

PAL/CCIR

**YS-DX516P**  
**YS-DX416CE**  
Duplex Multiplexer



The Sony **YS-DX516P** (colour) and **YS-DX416CE** (black and white) Full Duplex Multiplexers are designed for use in multiple-camera monitoring and recording systems. Both units allow up to 16 video channels to be displayed on a single monitor. The **YS-DX516P** and **YS-DX416CE** provide a high level of functionality in surveillance systems. Their features include sequential switching, picture zoom and freeze, and a full range of alarm functions. A wide choice of split-screen displays is provided to enable the user to

select the optimum combination of images to monitor surveillance situations. Two monitor outputs are provided to extend monitoring flexibility. Both models are equipped with RS-232C and RS-485 interfaces, allowing them to be remotely controlled by an external computer. With these and many more features, the **YS-DX516P** and **YS-DX416CE** multiplexers can make an important contribution to efficient and effective monitoring, and to recording system control in surveillance systems.

this is not a rehearsal.

**SONY**

# Multi-screen display

The YS-DX516P and YS-DX416CE offer display combinations of live, playback, or simultaneous live and playback video. This flexibility lets you create the optimum monitoring environment for your particular application. Besides full screen and sequential displays, there is a choice of many different split screen combinations.

The following chart shows the screen modes available from the Monitor 1 and Monitor 2 outputs.

	Monitor 1 output		Monitor 2 output
	Live pictures	Playback pictures	Live pictures
Full screen	YES	YES	YES
4-division split screen	YES	YES	*
9-division split screen	YES	YES	*
16-division split screen	YES	YES	*
Option-display screen (*)	YES	YES	*
Automatic sequential	Refer to tables below	Refer to tables below	YES

\* The Monitor 2 output displays the same image as the Monitor 1 output.

## Live Picture Mode

	Full screen	4-division split screen	Multi (16 or 9-division)	Option-display screen
Freeze	YES	NO	NO	NO
Zoom	YES	NO	NO	NO
Automatic sequential	YES	YES	NO	YES (live and recorded picture)
Recorded Image	—	—	—	YES

## VCR Playback Mode

	Full screen	4-division split screen	Multi (16 or 9-division)	Option-display screen
Freeze	YES	NO	NO	NO
Zoom	YES	NO	NO	NO
Automatic sequential	YES	YES	NO	YES (recorded picture)
Recorded image	—	—	—	YES (live and recorded picture)
Live picture	—	—	—	NO

# Monitor 1

## Full Screen

Live pictures from the selected camera are displayed full screen. Automatic sequential full-screen display of the 16 video cameras is also available by pushing the Sequence button.

Zoom and Freeze functions are available in the full-screen mode to add greater surveillance flexibility. These Zoom and Freeze picture functions can also be used together (i.e. you can zoom in and then freeze the enlarged image).

## 4-division split screen (live and playback mode)

Every time the Quad button is pressed a 4-division split screen (Cameras 1-4, 5-8, 9-12, 13-16) is selected. A sequential display of the 4-division split screens is also available by pressing the Sequence button.

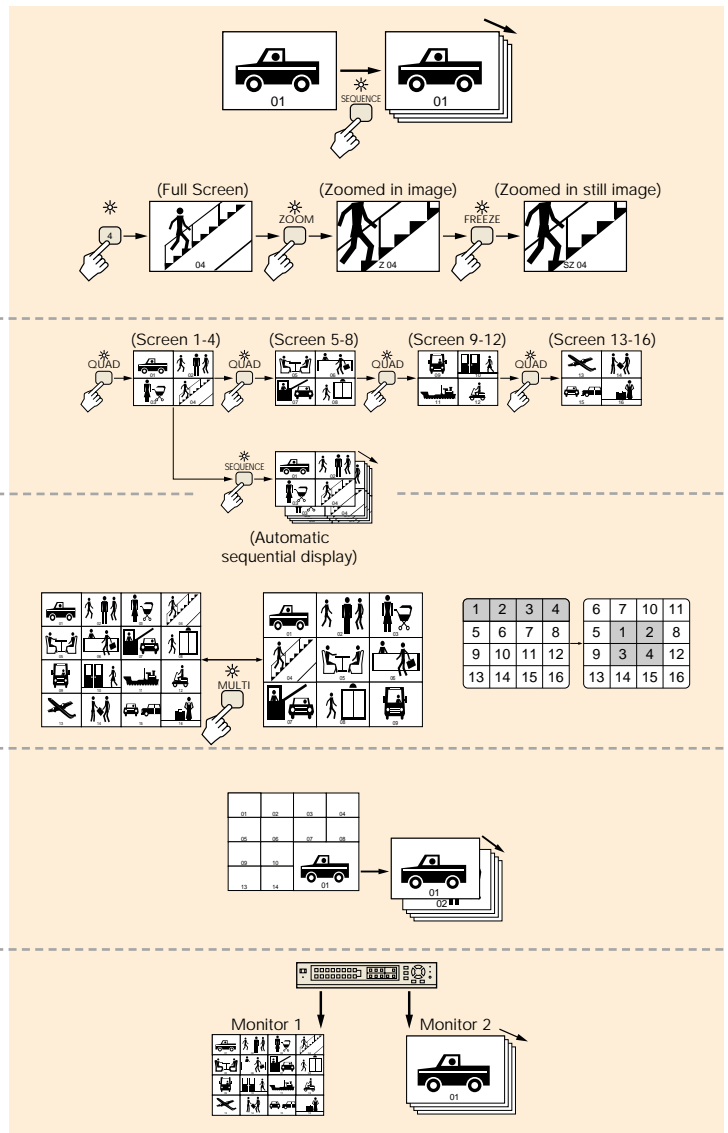
## Multi-display Screen (live and playback mode)

Every time the Multi button is pressed the display mode switches between the 16-split and 9-split screen displays.

In the multi-screen display mode, each camera image can be assigned to any split-screen location on the screen. In this way, images from critical security points can appear in the center of the display.

## Option-display Screen (live and playback mode)

When the Option button is pressed, a quarter-sized "option screen" appears in the lower right corner when in the 16-division mode. With this function, you can get a closer look at a particular picture. Automatic sequential option-display of live and recorded pictures is also available.



# Monitor 2

A full-screen or full-screen automatic sequential screen can be displayed on Monitor 2. Alternatively, the Monitor 1 image can be displayed.

# Powerful alarm functions

Alarm functions are indispensable in surveillance systems. The YS-DX516P and YS-DX416CE incorporate a number of powerful alarm functions and these can be tailored to optimize the information displayed to the operator.

## External alarm

The YS-DX516P and YS-DX416CE provide 16 alarm inputs – one for each corresponding Camera Input connector. When an input alarm signal is received, the associated video input is displayed. The display on Monitor 1 can be pre-selected from one of the following four options:

### A) Full screen

When an alarm trigger is received, the picture from the camera corresponding to the alarm input is displayed in full screen.

### B) 16-division split screen

When an alarm trigger is received, the display switches to a 16-division split screen.

### C) 9-division split screen

When an alarm trigger is received, the display switches to a 9-division split screen.

### D) Post

When an alarm is activated, Monitor 1 displays a 4-division split screen. Three sequential images from the associated camera are displayed in the upper-left, upper-right and lower left sectors. The lower-right sector continues to show the live image.

When an input alarm signal is received, the associated video input is automatically displayed in full screen on Monitor 2. When two or more alarm triggers are received simultaneously, Monitor 2 sequentially displays the images from the cameras corresponding to the alarm triggers.

# Timer functions

## Recording duration

The recording time of each video camera can be programmed individually. You can increase or decrease the number of cameras recorded according to the time of day.

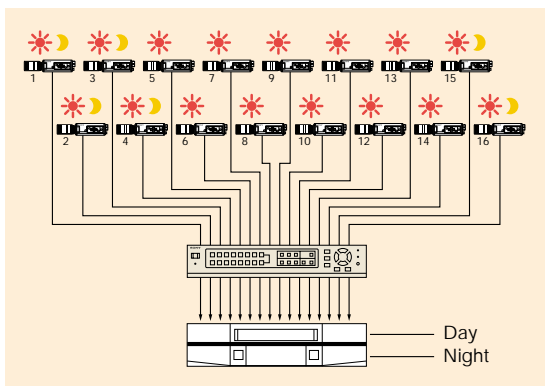
The illustration to the right shows outputs of all the cameras recorded during daytime, but only cameras showing a moon (1, 2, 3, 4, 15) are recorded at night.

## Sensitivity

The sensitivity range of the video alarm sensor can be changed to accommodate day and night time light levels.

## Monitor masking

It is possible to mask individual sections of a split-screen display. However, all images are recorded on tape regardless of any masking of the monitor display.



## Activity detection (video sensor alarm)

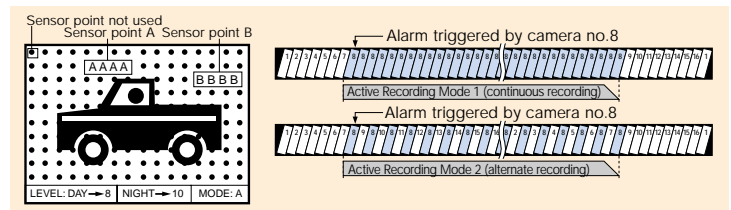
160 points (10 lines of 16 points) can be displayed on Monitor 1, and the operator can designate each individual on-screen point as being an "A" point or a "B" point. If the brightness level at a sensor point changes, an alarm is initiated and the Active Recording mode is triggered.

The ability to designate specific points on the screen to be either "A" or "B" is used in combinations to customize the detection of scene brightness changes. An important feature is that both the "A" and "B" points can be allocated such that they both sense changes in ambient light to avoid false alarms being triggered. The overall sensitivity of the sensor points can be set for both day time and night time conditions. External alarm inputs also trigger the Active Recording mode.

### Recording modes:

Mode 1: The video signal from the alarmed camera is recorded exclusively.

Mode 2: Recording of the video signal from the alarmed camera alternates with sequential recording of the remaining cameras.



## Video Loss alarm

If any of the input video signals are lost, a buzzer sounds and an LED associated with the failed camera input flashes. If a split-screen display is being viewed on the Monitor 1 screen, the most recent image of the lost signal is frozen, with the words "Video Loss" flashing. When a full-screen display is in use, Monitor 1 continues to display the selected camera. If this is the camera that has failed, then the image is frozen and the flashing "Video Loss" message is displayed.

## Individual alarm duration/output

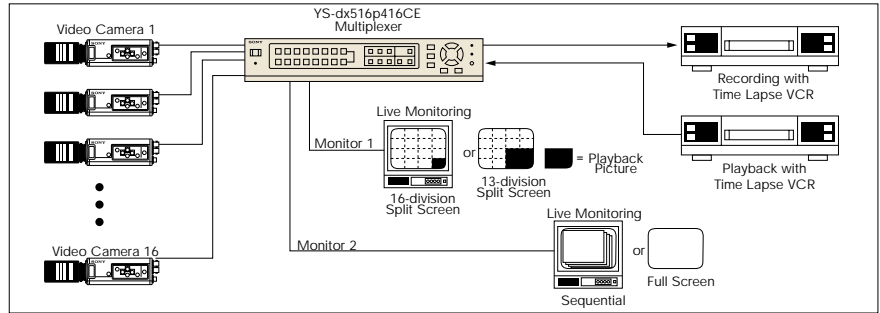
The duration of an alarm event can be individually set from 1 to 180 seconds for each camera.

# Other features

- RS-232C and RS-485 interfaces
- S-video output/input (YS-DX516P only)
- Loop-through capability for each camera input
- Power failure protection
- Alarm memory recall feature (up to 100 alarms)
- Alarm reset function
- Daylight savings time
- Character generator
- Screen display language selectable : English, French or German
- Supplied rack mount brackets

# Playback-during-recording with two VCRs

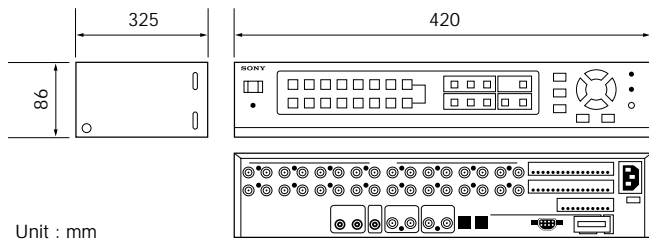
Two VCRs can be connected to the YS-DX-516P or YS-416CE, enabling playback-during-recording. Playback-during-recording allows one of the VTRs to playback previously recorded images while the second VTR continuous to record the live images. The playback picture is displayed in the bottom right screen simultaneously with live/recorded images.



## Specifications

		YS-DX516P	YS-DX416CE
General	Video signal system	PAL standard	CCIR standard
	Power requirements	AC 220 to 240 V, 50 Hz	AC 220 to 240 V, 50 Hz
	Power consumption	21 W	18 W
	Operating temperature	5 to 40°C	
	Dimensions	420 (W) x 86 (H) x 325 (D) mm	
	Mass	4.1 kg	
Video inputs	Camera input 1 to 16	BNC type, VS or VBS, 1.0 Vp-p, 75 Ω	BNC type, VS or VBS, 1.0 Vp-p, 75 Ω
	VCR inputs	BNC type, VS or VBS, 1.0 Vp-p, 75 Ω Auto-termination type	BNC type, VS or VBS, 1.0 Vp-p, 75 Ω
	S-VHS input	DIN connector x 1, Y: 1.0 Vp-p, 75 Ω, unbalanced, synchronous; C: 0.286 Vp-p, 75 Ω, unbalanced	—
Video outputs	Camera outputs 1 to 16	BNC type, VS or VBS, 1.0 Vp-p, 75 Ω	BNC type, VS or VBS, 1.0 Vp-p, 75 Ω
	Monitor 1 outputs	BNC type x 1, VS or VBS DIN connector x 1 S-VHS Y: 1.0 Vp-p, 75 Ω, unbalanced, synchronous; C: 0.286 Vp-p, 75 Ω, unbalanced	BNC type x 1, VS or VBS, DIN connector x 1
	Monitor 2 output	BNC type x 1, VS or VBS	BNC type x 1, VS or VBS
	VCR output	BNC type, VS or VBS, 1.0 Vp-p, 75 Ω	BNC type, VS or VBS, 1.0 Vp-p, 75 Ω
	S-VHS output	DIN connector x 1, Y: 1.0 Vp-p, 75 Ω, unbalanced, synchronous; C: 0.286 Vp-p, Ω, unbalanced	—
Other	Synchronization	Asynchronous individual inputs	
	Alarm output	5 V DC, 5.7 kΩ, output low	
	Alarm duration	1, 2, 3, 4, 5, 10, 20 (in 10 seconds increments)..180	
	Switch input from VCR	Low active (100 kΩ pull-up)	
	Control terminals	Alarm input: contact close (x 16), 25-pin D-sub Remote control inputs: RS-232C, 9-pin D-sub. RS-485, RJ-11 type, 2 x terminals	
	Sequence time	1 to 30 sec	
	On-screen display	10-character title, date/time	
	Buzzer	On/Off	

## Dimensions



YS-DX516P Rear Panel



YS-DX416CE Rear Panel

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