

Thanks for purchasing SMD-1610.

Please read this manual thoroughly before the installation and operation. If there are any questions or suggestions regarding the installation and operation, please contact our customer service.



Caution before the installation

Please avoid followings for the installation.

☞ **Extremely hot or cold temperature**

☞ **Rain, snow, or high humidity**

☞ **Direct contact of oil or gas**

☞ **Constant vibration or impact**

☞ **Direct sunlight or outdoor place**

☞ **Close to high frequency and high voltage**



Caution with the operation

☞ **Do not disassemble or insert any foreign objects.**

☞ **Do not turn the power on before the installation.**

☞ **Avoid strong impact or violent operation.**

Initial setting for this product is NTSC. Refer to the signal system setting (15 p.) for the PAL system.

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- **NTSC / PAL Compatible** SMD-1610 can use both NTSC/PAL signals and the signal system can be switched with simple operation of the button.
- **Full Digital Processing** SMD-1610 keeps high quality screen during the monitoring and the recording by using full digital CODEC circuits and the noise reduction filter with the split screen data retrieve.
- **Duplex Function** Playback can be done even with the VCR recording with the duplex function.
- **Fast Frame Rate** SMD-1610 achieves high-speed screen update with high performance ASIC. Real time monitoring is standard in full screen and the 4 split screen.
- **Recording Channel Select** SMD-1610 can select skipped channel in recording, so that it makes recording faster and more efficiently.
- **Zoom and Pan Functions** In playback mode or full screen monitoring mode, up to $\times 2, 7$ times zooming is possible. Zooming frame can move up and down, left and right.
- **Freeze Function** SMD-1610 can freeze the monitor output and the playback screen by channel.
- **Motion Detect Function** Process the alarm by detecting the motion of the object. Detecting position and detecting level can be set for each camera input.
- **Spot-out Output** There is spot-out output besides the monitor output and the REC output, so that a certain channel can be constantly retrieved.

- **Image Control** SMD-1610 can control Bright, Contrast, Color Gain of each Monitor image and Record Image.

- **Auto Switching Function** Video input signals and the split screen can be switched to the monitor in order, and the switching interval can be changed in the range of skip - 99 sec.

- **Alarm I/O Function** This function processes the detection of video loss and sensor alarm input. Automatically it scans the video output and stores the alarm records.

- **Alarm List Function** SMD-1610 stores and displays up to 200 sensor, motion and video loss alarm records with the time and channel.

- **Remote Control Function** Buttons of the front panel can be remotely controlled by RS-232C communication.

- **Storing the Settings** SMD-1610 automatically stores the settings of the menu and buttons, so there is no need for readjustment when the unit is re-powered.



■ Power Switch

On/Off switch of the system.



■ Alarm Reset Button

- When the alarm is on : Reset the alarm
- In the alarm list Menu : Select the oldest record to delete.
(Press [Enter] to save)
- During the playback : Refresh the screen.



■ Freeze Button / Freeze & Remote Display LED

When a certain channel of the monitor output screen needs to be held for the observation, this function will be used. In the split screen, the button for the channel can be pressed to get the freeze screen. LED will blink for the frozen channel. In other hand, freeze display LED will blink if it is remote status.



■ Channel Select Button / Display LED

- Screen display mode
[1] ~ [16] : Select the channel of the monitor output screen.
- SETUP mode
[NTSC] and [PAL] : Select the NTSC or PAL signal.



■ Display Button / Display LED

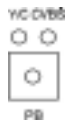
It sets the format of the monitor screen output.

As you press the button, it selects the screen in the order of [Full Screen – 4 split screen – 9 split screen – 16 split screen]. LED shows the selected screen display.



■ Auto Button / Display LED

It sets/cancels the auto scan of the monitor output.



■ PB (Playback) Button / Display LED

This button is used to replay the recorded image. The CVBS signal and the Y/C signal can be automatically detected and displayed or a certain input can be set. The Y/C, and CVBS LED displays selected signal.



■ REC Button / Display LED

It selects the REC output mode. For the time lapse recording by using time lapse VCR, select T-L mode. Select the REAL mode otherwise.



■ Zoom IN / OUT Button / Display LED

It selects the zoom rate of the monitor output screen. If the rate is 1:1, the light will be off, and zoom mode will be automatically canceled.



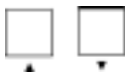
■ Setup Button / Display LED

It selects the menu mode if it is not. In the menu mode, it switches the screen back to the higher level of menu mode without saving the changed value.



■ Enter Button

In the menu mode, it switches the screen back to the higher level of menu after saving the changed value.



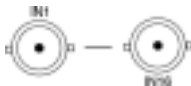
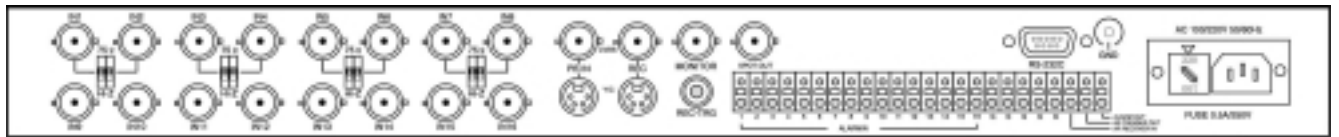
■ [▲] [▼] Button / Display LED

It switches to the selected item in the menu mode.



■ [◀] [▶] Button / Display LED

In the menu mode, it increases or decreases the value of the selected item.



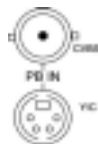
■ Camera Input Connector

This is the camera signal input connector and the input level is 1.0 Vp-p.



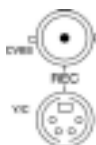
■ Input Impedance Selecting Switch

Set this switch to 'Hi-Z' when the input signal is distributed to the other equipment. Otherwise, set it to 75Ω. The input impedance selecting switch is only available to IN1~IN8 input, and in IN9~IN16 input, input impedance resistor is installed internally.



■ PB-IN Input Connector

This is the playback input connector for the CVBS or the Y/C that replayed from the VCR. The Y/C input connector will be used to connect the S-VHS VCR to the unit.



■ REC Output Connector

This is the CVBS or Y/C record output connector that goes to the VCR for the recording.



■ MONITOR Output Connector

This is the output connector to the monitor. According to the screen mode of camera & playback input, it sends out full screen, split screen or auto scan screen signal, and display the menu setting screen.



■ SPOT-OUT Connector

This connector is to display a certain channel constantly separated from the monitor and REC display. The screen input to output to the spot-out connector can be selected in the menu mode. Select a camera input that need to be recorded in real time record or monitored all the time.

☞ NOTE

The OSD, such as date, time and channels, will not be displayed in the spot-out output screen, and the setting of brightness, contrast, and color gain will not applied to the spot-out output screen.



■ REC-TRG Input Connector

This connector receives the record trigger signal from the Time Lapse VCR when the time lapse record is to be done to the time lapse VCR.



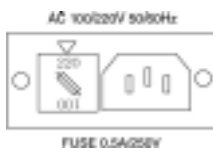
■ Alarm Input/Output Port

This port is to input the alarm of each channel, the alarm recovery, and the alarm output when alarm is on. Refer to the alarm signal connection for the details.



■ Remote Input Port

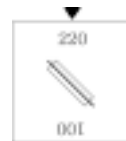
This is the port for the remote control RS-232C. Refer to the remote signal connection for the pin connection.



■ Power Inlet

This is the product power inlet. Select the proper voltage before power connection. Initial power setting of the product is 220V, and the selection can be made by turning the fuse box.

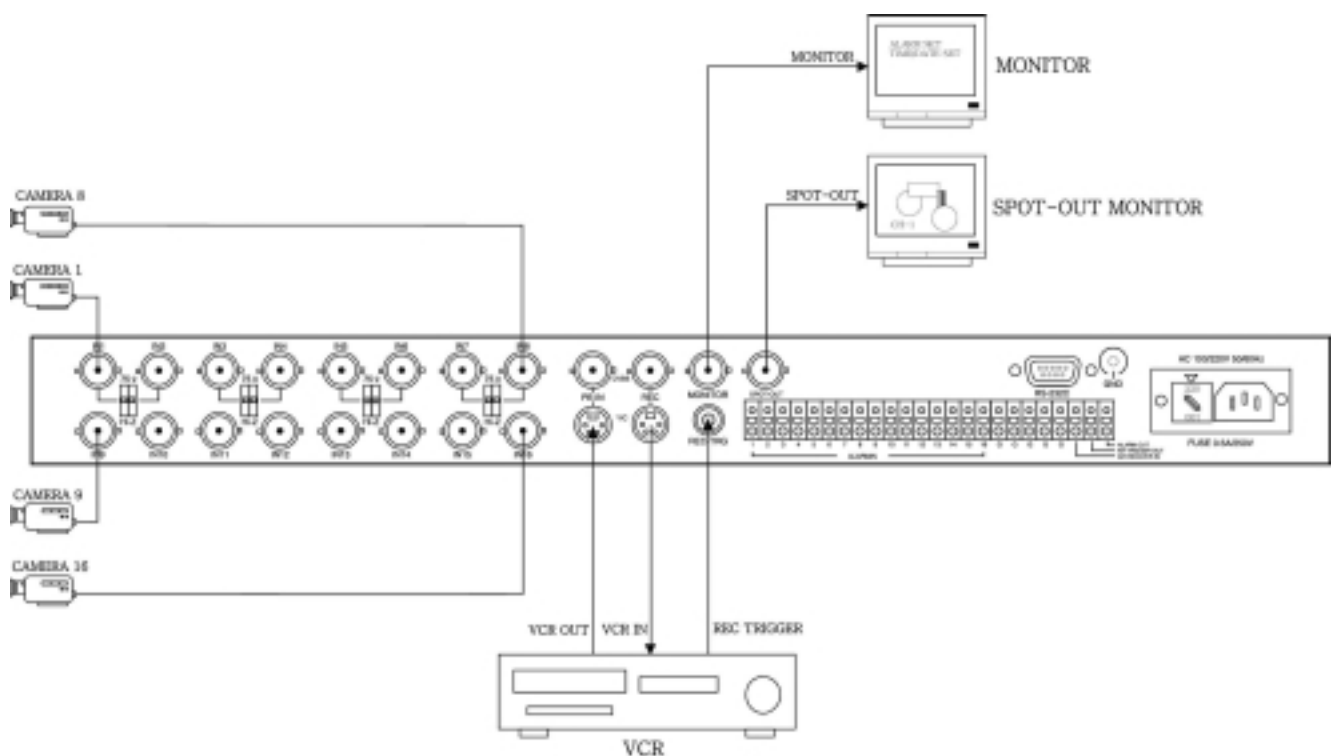
☞ 220V is selected.



SMD-1610 can receive inputs of video signals of 16 cameras, and the playback signal from the VCR. And it also provides the monitor output, the REC output for the VCR recording, and the spot-out output for a constant screen display. You can choose CVBS or Y/C for the PB input, and the REC output goes out to both CVBS and Y/C connector.

For the video input signal, both NTSC and PAL are possible. However, please do not connect both NTSC and PAL camera at the same system (SMD-1610).

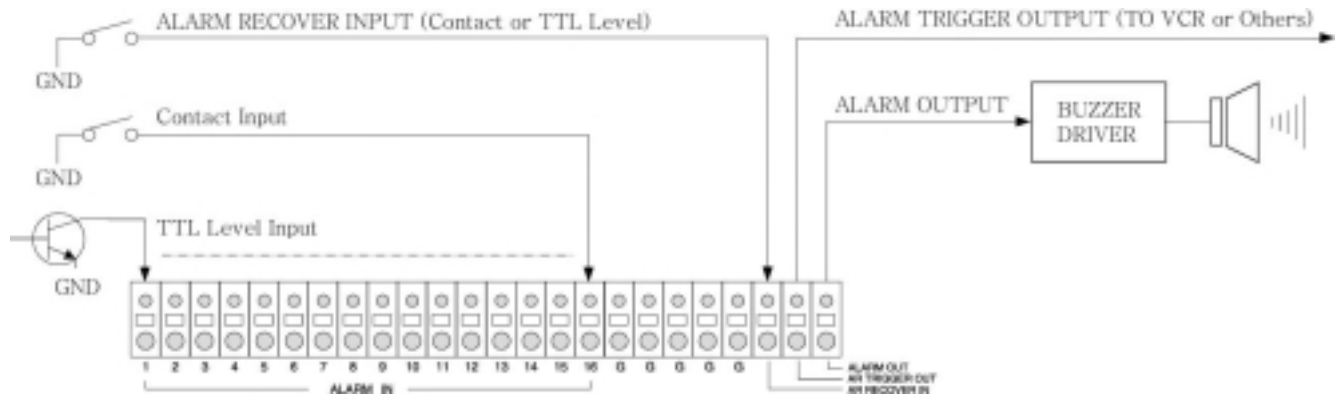
Following figure shows the video signal connection between SMD-1610, the monitor, and the VCR.



■ Input Impedance Selecting Switch

The input level of general devices, such as a camera, is 1.0Vp-p with 75 Ω load impedance. When a input video signal is distributed to other devices or another channel of the SMD-1610 through T-type connector, install the input impedance switch to only one channel out of all connected channels. Initial setting of the resistance is 75 Ω.

Because the input impedance switch is only available to IN1~IN8 inputs, and the input impedance resistor is installed internally in the IN9~IN16 inputs, use IN1~IN8 inputs for the screen input to other devices.



■ Alarm Input/Output Port

Num	Content	Num	Content
1	CH-1 Alarm Input : Active Low TTL Level / POC	13	CH-13 Alarm Input : Active Low TTL Level / POC
2	CH-2 Alarm Input : Active Low TTL Level / POC	14	CH-14 Alarm Input : Active Low TTL Level / POC
3	CH-3 Alarm Input : Active Low TTL Level / POC	15	CH-15 Alarm Input : Active Low TTL Level / POC
4	CH-4 Alarm Input : Active Low TTL Level / POC	16	CH-16 Alarm Input : Active Low TTL Level / POC
5	CH-5 Alarm Input : Active Low TTL Level / POC	17	GND
6	CH-6 Alarm Input : Active Low TTL Level / POC	18	GND
7	CH-7 Alarm Input : Active Low TTL Level / POC	19	GND
8	CH-8 Alarm Input : Active Low TTL Level / POC	20	GND
9	CH-9 Alarm Input : Active Low TTL Level / POC	21	GND
10	CH-10 Alarm Input : Active Low TTL Level / POC	22	Alarm Recover Input
11	CH-11 Alarm Input : Active Low TTL Level / POC	23	Alarm Output : Open Collector
12	CH-12 Alarm Input : Active Low TTL Level / POC	24	Alarm Trigger Output : Open Collector

* POC = Point Of Contact

■ Alarm Input Signal

Alarm signal can be inputted for each channel and TTL level and POC can be connected too.

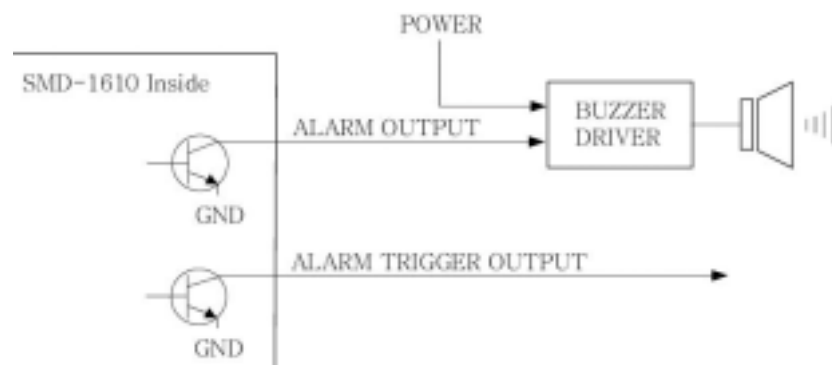
■ Alarm Recover Input Signal

This is an external signal to clear the alarm when alarm is on, and TTL level and POC can be connected.

■ Alarm Output Signal

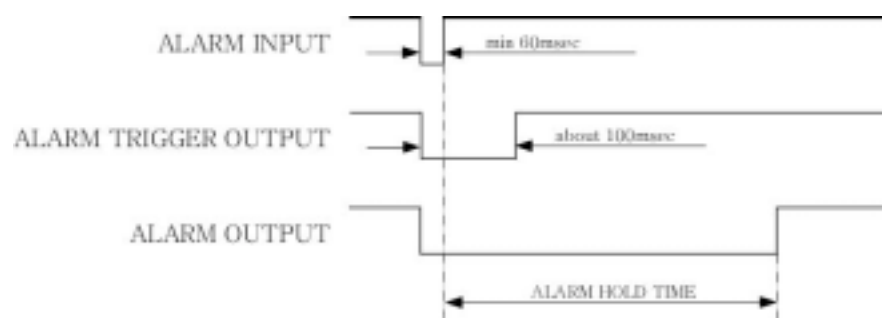
When more than one alarms are activated at the same time, both alarm trigger output signal and alarm output signal will be generated.

- Internal Structure of the Alarm Output Signal.



Two alarm outputs are 'TR Open Collector' output signal. Maximum current is 0.5 A. Please be cautious not to destroy the internal TR by allowing excessive current.

- Alarm Output Signal Timing



In case of the V-loss alarm, the alarm output signal will be generated while the alarm trigger output will not.

The remote terminal is for the remote control of the SMD-1610 by using a PC or other devices, and utilizes RS-232C communication. Followings are the setting values related to the communication.

Com. Method	Com. Speed	Length of Data	Stop Bit	Parity
RS-232C	9600 bps	8 Bits	1	No

The remote setting in the menu must be turned on for the remote control. The 'Freeze & Remote' LED will be blinking during the remote mode, and only menu setup related buttons will function.

■ Remote Terminal Connection



NOTE

Control program will be required for the remote control, and the protocol for the control program will be provided on the request.

In this case, please contact our service department or sales department.

■ Pre-operation Check Points

Recheck the connection status of the peripherals previously explained, and connect the power line.
Please pay close attention to the voltage selection.

■ Power On

When the power of the product is turned on, it will perform following functions.

● Self-diagnose Function

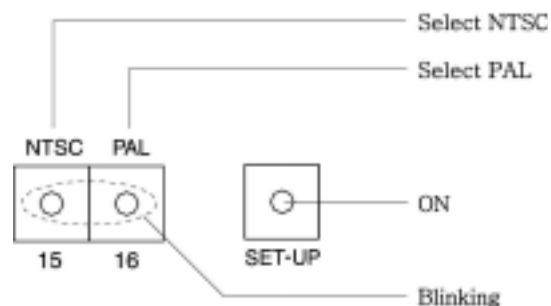
According to the result of self-diagnose, it will display the problem and beep if there is any. In this case, please contact our service department.

● Setting Recovery Function

Previous setting values will be stored to the internal memory permanently. If the power is supplied, it will recover previous setting values automatically. Therefore, additional editing is not necessary if there is no change after the last usage. However, the user need to check the clock because the time will be stored only for 15 days after the power is disconnected.

● NTSC / PAL Selection

If the NTSC or PAL signal was not selected or the value is corrupted, the NTSC/PAL selection function will be activated. After the power is turned on, if the setup LED is on, and NTSC, PAL LED is blinking, the NTSC/PAL selection function is activated. If you press the NTSC button or the PAL button, NTSC or PAL signal system will be selected and go on to the next procedure automatically.



- NTSC / PAL Display

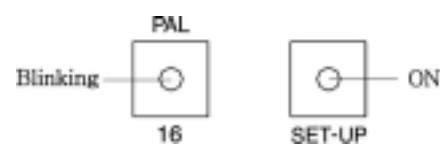
If the system is normal and there is no problem when the power is on, it will display selected signal system. If the NTSC LED is on, the NTSC has been selected, and if the PAL LED is on, the PAL signal system has been selected.

Refer to the setting the signal system section to reset the signal method. (15 p.)

Set as NTSC



Set as PAL

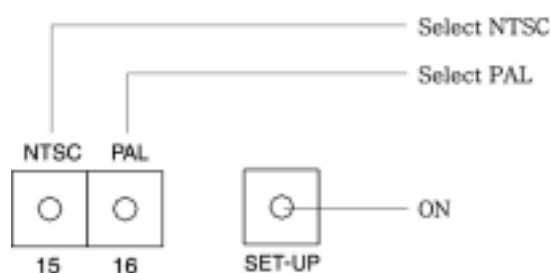


NOTE

Initial setting of the signal system is NTSC. Refer to the setting the signal system section to select the PAL system. (refer to 15 p.)

■ Setting the signal system (NTSC / PAL)

Follow the following instructions to switch to the NTSC/PAL method during the operation.



- ① Press setup button to get to the menu mode.
- ② Hold the NTSC or PAL button down for more than **3 seconds**. The buzzer will ring, the LED of the selected method will be turned on, and the monitor will display “Change To NTSC/PAL”.
- ③ Menu mode will be canceled automatically, and if the previously channel was freezed, it will be canceled too.

👉 NOTE

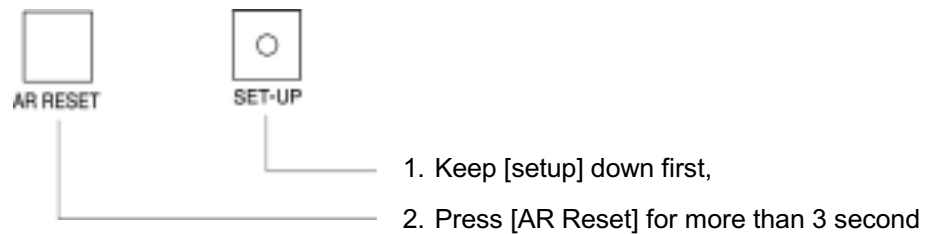
The NTSC/PAL setting can be done only in setup menu, which is the top level menu.

■ Setting the Default Value

There are two ways to set the default values to recover the setting values to the initial state.

- ① Press [AR Reset] for more than 3 seconds while [Setup] is pressed.
- ② Select the default set in the menu.

Following is the first method, and this can be done regardless the menu mode.



If you do the above method to recover the default set, the monitor will display “INITIALIZE... WAIT”.

Refer to the default set item of the menu setting for the method to recover the default values in the menu and the default values.

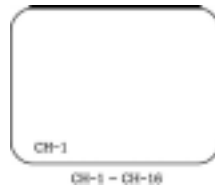
👉 NOTE

If you select Default Set, Alarm List will not be cleared and will remain.

■ Setting the Monitor Output Split Mode

The monitor output can be a full screen and split into 4, 9, 16 screens. Following figures are description of each screen mode.

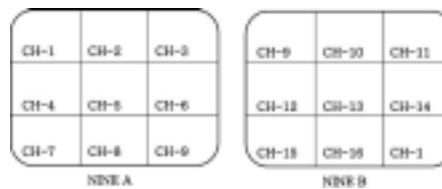
- Full Screen



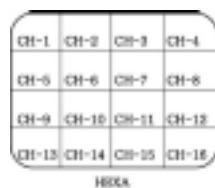
- 4 Split Screen



- 9 Split Screen



- 16 Split Screen



The split mode will be changed by the order by pressing display button, and the LED will indicate the mode. If all three LEDs are off, it is full screen mode. In the split screen mode, if you press the channel selection button, the split screen with selected channel will be displayed.

■ Setting the Auto Switching Mode

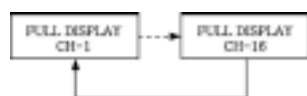
If you press the auto button, auto switching mode will be activated in the selected screen. Switching interval can be selected in the menu for the each channel. If the auto switching is selected at the split mode, the full screen will not be included in the auto switching mode. In other hand, if the auto switching is selected at the full screen, you can select to set the auto switching mode for both at the full screen and the split screen, or the full screen only.

- To select the auto switching mode at the full screen

① If the value of the 'Add In Single' of the 'Auto Select-Split' menu is "On",



② If the value of the 'Add In Single' of the 'Auto Select-Split' menu is "Off".



- To select the auto switching at the split screen.



If the auto switching is activated in the playback mode, it is not possible to detect V-Loss for each channel. Therefore, even if the V-loss skip value is set to "on" in the 'Auto Select-Single' menu, it will not perform V-loss skip.

Following buttons will not function in the auto switching mode.

- Channel selection button
- DISPLAY button
- PB button
- ZOOM button

■ Setting the Monitor Output Freeze

Freeze for the camera input and playback input can be set for each channel. If the freeze is set for a channel, the channel LED will blink.

- In case of the full screen

Freeze will be set/cancel for the selected channel by pressing freeze button. When the freeze is set, if you push the other channel select button, the freeze will be automatically canceled and switched to newly selected channel.

- In case of the split screen

After pressing the freeze button, select the number of channel to set/cancel the freeze. If the button of the channel that is not currently displayed on any screen is pressed, the freeze will be automatically canceled and switched to newly selected channel.

Regardless the screen split mode, if the display button is pressed in the freeze mode, the freeze will be automatically canceled, and the split mode will be switched to newly selected mode.

- In case the freeze is selected in the auto scan mode.

If the freeze mode is selected in the auto scan mode, the auto scan mode will stop. When the freeze is canceled, the auto scan mode will resume.

- In case the freeze is selected when the alarm is on.

When the alarm channel switching is activated due to the alarm, If the freeze button is pressed, the alarm channel switching will stop. When the freeze is canceled, the alarm channel switching will resume. If the alarm is canceled when the alarm channel switching is halt, the freeze mode will also be canceled.

■ Setting the Zoom

User can set one of 7 zoom rates by pressing zoom in or zoom out.

Zoom Rates × 1.14 ⇄ × 1.17 ⇄ × 1.2 ⇄ × 1.25 ⇄ × 1.33 ⇄ × 1.5 ⇄ × 2

Upper left corner of the screen will be the anchor point of the zoom; [▲] [▼] [◀] [▶] buttons can be used to move the pan location up and down, left and right.

“Zoom” will be displayed on upper right corner of the screen during the zoom mode.

👉 NOTE

In Live monitoring mode, Zoom function is activated only in the full screen mode.

In PB mode, Zoom function is activated regardless of the screen split mode.

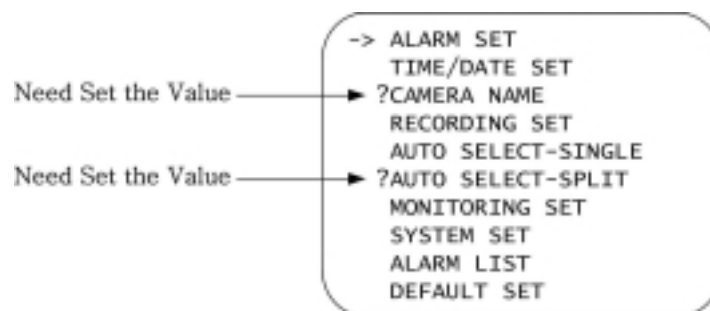
■ Setting Setup

Setup button initiates the menu mode or cancels. Followings are the only buttons that will function in the menu mode.

- ❑ AR Reset Button
- ❑ NTSC, PAL Button
- ❑ Setup related Button : [SETUP] [ENTER] [▲] [▼] [◀] [▶]

👉 NOTE

If the setup LED is blinking, there is an error in the stored data in the memory by the external reason. The menu setting has to be performed. If the menu is selected, lower menu with the error will be indicated by '?' as in the following figure. Change it to the proper value.



■ Recording

Record output activates the channels set as a record switching in sequence. The unit time of switching will be 1 field time in Real Mode and time Interval of REC Trigger input in Time Lapse Mode. Meanwhile, Record output always executes regardless of the split mode of Monitor output or selection of Menu.

Selecting Real Mode and Time Lapse Mode

- Real Mode Select this mode to record to the general VCR or for the real time record (2H or 3H) of the time lapse VCR
- Time Lapse Mode Select this mode to record for the long period of time in the time lapse VCR.

Please pay special attention to the following points when recording in the time lapse mode.

☞ NOTE

- The REC Trigger signal of the VCR must be connected to the SMD-1610 in the time lapse mode.
- If you set the VCR REC Trigger Timing as a field, playback screen can be displayed with higher speed. Because the record unit of SMD-1610 is field.

Refer to VCR Bypass Function to check whether the connection for recording is proper or not. (refer to 24 p.)

Meanwhile, please pay attention to the following points when you set the record mode of VCR and SMD-1610 differently each other.

☞ NOTE

Record Mode		VCR Bypass screen and record
T-L VCR	SMD-1610	
Real	T-L	Unlike displayed on the VCR Bypass screen, only an unspecified channel is recorded.
T-L	Real	

■ Playback Mode

According to the types of time lapse VCR, select playback display mode as follows.

Selecting Continue and One-Shot Mode

- Continue Mode Select this mode in the real time lapse VCR which plays in real time during one period of the time lapse.
- One-Shot Mode Select this mode in the general time lapse VCR.

☞ NOTE

- In case the contents recorded in Real Mode play in Time Lapse Mode, if you select Audio On, the playback screen might not appear. (L12 or L24 mode)

☞ NOTE

- When you use the VCR that displays menu on blueback screen, the VCR menu doesn't show in the playback screen. In this case, you can see the VCR menu by VCR bypass function.

■ Auto Select of CVBS and Y/C

You can set the method that select playback input in menu mode and the operations are following.

- None Auto select of CVBS and Y/C input. It operates only in the PB mode.
- CVBS Fixed as a CVBS input
- Y/C Fixed as a Y/C input

■ Refresh

When you replay, the last input screen will remain on the screen if the screen input signal is discontinued for the channel. If you want to get the latest playback screen, use refresh function. **In the playback mode, the screen will be refreshed by pressing the AR Reset button.**

■ VCR Bypass Function

When you record to the VCR, the unit provides the VCR Bypass function to check the line connection and the related settings. If you execute the VCR Bypass function, the content that is going out through REC output terminal will be displayed on the screen. You can check if the recording is getting done properly. Refer to the following instructions for the set/cancel of the VCR Bypass mode.

- ① Connect to the VCR to record and set the mode related to recording.(refer to 9page connecting the video signal)
- ② Set the playback mode by pressing the PB button.
- ③ Switch to the VCR Bypass mode by pressing ENTER button.
- ④ If you press a specific button in the VCR Bypass mode, the VCR Bypass mode will end, and it will perform the selected function.

In the VCR Bypass mode, the REC output is directly displayed on the screen. Therefore, if several channels are recorded at the same time, images will be mixed together on the screen. “VCR PB” will be blinking on the lower right corner of the screen in the VCR Bypass mode.

In case the recording is not doing properly when it's found by the VCR Bypass function, refer to following.

👉 NOTE

Problem in VCR Bypass	Check Point
Only one channel appears.	<ul style="list-style-type: none"> ● Check the REC time mode of Time Lapse VCR ● Check REC Trigger is connected properly.
Only the letter of VCR PB appears	<ul style="list-style-type: none"> ● Check REC Video Signal and PB Video Signal are connected properly. ● Check CVBS and Y/C inputs are selected properly.

👉 NOTE

Please pay attention that the screen displayed in the VCR Bypass mode on recording might not be the same as the real recorded one.

(refer to 22p. Recording)

■ Motion Detect Function

SMD-1610 can activate the alarm by detecting the motion of the object that captured by a camera. The motion detecting position and the level can be adjusted for each camera in the menu. Detecting level has 6 levels, 0~5, and control the sensitivity of the detecting function. Level 0 turns off the detecting function, and level 5 is the most sensitive detecting level. Motion detect function for all channels can be turned on/off at the menu.

If motion is detected the alarm will be activated, and "MOTION DETECT" will be displayed on the monitor. Alarm list and recording of motion detect alarm can be set separately.

Motion detect function will only available to the channel that is on the recording.

👉 NOTE

Motion detect function will not function in following channels:

- Motion Detect Alarm is available to only the first occurred channel.
- A channel without the screen signal input. (V-Loss channel)
- A channel that is not recorded when channels are recorded due to an alarm.
- A channel that is set to skip in 'Record Ch Set' menu, and not on the recording.
- A channel that is set to level 0 in the 'Motion Set' menu.

In case the Time Lapse Record Mode is set and REC Trigger signal is not inputted, Motion Detection function will not function.

👉 NOTE

- The Alarm set related to Motion Detect Alarm is the same as Sensor Input Alarm
- Sensor Input Alarm is activated for all channels regardless of the Motion Detect Alarm.
- In the Time Lapse Record mode, the Motion Detect Function might not be activated on the fast moving picture.

■ Alarm

There are three different alarms

- | | |
|-----------------------|---|
| ① V-Loss Alarm | When there is no screen signal input. |
| ② Sensor Input Alarm | When alarm signal is inputted through the alarm input port. |
| ③ Motion Detect Alarm | When the motion of the object is detected by a camera. |

V-Loss Alarm will be activated when the input video signal is discontinued. V-Loss Alarm will be treated same as other alarm, but there is no screen switching.

Following buttons will not function when the alarm is activated.

Channel Select Button DISPLAY Button AUTO Button PB Button REC Button

■ Video Output in case of the alarm activation

When an alarm is activated, the monitor and the REC output switched to the alarm screen, and “AR” will be displayed. The freeze will be automatically canceled.

- Spot-Out Output.
Spot-Out output is not affected by an alarm.
- Monitor Output Screen Switching
When an alarm is activated, the monitor output automatically will be switched to the channel with the alarm. When more than one alarm is activated at the same time, the channels will be scanned. The scan interval can be adjusted in the menu, and the range of the interval is 1 sec. ~ 119 sec.
- REC Output Screen Switching
When an alarm is activated, the REC output will be switched to the channel with the alarm if the alarm REC setting is on. The REC outputs are as follows according to REC mode and switch interval.

REC Mode	Switch Interval	REC Output
Real	0 Sec.	All channels with the alarm will be recorded simultaneously and continuously.
	1 ~ 119 Sec.	All channels with the alarm will be scanned by the interval, and recorded continuously.
Time Lapse	0 Sec.	All channels with the alarm will be recorded simultaneously and intermittently by the REC trigger signal input.
	1~119 Sec.	All channels with the alarm will be scanned by the interval, and recorded intermittently by the REC trigger signal input.

■ Clearing the Alarm

When the alarm is cleared, the monitor and the REC output will resume the original condition before the alarm. However, if the screen was frozen before the alarm, the freeze will be canceled even after the clear.

The alarm will be cleared in the following three conditions:

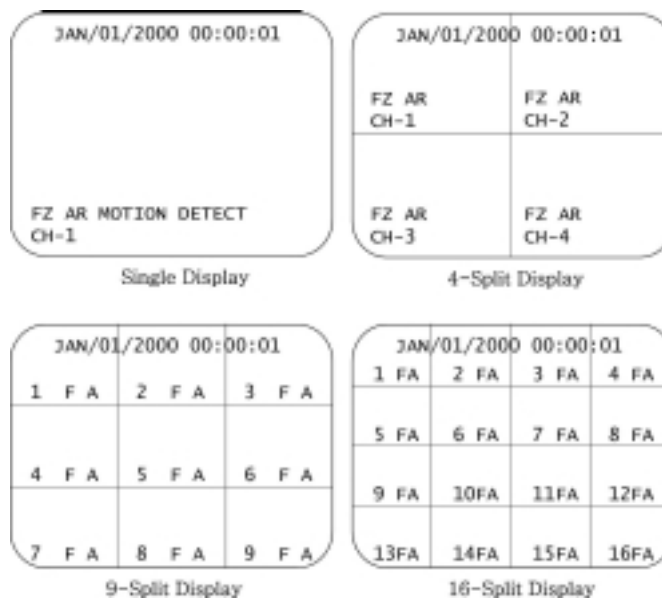
- ① When the [Alarm Reset] is pressed.
- ② When the 'Alarm Recover Input' is active.
- ③ When the alarm input is recovered and the alarm hold time that is set in the menu is lapsed. The alarm hold time is maintained by each channel.

NOTE

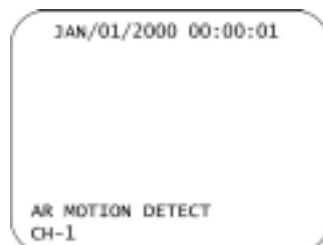
If the power is off and then on again while the Alarm is on, the Alarm resumes by the remained alarm hold time.

■ The composition of the screen

- Monitor output



- REC output



■ Clock Display

Clock is displayed in the order of date ~ time. It can be turned on/off in the menu setting. Displaying position also can be set in the menu. The position setting is only valid in the full screen; if it is split screen, display position is upper central of the screen.

Date Display	Three formats are available: y/m/d, m/d/y, d/m/y
Month Display	Initial display such as JAN, DEC or numeric display such as 01, 02.
Time Display	24 hours system is the standard for the system.

■ Camera Name Display

Camera Name can be up to 16 letters. It can be turned on/off in the menu. The position can be set in the menu too. The position setting is only valid in the full screen; if it is split screen, display position is lower left of the screen. In the 9, 16 split screen, the number for the screen, 1~16, will be displayed rather than camera names. In the 4 split screen, just first 12 letters will be displayed on the screen.

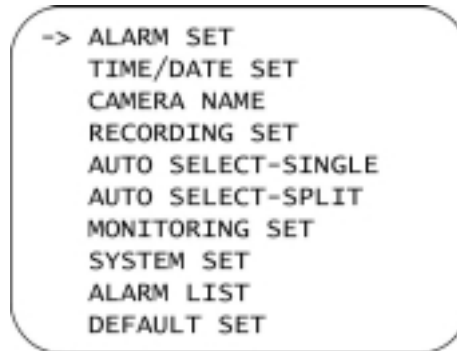
■ Alarm / Motion / Freeze Display

When an alarm is activated or the screen is freezed, the status will be displayed on the screen. "FZ" or "F" is for the freeze, "AR" or "A" is for the external alarm and V-Loss alarm, and "MOTION DETECT" is for the motion detect alarm.

NOTE

In case the higher color level image (e.g. Color Bar Pattern etc.) is selected in the Real Record Mode, you might have slight color vibration in Live monitoring screen.

■ Setup Menu



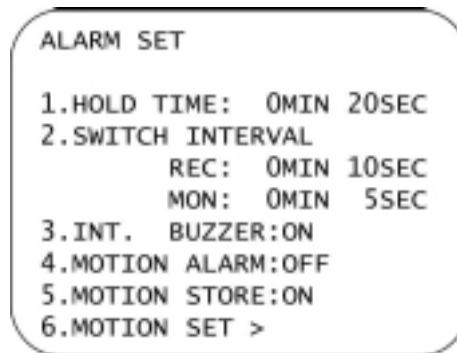
Setup Menu will be displayed by pressing setup button in the front.

☞ Button Operation

[▲] or [▼]	Moves the cursor to the previous or next item.
[ENTER]	Displays the sub menu of the selected item.
[SETUP]	Ends the menu mode.
[NTSC] or [PAL]	Sets the signal system method.

The “?” sign at the sub menu indicates the error in the setting values as explained previously; value needs to be reset. (refer to 21p.)

■ Alarm Set



☞ Button Operation

[▲] or [▼]	Moves the cursor to the previous or next item.
[◀] or [▶]	Increases/decreases the setting values
[ENTER]	Stores the setting values and returns to the setup menu. In the motion set item, the sub menu will be displayed.
[SETUP]	Returns to the setup menu without saving the setting values.

- Alarm Hold Time

When an alarm is activated, the alarm will continue until the alarm hold time is lapsed, and after the alarm hold time is lapsed, the alarm will be cleared automatically. The range of the Alarm hold time is 1 sec. ~ 29min. 59 sec.

- Alarm Switch Interval

It is the switching interval to scan the monitor and the REC output automatically when more than one alarms are activated. The range of the alarm switch interval is 1 sec. ~ 1min. 59 sec. for the monitor output, and 0 sec. ~ 1 min. 59 sec. for the REC output.

- Int. Buzzer

When an alarm is activated, you can turn on/off the buzzer that is in the inside of the unit.

- Motion Alarm

Motion detect function of all channels can be turned on/off.

- Motion Store

You can decide if the alarm record will be listed on the alarm list in case of the motion detect alarm.

■ Motion Set

MOTION SET					
CH	S	(X,Y)	CH	S	(X,Y)
*1	3	0,0	*9	3	0,0
*2	3	NO REC	*10	3	0,0
	3	0,0	*11	3	5,3
*4	3	0,0	*12	3	0,0
*5	3	-2,1	*13	3	0,0
*6	3	0,0	14	3	0,0
*7	3	0,0	*15	3	0,0
8	3	0,0	*16	3	0,0

☞ Button Operation

[▲] or [▼]	Moves the cursor to the previous or next item.
[◀] or [▶]	<ul style="list-style-type: none"> When the cursor is on the S position item, it increases/ decreases the detect level. If the cursor is on (X,Y) position item, it will not function.
[ENTER]	<ul style="list-style-type: none"> When the cursor is on the S position item, it stores the setting values and returns to the alarm set menu. . If the cursor is on (X,Y) position item, it produces the screen with the motion detect position indicator.
[SETUP]	Returns to the alarm set menu without saving the setting values.

• Video Input Indicator

“*” in front of channel number indicates the video input signal.

• S : Motion Detect Level


Motion detect level controls the sensitivity of the detecting function. The range of the level is 0 ~ 5; level 0 turns off the detecting function, and level 5 is the most sensitive detecting level.

☞ NOTE

In some high frequency scene, sensitivity value set in the Default Set will be activated too sensitively. In this case, please set the sensitivity level as the proper value for input scene.

- (X,Y) : Motion Position

It sets the position to detect the motion. X axis value is $-12 \sim 12$, and Y axis value is $-4 \sim 5$. It can be set at the motion position setting screen by pressing enter button.

 NOTE

If the channel is not on recording because the value of the record ch set is skipped, motion will not be detected in that channel. In this case, detect level is 0 regardless the setting values, and motion position will be displayed as "NO REC". The setting values can not be changed.

■ Motion Position Setting Screen

When motion position setting screen is displayed, the channel to set the motion position will be displayed in a full screen regardless the split screen mode or selected channel.



☞ Button Operation

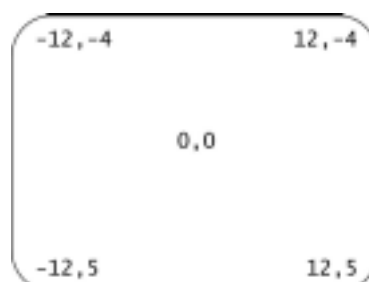
[▲] or [▼]	Moves the position up or down.
[◀] or [▶]	Moves the position left or right.
[ENTER]	Stores the position values and returns to the motion set menu.
[SETUP]	Returns to the motion set menu without saving the values.

- Position Display

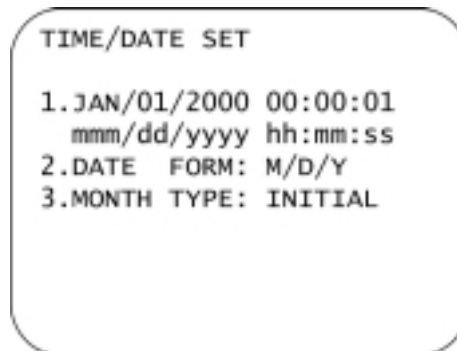
Current position will be displayed on the top right corner.

- Position Value

Position value is the value indicating the detecting position in the screen. The whole screen is divided into 25 in X axis, 10 in Y axis, and set the value of (0,0) at the center. Therefore, X axis value can be between -12 and 12, and the Y axis value can be between -4 and 5. The value of the top left point of the screen is (-12, -4), and the value of the right bottom point is (12,5)



■ Time / Date Set



☞ Button Operation

[▲] or [▼]	Moves the cursor to the previous or next item.
[◀] or [▶]	Increases/decreases the setting values.
[ENTER]	Stores the setting values and returns to the setup menu.
[SETUP]	Returns to the setup menu without saving the setting values.

• Setting the Clock

Set the date and time of the clock. 24 hours system is standard for the time.

• Date Form

Select the format of the date display. There are three forms available.

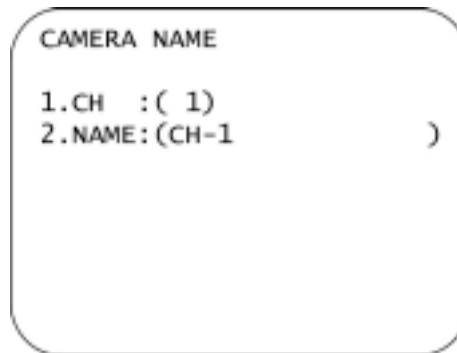
Y / M / D	Year / Month / Day
M / D / Y	Month / Day / Year
D / M / Y	Day / Month / Year

• Month Type

Select the format of the month display.

NUMERIC	Displays in number such as 1,2 ... 12.
INITIAL	Displays in letter such as JAN, FEB, DEC.

■ Camera Name



☞ Button Operation

[▲] or [▼]	Moves the cursor to the previous or next item. In the name item, it moves to the letter by letter.
[◀] or [▶]	Increases/decreases the setting values.
[ENTER]	Stores the setting values and returns to the setup menu.
[SETUP]	Returns to the setup menu without saving.

- Ch

Set the channel to change the name. When you switch the channel, the value of the name item will be changed to the name of the changed channel.

- Name

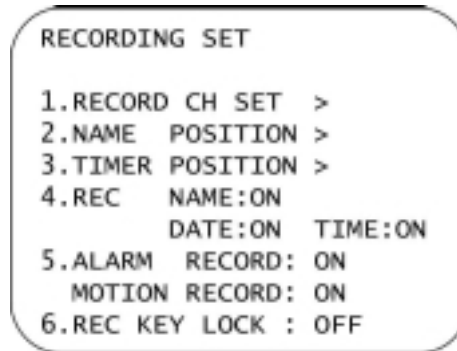
Set the name for each input channel. Assigned name will be displayed on the screen.

While setting the name, “█” shaped cursor will indicate the position in the blank. In this case, “█” will not be included in the name

☞ NOTE

Assigned name will be displayed on the screen. However, in the 9, 16 split screen, the number for the screen, 1~16, will be displayed rather than camera names. In the 4 split screen, just first 12 letters will be displayed on the screen.

■ Recording Set



☞ Button Operation

[▲] or [▼]	Moves the cursor to the previous or next item.
[◀] or [▶]	Increases/decreases the setting values.
[ENTER]	Stores the setting values and returns to the setup menu. Moves to the sub menu in the record Ch Set, the Name Position, and the Timer Position item.
[SETUP]	Returns to the setup menu without saving.

- REC Name, Date, Time

It turns on/off the name, the date, and the time displayed on the REC output screen.

- Alarm Record

When an alarm is activated, it decides if the channel with the alarm will be REC outputted or not.

- Motion Record

When the motion detect alarm is activated, it sets the REC output. If the Alarm Record is off, this menu will not appear.

- REC Key Lock

It turns on/off the REC button function in the front. If the Key Lock is on, it is fixed in the selected Record mode.

■ Record Ch Set

RECORD CH SET	
*CH1:RECORD	*CH9:RECORD
*CH2: SKIP	*CH10:RECORD
CH3:V-LOSS	*CH11: SKIP
*CH4:RECORD	*CH12:RECORD
*CH5:RECORD	*CH13:RECORD
*CH6:RECORD	CH14:V-LOSS
*CH7:RECORD	*CH15:RECORD
CH8:V-LOSS	*CH16: SKIP

☞ Button operation

[▲] or [▼]	Moves the cursor to the previous or next item.
[◀] or [▶]	Increases/decreases the setting values.
[ENTER]	Stores the setting values and returns to the setup menu.
[SETUP]	Returns to the setup menu without saving.

• Video Input Indicator

“*” in front of channel number indicates the video input signal.

• REC Ch Setting Values

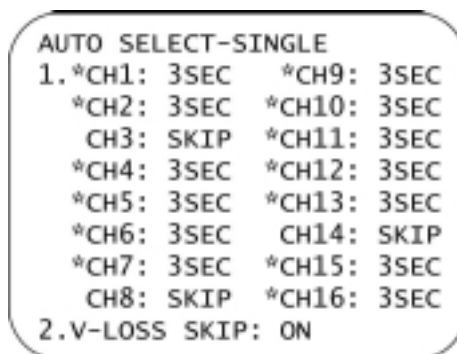
It turns on/off the recording for each channel. If the channel is set to ‘Skip’, it will not be recorded, and if the channel is set to ‘Record’, it will be recorded if there is any video input signals. If a channel is set to ‘Record’ without any video input signals, it will display ‘V-Loss’ to notify there is no input signal. In the above illustration, every channel with video input signal will be recorded except channel 2, 11, and 16.

The more channel to record, the slower speed of playback. If you minimize the channel to record, playback speed will be maximized.

☞ NOTE

Please keep in mind that the motion detect function will not function in the channel that is not recording.

■ Auto Select-Single



☞ Button Operation

[▲] or [▼]	Moves the cursor to the previous or next item.
[◀] or [▶]	Increases/decreases the setting values.
[ENTER]	Stores the setting values and returns to the setup menu.
[SETUP]	Returns to the setup menu without saving.

• Video Input Indicator

“*” in front of channel number indicates the video input signal.

• Switch Interval Setting

When the monitor output mode is set to ‘Auto Switching’, this will set the interval for each channel. The range of the value is 0 ~ 99 sec. If the value is 0, ‘Skip’ will be displayed, and the channel will be skipped and not displayed.

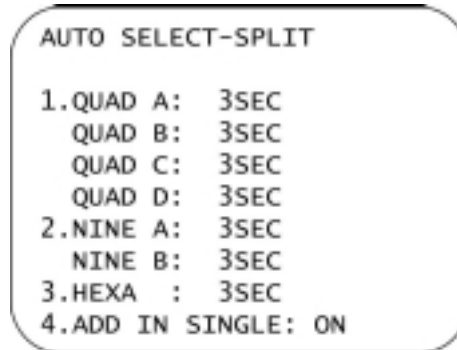
• V-Loss Skip

This can be turned on to skip the channel without any video signals in the Auto Switching mode. If the ‘V-Loss Skip’ is set to ‘On’, this channel will be skipped during the auto scan even if the ‘Auto Select Time’ is established.

• When V-Loss Skip is on

If the ‘V-Loss Skip’ is on, and there is no video input signal, regardless the value of ‘Auto Select Time’, “SKIP” will be displayed. The value of ‘Auto Select Time’ of this channel can not be altered. If the Auto Switching mode is activated in the playback mode, ‘V-Loss Skip’ will not function.

■ Auto Select-Split



☞ Button Operation

[▲] or [▼]	Moves the cursor to the previous or next item.
[◀] or [▶]	Increases or decreases the setting values.
[ENTER]	Stores the setting values and returns to the setup menu.
[SETUP]	Returns to the setup menu without saving.

- Switch Interval Setting

When the monitor output mode is set to 'Auto Scan', this will set the interval for each split screen. The range of the value is 0 ~ 99 sec. If the value is 0, 'Skip' will be displayed, and the split screen will be skipped without any monitor outputs.

- Add In Single

When the Auto Switching mode is selected in the full screen, it will decide if the split screen will be switched also along with the full screen.

■ Monitoring Set

```

MONITORING SET

1.NAME  POSITION >
2.TIMER POSITION >
3.DISP  NAME:ON
        DATE:ON  TIME:ON
4.PB OSD DISP  : OFF
5.PB DISP MODE : ONE SHOT
6.PB INPUT LOCK: NONE
7.SPOT-OUT CH  : CH 1
    
```

☞ Button Operation

[▲] or [▼]	Moves the cursor to the previous or next item.
[◀] or [▶]	Increases/decreases the setting values.
[ENTER]	Stores the setting values and returns to the setup menu. Moves to sub menu in the Name Position, and the Timer Position.
[SETUP]	Returns to the setup menu without saving.

- DISP Name, Date, Time

It decides if the camera name, date, and time will be displayed on the output monitor screen.

- PB OSD Disp

It decides if the camera name, date, and time will be displayed on the output monitor screen when PB playback.

- PB Display Mode

'Playback' section for more information. (refer to 23p.)

- PB Input Lock

It fixes the PB input signal as CVBS or Y/C. If it is set to 'NONE', it will automatically detect CVBS, and Y/C and select.

- Spot-Out Ch

It selects the video input connecting to 'Spot-Out' connector in the back. Selection is possible from Ch1 to Ch16.

■ Name Position Set



☞ Button Operation

[▲] or [▼]	Moves to up and down.
[◀] or [▶]	Moves to left and right.
[ENTER]	Stores the position values and returns to the upper level menu.
[SETUP]	Returns to the upper level menu without saving.

• Position Of Name

It indicates the current position.

☞ NOTE

Established Name Position is only valid to the REC output, and the full screen of monitor output, and it does not apply to the split screen.

■ Timer Position Set



☞ Button Operation

[▲] or [▼]	Moves to up and down.
[◀] or [▶]	Moves to left and right.
[ENTER]	Stores the position values and returns to the upper level menu.
[SETUP]	Returns to the upper level menu without saving.

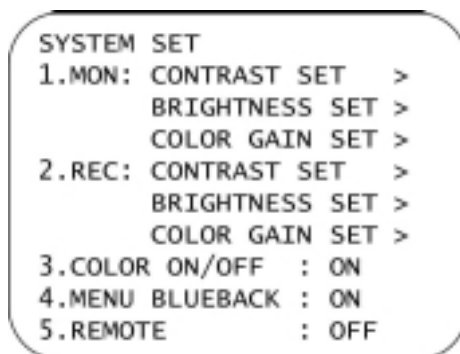
• Clock Indicator

It indicates the current position of clock display.

☞ NOTE

Established Timer Position is only valid to the REC output, and the full screen of monitor output, and it does not apply to the split screen.

■ System Set



☞ Button Operation

[▲] or [▼]	Moves the cursor to the previous or the next item.
[◀] or [▶]	Increases/decreases the setting values.
[ENTER]	Moves to the sub menu. In the Color On/Off item, it sets the value and returns to the Setup Menu.
[SETUP]	Returns to the Setup Menu without saving values except contrast, bright and color gain.

• Color On/Off

It sets the color or black/white output in the monitor and REC output screen. If the input camera is black/white, set it to 'Off'.

• Menu Blueback

When the menu is displayed in the monitor output, it sets the background color or transparent. Blue background will be used if the value is 'On'.

• Remote

It sets the remote control. Under remote control mode, all buttons will not function except [SETUP] [ENTER] [▲][▼][◀][▶] buttons. The 'Freeze/Remote' LED will blink.

■ Contrast Set, Brightness Set, Color Gain Set



☞ Button Operation

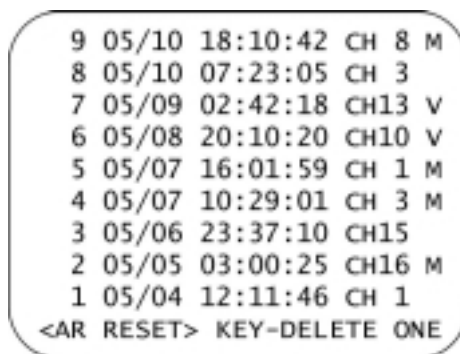
[◀] or [▶]	Increases or decreases the value and stores. The screen will be adjusted according to the changed value.
[ENTER] or [SETUP]	Returns to the 'System Set' menu.

The REC output and the monitor output screen can be established separately. Top right corner of the screen will display if it is REC output or MON output setting.

The current monitor screen will be the background screen when you set the contrast, brightness and color gain value. When you set the REC output setting, the monitor screen will be used as the background to check the setting values, but the changed value will be applied only to the REC output.

The changed value will be instantly reflected to the screen, and the changed value will be saved instantly too.

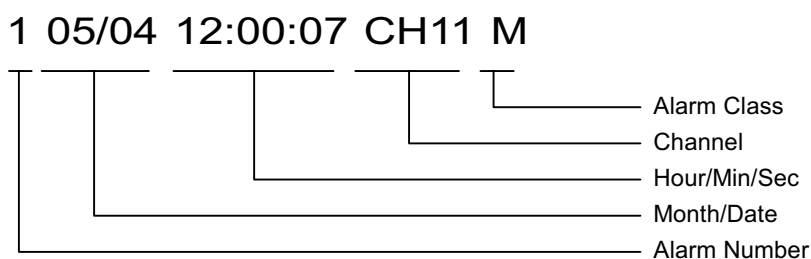
■ Alarm List



☞ Button Operation

[▲]	Displays the previous item.
[▼]	Displays the next item.
[ENTER]	If any alarm records are deleted, it will save the deleted screen, and return to the 'Setup' menu.
[SETUP]	Returns to the 'Setup' menu without saving the deleted value.
[AR RESET]	Deletes the oldest alarm record.

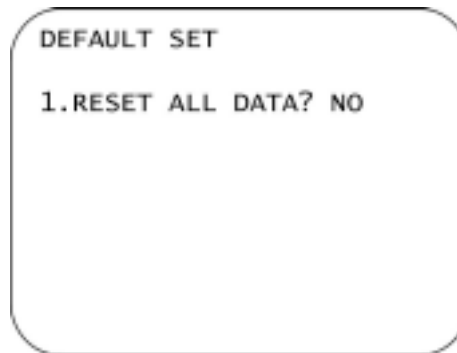
• Display Format



“V” in the alarm class stands for the V-Loss alarm, “M” is for the Motion Detect alarm, and none for the sensor input alarm.

Up to 200 alarm records will be stored and the oldest alarm record is number 1, and the latest one is 200. If alarm records exceeds 200, the oldest record will be deleted automatically.

■ Default Set



☞ Button Operation

[◀] or [▶]	Switches the Yes / No
[ENTER]	If the value is 'No', it cancels the 'Default Set' and returns to the 'Setup' menu. If the value is 'Yes', it performs the 'Default Set' and finishes menu mode.
[SETUP]	Cancels the 'Default Set' and returns to the 'Setup' menu.

When 'Default Set' is selected, 'No' will be displayed on the right side of the 'Default Set' for the confirmation. If the 'Default Set' is desired, change it to 'Yes' and press [Enter]. If the 'Default Set' is not wanted, set the value to 'No' and press [Enter] or [Setup]

If the 'Default Set' is selected, "INITIALIZE... WAIT" will be displayed on the screen and the menu mode will be terminated.

When the 'Default Set' is performed, all values will be set back to default value except the time and alarm. Followings are default values of each setting.

☞ Default Setting values

Menu	Setting	Default Value
Alarm Set	Alarm Hold Time	20 sec
	Alarm Switch Interval REC	10 sec
	Alarm Switch Interval MON	05 sec
	Int. Buzzer	On
	Motion Alarm	Off
	Motion Store	On
	Motion Detect Level (S)	3
	Motion Position (X,Y)	(0,0)
Time / Date Set	Timer Value	Not Affect
	Date Form	M / D / Y
	Month Type	Initial
Camera Name		Ch-1 ~ Ch-16
Recording Set	Recording Ch	Record
	Name Position	Lower Left Screen
	Timer Position	Upper Central Screen
	REC Name, Date, Time	On
	Alarm Record	On
	Motion Record	On
	REC Key Lock	Off
Auto Select-Single	Ch1 ~ Ch16 Switch Interval	03 sec
	V-Loss Skip	On
Auto Select-Split	Quad A ~ Hexa Switch Interval	03 sec
	Add In Single	On
Monitoring Set	Name Position	Lower Left Screen
	Timer Position	Upper Central Screen
	Name, Date, Time Display	On
	PB OSD Display	Off
	PB Display Mode	One-Shot
	PB Input Lock	None
System Set	Spot-Out Ch	Ch-1
	Contrast, Brightness, Color Gain	Median Value
	Color On/Off	On
	Menu Blueback	On
	Remote	Off
Alarm List		Not Affect
Monitor Split Mode		Full Screen
Monitor Display Screen		Ch-1
Freeze Status		Cancel
Zoom Status		Cancel
PB Status		Cancel
REC Mode		Real

☞ Factory Setting

Signal System	NTSC
AC Input Voltage	220V

Cautions and Trouble Shooting

Cautions

Please read the suggestions in the manual before the installation.

- Please check the voltage selector in the back of the unit before connects to the power source.
The initial selector position is 220V
- The initial signal system is NTSC. If you want to use PAL system, set it to PAL mode by referring to the 'Setting the Signal System' section. (15 p.)
- Operating temperature of the unit is 0°C ~ 40°C. Therefore, install the unit on the place with the good ventilation and avoid places with direct sun light, and heater.
- Strong vibration or impact can be a good source of trouble, so please avoid those.

Cautions and Trouble Shooting

Trouble Shooting

If you experience troubles described below during the installation or the operation, please check indicated points.

Problem	Checking and Confirming Points
There is no monitor output screen.	Check the voltage selector for the right position. (100V or 220V)
	Unplug the power cord and check fuses for the disconnection. (0.5A, 250V)
	At the initial process, check the LED lights to check the NTSC/PAL setting.
	Check all cables connected to output terminals.
Continuous V-LOSS alarm.	Check the input level of selected video is 1.0 Vp-p. Check the input impedance select setting.
Dark Screen	Check the input impedance select setting. Check the 'System Set' setting.
Menu screen does not appear.	Check if the surveillance monitor is connected to the monitor output connector. Check VCR condition.
Playback screen does not appear	Check the PB input connector cable connection and PB-Input setting. Confirm the PB mode setting.
Setup LED is blinking	Reset the setting values in the menu.
PAL, NTSC LED is blinking	Reset the NTSC/PAL signal system setting.

NOTE

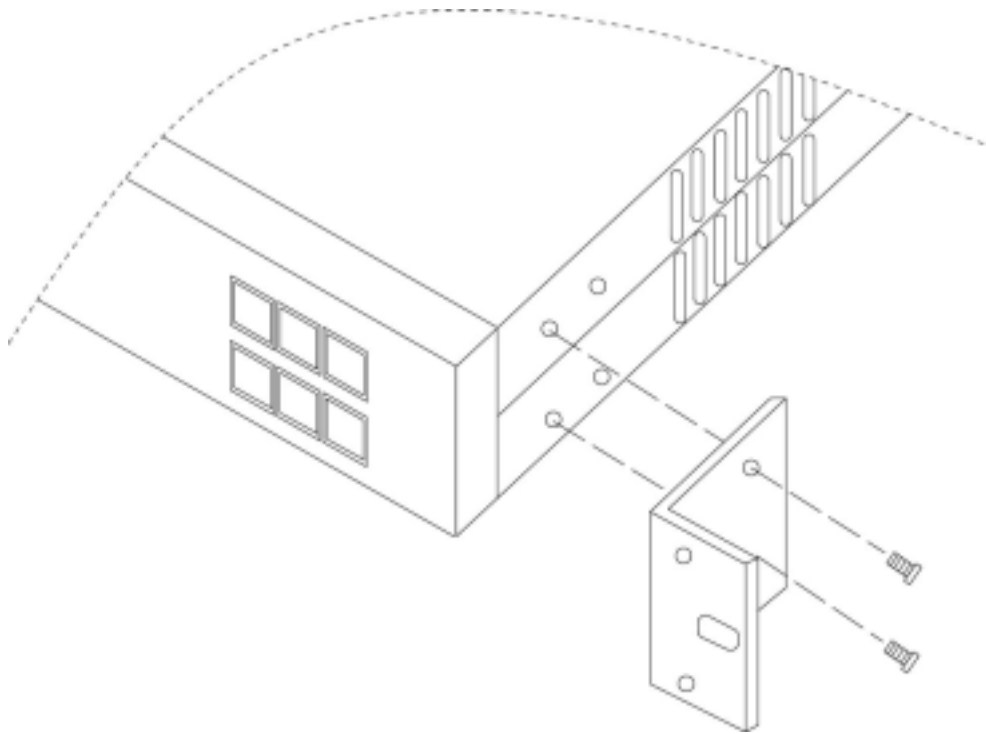
- When recording, check the recording using the VCR Bypass function. (refer to 24p.)
- If the selection of NTSC/PAL is not proper, screen has problem. Please, pay attention to select NTSC/PAL. (refer to 15p.)

If you experience any inconvenience, please contact our customer service. We will be glad to be of your service.

Rack Mount Diagram

19 " Rack Mount Adapter Assembly

- Please follow the following instructions to fix the unit on the 19" Rack.



- ☞ Confirm that two 'Rack Mount Adapter' is included in the package.
- ☞ Fix it by using screws as described in the above picture on the right and left side of the front panel.
- ☞ When this product is used by itself, please use the rubber pad to prevent the impact and help the ventilation. The rubber pad is included in the package.

■ VCR recording cable connection and monitoring settings

CASE 1) Using either CVBS or Y/C recording port for VCR recording.

Please confirm SMD-1610 'MONITORING SET' menu by following instructions.

1. Move to SET-MENU screen by pressing SET-UP key of the device.
2. Select 'MONITORING SET' by UP/DOWN arrow keys and press 'ENTER'.
3. Check 'PB INPUT LOCK' setting.

Device is initially set to 'NONE'(default)

Select one of three different type of settings available (NONE, CVBS and Y/C), by using LEFT/RIGHT arrow keys.

NOTE

SMD-1610 PB INPUT LOCK MENU	VCR VIDEO INPUT MENU	VCR Bypass screen and record
NONE	CVBS	CVBS Bypass screen and CVBS record
NONE	Y/C	Y/C Bypass screen and Y/C record
CVBS	CVBS	CVBS Bypass screen and CVBS record
CVBS	Y/C	Blank screen and No record
Y/C	CVBS	Blank screen and No record
Y/C	Y/C	Y/C Bypass screen and Y/C record

CASE 2) Using CVBS port for VCR recording.

Set SMD-1610 'PB INPUT LOCK' to either NONE or CVBS.

CASE 3) Using Y/C port for VCR recording.

Set SMD-1610 'PB INPUT LOCK' to either NONE or Y/C.

Specification

Specification

POC = Point of Contact

Signal System	<ul style="list-style-type: none"> ■ NTSC / PAL NTSC, NTSC-M, PAL-B/G/H 									
Input Signals	<ul style="list-style-type: none"> ■ Camera Input 16 Channels Composite 1.0 Vp-p 75 Ω BNC ■ Playback Input 1 Channel Composite 1.0 Vp-p 75 Ω BNC 									
	<ul style="list-style-type: none"> ■ Monitor Output 1 Channel Composite 1.0 Vp-p 75 Ω BNC ■ REC Output 1 Channel Composite 1.0 Vp-p 75 Ω BNC ■ Spot-Out Output 1 Channel Composite 1.0 Vp-p 75 Ω BNC 									
Output Signals	<ul style="list-style-type: none"> ■ Monitor 									
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Single</th> <th>4 split</th> <th>9 split</th> <th>16 split</th> </tr> </thead> <tbody> <tr> <td>30 frame/sec</td> <td>30 frame/sec</td> <td>5 frame/sec</td> <td>3.75 frame/sec</td> <td></td> </tr> </tbody> </table>		Single	4 split	9 split	16 split	30 frame/sec	30 frame/sec	5 frame/sec	3.75 frame/sec
	Single	4 split	9 split	16 split						
30 frame/sec	30 frame/sec	5 frame/sec	3.75 frame/sec							
Frame Rate	<ul style="list-style-type: none"> ■ REC (Real Mode) (60 / # of recording Ch.) field/sec or (30 / # of recording Ch.)frame/sec 									
Resolution	<ul style="list-style-type: none"> ■ NTSC 720 × 480 ■ PAL 720 × 576 									
Alarm Controls	<ul style="list-style-type: none"> ■ Alarm Input 16 inputs, Over 60msec, Low Active TTL or POC input ■ Alarm Recover Input 1 input, Over 60msec, Low Active TTL or POC input ■ Alarm Trigger Output 100msec, Open-Collector Low Active ■ Alarm Output ~30min, Open-Collector Low Active 									
	<ul style="list-style-type: none"> ■ Communication Control RS-232C, 9600 bps, DB-9 Female terminal ■ REC Trigger input Low Active TTL input, RCA terminal, Time-lapse VCR conversion 									
	<ul style="list-style-type: none"> ■ Freeze Function Freeze for each channel of the monitor output screen. ■ Zoom Function 7 level Zoom rate, maximum ×2times ■ Motion Detect Function Motions detect, detect position, and detect level for each camera. 									
	<ul style="list-style-type: none"> ■ Front Function Buttons 30 EA ■ LED Display 28 EA ■ Auto Switching Interval 1 ~ 99 sec, Skip function ■ Channel Letter Display 16 letters per each channel ■ Alarm list display Max. 200, Time/Channel/Input signal/MOTION Detect display ■ Screen control Contrast, Brightness, Color Gain setting function 									
System and Display Controls	<ul style="list-style-type: none"> ■ Date format y/m/d, m/d/y, d/m/y ■ Month format Numeric, Initial ■ Error ± 30 sec / 1 month at 25°C ■ Backup time Approximately 15 days 									
	<ul style="list-style-type: none"> ■ Standard Power Input AC100 / 220V Selection, 50 / 60 Hz ■ Power Consumption Max. 25 W ■ Operating Humidity 10 ~ 80 % RH ■ Operating Temperature 0 ~ 40°C 									
	<ul style="list-style-type: none"> ■ Dimension (W×H×D) 430 × 44 × 347 mm ■ Weight (Excluding the box) 4.5 Kg 									
	<ul style="list-style-type: none"> ■ Power Cord 100V 1 EA or 220V 1EA ■ User Manual 1 EA ■ Rack Mount Adapter 2 EA ■ Rack Mount Angle 2 EA ■ Support Rubber 4 EA ■ Fuse 2 EA ■ Screw 4 EA 									
Clock										
Power										
Size and Weight										
Accessory Parts										

☞ Specifications are subject to change without any notice for the improvement of the function and the quality of the product..

Warranty

Model No.		
Serial No.		
Manufactured Date		
Purchasing Date		
Customer	Name	
	Address	

- Defects caused under normal operation condition within one year from the purchasing date will be repaired at the free of charge.
- Please contact our service department for the repair and provide model number and describe the defect in detail.
- Exterior form and the circuits are subject to change without any notice for the improvement of the function and quality of the product.

Service

Date	Service Detail	Name of the Service Division	Engineer Name

Information to the user

NOTE

This equipment has been tested and found to comply with the limits for 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.

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.

