Operating Instructions

Panasonic®

Before attempting to connect or operate this product, please read these instructions completely

CONTENTS

CAUTION:
Before attempting to connect or operate this product, please read the label on the bottom.

CAUTION
**RISK OF ELECTRIC SHOCK
DO NOT OPEN**

CAUTION:
TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

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.

SA 1965

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.

SA 1966

----For U.S.A----
Warning:
This equipment generates and uses radio frequency energy and if not installed and used properly, i.e., in strict accordance with the instruction manual, may cause harmful interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment.

The serial number of this product may be found on the bottom of the unit.
You should note the serial number of this unit in the space provided and retain this book as a permanent record of your purchase to aid identification in the event of theft.

Model No. _____

Serial No. _____

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

PREFACE

The Panasonic's WV-CM143 Color Monitor is designed for use with the specified Color CCTV Camera.
Up to four cameras can be connected with this monitor sequential or manual switching for these cameras is available.

And also by the combination with the intercom or sensor unit, CCTV system enables.

FEATURES

- As many as 4 Solid State Color Cameras can be connected to Color Monitor WV-CM143 with an alarm feature. This Color Cameras can be added by using the Camera Extension Unit WV-AD110A.
- One video output displays each camera in sequence and any camera switched to the spot monitor position for the use of an additional monitor or video tape recorder.
- Monitor has 14" diagonal screen (13" diagonal actual visual size)
- Sequential switching interval selectable from 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 20, 25 or 30 sec.
- Built-in protection circuit for any misconnection.
- STANDBY mode for no picture on the monitor during the sequential switching.
- Alarm control output for a buzzer or chime.
- Alarm period selectable from 1, 5, 10,20, 30, 40, 50 or 60 sec.
- The CCTV camera with microphone can be connected with this monitor.
- VTR playback picture can be observed.

- Reset input for sequential switching from Time Lapse VTR.
- Automatic bypass circuit for skipping no camera connection.
- Built-in Automatic Reset Selection function for Spot Monitor Control Input. The automatic reset time is preset to approx. 60 seconds.
- The following functions are available by using the Set Up menu.
  - Camera Identification Display
  - Audio Selection
  - Timing Selection
  - Sequential Time Adjustment
  - Alarm Buzzer Setting
  - Alarm Time Adjustment
  - Automatic Reset
  - Bright Compensation Setting
- The specified Color CCTV System Camera (Multiplexed VD (VD2) with gen-lock) can be used with this monitor due to the Camera Power Selection Switch. (CAMERA INPUT 1 Connector)

PRECAUTIONS

- Do not block the ventilation slots.
  Do place the color monitor at least 5 cm apart from the wall.

- Do not expose the monitor to water or moisture.
  Do not operate the monitor if it becomes wet. Do take immediate action if ever the monitor does become wet. Turn power off and refer servicing to qualified service personnel. Moisture can damage the monitor and also create the danger of electric shock.

- Do not attempt to disassemble the monitor. To prevent electric shock, do not remove screws or cover. There are no user-serviceable parts inside. Refer servicing to qualified service personnel.

- Do not drop the metallic parts through slots.
  This action could permanently damage the monitor.
  Do turn power off immediately and refer servicing to qualified service personnel.

MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS

■ FRONT VIEW
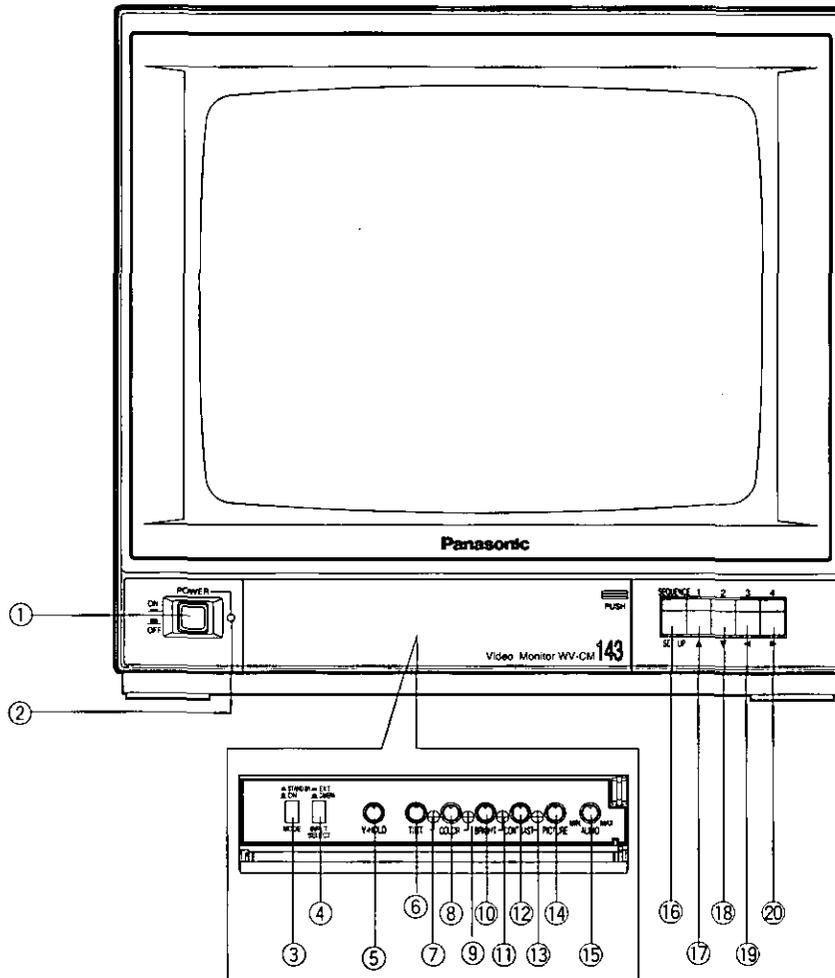
1. Power Switch (POWER)
This is a push-push type switch which turns the power of the monitor on and off.
Press once and the switch remains down (▬) for turning on the power of monitor.
Press again, the switch comes up (▅) for turning off the power of the monitor.

2. Power Indicator

3. Mode Selection Switch (STAND BY (▬)/ ON (▅))
ON: The picture of the camera will appear on the monitor.
STAND BY: The picture of the camera will not appear on the monitor in the sequence mode, however the picture can be observed at Video Output Connector.
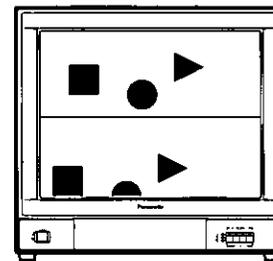
4. Input Selection Switch (EXT(▬) CAMERA(▅))
This selects the picture displayed on the monitor as ;
EXT: VTR playback picture which connected to Video Input Connector can be observed.
CAMERA: Camera picture which is connected to Camera Input Connectors can be observed.

5. Vertical Hold Control (V-HOLD)
This control is used to adjust the picture in vertically.

6. Tint Control (TINT)
Turn this control clockwise for purplish color of the picture and turn this counterclockwise for greenish color of the picture.

7. Tint Subcontrol

8. Color Control (COLOR)
Turn this control clockwise to increase the picture color and turn this control counterclockwise to decrease the picture color.

9. Color Subcontrol

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10. Bright Control (BRIGHT)

Turn this control clockwise to increase the picture brightness and turn this control counterclockwise to decrease the picture brightness.

11. Bright Subcontrol

12. Contrast Control (CONTRAST)

Turn this control clockwise to increase the picture contrast and turn this control counterclockwise to decrease the picture contrast.

13. Contrast Subcontrol (CONTRAST)

14. Picture Adjustment (PICTURE)

Turn this control clockwise for sharp picture and turn this control clockwise for soft picture.

15. Audio Control (AUDIO, MIN/MAX)

Turn this control clockwise to increase the audio level and turn this control counterclockwise to decrease the audio level.

16. Sequence / Setup Selection Switch (SEQUENCE / SETUP)

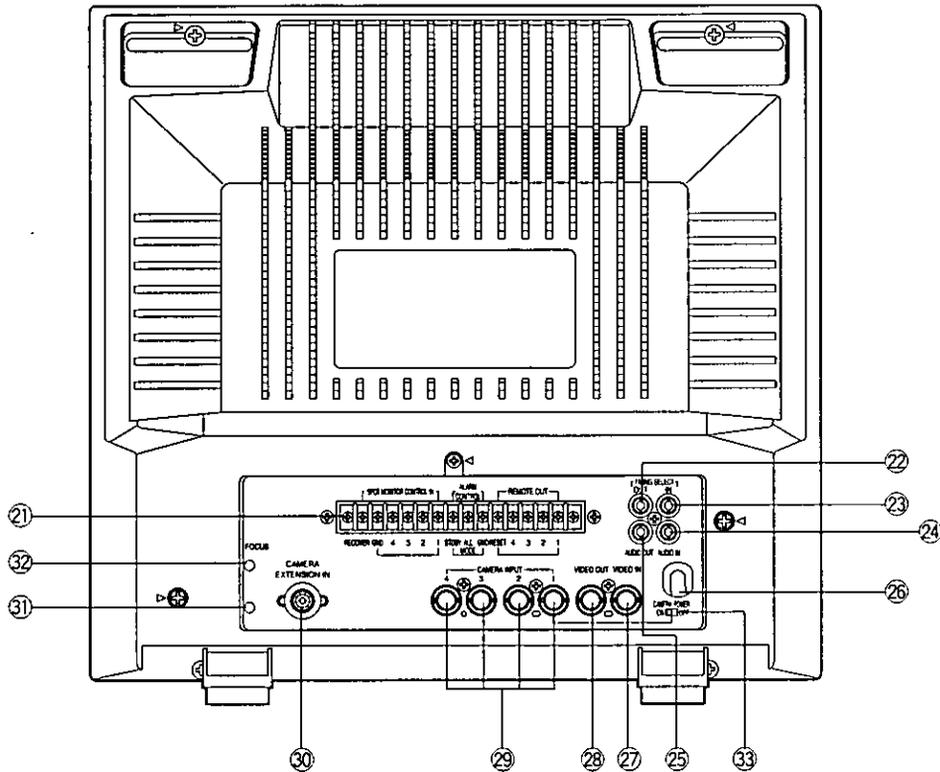Press this switch more than 2 seconds to display the Set Up menu.

17. Camera Selection Switch (1)/ Up Switch (▲)

18. Camera Selection Switch (2) / Down Switch (▼)

19. Camera Selection Switch (3) / Left Switch (◄)

20. Camera Selection Switch (4) / Right Switch (►)

■ REAR VIEW

21. External Control Connection Terminals
RECOVER

When the picture of the camera is selected by the signal of Spot Monitor Control In, the monitor only displays the picture of the selected camera.

To reset the picture of the selected camera and to set to the sequence operation for the Color CCTV System, use the reset signal from the time lapse VTR.

SPOT MONITOR CONTROL IN

The terminals of the Spot Monitor Control In are used to connect the intercom or alarm sensors for the spot monitoring by short circuit between terminal 1, 2, 3 or 4 and ground.

When the Camera Extension Unit is used, the same spot monitoring are proceeded for terminal

5, 6 and 7 of the camera extension unit.

If the terminal 1 is shorted to the ground by intercom or alarm sensors, the camera No.1 is selected and its picture is observed as spot monitoring.

The picture of the camera No.2, 3, 4, 5, 6, or 7 can be observed as the same way when the Camera Extension Unit is used.

Note: The voltage of short circuit for terminal should be 0 - 0.2 volt when the intercom or alarm sensor is activated.

ALARM CONTROL OUT

The terminals of the Alarm Control Out are used to connect the buzzer or chime for sounding when the terminals of the Spot Monitor Control In is shorted to ground by intercom or alarm sensor.

STANDBY-GND Connection

The connected buzzer or chime will sound when the Mode Selection Switch is positioned at STANDBY and the intercom or alarm is activated.

ALL MODE-GND Connection

The connected buzzer or chime will sound at either position of the Mode Selection Switch when the intercom or alarm is activated.

REMOTE OUT Connection

The terminals for the Remote Out are used to connect the Remote Out are also used to connect the Spot Monitor Control In for the Spot monitoring by short circuit of terminal 1, 2, 3 or 4 when the two color monitor is connected with Remote Control Unit for Auto Panning Head.

The power rate of the alarm should be DC 24V, max. 100 mA.

If the power capacity of the remote is less than 100 mA at DC24V, the remote load can be connected at DC 24V, the remote load can not be connected at the terminal directly. In this case, the relay circuit should be used for the remote load.

22. Timing Select Output Connector (TIMING SELECT, OUT)

This output connector produces the timing pulse signals for switching the sequence operation of other extensible systems such as another Color CCTV Systems or sequential switcher system.

23. Timing Select Input Connector (TIMING SELECT, IN)

This input connector is provided for the sequence operation with timing pulses from the time lapse VTR or another Color CCTV System.

24. Audio Input Connector (AUDIO IN)

Accepts the audio signal from the video camera with microphone.

You can hear the VTR sound by setting the Input Selection Switch to the EXT position.

25. Audio Output Connector (AUDIO OUT)

The audio signal is supplied from this connector to the VTR.

26. Power Cord

Caution: 120V AC supply only.

27. Video Input Connector (VIDEO IN)

This is a video input connector from VTR for playback picture.

When you would like to observe the VTR playback picture on this monitor, set the Input Selection Switch to the EXT position and Mode Selection Switch to the ON position.

28. Video Output Connector (VIDEO OUT)

The BNC type connector is used to provide the video output signal of the cameras to the additional monitor or video tape recorder.

The video output signal of the camera is provided from this connector even when the Mode Selection Switch is the STD BY position.

29. Camera Input Connectors (CAMERA INPUT, 1/2/3/4)

The BNC type connectors are used to provide the video output signal of the cameras to the additional video tape recorder.

This connector supplies DC power and vertical drive pulse to the camera and receive the video informations from the cameras.

Notes:

- Be sure to connect only the specified camera.
- Connect the camera after making sure that the monitor is off.

When the camera is connected while the monitor is on, the camera will not be functioned by activating the protection circuit for misconnection.

Caution:

The CAMERA INPUT 1 connector only can accept the multiplexed VD (VD2) signal from the specified Color Mini CCTV System Camera.

Even if the multiplexed VD (VD2) signal will be supplied to the CAMERA INPUT 2, 3 or 4, this monitor can not work correctly.

30. Camera Extension Input Connector (CAMERA EXTENSION IN)

This is a 12-pin connector for the Camera Extension unit when it is used for extending additional 3 cameras, and the information are as;

Pin 1 :	Logic Signal for Sequence
Pin 2 :	Logic Signal for Sequence
Pin 3 :	Logic Signal for Sequence
Pin 4 :	Video Input Signal
Pin 5 :	Ground
Pin 6 :	Logic Signal for Sequence
Pin 7 :	Logic Signal for Sequence
Pin 8 :	Logic Signal for Sequence
Pin 9 :	Logic Signal for Sequence
Pin 10 :	Logic Signal for Sequence
Pin 11 :	Vertical Drive Output Signal
Pin 12 :	DC Voltage for Cable Compensation

31. Screen Control

This control is preset at the factory.

Do not adjust this control.

When the adjustment of this control is required, refer to the qualified service personnel.

32. Focus Control (FOCUS)

This control is preset at the factory.

33. Camera Power On/Off Selection Switch (CAMERA POWER, ON/OFF)

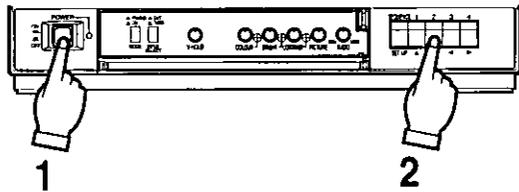**ON:** Set this position to use with the specified Color CCTV Camera.

OFF: Set this position to use with the specified Color System Camera (Multiplexed VD (VD2) with genlock).

No power supply to the camera.

Caution:

Be sure to set this switch before camera connection.

OPERATING PROCEDURES

1   **2**

Selection of Camera

1. Set the Power Switch on the front panel to the ON position by pressing once.
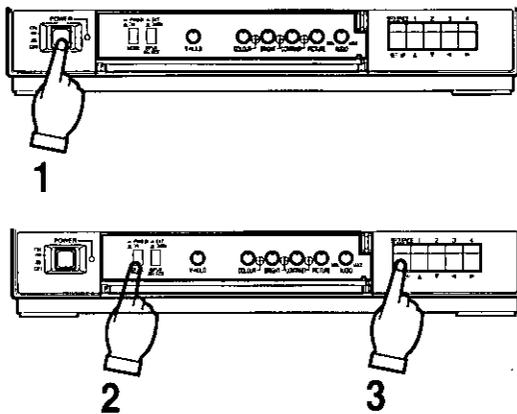2. Press the desired Camera Selection Switch.

Notes :
1. The normal picture will not be displayed for a few seconds after turning on the power of the monitor.
2. This monitor is in the sequence mode automatically by turning on the power of this unit.
3. The desired camera can be observed on the monitor by pressing the desired Camera Selection Switch even if this monitor is in the sequence mode.
4. Also desired camera picture can be observed on the monitor by pressing the desired Camera Selection Switch even if this monitor is in the Standby mode.

Caution :
When the power switch of monitor is turned ON and OFF repeatedly in the short period of time, the camera may not be turned ON due to the operation of misconnection protection circuit.
In this case, leave the switch in the OFF position for a few seconds before turning On again.

Sequence Mode (more than two cameras)

1

2   **3**

1. Set the Power Switch to the ON position by pressing once.
2. Set the Mode Selection Switch to the ON position.
3. Press the Sequence / Set up Selection Switch more than 2 seconds.

4. Set the desired sequential switching interval time with the Set Up menu.
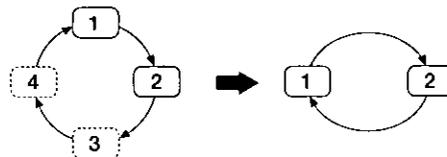
Note: The sequential switching features the automatic bypass circuit by detecting the presence of the DC power for the camera so that the input connector with no camera connection is automatically skipped.

Standby mode Monitoring picture
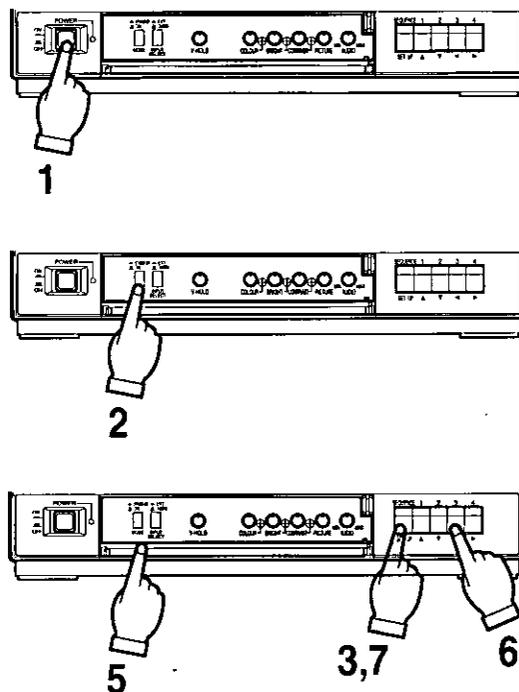
1

2

5   **3,7**   **6**

1. Set the Power Switch to the On position by pressing once.
2. Set the Mode Selection Switch to the ON position.
3. Press the Sequential / Set Up Switch.
4. Set the Sequential switching interval with the Set Up menu.
5. Set the Mode Selection Switch to the STDBY position.
   The picture on the monitor disappears. however the sequential switching is actually carried and the picture can be observed at Video Output Connector on rear of monitor by connecting additional monitor.
6. When the picture of the desired camera is observed / monitored, press the desired Camera Selection Switch.
7. By pressing the Sequence / Set up Selection Switch again, the picture on the monitor disappears and back to the sequential switching at Standby mode.

- Connect the sensor switches and the Time Lapse VTR with the proper cables. The sensor should have an open-collector output or non-voltage contact.

Time Lapse VTR
ALARM

| IN | GND | RESET IN | RECOVER OUT | GND | OUT | GND |

RESET OUT   ALARM OUT

RECOVER IN   GND

ALARM IN   WJ-SQ308

ch1
ch2
ch3   Alarm Switch
ch4   1-8
ch5
ch6
ch7
ch8

16	8
15	7
14	6
13	5
12	4
11	3
10	2
9	1

Alarm Input Connector
(provided)

Alarm Input Connector (provided)

Pin No.	Signals	Wire Color
1	ch1 Input	Brown
2	ch2 Input	Red
3	ch3 Input	Orange
4	ch4 Input	Yellow
5	ch5 Input	Green
6	ch6 Input	Blue
7	ch7 Input	Purple
8	ch8 Input	Grey
9	ch1 earth	Black
10	ch2 earth	Black
11	ch3 earth	Black
12	ch4 earth	Black
13	ch5 earth	Black
14	ch6 earth	Black
15	ch7 earth	Black
16	ch8 earth	Black

Note: Be sure to insulate the wire(s) which is (are) not connected.

- The capacity of the Alarm Output Connector is 30V DC maximum, 100mA or less

ALARM OUT

NC: normal ON
NO: normal OFF
C: COMMON

Relay

NC   NO

C

To Alarm Indicator

+12V

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1. Single Connection

A. Without VCR

B. With VCR

GND
ALARM OUT
RECOVER IN
RESET OUT
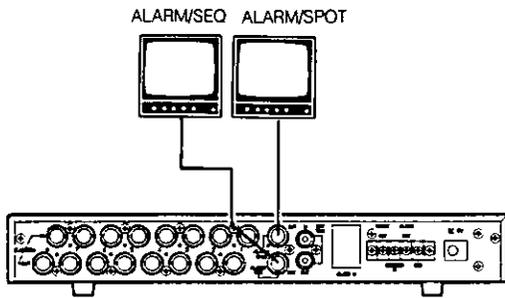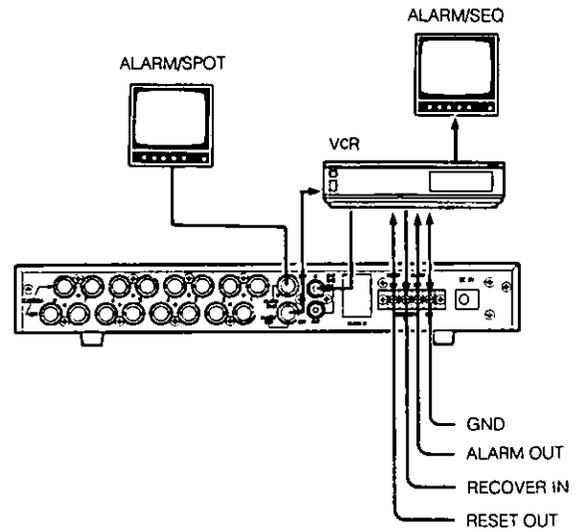
2. Parallel Connection

C. Without VCR

(A)

(B)

(C)

D. With VCR

(A)

EARTH
ALARM OUT
RECOVER IN
RESET OUT

(B)

(C)
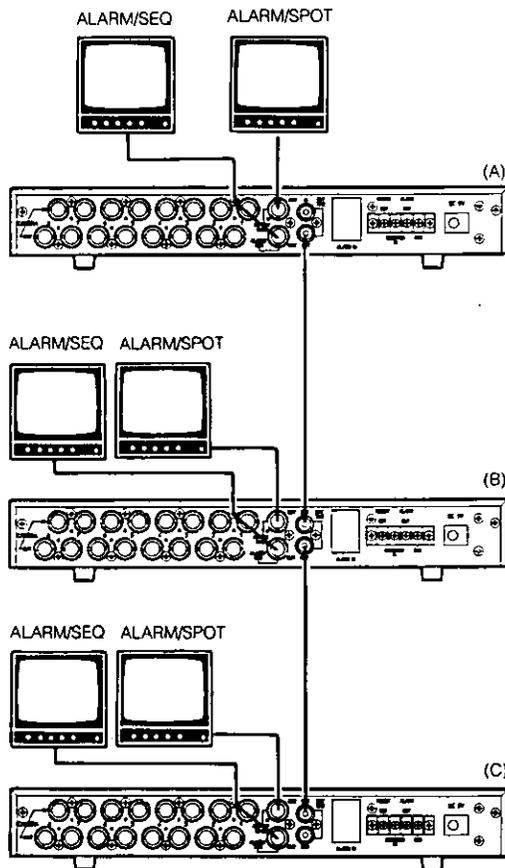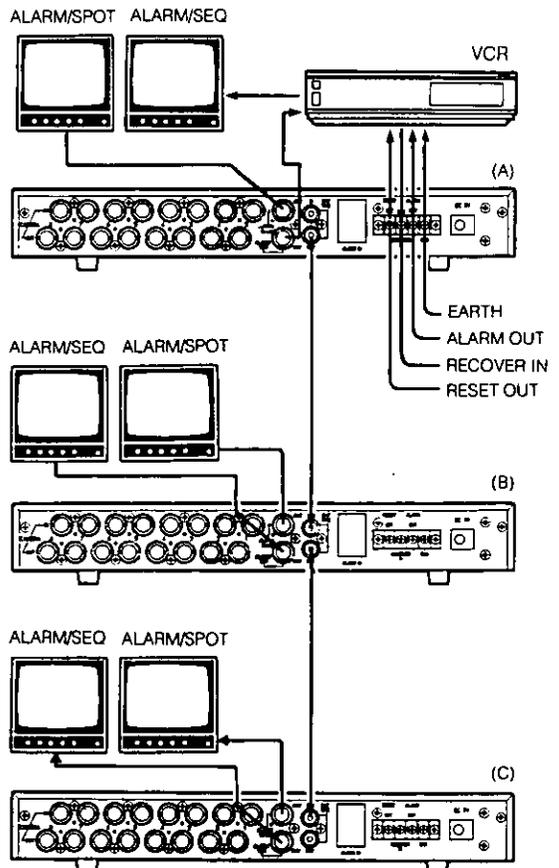
3-3. Timing Selection (TIMING SELECT)

```
** SET UP MENU **

CAMERA ID        1 2 3 4
                 1 CAMERA
AUDIO SELECT     SEQ
TIMING SELECT    INT]     ◀━━
SEQ TIME ADJ     1 SEC
ALARM BUZZER     ON
ALARM TIME ADJ   60 SEC
AUTO RESET       ON
BRIGHT COMP      1 2 3 4
  END  SET UP    DISABLE
```

The video / audio switching timing can be selected from INT (internal) or EXT (external).

3-4. Sequential Time Adjustment (SEQ TIME ADJ)

```
** SET UP MENU **

CAMERA ID        1 2 3 4
                 1 CAMERA
AUDIO SELECT     SEQ
TIMING SELECT    INT
SEQ TIME ADJ     |1_SEC|   ◀━━
ALARM BUZZER     ON
ALARM TIME ADJ   60 SEC
AUTO RESET       ON
BRIGHT COMP      1 2 3 4
  END  SET UP    DISABLE
```

The sequential time of the camera picture can be selected.

3-5. Alarm Sound On/Off Setting (ALARM BUZZER)

```
** SET UP MENU **

CAMERA ID        1 2 3 4
                 1 CAMERA
AUDIO SELECT     SEQ
TIMING SELECT    INT
SEQ TIME ADJ     1 SEC
ALARM BUZZER     [ON]      ◀━━
ALARM TIME ADJ   60 SEC
AUTO RESET       ON
BRIGHT COMP      1 2 3 4
  END  SET UP    DISABLE
```

Alarm Buzzer On/Off mode can be selected in the Alarm ON mode.

3-6. Alarm Time Adjustment (ALARM TIME ADJ)

```
** SET UP MENU **

CAMERA ID        1 2 3 4
                 1 CAMERA
AUDIO SELECT     SEQ
TIMING SELECT    INT
SEQ TIME ADJ     1 SEC
ALARM BUZZER     ON
ALARM TIME ADJ   [60_SEC]  ◀━━
AUTO RESET       ON
BRIGHT COMP      1 2 3 4
  END  SET UP    DISABLE
```

Selects the interval time of alarm signals at 1 to 60 seconds.

3-7. Automatic Reset On/Off Setting (AUTO RESET)

```
** SET UP MENU **

CAMERA ID        1 2 3 4
                 1 CAMERA
AUDIO SELECT     SEQ
TIMING SELECT    INT
SEQ TIME ADJ     1 SEC
ALARM BUZZER     ON
ALARM TIME ADJ   60 SEC
AUTO RESET       [ON]      ◀━━
BRIGHT COMP      1 2 3 4
  END  SET UP    DISABLE
```

Selects the Automatic Reset On/Off mode.

3-8. Bright Compensation Setting (BRIGHT COMP)
The bright adjustment can be made at each channel.

```
** SET UP MENU **

CAMERA ID        1 2 3 4
                 1 CAMERA
AUDIO SELECT     SEQ
TIMING SELECT    INT
SEQ TIME ADJ     1 SEC
ALARM BUZZER     ON
ALARM TIME ADJ   60 SEC
AUTO RESET       ON
BRIGHT COMP      [1_2_3_4]  ◀━━
  END  SET UP    DISABLE
```

SETUP OPERATION

Before entering the Set Up menu, remember the ALL RESET operation in order to escape from the confusion as follows.

(1) Confirm that the Mode Selection Switch is set to the ON position, the Input Selection Switch is set to the CAMERA position and Set Up menu is not displayed.

(2) Turn off the power of this monitor.

(3) Turn on the power of this monitor while pressing the Set Up Switch and Right Switch simultaneously.
All adjustments and selections are reset to the factory setup condition.

- **Entering Setup Menu**

```
** SET UP MENU **

CAMERA ID           1 2 3 4
                   1 CAMERA
AUDIO SELECT        SEQ
TIMING SELECT       INT
SEQ TIME ADJ        1 SEC
ALARM BUZZER        ON
ALARM TIME ADJ      60 SEC
AUTO RESET          ON
BRIGHT COMP         1 2 3 4
END SET UP          DISABLE
```

Blinking

Press the Camera Selection Switches which is connected with the camera.

By pressing the Set Up Switch for more 2 seconds, the "SET UP" menu is displayed on the monitor screen as shown below.

By observing this menu, you can check the present condition.

Refer to the following sections for details of each item.

After confirming the present condition and further resetting of each item is not required, move the cursor to the "END" position on the left bottom line and press the Set Up Switch to return to the normal camera picture mode.

Important notice

When the "SET UP DISABLE" is displayed on the bottom line of the Set up menu, you can not enter the actual mode setting. This prevents mis-operation of the mode setting.

Editing Set Up menu

```
** SET UP MENU **

CAMERA ID           1 2 3 4
                   1 CAMERA
AUDIO SELECT        SEQ
TIMING SELECT       INT
SEQ TIME ADJ        1 SEC
ALARM BUZZER        ON
ALARM TIME ADJ      60 SEC
AUTO RESET          ON
BRIGHT COMP         1 . . 4
END → SET_UP_____DISABLE
```

Press the Set Up Switch.

```
** SET UP MENU **

CAMERA ID           1 2 3 4
                   1 CAMERA
AUDIO SELECT        SEQ
TIMING SELECT       INT
SEQ TIME ADJ        1 SEC
ALARM BUZZER        ON
ALARM TIME ADJ      60 SEC
AUTO RESET          ON
BRIGHT COMP         1 . . 4
END  SET_UP_____ENABLE ←
```

To enable the set up menu editing (resetting / readjustment), move the cursor to the bottom line by using the Up Switch and Down Switch and move to the "SET UP DISABLE" position by using the Right Switch or Left Switch and press the Set Up Switch. "SET UP ENABLE" is displayed.

Move the cursor to the desired item to be reset for readjust through the "END" position.

Important Notice :

When the cursor is moved to the next position (next item) after changing the data (ex. ON - OFF), the latest data is written on the memory (Electronic Erasable) and Programmable Read Only Memory (EEPROM) and it remains until the further data write is made even if the camera power is switched off.

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Setting Procedure

1. Camera Identification Setting (CAMERA ID)

```
      ** SET UP MENU **

CAMERA ID          [1] 2 3 4  ◄━
                   1 CAMERA
AUDIO SELECT         SEQ
TIMING SELECT        INT
SEQ TIME ADJ         1 SEC
ALARM BUZZER         ON
ALARM TIME ADJ       60 SEC
AUTO RESET           ON
BRIGHT COMP          1 2 3 4
   END   SET UP      DISABLE
```

Press the Down Switch (▼).

⬇

```
      ** SET UP MENU **

CAMERA ID           1 2 3 4
                   1] CAMERA
AUDIO SELECT         SEQ
TIMING SELECT        INT
SEQ TIME ADJ         1 SEC
ALARM BUZZER         ON
ALARM TIME ADJ       60 SEC
AUTO RESET           ON
BRIGHT COMP          1 2 3 4
   END   SET UP      DISABLE
```

Press the Setup Switch.

⬇

```
      ** SET UP MENU **

CAMERA ID           1 2 3 4
                   1 'CAMERA
AUDIO SELECT         SEQ
TIMING SELECT        INT
SEQ TIME ADJ         1 SEC
ALARM BUZZER         ON
ALARM TIME ADJ       60 SEC
AUTO RESET           ON
BRIGHT COMP          1 2 3 4
   END   SET UP      DISABLE
```

After completing the selection,
press the Setup Switch.

⬇

```
      ** SET UP MENU **

CAMERA ID           1 2 3 4
                   1] CAMERA
AUDIO SELECT         SEQ
TIMING SELECT        INT
SEQ TIME ADJ         1 SEC
ALARM BUZZER         ON
ALARM TIME ADJ       60 SEC
AUTO RESET           ON
BRIGHT COMP          1 2 3 4
   END   SET UP      DISABLE
```

Press the Right Switch (►).

⬇

```
      ** SET UP MENU **

CAMERA ID           1 2 3 4
                   2]
AUDIO SELECT         SEQ
TIMING SELECT        INT
SEQ TIME ADJ         1 SEC
ALARM BUZZER         ON
ALARM TIME ADJ       60 SEC
AUTO RESET           ON
BRIGHT COMP          1 2 3 4
   END   SET UP      DISABLE
```

1-1. Move the cursor to the CAMERA ID and select the desired camera by using the Left (◄) or Right (►) Switch.

To set the Camera ID Display On/Off mode, press the Setup Switch.

1-2. After completing the procedure of item 1, move the cursor to the second line by using the Down (▼) Switch.

Set the Camera Identification according to the following procedure (1-3) and press the Setup Switch.

To register the Camera Identification, put back the cursor to the CAMERA ID.

Note: The Camera Identification setting is not memorized unless the CAMERA ID is selected again.

1-3. Selectable characters are shown in the following.

← (−)	(+) →
0 1 2 3 4 5 6 7 8 9 : ; A B C D E F G H I J K L M N	
O P Q R S T U V W X Y Z " # ' ( )	
* + , - . / ← = → · (blank)	

Character selection can be made with the Up (▲) or Down (▼) Switch.

Column selection can be made by the Left (◄) or Right (►) Switch.

After completing the selection, press the Setup Switch.

To change the Camera ID of the other camera, press the Left (◄) or Right (►) Switch.

2. Audio Selection (AUDIO SELECT)

```
      ** SET UP MENU **

CAMERA ID           1 2 3 4
                   1 CAMERA
AUDIO SELECT        [SEQ]  ◄━
TIMING SELECT        INT
SEQ TIME ADJ         1 SEC
ALARM BUZZER         ON
ALARM TIME ADJ       60 SEC
AUTO RESET           ON
BRIGHT COMP          1 2 3 4
   END   SET UP      DISABLE
```

2-1. Move the cursor to the "AUDIO SELECT" position.

Select the Sequential (SEQ) or Fixing (1,2,3 or 4) mode by using the Left (◄) or Right (►) Switch.

2-2. In the Sequential mode, the audio signal is also switched according to the channel switching.

2-3. In the Fixing mode, the audio signal is fixed to the selected channel.

3. Timing Selection (TIMING SELECT)

```
      ** SET UP MENU **

CAMERA ID           1 2 3 4
                   1 CAMERA
AUDIO SELECT         SEQ
TIMING SELECT       [INT]  ◄━
SEQ TIME ADJ         1 SEC
ALARM BUZZER         ON
ALARM TIME ADJ       60 SEC
AUTO RESET           ON
BRIGHT COMP          1 2 3 4
   END   SET UP      DISABLE
```

3-1. Move the cursor to the TIMING SELECT.

3-2. Select the Internal Timing (INT) or External Timing (EXT) by using the Left (◄) or Right (►) Switch.

Note: Set this item to the "EXT" when this timing signal is input from the other video monitor or time lapse VTR.

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4. Sequential Time Adjustment (SEQ TIME ADJ)

```
         ** SET UP MENU **

CAMERA ID              1 2 3 4
                       1 CAMERA
AUDIO SELECT           SEQ
TIMING SELECT          INT
SEQ TIME ADJ          |1 SEC  | ◄
ALARM BUZZER           ON
ALARM TIME ADJ         60 SEC
AUTO RESET             ON
BRIGHT COMP            1 2 3 4
END SET UP             DISABLE
```
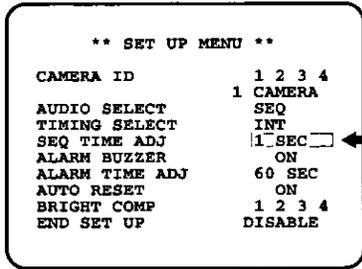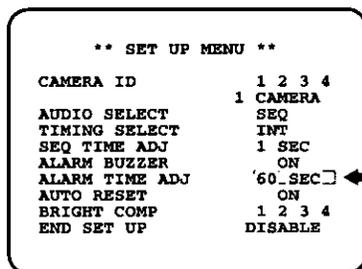
4-1. Move the cursor to the SEQ TIME ADJ.

4-2. Select the sequential time by using the Left (◄) or Right (►) Switch.

Sequential time can be selected from approx. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 20, 25 or 30 sec.
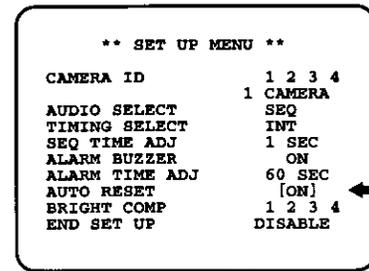
5. Alarm Sound On/Off (ALARM BUZZER)

```
         ** SET UP MENU **

CAMERA ID              1 2 3 4
                       1 CAMERA
AUDIO SELECT           SEQ
TIMING SELECT          INT
SEQ TIME ADJ           1 SEC
ALARM BUZZER          [ON]    ◄
ALARM TIME ADJ         60 SEC
AUTO RESET             ON
BRIGHT COMP            1 2 3 4
END SET UP             DISABLE
```
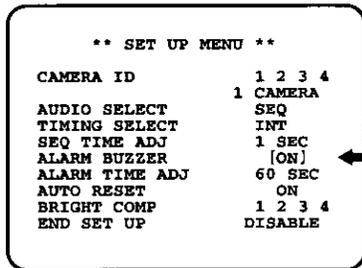
5-1 Move the cursor to the ALARM BUZZER.

5-2. Alarm Sound On/Off mode can be selected by using the Left (◄) or Right (►) Switch.

This monitor sounds the alarm for the preset time when an alarm signal is received.

6. Alarm Time Adjustment (ALARM TIME ADJ)

```
         ** SET UP MENU **

CAMERA ID              1 2 3 4
                       1 CAMERA
AUDIO SELECT           SEQ
TIMING SELECT          INT
SEQ TIME ADJ           1 SEC
ALARM BUZZER           ON
ALARM TIME ADJ        '60 SEC | ◄
AUTO RESET             ON
BRIGHT COMP            1 2 3 4
END SET UP             DISABLE
```

6-1. Move the cursor to the ALARM TIME ADJ.

6-2. Set the time duration of the alarm buzzer by using the Left (◄) or Right (►) Switch.

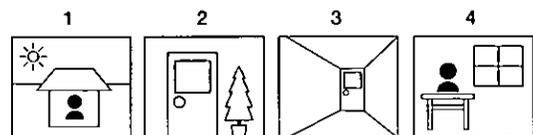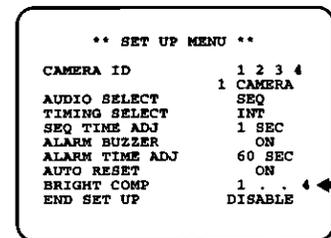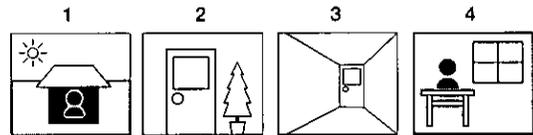Alarm buzzer can be selected from approx. 1, 5, 10, 20, 30, 40, 50 or 60 sec.

7. Auto Reset Setting (AUTO RESET)

```
         ** SET UP MENU **

CAMERA ID              1 2 3 4
                       1 CAMERA
AUDIO SELECT           SEQ
TIMING SELECT          INT
SEQ TIME ADJ           1 SEC
ALARM BUZZER           ON
ALARM TIME ADJ         60 SEC
AUTO RESET            [ON]    ◄
BRIGHT COMP            1 2 3 4
END SET UP             DISABLE
```

7-1. Move the cursor to AUTO RESET.

7-2. Auto Reset On/Off mode can be selected by using the Left (◄) or Right (►) Switch.

The alarm mode will be reset automatically at 60 sec. after the sensor signal is received.

8. Bright Compensation Setting (BRIGHT COMP)

8-1. Move the cursor to the "BRIGHT COMP".

8-2. The desired camera can be selected by using the Left (◄) or Right (►) Switch.

8-3. Bright Compensation On/Off mode can be selected by using the Set Up Switch.In the sequential mode, this function can give the suitable condition to the picture during the sequential mode.


```
         ** SET UP MENU **

CAMERA ID              1 2 3 4
                       1 CAMERA
AUDIO SELECT           SEQ
TIMING SELECT          INT
SEQ TIME ADJ           1 SEC
ALARM BUZZER           ON
ALARM TIME ADJ         60 SEC
AUTO RESET             ON
BRIGHT COMP            1 . . 4 ◄
END SET UP             DISABLE
```


"BRIGH COMP" ON   OFF   OFF   ON

Caution:

This function only works on the screen in the sequential mode.

The video signal can not be supplied from Video Output Connector.

When observing the playback picture, picture adjustment should be made by using the Bright or Contrast Control on the front panel.

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CONNECTIONS

Precautions :
1. These connections should be made by qualified service personnel or system installers.
2. Keep the power switch of the monitor , optional camera, optional camera extension unit and in the OFF position during the connection.

■ Connection with camera

Camera

Color Monitor WV-CM143

Coaxial Cable

BNC Connector
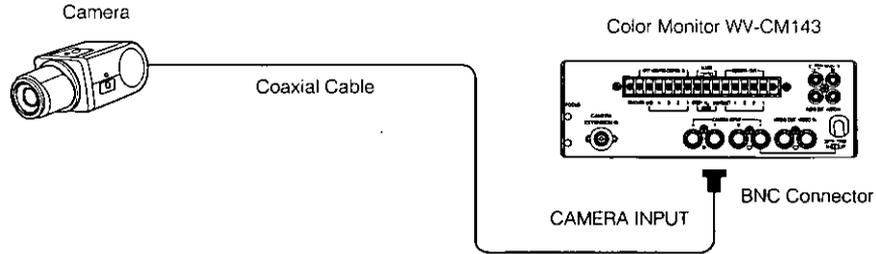
CAMERA INPUT

•· Connect the single coaxial cables between the cameras and monitor (CAMERA INPUT). The maximum coaxial cable length is as;
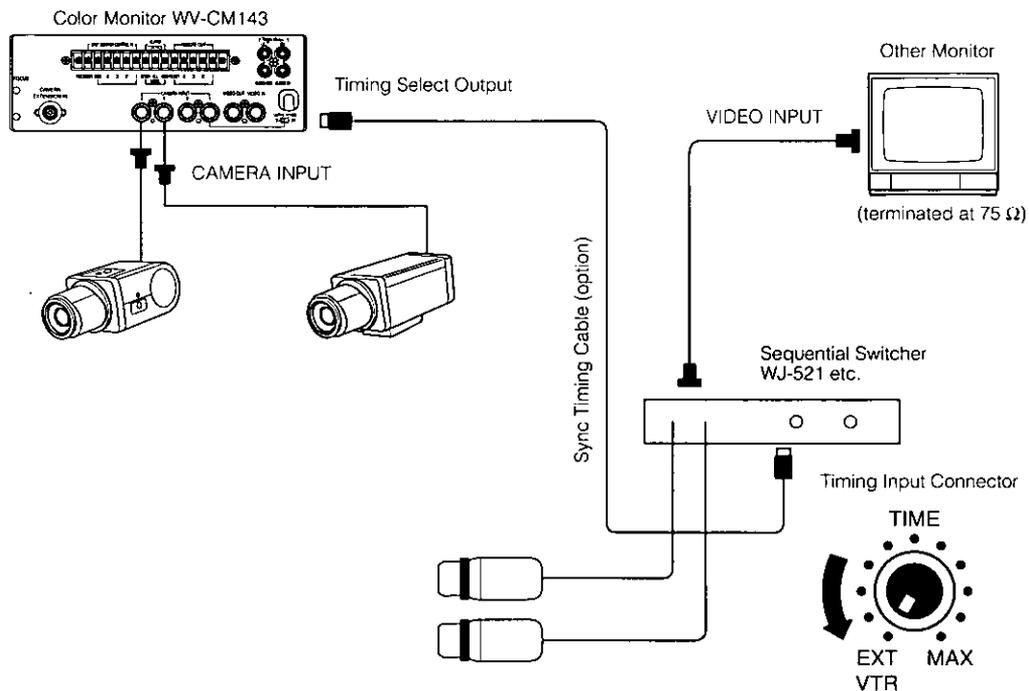
Coaxial Cable Type	Maximum Cable Length	DC R/1000 ft. of Inner Conductor
RG-59/U	200 m (660 ft.)	Less than 30 Ω
RG-6/U	500 m (1650 ft.)	Less than 12 Ω

The maximum DC-resistance of the coaxial cable between the cameras and video monitor is 20 Ω.

Cautions
1. Keep the power switch to OFF position this monitor during the camera connection.
2. Connect the specified cameras (multiplexed VP).
   If other camera is connected, the Color CCTV system will not be operated due to the protection circuit for misconnection.
3. By setting the Camera power On/Off switch to the OFF position, the specified camera (multiplexed VP) can be connected.

■ Connection with Sequential Switcher

Color Monitor WV-CM143

Timing Select Output

Other Monitor

VIDEO INPUT

CAMERA INPUT

(terminated at 75 Ω)

Sync Timing Cable (option)

Sequential Switcher
WJ-521 etc.

Timing Input Connector
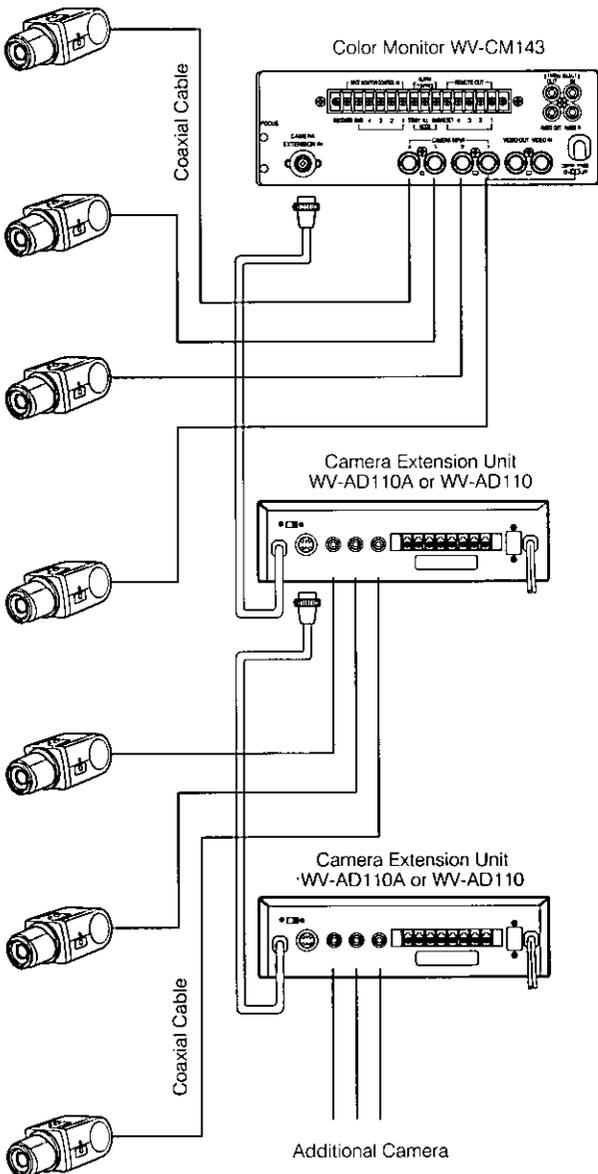
TIME

EXT   MAX
VTR

This system allows to synchronize the timing pulse in the monitor side.
- Set Up menu setting
  TIMING SELECT should be set to INT position.
- Sequential Switcher setting
  Time Adjustment Control of the Sequential Switch should be set to EXT VTR.

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## ■ Basic System with Optional Camera Extension Unit

- Connect the single coaxial cables between the cameras and monitor/camera extension unit (CAMERA INPUT).
- Connect the camera extension cable from the camera extension unit at the Camera Extension Input Connector on the monitor.
- Camera Extension Units can be connected up to 31 units.

Color Monitor WV-CM143

Coaxial Cable

Camera Extension Unit
WV-AD110A or WV-AD110

Camera Extension Unit
WV-AD110A or WV-AD110

Coaxial Cable

Additional Camera

■ Additional Basic System

- Connect the coaxial cables between the cameras and monitor.
- Connect the Sync Timing Cable between the monitors.

TIMING SELECT: INT

Color Monitor WV-CM143

Coaxial Cable

TIMING SELECT: EXT

Color Monitor WV-CM143

Coaxial Cable
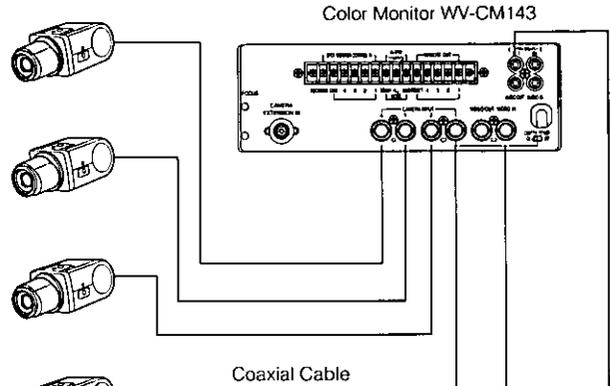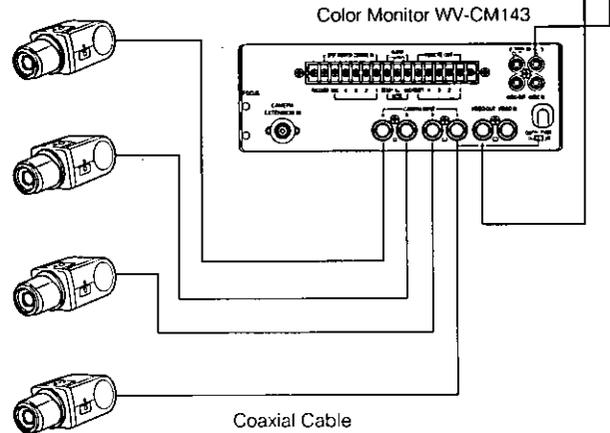
Note: The Timing Selection of the master monitor is positioned at INT and the Timing Selection of the slave monitor is positioned at EXT.
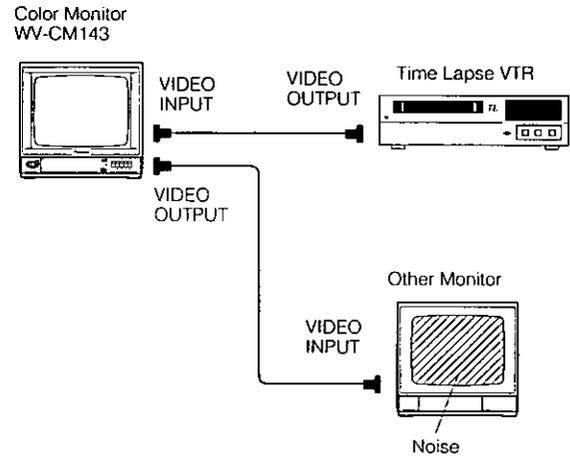
Caution: The CAMERA INPUT 1 connector can accept the Multiplexed VD (VD2) signal from the specified CCTV System Color Camera.
Be sure to connect the camera after turning off the Camera Power On/Off Selection Switch.

■ Connection with the VTR

Color Monitor WV-CM143

BNC Connector

Coaxial Cable
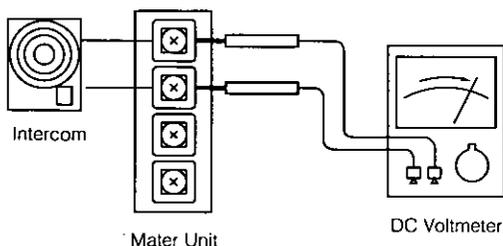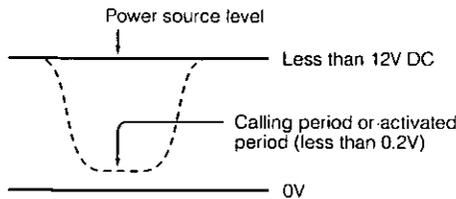
VIDEO OUTPUT

Time Lapse VTR
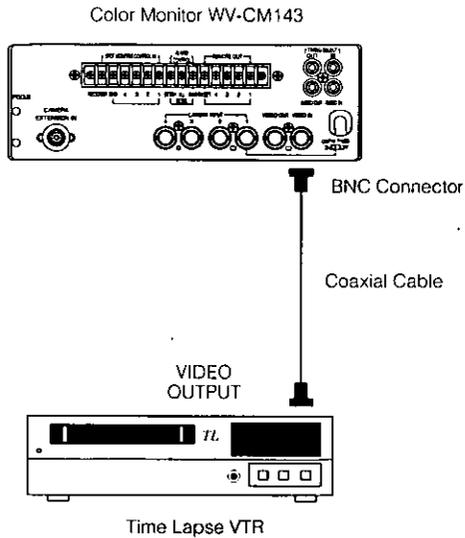
Connect a coaxial cable between the video output signal of the VTR and the VIDEO IN of this monitor.

Note: Avoid the following connection when monitoring the playback picture of VTR.

Color Monitor WV-CM143

VIDEO INPUT

VIDEO OUTPUT

Time Lapse VTR

VIDEO OUTPUT

Other Monitor

VIDEO INPUT

Noise

■ Connection with the Intercom and Alarm Sensors/Switches

• The wiring for intercom system and alarm sensor /switches should be two wires.
• The power source for intercom system and alarm sensors/switches should be less than DC 12V.
• When the intercom or alarm sensor/switch is activated, the line voltage for intercom or alarm sensor/switch should be DC 0 -0.2V.

Power source level

Less than 12V DC

Calling period or activated period (less than 0.2V)

0V

Intercom

Mater Unit

DC Voltmeter

There is a limitation for the wiring length among the intercom system, alarm sensors system, optional units and video monitor.

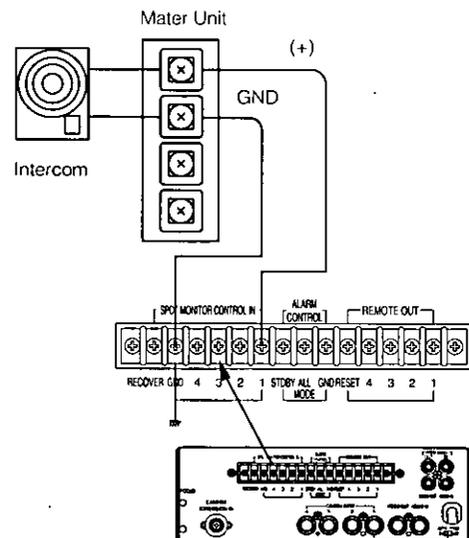For example, the wiring length for intercom system is as follows ;

Wires (mm/Q'ty)	Equivalent AWG	SWG	Maximum Wiring length
0.18/12	22	23	150m
0.18/20	20	21	250m
0.18/30	18	19	400m
0.18/50	16	17	600m

AWG: American Wire Gauge
SWG: British Legal Standard Wire Gauge

The polarity for the intercom system and the Spot Monitor Control In of the monitor should be matched. Make sure the polarity of the intercom system by tester (meter).

Mater Unit

(+)

GND

Intercom

SPOT MONITOR CONTROL IN   ALARM CONTROL   REMOTE OUT

RECOVER GND 4 3 2 1 STDBY ALL GNDRESET 4 3 2 1
MODE

Do not connect the intercom system of AC power source.

Two modes for the Alarm Control Out are selected.

STD BY: This terminal is performed at only Standby mode of the Mode Selection Switch when the SPOT MONITOR CONTROL IN is activated by intercom or alarm sensor/switch.

ALL MODE: This terminal is performed at either Standby or On Mode of the Mode Selection Switch when the SPOT MONITOR CONTROL IN is activated by intercom or alarm sensor/switch.
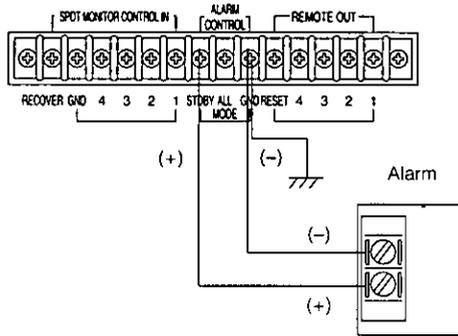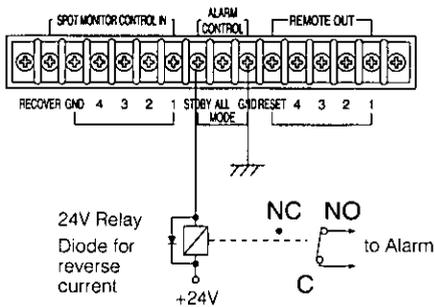

The polarity for the alarm and Alarm Control Output of the monitor should be matched.

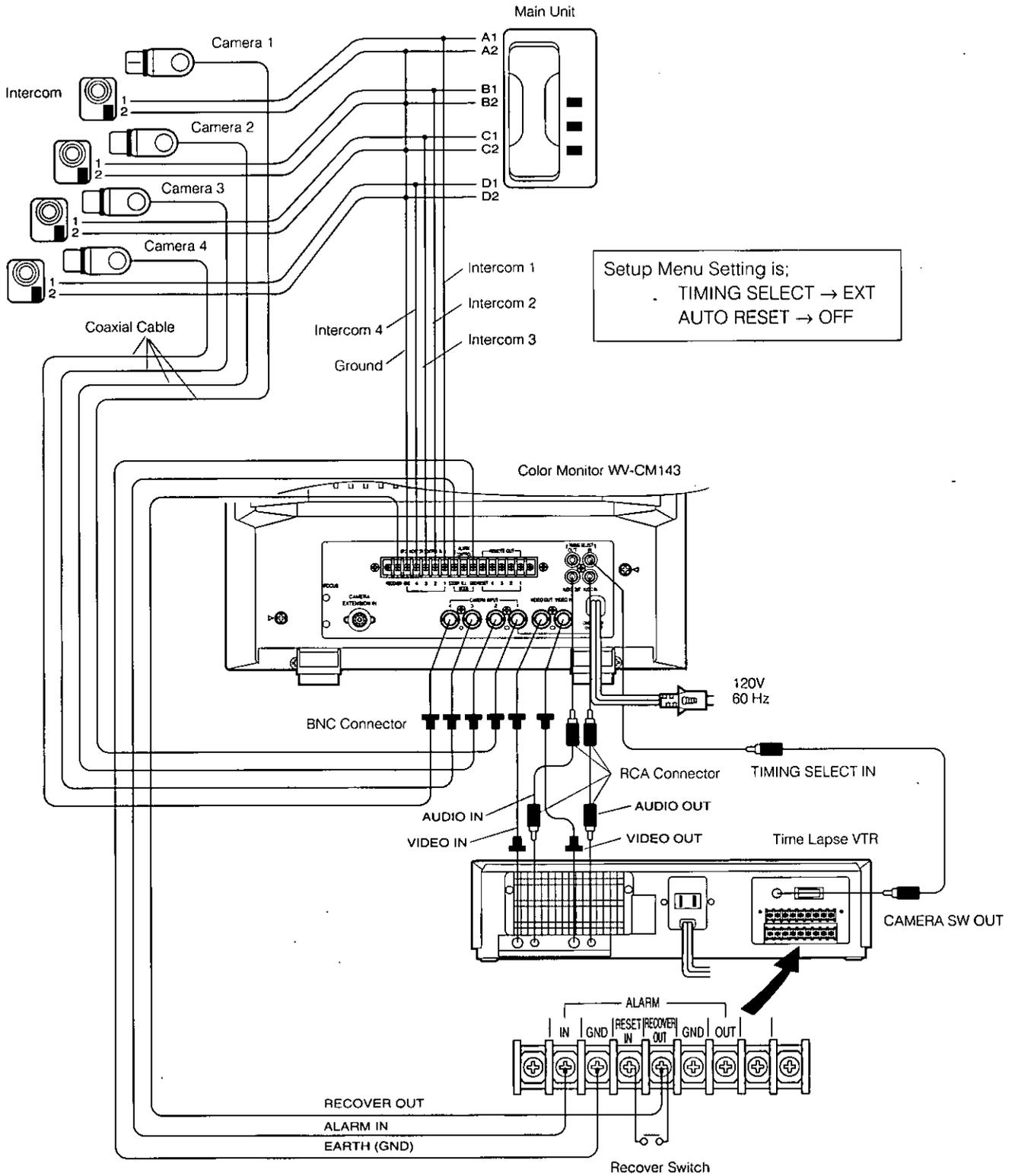The power rate of the alarm should be DC24V, max. 100mA.

If the power capacity of the alarm is less than 100mA at DC 24V, the alarm can be connected at the terminal of Alarm Control Out directly.

If the power capacity of the alarm is more than 100mA at DC24V, the alarm can not be connected at terminal directly. In this case, the relay circuit should be used for the alarm.
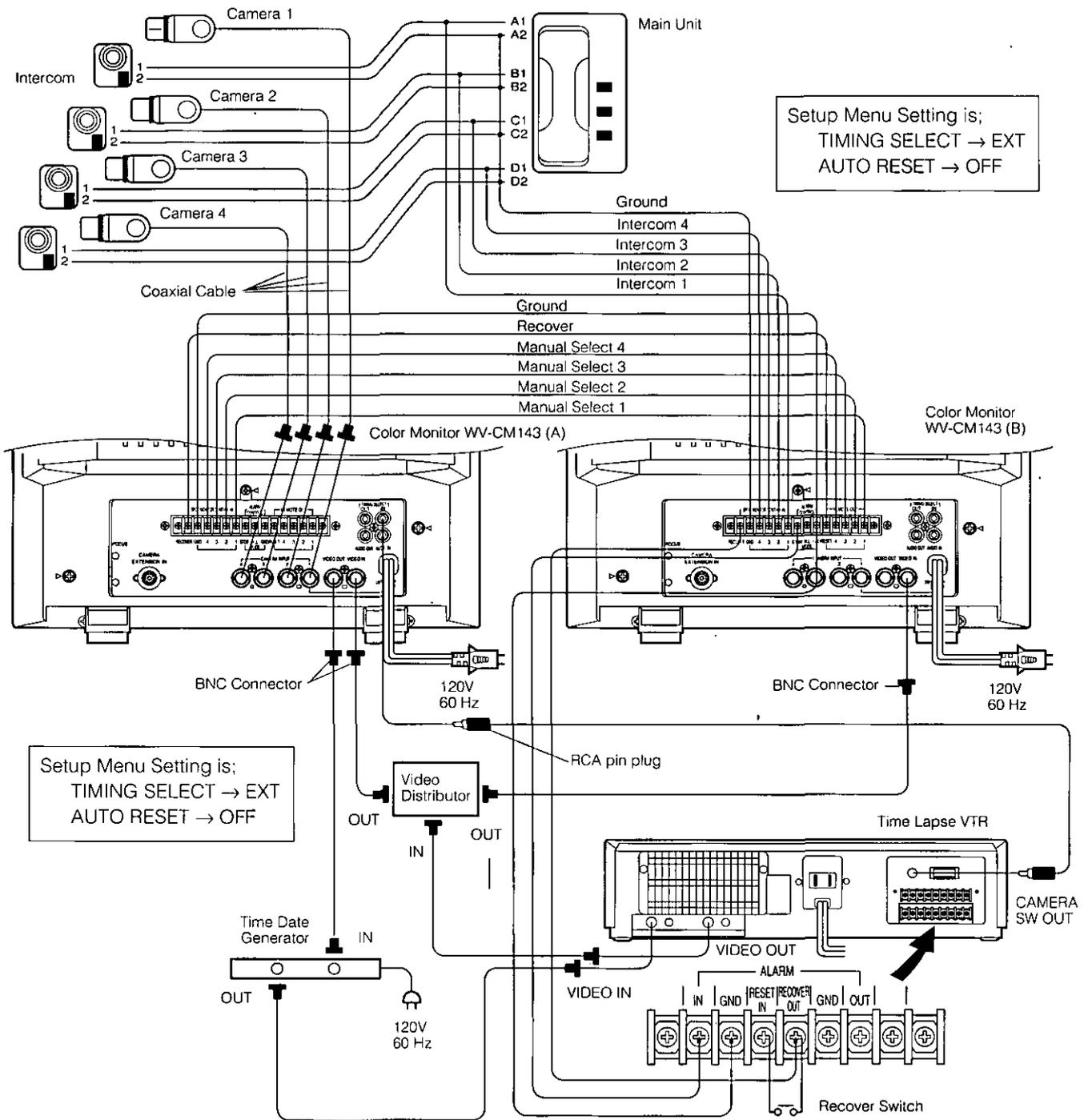
SYSTEM CONNECTION

■ Connection with Time Lapse VTR

Main Unit

Camera 1

Intercom

Camera 2

Camera 3

Camera 4

Coaxial Cable

A1
A2
B1
B2
C1
C2
D1
D2

Intercom 1
Intercom 2
Intercom 3
Intercom 4
Ground

Setup Menu Setting is;
. TIMING SELECT → EXT
AUTO RESET → OFF

Color Monitor WV-CM143

BNC Connector

AUDIO IN
VIDEO IN

RCA Connector

TIMING SELECT IN

AUDIO OUT
VIDEO OUT

120V
60 Hz

Time Lapse VTR

CAMERA SW OUT

ALARM

IN | GND | RESET IN | RECOVER OUT | GND | OUT

RECOVER OUT
ALARM IN
EARTH (GND)

Recover Switch

Notes:

1. When the alarm signal operation will be made in this system, the alarm signal should be supplied from the Time Lapse VTR.
2. When you want to cancel the alarm signal from the monitor side, supply the reset signal of this monitor to the RESET IN connector of the VTR.
   In this connection, the polarity of both signals should be positive.
3. Refer to the Operating Instructions of Time Lapse VTR for the recording detail.

■ Remote Control for Video Monitor

Setup Menu Setting is;
TIMING SELECT → EXT
AUTO RESET → OFF

Setup Menu Setting is;
TIMING SELECT → EXT
AUTO RESET → OFF

Notes:

1. When the alarm signal operation will be made in this system Connect the Time Date Generator according to the need.

2. When the alarm signal operation will be made in this system, the alarm signal should be supplied from the Time Lapse VTR.
   Refer to the Operating Instructions of Time Lapse VTR for details.

3. Input Selection Switch of this monitor should be set as shown below.

4. The Color Monitor WV-CM143 (B) can not connect to the camera.

5. The Color Monitor WV-CM143 (A) does not allow the Color Monitor WV-CM143 (B) to recover into the sequential mode.

6. Refer to the Operating Instructions of Time Lapse VTR for the recording detail.

VTR mode	Setting Position	
	Monitor (A)	Monitor (B)
Recording	CAMERA	EXT
Playback	EXT	EXT

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SPECIFICATIONS

Power Source:	120V AC 60 Hz
Power Consumption:	Approx. 110W
CRT Size:	36.8 cm (14" diagonal)
Actual Visual Size:	33.5 cm (13" diagonal)
Camera Input:	1.0 V[p-p]/75 Ω, composite × 4 (BNC)
Video Input:	1.0 V[p-p]/75 Ω, composite × 1 (BNC)
Video Output:	1.0 V[p-p]/75 Ω, composite × 1 (BNC)
Power Supply for Camera:	Regulated current multiplex method (INPUT 1: selectable Camera Power On/Off)
Camera Switching :	Manual/Auto (sequence) with auto bypass
Sequential Switching :	Approx. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 20, 25, 30 sec. (selectable with Set Up menu)
Skip :	Automatically
Auto Reset :	Automatic reset circuit can function at 60 sec. after receiving the sensor signal.
	(Auto reset on/off mode can be selected with set up menu)
Resolution :	More than 370 lines at center
Sweep Linearity :	Horizontal: 5% or less
	Vertical: 5% or less
Sweep Distortion	
Scanning Frequency:	Horizontal: 15.734 kHz
	Vertical: 59.94 Hz
Audio Input :	−8 dB/Hi-z (pin-jack)
Audio Output :	−10 dB/100 Ω (pin-jack)
Speaker Output :	1.0 W
Intercom / Sensor Input :	1 circuit par each camera
Alarm Output	
Video Standby mode :	1 circuit
Standby mode :	1 circuit
Alarm time :	Approx. 1, 5, 10, 20, 30, 40, 50, 60 sec. (selectable with Set Up menu)
Timing :	Internal / External (electable with Set Up menu)
Extension Adaptor Input :	12-pin connector
Camera Extension Length :	

Coaxial Cable Type	Maximum Cable Length	DC R/1000 ft. of Inner Conductor
RG-59/U	200 m (660 ft.)	Less than 30 Ω
RG-6/U	500 m (1650 ft.)	Less than 12 Ω

The maximum DC-resistance of the coaxial cable between the cameras and video monitor is 20 Ω

Ambient Operating Temperature :	−10°C - +50°C (14°F - +122°F)
Dimension :	370 (W) x 354 (H) x 389 (D) mm [14-9/16"(W) x 13-1/2"(H) x 15-5/16"(D)]
Weight :	Approx. 11 kg (2.4 lbs.)

Weights and dimensions shown are approximate.
Specifications are subject to change without notice.

Panasonic

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Division of Matsushita Electric Corporation of America

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