

Graphic Symbol Explanation

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



Warning-To Prevent Fire or Shock Hazard, Do Not Expose This Equipment To Rain or Moisture.

IMPORTANT SAFEGUARDS

Caution

Power source is indicated on the rear of the set. It contains high-voltage parts. If you remove the cover, it may cause fire or electric shock. Do not remove the cover by yourself. (Control switches are at the front of the monitor.)

1. **Read instructions:** All the safety and operating instructions should be read before the appliance is operated.
2. **Retain instructions:** The safety and operating instructions should be retained for future reference.
3. **Heed warnings:** All warnings on the appliance and in the operating instructions should be adhered to.
4. **Follow instructions:** All operating and use instructions should be followed.
5. **Cleaning:** Unplug this video product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
Exception. A monitor that is meant for uninterrupted service and that for some specific reason, such as the possibility of the loss of an authorization code for a CATV converter, is not intended to be unplugged by the user for cleaning or any other purpose, may exclude the reference to unplugging the monitor in the cleaning description otherwise required in Item 5.
6. **Attachments:** Do not use attachments not recommended by the video product manufacturer as they may cause hazards.
7. **Water and moisture:** Do not use this video product near water - for example, near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, and the like.
8. **Accessories:** Do not place this monitor on an unstable cart, stand, tripod, bracket, or table. The monitor may fall, causing serious injury to a child or adult, and serious damage to the appliance. Use only with a cart, stand, tripod, bracket, or table recommended by Samsung, or sold with the monitor. Any mounting of the monitor should follow Samsung’s instructions, and should use a mounting accessory recommended by Samsung.
9. **Ventilation:** Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the monitor and to protect it from overheating, and these openings should never be blocked by placing the monitor on a bed, sofa, rug, or other similar surface. This monitor should never be placed near or over a radiator or heat register. This monitor should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or Samsung’s instructions have been adhered to.
10. **Power Sources:** This monitor should be operated only from the type of power source indicated on the making label. If you are not sure of the type of power supply to your installation site, consult your Samsung dealer or local power company.
11. **Grounding or Polarization:** For monitors equipped with a 3-wire grounding-type plug having a third (grounding) pin. This plug will only fit into a grounding type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.
12. **Power:** Cord Protection-Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the monitor.
13. **Lightning:** For added protection for this monitor during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the cable system. This will prevent damage to the monitor due to lightning and power-line surges.
14. **Overloading:** Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.
15. **Object and liquid Entry:** Never push objects of any kind into this monitor through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock.
16. **Servicing:** Do not attempt to service this monitor yourself as opening or removing cover may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
17. **Damage Requiring Service:** Unplug this monitor from the wall outlet and refer servicing to qualified service personnel under the following conditions.
 - a. When the power-supply cord or plug is damaged.
 - b. If liquid has been spilled, or objects have fallen into the monitor.
 - c. If the monitor has been exposed to rain or water.
 - d. If the monitor does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and require extensive work by a qualified technician to restore the monitor to its normal operation.
 - e. If the monitor has been dropped or the cabinet has been damaged.
 - f. When the monitor exhibits a distinct change in performance-this indicates a need for service.
18. **Replacement Parts:** When replacement parts are required, be sure the service technician has used replacement parts specified by Samsung or have the same characteristics as the original parts. Unauthorized substitutions may result in fire, electric shock or other hazards.
19. **Safety Check:** Upon completion of any service or repairs to this monitor, ask the service technician to perform safety checks to determine that the monitor is in proper operating condition.

FCC & ICES Information

Warning

This equipment has been tested and found to comply the limits for a class A digital device, pursuant to part 15 of the FCC Rules and ICES-003 of Industry Canada. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generate, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

User-Installer Caution

Your authority to operate this FCC verified equipment could be voided if you make changes or modifications not expressly approved by the party responsible for compliance to part 15 of the FCC Rules.

Information to user

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. If necessary, consult your dealer or an experienced radio/television technician for additional suggestions. You may find the booklet called How to Identify and Resolve Radio/TV Interference Problems helpful. This booklet was prepared by the Federal Communications Commission. It is available from the U.S. Government Printing Office,

Washington, DC 20402, Stock Number 004-000-00345-4.

The party responsible for product compliance:

SAMSUNG ELECTRONICS CO., LTD.

America QA Lab of Samsung

3351 Michelson Drive,

Suite #290, Irvine, CA92612 USA

IC Compliance Notice

This Class (A) digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe (A) respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Warning

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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Chapter 1: Overview

Overview

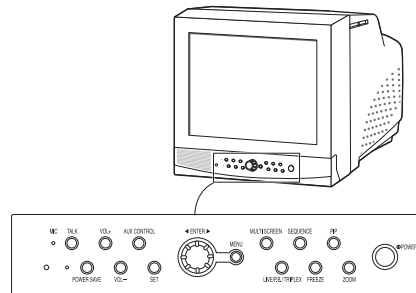
The product is a triplex that enables you to record the signals received from up to 8 cameras to a single VCR. You can record those signals sequentially by frame or intermittently, and playback a specific channel selectively. You can use three monitor screen modes, LIVE Mode, P.B. Mode, and LIVE + P.B. Mode, on a single monitor.

Functions and Features

- Set various functions using the Menu buttons.
- Connect up to 8 cameras for color or black-and-white pictures.
- Watch the input from up to 8 cameras on one screen in the various split display modes.
- Watch the Live screen and the Playback screen simultaneously on the same monitor.
- Enlarge a screen up to 2 Xs using the Zoom function.
- Utilize the Motion Detect function embedded in a camera.
- Monitor a specific screen within the main screen by using the Spot Display function.
- Watch the Main screen simultaneously on an additional monitor using the Slave Display function.
- Watch desired screens in still mode using the Freeze function.
- Switch and watch channels sequentially in Sequence mode.
- Hide the screens being displayed using the Hidden Camera function.
- The system has Date, Time and Alarm indicators that can be reset.
- When an Alarm occurs, the word "EVENT" is displayed on the screen and a warning buzzer sounds. When this occurs, you can press Enter and up to 16 frames before and after the generated alarm will be replayed on the Event Replay window. Alarm histories are recorded in the EVENT LIST. The Alarm function is available only when the Alarm Box is connected.
- If the Channel Loss Detection function detects any channel loss, the word "EVENT" is displayed on the screen and a warning buzzer sounds. When this occurs, you can press ENTER and up to 16 frames before the detected channel loss will be replayed on the Event Replay window. Channel Loss histories are recorded in the EVENT LIST.
- Due to the Door Bell Interlock Function, when the door bell is pressed, the current picture switches to the doorbell area monitoring picture, in full screen mode, along with an alarming beep. At this time, one Instant Picture is stored in the "DOOR BELL LIST". Up to 8 pictures can be stored in the "DOOR BELL LIST". You can access any stored picture to be displayed on the screen. The Door Bell Function is only available with a door bell connection.

Names and Functions of Parts

Front Panel/Remote Control



A. Power Switch

Turns the power on/off.

B. POWER SAVE

Changes to Power Save mode.

C. VOLUME +/-

Controls the volume level.

D. TALK

Communicates with the doorbell in duplex mode.

E. AUX CONTROL

Outputs relay pulses to an external device for a specified time. You can adjust this control according to your environment. (For example, when the doorbell rings, you can move to the corresponding camera and identify the visitor before opening the door using the AUX CONTROL button.)

F. LIVE/P.B./TRIPLEX

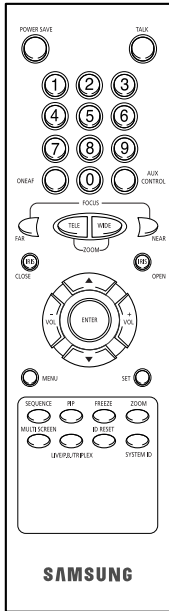
Changes the Display mode. Each press of this button switches between Live, P.B., and Triplex modes sequentially.

G. SET

Enters the selected Sub Menu from the Main Menu.

H. ROTARY WHEEL (LEFT, RIGHT, ENTER)

Press the LEFT button to direct the camera to the left; the RIGHT button, to the right. In the center is the ENTER button. Use this wheel to move a Zoomed-in screen, or to scroll through Menu items or channels. Press ENTER to select an item, enter a sub menu, or replay the events.



I. MENU

Display the Setup menu on the screen. Press it again to exit the Setup menu.

J. MULTISCREEN

Switches to the split screen view. Each press of this button changes to the 4, 8, and 9-split screen sequentially. Only the 9 and 16 split screens are available in the Triplex mode.

K. SEQUENCE

When pressed in the full screen mode, channels are switched automatically and sequentially within a specified time period.

L. FREEZE

Captures the selected screen as a still screen. Refer to the section "When you want to watch in FREEZE screen mode" on page Eng-7.

M. PIP

Selects the Picture in Picture mode.

N. ZOOM

When pressed in full screen mode, the screen is enlarged. Each press of this button enlarges the screen two times sequentially and then returns to the normal size. Use the Rotary Wheel to move the Zoomed-in screen.

O. Number Key (0 ~ 9)

Press the number of the channel to watch it in full screen mode. Or, press the SYSTEM ID button and then press the number of the system you want to control with the remote control.

P. ZOOM (TELE/WIDE)

Only the remote control has this button. It is available only when a camera (SOC-420(P), SOC-920(P) sold separately), is connected to the system.

Q. FOCUS (FAR/NEAR)

Only the remote control has this button. It is used for camera Focus control and available only when a camera (SOC-420(P), or SOC-920(P), sold separately), is connected to the system.

R. IRIS (CLOSE/OPEN)

Only the remote control has this button. It is used for camera Iris control and available only when a camera (SOC-420(P), or SOC-920(P), sold separately), is connected to the system.

S. ONEAF

Performs Auto Focus for the selected camera once in the present status. Only the remote control has this button. It is only available when a camera (SOC-420(P), or SOC-920(P), sold separately), is connected with the product.

T. SYSTEM ID

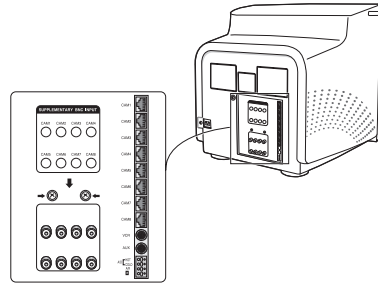
Selects the system to control with the remote. Only the remote control has this button.

U. ID RESET

Located on the remote control, this button resets the selected System ID to the default ID (1).

Rear Panel

A. CAMERA IN(RJ-45)



Video camera input terminals. You can connect up to 8 cameras with RJ-45 connectors.

B. CAMERA IN (BNC)

Video camera input terminals. You can connect up to 8 cameras with BNC connectors.

Caution

Either RJ-45 or BNC type cameras should be connected to the same channel. Signal interference will occur if both types of camera are connected to the same channel.

C. VCR

- Connects to the VCR using a 6-pin connector.
- TRIGGER: Trigger output terminal for the VCR
- VIDEO IN/OUT: Video input/output terminal for the VCR
- AUDIO IN/OUT: Audio input/output terminal for the VCR

D. AUX

- Connects to another device using the 4-pin connector.
- SPOT VIDEO OUT: The terminal that allows you to supervise the specified channel within the Main screen on the additional connected monitor.
- SPOT AUDIO OUT: The terminal that allows you to listen to the sound of the specified channel on the additional connected monitor.
- SLAVE VIDEO OUT: The terminal that allows you to view the Main screen displayed at the present time on the additional connected monitor.

E. ALARM

- A/O (HOT/COLD): When an alarm occurs, the Active Make signal is output.
- A/R: Connects to the Alarm Reset terminal of VCR. When an alarm is triggered, a pulse is output.
- G: Connects to the ground terminal of VCR.

F. ~AC IN

Connects the power cord.

Chapter 2: Installation

Installation Environments

This section describes the environmental requirements for safe installation and use.

Install the product on a flat table or in a rack. It should be used only when level and should not be used when stood vertically or obliquely. The location in which the main system is installed and the configuration of the wiring room are very important for proper operation of the system. When the products are installed too closely together or the location is poorly ventilated, the system may not operate properly and maintenance of the system may be difficult.

Sufficiently circulate the air within the system operating room and tightly fasten the cover of the main system to prevent malfunction and reduce system downs due to environmental causes.

There are high voltage parts inside. Do not arbitrarily open the cover.

Install the product in a place that meets the following environmental conditions. Be sure to maintain the system under the temperatures and humidity conditions given below:

- Operating temperature : 0 °C ~ 40 °C
- Storage temperature : -20 °C ~ 60 °C
- Operating humidity : 20% ~ 85% RH
- Storage humidity : 20% ~ 95 RH
- Input voltage : AC 100 ~ 240V
- Frequency: 50/60 Hz

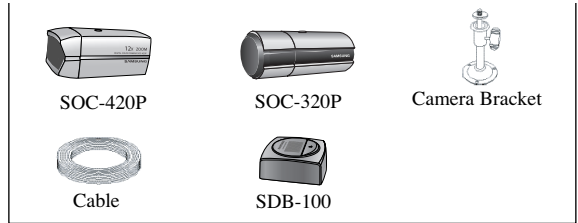
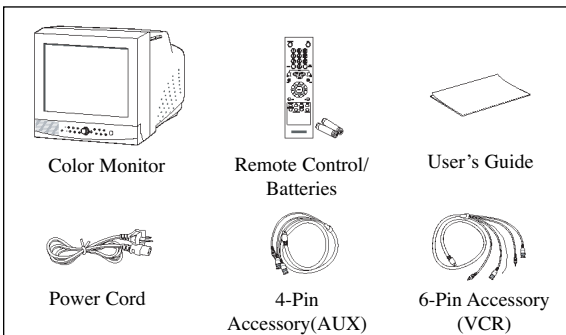
Caution

When operating the product, the fluctuation of input voltage must be within 10% of the rated voltage and the external power outlet must be grounded, otherwise, it may cause electric shock or malfunction of the product. Do not connect heat-generating appliances such as a hair dryer, iron or refrigerator to the same power outlet in which the product is plugged, otherwise it may cause a fire or malfunction of the product. The use of an Automatic Voltage Regulator (AVR) is highly recommended to ensure that stable power is supplied.

Be sure to coil CORE-FERRITE on the connector to reduce elector-magnetic interference (EMI).

Unpacking

Remove the package cover and place the product on a flat and secure surface or in the installation location. Check whether all the following devices and accessories are included with the main system.



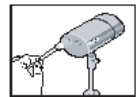
Item	Model	Description	Q'ty	Note
Monitor	SMO-21MP/150MP	21"/15" Flat CRT Monitor	1	
Vari focal Camera	SOC-320P	Normal Auto Iris Vari focal Camera	1	
Zoom Camera	SOC-420P	12X Zoom Lens High Band Camera	1	
Door Bell	SDB-100	Door Bell Box	1	Screw2
Camera Bracket	SBR-110	Standard type Bracket	2	Tapping Screw6
Camera Cable	MCB-60	8Pin Shield Cable	3	60ft (1ft=0.3048m)
Installation Manual				
Power Cord			1	
4-Pin Accessory(AUX)		4-Pin AUX Cable	1	
6-Pin Accessory(VCR)		6-Pin VCR Cable	1	
Remocon				Battery2

CAMERA installation method

1) Vari focal AI standard Camera (SOC-320P)

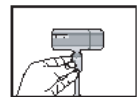
1. Find a suitable place for installing the camera. (Must be able to bear five times the weight of the camera [approx. 1kg])

2. Install the Mounting Bracket provided at the desired location, and assemble the camera onto the bracket. Then connect the cable to the RJ-45 connector.



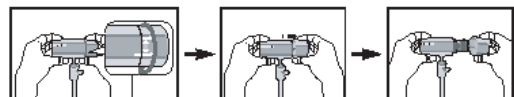
3. Plug the other end of the cable that is connected to the camera into the monitor.

4. Use the Handle on the Mounting Bracket when adjusting the direction of view.

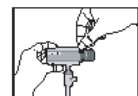


5. Adjusting Zoom and Focus.

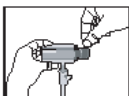
5-1. Turn the lens part of the camera in the direction shown in the picture and pull to separate the lens-hood.



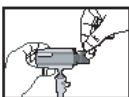
5-2. Use the lens Zoom Lever to set the desired zoom position.



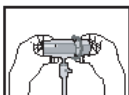
5-3. After setting this position, adjust the Focus Lever to get the picture into focus.



5-4. When the zoom and focus settings are finished, rotate the Zoom and Focus Levers to fix the lens imposition.



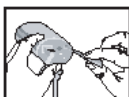
5-5. After the adjustment, put the lens hood onto the camera body and rotate it in the locking direction to connect it.



6. Setting the brightness (Iris setting)
The Iris is adjusted in the factory prior to shipping; however, users may need to adjust the opening and/or closing of the Iris according to the position of installation, and ambient light conditions. Use the Level VR located on the back of the camera to optimize conditions.



7. Selecting FL-MODE Switch.
This function key is used to switch the anti-flicker function ON/OFF. Flicker effect occurrence (due to power frequency differences) may be eliminated by turning this key 'ON'.



8. After the camera lens has been adjusted, use the camera mount bracket to the direction you want to monitor and then fasten it tight.

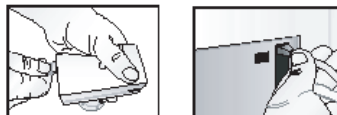


2) 12X Zoom lens High Band standard Camera (SOC-420P)

1. Choose an installation site that can sufficiently support a minimum of five times the net weight of the equipment to be installed (approx. 800g).
2. Install the provided mounting bracket and then connect one end of the cable to the rear of the camera. When doing this, arrange the cable so that it won't get damaged or caught on anything.



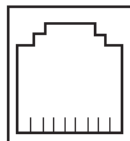
3. Connect the other end of the cable to the monitor or other accessory equipment.



4. Use the handle on the mounting bracket to direct the camera to the area you want to monitor.



Pin arrangement for the SOC-420P RJ-45 connector

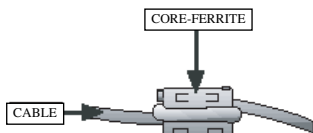


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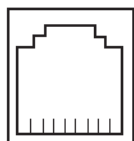
1	DATA+
2	VIDEO_OUT
3	GND
4	DATA-
5	AUDIO_OUT
6	VDD
7	GND_V
8	CH_SEL

Precautions

- ✓ In case electromagnetic waves affect SOC-320(P), please wind the core ferrite at a proper point. (The core ferrite is contained in SOC-320P only.)



Pin arrangement for the SOC-320P RJ-45 connector

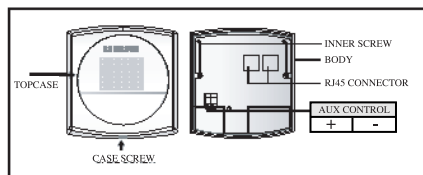


8 ... 1

Pin No.	Pin Arrangement
1	DATA+ ★
2	VIDEO_OUT
3	GND
4	DATA- ★
5	AUDIO_OUT
6	VDD
7	GND_V
8	CH_SEL ★

Pins indicated with '★' are not used.

DOORBELL composition and installation method



▶ AUX CONTROL

This output signal (DC17V, 300mA) that control external devices when the AUX CONTROL key of the monitor or remote controller is pressed.

▶ CONNECTOR

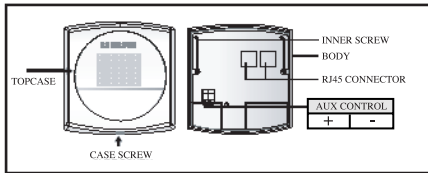
One is for the camera-end of the cable, and the other is for the monitor-end of the cable.

Precautions for installation and use

- ✓ Please check whether the installation site can sufficiently support the weight of the SDB-100 before installation.
- ✓ Make sure that the cable is not caught on anything or its insulation sheath is not removed.
(Neglecting to do to may cause fire or damage to the product.)
- ✓ Prevent people from approaching the installation area, where object might fall during installation. Move valuables to a safe location before installation.
- ✓ Install the SDB-100 in a cool location, away from direct sunlight. It is recommended that SDB-100 is located in an area not subject to direct sunlight during use or storage.
- ✓ The SDB-100 must be used in an area where temperature and humidity are kept within the limits specified below :
 - Temperature : -10°C ~ +50°C (14°F ~ 122°F)
 - Humidity : Below 90%

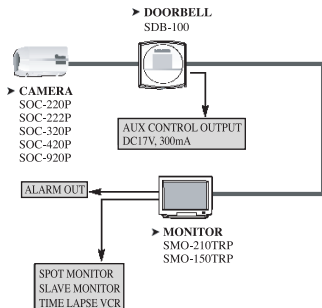
Installations

- Choose an installation site that can sufficiently support a minimum of five times the net weight of the equipment to be installed (approxx. 500g).



1. Unscrew the CASE SCREW and then disassemble the TOPCASE.
2. Connect RJ45 CONNECTOR with the Camera, and connect the other RJ45 CONNECTOR with the Monitor.
System connection is refer to system connection diagram.
3. If you want to use Aux Control. Connect the Aux Control +port and -port with other device that use Aux Control output (DC17V, 300mA).
4. After the cable connection is completed, you must arrange the cables so that won't get damaged.
5. Screw BODY of the SDB-100 and the satisfied place with the INNER SCREW (2 point).
6. After, close the TOPCASE, screw TOPCASE and BODY with the CASE SCREW.

System connection diagram



Chapter 3: Basic Connecting to External Devices

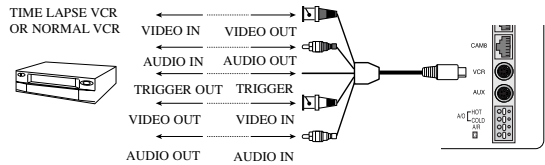
The product can be connected to an external device such as a monitor, VCR, Alarm Box, Door Bell Box, etc.

This chapter describes how to connect to external devices.

Caution

Make sure not to input more than 2V from the camera, video, or audio source, otherwise, it may cause a malfunction of the product.

1. Connecting to Time Lapse VCR



(or Normal VCR)

- 1) Connect the 6-pin plug to the VCR terminal on the rear panel.
- 2) Connect the VIDEO OUT plug to the VIDEO IN terminal of the VCR.
- 3) Connect the VIDEO IN plug to the VIDEO OUT terminal of the VCR.
- 4) Connect the AUDIO OUT plug to the AUDIO IN terminal of the VCR.
- 5) Connect the AUDIO IN plug to the AUDIO OUT terminal of the VCR.
- 6) Connect the TRIGGER plug to the REC TRIGGER OUT terminal of the VCR.
- 7) Connect the A/O (HOT) terminal on the rear panel to the Alarm IN terminal of the VCR.
- 8) Connect the A/O (COLD) terminal on the rear panel to the Ground terminal of the VCR.
- 9) Connect the A/R terminal on the rear panel to the Alarm Reset terminal of the VCR.
- 10) Connect the G (ground) terminal on the rear panel to the Ground terminal of the VCR.

Caution

The name of the REC TRIGGER OUT or Alarm terminal may change depending on the type of Time Lapse VCR.

Make sure to check the names of the terminals before connecting them.

2. Connecting the Alarm Sensor

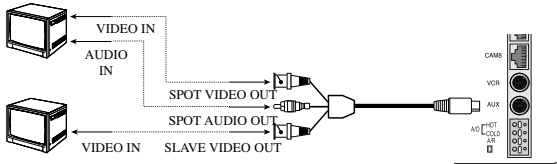
Connect the Alarm Box and Alarm Sensor in accordance with the user manual of Alarm Box.

3. Connecting the Door Bell Box

Connect the cameras and Door Bell Box in accordance with the user manual of Door Bell Box.

4. Connecting the Ordinary monitor

Connect the ordinary monitor to the Spot output terminal, which allows you to supervise a specified channel within the Main screen. Connect the Slave Monitor to the output terminal, which allows you to simultaneously view the current situation.



Chapter 4: Basic Operation

1. Basic Operation

1) Turn the Power Switch On.

When turned on for the first time, the 9-split screens are displayed on the monitor. At this time, the channels that have no input are displayed with a blue screen and video loss occurs. (After completing the initial setup, the settings are memorized when the power is turned off. Therefore, when you turn the power on again, the product will be operated with the previous settings.)

2) Select a Display Mode as follows.

- Full Screen Mode: When you are on a split screen, move to your desired channel using the Rotary Wheel and press the ENTER button located at its center. The selected channel will then be displayed in Full Screen Mode.
- Multi Screen Mode: Press the MULTISCREEN button to display the split screens. You can select which channels will be displayed on the split screen.
- Sequence Screen Mode: Press the SEQUENCE button. Channels are automatically switched sequentially in full screen mode.
- Freeze Screen Mode: You can capture and view a still screen using the FREEZE button and the Rotary Wheel.
- LIVE/P.B. Screen Mode: You can monitor the present camera signals or playback the recorded screens using the LIVE/P.B./TRIPLEX button.
- TRIPLEX Screen Mode: Watch the present camera signals and recorded screens on the same monitor using the LIVE/P.B./TRIPLEX button.
- PIP Screen Mode: You can watch Picture in Picture (PIP) screens by using the PIP button.
- Zoom Screen Mode: You can enlarge a full screen two times using the Zoom button and Rotary Wheel.

2. When you want to watch on LIVE/P.B./TRIPLEX screen.

Select the LIVE, P.B., or TRIPLEX screen mode using the LIVE/P.B./TRIPLEX button.

Each press of this button changes the screen mode to LIVE mode, P.B. mode, and TRIPLEX mode sequentially.

The LIVE/P.B./TRIPLEX button will not operate in the following cases:

- While using the SETUP Menu
- While displaying the Event List or the Door Bell List
- While replaying events
- While zooming-in the screen
- While setting a still screen on the multi screen mode

3. When you want to watch in Full Screen Mode

If you are on a split screen, move to your desired channel using the Rotary Wheel and press ENTER. The selected channel will be displayed in full screen mode. At this time, you can change the channel using the Rotary Wheel.

In addition, you can change the channel by pressing number buttons on your remote control.

4. When you want to watch in Sequence Screen Mode

The Sequence screen is available only in full-screen LIVE mode. Press the SEQUENCE button when the screen is in full-screen LIVE mode to switch to the Sequence screen. You can set the switching intervals by going to "SEQUENCE" under "4. SYSTEM SETTING" on the SETUP MENU. The range of switching intervals is from one to thirty seconds. Press the SEQUENCE button again to stop the screen displayed at the present time.

The SEQUENCE button will not operate in the following cases:

- While operating in P.B. or TRIPLEX mode
- While using the SETUP Menu
- While displaying a split screen
- While displaying the Event List or Door Bell List
- While replaying events
- While zooming-in the screen

5. When you want to watch in FREEZE Screen Mode

You can stop a full or split screen temporarily and view the still screen in LIVE, P.B., TRIPLEX mode.

You can select and stop the channels you wish to stop in split screen mode.

1) Full Screen Display

If the FREEZE button is pressed, the current display will freeze, and the FREEZE icon will appear in the upper right corner of the screen. Press the FREEZE button again to exit this mode.

2) Multi-Screen Display

- ① If the FREEZE button is pressed, the FREEZE icon will appear in the upper right corner of the screen.
- ② Move to the picture you would like to freeze by using Rotary Wheel.
- ③ By pressing the ENTER button in the middle of Rotary Wheel, the picture from that channel will freeze, and the character "F" will appear. Press the ENTER button again to exit this mode.

- ④ If you would like to see the frozen picture from another channel, move to the target channel, and press ENTER. The new channel's picture will be frozen, and the character "F" will appear. Press the ENTER button again to exit this mode.
- ⑤ If the picture on any other channel remains frozen, repeat item ④)
- ⑥ Press the FREEZE button to exit entirely from FREEZE mode.

The FREEZE button will not operate in the following cases:

- While using the SETUP Menu
- While displaying the Event List or Door Bell List
- While replaying events

6. When you want to watch on ZOOM Screen Mode

This mode is operated only while in LIVE/P.B. Mode Full Screen.

- 1) When the ZOOM button is pressed, a ZOOM AREA will appear in the center of the screen.
- 2) Move the ZOOM AREA to the target position by using the Rotary Wheel and the ENTER button.
- 3) Press the ZOOM button again to increase picture to double its original size.
- 4) Press it again to return to the original size.

ZOOM AREA and ZOOM Picture Movement

- 1) Press the ZOOM button and turn the Rotary Wheel to move the ZOOM AREA up and down over the picture.
- 2) Press the ENTER button and turn the Rotary Wheel to move the ZOOM AREA left and right over the picture.
- 3) Press the ENTER button again and turn the Rotary Wheel to move the ZOOM AREA up and down over the picture.

The ZOOM button will not operate in the following case:

- While using the SETUP Menu
- While Displaying the EVENT List or Door Bell List
- While replaying events
- While operating in Sequence Mode

7. When you want to watch on PIP Screen Mode

You can watch a Picture in Picture screen in full-screen LIVE mode using the PIP button.

When you press the PIP button for the first time, the sub screen on the PIP screen is a sequence screen. After that, when you enter into PIP mode again, the sub screen which is displayed in the same screen mode as when you exited the PIP mode previously.

Using PIP Screen

- 1) Press the PIP button in full-screen LIVE mode.
- 2) When a fixed channel is displayed on the sub screen, each time you press ENTER it switches between the Main screen and the Sub screen.
- 3) Turn the Rotary Wheel to change the channel of the Main screen.
- 4) Press the SEQUENCE button to set the Sub screen as the sequence screen. Press the button again to fix the channel.
- 5) You can change the position of the sub screen by going to "PIP POSITION" under "2.CLOCK/DISPLAY SET" on the SETUP menu.

The PIP button will not operate in the following cases:

- While operating in P.B. or TRIPLEX mode
- While displaying a split screen
- While using the SETUP Menu
- While displaying the Event List or Door Bell List
- While replaying events
- While zooming-in the screen
- While operating in Sequence mode
- In case of no Video input signal
- When the input signal channel is in the Full-screen mode at the time of Single video input

8. When you want to watch the VCR output

Change to PB FULL Mode by pressing the Live/P.B./TRIPLEX button. The "PB THROUGH" picture will appear if the ENTER button is pressed while in this mode. Press the "ENTER" button again to return to the previous PB picture.

Caution

This function is only available in PB FULL Display mode.

9. When you want to watch the Event Replay screen

1) When an Alarm/Motion signal is input

You can use the alarm function only when an Alarm Box is connected. When an alarm/motion signal is input, the word "EVENT" is displayed on the screen, and a warning buzzer sounds. When this occurs, if you press ENTER, up to 16 frames before and after the generated alarm/motion signal are replayed on the Event Replay window.

Press ENTER again to stop the event replay.

If alarm/motion signals are input on more than one channel, press ENTER to start the event replay for another channel when the current event replay finishes. When an event replay for all the channels on which an alarm/motion signal has occurred has finished, press ENTER to exit Event Replay mode.

Alarm/Motion histories are recorded in the EVENT LIST.

2) When Channel Loss is detected

If the channel loss detection function detects a channel loss, the word "EVENT" is displayed on the screen and a warning buzzer sounds. When this occurs, press ENTER and up to 16 frames before the detected channel loss are replayed on the Event Replay window.

Press ENTER again to stop the event replay. If channel loss is detected on more than one channel, press ENTER to start event replay for the next channel when the current event replay finishes.

When the event replay for all the channels on which channel loss has been detected finishes, press ENTER to exit the Event Replay mode. Channel loss histories are recorded in the EVENT LIST.

10. When you want to watch a Door Bell screen

The Door Bell Function is only available with a door bell connection. When the door bell is pressed, the current picture switches to the doorbell area monitoring picture, in full screen mode, along with an alarming beep. At this time, one Instant Picture is stored in the "DOOR BELL LIST". Up to 8 pictures can be stored in the "DOOR BELL LIST".

You can access any stored picture from the list to be displayed on the screen.

Move to your desired item by going to "5. DOOR BELL LIST" on the SETUP menu and press ENTER to display it as a still screen. Then, press ENTER again to return to the "DOOR BELL LIST" screen.

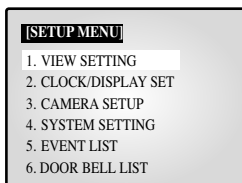
Chapter 5: Setup Menu Settings

<SETUP MENU>

- Press the MENU button to display the Language Selection screen.



- Select the desired language by using the Rotary Wheel and press ENTER to display the SETUP MENU in the desired language.
- When you press the MENU button after completing the initial language selection, the Language Select screen will not appear. Instead the following SETUP MENU will appear on the monitor. Press the button once again to return to the previous menu.

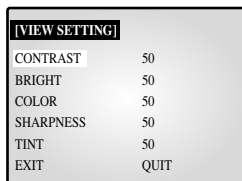


<SUB MENU >

- Select submenu 1 to 6 from the SETUP MENU using the Rotary Wheel and press ENTER to go to the SUB MENU.

1. VIEW SETTING

You can change the contrast, brightness, color, sharpness and tint of the Main screen on the monitor. Select "1. VIEW SETTING" from the SETUP MENU using the Rotary Wheel and press ENTER to display the following screen:



- Select an item using the Rotary Wheel and press ENTER to change the preset value.

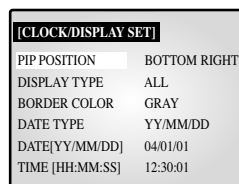
- Change the preset value (0 ~ 100) by using the Rotary Wheel and press ENTER to save the setting.
- Select SAVE (save the changes), QUIT (exit the setting mode without saving) or PRESET (reset all the settings to the factory defaults) from the EXIT MENU and press ENTER to return to the SETUP MENU.

Caution

The "TINT" item is only available in NTSC SYSTEM mode.

2. CLOCK/DISPLAY SET

You can change PIP position, display type, date type and time. Select "2. CLOCK/DISPLAY SET" from the SETUP MENU using the Rotary Wheel and press ENTER to display the following screen:



- Select an item using the Rotary Wheel and press ENTER to change the preset value.
- Change the preset value using the Rotary Wheel and press ENTER to save the setting.
- Press the MENU button to return to the SETUP MENU.

PIP POSITION: BOTTOM-RIGHT ↔ TOP-LEFT ↔ TOP-RIGHT ↔ BOTTOM-LEFT.

- Select the PIP position among the four options listed above.

DISPLAY TYPE: ALL ↔ TITLE ↔ DATE/TIME ↔ NONE.

- ALL: All items will be displayed except the DATE/TIME and the TITLE.
- TITLE: Only the CHANNEL TITLE will be displayed.
- DATE/TIME: Only the DATE/TIME will be displayed.
- NONE: Neither the DATE/TIME nor the TITLE will be displayed.

BORDER COLOR: GRAY ↔ BLACK

- GRAY : BORDER LINE COLOR is displayed in GRAY in Multi Screen mode.
- BLACK : BORDER LINE COLOR is displayed in BLACK in Multi Screen mode.

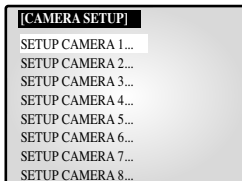
DATE TYPE: YY/MM/DD ↔ MM/DD/YY ↔ DD/MM/YY.

- DATE [YY/MM/DD]
- Year(YY) : 00(2000) ~ 99(2099)
 - Month(MM) : 01 ~ 12
 - Day(DD) : 01 ~ 31

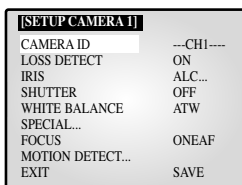
- TIME [HH:MM:SS]
- Hour(HH) : 00 ~ 23
 - Minute(MM) : 00 ~ 59
 - Second(SS) : 00 ~ 59

3. CAMERA SETUP

You can change the Camera ID, LOSS DETECT, MOTION DETECT and Camera Preset values.
Select "3. CAMERA SETUP" from the MAIN MENU using the Rotary Wheel and press ENTER to display the following screen.



Select the desired channel using the Rotary Wheel and press ENTER to go to the display of the selected channel. The following screen will appear.



- All the items, except "CAMERA ID" and "LOSS DETECT," will be available for setting only after the system is connected to a camera (SOC-420(P) or SOC-920(P), sold separately).
- Select the desired item using the Rotary Wheel and press ENTER. Then change the preset value using the Rotary Wheel and press ENTER to complete the setting.
- Select SAVE (save the changes), QUIT (exit the setting mode without saving) or PRESET (reset all the settings to the factory defaults) from the EXIT menu and press ENTER to return to the previous CAMERA SETUP menu.
You can't return to the previous menu while in the setting mode. You can only return to the previous menu by selecting EXIT.
- Change the preset values for the other channels repeating the same steps.
- Press the MENU button after completing all the settings to return to the SETUP MENU.

CAMERA ID: ---CH1--- ("-" indicates blank.)

- Select "CAMERA ID" using the Rotary Wheel and press ENTER to select the first "-."
- Select the desired letter using the Rotary Wheel and press ENTER to move on and select the next letter.
(Letter order: 0123456789ABCDEFGHIJKLMNPOQRSTUVWXYZ [] ~ _ . /)
- Repeat the same to select all the desired letters. (You can choose up to ten letters.)

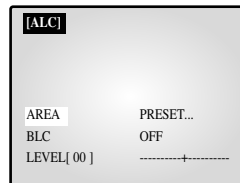
LOSS DETECT: Sets the Loss Detect On/Off. (ON ↔ OFF)

IRIS: Controls the video output level through the Iris depending on the level of light coming into the camera.

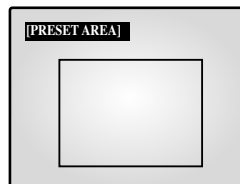
- Select "IRIS" using the Rotary Wheel and press ENTER to select

either "ALC..." or "MANUAL...".

- ALC... : Auto Light Compensation
 - Select "ALC..." using the Rotary Wheel and press the SET button to display the following screen. Press the MENU button after completing the setting to return to the previous menu.

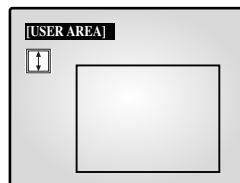


- Select AREA using the Rotary Wheel and press ENTER to select either "PRESET..." or "USER...".
- Select "PRESET..." using the Rotary Wheel and press the SET button to display the following screen. The back light compensation will be applied to the area(s) with preset values.



Press the MENU button to return to the previous menu.

- Select "USER..." using Rotary Wheel and press the SET button to display the following screen.

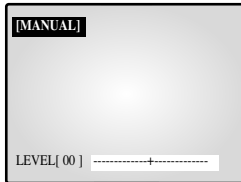


- ▮ Adjust the size up/downward using the Rotary Wheel and press ENTER to select and move on to adjust the size on the left/right side. Then "□" will be displayed on the screen.
- ▮ Press ENTER after adjusting the size of the left/right side by using the Rotary Wheel. Then you will be ready to adjust the position up/downward and "□" will be displayed on the screen.
- ▮ Press ENTER after adjusting the position using the Rotary Wheel. Then you will be ready to adjust the position to the left/right side and "□" will be displayed on the screen.
- ▮ Press ENTER after adjusting the position using the Rotary Wheel. Then you have completed the AREA setting. Press the MENU button to return to the previous menu.

- BLC (Back Light Compensation): When BLC is turned "ON," BLC function will be applied to all the areas set in AREA. When bright light is in the background of an object, the object will appear dark on the monitor due to the backlight. To address this problem, use the BLC function so that you can get clear images.

- LEVEL: You may set the video output level from "-9" to "+9". Select "LEVEL [00]" using the Rotary Wheel and press ENTER to change the setting. Press ENTER after changing the setting to save the setting.

- MANUAL...: Sets the manual opening/closing of the Iris.
- Select "MANUAL..." using the Rotary Wheel and press SET button to display the following screen.



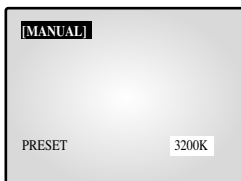
- Set the value using the Rotary Wheel.
- Press the MENU button to return to the previous menu.

SHUTTER

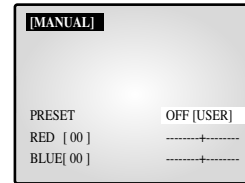
- You can set the high-speed electronic shutter speed, AUTO low-speed shutter speed and FIX low-speed shutter speed.
- High-speed electronic shutter can be set to 7 shutter speeds ranging from 1/120(1/100) sec to 1/10K sec. Auto low-speed shutter and FIX low-speed shutter can both be set to 12 shutter speeds ranging from X2 to X128.
- Low-speed slows down the speed of the shutter so that images taken in dark light appear clearer on the screen. Select AUTO low-speed shutter to detect the density of light and automatically slow down the speed of the shutter depending on the density. Select FIX low-speed shutter to set the speed of the shutter manually.
- The numbers following the AUTO and FIX items indicate the number of fields stored. The higher the number is, the lower the speed of the shutter becomes. Images, therefore, appear most clear with still pictures. With moving images, however, the object can appear blurred.
- Setting the Value
From the SHUTTER Menu press ENTER to adjust the values. Select the value using the Rotary Wheel and press ENTER to complete the setting.
OFF ' 1/120(1/100) ' 1/250 ' 1/500 ' 1/1000 ' 1/2000 ' 1/4000 ' 1/10K ' OFF ' AUTO X2 ' AUTO X4 ' AUTO X6 ' AUTO X8 ' AUTO X12 ' AUTO X16 ' AUTO X24 ' AUTO X32 ' AUTO X48 ' AUTO X64 ' AUTO X96 ' AUTO X128 ' OFF ' FIX X2 ' FIX X4 ' FIX X6 ' FIX X8 ' FIX X12 ' FIX X16 ' FIX X24 ' FIX X32 ' FIX X48 ' FIX X64 ' FIX X96 ' FIX X128.

WHITE BALANCE: ATW, AWC..., MANUAL...

- You can turn on the White Balance function that enables the color white to appear normal regardless of the color temperature of light.
- ATW : Monitors the change in color temperature and adjusts the setting of the White Balance accordingly.
- AWC : Adjusts the setting of the White Balance to the color temperature only once and then maintains the setting. While in the AWC screen, place a white paper in front of the camera and press the SET button.
- MANUAL... : Select "MANUAL" using the Rotary Wheel and press the SET button to display the following screen. Then you can choose 3200K, 5600K or USER Mode and set the White Balance manually depending on the current lighting conditions.



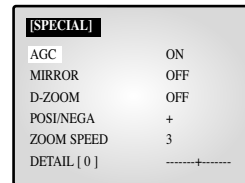
- 3200K : Sets the color temperature at 3200° K.
- 5600K : Sets the color temperature at 5600° K.
- Set to "OFF[USER]" to display the following screen. Press ENTER and then select the proper values of RED and BLUE to manually set the color temperature.



Press the MENU button to return to the previous menu.

SPECIAL...

- Select "SPECIAL..." using the Rotary Wheel and press ENTER to display the following screen. Press the MENU button after completing the setting to return to the previous menu.



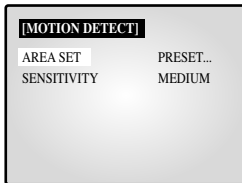
- AGC : AGC(Auto Gain Control) function On/Off.
- MIRROR : Horizontally reverses the video output signals.
- D-ZOOM : Sets the magnifying rate of the Digital Zoom. This system offers up to 10X Zoom.
- POSI/NEGA : Sets the video output signals to either normal or reverse output.
- ZOOM SPEED : Sets the moving speed of the Zoom.
 - 1: Takes about 17 sec from x1 to x12 (the lowest speed)
 - 2: Takes about 10 sec from x1 to x12 (low speed)
 - 3: Takes about 6 sec from x1 to x12 (high speed)
 - 4: Takes about 3 sec from x1 to x12 (the highest speed)
- DETAIL : Adjusts brightness vertically and horizontally.

FOCUS: Set the Focus to MF or ONEAF.

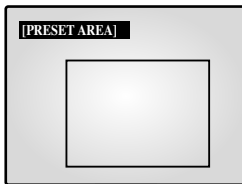
- MF: Manual Focus Mode allows the user to Focus.
- ONEAF: When the Zoom moves from the Wide to the Telephoto direction, AF occurs only once after the Telephoto function is completed.
 - ONEAF works like MF Mode when there are still images and like AF Mode when the Zoom moves in the Telephoto direction.

MOTION DETECT...

- The Motion Detect feature is used to detect motion of an object. By turning on the Motion Detect, you can detect the motion of an intruder during non-peak hours.
- Select "MOTION DETECT" using the Rotary Wheel and press ENTER to display the following screen. Press the MENU button after completing the setting to return to the previous menu.

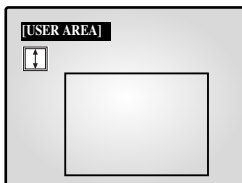





- **AREA SET** : Sets the area of the screen to which the Motion Detector is applied.
- **PRESET...**
 - ▮ Select “PRESET” using the Rotary Wheel and press the SET button to display the following screen. The Motion Detect is applied to the area(s) within the box.



Press the MENU button to return to the previous menu.

- **USER...**
 - ▮ Select “USER...” “ using the Rotary Wheel and press the SET button to display the following screen.



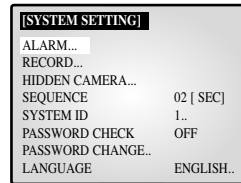
- ▮ Adjust the size up/downward using the Rotary Wheel and press ENTER to select and move on to adjust the size of left/right side. Then “” will appear on the screen.
 - ▮ Adjust the size of the left/right side by using the Rotary Wheel and press ENTER to select and move on to adjust the position up/downward. “” will appear on the screen.
 - ▮ Adjust the position up/downward using the Rotary Wheel and press ENTER to select and move on to adjust the position of the left/right side. “” will appear on the screen.
 - ▮ Adjust the position of the left/right side using the Rotary Wheel and press ENTER. Then you will have completed the AREA setting. Press the MENU button to return to the previous menu.
- **SENSITIVITY**: Sets the sensitivity of the Motion Detector to LOW, MEDIUM or HIGH.

4. SYSTEM SETTING

You can change the ALARM, RECORD, HIDDEN CAMERA, SEQUENCE, SYSTEM ID, PASSWORD, and LANGUAGE settings.

Select “4. SYSTEM SETTING” from the SETUP MENU using the

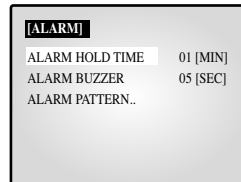
Rotary Wheel and press ENTER to display the following screen.



- Select an item using the Rotary Wheel and press ENTER to change the setting.
- Change the setting using the Rotary Wheel and press ENTER to save the setting.
- Press the MENU button after completing all the settings to return to the SETUP MENU.

ALARM...

- Select “ALARM” using the Rotary Wheel and press ENTER to display the following screen.



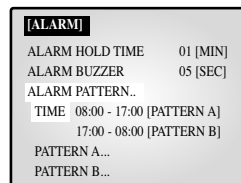
ALARM HOLD TIME

ALARM HOLD TIME is the time during which the Alarm continues. You can set the duration at 5 sec, 15 sec, 30 sec, 1 min, 3 min, 5 min, 10 min, 20 min, 30 min or AUTO. When you select AUTO, the Alarm will be on during the time the Alarm is signaling.

ALARM BUZZER

When the Alarm occurs, the Alarm Buzzer is set off. You can set the duration at 5 sec, 15 sec, 30 sec, 1 min or OFF. When you select OFF, the Alarm Buzzer will not sound.

- Select “ALARM PATTERN” using the Rotary Wheel and press ENTER to display the following screen.



- You can select when to arm and disarm the alarm in two patterns. When you select PATTERN A, The time in PATTERN B will be automatically modified.
- Select PATTERN A using the Rotary Wheel and press ENTER to display the following screen.

[PATTERN A]			
CH	MOTION	ALARM	DOOR-BELL
CH1	OFF	--	OFF
CH2	OFF	--	--
CH3	--	OFF	OFF
CH4	OFF	OFF	OFF
CH5	OFF	OFF	OFF
CH6	OFF	OFF	OFF
CH7	OFF	OFF	OFF
CH8	OFF	OFF	OFF

- Choose On/Off for the Motion, Alarm and Door-Bell features for all 8 cameras.
- Press the MENU button after completing the settings to return to the ALARM Menu.
- Repeat the same for PATTERN B.
- The "--" will be displayed when it is not connected to the accessories.

RECORD...

- Select "RECORD..." using the Rotary Wheel and press ENTER to display the following screen.

[RECORD]	
REC TYPE	NOR
REC OUT	FRAME
AUDIO RECORD	CH1
SPOT - OUTPUT	CH1

REC TYPE

- NOR : Used for recording with a normal VCR. The picture is displayed according to the "REC OUT" set values (FIELD, FRAME).
- TLV: Used for recording through a time lapse VCR.

REC OUT

It is valid when the REC TYPE is "NOR".

- FIELD : Records at 1/50 seconds (PAL), 1/60 seconds (NTSC).
- FRAME : Records at 1/25 seconds (PAL), 1/30 seconds (NTSC).

AUDIO RECORD

Sets the channel that sends Audio signals to the recoding output.

SPOT-OUTPUT

Sets the output channel for SPOT which will intensely monitor that channel.

- Press the MENU button after completing the settings to return to the SYSTEM SETTING Menu.

HIDDEN CAMERA

- Select "HIDDEN CAMERA..." using the Rotary Wheel and press ENTER to display the following screen.

[HIDDEN CAMERA]		
CH	LIVE	P.B.
CH1	OFF	OFF
CH2	OFF	OFF
CH3	ON	OFF
CH4	OFF	OFF
CH5	OFF	OFF
CH6	OFF	OFF
CH7	OFF	OFF
CH8	OFF	OFF

- Turn the Hidden Camera On/OFF of in LIVE Mode and P.B. MODE for each channel.
- Press the MENU button after completing the settings to return to the SYSTEM SETTING Menu.

SEQUENCE

- Set the Switching Interval for Sequence Mode. You can set the time between 1 sec and 30 sec.

SYSTEM ID

- This function allows the user to control a single monitor using the remote control when multiple (up to 10) monitors are linked together. Only those monitors with IDs matching the Remote Control ID will be controlled by the remote control.

CH1	CH2	CH3
MONITOR ID: 1		REMOCON ID: 1
CH4	CH5	CH6
CH7	CH8	

- Setting: The default value of the monitor and the remote control is "1". The value of the Monitor ID can be set from 0 to 9 by accessing the System ID Setup mode under the System Setting menu. Press the System ID button on the remote control to display the Monitor ID and the Remote Control ID as shown above. With system ID button pressed, enter the desired number by pressing the corresponding button (0 to 9) to set up the Remote Control ID. The OSD will disappear three seconds after the last button is pressed.

PASSWORD CHECK

- Turns the Password Check On/OFF for entry into the SETUP MENU.
- When PASSWORD CHECK is "ON" for entry into the SETUP MENU, the following screen will appear and the first space for a number will be selected.

[PASSWORD CHECK]	
+++++	+++++
+ - - - - - +	
+++++	+++++

- Select the first digit of the Password using the Rotary Wheel and press ENTER to move to the next digit. Repeat this step to enter the six-digit password and press ENTER to return to the SETUP MENU.
- If the Password is not correct, "ERROR TRY AGAIN" will appear at the bottom of the screen. The message will disappear after the first digit of the Password is entered. Repeat this step until you have entered the six-digit password then press ENTER to move to the SETUP MENU. If the number is entered incorrectly more than three times, the display will return to the previous menu.

PASSWORD CHANGE...

- Select "PASSWORD CHANGE..." using the Rotary Wheel and press ENTER to display the current Password on the screen as shown below. The first digit of the number will be selected. (Factory default is 123456.)

[SYSTEM SETTING]	
ALARM...	
RECORD...	
HIDDEN CAMERA...	
SEQUENCE	02 [SEC]
SYSTEM ID	1..
PASSWORD CHECK	OFF
PASSWORD CHANGE...	123456
LANGUAGE	ENGLISH..

- Select the first digit of the Password using the Rotary Wheel and press ENTER to select the second digit. Repeat the same until the six digits of the Password have been entered. Press ENTER to complete the change.
- You can use "0" to "9" for the Password.

LANGUAGE

- Select the desired language for the use in the Menu. ENGLISH, ESPAÑOL, FRANÇAIS, ITALIANO, DEUTSCH, NEDERLANDS and PORTUGUÊS are available.

5. EVENT LIST

You can check the ALARM/MOTION/LOSS EVENT LIST. Select "5. EVENT LIST" from the SETUP MENU using the Rotary Wheel and press ENTER to display the following screen.

[EVENT LIST]					1/5
YY/MM/DD	HH:MM:SS	CH			
1. 04/01/30	12:30:01	M	01		
2. 04/01/29	12:30:01	A	02		
3. 04/01/28	12:30:01	M	08		
4. 04/01/27	12:30:01	A	04		
5. 04/01/26	12:30:01	A	03		
6. 04/01/25	12:30:01	L	01		
7. 04/01/24	12:30:01	A	06		
8. 04/01/23	12:30:01	M	07		
9. 04/01/22	12:30:01	A	01		
10. 04/01/21	12:30:01	A	01		

- The latest information on Alarms, Loss and Motion Detects will be stored. This system stores up to 50 events (10 x 5 pages) starting from the latest one. You can check the other pages of the List by using the Rotary Wheel.
- Press the MENU button to return to the SETUP MENU.

6. DOOR BELL LIST

To check the EVENT LIST of the DOOR BELL(S). Select "6. DOOR BELL LIST" from the SETUP MENU using the Rotary Wheel and press ENTER to display the following screen.

[DOOR BELL LIST]				
YY/MM/DD	HH:MM:SS	CH		
1. 04/01/30	12:30:01	D	01	
2. 04/01/29	12:30:01	D	02	
3. 04/01/28	12:30:01	D	08	
4. 04/01/27	12:30:01	D	04	
5. 04/01/26	12:30:01	D	03	
6. 04/01/25	12:30:01	D	01	
7. 04/01/24	12:30:01	D	06	
8. 04/01/23	12:30:01	D	07	

- The latest information from the Door Bell detector will be stored. This system stores up to 8 events starting from the latest one. Scroll down the List using the Rotary Wheel and press ENTER to display the still screen of the corresponding Door Bell. Press ENTER to return to the DOOR BELL LIST.
- Press the MENU button to return to the SETUP MENU.

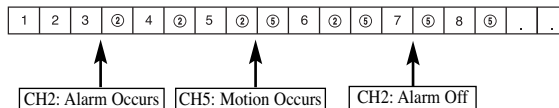
Chapter 6: Recording

1. Recording in Time Lapse (or Normal) Mode

- Image signals transmitted from up to 8 cameras play at 1/25 or 1/50 second intervals in PAL SYSTEM areas, and at 1/30 or 1/60 second intervals in NTSC SYSTEM areas, and are recorded in the VCR.
- The TRIGGER OUT port of the VCR must be connected to the TRIGGER (6PIN VCR Accessory) port of this system.
- When trigger signals from the VCR stop for more than 30 sec, the Self Trigger mode is turned on to continue recording without the trigger from the VCR.

2. Alarm/Motion Channel Intensive-Recording

- This system double-records channels in case of an Alarm/Motion.
- It records the Alarm/Motion channels in between recording the output channels.
- The "VIDEO LOSS" channel is also subject to the Alarm/Motion Channel Double-Recording.
- Ex.) The ALARM is turned on at CH2. Then MOTION occurs at CH5.



Chapter 7: Alarm, Motion, Loss and Door Bell

1. Alarm Occurrence

The Alarm becomes available only when an Alarm Box is connected.

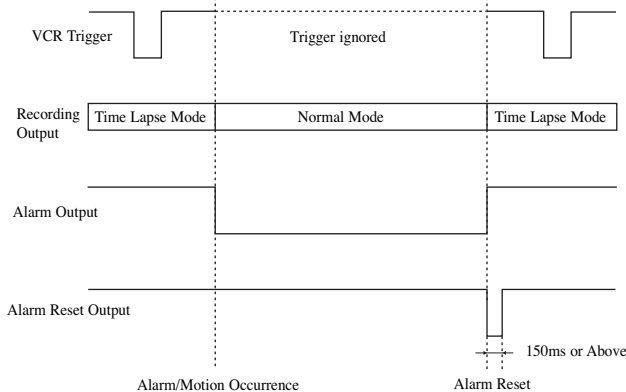
- When an Alarm trigger is received, a warning buzzer sounds and the screen is divided into 9 Live-Mode sub-screens. The word "EVENT" appears on the screen and the Alarm occurrence information is displayed at the right bottom of the screen.

04/01/01	12:30:30	EVENT
CH1	CH2	CH3
CH4	CH5	CH6
CH7	CH8	A12345678

- 2) Press ENTER (in the middle of the Rotary Wheel) to replay the event in Event Replay mode. Up to 16 screens can be replayed centering on the time of the Alarm. The duration of Replay is displayed in a graph. Turn the Rotary Wheel during the Replay to forward or reverse the stored screens one by one. Press ENTER to terminate the Event Replay. The Event Replay will continue until ENTER has been pressed.

04/01/01	12:30:30	EVENT CH3
1	CH2	CH3
CH4	CH5	CH6
CH7	CH8	ALARM 04/01/01 12:29:30

- 3) Alarm occurrence information is stored in the "EVENT LIST".
- 4) Alarm Out (HOT, COLD) signals are active during the "ALARM HOLD TIME."
 - ALARM HOLD TIME : Time during which the Alarm function is carried on after the Alarm is first detected. Alarm Hold Time is reset automatically when Event Replay is turned on.
- 5) Recording output continues in Normal mode until the Alarm is cleared. The recording frequency of the corresponding channel increases.
- 6) Signals change as the Alarm occurs and later clears.



2. Motion Occurrence

The Motion option only becomes available when a camera with Motion features is connected.

- 1) When a Motion trigger is received, a warning buzzer sounds and the screen is divided into 9 Live-Mode sub-screens. The word "EVENT" appears on the screen and the Motion occurrence information is displayed at the bottom right of the screen.

04/01/01	12:30:30	EVENT CH3
CH1	CH2	CH3
CH4	CH5	CH6
CH7	CH8	M12345678

- 2) Press ENTER (in the middle of the Rotary Wheel) to replay the event in Event Replay mode. Up to 16 screens can be replayed centering on the time of the Motion occurrence. The duration of the replay is displayed in a graph. Turn the Rotary Wheel during the Replay to forward or reverse the stored screens one by one. Press ENTER to terminate the Event Replay. The Event Replay will continue until ENTER has been pressed.

04/01/01	12:30:30	EVENT CH3
1	CH2	CH3
CH4	CH5	CH6
CH7	CH8	MOTION 04/01/01 12:29:30

- 3) Motion occurrence information is stored in the "EVENT LIST".
- 4) Alarm Out (HOT, COLD) signals are active during "ALARM HOLD TIME".
- 5) Recording output continues in Normal mode until the Motion is cleared. The recording frequency of the corresponding channel increases.
- 6) Signal output continues as the Motion occurs and later clears.

3. Loss Occurrence

- 1) When the Loss occurs, a warning buzzer sounds and the screen is divided into 9 Live-Mode sub-screens. The word "EVENT" and Loss channel appears on the screen and the corresponding channel appears Blue Black. When more than one Loss occurs, that channel number display switches to Blue-Black with a 1 second interval.

04/01/01	12:30:30	L12345678 EVENT CH3
CH1	CH2	CH3
CH4	CH5	CH6
CH7	CH8	

- 2) Press ENTER (in the middle of the Rotary Wheel) to replay the event in the Event Replay mode. Up to 16 screens can be replayed centering on the time before the Loss occurrence. The duration of the Replay is displayed in a graph. Turn the Rotary Wheel during the Replay to forward or reverse the stored screens one by one. Press ENTER to terminate the Event Replay. The Event Replay will continue until ENTER has been pressed.

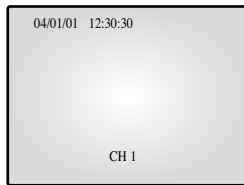
04/01/01	12:30:30	L12345678 EVENT CH3
1	CH2	CH3
CH4	CH5	CH6
CH7	CH8	LOSS 04/01/01 12:30:00

- 3) Loss occurrence information is stored in the "EVENT LIST".
- 4) When the corresponding camera is reconnected, the old settings are canceled and the factory default settings are reinstated.

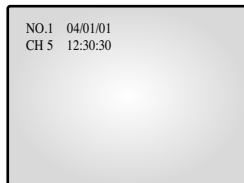
4. Door Bell Occurrence

The Door Bell option is only available when a Door Bell Box is connected.

- 1) When a door bell is pressed, the current picture switches to the doorbell area monitoring picture, in full screen mode, along with an alarming beep.



- 2) When the Door Bell is pressed, a still screen is stored in the "DOOR BELL LIST".
- 3) Up to 8 still images can be stored in the "DOOR BELL LIST" and the selected List can be displayed on the screen.



- 4) Select the desired list from "6. DOOR BELL LIST" in the SETUP MENU and press ENTER in to replay the still screen of the corresponding Door Bell. Press ENTER again to return to the "DOOR BELL LIST".

Appendix

Specifications

SDB-100

Item	Description
Product Type	Door Bell Box
Power Source Voltage	DC 18V From Monitor
Power Consumption	Approx. 1W
Operating Humidity	-10°C ~ +50°C
Physical Size	96mm(W) X 35mm(H) X 100mm(L)
Weight	Approx 100g
Aux output	DC17V 300mA
Microphone	-40dB
Speaker	1W

SOC-320P

Item	Description (SOC-320P)
Product Type	Varifocal DC Auto Iris Type Normal Camera
Power Source Voltage	DC 12V ~ 18V From Monitor
Power Consumption	Approx. 2W
Broadcast System	PAL Standard Color camera
Image Device	1/4 inch IT Super HAD CCD
Effective Pixel	500(H) X 582(V)
Scanning Method	625 Line, 2:1 Interlace
Line Frequency	Horizontal : 12.625Hz / Vertical : 50Hz
Synchronization Method	INT
Resolution	330 TV Line
S/N Ratio	Over 48dB
Minimum Sense Illumination	2 Lux
Color Temperature	ATW
Electronic Shutter	ALC
Signal Output	Composite Video Out : 1.0Vp-p 75 Ohms / RJ45 Jack
Lens	3.4 ~ 9.0mm F1.6 Varifocal DC Auto Iris
Operating Temperature	-10°C ~ +50°C
Operating Humidity	~90%
Physical Size	62.5mm(W) X 51mm(H) X 119.5mm(L)
Weight	Approx 170g

SOC-420P

Item	Description (SOC-420P)
Product Type	12x Zoom lens Camera
Power Source Voltage	DC 12V ~ 18V From Monitor
Power Consumption	Approx. 6W
Broadcast System	PAL Standard Color camera
Image Device	1/4 inch IT Super HAD CCD
Effective Pixel	752(H) X 582(V)
Scanning Method	625 Line, 2:1 Interlace
Line Frequency	Horizontal : 15.625Hz / Vertical : 50Hz
Synchronization Method	INT
Resolution	480TV Line
S/N Ratio	Over 48dB (AGC Off)
Minimum Sense Illumination	2 Lux (Sense Up Off) 0.02 Lux (Sense Up X128)
Color Temperature	ATW / AWC / Manual MODE (3200°K, 5600°K, R/B Grin Control)
Electronic Shutter	Off, 1/120, 1/250, 1/500, 1.1K, 1/2K, 1/4K, 1/10Ksec
Black Light Compensation	Off / On (Area Setting)
Sense Up	Off / Auto x2 ~ x128/ Fix x2 ~ x128
Digital Zoom	Off, x2, x4, , x6, x8, x10
Monitor Detection	Off On (Area / Sensitivity, Detail Setting)
Video Control	POS/ NEGA/ MIRROR, Detail Setting
Signal Output	Composite Video Out : 1.0Vp-p 75 Ohms / RJ45 Jack
Lens	Focal length : 3.6 ~ 43.2mm Aperture : F1.8 (Wide), F2.6 (Tele)
Operating Temperature	-10°C ~ +50°C
Operating Humidity	~90%
Physical Size	51.8mm(W) X 50.3mm(H) X 96.6mm(L)
Weight	Approx 160g

1. Model Name

- SMO-210MP
- SMO-150MP

2. Video Input

- CAMERA 8 Input : 1.0Vp-p, 75Ω (vertical), RJ-45 Type, CVBS
- VCR 1 Input (to Video Out of VCR) : 1.0Vp-p, 75Ω (vertical), S-Jack Type, CVBS

3. Video Output

- Monitor 2 Output
- SPOT : 1.0 Vp-p, 75Ω (vertical), S-Jack Type, CVBS
- SLAVE : 1.0 Vp-p, 75Ω (vertical), S-Jack Type, CVBS
- VCR 1 Output : 1.0 Vp-p, 75Ω (vertical), S-Jack Type, CVBS

4. Voice Input

- CAMERA 8 Input: RJ-45 Type
- VCR 1 Input (Audio Out-VCR) : S-Jack Type

5. Voice Output

- SPOT Audio
- VCR Audio

6. Alarm/Motion Function: Connected Alarm Box/Camera

- A/O (HOT, COLD): Relay Active
- A/R (Alarm Reset): Open Collector "L" Level, Pulse Width = 150ms or above
- Alarm Hold Time: Select 5sec, 15sec, 30sec, 1min, 3min, 5min, 10min, 20min, 30min, or AUTO.
- If AUTO is selected, the Alarm will be on during the time the Alarm trigger is received.

7. Sequence

- Select between 01 sec to 30 sec.

8. Event Replay

- Alarm/Motion/Loss: Max. 16 Frames per Channel
- Door Bell: Max. 8 Frames

9. List

- Alarm/Loss/Motion: Saving Max. 50
- Door Bell: Max. 8

10. Multi Screen

- Full, 4, 8, 9, 16, Zoom, PIP

11. Horizontal Resolution

- 400 TV Lines or more (Live Mode Full Screen)

12. Memory Back Up

- 5 Years or more

13. Operation Temperature

- 0 °C ~ 40 °C

14. Built-in Clock

- ± 1 Minute/Month or less

15. CRT

- SMO-210MP : 21"FLAT CRT
- SMO-150MP : 15"FLAT CRT

16. Dimensions (W x H x D)

- SMO-210MP : 520 x 509 x 486
- SMO-150MP : 388 x 459 x 379

17. Weight

- SMO-210MP : 28kg (without packing)
32.5kg (with packing)
- SMO-150MP : 15.2kg (without packing)
18.5kg (with packing)

18. Power consumption

- Please see the regulatory label attached on the back of the monitor.

19. Video system

- SMO-210MP/150MP : ONLY PAL VIDEO SYSTEM
- SMO-210MP/150MP : ONLY NTSC VIDEO SYSTEM

Troubleshooting

You may encounter an unexpected problem while using this system that makes it hard to use the system properly. In many cases, however, they are minor problems rather than serious flaws in the system.

Refer to the following tips for some possible solutions.

When power will not come on	<ul style="list-style-type: none">• Make sure that the cord is properly plugged in.• Check the power cable.
When the screen does not appear	<ul style="list-style-type: none">• Check the connections with the camera, accessories and the external monitor.
When record is not working	<ul style="list-style-type: none">• Make sure the Video In port of the VCR and the VCR Accessory Video Out port of this system are properly connected.• Check if the tape inserted into the VCR is able to record.• Check that the REC Trigger Out port of the Time Lapse VCR is properly connected to the VCR Accessory TRIGGER (6PIN VCR ACCESSORY) port of this system when you record in the Time Lapse Mode.
When playback is not working	<ul style="list-style-type: none">• Make sure the Video Out port of the VCR and the VCR Accessory Video In port of this system are properly connected.• Check if the Display Mode of this system is in P.B. Mode or Triplex Mode.
When the screen does not appear in the Auto Sequence Switch Mode	<ul style="list-style-type: none">• Check that the screen is in Live Mode.• Check that the time of "SEQUENCE" under the SETUP MENU is properly set.

If the problem persists, contact the local sales representative or service center for support.

Note

If the problem is related to VCR recording or playback, check the VCR as well.