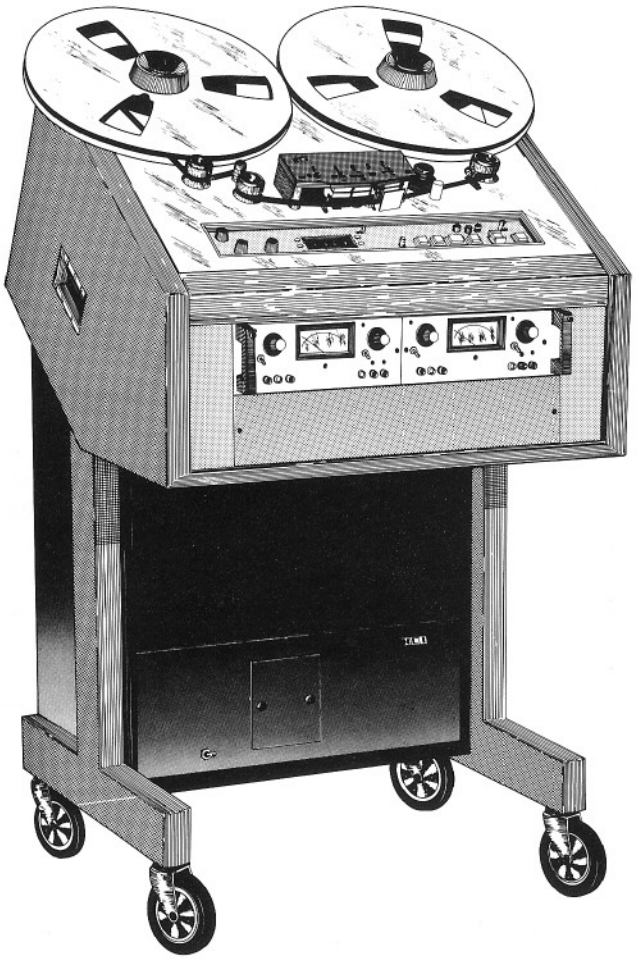
JH-110 SERIES



Model Shown
JH-110B-14-2-VP

PRODUCT CONFIGURATION AND SPECIFICATIONS

JH-110B System, 10½" Reel Size Transport
JH-110B-14 System, 14" Reel Size Transport

- ★ Totally transformerless electronics
- ★ ¼ and ½ inch master tape recorders
- ★ Mono to 4 track models available
- ★ 3 speed timed bias ramp for Quiet Initiation Of Record (QUIOR)
- ★ Separate equalization and bias controls for 3 speeds
- ★ NAB/IEC switching provided
- ★ DIN or NAB standard head assembly available
- ★ Automatic sync switching for overdubbing
- ★ Head alignment ultra stable
- ★ Electronics, transport and power supply 19 inch rack mountable
- ★ 3 speed quartz controlled transport—7½, 15, 30 ips — available with optional 3¾, 7½, 15 ips
- ★ No relays in transport—completely solid state with high response DC torque motors
- ★ Variable speed control
- ★ Constant tape tension (±¼ oz. for all speeds and reel sizes)
- ★ MVC (manual velocity control) of fast wind
- ★ "Paper Basket" and "Hand Spool" edit modes
- ★ Variable profile or high profile cabinets optional
- ★ Modular design enhances serviceability
- ★ Remote motion control available
- ★ Compatible with the MCI AutoLock synchronizer
- ★ RTZ III standard on all recorders
  - Microprocessor controlled
  - Return to Zero function
  - 4 additional memories
  - Presettable up/down counter
  - Built in TVI (Tape Velocity Indicator)

MCI® A Division of Sony Corporation of America
1400 West Commercial Blvd., Fort Lauderdale, Florida 33309/Phone (305) 491-0825/Telex 514362

DESCRIPTION	MODEL NUMBER
10½" RECORDING SYSTEMS (including RTZ III)	
Mono recorder ¼"	JH-110B-1-UM
Mono recorder ¼" with additional 2-track playback head and electronics	JH-110B-1/2-PB-UM
2-track recorder ¼"	JH-110B-2-UM
2-track recorder ¼" with additional ¼" mono playback head and electronics	JH-110B-2/1-PB-UM
2-track recorder ¼" with additional ¼ track, ¼" stereo playback head and electronics	JH-110B-2/2-PB-UM
4-track recorder ½"	JH-110B-4-UM
14" RECORDING SYSTEMS (including RTZ III)	
Mono recorder ¼"	JH-110B-14-1-UM
Mono recorder ¼" with additional 2-track playback head and electronics	JH-110B-14-1/2-PB-UM
2-track recorder ¼"	JH-110B-14-2-UM
2-track recorder ¼" with additional ¼" mono playback head and electronics	JH-110B-14-2/1-PB-UM
2-track recorder ¼" with additional ¼ track, ¼" stereo playback head and electronics	JH-110B-14-2/2-PB-UM
4-track recorder ½"	JH-110B-14-4-UM
10½" PLAYBACK ONLY SYSTEMS	
Mono reproducer ¼"	JH-110B-1-PB-UM
2-track reproducer ¼"	JH-110B-2-PB-UM
4-track reproducer ½"	JH-110B-4-PB-UM
14" PLAYBACK ONLY SYSTEMS	
Mono reproducer ¼"	JH-110B-14-1-PB-UM
2-track reproducer ¼"	JH-110B-14-2-PB-UM
4-track reproducer ½"	JH-110B-14-4-PB-UM
OPTIONS FOR JH-110B AND JH-110B-14 SYSTEMS	
Low speed transport: 3.75, 7.5, 15 ips.	JH-110B-OPT-1
DIN stereo head assembly for 2-track systems only (stereo −0.75mm guard band, full track erase)	JH-110B-OPT-2
Tape marker and tape cutting scissors (30° angle) for ¼" tape transport only	JH-110B-OPT-3
Factory installed **RTZ III** (standard on all recorders)	JH-110B-OPT-4
Comprehensive Service Manual, in addition to copy supplied with machine	JH-110B-OPT-5

DESCRIPTION	MODEL NUMBER
Balanced transformer isolated line output, per channel (Output impedance = 120 Ω)	JH-110B-OPT-6-1
Balanced transformer isolated line input and output, per channel (Input impedance = 10k Ω bridging) (Output impedance = 120 Ω)	JH-110B-OPT-6-2
½" format stereo head assembly mounted in place of the normal ¼" format stereo head assembly	JH-110B-OPT-7

ACCESSORIES FOR ALL JH-110B SYSTEMS

Variable profile cabinet for all systems	VP
High Profile overhead bridge cabinet for all systems. Two standard 19" MCI JH-110 electronic drawers can be fitted.	HP-4
Monitor panel—to adapt unit for NAB Broadcast use. (takes the space of one standard MCI JH-110 electronic drawer)	JH-110B-MON
Tape transport remote control including controls for MVC, **RTZ III** (return, reset) includes 35-foot Remote Cable	JH-110B-R/C
Head assembly cover plate	JH-110B-HA/CP
"DIN-HUB" adaptor with tape platter for maximum 1000m tape pancakes. Set of 2.	JH-110-D/H
Accessory stand for one Multitrack System remote control, or one **AutoLock**, including standard mounting bracket	JH-20
Mounting bracket for JH-20 to hold a maximum of three JH-110B-R/C	JH-20-3
Accessory stand capable of holding, side by side, one **AutoLocator III** and one **AutoLock**, or two **AutoLocator IIIs**, or two **AutoLocks**, including standard mounting bracket	JH-21
Phase Meter in remote style housing including power supply	JH-22
AutoLock, a SMPTE/EBU generator/reader/synchronizer	JH-45
RTZ III Remote Readout, includes 35 foot remote cable.	JH-47
Universal Adaptor, to adapt the JH-45 AutoLock for use with selected non-MCI masters.	JH-48
High Speed SMPTE/EBU Decoder for JH-48	JH-48-OPT-1
NTSC/PAL generator synchronization for JH-48	JH-48-OPT-2
Looping function for JH-48	JH-48-OPT-3
Transport Control Decoder for JH-48 (JH-48-OPT-1 must be installed)	JH-48-OPT-4
Tape path alignment kit (not for use with ¼" transports)	AS6B79
"Annunciator Board" indicating logic status of transport	25B177

DESCRIPTION	MODEL NUMBER
ADDITIONAL ELECTRONICS	
1 channel of complete record and playback electronics (drawer not included)	JH-110B-R/E
1 channel of playback only electronics (drawer not included)	JH-110B-PB/E
Electronic drawer with oscillator	JH-110B-EDO
Electronic drawer without oscillator	JH-110B-ED
ADDITIONAL HEAD ASSEMBLIES, equipped with scrape filter	
Mono head assembly, ¼"	HA-1-110B
2-track head assembly, ¼"	HA-2-110B
¼ track head assembly, ¼"	HA-¼-110B
DIN stereo head assembly (full track erase head), ¼"	HA-DIN-110B
2-track head assembly, ½"	HA-2½-110B
Playback head assembly, ¼", for CBS DISComputer Mastering System	HA-CBS-110B
4-track head assembly, ½"	HA-4-110B
TAPE FORMAT CONVERSION KITS	
¼" roller guides, set of 4	RG 1
½" roller guides, set of 4	RG 2
HEAD STACKS for fourth head position or replacement, mounting hardware not included	
Mono erase head ¼"	HE-1-110B
Mono record head ¼"	HR-1-110B
Mono playback head ¼"	HP-1-110B
2-track erase head ¼"	HE-2-110B
2-track record head ¼"	HR-2-110B
2-track playback head ¼"	HP-2-110B
DIN stereo record head ¼"	HR-DIN-110B
DIN stereo playback head ¼"	HP-DIN-110B
¼ track stereo erase head ¼"	HE-¼-110B
¼ track stereo record head ¼"	HR-¼-110B
¼ track stereo playback head ¼"	HP-¼-110B

DESCRIPTION	MODEL NUMBER
2-track erase head ½"	HE-2½-110B
2-track record head ½"	HR-2½-110B
2-track playback head ½"	HP-2½-110B
4-track erase head ½"	HE-4-110B
4-track record head ½"	HR-4-110B
4-track playback head ½"	HP-4-110B

MOUNTING HARDWARE FOR HEAD STACKS

Head bridge equipped with scrape filter (head stacks not included) ¼", 3 head stack mountings	JH-110B-HB/SF-1
Head bridge equipped with scrape filter (head stacks not included) ½", 3 head stack mounting	JH-110B-HB/SF-2
Head stack mounting complete for any ¼" stack	HM-¼-110B
Head stack mounting complete for any ½" stack	HM-½-110B

SYSTEM SPARE PARTS KITS

"Active Spares" Kit, contains transistors, IC's and Extender Boards (applicable to all JH-110B Series Systems)	JH-110B-S-KIT-AA-1
"Switch Spares" Kit, contains switches and LEDs (applicable to all JH-110B Series Systems)	JH-110B-S-KIT-AB-2
"PCA Spares" Kit, contains spare PC assemblies for transport and audio electronics for:	
Mono and stereo, low speed (OPT 1) JH-110B Series Systems	JH-110B-S-KIT-AC-3
Mono and stereo, high speed JH-110B Series Systems	JH-110B-S-KIT-AD-3
4-track, high speed JH-110B Series Systems	JH-110B-S-KIT-AE-3
4-track, low speed (OPT 1) JH-110B Series Systems	JH-110B-S-KIT-AF-3
"Mechanical Spares" Kit, contains solenoids, roller guides, motors and RTZ III PC assemblies for:	
¼" format, high speed JH-110B Series Systems	JH-110B-S-KIT-AI-4
¼" format, low speed (OPT 1) JH-110B Series Systems	JH-110B-S-KIT-AJ-4
½" format, high speed JH-110B Series Systems	JH-110B-S-KIT-AK-4
½" format, low speed (OPT 1) JH-110B Series Systems	JH-110B-S-KIT-AL-4

OVERALL PERFORMANCE

Frequency Response

	Record/Reproduce	
30 ips, AES	40 Hz - 28 kHz	+.75/ − 2 dB
15 ips, NAB	30 Hz - 24 kHz	+.75/ − 2 dB
7.5 ips, NAB	30 Hz - 20 kHz	+.75/ −1.5 dB

	Record/Sync	
30 ips, AES	50 Hz - 16 kHz	+.75/ − 2 dB
15 ips, NAB	30 Hz - 10 kHz	+.75/ − 2 dB
7.5 ips, NAB	30 Hz - 4 kHz	+.75/ − 2 dB

Signal-to-Noise

Record/Reproduce, reference to 510 nWb/m

Unweighted, 20 Hz - 20 kHz	mono	2TK	4TK
30 ips, AES	70	66	66
15 ips, NAB	68	64	64
7.5 ips, NAB	67	63	63

Weighted, dB(A)			
30 ips, AES	74	71	70
15 ips, NAB	70	68	68
7.5 ips, NAB	70	67	67

Distortion

Harmonic distortion, 510 nWb/m, 1 kHz fundamental

3rd harmonic:	30 ips, AES	<.35%
	15 ips, NAB	<.52%
	7.5 ips, NAB	<1.6%
2nd harmonic:	30 ips, AES	<.10%
	15 ips, NAB	<.10%
	7.5 ips, NAB	<.10%
3% 3rd harmonic:	30 ips, AES	1040 nWb/m
fluxivity level	15 ips, NAB	1020 nWb/m
	7.5 ips, NAB	1000 nWb/m

Distortion is primarily a function of tape formulation and bias setting used. All specifications are typical and may vary.

Bias and Erase Frequency

120 kHz

Depth of Erasure

(Ref. 250 nWb/m)
At 1 kHz better than 80 dB

Amplifier Electronics

Input impedance	10k ohms balanced
Output impedance	120 ohms balanced
Output clipping	+24 dBm

TRANSPORT

Speeds

Fixed	7.5, 15 and 30 ips
Variable	±20% around fixed speeds

Configurations

¼ inch	Full track
¼ inch	2 track
½ inch	2 track
½ inch	4 track

Reel sizes

available with NAB A (3, 5 or 7 inch), NAB B (10½ or 14 inch), DIN 1000m (11½ inch)

Tension

5½ oz. ±¼ at all play speeds, beginning to end of reel

Long term speed stability

better than .02%

Wow Flutter

30 ips < .020% DIN 45507 weighted
15 ips <.030% DIN 45507 weighted
7.5 ips <.045% DIN 45507 weighted

Start time

to 0.1% DIN 45507 flutter, 10½" reels

30 ips	900 msec
15 ips	500 msec
7.5 ips	500 msec

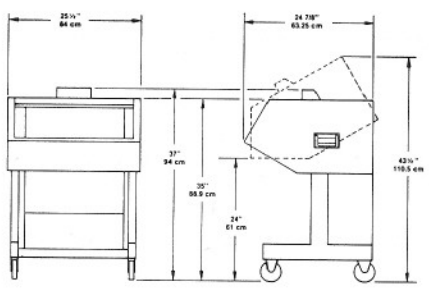
Rewind time

2400 ft.	110 seconds
4800 ft.	170 seconds

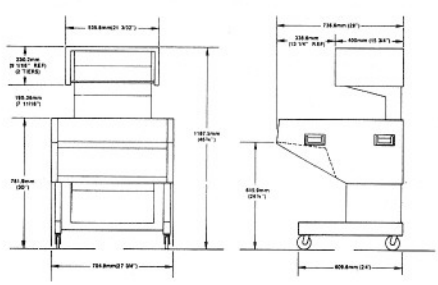
SYSTEM WEIGHT

transport unmounted	34 lbs.
electronic drawer, dual channel	19 lbs.
variable profile cabinet (VP)	73 lbs.
high profile cabinet (HP)	118 lbs.

SYSTEM DIMENSIONS



VP CABINET



HP CABINET

Specifications subject to change as innovative advancements in technology are incorporated.

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