These symbols with supplemental markings are the power supply AC / DC adapter.

*** Explanation of Symbols**

This symbol is intended to alert the user to the presence of unprotected "dangerous voltage" within the product's enclosure that may be strong enough to cause a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING- TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

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

The user may find the following booklet prepared by Federal Communications Commission helpful:

HOW TO IDENTIFY AND RESOLVE RADIO-TV INTERFERENCE PROBLEMS.

Change or modifications not expressly approved by the product company could void the user's authority to operate the equipment.

CAUTION: CHANGE OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

Correct Disposal of This Product(Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems) This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources. Household users should contact either the retailer where they purchased this product, or their local government office for details of where and how they can take this item for environmentally safe recycling. Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

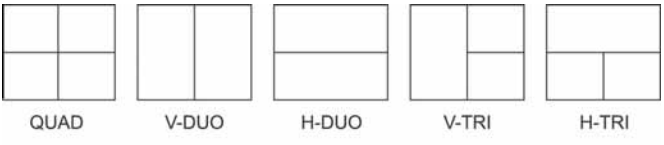
TABLE OF CONTENTS

1. Introduction

1-1. Functions

Multiple Display

Provides the multiple screen in real time as below drawings.



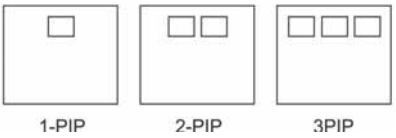
[Figure 1]

Auto Pan &Tilt movement mode

When it is set 'on' mode, Vertical or Horizontal divided screen will be automatically moved side by side or up and down.

PIP (Picture in Picture) mode

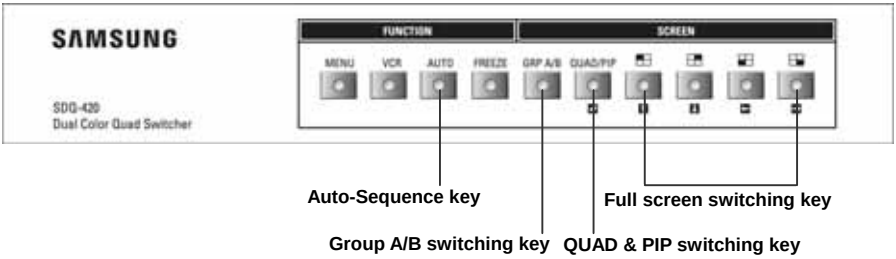
Provides small screen of required channel wherever in full screen.
Quad key in front panel switches over each PIP mode in order of following pictures.



[Figure 2]

Video Switch (CH1~ CH8, AUTO)

Provides the full-screen display of required channel out of 8 camera Inputs by the function of full screen switching key in front panel.
Group A: CH1~ CH4, Group B: CH5~ CH8, AUTO



[Figure 3]

Auto sequence key switches over each channel of full screen display automatically as shown below with time set (1-9 sec), initial time is set 3 seconds.

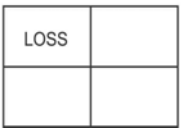
[Figure 4]

Additionally when alarm goes on, corresponding channel can be displayed in full and user can set the functions of each channel individually.

Please see 4-1, Setting up time regarding automatic sequence time setting method of auto sequence mode.

Video Loss Detection

Provides the display of the "LOSS" message on the corresponding channel in the quad screen display with buzzer sound in case of camera input disconnection, mechanical trouble of camera.



[Figure 5]

When something unusual happens in loss set camera, quad screen display is switched back and corresponding channel displays 'LOSS' message regardless of current screen mode.

VCR key in front panel or normalization of camera input of loss channel turn off the buzzer of loss alarming and previous display mode
(PIP mode or full screen mode)appears.

Please see 4-4, Video/ Alarm Setting regarding setting of Video Loss Detection.

Caution : When the Group A is selected on the screen, video Loss detection of Group B is not active

NOTE : Selected PIP and Display mode on the Group A is also applied to the Group B

Freeze (Still) Mode

Freezes the entire quad screen display, the individual channel, PIP.
You can also freeze required channel in full screen.

Operating instruction

1. Press the Freeze button. LED of Freeze button will turn on.

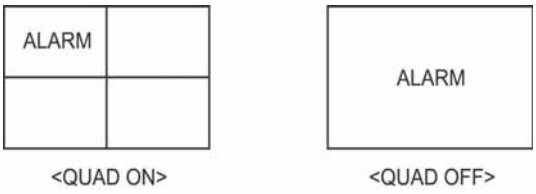
2. Press the button of channel you wish to freeze. Quad button freezes all channels. When LED of Freeze button is on, QUAD and each channel button cancel the Freeze mode.

3. Press the button of corresponding channel once more to cancel its freeze mode. And also another pressing Quad or Freeze button cancel all frozen channels.

4. When any channel displays in full screen, Press the Freeze button to freeze selected channel in full screen. Press the button of corresponding channel or Freeze button once more to cancel freeze mode of full screen,.

Alarm Action

When alarm signal is received through the sensor installed before,
"ALARM" message is displayed with the buzzer sound for the set time (1~60 SEC).
If a channel is set to SENSOR "N-O" or "N-C" and QUAD "ON" according to 4-4. VIDEO / ALARM section, the "ALARM" message is displayed on the corresponding channel in the quad mode.

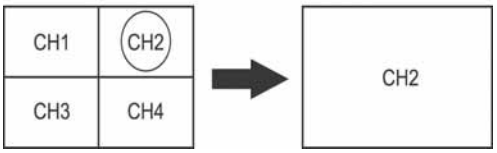


[Figure 6]

However if a channel is set to SENSOR "N-O" or "N-C" and QUAD "OFF", the "ALARM" message is displayed on the alarmed channel in the full screen mode.
In quad mode all alarm messages appear but in full screen mode only latest alarm message is displayed.

Playback with 2x Zoom

Provides digitalized clear image in VCR playback to analyze the tape recorded in quad mode. Also you can freeze the channels during playback.
(Same as the freeze function in QUAD or PIP mode).
Provides the enlarged display of the VCR playback. It displays all the four quadrants of the VCR recording and the selected channel can be played or frozen in the zoomed (2x) mode.



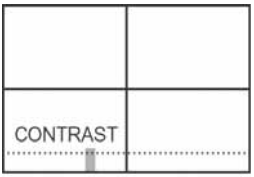
[Figure 7]

[Please see 2-1, Function of keys in front panel regarding 2x Zooming of required channel.]

Color Setting

Provides programmable menus of color condition (contrast, brightness, hue and saturation) for each camera input.

Please see 4.5.1 Color Control regarding detailed color setting.



[Figure 8]

Channel Name Setting

User can set Date/Time and channel names of 1-8 character.

Please refer to 4-1. Date & Time setup in Time setup menu and 4-2. Title setup.

[Figure 9]

VCR Recording Selection Mode

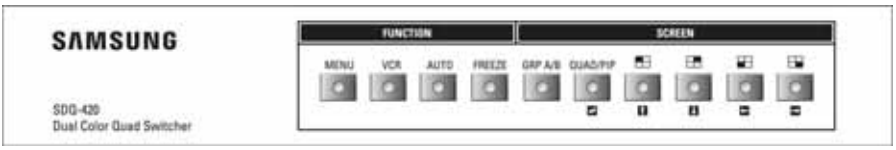
There are two types of the recording mode you can choose from VCR mode in menu.

- MULTI: Records the Quad screen even monitor displays any screen mode.
- MONITOR : Records as displayed on the monitor.

Please see 4-6, Option setting regarding VCR Mode setting.

Front Panel Control

You can easily control all the functions in the front panel.



[Figure 10. Front Panel]

Back-up

Protects the user's MENU setting from the power failure.

Input Voltage

Allowable up to DC (12V / 4A).

Digitalization

Digitalization of all video signal and real-time (NTSC: 30fps, PAL: 25fps) display provide improved and clear image quality.

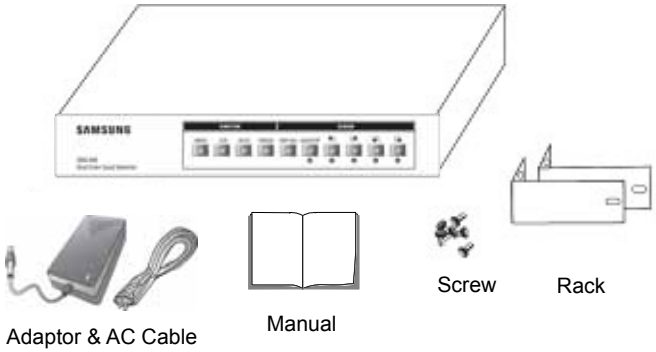
1-2. Environment Requirements

Power supply: DC 12V/4A
(DC Adapter is included in package)

Temperature: 0~50˚C
(Precautions: Do not use under the direct sun light and if using more than 1 unit, be careful not to block the hole of air ways)

Humidity: 0 ~ 90%

1-3. Accessories



[Figure 11. Accessories]

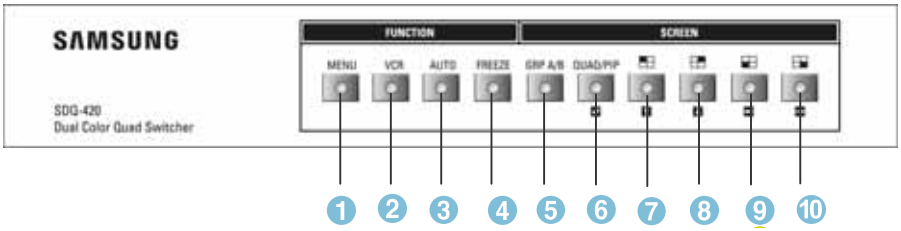
1-4. Assembly

[Figure 12. Assembly]

Rack Guide
Please refer to the instruction [Figure12. Assembly] in the above picture, when the Color Quad Processor is mounted on the rack.

2. Physical Characteristics

2-1. Front Panel

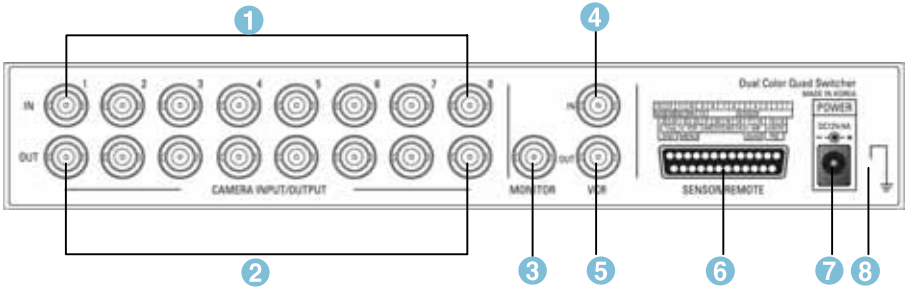


[Figure 13. Front Side]

No	Function	Description
1	MENU	This key lets you go into the initial menu setting mode.
2	VCR	1. This key lets you playback VCR recording. 2. This key let you turn off buzzer for Loss detection and all alarms in action.
3	AUTO	This key lets you move sequentially from channel 1 to channel 8 in full-screen for set time
4	FREEZE	1. When the freeze key is on, the key of each channel (1, 2 , 3 , 4) lets you freeze or quad screen display. 2. This key lets you freeze the screen display during external VCR play. 3. To cancel Freeze function press the key once more.
5	GRP A/B	Press this button to select either Group A(CH1~CH4) or Group B(CH5~CH8) The LED turns on when Group A is selected.
6	QUAD/PIP ↵	1. This key lets you switch over the screen displays as shown in 1-1. (page 4) 2. This key works as an Enter key in all menu modes. 3. In VCR play mode, this key lets you zoom off.
7~10	▪▪▪▪	1.These keys let you display in full screen. 2.These keys let you double the selected channel during external VCR play.
	↑	This arrow key lets you move up in the menu mode.
	↓	This arrow key lets you move down in the menu mode.

	←	This arrow key lets you move to the left in the menu mode
	→	This arrow key lets you move to the right in the menu mode.

2. Rear Panel



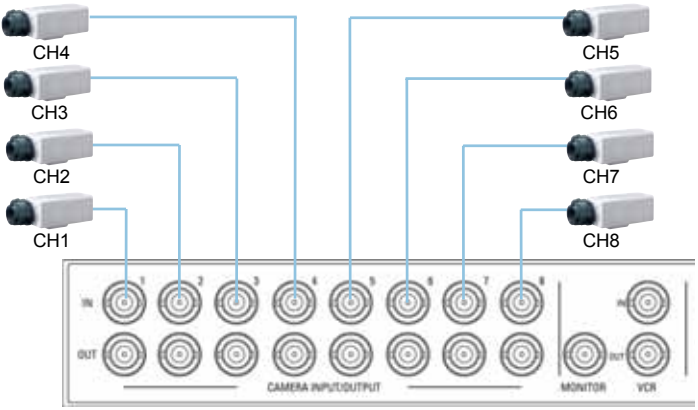
[Figure 14. Rear Side]

No	Function	Description
1	CAMERA INPUT	BNC input connectors for cameras.
2	CAMERA OUTPUT	BNC output connectors for Loop Out.
3	MONITOR OUT	Connected to Extra. Monitor In and displays image on the monitor.
4	VCR IN	Connected to Extra. VCR OUT and playback the recording of VCR.
5	VCR OUT	Connected to Extra. VCR IN and outputs image signals.
6	SENSOR / REMOTE	Available
7	POWER	Connected to power adapter (DC12V / 4A).

3. Installation

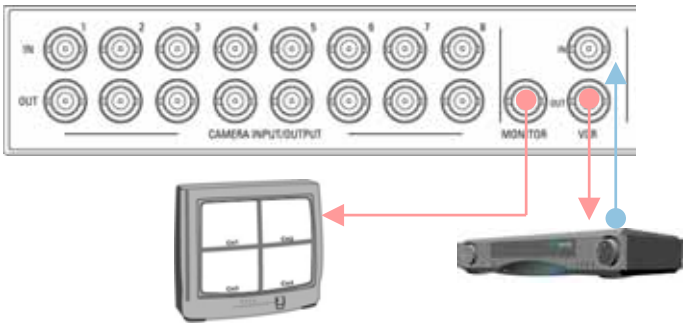
3-1. Camera Connections

(Precaution: Please turn off the power before you connect all the equipment.)



[Figure 15. Camera Connections]

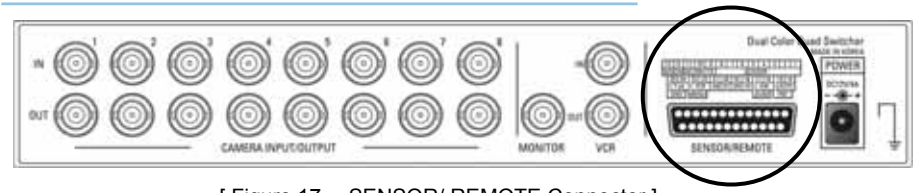
3-2. VCR and Monitor Connections



[Figure 16. VCR and Monitor Connections]

For VCR connection, connect Video input port in rear side of VCR to the Dual Color Quad Switcher's VCR output port and connect Video output port of VCR to the Dual Color Quad Switcher's VCR input port for playback (Through monitor and VCR output port 1Vp-p is emitted when 75ohms is applied and VCR input with 75ohms receives 1Vp-p.).
(No VCR output during VCR playback)

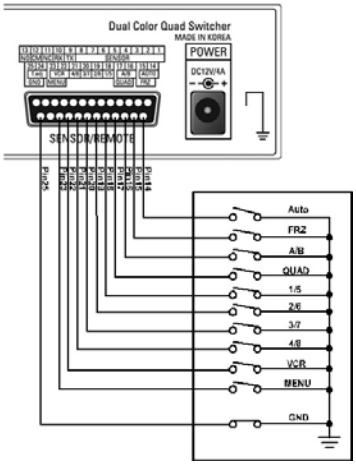
3-3. Sensor / Remote (25Pin D-Sub Female Connector)



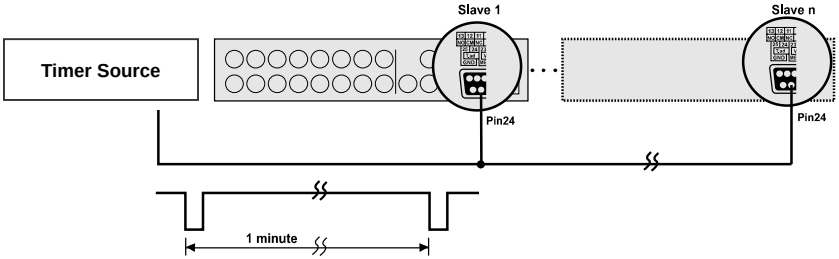
[Figure 17. SENSOR/ REMOTE Connector]

Pin NO	Description		Pin NO	Description	
1	SENSOR (Input)	CH1	14	Remote Key (Refer Fig.18)	AUTO
2		CH2	15		FRZ (Freeze)
3		CH3	16		A/B(Group A/B)
4		CH4	17		QUAD
5		CH5	18		1/5 (CH1/CH5)
6		CH6	19		2/6 (CH2/CH6)
7		CH7	20		3/7 (CH3/CH7)
8		CH8	21		4/8 (CH4/CH8)
9	RS232C	TX	22		VCR
10		RX	23		MENU
11	Relay Output	NC(Normal Close)	24	T.adj (Time Adjust) (Refer Fig.19)	
12		CM (Common)	25	GND (Ground)	
13		NO (Normal Open)			

※ Sensor IN is connected to each channel and alarm output appears when alarm acts.



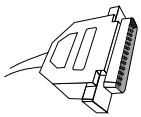
[Figure 18. Additional Remote Control Panel]



[Figure 19. Time Adjust Control(T.ADJ) Input]

The 24th pin of D-sub works when received the low signal from timer source. It is normally in TTL output power(+5).
(The unit will adjust second to "0" when it's 0~29 sec. and minute will plus "1" when it's 30~59 sec.)

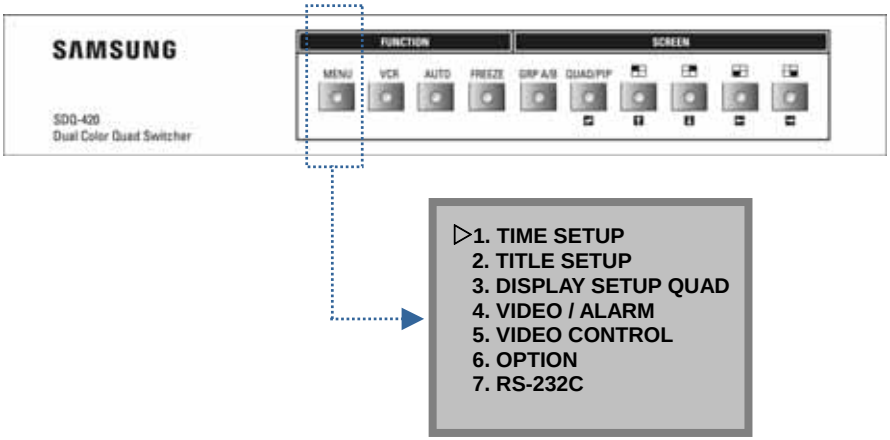
The Sensor / Remote signals should be connected with the following connectors below to prevent any accidents or mechanical troubles:



25Pin D-Sub Male Connector

4. Setting Up Menu

MENU key lets you go into the initial menu setting mode.



[Figure 20. Main Menu]

● **Operating instruction**

(↵) : This key lets you enter the selected menu.

(↑) : This key lets you move cursor up and increase value.

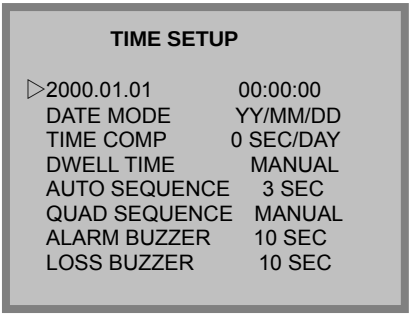
(↓) : This key lets you move cursor down and decrease value.

(←) : This key lets you select the mode of Display setup.

(→) : This key lets you select the mode of Display setup.

(MENU) : This key lets you move out of Menu mode and to upper menu.

4-1. TIME SETUP



[Figure 21. Time Setup Menu]

4-1-1. DATE & TIME

Operating instruction

1. Press the UP or DOWN key ( ) to indicate the first item in the TIME SETUP
2. Press the ENTER key ( ) to set time and date.
3. Press the LEFT or RIGHT key ( ) to select time and date.
4. Press the UP or DOWN key ( ) to increase or decrease the time and date.
5. Press the ENTER key ( ) to save the settings.
6. Press the MENU button to exit this menu.

4-1-2. TIME COMP (time compensation)

Operating instruction

1. Press the UP or DOWN key ( ) to indicate the second item in the TIME SETUP.
2. Press the ENTER key ( ) to change TIME COMP.
   If the clock of this unit is one second faster than real time and you want to change the clock of the unit into one second slower, you have to set the TIME COMP into -1 SEC/DAY.
   If the clock of this unit is one second slower than real time and you want to change the clock of the unit into one second faster, you have to set the TIME COMP into +1 SEC/DAY.

The setting mode which you can setup is from -15 SEC/DAY to +15 SEC/DAY.
* Initial mode is 0 SEC/DAY.

3. Press the MENU button to exit this menu.

4-1-3. DATE MODE

Operating instruction

1. Press the UP or DOWN key ( ) to indicate the third item in the TIME SETUP.

2. Press the ENTER key ( ) to change DATE MODE.
Each key pressing changes the mode as below.
YY/MM/DD → MM/DD/YY → DD/MM/YY →
* Initial mode is YY/MM/DD

3. Press the MENU button to exit this menu.

4-1-4. DWELL TIME

Operating instructions

1. Press the UP or DOWN key ( ) to indicate to the fourth item in the TIME SETUP.

2. Press the ENTER key ( ) to change DWELL time.
Each key pressing changes the time as below
MANUAL → 1 → 2 → 3 → 4 → 5 → 6 → 7 → 8 → 9 →
* Initial mode is MANUAL.
* If means the time to divert into a quad screen automatically after selecting a Full screen.

4-1-5. AUTO SEQUENCE

Operating instruction

1. Press the UP or DOWN key ( ) to indicate the fifth item in the TIME SETUP.

2. Press the ENTER key ( ) to change AUTO SEQUENCE.
Each key pressing changes the time as below
3 SEC → 4 SEC → 5 SEC → 6 SEC → 7 SEC → 8 SEC → 9 SEC → 1 SEC → 2 SEC →
* Initial mode is 3 SEC.

4-1-6. QUAD SEQUENCE

Operating instruction

1. Press the UP or DOWN key (⬆⬆) to indicate the sixth item in the TIME SETUP.
2. Press the ENTER key (↵) to change AUTO SEQUENCE.

   Each key pressing changes the time as below

   MANUAL → 1 SEC → 2 SEC → 3 SEC → …..... → 6 SEC → 7 SEC → 8 SEC → 9 SEC

   * Initial mode is 3 SEC.
   * If means the time to divert GRP A(CH1~CH4) and GRP B(CH5~CH8) automatically.
3. Press the MENU button to exit this menu.

4-1-7. ALARM BUZZER

Operating instruction

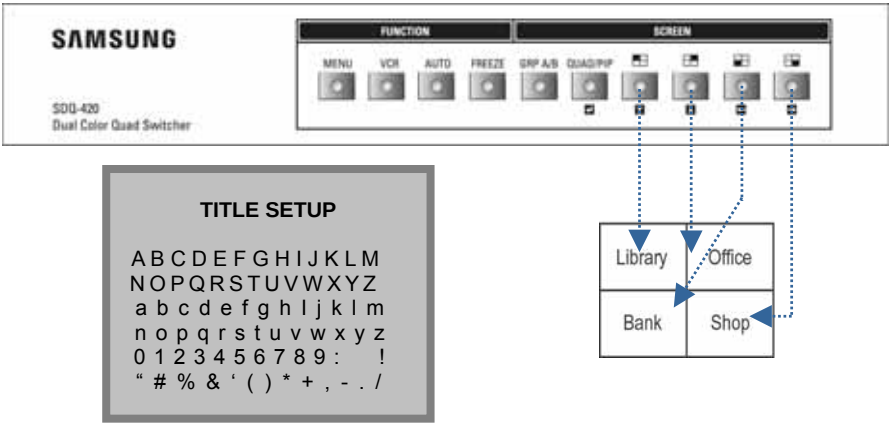
1. Press the UP or DOWN key (⬆⬆) to indicate the seventh item in the TIME SETUP.
2. Press the ENTER key (↵) to set alarm buzzer time.
3. Press the UP or DOWN key (⬆⬆) to increase or decrease the alarm buzzer time.
4. Press the ENTER key (↵) to save the time.
   * Initial mode is 10 SEC.
5. Press the MENU button to exit this menu.

4-1-8. LOSS BUZZER

Operating instructions

1. Press the UP or DOWN key(⬆⬆) to indicate the eighth item in the TIME SETUP.
2. Press the ENTER key (↵) to set loss buzzer time.
3. Press the UP or DOWN key (⬆⬆) to increase or decrease the loss buzzer time.
4. Press the ENTER key (↵) to save the time.
   * Initial mode is 10 SEC.
5. Press the MENU button to exit this menu.

4-2. TITLE SETUP



[Figure 22. Title Setup Menu]

You can type in the channel name space up to 8 characters and they are displayed on the screen according to the setting.

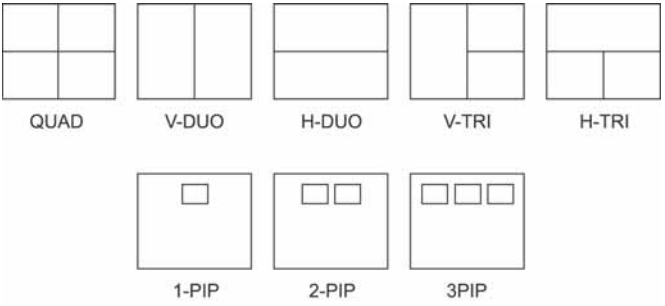
Operating instruction

1. (↑ ↓): Use the UP or DOWN key to indicate the second item in the MAIN MENU.
2. (↵): Press the ENTER key to start setting the channel name.
3. Press the FREEZE key and you can see the green LED on the FREEZE button
4. Use the LEFT or RIGHT key (← →) to move the cursor in the title room and the UP or DOWN key (↑ ↓) if you want to change the channel..
5. Press the FREEZE key again and the green LED is turned off and you can move the cursor in font.
6. (← → ↑ ↓): Use the LEFT, RIGHT, UP, DOWN keys to move the cursor in font and select a character.
7. (↵): Use the ENTER key to save selected name after selection of a character.
   * Initial names of each channel are C1, C2, C3, C4, C5, C6, C7, C8.
8. Press the MENU button to exit this menu.

4-3. DISPLAY SETUP (QUAD & PIP Mode)

● Operating instruction

1. Move the cursor to third menu in main menu page. Then use LEFT or RIGHT keys (← →) to select display mode. Initializing display modes are as below.



[Figure 23]

2. Press the ENTER key (↵) to go into the setting mode.

3. Use UP, DOWN, LEFT, RIGHT keys (↑ ↓ ← →) to move display channels up, down, left , right. Enter key(↵) lets you select corresponding channel and to change the channel press Freeze key then, press the channel key to desire.

● **Operating instruction of each mode**

QUAD : There is nothing to set in this mode. It only shows four parted screens. (No key works in this mode except Menu key)

V-DUO : This mode shows two of vertically halved display channel. LEFT and RIGHT Keys enables to see each of invisible another half one.
Please refer to 1-1 (page 6) for function description and 4-3 (page 23) for operation and set up.

H-DUO : This mode shows two of horizontally halved display channel. UP and DOWN Keys enables to see each of invisible another half one.
Please refer to 1-1 (page 6) for function description and 4-3 (page 23) for operation and set up.

V-TRI : The halved display channel on your left can be moved as that of V-DUO but the rest channels are fixed.
Please refer to 1-1 (page 6) for function description and 4-3 (page 23) for operation and set up.

H-TRI : The upper halved display channel can be moved as that of H-DUO but the rest channels are fixed.
Please refer to 1-1 (page 6) for function description and 4-3 (page 24) for operation and set up.

1-PIP : Small screen can be moved up, down, left, right by pressing UP, DOWN, LEFT,RIGHT keys( ) but the channel in full screen is fixed.

2-PIP : 2small screens can be moved up, down, left, right by pressing UP, DOWN, LEFT, RIGHT keys ( ) but the channel in full screen is fixed.

3-PIP : 3small screens can be moved up, down, left, right by pressing UP, DOWN, LEFT, RIGHT keys ( ) but the channel in full screen is fixed.

* Press "ENTER" button to change the position of small screen in 2-PIP and 3-PIP mode.
* Press "FREEZE" button to change the channel of small screen.

4-4. VIDEO / ALARM

VIDEO / ALARM INPUT

	SEQ	LOSS	SENSOR	QUAD
C1▷	ON	OFF	N-O	ON
C2	ON	OFF	N-O	ON
C3	ON	OFF	N-O	ON
C4	ON	OFF	N-O	ON
C5	ON	OFF	N-O	ON
C6	ON	OFF	N-O	ON
C7	ON	OFF	N-O	ON
C8	ON	OFF	N-O	ON

[Figure 24. Video/Alarm Menu]

Operating instruction

1. Use UP or DOWN button () to select channel.

2. Use LEFT or RIGHT button () to select what you wish to set.

3. Use ENTER button () to decide setting.

SEQ	ON, OFF
LOSS	ON, OFF
SENSOR	N-O, N-C, OFF
QUAD	ON, OFF

4. Press the MENU button to exit this menu.

- SEQ

This function lets you select the displayed channel in AUTO SEQUENCE mode. Only the channel that you set ON will be showed in AUTO SEQUENCE mode. Default is ON.

- LOSS

This function lets you select the channel to show LOSS message with buzzer sound when Camera loss is detected. Only the channel that you set ON will show Loss message. Default is ON.

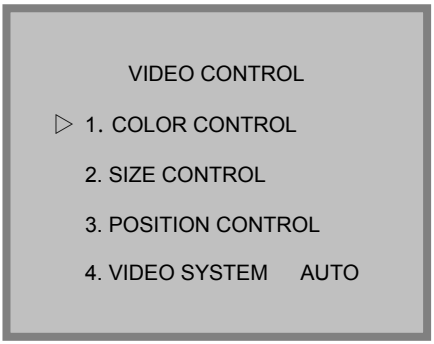
- SENSOR

This function lets you select the channel to check the sensor input showing ALARM message. You can choose the sensor mode (N-O: Normal-Open, N-C: Normal-Close, OFF). Default is N-O.

- QUAD

This function lets you select the mode between quad and full screen display to show ALARM message there when sensor input is received. When QUAD is ON, ALARM message is displayed in quad display. When Quad is OFF, ALARM message is displayed in full screen display. Default is ON.

4-5 VIDEO CONTROL



[Figure 25. Video Control Menu]

4-5-1. COLOR CONTROL

Color control : This function lets you control the color condition of each channel. You can control CONTRAST, BRIGHTNESS, HUE and SATURATION.

Operating instruction

1. Press the UP or DOWN button ( ) to indicate to first item in VIDEO CONTROL menu.
2. Press the ENTER button ( ) to begin setting.
3. Press the UP or DOWN button ( ) to select channel.
4. Press the ENTER button ( ) to select the kind of color.
5. Press the LEFT or RIGHT button ( ) to adjust setting.
6. Press the MENU button to exit this menu.

4-5-2. SIZE CONTROL

This menu lets you control the size in the quad display and so you can fit the display size on your monitor.

Operating instruction

1. Press the UP or DOWN button () to indicate to second item in VIDEO CONTROL menu.
2. Press the ENTER button () to begin setting SIZE CONTROL MENU.
3. Press the UP, DOWN, LEFT, LIGHT buttons () to adjust screen size.
4. Press the MENU button to exit this menu.

4-5-3. POSITION CONTROL

This menu lets you adjust the position of each screen.

Operating instruction

1. Press the UP or DOWN button () to indicate to third item in VIDEO CONTROL menu.
2. Press the ENTER button () to begin setting POSITION CONTROL MENU.
3. Press the UP, DOWN, LEFT, RIGHT buttons () to adjust the position of screen.
4. Press the ENTER button () to change the setting channel and if you want to set a channel in the other group, press the GRP A/B button.
5. Press the MENU button to exit this menu

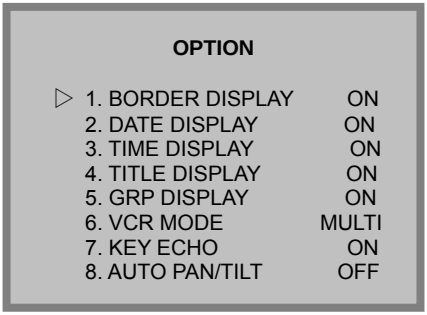
4-5-4. VIDEO SYSTEM

This menu lets you setup the video system(NTSC/ PAL/ AUTO).
AUTO means that SDQ-420 can detect the video system(NTSC or PAL) automatically when the power is on.

Operating instruction

1. Press the UP or DOWN button ( ) to indicate to fourth item in VIDEO CONTROL menu.
2. Press the ENTER button ( ) to select the video system of NTSC, PAL or Auto.
   * Default is AUTO.
3. Turn off and turn on by using DC power plug .

4-6. OPTION



[Figure 26. Option Menu]

Operating instruction

1. Use the UP or DOWN button ( ) to indicate the sixth item in the main menu.
2. Press the ENTER button ( ) to see the items in the option menu.
3. Move the indicator next to the desiring item with the UP or DOWN button ( ).
4. Press the ENTER button ( ) to change the setting value.

- **BORDER DISPLAY :** This menu shows the BORDER of each channel when it is set 'ON' mode.

- **DATE DISPLAY :** This menu displays DATE when it is set 'ON' mode.

- **TIME DISPLAY :** This menu displays TIME when it is set 'ON' mode.

- **TITLE DISPLAY :** This menu displays TITLE of channels when it is set 'ON' mode.

- **GRP DISPLAY :** This menu displays GROUP(GRP A or GRP B) when it is set 'ON' mode.

- **VCR MODE :** This menu lets you set the type of the VCR recording.
  MULTI: Records the PIP screen even monitor displays full screen.
  MONITOR: Records as displayed on the monitor.

- **KEY ECHO :** This menu lets the buzzer sound whenever you press any keys if it is set 'ON' mode.

- **AUTO PAN / TILT :** When it is set 'ON' mode, Vertical or Horizontal divided screen will be automatically moved side by side or up and down.
  If It is set 'OFF' mode, Vertical or Horizontal divided screen can adjust desired position using UP, DOWN, LEFT, RIGHT buttons ( ).

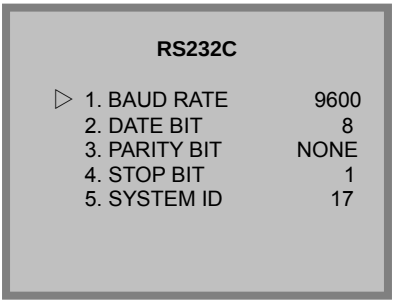
5. Press the MENU button to exit this menu.

4-7. RS-232C

Operating instruction

1. Use the UP or DOWN button ( ) to indicate the seventh item in the main menu.

2. Press the ENTER button ( ) to see the RS-232C menu field.



[Figure 27. RS-232C Menu]

3. Use the UP or DOWN button ( ) to indicate the setting item.

4. Press the ENTER button ( ) to change the setting value.

- **BAUD RATE** (Data transmission speed per second): 1200 / 2400 / 4800 / 9600 / 19200 (Default is 9600)

- **DATA BIT** (Data transmission unit): 6 / 7 / 8 (Default is 8)

- **PARITY BIT** (Data transmission error checking): NONE / EVEN / ODD (Default is NONE)

- **STOP BIT** (Data transmission ending bit): 1 / 2 (Default is 1)

- **SYSTEM ID** (1~99 Default is 17)
  Connects different serial devices using point to point method.
  That is to say this is 1:1 connection.
  Note: The default is 17 because 1~16 is for DVR.

5. Press the MENU button to exit this menu.

5. RS-232C Communication Protocol

Remote control the 9(TX) pin and 10(RX) pin in the connection port of DCON25/F

1. Communication format

Transmission device : Asynchronous half duplex
Transmission speed : 1200/2400/4800/9600/19200 bit/sec
The length of Data : 6/7/8 bit
Stop bit : 1/2 bit
Parity bit : NONE/EVEN/ODD

2. Command

[The command of screen control]

Function	Hexa Value
CH1 FULL screen	80,11,00,00,00,02,00,ee,01,7d,5d,00,00,0d,0a
CH2 FULL screen	80,11,00,00,00,02,00,ee,02,7d,5d,00,00,0d,0a
CH3 FULL screen	80,11,00,00,00,02,00,ee,04,7d,5d,00,00,0d,0a
CH4 FULL screen	80,11,00,00,00,02,00,ee,08,7d,5d,00,00,0d,0a
CH5 FULL screen	80,11,00,00,00,02,00,ee,10,7d,5d,00,00,0d,0a
CH6 FULL screen	80,11,00,00,00,02,00,ee,20,7d,5d,00,00,0d,0a
CH7 FULL screen	80,11,00,00,00,02,00,ee,40,7d,5d,00,00,0d,0a
CH8 FULL screen	80,11,00,00,00,02,00,ee,80,7d,5d,00,00,0d,0a
GRP A/B select	80,11,00,00,00,02,00,e7,04,7d,5d,00,00,0d,0a
QUAD/PIP select	80,11,00,00,00,02,00,eb,01,7d,5d,00,00,0d,0a
AUTO SEQ	80,11,00,00,00,02,00,eb,04,7d,5d,00,00,0d,0a
VCR mode ON/OFF	80,11,00,00,00,02,00,ed,40,7d,5d,00,00,0d,0a
MENU/ESC	80,11,00,00,00,02,00,ed,10,7d,5d,00,00,0d,0a
Cursor (up)	80,11,00,00,00,02,00,ed,20,7d,5d,00,00,0d,0a
Cursor (down)	80,11,00,00,00,02,00,eb,08,7d,5d,00,00,0d,0a

Cursor (left)	80,11,00,00,00,02,00,e7,10,7d,5d,00,00,0d,0a
Cursor (right)	80,11,00,00,00,02,00,eb,02,7d,5d,00,00,0d,0a
Cursor (up) : external control	80,11,00,00,00,02,00,e7,01,7d,5d,00,00,0d,0a
Cursor (down) : external control	80,11,00,00,00,02,00,eb,40,7d,5d,00,00,0d,0a
Cursor (left) : external control	80,11,00,00,00,02,00,e7,02,7d,5d,00,00,0d,0a
Cursor (right) : external control	80,11,00,00,00,02,00,eb,80,7d,5d,00,00,0d,0a
RS-232C communication test(TX)	8F,11,00,00,00,00,00,00,00,7D,5D,00,00,0D,0A
RS-232C communication test(RX)	8F,11,00,00,00,20,00,00,00,7D,5D,00,00,0D,0A

6. Specifications

1. Display Input : 1Vp-p with composite Video signal (2Vp-p : if 75ohms is set off)
   Input of NTSC , PAL available BNC Jack Input

2. Screen display : 1Vp-p 75ohms Composite video signal BNC Jack Input

3. Alarm Input : 8 channels , 5V TTL Level 10k ohms Pull-up

4. Alarm Output : Relay contact capability- AC120V 0.5A / DC 24V 1A

5. Power Input Voltage : 12V / 4A (DC)

6. Power Consumption : 10W

7. Operating Temperature : 0°C ~ 50°C

8. Dimensions : 280W x 44H x 200D mm (11.02W x 1.73H x 78.74D inch)

9. Weight : 1.5 kg

10. Connector type :

Power.....	DC JACK
Alarm In.....	25 Pin D-sub(Pin1-Pin8)
Alarm Out.....	25 Pin D-sub(Pin11-Pin13)
Camera In.....	BNC
Camera Out.....	BNC
VCR In.....	BNC
VCR Out.....	BNC
Monitor Out.....	BNC

11. Display :

Full-screen Format 720x480(NTSC), 720x576(PAL)
QUAD Format 360x240(NTSC), 360x288(PAL)
Vertical Half-screen Format 360x480(NTSC), 360x576(PAL)
Horizontal Half-screen Format 720x240(NTSC), 720x288(PAL)
PIP Insert 180x120(NTSC), 180x144(PAL)
Zoom Display 360x240(NTSC), 360x288(PAL)

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