

# SONY®

NTSC/PAL

Single Channel Digital Hard Disc Recorder

# HSR-X200/X200P



# The new single channel digital hard disk recorder rejuvenates your existing surveillance system with greater flexibility and outstanding reliability.

The HSR-X200/X200P is a single channel digital hard disk (80 GB) time-lapse recorder that delivers high quality, detailed images while requiring less maintenance than analog recorders. The HSR-X200/X200P can be easily installed into your existing surveillance system since it was designed with similar protocol as current analog time-lapse VCRs. The HSR-X200/X200P is a drop-in replacement for analog time-lapse VCRs that are typically used with multiplexers.\*

With the HSR-X200/X200P, you get all the benefits associated with a digital format (clear, crisp, undistorted images, swift access to images) plus user-free operation (no tape to rewind, change or pry free, and no heads to clean) as opposed to analog time-lapse VCRs. With its extended recording time of 671 hours at 1 picture per second in HIGH picture quality mode, the HSR-X200/X200P rivals existing analog systems. In addition, this recorder offers the added benefit of being able to download archived data to Memory Stick® media, Compact Flash Card or Micro Drive with PC Card Adaptor for duplicating ease. Incorporating the Motion-JPEG compression format, the HSR-X200/X200P provides high quality, high resolution images and high refresh rates. In addition, users can remotely access, review and control the recorded information with the HSR-X200/X200P via a network using an optional LAN PC Card\*\*.

\*Drop in replacement for multiplexers that accept external switch pulse.

\*\*Contact your local Sony sales office for compatible LAN card information.

## High capacity HDD (ATA/ATAPI-5 standard)

- Extended recording time with high capacity HDD:  
NTSC: 671hrs (80 GB, 1 picture/s, HIGH), PAL: 370 hrs (80 GB, 1 picture/s, HYPER)
- Recording and playback can be performed simultaneously.
- The installation of an optional HDD (HSRA-X10, 80GB) doubles picture capacity.

## Compatible to existing multiplexers

- By configuring your system using a multiplexer manufactured by Sony, Sanyo, Robot, or Dedicated Micro, video images can be monitored either directly through the HSR-X200/X200P, or through the multiplexer. (See example 1 of Fig. 2 Multiplexer system)
- By configuring your system using a multiplexer other than those manufacturers listed above, video images can be monitored only through the multiplexer. (See example 2 of Fig. 2 Multiplexer system)

### Typical System

Fig. 1 Single-camera system

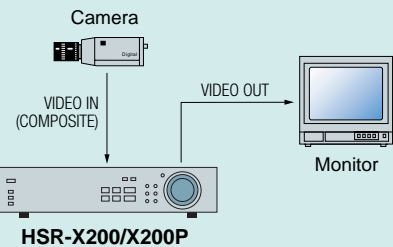
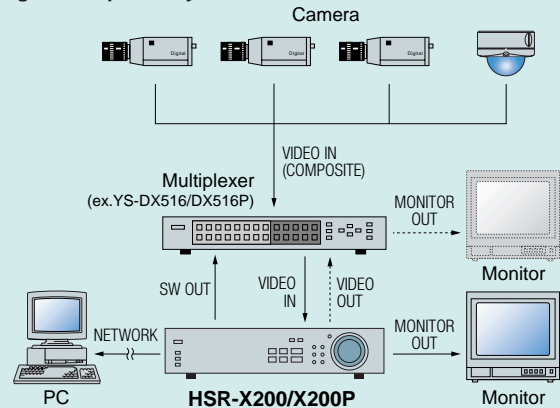
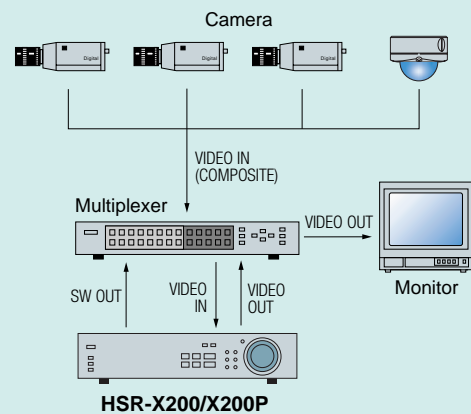


Fig. 2 Multiplexer system



Example 1.



Example 2.

## Reliability

- The HSR-X200/X200P utilizes real time OS (operating system) for increased system reliability.

## High resolution & high picture quality recording and playback (Field & Frame recording)

- High resolution
  - NTSC: 720 x 240 pixels (Field mode),  
720 x 480 pixels (Frame mode)
  - PAL: 720 x 288 pixels (Field mode),  
720 x 576 pixels (Frame mode)
- 5 level recording picture quality (LOW, MID, HIGH, SUPER, HYPER)

## M-JPEG compression

High refresh rate

- Max. 60 fields/s (NTSC), 50 fields/s (PAL) real time recording and playback
- 27 levels recording cycle (NTSC: 60 fields/s to 1 field/30 s, PAL: 50 fields/s to 1 field/30 s)

## NTSC Recording Time (Field)

Field Rec Compression ratio		Recording Picture Quality Mode									
		LOW 1/22.5		MID 1/15.3		HIGH 1/11.3		SUPER 1/8.0		HYPER 1/6.0	
(sec/field)	(field/sec)	Hours	Days	Hours	Days	Hours	Days	Hours	Days	Hours	Days
0.02	60.0	21	0.9	15	0.6	11	0.5	8	0.3	12	0.5
0.03	30.0	42	1.8	30	1.2	22	0.9	16	0.7	19	0.8
0.05	20.0	63	2.6	45	1.9	34	1.4	24	1.0	27	1.1
0.10	10.0	126	5.3	90	3.7	67	2.8	48	2.0	54	2.3
1	1.00	1,264	52.7	895	37.3	671	28.0	488	20.3	370	15.4
30	0.03	37,914	1,579.7	26,855	1,119.0	20,142	839.2	14,648	610.4	11,113	463.0

## (Frame)

Frame Rec Compression ratio		Recording Picture Quality Mode									
		LOW 1/22.5		MID 1/15.3		HIGH 1/11.3		SUPER 1/8.0		HYPER 1/6.0	
(sec/frame)	(frame/sec)	Hours	Days	Hours	Days	Hours	Days	Hours	Days	Hours	Days
0.03	30.0	21	0.9	15	0.6	11	0.5	8	0.3	6	0.3
0.07	15.0	42	1.8	30	1.2	22	0.9	16	0.7	12	0.5
0.10	10.0	63	2.6	45	1.9	34	1.4	24	1.0	19	0.8
0.20	5.0	126	5.3	90	3.7	67	2.8	48	2.0	37	1.5
2	0.50	1,264	52.7	895	37.3	671	28.0	488	20.3	370	15.4
60	0.02	37,914	1,579.7	26,855	1,119.0	20,142	839.2	14,648	610.4	11,113	463.0

\* This chart shows only 6 levels of 27 levels recording cycle.

\* Audio recording can be performed in the colored modes of the above chart.

\* This chart shows the recording time for the following condition: Within 80 GB capacity of the HDD, 1 % is set as archive area and the remaining 99 % is set as normal recording area.

## PAL Recording Time (Field)

Field Rec Compression ratio		Recording Picture Quality Mode									
		LOW 1/22.5		MID 1/15.3		HIGH 1/11.3		SUPER 1/8.0		HYPER 1/6.0	
(sec/field)	(field/sec)	Hours	Days	Hours	Days	Hours	Days	Hours	Days	Hours	Days
0.02	50.0	25	1.1	18	0.7	13	0.6	10	0.4	7	0.3
0.04	25.0	51	2.1	36	1.5	27	1.1	20	0.8	15	0.6
0.08	12.5	101	4.2	72	3.0	54	2.2	39	1.6	30	1.2
0.20	5.0	253	10.5	179	7.5	134	5.6	98	4.1	74	3.1
1	1.00	1,264	52.7	895	37.3	671	28.0	488	20.3	370	15.4
30	0.03	37,914	1,579.7	26,855	1,119.0	20,142	839.2	14,648	610.4	11,113	463.0

## (Frame)

Frame Rec Compression ratio		Recording Picture Quality Mode									
		LOW 1/22.5		MID 1/15.3		HIGH 1/11.3		SUPER 1/8.0		HYPER 1/6.0	
(sec/frame)	(frame/sec)	Hours	Days	Hours	Days	Hours	Days	Hours	Days	Hours	Days
0.04	25.0	25	1.1	18	0.7	13	0.6	10	0.4	7	0.3
0.08	12.5	51	2.1	36	1.5	27	1.1	20	0.8	15	0.6
0.16	6.3	101	4.2	72	3.0	54	2.2	39	1.6	30	1.2
0.40	2.5	253	10.5	179	7.5	134	5.6	98	4.1	74	3.1
2	0.50	1,264	52.7	895	37.3	671	28.0	488	20.3	370	15.4
60	0.02	37,914	1,579.7	26,855	1,119.0	20,142	839.2	14,648	610.4	11,113	463.0

\* This chart shows only 6 levels of 27 levels recording cycle.

\* Audio recording can be performed in the colored modes of the above chart.

\* This chart shows the recording time for the following condition: Within 80 GB capacity of the HDD, 1 % is set as archive area and the remaining 99 % is set as normal recording area.

## Network capability

- HSR-X200/X200P can be operated remotely and video images can be monitored from a PC via a network.\*  
(See example 1 of Fig. 2 Multiplexer system)



\* The system must be configured with a Sony, Sanyo, Robot, or Dedicated Micro multiplexer. An optional network card is required.

## Back-up function

- Data backup function by DDS-2/3 with Optional SCSI Card (SlimSCSI 1460, Adaptec) via PC Card slot on the rear panel.

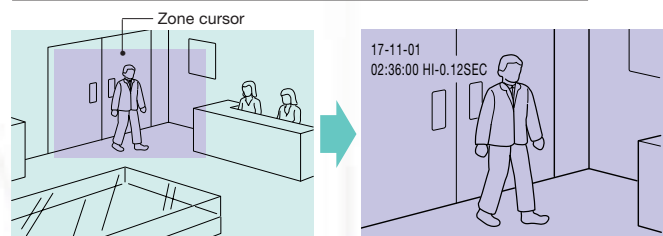
## Image transfer from local storage to third party

- Memory Stick media, Compact Flash Card or Micro Drive with PC Card Adaptor via PC Card slot on the front panel for image downloading.

## Activity Detection Sensor/Activity Detection Search

The HSR-X200/X200P is equipped with an Activity Detection Sensor that is designed to recognize changes in luminance. This sensor is based on an 8 x 10 grid on the monitor. If change in luminance is detected in the assigned area of the grid, an alarm is triggered. The system allows the user to set the alarm to begin recording upon activation. In addition, the HSR-X200/X200P has an Activity Detection Search function that allows the user to search the recorded material for scenes in which change in luminance was detected.

## Digital Zoom Function (2x zoom)



## Other features

- Easy operation with Jog/Shuttle & independent operation buttons.
- Image storage area can be set on the hard disk drive to store important images such as alarm images without being overwritten.
- Time date search, alarm search & activity detection search with preview images (thumbnail).
- Two security lock levels (User/Administrator level).
- PC control via RS-232C interface.
- HDD Mirroring Function.
- Audio single channel recording and playback.
- Various languages (English, French, German, Spanish).



## Specifications

### General

	NTSC model	PAL model
Weight	12 lb 2 oz (5.5 kg)	
Dimension	16 5/8 x 3 7/8 x 14 7/8 inches (420 (W) x 96 (H) x 376 (D) mm)	
Power voltage	AC 120 V $\pm$ 10 %	AC 220 to 240 V $\pm$ 10 %
Power cycle	60 Hz $\pm$ 10 %	50/60 Hz $\pm$ 10 %
Power consumption	0.4 A	0.24 A
Operating temperature	41 to 104°F (5 to 40°C)	
Operating humidity	Less than 80 %	
HDD capacity	80 GB/HDD Unit (160 GB: up to 2 HDDs)	

### Video

	NTSC model	PAL model
Input/loop out	1 channel, VBS, VS (BNC) 1.0 Vp-p, 75 $\Omega$ , unbalanced 1 channel, S-VIDEO (Mini DIN 4pin) Loop out connector: BNC(1)/S-VIDEO(1)	
Output	1 channel, VBS (BNC) 1.0 Vp-p, 75 $\Omega$ , unbalanced 1 channel, S-VIDEO (Mini DIN 4pin)	
Video compression	Motion JPEG	
Picture Quality mode	HYPER 58 kB/picture SUPER 44 kB/picture HIGH 32 kB/picture MID 24 kB/picture LOW 17 kB/picture	
Picture resolution	NTSC: 720 x 240 pixels (Field mode) 720 x 480 pixels (Frame mode) PAL: 720 x 288 pixels (Field mode) 720 x 576 pixels (Frame mode)	
Horizontal resolution	More than 500 TV lines (HYPER mode)	
Signal to noise ratio	48 dB (HYPER mode)	

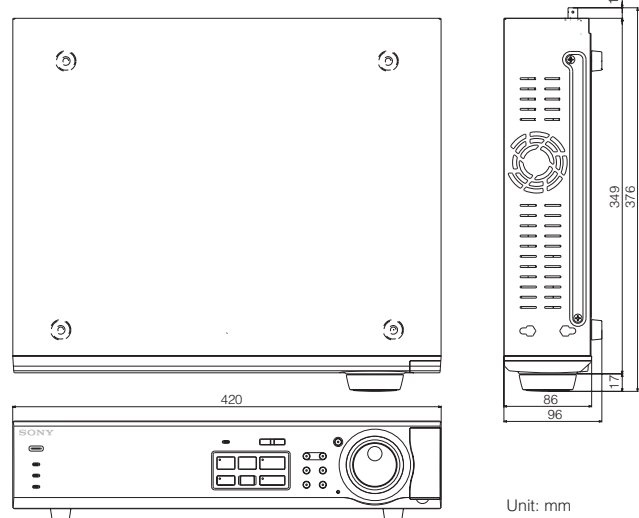
### Audio

	NTSC model	PAL model
MIC input	1 channel Monoral (Mini jack) -60 dB, 10 k $\Omega$	
Line input	1 channel Monoral (RCA pin jack) -8 dB, 27 k $\Omega$	
Line output	1 channel Monoral (RCA pin jack) -8 dB, 600 $\Omega$	
S/N	40 dB	
Distortion	Less than 4 % at 1 kHz	

### Supplied accessories

	AC power cord (1)
	Rack mount Kit (1)
	Operation Manual (1)

### Dimensions



Rear Panel

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