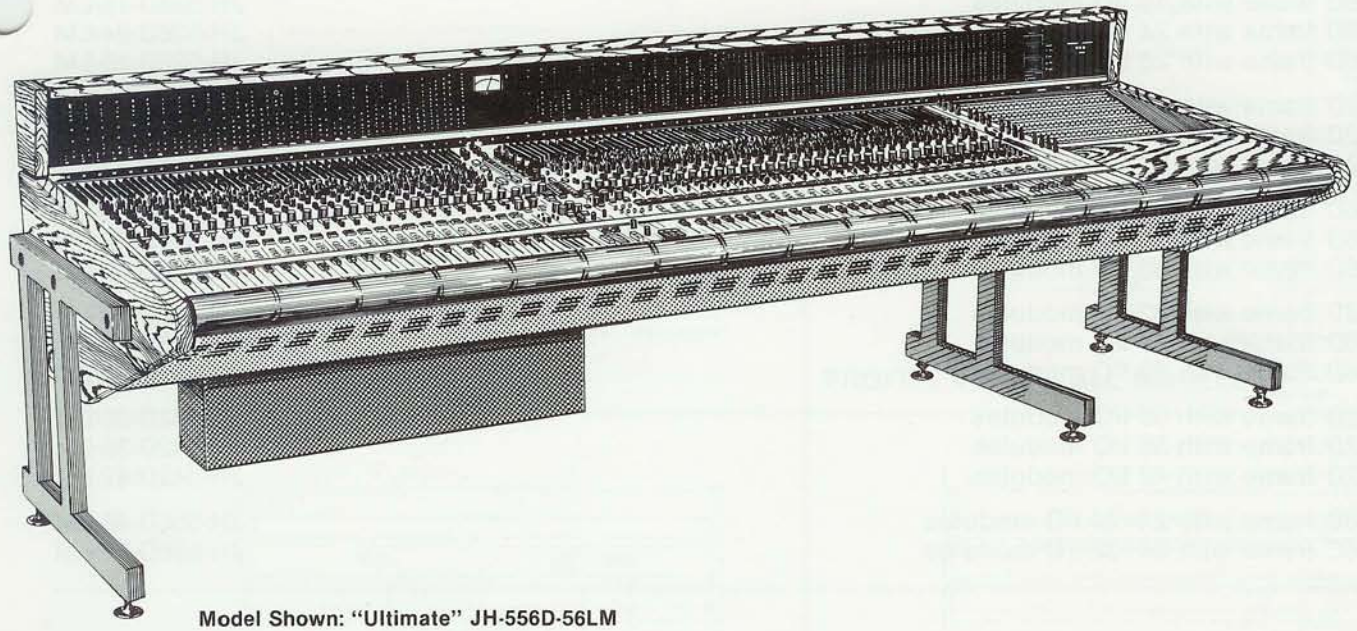
# JH-500D SERIES



Model Shown: "Ultimate" JH-556D-56LM

## PRODUCT CONFIGURATION AND SPECIFICATIONS

MCI has offered the JH-500 Console Series since 1975. Often hailed as the most flexible console ever built, the JH-500 Series has led the professional recording industry into the age of automation. The JH-500D Series is the newest available design, featuring latest electronic technology to meet the high standards of the industry.

- ★ 6 models available, 28 to 56 inputs
- ★ 32 Channel Bussing with panning
- ★ 4 band equalizer with variable frequency high pass filter, switchable to Channel or Monitor
- ★ Quad-Stereo-Mono Mix capability
- ★ 6 Sends for Cue, Echo, or Effects
- ★ In Line Monitoring
- ★ VCA fader
- ★ Automation Ready, optional JH-50 Automation
- ★ MCI 2003 op-amp technology, improved signal to noise ratio
- ★ MCI's patented Plasma Display meters, switchable for Peak or VU metering
- ★ Balanced differential transformerless Channel Line Inputs, Outputs, and Microphone Inputs.
- ★ Many options available to suit all types of operations

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

| DESCRIPTION | MODEL NUMBER |
|---|---|
| JH-528D frame with 16 I/O modules | JH-528D-16-LM |
| JH-528D frame with 24 I/O modules | JH-528D-24-LM |
| JH-528D frame with 28 I/O modules | JH-528D-28-LM |
| JH-532D frame with 24 I/O modules | JH-532D-24-LM |
| JH-532D frame with 28 I/O modules | JH-532D-28-LM |
| JH-532D frame with 32 I/O modules | JH-532D-32-LM |
| JH-536D frame with 28 I/O modules | JH-536D-28-LM |
| JH-536D frame with 32 I/O modules | JH-536D-32-LM |
| JH-536D frame with 36 I/O modules | JH-536D-36-LM |
| JH-538D frame with 32 I/O modules | JH-538D-32-LM |
| JH-538D frame with 36 I/O modules | JH-538D-36-LM |
| JH-538D frame with 38 I/O modules | JH-538D-38-LM |
| JH-542D frame with 36 I/O modules | JH-542D-36-LM |
| JH-542D frame with 38 I/O modules | JH-542D-38-LM |
| JH-542D frame with 42 I/O modules | JH-542D-42-LM |
| JH-556D frame with 24+24 I/O modules | JH-556D-48-LM |
| JH-556D frame with 24+32 I/O modules | JH-556D-56-LM |

OPTIONS

| | |
|---|---|
| One (1) JH-35 Spectra Vue installed in auxiliary module | JH-500-OPT-1 |
| Four (4) echo returns to feed to the quad mix busses, in addition to the four (4) echo returns normally installed | JH-500-OPT-2 |
| Four (4) active balanced, 10k ohm input and 600 ohm output (+ 4dB) equalizers, installed in auxiliary module | JH-500-OPT-3 |
| One bay (2 rows) of extra tie line points for: | |
| JH-528D frames (56 jacks) | JH-500-OPT-5-528 |
| JH-532D frames (72 jacks) | JH-500-OPT-5-532 |
| JH-536D frames (72 jacks) | JH-500-OPT-5-536 |
| JH-538D frames (84 jacks) | JH-500-OPT-5-538 |
| JH-542D frames (84 jacks) | JH-500-OPT-5-542 |
| JH-556D frames (112 jacks) | JH-500-OPT-5-556 |
| Two bay (4 rows) of extra tie line points for: | |
| JH-532D frames (144 jacks) | JH-500-OPT-6-532 |
| JH-536D frames (144 jacks) | JH-500-OPT-6-536 |
| JH-538D frames (168 jacks) | JH-500-OPT-6-538 |
| JH-542D frames (168 jacks) | JH-500-OPT-6-542 |
| JH-556D frames (224 jacks) | JH-500-OPT-6-556 |
| One bay of microphone patch points (input/output normalized) for: | |
| JH-528D frames (28 normalized, insulated insertion points) | JH-500-OPT-7-528 |
| JH-532D frames (32 normalized, insulated insertion points) | JH-500-OPT-7-532 |
| JH-536D frames (36 normalized, insulated insertion points) | JH-500-OPT-7-536 |
| JH-538D frames (38 normalized, insulated insertion points) | JH-500-OPT-7-538 |
| JH-542D frames (42 normalized, insulated insertion points) | JH-500-OPT-7-542 |
| JH-556D frames (56 normalized, insulated insertion points) | JH-500-OPT-7-556 |
| Solder Lug type Tuchel® mating connectors for: | |
| JH-528 Frames | JH-500-OPT-10-528 |
| JH-532 Frames | JH-500-OPT-10-532 |
| JH-536 Frames | JH-500-OPT-10-536 |
| JH-538 Frames | JH-500-OPT-10-538 |

| DESCRIPTION | MODEL NUMBER |
|---|---|
| JH-542 Frames | JH-500-OPT-10-542 |
| JH-556 Frames | JH-500-OPT-10-556 |
| Built-In Phase Meter | JH-500-OPT-12 |
| Six (6) Send Peak Reading LED meters installed in right side of meter housing (not applicable to the JH-556) | JH-500-OPT-13 |
| Phantom Power Supply | JH-500-OPT-15 |
| Auxilliary VU Meter box to rest on top of Meter Housing. | |
| Includes Left, Right and Mono Meter | JH-500-OPT-16-1 |
| Includes Left, Right and Phase Meter | JH-500-OPT-16-2 |
| Melco Glide Mount System: | |
| Requires one Glide Mount and one Mounting Rail for a complete system. | |
| Glide Mount | JH-500-OPT-18-GM |
| Mounting Rail (for JH-528) | JH-500-OPT-18-528 |
| Mounting Rail (for JH-532 or JH-536) | JH-500-OPT-18-536 |
| Mounting Rail (for JH-538 or JH-542) | JH-500-OPT-18-542 |
| Mounting Rail (for JH-556) | JH-500-OPT-18-556 |
| BROADCAST OPTION | |
| Includes broadcast audio flow on all I/O modules which allows simultaneous live broadcasting as well as multitrack recording, a PFL (Pre Fader Listen) system, and a DC signalling system for external stop/start contacts and automatic studio muting when in Microphone mode. | JH-500-OPT-BC |
| RETROFITS AND SPARE MODULES | |
| Input/Output module including VCA fader with automation controls | JH-500D-I/O |
| Additional Plasma Displays including amplifier | JH-500-41 |
| Blank panel for all JH-500D versions, 1½" wide | JH-500D-B/M-1 |
| ACCESSORIES | |
| Patch cords, 1 Ft. | PC 1 |
| Patch cords, 2 Ft. | PC 2 |
| Producer Desks | |
| 3 ft. desk matching the console profile, includes TB-Mic, and 10 remote function controls. Specify for Left or Right side mounting. | JH-500D-PD-L<br>JH-500D-PD-R |

**JH-50 AUTOMATION SYSTEM FOR JH-500D SERIES CONSOLES**

Processor mounted to console frame to build integral system. Routing controls and power supply are standard equipment.

The following functions can be automated on JH-500D Series consoles for level, mute and grouping:

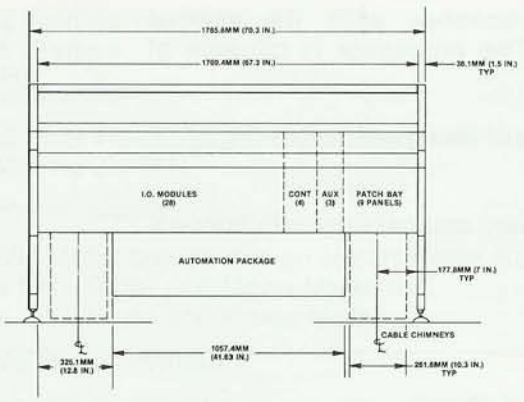
Each I/O module (standard)
Echo Returns 1 thru 4 (standard)
Optional Echo Returns 5 thru 8 (only on models JH-532D, JH-538D and JH-556D)

The JH-50 Automation consists of 4 building blocks for price computation purposes.

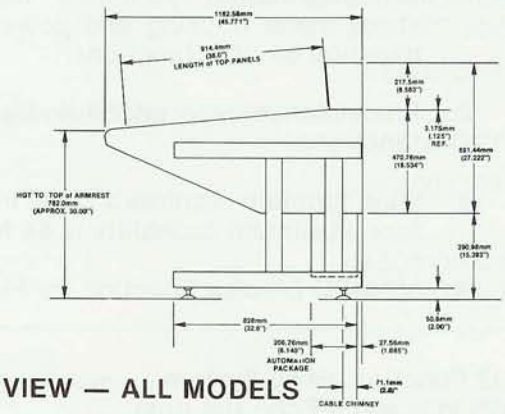
| DESCRIPTION | MODEL NUMBER |
|---|---|
| 1. All automation schemes require the processor with its special sheet metal housing and power regulators. The processor is capable of handling 64 VCA functions. | JH-50-500-PROC |
| 2. Processor/console interface digitizer boards are designed in blocks of 16 functions. | JH-50-500-DIG |
| 3. Each function requires a small interface PC board and cabling with connectors. Maximum capability is 64 functions. | JH-50-500-INT |
| 4. VCA-DC Display Function for Plasma Display. | JH-50-500-DC |
| 32 Function JH-50 System (28 I/Os and 4 Echo Returns) | JH-50-500-32 |
| 36 Function JH-50 System (32 I/Os and 4 Echo Returns) | JH-50-500-36 |
| 40 Function JH-50 System (36 I/Os and 4 Echo Returns) | JH-50-500-40 |
| 42 Function JH-50 System (38 I/Os and 4 Echo Returns) | JH-50-500-42 |
| 46 Function JH-50 System (42 I/Os and 4 Echo Returns) | JH-50-500-46 |
| 60 Function JH-50 System (56 I/Os and 4 Echo Returns) | JH-50-500-60 |
| SPARE PARTS KITS | |
| "Basic Spares" Kit, includes IC's, transistors, diodes, lamps, relays, miscellaneous switches and potentiometers, and a module extender card. | JH-500D-S-KIT-1 |
| "PCA Spares" Kit, includes PC sub-boards for the modules and power supplies. | JH-500D-S-KIT-2 |
| "LM Spares" Kit, includes IC's, transistors, luminescent strips, bargraph, spare Channel PC board and extender boards for the Plasma Display system. | JH-500D-S-KIT-3 |
| "Automation Spares" Kit, includes IC's, transistors, relays, connectors, and miscellaneous components for the automation system. | JH-500D-S-KIT-4 |
| PACKAGING | |
| Crating suitable for motor and air freight (unit mounted on wooden base with heavy duty Toro Pads and Tri-wall sleeve and cover) for: | |
| JH-528D frame | JH-528-CRT |
| JH-532D and JH-536D frame | JH-536-CRT |
| JH-538D and JH-542D frame | JH-542-CRT |
| JH-556D frame | JH-556-CRT |
| JH-500D Producer Desk | JH-500-PD-CRT |

# MODELS AVAILABLE

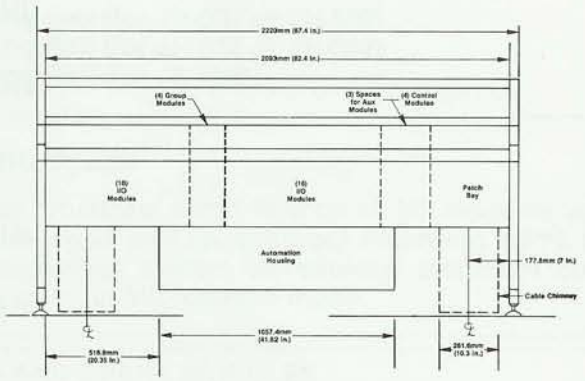
Four frame sizes are available for the JH-500D Series, enabling us to offer six configurations or models — the JH-528D, JH-532D, JH-536D, JH-538D, JH-542D and JH-556D. All consoles have the profiles shown. Custom modifications, layouts and color schemes are available on request.



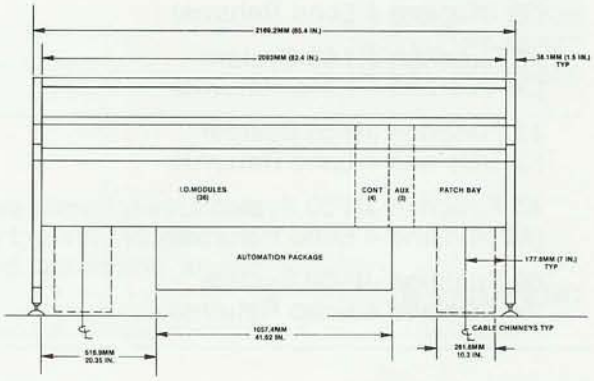

JH-528D



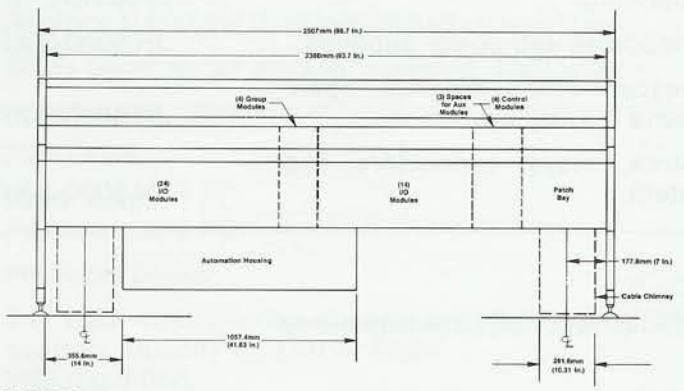

PROFILE VIEW — ALL MODELS



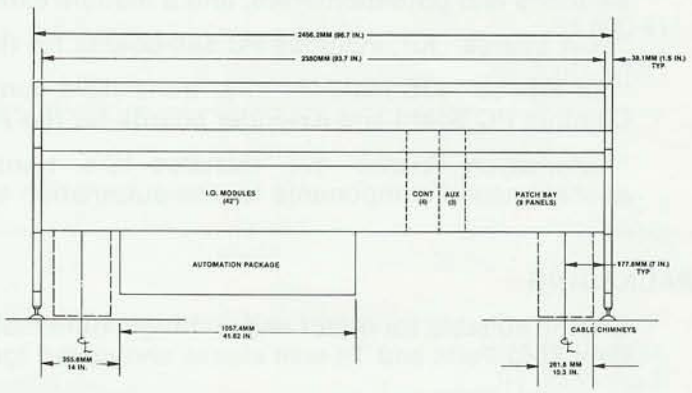

JH-532D



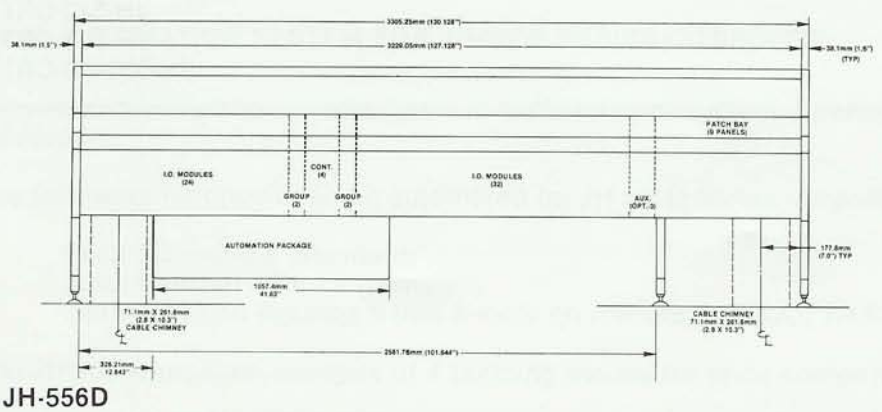

JH-536D



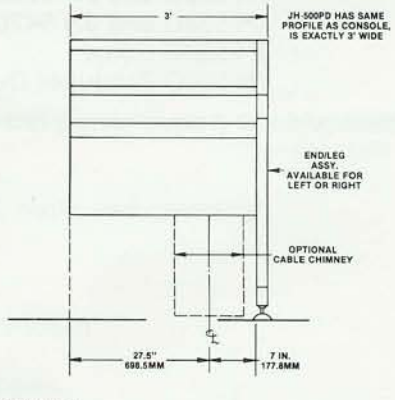

JH-538D




JH-542D




JH-556D




JH-500D-PD

# SPECIFICATIONS

### Frequency Response

The frequency response of the JH-500D Series console is rolled off at 20 Hz to minimize room rumble and at 20 kHz to minimize RF interference.
Any Input to any Output will measure better than ±½ dB from 20 Hz to 20 kHz.

### Input and Output Impedances

| | |
|---|---|
| Mike Preamp Input | 2kΩ @ 1 kHz |
| Line Input | 7kΩ @ 1 kHz |
| Line Output | 120Ω @ 1 kHz |
| Unbalanced Patch Points | |
| Input | 5kΩ |
| Output | 2Ω @ 1 kHz |

### Head Room

Head room is defined as the number of dB between normal level and the maximum 1 kHz sine wave level with no more than 0.5% total harmonic distortion.

| | Max Level | Head Room |
|---|---|---|
| Mike Preamp | +26 dBv | +22 dB |
| Equalizers | +26 dBv | +22 dB |
| Quad Mix Buses—prefader | +26 dBv | +22 dB |
| Channel Line Output | +26 dBv | +22 dB |
| Mix Outputs | +26 dBv | +22 dB |

### Overall Gain

Source impedance is 50 Ω, load impedance 10 kΩ.
Gain measured from mike input to channel line output
77 dB

### Line to Mike Crosstalk

Module in Line Input mode. 150Ω termination of Mike Input. +4 dBv signal into Channel Line Input.

| | | | |
|---|---|---|---|
| 40 Hz | better than | −60 dB | below +4 dBv |
| 1 kHz | better than | −65 dB | below +4 dBv |
| 18 kHz | better than | −50 dB | below +4 dBv |

### Channel to Channel Crosstalk

Channel in Line Input Mode, +4 dBv input, +4 dBv output. An adjacent module is measured with shorted input and fader at unity gain.

| | | | |
|---|---|---|---|
| 40 Hz | better than | −80 dB | below +4 dBv |
| 1 kHz | better than | −80 dB | below +4 dBv |
| 18 kHz | better than | −68 dB | below +4 dBv |

### Bus Crosstalk

The left front Quad Mix Bus is fed a +4 dBv level. Readings are averaged to the three remaining buses.

| | | | |
|---|---|---|---|
| 40 Hz | better than | −70 dB | below +4 dBv |
| 1 kHz | better than | −65 dB | below +4 dBv |
| 18 kHz | better than | −45 dB | below +4 dBv |

### Mike Preamp Distortion

Nominal level(−40dBv in, 0dBv out) less than .03% IM
High level(0dBv in, +24dBv out) less than .04% IM

### Channel Distortion

VCA switched into channel. VCA is adjusted for unity gain (+8 on the channel fader). Line input adjusted for desired output level.
Nom. level(−4dBv in, +4dBv out) less than .05% IM
High level(+18dBv in, +24dBv out) less than .12% IM
*Note: When measuring VCA distortion using IM, it is necessary to be sure no hum exists. Any hum which modulates the VCA level will appear as IM distortion.*

### Monitor Distortion

Line input to Mix Bus. VCA switched into channel.
Nom. level(−4dBv in, +4dBv out) less than .02% IM
High level(+18dBv in, +24dBv out) less than .04% IM

### Noise Measurements

Applies to all measurements.

1. Noise Out in dBv−Gain in dB = Equivalent Noise in dBv
2. All measurements are made with a 20 Hz HP filter and a 20 kHz LP filter. Both filters have a 6 dB per octave rolloff.
3. Terminations for all noise measurements are:
   Mike Input = 150Ω
   Line Input = 50Ω
   Line Output = 10kΩ
4. Noise measurements made on a HP 400FL meter have been corrected by 1.05 dB. This adjustment is required when reading Gausian noise on meters reading average voltage for rms value.

### Mike Preamp

Equivalent input noise at full gain
−129 dBv

### Channel Bus Output

One channel assigned. Test channel at unity gain.
Signal to Noise ratio
better than 85 dB (reference +4 dBv)

### Quad Mix Bus Output

All channels muted at Pan mute. Quad Mix fader set at '0'. Signal to Noise ratio
better than 85 dB (reference +4 dBv) JH-528
better than 80 dB (reference +4 dBv) JH-556
Full system signal to noise ratio in tape mode, 36 channels at unity gain
better than −75 dB (reference +4 dBv)
at Quad output.



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