

The HSR-180/HSR-200, HSR-180S/HSR-200S, and HSR-240/HSR-250 video cassette recorders from JC Labs are designed to record high frame rate video signals in an office or laboratory environment. Applications include the analysis of packaging machinery, vehicle dynamics, impact testing, and mechanical designs. Bio-metric uses include motion studies, sports medicine, and the evaluation of rehabilitation and therapy.



Based on an industrial VCR, the HSR recorders retain all of the original features found on the Panasonic AG-5210. At 60 fields per second video rate, both monochrome and color recording are available with 2 channel Hi-Fi sound. The super 4 head system gives clear and noiseless still pictures. The optional jog and shuttle controls allow easy step by step viewing in playback, or quick review as the tape is fast wound.

The special electronics installed by JC Labs will detect the presence of high speed sync signals during record and will automatically pass control to a set of high speed servos. During high speed record, the HSR-250 is sped up 417% (400% on the HSR-240, 333% on the HSR-200, 300% on the HSR-180) while the special high frequency signal system drives the record heads*. The format of the recorded signal is the same as standard VHS, allowing the cassette to be played on any VHS deck (SVHS recordings must be played on an SVHS VCR.) The image resolution is limited only by the playback, and supplies a minimum of 230 TV lines in VHS mode or 380 lines in SVHS** mode and a typical signal to noise of 43 dB.

Capable of recording from a variety of cameras, the HSR-180 records 40 minutes on a low cost T-120 cassette (the HSR-240 records 30 minutes) and requires a run up time of only 10 seconds to reach high speed. The recording is available for immediate review and may be recorded over if desired. The simple analog input (RS-170 format) allows the use of a single coaxial cable hookup, or telemetry link to receive the signal from long distances.

* The high speed is selected at the time of order and is not field adjustable. ** The recorder is configured at the factory for SVHS or VHS high speed recording.

AG-5210 VHS Hi-Fi Video Cassette Recorder

HR (High-Response) Mechanism

The AG-5210's new HR Mechanism uses the full-loading tape transport system for quicker picture display, fast forward and rewind. It is the key to Enhanced operation.

High-Reliability

Use of Hi-Silicon in the AG-5210's lower cylinder helps achieve outstanding durability and stability, ensuring the consistently high-quality results demanded in professional applications.

A DLC (Diamond-Like Carbon) coating on the capstan and the sendust AC head, also greatly improves reliability.

Compact Design - Only 10-5/8" (270 mm) Wide

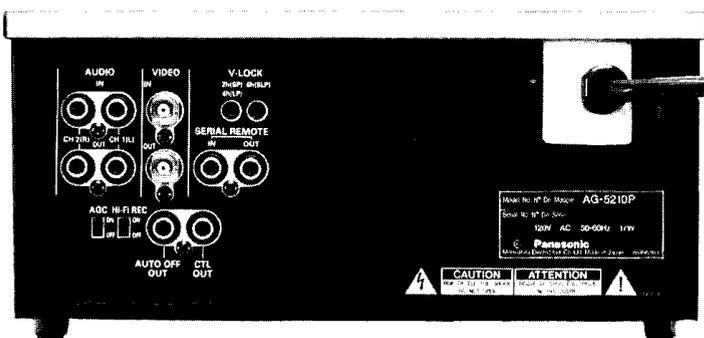
Three AG-5210 units measuring 10⁵/₈"(W) × 4³/₄"(H) × 13⁹/₁₆"(D) (270(W) × 120(H) × 344.5(D) mm) each — fit in the same rack space needed for two of our previous units with a width of 16¹⁵/₁₆" (430mm). The AG-5210 is low in power consumption (17 W) too, saving you costs as well as space.

Hi-Fi Stereo Sound System

A Hi-Fi stereo system lets the AG-5210 take full advantage of videos that provide top sound quality. Two-channel audio capability allows narration in two languages, and fixed-head monaural audio is also provided.

4-Video-Head System

Panasonic developed the 4-video-head system for exceptional clarity in special effects playback. Featuring two special playback heads in addition to the two normal heads, this system also allows 6 hours of recording.



Rear

Weight and dimensions shown are approximate. Specifications subject to change without notice. This product may be subject to export control regulations.

Warning: Unauthorized recording of copyrighted television programs, films, videotapes and other materials may infringe upon the rights of copyright owners and be contrary to copyright laws.

Serial Remote Control

Thanks to a built-in serial interface decoder, multiple AG-5210 units can be connected in parallel for central remote control. The optional AG-IA12 serial remote transmitter provides simultaneous control.

AGC (Auto Gain Control) On/Off Switch

When this switch is set to ON, the recording level adjusts automatically.

Mode Lock Switch

When set to ON, this switch prevents misoperation by deactivating the controls on the front panel except the Eject button.

Hour Meter

A glance at this meter lets you check the cumulative hours of operation.

Optional Remote Control (AG-A11)

This optional wired remote control unit connects easily to the remote jack on the front panel.

Additional Features

- CTL / Auto-Off Output Terminal
- Hi-Fi Off Switch
- Head Cleaning Mechanism
- Auto Digital Tracking
- LCD with Backlight (linear tape counter / audio meter)

Specifications

■ General

Power Source:	120 V AC, 50/60 Hz
Power Consumption:	17 W
Operating Temperature:	41°F ~ 104°F (5°C ~ 40°C)
Weight:	Approx. 11.2 lbs. (5.1 kg)
Dimensions (W × H × D):	10 ⁵ / ₈ " × 4 ³ / ₄ " × 13 ⁹ / ₁₆ "
[*Feet not included]	(270 × 120* × 344.5 mm)

■ System

Television System:	EIA Standard, NTSC color signal (525 lines, 60 fields)
Video Recording System:	Two rotary heads, helical scanning system
Modulation System:	Luminance; FM azimuth recording Color signal; Converted subcarrier phase shift recording
Audio Track:	2 tracks (Hi-Fi Audio), 1 track (Normal)

■ Tape Transport

Tape Format:	VHS tape
Tape Speed:	SP: 1 ⁵ / ₁₆ ips (33.35 mm/s) LP: 2 ¹ / ₂₃ ips (16.67 mm/s) SLP: 7 ¹ / ₁₆ ips (11.12 mm/s)
Record/Playback Time:	120 min. (2 hours) with NV-T120 (SP mode)
FF/REW Time:	Within 3 min. with NV-T120

■ Video

Horizontal Resolution:	240 lines (color) on monoscope test pattern
Signal-to-Noise Ratio:	45 dB (color, SP mode)
Dynamic Range:	90 dB (Hi-Fi Audio)

■ Input Level

Video (BNC):	1.0 Vp-p, 75Ω, unbalanced
Audio (Phono):	-8 dBV, 47 kΩ, unbalanced
Remote:	M2 jack

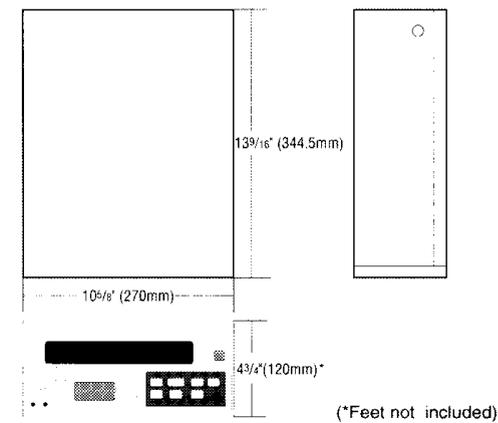
■ Output Level

Video (BNC):	1.0 Vp-p, 75Ω, unbalanced
Audio (Phono):	-8 dBV, 1kΩ, unbalanced

■ Optional Accessories

Wired remote control, AG-A11
Serial Remote control, AG-IA12

Dimensions



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