

M-200i Digital V-Mixing System Specification

The digital mixer shall be designed as an integrated system including Ethernet audio transmission, digital audio processing, integrated digital recording using an optional USB memory key, and digital mixing. The system shall have the ability to be expanded to a maximum of 64 physical inputs and 52 physical outputs using a combination of connectors on the digital mixer and external input and output modules connected by Ethernet. In addition, the system shall provide a digital stereo output via an AES/EBU connector. The system shall have an Ethernet transmission ports that can be connected to an input module comprising an 8-input stage box, a 16-input stage box or a modular 40-channel input/output box. The inputs shall be of very high quality and accept both line and microphone level inputs with individually selectable phantom power. The input gains or trims shall be controllable in 1 dB increments and these settings, as well as their phantom power settings, shall be remotely controllable from the mixing control surface. The gain and phantom power parameters shall be stored with the channel settings for recall later.

The mixing system shall include a mixing control surface that includes 17 moving faders. It shall also include 17 Mute buttons, 17 Solo buttons and 17 Select buttons. Pressing the Select button shall return the display to the selected channel or bus's Edit screen. There shall be 3 buttons that assign 16 of the faders to control channels 1-16, channels 17-32, or the buses and DCA groups. There shall be 2 buttons that shall assign the faders to control 2 independent sets of individual User Fader settings for the selected User. It shall also have 8 dedicated Sends on Fader buttons allowing fader control of each channel's send level to the selected bus.

The mixing control surface shall have an Ethernet port that can be connected, using a Cat5e or Cat6 cable, to stage units supporting 8 inputs and 8 outputs, 16 inputs and 8 outputs, 8 inputs and 16 outputs, or up to 40 inputs and 40 outputs each. Using a gigabit switch, the cables can be split to support multiple of the same 40 output audio paths. The port shall support up to 40 output choices from any channel, bus or matrix.

The mixing control surface shall be able to mix up to 32 channels of audio to 8 Aux buses, 4 Matrices and the stereo Main bus. The audio path from each channel shall be selectable from the pre phase, pre EQ, pre fader and post fader positions. Each output bus shall



have a selectable Delay setting. The mixer shall also provide 4 Matrices that accept inputs from all channels and buses. The sends to the Matrices shall be selectable from pre EQ, prefader and post fader positions.

The mixing control surface shall have 16 XLR mic/line inputs, 6 inputs on 1/4" TRS connectors, and 2 inputs on RCA connectors. The mixing control surface shall accept up to 40 additional mic/line inputs from external modules connected by Ethernet. The system shall allow any input source to be routed to any mixing channel or to multiple simultaneous input channels. The mixing control surface shall have 8 XLR line level outputs, 4 line level outputs on 1/4" TRS connectors, and a stereo digital output in AES/EBU format on an XLR connector. The mixing control surface shall be expandable to include additional mic/line output on external modules connected by Ethernet. The control surface shall provide up to 4 external insert paths, available from any channel, bus or matrix; using the surface's 1/4" TRS inputs and outputs. The mixing control surface shall provide 5 bands of adjustable equalization on each of the 32 channels along with 32 gates and 32 compressors. It shall also provide a delay setting, 4 bands of equalization and a limiter on each of the 8 Aux buses, 4 Matrixes and the stereo Main bus. The mixing control surface shall include libraries for storing various channel, bus and system parameters. These libraries shall include a Channel library, Patchbay library, EQ library, and Gate and Compressor libraries. Each of these shall have at least 100 user storage patches. The mixing control surface shall provide 4 stereo digital effects processors each of which can also be configured as a dual mono processor. These processors shall be assignable to any channel, bus or matrix as an insert or as loop.

In addition it shall provide 4 31-band graphic equalizers assignable to any of the buses or matrices.

The mixing control surface shall have a rack attachment for holding a general-purpose computing tablet with touch screen. The rack shall be adjustable such that the tablet can be used at 3 different viewing angles. The system shall provide a control connection from the tablet to the mixing control surface via a cable or by wireless network connection. When the tablet is connected to the mixing control surface via a cable the mixing control surface shall provide power to the tablet. The mixing control surface shall have a built-in graphical display to show all functions of the mixer when a tablet is not being used with the system. The mixing control surface shall have navigation system for the built-in graphical display comprised of 4 directional movement buttons, 1 Exit button, 1 Enter button, and 1 value encoder knob.

The mixing system shall include application software for a touch screen tablet to control the functions of the mixing control surface. The application software shall have the ability to control routing of all input sources and all output destinations. The application software shall have the ability to control setup of 8 DCA Groups and 4 Mute Groups. The application software shall have the ability to control input preamps' parameters including Sensitivity, Phantom power on/off. The application software shall have the ability to control the parameters of the input channels' effects processors including Gate, Compressor, Filter, and Equalizer. The application software shall have the ability to control the parameters of the output busses' effects processors including Limiter, Equalizer, and Delay. The application software shall have the



ability to control shared effects processors including Delays, Reverbs, and 31-band Graphic Equalizers. The application software shall have the ability to control output routing of the Talkback microphone input and output routing of the Noise Generator and Sine Wave Generator. The application software shall have the control the mixing control surface to Store and Recall Libraries for the various effects units in the mixing control surface. The application software shall have the control the mixing control surface to Store, Recall, and Clear Scenes in the mixing control surface.

The mixing control surface shall have navigation buttons to select display of the major sections of the mixer including Meters, Setup, DCA Groups, Mute Groups, Effects, Graphic Equalizer, Input Channels, and Output Busses. When a general-purpose computing tablet is connected by cable or wirelessly the navigation buttons shall control the software application to display parameters of the selected section of the mixing control surface. If a general-purpose computing tablet is not connected the navigation buttons shall control the mixing control surface display

parameters of the selected section on the built in display of the mixing control surface.

The mixing control surface shall include 300 scenes that store all of the channel, bus and processing parameters. It shall also provide 8 user buttons that can be assigned to direct scene recall, the tempo parameter for a processor configured as a digital delay, and other parameters. The mixing control surface shall also allow any one of the XLR inputs to be used for a talkback microphone. The talkback microphone input shall be assignable to any or all Buses or Matrices. There shall also be an onboard tunable Oscillator and Noise Generator assignable to any Buses or Matrices.

The mixing control surface shall also have a USB A connector that will support a USB storage key. The system shall support direct 16-bit, linear wav file recording or playback via this USB key connected to this port. The USB key shall also be used as storage for console parameters including all libraries and scenes.

The mixing control surface shall have a USB B port that, when connected to a computer

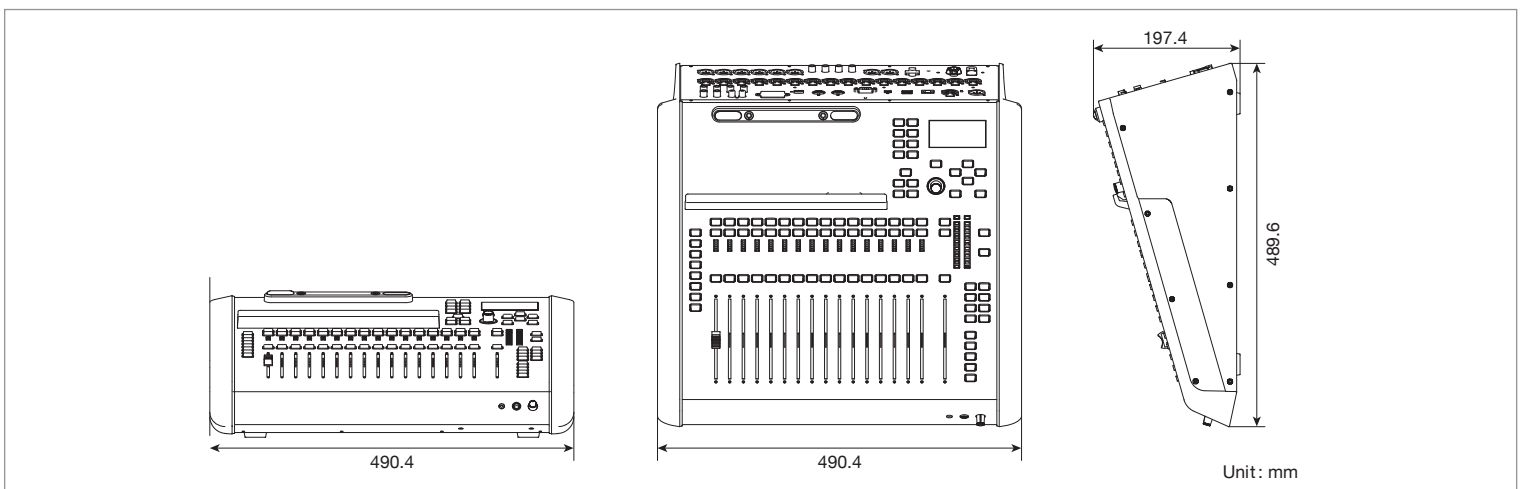
loaded with control software, can be used to control the channel, bus, effects and other parameters of the whole mixing system. The mixing control surface shall also provide a USB A connector that will support a USB wireless adaptor for remote control from a computing tablet. It shall also provide a LAN connector, RS-232 connector, and MIDI Input connector; with each of these ports usable for controlling parameters of the mixing system from an external device or system.

The mixing control surface shall provide 4 mute groups and 8 DCA groups. The DCA groups shall provide level control from one DCA master fader of a user-assignable collection of channels and buses. The mixing control system shall provide a balanced headphone output. This output shall be assigned to the Monitor bus, which shall also be available as an output to any physical outputs in the system. The headphone output shall have an individually adjustable output level control. The mixing control surface shall also provide 16 5-segment LED meters showing channel levels and a dual 14-segment meter to show Main output bus level. The channel levels shall be selectable with choices including post preamp, post attenuator, pre fader and post fader. Each fader shall also have a companion LED meter ladder that displays that channel's levels.

The mixing control surface shall have optional brackets for mounting into a standard 19" rack.

The system shall be a Roland V-Mixing System including an M-200i mixing control surface and the appropriate input and output modules.

V-Mixer M-200i Dimensions



M-200i Digital V-Mixing System Specification

V-Mixer M-200i Main Specifications

SPECIFICATIONS

Processing	
Channels/Buses	CHANNELS: 32 BUSES : MAIN L/R, 8 AUX, 4 MATRIX
Inputs/Outputs	INPUTS: 24 (64 when using optional REAC devices) OUTPUTS: 14 (Max 54 ports when using REAC Devices)
Signal Processing	AD/DA Conversion: 24 bit Sample Rate: 48.0 kHz or 44.1 kHz
Console Latency	2.0 mS (typ.) *1 * Total Latency of audio signal from M-200i's console inputs to M-200i's outputs. * Sample Rate: 48.0 kHz * Effects: No insert effects
Network Latency	2.5 mS (typ.) *1 * Total System Latency of audio signal from S-1608 inputs to outputs via M-200i's REAC ports. * Sample Rate: 48.0 kHz * Effects: No insert effects
Connectors	
Inputs/Outputs/ Others	INPUT jacks (1 to 16): XLR-3-31 type (balanced, phantom power) INPUT jacks (17 to 22): 1/4 inch Phone type (balanced) INPUT jacks (23 to 24): RCA Phono type ASSIGNABLE OUTPUT jacks (1 to 6): XLR-3-32 type (balanced) ASSIGNABLE OUTPUT jacks (7 to 10): 1/4 inch Phone type (balanced) MAIN OUTPUT jacks (L, R): XLR-3-32 type (balanced) PHONES jacks: Stereo 1/4 inch phone type, Miniature phone type AES/EBU OUT jack: Optical type REAC port: RJ-45 EtherCon type RS-232C connector: 9-pin D-sub type MIDI connectors (OUT/THRU, IN): 5-pin DIN type USB MEMORY port: USB Type A USB WLAN ADAPTOR port: USB Type A USB COMPUTER port: USB Type B LAN port: RJ45 type DOC CABLE port : 10-pin mini DIN type DC IN jack Grounding terminal * XLR type: 1 GND, 2 HOT, 3: COLD * Phantom power: DC+48V (unloaded maximum), 14mA (maximum load, All XLR type inputs)
Input/Output Characteristics	
Frequency Response	ASSIGNABLE OUTPUT jacks (1 to 10): -2 dB /+0 dB (20k ohms load, +4 dBu, typ.) MAIN OUTPUT jacks (L, R): -2 dB / +0 dB (20k ohms load, +4 dBu, typ.) PHONES jack: -3 dB / +0 dB (40 ohms load, 150 mW, typ.) * Sample Rate: 48.0 kHz or 44.1 kHz * Input Connector: INPUT 1 to 24 (Pad: ON, Input sens: +4 dBu, 20 Hz to 20 kHz)
Total Harmonic Distortion + Noise	ASSIGNABLE OUTPUT jacks (1 to 10): 0.05 % (+4 dBu, typ.) MAIN OUTPUT jacks (L, R): 0.05 % (+4 dBu, typ.) PHONES jack: 0.05 % (40 ohms load, 150 mW, typ.) * Sample Rate: 48.0 kHz or 44.1 kHz * Input Connector: INPUT 1 to 24 (Input sens: +4 dBu, 20 Hz to 20 kHz)
Dynamic Range	ASSIGNABLE OUTPUT jacks (1 to 10): 102 dB (typ.) MAIN OUTPUT jacks (L, R): 102 dB (typ.) * Sample Rate: 48.0 kHz or 44.1 kHz * Input Connector: INPUT 1 to 24 (Input sens: +4 dBu, 20 Hz to 20 kHz)
Crosstalk@ 1 kHz	INPUT jacks (1 to 24): -80dB (Input sens: +4 dBu, IHF-A, typ.) ASSIGNABLE OUTPUT jacks (1 to 10): -88 dB (typ.) MAIN OUTPUT jacks (L, R): -88 dB (typ.) * Sample Rate: 48.0 kHz or 44.1 kHz
Nominal Input Level (Variable)	INPUT jacks (1 to 16): -65 to +4 dBu INPUT jacks (17 to 24): -28 to +4 dBu
Input Impedance	INPUT jacks (1 to 16): 14 k ohms INPUT jacks (17 to 24): 10 k ohms
Non Clip Maximum Input level	INPUT jacks (1 to 24): +22dBu (1 kHz, 20 k ohms load, typ.)
Nominal Output Level	ASSIGNABLE OUTPUT jacks (1 to 10): +4 dBu (Load impedance: 10 k ohms, typ.) MAIN OUTPUT jacks (L, R): +4 dBu (Load impedance: 10 k ohms, typ.)
Output Impedance	ASSIGNABLE OUTPUT jacks (1 to 10): 600 ohms (typ.) MAIN OUTPUT jacks (L, R): 600 ohms (typ.) PHONES jack: 49 ohms (typ.)

Recommended Load Impedance	ASSIGNABLE OUTPUT jacks (1 to 10): 10 k ohms or greater MAIN OUTPUT jacks (L, R): 10 k ohms or greater PHONES jack: 40 ohms or greater
Minimum Load Impedance	PHONES jack: 16 ohms
Non Clip Maximum Output level	ASSIGNABLE OUTPUT jacks (1 to 10): +22 dBu (1 kHz, 10 k ohms load, typ.) MAIN OUTPUT jacks (1 to 10): +22 dBu (1 kHz, 10 k ohms load, typ.) PHONES jack: 150 mW + 150 mW (1 kHz, 40 ohms load, typ.)
Residual Noise Level (IHF-A, typ.)	-88 dBu (All faders: Min) -80 dBu (Main Fader: Unity, Channel faders: Unity only one INPUT1 channel, Preamp sens: Min) -61 dBu (Main Fader: Unity, Channel faders: Unity only one INPUT1 channel, Preamp sens: Max) * Input 150 ohms terminate * Output Connector: ASSIGNABLE OUTPUT jacks (1 to 10), MAIN OUTPUT
Jacks (L, R)	-88 dBu (All faders: Min) -80 dBu (Main Fader: Unity, Channel faders: Unity only one INPUT1 channel, Preamp sens: Min) -61 dBu (Main Fader: Unity, Channel faders: Unity only one INPUT1 channel, Preamp sens: Max) * Input 150 ohms terminate * Output Connector: ASSIGNABLE OUTPUT jacks (1 to 10), MAIN OUTPUT jacks (L, R) * Sample Rate: 48.0 kHz or 44.1 kHz
Equivalent Input Noise Level (E.I.N.)	-126 dBu (Main Fader: Unity, Channel faders: Unity only one channel, Preamp sens: Max) * Output Connector: ASSIGNABLE OUTPUT jacks (1 to 10), MAIN OUTPUT jacks (L, R) * Sample Rate: 48.0 kHz or 44.1 kHz
Others	
Display	Graphic LCD 132 x 64 dots with backlight
Current Draw	3.6 A
Dimensions	Desktop: 491(W) x 490(D) x 198(H) mm Desktop: 19-3/8(W) x 19-5/16(D) x 7-13/16(H) inches
Weight	9.8 kg 21 lbs 10 oz
Operation Temperature	+5 to +40 degrees Celsius +41 to +104 degrees Fahrenheit
Accessories	• DOCK CABLE • TABLET STAND • AC Adaptor • Power Cord • Owner's Manual
Options	• Rackmount Kit: RA-10U • Wireless USB Adapter: WNA1100-RL • USB Flash Memory

Use USB Flash Memory sold by Roland. Other products are not guaranteed to work.

* 0dBu=0.775Vrms

* In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.

*1: When a REAC Splitter S-4000D or a switching hub is used in-line with REAC cables, the network latency will increase by the amount of processing delay introduced by the splitting device itself. The actual delay is dependant upon the specifications of the splitting device, though the maximum delay amount for a single splitting device should be no more than 200 microseconds.



M-200i shown with the Roland S-1608 Digital Snake providing 16 inputs and 8 outputs remotely via a Cat5e/6 cable.