, SPEED, COLOR, MOTION, P/T/Z PROTOCOL, PASSWORD, and VOICE. With these buttons your system can be custom- programmed to fit your operation needs.

10. Search Button

Click to switch to SEARCH MODE. In this mode, you may either use LOG button to check the image database or use DATE/TIME button to get the recorded images within seconds. The images found may either print out or save to a floppy disk for your emergency needs. The usage of the storage can be found by STORAGE button.

11. Backup Button

Click to switch to BACKUP MODE. In this mode, you may either choose auto-backup function to save images to a second removable hard disk or choose AVI backup function to save images onto a CDRW available from this system.

12. Control Button

Click to switch to CONTROL MODE. In this mode the PAN/TILT/ZOOM of each camera can be controlled by clicking the buttons on the screen.

13. On/Off Button

Click to turn off the entire system.

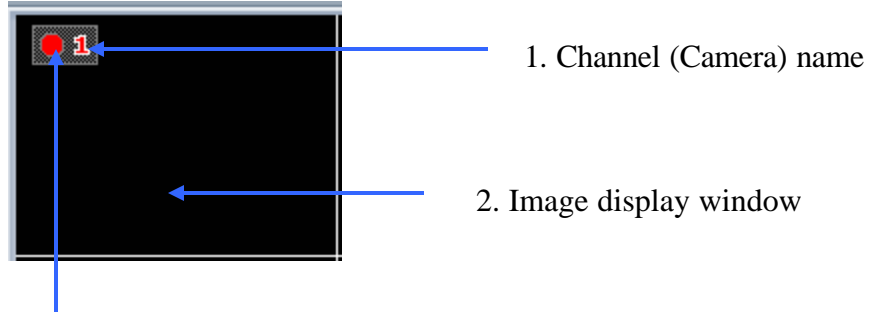
14. Display windows

Display camera images on 1, 4, 9 or 16 windows depending on your selection. Left click a window will enlarge the picture in that specific window. And left click again the picture will go back to the normal size. RIGHT click any window will hide all buttons and icons and enlarge all pictures. And right click again will go back to normal

15. On Screen Display (OSD)

Display the camera name and recording status. The recording status indicates camera active or inactive and the recording method (continuous recording, motion recording or alarm recording).

2.1 Channel display window



3. Record status lamp

1. Channel (Camera) name

Identify the name for each channel. You may assign the channel name in SETUP mode.

2. Image Display window

This area displays the image comes from the camera.

3. Recording status lamp

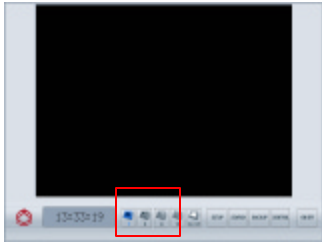
● This lamp turns red at consecutive recording

● When motion recording, this lamp becomes blue and white. (on and off)

● At sensor recording, this lamp turns yellow and white. (on and off)

2.2 Selection of Split screen

Selection of window division mode that is available in 1 division window (sequence from channel 1 to channel 16), 4 window, 9 window, 16 window, and Full screen display.



Note: At all Ch Display, left click a specific camera, the image of this camera will be enlarged without sequencing. And left-click again can go back to the normal status.

Note: For TDR-2209, the button of 9 Sequence and the button of 16 will show the all 9 channel at same time. : For TDR-2204, the button of 4 Sequence, the button of 9 Sequence and the button of 16 will show the all 4 channel at same time.

Note: You can always use right-click on mouse to switch between these Full screen status and normal screen status.

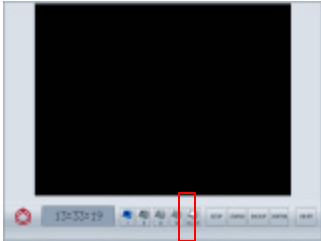


Click on the one of these buttons to perform the function

	<p>one-window Sequence</p>	
	<p>four-window Sequence</p>	
	<p>nine-window Sequence</p>	
	<p>all channel</p>	
	<p>FULL screen</p>	<p>Click this button to hide all buttons and icons and enlarge the display windows to FULL screen. You must right click on mouse or touch pad to go back to the normal.</p>

2.3 Motion Tracker

This function allows you to track the path of a moving object from one channel to another. All image windows this object passed by will be enlarged. Therefore, the object will always display on an enlarged window.

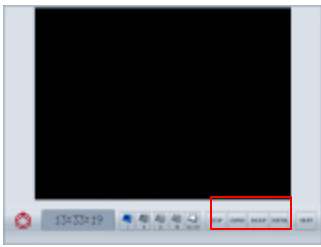


Click on this button to enable the motion tracking function.

Note: To enable this function, all channels need to be programmed to motion recording.

2.4 Mode Switch button

There are four function modes can be selected in this system.



Click on the one of these buttons to perform the function



SETUP: Click to switch to SETUP MODE. The setup mode includes buttons of CHANNEL, SCHEDULE, SPEED, COLOR, MOTION, P/T/Z PROTOCOL, PASSWORD, and VOICE. With these buttons your system can be custom-programmed to fit your operation requirements.



SEARCH: Click to switch to SEARCH MODE. . In this mode, you may either use LOG button to check the image database or use DATE/TIME button to get the recorded images within seconds. The images found may either be printed out or saved to a floppy disk for your emergency needs. The usage of the storage can be found by STORAGE button.



BACKUP: Click to switch to BACKUP mode. It can backup the data to the other storage or other type of media which is available for this system. This mode include the auto-backup function, immediate AVI type backup function and have a windows explorer opened for your convenience.



CONTROL: Click to switch to CONTROL MODE. In this mode the PAN/TILT/ZOOM of each camera can be controlled by clicking the buttons on the screen.

2.5 ON/OFF Button

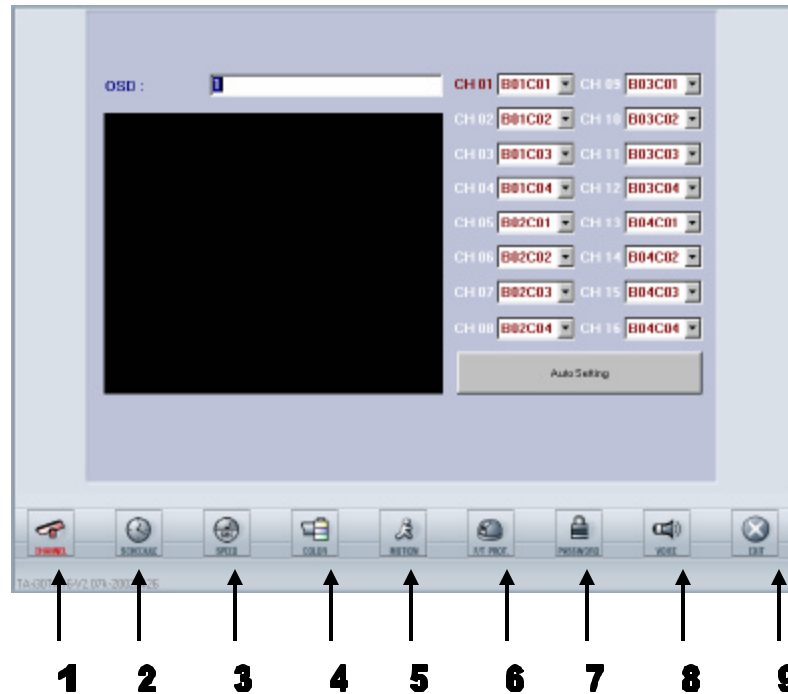


Click on this button and click on "YES" as the system prompt out "ARE YOU SURE?" to shutdown the DVR system.

CHAPTER 3: SETUP MODE

The first screen of the setup mode will be the channel setting as the following picture

Note: For TDR-2209, CH 10 to CH 16 will be empty by the factory's setting. For TDR-2204, CH 05 to CH 16 will be empty by factory's setting



The control buttons contained in the main screen are described below:

1. Channel

Click on this button to setup the channel and channel name. There are two different ways to setup the channel-automatically scan and manually designate. You can also set the name for each channel.

2. Schedule

Click this button to setup the recording schedules. There are 16 recording groups and three recording modes (continuous, motion, sensor) can be separately set up for your application. Alarm output can also be set up separately.

3. Speed

Click to assign the recording speed and other options. The recording speeds include speeds on normal recording, motion recording, and sensor recording. You can also set up the times for display sequence, post alarm and post motion in this mode.

4. Color

Click to adjust the image color, including the adjustment of Brightness, Contrast, Color (saturation), and TINT for each individual channel.

5. Motion

Click to assign the motion function. You can set up each individual channel's motion detection area (up to 10 zones for each channel), sensitivity, and the beep time for motion detection.

6. P/T/Z camera protocol

Click to setup the communication port and protocol used to communicate between Tatung's DVR and the camera connected.

7. Password

Click on this button to setup the user name and password for access security. The passwords are divided in SETUP, VIEWER, SHUTDOWN, and REMOTE four levels. Hiding camera can also be programmed with this setup.

8. Audio

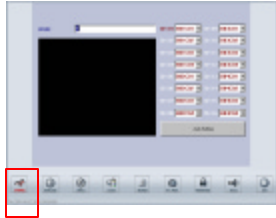
Click to setup the audio recording function.

9. Exit

Click to exit to the setup mode and back to watch mode.

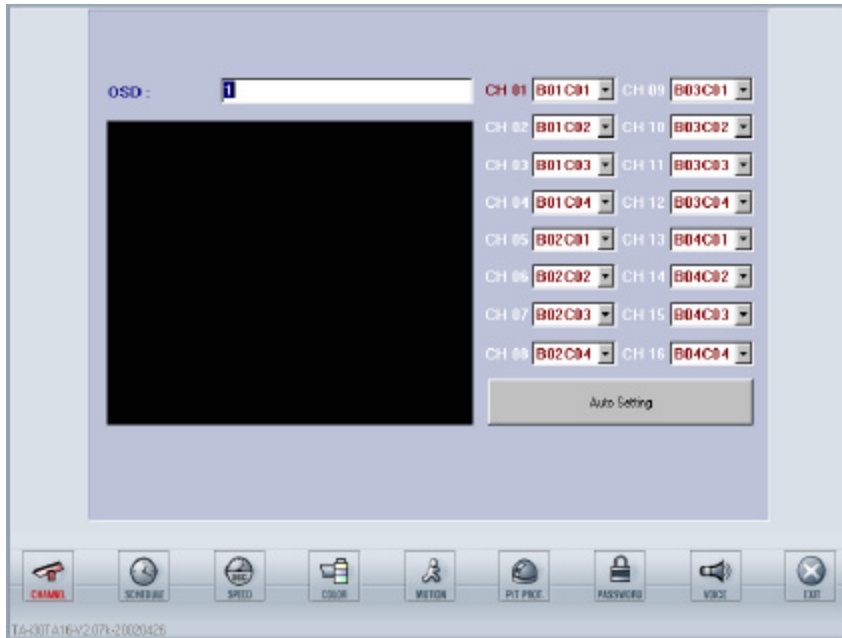
3.1 Channel

This function button (as shown below) can be used to setup the channels. There are two different types of channel setting, manual or automatic.



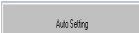
Click this button to start the channel setup and the screen will be shown as below.

Note: For TDR-2209, CH 10 to CH 16 will be empty by the factory's setting. For TDR-2204, CH 05 to CH 16 will be empty by factory's setting



1. Setup the Channel

You can setup the channel either by auto setting or manual setting.

Auto Setting	Click on the  setup will be executed automatically
Manual Setting	Select the Board (B01-B04) and Channel (C01-C04) from the list to setup the Channel Name

CH01 **B01C01**

First Channel

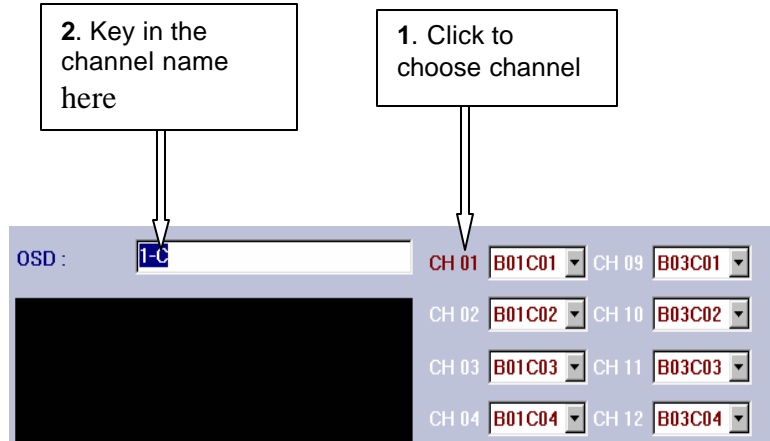
This is the first Board and first Camera

Click to have the list. Select the Board # and Camera # from the list. Then left-click

2. Setup the name

Setup the channel name by following the procedure

1. Click the channel number
2. Key in the name of the channel
3. Limited to 14 characters and number including space.



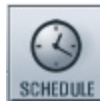
3. EXIT

You may click any other icon to exit Channel Setup Mode and go directly into other setup mode. Click EXIT button, you will be back to Watch Mode.

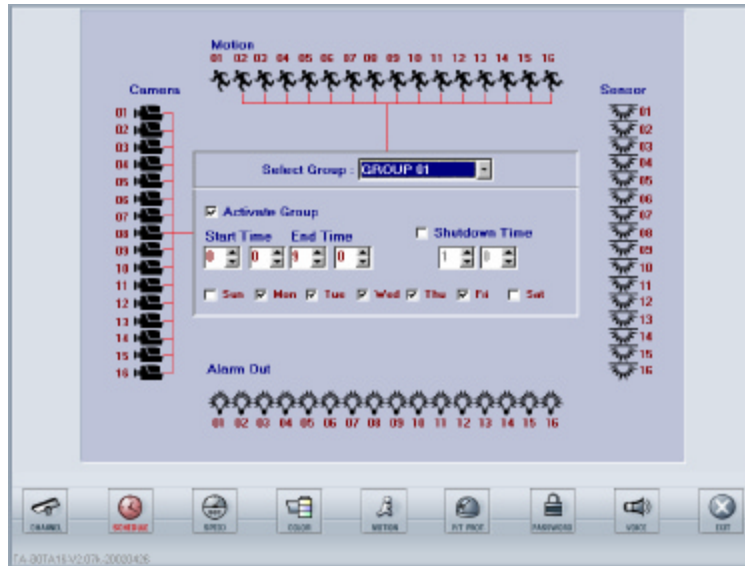


3.2 Schedule

This function button (as shown below) is used to setup the schedules.



Click on this button to start schedule setup and the screen will display as follow. (Please follow the 7 steps below)



Note: For TDR-2209, Camera's CH 10 to CH 16 and Motion's CH 10 to CH 16 will be useless even you activate it. For TDR-2204, Camera's CH 05 to CH 16 and Motion's CH 05 to CH 16 will be useless even you activate it.

Note: Alarm Out 09 to 16 was not configured in all TDR-22XX series DVR.

1. Select the Group

Select the Group number (total 16 groups are available and programmable).



2. Activate Group

Activate the group by checking the box.



3. Schedule the Recording DATE/TIME and DVR Shutdown Time

- Setup the days of the week (Sunday to Saturday) by checking the box of the day.
- If you want to assign the recording time (default is 24 hours), setup [Start Time] and [End Time] by using military time system. (00:00 to 00:00 means 24 hours).
- If you want to assign the shutdown time, check the box of Shutdown Time and setup the time.



Note: The shutdown time is to set the time for turning off the system, which is different to the restart system.



4. Activate the camera

Click the camera icon to activate the cameras which are used in this group.



5. Select the Recording mode

Select the recording mode for each channel. There are three recording modes.

DEFAULT	Continuous recording
 Motion	Record while motion detected
 Sensor	Record while Sensor is active

6. Setup Alarm Out: Alarm Output may setup when either a sensor is triggered or motion is detected.



7. Set up another group

Repeat the step from 1 to 5 if you want to set up another group.

8. Exit

You may click any other icon to exit Schedule Setup Mode and go directly into other setup mode. Click EXIT button to go back to Watch Mode.



3.3 Speed

This function button (as shown below) can be used to setup the recording speeds.



Click this button the screen displays as below.



Normal Recording Speed

Dragging the cursor can designate normal recording speed (frame rate) for each camera or all cameras (Separate frame rate for each camera is available).

Motion Recording Speed

Dragging the cursor can designate motion recording speed (frame rate) for each camera or all cameras (Separate frame rate for each camera is available).

Sensor Recording Speed

Dragging the cursor can designate sensor recording speed (frame rate) for each camera or all cameras (Separate frame rate for each camera is available).

Sequential Time

Adjust the dwell time interval for sequential display.

Post Motion Time

Keep recording for a period of time after motion detection is over.

Post Alarm Time

Keep recording for a period of time after sensor alarm is finished.

MISC

Check on the box if you want the following features to be enabled.



Sensor Beep	Activate beep sound when sensor is triggered.
Proportion	When activated, only 1, 4, 9, 16 divisions are available, to keep the horizontal and vertical ratio of each channel window.
Motion Log	Activated Motion log function.
Recording While Searching	Continue to record when the system in search mode.
Removable HDD	System Will BEEP when the removable HDD is almost full.

Image Quality

Dragging the cursor can adjust the compression rate, the higher the compression the worse the image quality. The recorded image with best quality (100%) is clear and vivid. But the size of a frame is the largest (15KB-20KB). At lower percentage of quality (higher compression rate) image quality is relatively low. But the size of a frame is relatively small (3KB-8KB). 34%-50% of image quality is recommended.

Compression Rate	Image Quality	Frame Size**	
		Range	Average
HIGH ↑ ↓ LOW	0%	2400-7200 byte	5.0 KB
	10%	2600-8100 byte	5.5KB
	20%	2900-9300 byte	6.0 KB
	30%	3500-10300 byte	7.0 KB
	40%	4100-12000 byte	8.0 KB
	50%	5000-14000 byte	9.5 KB
	60%	6000-16000 byte	11.0 KB
	70%	6600-17000 byte	12.0 KB
	80%	8200-20000 byte	14.0 KB
	90%	9200-22000 byte	16.0 KB
	100%	14000-24000 byte	19.0 KB

*Frame size may vary from image to image according to the situation of site



EXIT

You may click any other icon to exit Speed Setup Mode and go directly into other setup mode. Click EXIT button to go back to Watch Mode.



3.4 Color

This function button (as shown below) is used to setup the colors.



Click this button to setup the color, the screen will be shown as below.



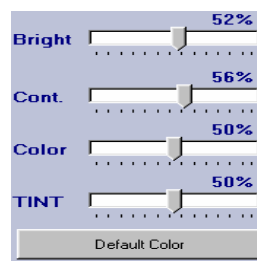
1. Select channel

Select the channel (from 1 to 16) you want to adjust.



2. Adjust the Color

Drag the cursor to adjust the followings for each channel.



- Bright:** Adjust the brightness.
- Const:** Adjust the contrast.
- Color:** Adjust the color saturation.
- Tint:** Adjust the tint.
- Default color:** Load default color value.

3. EXIT

You may click any other icon to exit Color Setup Mode and go directly into other setup mode. Click EXIT button to go back to Watch Mode.

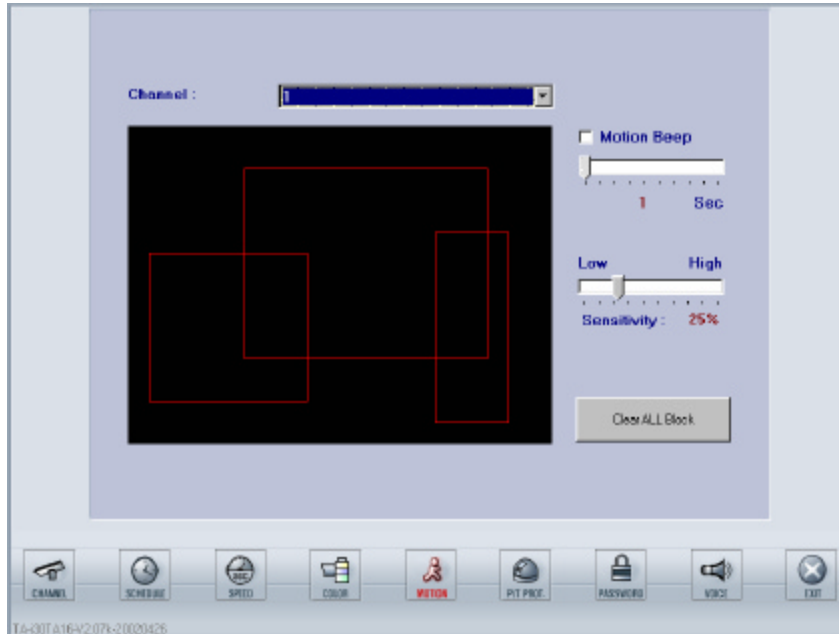


3.5 Motion

This function button (as shown below) can be used to setup the motions.



Click on this button to setup the motion, the screen display as the below (Please following the 4 steps)



Note: If no detection zone was defined, system will recognize the whole windows as a detection zone.

Note: After the camera is motion activated in Schedule Setup Mode and after the detect zone is set, this channel will be motion-activated in the define area. If anything falls in this area, the detected motion will be seen in a lot of small blue squares. And red wording "MOTION DETECTION" will be blinking.

1. Select channel

Select the channel from 1 to 16.



2. Set up motion detection zone.

Setup the motion detection zone for each channel by click and drag. It would be seen in red square (Maximum 10 areas per camera).

3. Set up the MISC options.

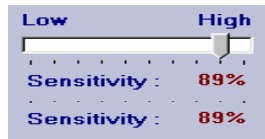
Motion beep

In motion recording mode, BEEP sound (if the speaker was included in the system) can be activated/inactivated by checking the box or not. Beep time can also be adjusted by dragging the cursor.



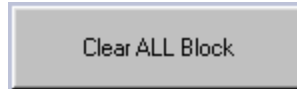
Sensitivity

Set the sensitivity of software motion detection. At highest sensitivity even very trivial motion will be detected.



Clear all block

All of the detecting zones for a specific channel.



4. EXIT

You may click any other icon to exit Motion Setup Mode and go directly into other setup mode. Click EXIT button to go back to Watch Mode.

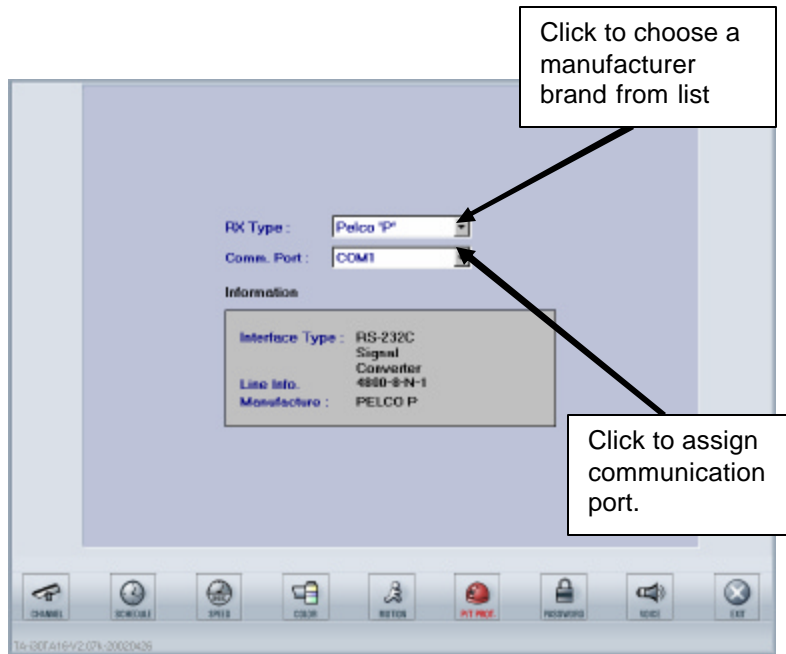


3.6 P/T/Z Protocol

This function button (as shown below) is used to setup P/T/Z Protocol.



Click on this button to setup the P/T/Z Protocol, the screen display as the below



Please select the same protocol as that of your camera.

EXIT

You may click any other icon to exit Protocol Setup Mode and go directly into other setup mode. Click EXIT button to go back to Watch Mode.



3.7 Password

This function button (as shown below) can be used to setup the password.



Click on this button to setup the Password.

Note: For TDR-2209, the Hide Camera function CH 10 to CH 16 will be useless even you activate it. For TDR-2204, the Hide Camera function CH 05 to CH 16 will be useless even you activate it.



- **Password**
There are five levels of password for security purpose.
(Please follow the steps below)
 1. Select the password type.
 2. Key in the new password. (From keyboard, mouse, or touch screen).
 3. Click on "**Apply**" when finished or "**Clear**" to canceled

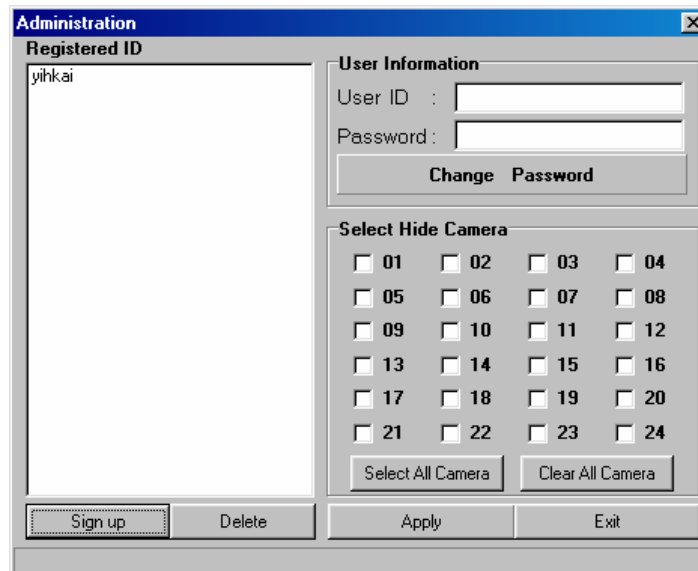
Note: See next page for the remote access password.



- **Remote username/password**

Select the Remote Access in the Password Select window. An **Input Password** window will be prompted up. After entering the password and click **OK**, the following screen will be shown. TATUNG TDR series allow the administrator to sign up remote users.

NOTE: To set up the Remote username/password. The system will ask the SETUP password again to confirm the authority of the user



- **Sign up**

- Click "**Sign up**" button will prompt the **Register Account** window.
- Key in the New ID and Password.
- Then click **Entry** button.
- Click "**Exit**" button to leave above window.

- **Delete**

- Click on the user's name in the Registered ID window above.
- Click on "**Delete**" button.
- Click "**Exit**" button to leave above window.

- **Edit User**

- Click on user's name in the Registered ID window above. The user's ID and Password will be shown in the "**User information**" and "**Select Hide camera**" window.
- If you want to change the password, click the "Change Password" button. After entering the new password, you have to confirm it. Then click **APPLY** and **OK** in Account window to complete.
- If you want to hide the cameras for this user, check the box for each camera or click on the button of either "**Select All Camera**" or "**Clear All Camera**".
- Click "**Exit**" button to leave above window.

Note: For TDR-2209, the Hide Camera function of Remote Client CH 10 to CH 16 will be useless even you activate it. For TDR-2204, the Hide Camera function of Remote Client CH 05 to CH 16 will be useless even you activate it.

- **Hide Cameras**

Check the box(es) to hide the channel(s) from the server site.

Hide Camera

<input type="checkbox"/> 01	<input type="checkbox"/> 09
<input type="checkbox"/> 02	<input type="checkbox"/> 10
<input type="checkbox"/> 03	<input type="checkbox"/> 11
<input type="checkbox"/> 04	<input type="checkbox"/> 12
<input type="checkbox"/> 05	<input type="checkbox"/> 13
<input type="checkbox"/> 06	<input type="checkbox"/> 14
<input type="checkbox"/> 07	<input type="checkbox"/> 15
<input type="checkbox"/> 08	<input type="checkbox"/> 16

- **Restart Window**

Check the box of the day and assign the time to restart the system.

Restart Window

Sun

Mon

Tue

Wed

Thu

Fri

Sat

H M



EXIT

You may click any other icon to exit Password Setup Mode and go directly into other setup mode. Click EXIT button to go back to Watch Mode.

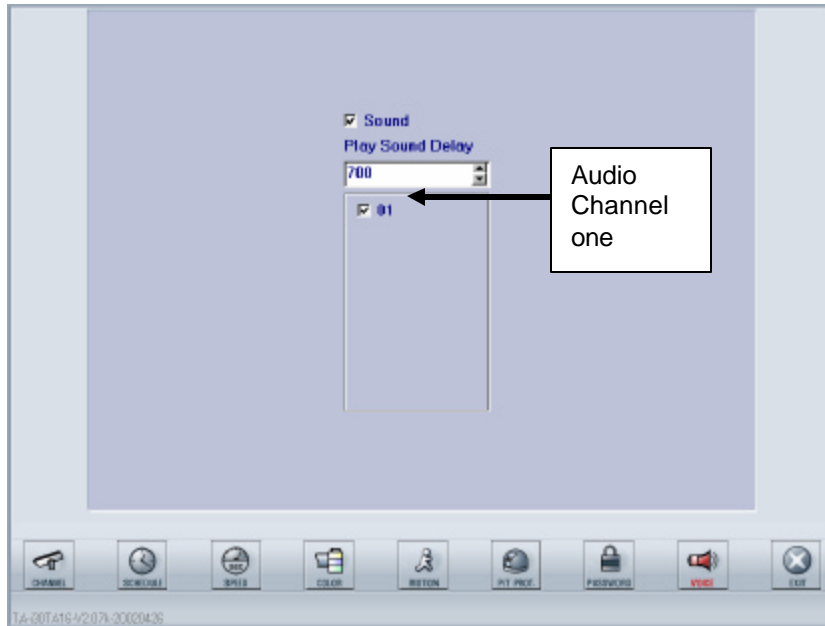


3.8 Voice

This function button (as shown below) is used to setup the voice settings.



Click on this button to setup the voice, the screen display as the below (Please follow the steps)



Note: To have a better voice play back quality. The image recording speed is better to set to mote than 2 FPS.

1. **Check the box of “sound”**
Check on this box to enable the sound recording.
2. **Adjust the “Play Sound Delay”**
Adjust this number to coordinate the synchronization of sound playback and video playback. The number 700 means the system coordinates the synchronization every 700 seconds. The faster the image recording speed, the smaller the delay time should be chosen. This means the two playbacks need to be coordinated more frequently. However, if the image recording speed is slow, we may choose longer time (large number) to coordinate the two playbacks.
3. **Check on the box of the channel you want to activate**
For TDR-22XX series, audio can be recorded only in channel one (01).
4. **EXIT**
You may click any other icon to exit Voice Setup Mode and go directly into other setup mode. Or click EXIT button to go back to Watch Mode.



3.9 Exit

Click on EXIT button to switch back to WATCH MODE after you complete all the setting in the SETUP mode.

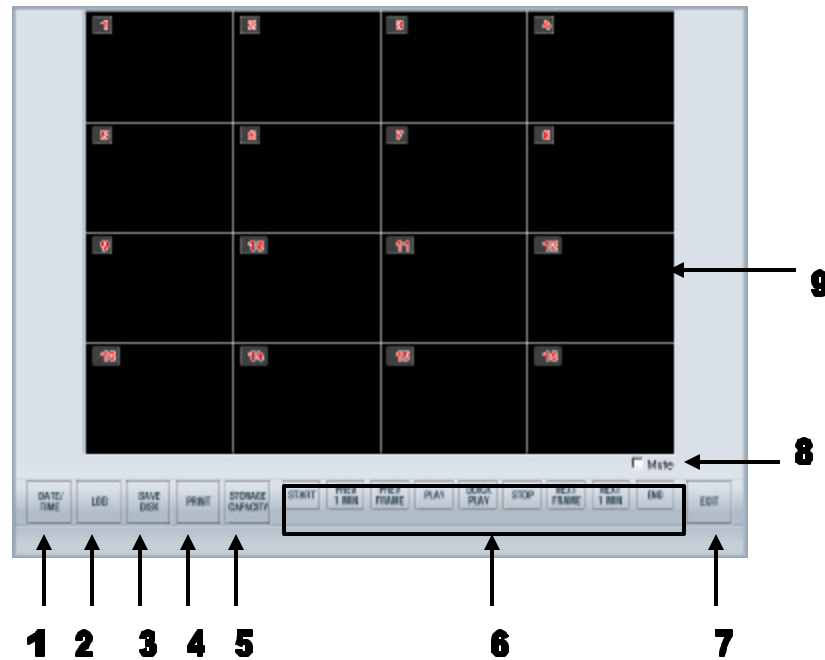
Note: You can always click on the EXIT to switch back to watch mode no matter what function mode you are in.



CHAPTER 4: SEARCH MODE

The main screen of the search mode is shown below.

Note: For TDR-2209 there are only 9 channels split the screen. For TDR-2204 there are only 4 channels split the screen



The buttons and icons of the main screen are described below:

1. Date/Time

Click on this button to search the images from Date and Time. A calendar like data selection window including From-Time and To-Time will be prompted up.

2. Log

Click this button can check the sensor recording log and motion recording log of the system. It can also search the images from these logs.

3. Save Disk

Click this button to save a short period of images to a floppy disk. Channels and frames are selectable in this function.

4. Print

Click to print the specific image on the system printer as an immediately data retrieve. Channels and frames are selectable in this function no matter the printer is a local printer or a network printer.

5. Storage Capacity

Click to check the usage information of the data storage (removable HDD). The information includes both the sound recording capacity and the image recording capacity.

6. Buttons on Play Back Console

These control buttons are used to playback the data, Which includes the starting of the record, 1 previous minute, 1 previous frame, playback, quick play, stop, 1 next frame, 1 next minute and the ending of the record.

7. Exit

Click this button to exit the Search Mode and back to the Watch Mode.

8. Mute Box

Check this box to disable the audio playback.

9. Channel playback window

This is the area to display the playback images along with the channel names and the recording date and time.

4.1 Channel play back window

This area is the 16 channels play-back window. All channels can be played back synchronously.

Note: You can always enlarge a specific channel by left clicking on this channel and left click again to back to the multi channel playback mode.

Note: For TDR-2209 there are only 9 channels split the screen. For TDR-2204 there are only 4 channels split the screen

Channel Name

Time indicator indicates this image was recorded at 19 (o'clock):25 (minutes): 31 (second) 125(millisecond)

Check this box to mute the play of audio

- Time Indicator:**
 Displays the time when the image was recorded. Its format is in hh:mm:ss.(milisec)
- Mute:**
 Check the Mute box to stop the audio play back.
- Display one specific channel only:**
 You can always left click a specific channel to put this channel in the middle of the window and enlarge it. And left click again to back to the multi channel playback.



Note: The digital zoom works only on a playback stopped channel

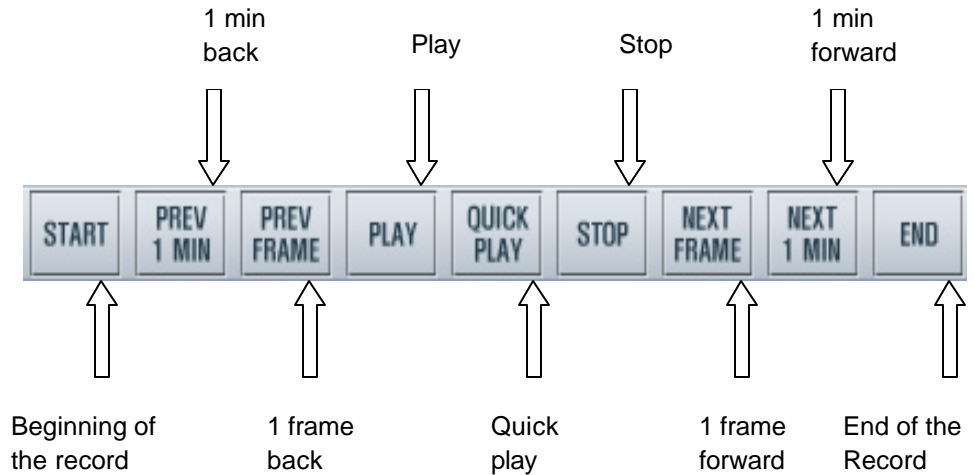
- Digital zoom on specific channel**
 When playback one specific channel, you may enlarge this channel to full screen by right-clicking. Back to normal only need right clicking again. You can also check the digital zoom box and enlarge the image step by step by continuously right clicking on the image or shrink the image step by step (8 steps total) by continuously left clicking. Clear the digital zoom box and left click the image will go back to the multi channel playback.



4.2 Buttons on Play Back Console

These buttons are used to control the data stream.

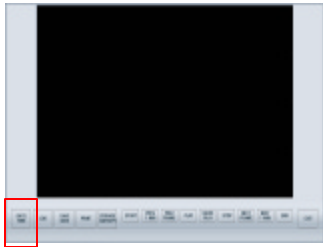
Note: You can always playback the images no matter you are in the multi channel playback mode or one specific channel playback mode.



- **START** : From the very beginning of the recorded images.
- **PREV 1 MIN** : BACKWARD one minute from the current playback time.
- **PREV FRAME** : BACK one frame from the current playback time.
- **PLAY** : PLAYBACK the images with normal speed.
- **QUICK PLAY** : PLAYBACK with faster speed.
- **STOP** : STOP the playback.
- **NEXT FRAME** : NEXT one frame from the current playback time.
- **NEXT 1 MIN** : FORWARD one minute from the current playback time.
- **END** : To the end of the recorded images.

4.3 Date/Time

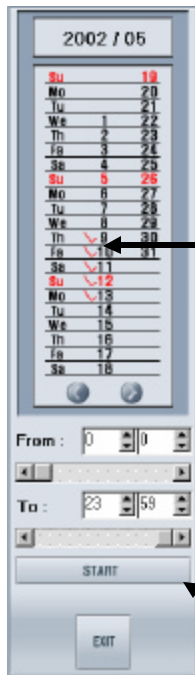
This function button is used to search the images from date and time.



Note: You can always select the date/time no matter you are in the multi channel playback mode or one specific channel playback mode.



Click this button, the screen will prompt out a calendar like data selection window displayed as the below. You may search the images recorded on the selected date and time. (Please follow the steps below)



Date selection:
Please click on the date with a red mark to select

From-Time selection:
Key in the From-Time may also accomplish by clicking on the arrows or drag scroll bar.

To-Time selection:
Key in the To-Time may also accomplish by clicking on the arrows or drag the scroll bar.

Start:
Click on this button to start the searching. (The whole selection window will disappear)

EXIT:
Click on this button to exit (The whole selection window will disappear)

1. Date selection

Select the date you want to search by clicking the red check mark . If this is not the correct month, use the arrow to choose the month you want.

2. From-Time Selection

There are three ways to enter the search starting time or From-Time: Use the keyboard to enter, click the little arrows, or drag the scroll bar.

3. To-Time Selection

Search ending time or To-Time can also be entered by keying the numbers into the Hour and Minute blocks, clicking the arrows, or drag the scroll bar.



4. Start

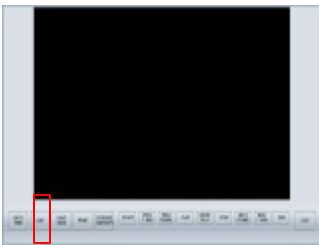
After complete the date and time selection, click on "**Start**" button to search or playback the recorded images.(after clicking, the selection window will disappear).

5. EXIT

If you want to cancel this date and time selection, click "**EXIT**" to back to the main screen of the search mode. (The whole selection window will disappear).

4.4 Log

Function button can be used to search the images from motion recording and sensor recording logs.



Click this button the screen will prompt out a data list displayed as below.
(Please follow the steps below)

Click here to review the Sensor Recording Log

Click here to review the Motion Recording Log

Select the Log and click here to playback the data

Date selection

Time selection

SENSOR LOG
MOTION LOG

DATE
5/ 9/02
✓ Play Back
✗ Close

TIME
17 : 0
Prev
Next

Camera	Date/Time	Event
9	5/9/02 5:23:32 PM	Motion Off
10	5/9/02 5:23:34 PM	Motion On
14	5/9/02 5:23:34 PM	Motion On
10	5/9/02 5:23:38 PM	Motion Off
9	5/9/02 5:23:38 PM	Motion On
10	5/9/02 5:23:39 PM	Motion On
14	5/9/02 5:23:40 PM	Motion Off
9	5/9/02 5:23:40 PM	Motion Off
10	5/9/02 5:23:41 PM	Motion Off
9	5/9/02 5:23:41 PM	Motion On
9	5/9/02 5:23:42 PM	Motion Off

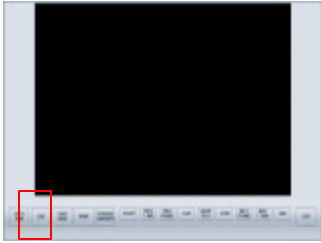
Close Log Search function

List item

1. **Sensor Recording Log or Motion Recording Log**
Select the log database you want to search.
2. **Date**
Select the date you want to search.
3. **Time**
Select the time you want to search.
4. **List item**
Click on a specific item you want to search.
5. **Playback or Close**
Click "Play Back" button to review the image you searched, or Close the function.

4.5 Save Disk

This function button is used to save a short period of images to a floppy disk. Channels and number of frames are selectable in this function.

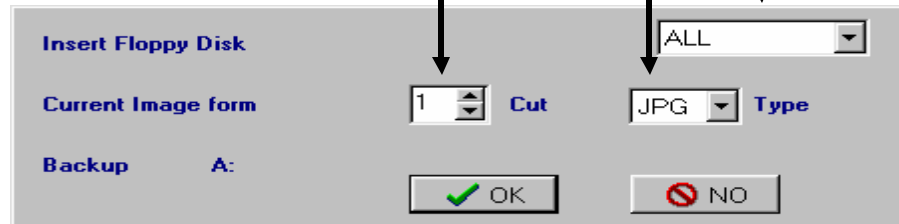


Click on this button the screen will prompt out a save disk window as below (Please follow the steps below)

Number of frames wanted to save for all channels. Only 1 cut is available if you choose a specific channel

Image type

Channel selection

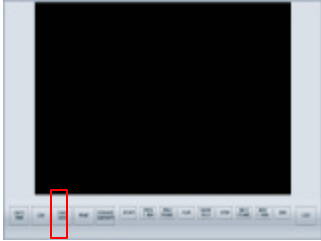


Note: if you choose a specific channel to save the image. There will be only one cut is available for save.

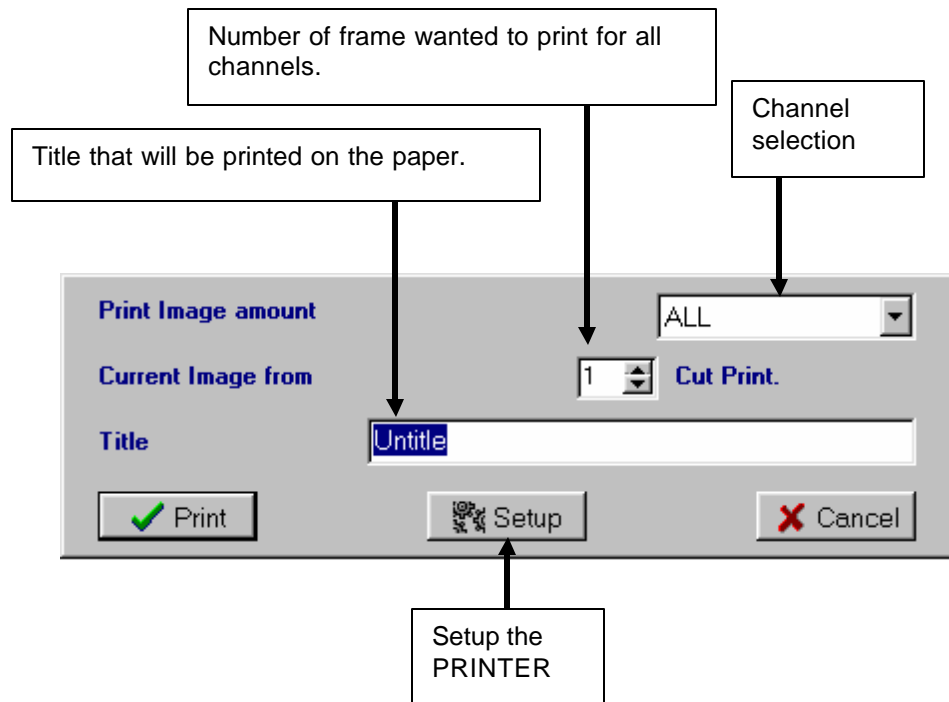
1. **Please make sure you insert a floppy diskette.**
2. **Channel selection**
Select either all channel or one specific channel to retrieve.
3. **Cut**
Assign the number of frames you want to save for all channels. If you choose a specific channel, then only one frame can be saved.
4. **Image type**
Select the image type (JPG or BMP)
5. **O.K. or NO**
Click **"OK"** button to save or **"NO"** to cancel.

4.6 Print

This function is to print the specific image on the system printer as the immediately data retrieve. Channels and frames are selectable in this function.



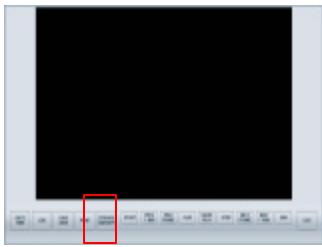
Click on this button to print the specific image to floppy disk as the immediately data retrieve. The screen will prompt out a print window as below (Please follow the steps)



1. **Please make sure that a system printer has been installed.**
2. **Channel selection**
Select either all channel or one specific channel to retrieve.
3. **Cut Print**
Assign the number of frames you want to print for all channels. If you choose a specific channel, then only one frame can be printed.
4. **Print or Cancel**
Click "**Print**" button when to print or "**Cancel**" to cancel the print.

4.7 Storage Capacity

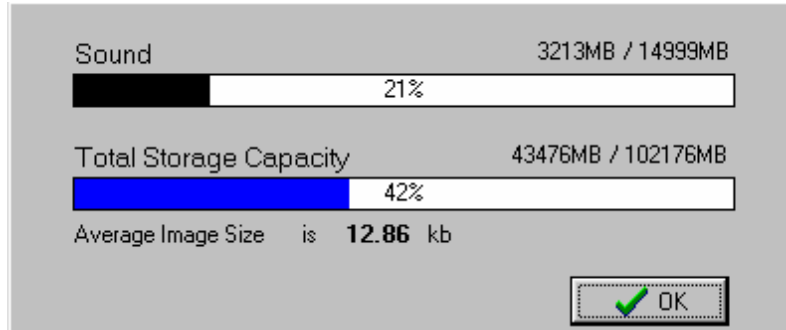
Function is used to check the usage information of the removable HDD.



Note: If the sound recording function is disabled, the sound storage space reserved will be constituted part of the total storage capacity.



Click on this button to have the prompt out window of storage information.



4.8 EXIT



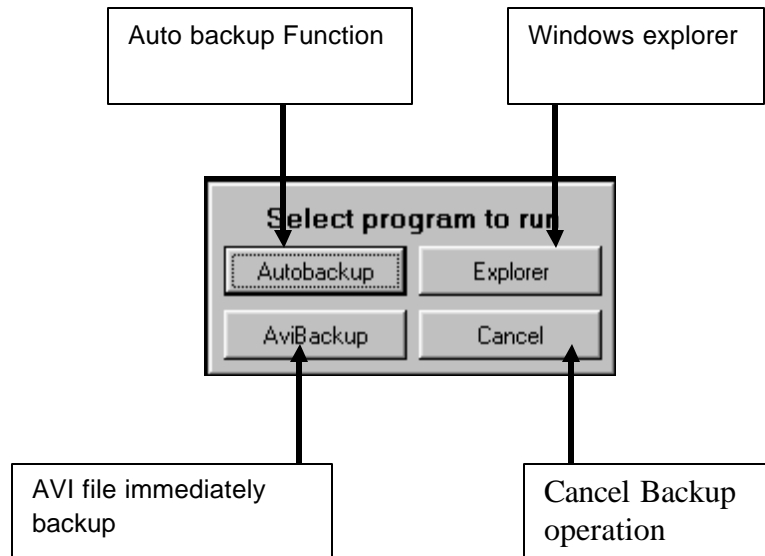
Click on this button to leave the Search Mode and back to the Watch Mode.

CHAPTER 5: BACKUP MODE

After clicking the Backup button, the following window is prompted out.

Note: In this mode, the system will hold the recording. After you complete the scheduling and back to watch mode, the system will record again.

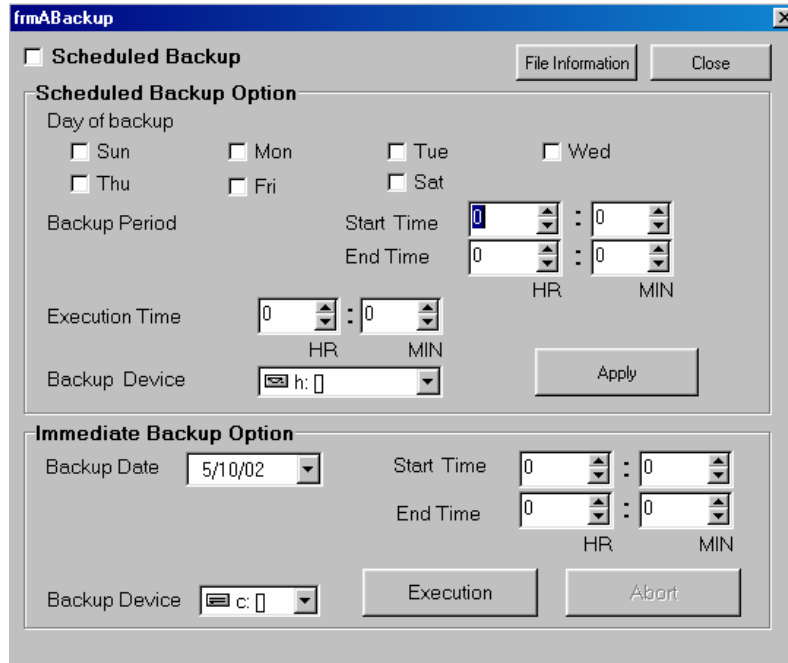
Note: In this mode, if you want to backup or save the data into CD- RW DRIVE. You must have a CD-RW disk insert into the drive and have formatted with the DIREC CD compatible process.



- **Auto Backup**
Automatic backup the recorded images from a customized time schedule.
- **AVI Backup**
Immediately backup the recorded images in AVI format.
- **Explorer**
Call out the Windows Explorer and let the operator to configure the system.
- **Cancel**
Leave the Backup Mode and back to Watch Mode.

5.1 Auto Backup

This function is used to back up the recorded images from a customized time schedule. The execution time of the backup can also be designated. The screen will prompt out the following window after clicking on the Auto Backup button. (Please follow the steps below)



Note: The scheduled backup function is to backup the previous day's data. If you check the box on Sunday, the system will backup the data recorded on Saturday at the execution time on Sunday.

Note: You can also search the data from the list by click on the "File Information" button.



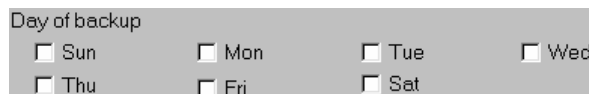
1. Scheduled Backup

Check the box if you want to enable the auto backup function

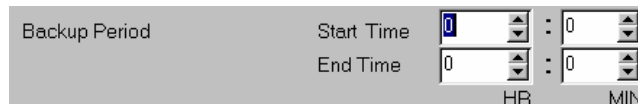


2. Scheduled Backup Option

- a. Check the box of the days to backup (Sunday to Saturday)



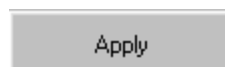
- b. Assign the starting time and ending time.



- c. Assign the execution time and the backup device



- d. Click on Apply button



3. Immediately backup option

If you want to immediately backup some images, skip steps 1 & 2 and follow the steps below.

- a. Assign the backup date

Backup Date

- b. Assign the starting time and ending time

Start Time :
End Time :
HR MIN

- c. Select the backup device

Backup Device

- d. Execution or Abort

4. Close

Leave the Auto Backup Mode and back to the Watch Mode

5.2 AVI Backup

This function is to back up the selected data immediately to AVI (Windows default audio and video information file). The screen will prompt out the windows as below after click on this button. (Please follow the steps).

1. Camera

Select the camera (channel) to backup

2. Backup Date

Assign the date of the data to backup

3. Date Start Time

Assign the start time of the data for backup of this day

4. Date End Time

Assign the End time of the data for backup of this day

5. File Name

Click on here to choose the file name and device for this backup

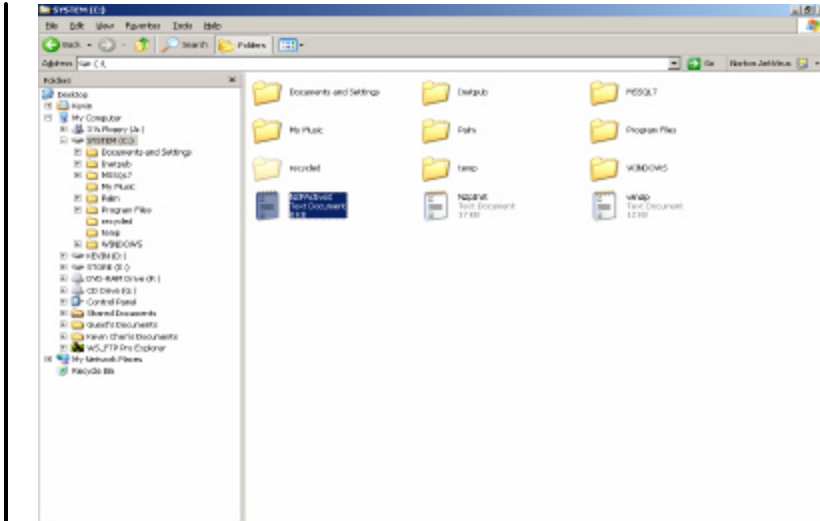
6. Start/Stop/Close

Start the backup or stop the backup or close this function and back to watch mode.

Note: You can also search the data from the list by click on the "File Information" button.

5.3 Explorer

This function is to call out the WINDOWS explorer which let the operator control this system. The screen will prompt out the Windows explorer as below.



5.4 Cancel

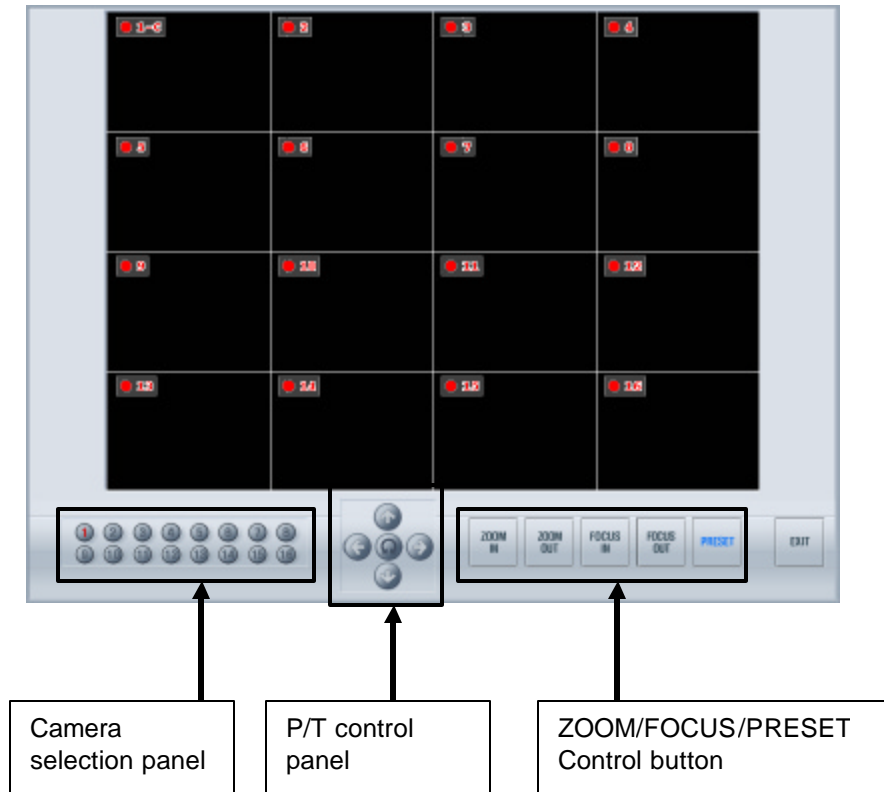
Cancel this function mode and back to watch mode.



CHAPTER 6: CONTROL MODE

The main screen of the control mode is as the following picture

Note: For TDR-2209 there are only 9 channels split the screen.
For TDR-2204 there are only 4 channels split the screen



6.1 Camera Control

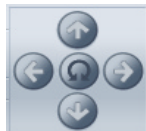
Control PTZ camera

Camera Selection Panel:

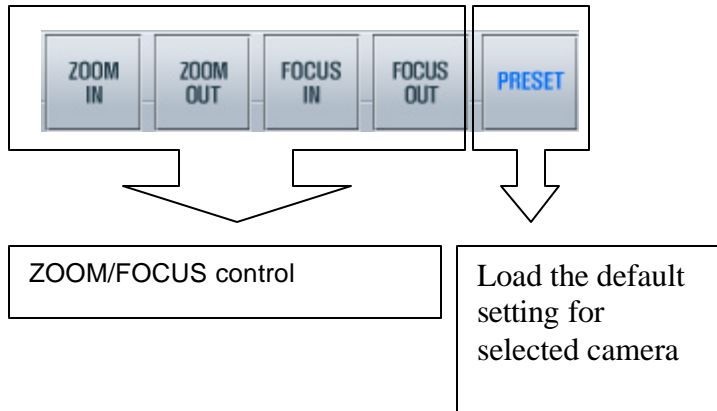
Select the camera you want to control
(The camera number will turn RED when activated)



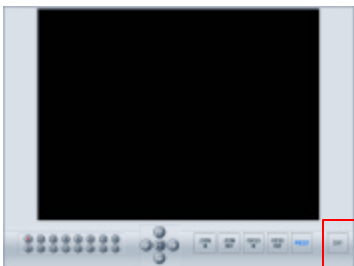
- PAN/TILT CONTROL Panel:**
Pan/Tilt and Autopan control for the camera



- **ZOOM/FOCUS/PRESET Panel:**
Zoom/Focus/Preset panel



6.2 EXIT



Click on this button to exit the control mode and back to the Watch mode.

APPENDIX A:

TDR-22xx Series Digital Recording System 4 (TDR-2204) /9 (TDR-2209) /16 (TDR-2216) CAMERA INPUTS

Product Features

- Highest speed, Multi-Channel Recording
- Real time, Multi-Channel display
- Duplex Multi-Channel playback
- High quality images
- High speed searching
- Long Period recording
- Scheduled recording by groups
- Dual Media Device (HDD + CDRW)
- Motion Detection
- Pan/Tilt/Zoom Control
- Network Surveillance and Remote Surveillance
- Integrate with alarm inputs and alarm outputs
- Sound Recording
- Port for any windows Compatible Printer
- Loop-through outputs with auto termination



For the past couple of years, digitization has stunned the global security industry with its irresistible advantages compared to the analog. Digital technology has brought users a new concept of security. For security investigator who doesn't want to spend hours to review the tape, Tatung's **TDR-22xx Series Digital Video Recorder (DVR)** is the perfect solution for rapid time-date searching while recording live at the same time.

Due to its remote access capability, TDR-22xx can be used as video monitor receiver to increase the revenue for alarm monitor center. Especially false alarm can be verified if TDR-22xx works with alarm panel.

Another benefit can be acquired from TDR-22xx is network surveillance. Corporation owner can look at somewhere from his desk without spending extra money if computer network has already been installed in company branches.

Generally **TDR-22xx** displays images from one, four, nine, or sixteen cameras on one single XGA monitor. However, traditional cctv monitor can be connected to view above images also.

On top of displaying live video or playing back recorded files while recording at the same time, DVR also features multiple remote site access/control, and multiple levels of password.

To meet the exact demands of your application, Models from a nine-channel, 40 GB HDD to a sixteen-channel unit with 320 GB HDD (a removable storage with the capacity of more than one month recording) can be selected.

There are 8 alarm outputs and 16 alarm inputs in TDR-22xx. Each signal input can trigger an alarm recording. This signal will tell DVR either to start recording, or to record at a higher speed if recording has already been started. After the event, it can keep recording for a while according to a post-alarm setting.

Each channel of TDR-22xx can be programmed to detect motion separately with up to 10 motion zones and different motion sensitivities.

The high-speed search can be operated in time-date searching, index searching and event log searching. It can also be operated to show the storage usage status and save a specific image into disk for further analysis.

For long-term recording applications, the **TDR-22xx Series DVR** are capable of using supplementary devices to create backups.

Free remote site software is provided with the **TDR-22xx** for viewing live and recorded video. The P/T/Z of the cameras can also be controlled via remote site software.

The software of **TDR-22xx Series DVRs** is very simple. To customize a recording schedule, such as alarm, motion, or continuous can be easily programmed at your finger tips.

SOFTWARE:

Operation System	Windows 98 Second edition
Display Speed	Real-time
TDR-2216	480FPS
TDR-2209	270FPS
TDR-2204	120FPS
Record Speed	
TDR-2216	240FPS MAX
TDR-2209	240FPS MAX
TDR-2204	120FPS MAX

GENERAL

Operation Temperature	41° to 104°F (5° to 40°C).
Relative Humidity	Maximum 80% non-condensing
Dimensions	7" H x 17" W x 18" D (17.78 x 43.18 x 45.72 cm)
Weight (Approximate)	46.2 lb (20.96 kg) unit 58.3 lb (26.24 kg) ship

ELECTRICAL:

Power Voltage	100-240 VAC Switchable, 50/60 Hz
Signal System	NTSC/PAL
System Spec	
TDR-2216	PIV 1.6GHZ, 128 MB
TDR-2209	PIII 866MHz, 128 MB
TDR-2204	PIII 733MHz, 64 MB
Image Resolution	320 x 240
Compression	M-JPEG
Image Size	2K ~ 20K
Video Inputs	
TDR-2216	16 CH
TDR-2209	9 CH
TDR-2204	4 CH
Video Outputs	2 (1 XGA, 1 Composite)
Alarm Inputs	
TDR-2216	16
TDR-2209	16
TDR-2204	8
Alarm Outputs	
TDR-2216	8
TDR-2209	8
TDR-2204	4
Remote Control	PSTN, ISDN, TCP/IP
Pan/Tilt/Zoom	RS-232 (to RS-485 with converter)

Supplied accessories: PS/2 Keyboard with mouse, Software protection socket, Power cable, Windows® 98 SE, Remote site software, and rack mount ears.

Minimum Requirements for remote site PC:

Pentium II 400 MHz, 64 MB Memory, 4 GB HDD, 8MB AGP Video Card, 10 MBPS LAN, 28800 MODEM (PSTN mode), MS-Windows 98 / 98SE / ME / NT 4.0 / 2000 /XP

MODELS

HDD	16 CH	9 CH	4 CH
40 GB	TDR-2216-040	TDR-2209-040	TDR-2204-040
80 GB	TDR-2216-080	TDR-2209-080	TDR-2204-080
120 GB	TDR-2216-120	TDR-2209-120	TDR-2204-120
160 GB	TDR-2216-160	TDR-2209-160	TDR-2204-160
320 GB	TDR-2216-320	TDR-2209-320	TDR-2204-320
480 GB	TDR-2216-480	TDR-2209-480	TDR-2204-480

OPTIONAL DEVICE

DVD-RAM DRIVE	DVD-RAM drive, backup the data to (4.7 GB/9.8 GB) or (2.6 GB/5.4GB) disk, writes up to 1.38MB/second and reads up to 2.77MB/second.
ANALOG MODEM	56K external modem Full-on 2-wire phone lines
RACK MOUNT MONITOR	VT19726DVR 19" Rack mountable CRT monitor with XGA input.
TOUCH SCREEN MONITOR	19" Rack mountable touch screen monitor, used for replacing the mouse to meet specific application requirement.
RACK MOUNT KEYBOARD W/TOUCH PAD	Rack mountable keyboard drawer and keyboard with touch pad.

CONNECTORS:

BNC	Camera inputs and loop through outputs
6-pin Mini DIN	PS/2 mouse and keyboard
Push-in	Alarm inputs, alarm outputs
9-pin D-type	COM 1
15-pin D-type	XGA monitor port
25-pin D-type	Parallel port
BNC	Analog monitor output
RJ-45	TCP/IP, LAN/WAN

CERTIFICATIONS

- FCC, CE, Class A (TBD)
- UL, CUL (TBD)

TDR-22xx Series image size

Compression Rate	HIGH _____ LOW				
Image Quality	Very Low 10 %	Low 30%	Standard 50%	Good 70%	Best 90%
File Size (KB)	2600 ~ 8100	3500 ~ 10300	5000 ~ 14000	6600 ~ 17000	9200 ~ 22000

TDR-22xx Series Storage and Recording time

TDR-2216 (Hours)	Best Quality			Good Quality			Standard Quality		
	240 FPS	120 FPS	16 FPS	240 FPS	120 FPS	16 FPS	240 FPS	120 FPS	16 FPS
40 GB	4	8	60	6	12	90	8	16	120
80 GB	8	16	120	12	24	180	16	32	240
120 GB	12	24	180	18	36	270	24	48	360
160 GB	16	32	240	24	48	360	32	64	480
320 GB	32	64	480	48	96	720	64	128	960
480 GB	48	96	720	72	144	1080	96	192	1440

TDR-2209 (Hours)	Best Quality				Good Quality				Standard Quality			
	240 FPS	120 FPS	60 FPS	9 FPS	240 FPS	120 FPS	60 FPS	9 FPS	240 FPS	120 FPS	60 FPS	9 FPS
40 GB	4	8	16	106.6	6	12	24	160	8	16	32	213.3
80 GB	8	16	32	213.2	12	24	48	320	16	32	64	426.6
120 GB	12	24	48	319.8	18	36	72	480	24	48	96	639.9
160 GB	16	32	64	426.4	24	48	96	640	32	64	128	853.2
320 GB	32	64	128	852.8	48	96	192	1280	64	128	256	1706.4
480 GB	48	96	192	1279.2	72	144	288	1920	96	192	384	2559.6

TDR-2204 (Hours)	Best Quality				Good Quality				Standard Quality			
	120 FPS	60 FPS	30 FPS	4 FPS	120 FPS	60 FPS	30 FPS	4 FPS	120 FPS	60 FPS	30 FPS	4 FPS
40 GB	8	16	32	240	12	24	48	360	16	32	64	480
80 GB	16	32	64	480	24	48	96	720	32	64	128	960
120 GB	24	48	96	720	36	72	144	1080	48	96	192	1440
160 GB	32	64	128	960	48	96	192	1440	64	128	256	1920
320 GB	64	128	256	1920	96	192	384	2880	128	256	512	3840

The estimate number of hours may be lower when the audio record function is activated.
The standard quality is based on the size of 5K~6K per image.

TDR-22xx Series Storage size calculation

To select the correct model, you have to select the size of storage for your application. To calculate the storage capacity, please apply the equation below.

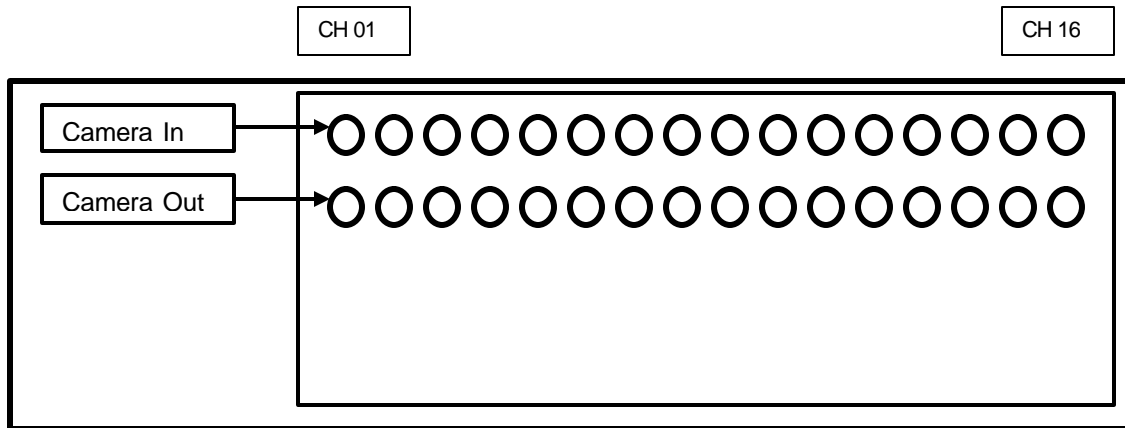
Image Size (KB)	x	Record Speed per Second	x	Channels	x	Records per DAY	x	Record Days	x	0.0036	=	Required Storage (GB)
5	x	1	x	16	x	8	x	30	x	0.0036	=	69.12

This equation is a generic formula of how TATUNG calculates the storage capacity.
Storage calculation is based on the average image size, the actual size may vary.
The medium quality is equivalent to VCR quality.
Contact the customer service for assistance in calculating the capacity for your application.

APPENDIX B:

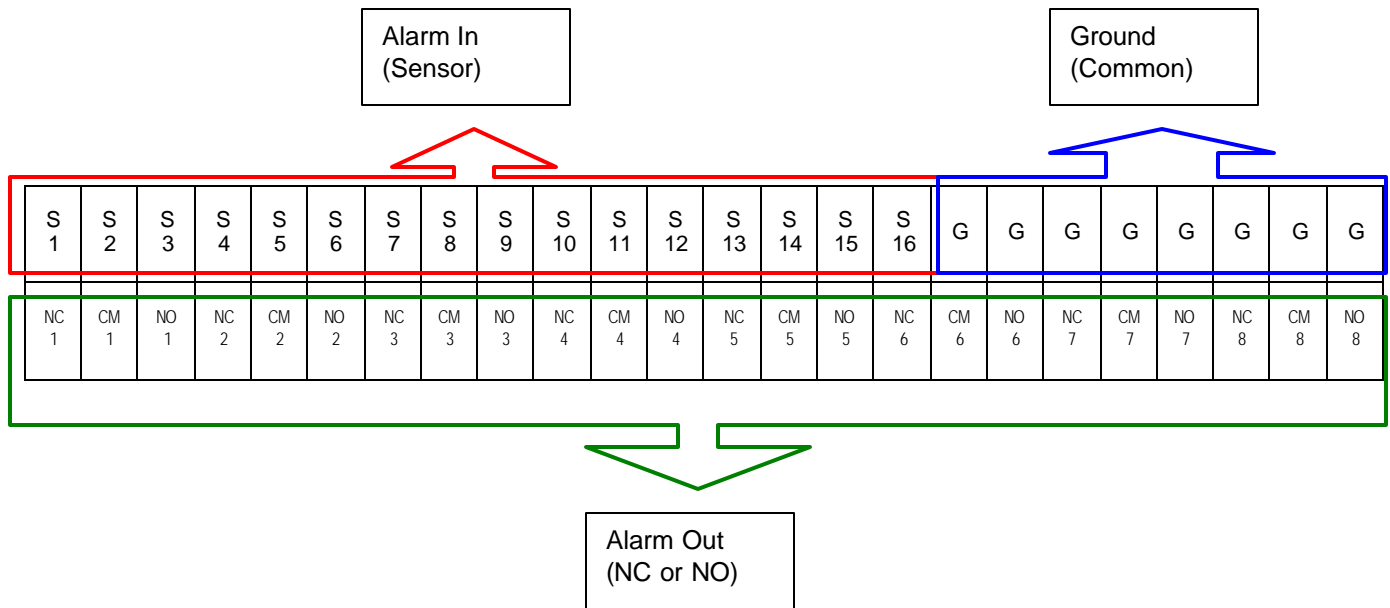
Connector Configuration

- Camera In/Out



* For TDR-2209 there are only 9 camera Inputs and 9 Loop through outputs on the back board. For TDR-2204 there are only 4 camera Inputs and 4 Loop through outputs on the back board.

- Alarm In/Out



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<http://myh66.com>

<http://usermanuals.us>

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