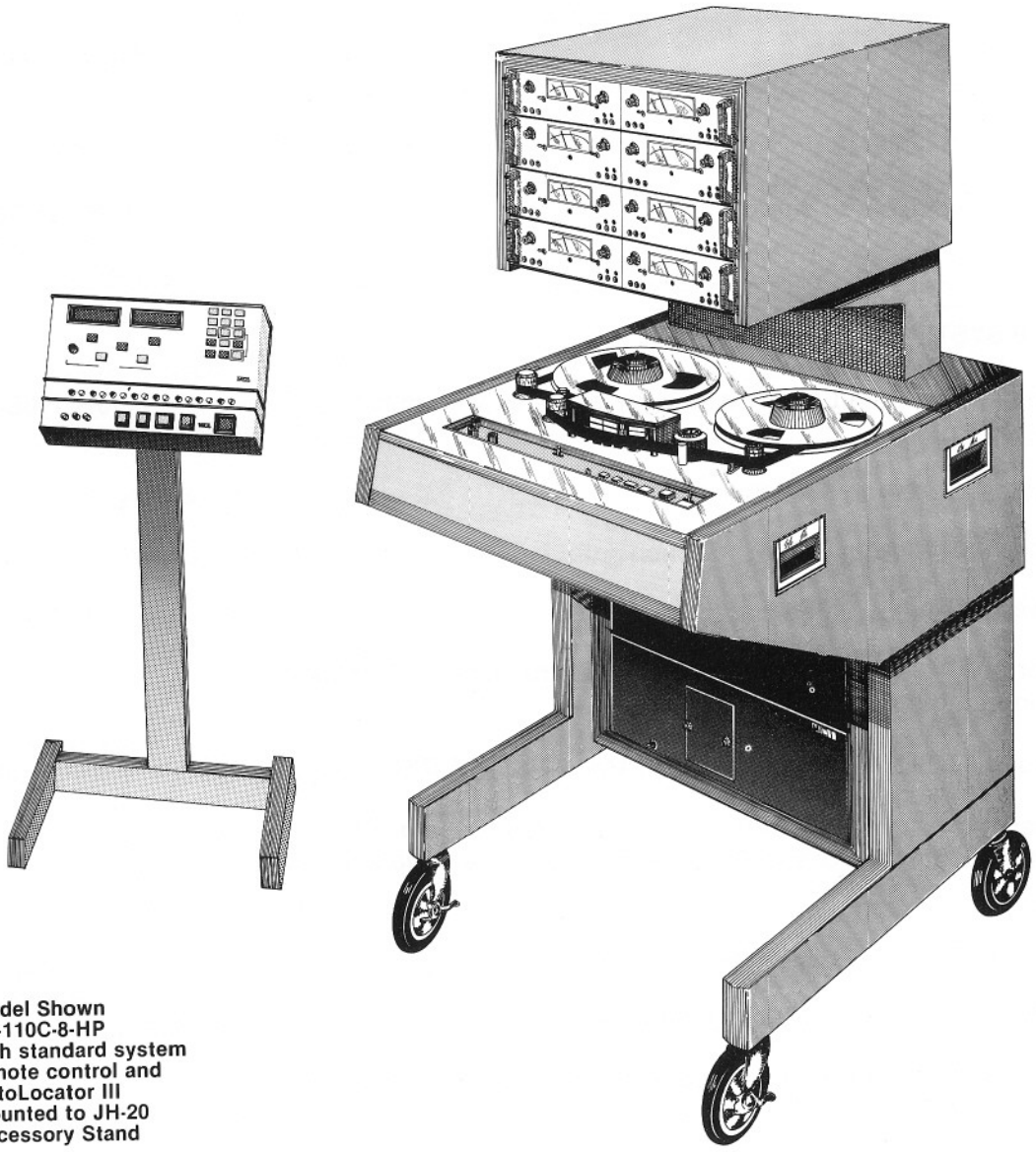
# JH-110 SERIES



**Model Shown**
**JH-110C-8-HP**
**with standard system**
**remote control and**
**AutoLocator III**
**mounted to JH-20**
**Accessory Stand**

## PRODUCT CONFIGURATION AND SPECIFICATIONS

### JH-110C-8 System
### Professional 8 Track Recorder

- ★ Totally transformerless electronics
- ★ ½ and 1 inch master tape recorders
- ★ 4 or 8 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
- ★ 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
- ★ 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
- ★ High Profile cabinet optional
- ★ Modular design enhances serviceability
- ★ Remote control standard
- ★ Compatible with MCI AutoLock synchronizer
- ★ AutoLocator III standard:
  - Microprocessor controlled
  - 10 memories
  - Built in TVI (Tape Velocity Indicator) reading in ips or ¼ semitones.

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1400 West Commercial Blvd., Fort Lauderdale, Florida 33309/Phone (305) 491-0825/Telex 514362

| DESCRIPTION | MODEL NUMBER |
|---|---|
| **10½" 8-TRACK RECORDING SYSTEMS (including AutoLocator III)** | |
| 4-track recorder ½", expandable to 8-track 1" | JH-110C-8/4-UM |
| 8-track recorder 1" | JH-110C-8-UM |
| **OPTIONS FOR JH-110C-8 SYSTEMS** | |
| Comprehensive Service Manual, in addition to copy supplied with machine | JH-110B-OPT-5 |
| **ACCESSORIES FOR ALL JH-110C-8 SYSTEMS** | |
| High profile overhead bridge cabinet | HP-8 |
| Head assembly cover plate | JH-110B-HA/CP |
| 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 |
| 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 (for JH-110 and JH-114 transports) | AS6B79 |
| "Annunciator Board" indicating logic status of transport | 25B177 |
| **ADDITIONAL ELECTRONICS** | |
| 1 channel of complete record and playback electronics (drawer not included) for JH-110C-8 | JH-110B-R/E-8 |
| Electronic drawer with oscillator for JH-110C-8 | JH-110B-EDO |
| Electronic drawer without oscillator for JH-110C-8 | JH-110B-ED |

| DESCRIPTION | MODEL NUMBER |
|---|---|
| **ADDITIONAL HEAD ASSEMBLIES,** | |
| 4-track head assembly, ½" | HA-4-110B-8 |
| 8-track head assembly, 1" | HA-8-110C-8 |
| **TAPE FORMAT CONVERSION KITS** | |
| ½" roller guides, set of 4 | RG 2 |
| 1" roller guides, set of 4 | RG 3 |
| 4-track ½" conversion kit for JH-110C-8 including head assembly and roller guides | JH-110C-8/4-CK |
| 8-track 1" conversion kit for JH-110C-8/4 including head assembly, roller guides, and 4 channels of electronics | JH-110C-8-C/K |
| **HEAD STACKS**<br>for fourth head position or replacement, mounting hardware not included | |
| 4-track erase head ½" | HE-4-110B-8 |
| 4-track record head ½" | HR-4-110B-8 |
| 4-track playback head ½" | HP-4-110B-8 |
| 8-track erase head 1" | HE-8-110C-8 |
| 8-track record head 1" | HR-8-110C-8 |
| 8-track playback head 1" | HP-8-110C-8 |
| **MOUNTING HARDWARE FOR HEAD STACKS** | |
| Head bridge (head stacks not included) 1", 3 head stack mountings | JH-110C-HB-3 |
| Head stack mounting complete for any ½" stack | HM-½-110C-8 |
| Head stack mounting complete for any 1" stack | HM-1-110C-8 |
| **SYSTEM SPARE PARTS KITS** | |
| "Active Spares" Kit, contains transistors, IC's and Extender Boards (applicable to JH-110B and JH-110A-8 Systems) | JH-110B-S-KIT-AA-1 |
| "Switch Spares" Kit, contains switches and LEDs (applicable to JH-110B and JH-110C-8 Systems) | JH-110B-S-KIT-AB-2 |
| "PCA Spares" Kit, contains spare PC assemblies for transport and audio electronics | JH-110C-S-KIT-AS-3 |
| "Mechanical Spares" Kit, contains solenoids, roller guides, motors and AutoLocator III PC assemblies | JH-110C-S-KIT-AR-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/−2 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 |
|---|---|
| 30 ips, AES | 66 |
| 15 ips, NAB | 64 |
| 7.5 ips, NAB | 63 |

| | Weighted, dB(A) |
|---|---|
| 30 ips, AES | 70 |
| 15 ips, NAB | 68 |
| 7.5 ips, NAB | 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: fluxivity level | 30 ips, AES | 1040 nWb/m |
| | 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

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

| | |
|---|---|
| ½ inch | 4 track |
| 1 inch | 8 track |

### Reel sizes

available with NAB A (3, 5 or 7 inch), and NAB B (10½)

### Tension

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

### Long term speed stability

better than .02%

### Wow Flutter

30 ips < .015% DIN 45507 weighted
15 ips <.020% DIN 45507 weighted
7.5 ips <.030% 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 |

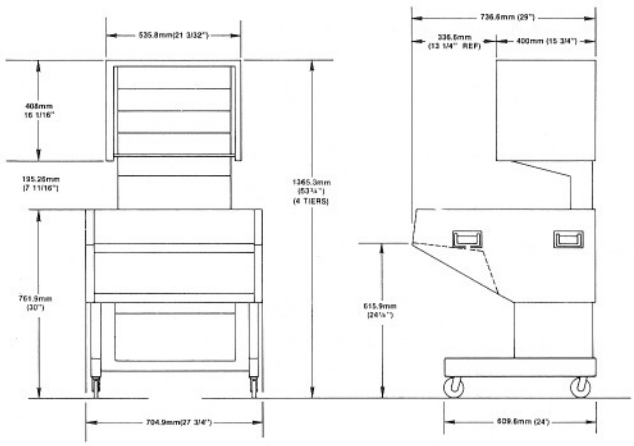
### Rewind time

2400 ft. 110 seconds

## SYSTEM WEIGHT

| | |
|---|---|
| transport unmounted | 38 lbs. |
| electronic drawer, dual channel | 19 lbs. |
| High profile cabinet (HP) | 157 lbs. |

## SYSTEM DIMENSIONS



HP-8 CABINET

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

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