

M 20X DIGITAL MIXER

M 20X

A FULL-FEATURED AND COMPACT DIGITAL MIXER

The M 20X is a desktop digital mixer in compact form, packed with features for maximum versatility, including a comprehensive set of recording and playback functions.

The mixer offers a total of 20 analog inputs (16 of which with remote-controlled preamps) and 14 output channels, between the balanced analog outputs and the AES/EBU digital output.

The User Interface has been designed so that every parameter is reachable within a few operations.

Below the 5-inch touchscreen, 5 encoders are assigned to various parameters as a function of the current screen.

A set of motorized faders allows access to all inputs and output levels, without increasing the overall footprint of the unit.

There is also a dedicated FADER VIEW button, that shows all inputs and outputs at once, including the assigned names, and allow an immediate jump to the desired channel strip section.

The unit can be monitored at any time via the CUE bus, which features a real-time analyzer (RTA) and a headphone output.

A bank of User Keys is always available, and several functions can be assigned to each of the buttons. User Keys functions can also be driven remotely via MIDI.

Multitrack audio can be handled via the on-board USB 2.0 Audio Interface, for a maximum of 24 x 24 channels, and through the internal SD-card multitrack player/recorder.

The two multitrack options can be simultaneous. In addition, a USB stereo multimedia player and recorder is available, handling multiple file formats (WAV, MP3, AIFF).



ENHANCED Z-CORE FX ENGINES

Four busses are dedicated to internal FX engines, arranged as two high-quality digital reverbs, a programmable delay and a 4th FX which can be configured as a delay or a modulation.

All FX engines offer multiple algorithms to match the specific needs of a show. It is possible to reserve one reverberator for some inputs and use the second reverb as a general-purpose FX for other sources.

ALGORITHM LIST

REVERB	Hall (Large Bright, Large Warm, Medium Bright, Medium Warm), Plate (Vintage, Modern), Room (Medium Bright, Medium Warm, Small Bright, Small Warm), Ambience (two models)
DELAY	Stereo, Modern, Vintage, Dual, Early Reflections
MODULATION	Chorus, Flanger, Tremolo

- 16 Mic/Line preamp inputs
- 4 auxiliary Line inputs
- 12 balanced outputs + phones
- AES/EBU digital output
- Stereo USB drive Play/Rec (WAV, MP3, AIFF)
- 20-Tracks SD card Rec/Play
- 24 x 24 CH USB audio I/F (24-bit/48 kHz)
- 28 x 16 mixing matrix
- LAN / WiFi control, up to 10 clients

FULL MIXING CONTROL

All parameters can be easily controlled with on-board motorized faders, a fast-reacting, 5" capacitive touch screen and a full control surface.

Every function is just one or two steps away, with intuitive navigation in all menus. You have full control of your live mix, all within one of most compact systems you can find on the market. The available faders are smooth and silent, and allow a quick view of all mix levels. Faders can be assigned to one of the available mixing layers (MAIN, FX1-FX4, MIX1-MIX8), and to groups of inputs (1-10, 11-20, FX1-4 and Custom). The ten MIX outputs can also be assigned to the faders bank, allowing a single view of all output signals.

The mixer can be fully controlled and configured locally, but also remotely, by means of the M20 MixRemote control app. Inputs can be linked into stereo pairs, and MIX busses can also be linked in stereo for stereo monitoring applications.

All parameters, including preamp gains, can be saved and recalled for complete control in any context.

INPUT PROCESSING

Each of the 16 inputs feature a 12 dB/oct HPF, noise gate, a compressor/deesser, a flexible 4-band parametric EQ, and a delay line; the source can be selected between the analog input, the USB Audio interface, the SD card player, into different insertion points for maximum flexibility. A SEND VIEW page allows immediate verification, for the specified input channel, of send levels on all busses, including on/off and pre/post information.

OUTPUT PROCESSING

A complete output processing section is available on all outputs: a flexible 8-band parametric EQ with several selectable modes, that also allow different slopes, a delay with up to 85 meters compensation, a compressor/limiter. A stereo 30-band graphic equalizer is available on the MAIN outputs for precise corrections of the overall frequency response.

Extensive routing options allows flexible use of the physical outputs.



RECORD AND PLAYBACK OPTIONS

The M 20X offers several ways of recording and playing back prerecorded material:

Internal SD multitrack record/playback

All 20 inputs can be recorded in multitrack WAV format on the local SD card, and later reproduced with individual selection on each channel.

Multichannel USB Audio Interface

A 24-track, 24-bit, 48-kHz audio interface is available and allows access to all inputs and several internal signal nodes. Extensive routing options allow both offline soundcheck and host-based effects processing.

USB drive stereo player/recorder

A flexible stereo file player can access USB mass storage devices (up to 4 different drives), with arbitrary sample rate, in MP3, WAV and AIFF formats.





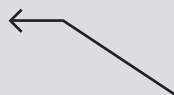
CAPACITIVE TOUCH

A highly responsive capacitive touch interface for navigation of all the functions of the mixer with an external tablet.



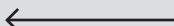
USER KEYS

A set of 8 User Keys with extensive programming options are always available, and offers immediate control of scene selection, play/record transport, tap tempo, user interface shortcuts.



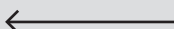
FADER LAYERS AND FADER VIEW

4 layers of fader assignments allow immediate access to input channels 1-10 and 11-20, to FX returns and outputs. The FADER VIEW button shows all fader details on a single screen view.



MOTORIZED FADERS

Eleven, 100-mm motorized faders allow precise mix control with immediate visual feedback. Special care has been taken to minimize movement noise.





TOUCH SCREEN

The 5-inch TFT touchscreen offers intuitive access to all the available features, and can be optionally paired with a tablet to augment interaction with the M 20X.



USB HOST PORTS

Two USB host ports on the top panel are available for WiFi dongles, USB-MIDI devices, and USB mass storage devices that can be used for stereo audio record/playback, system backups and firmware updates.

SD CARD MULTITRACK SECTION

An integrated SD card multitrack engine offers a maximum of 20 simultaneous tracks at 24-bit, 48 kHz, with extensive routing options.

14 BUSSES

The control surface can be assigned to 4 effect busses, 8 MIX busses and the stereo MAIN mix buss; the MASTER fader is always associated to the output level of the selected buss.

M 20X

DESKTOP DIGITAL MIXER

PEQ8 OPERATING MODES



M20 MIXREMOTE CONTROL APP

Complete remote control of the M 20X is available with **M20 MixRemote**, a dedicated app Developed for both iOS and Android.

There are several options to connect with the M 20X:

- **wireless**, via an external WiFi Access Point connected to the LAN
- **USB tethering** to an Android tablet;
- **Wired** to an iOS or Android tablet (via LAN adapter);
- **WiFi Dongle**, 2 clients maximum.

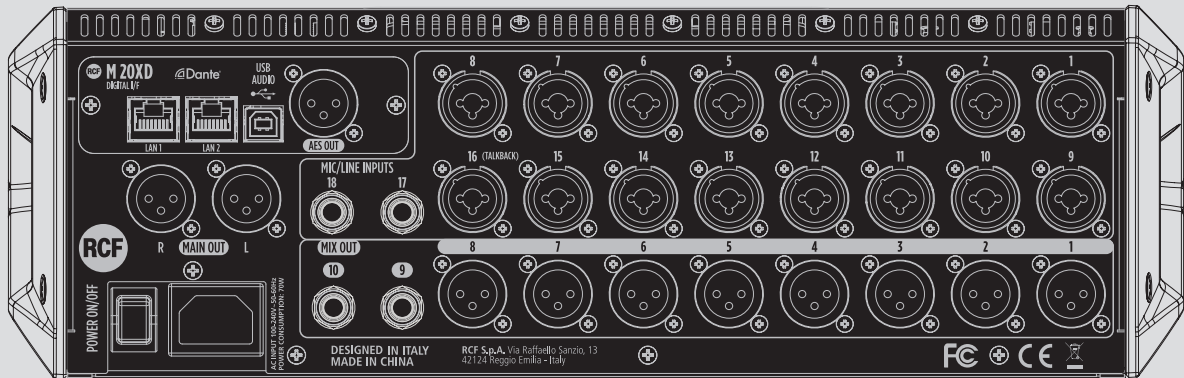
Access permissions ensure that critical parameters are edited only by selected users.

It is also possible to augment the existing control surface by enabling the ATTACH mode and correlate the navigation on M20 MixRemote to physical control interactions: when pressing a SEL button on the mixer, the app jumps directly to the related Channel View page; in this way, a tablet can be used to quickly edit channel parameters, minimizing navigation on the onboard screen. A separate app, optimized for iOS and Android smartphones, is also available for controlling monitor mixes (MyRemote).



M 20XD

DESKTOP DIGITAL MIXER WITH DANTE™ I/F

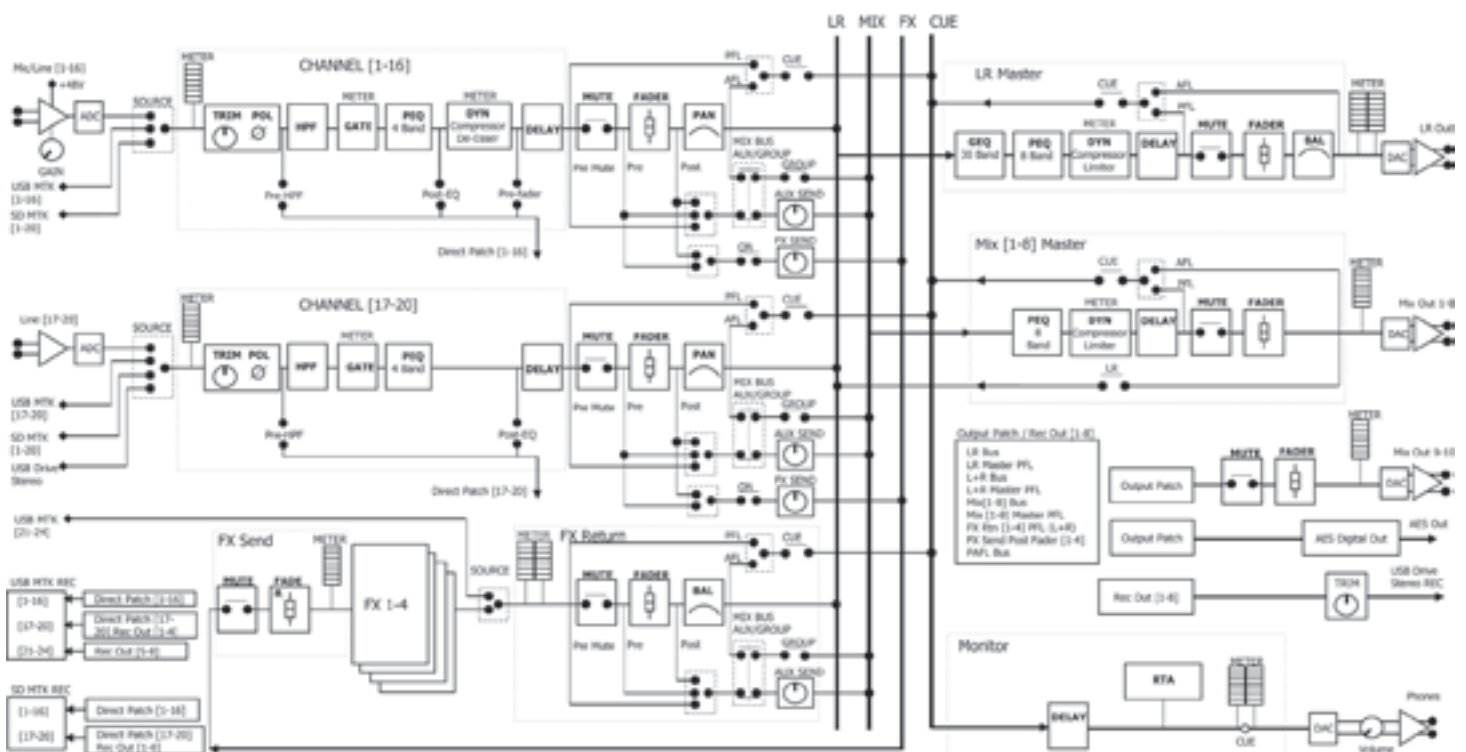


The M 20XD digital mixer features the same capabilities and form factor of the M 20X, adding a factory-fitted Dante interface option; this feature can be enabled at any time in place of the USB audio interface, retaining all the advanced routing features present for USB. A total of 24 inputs and 24 outputs are available with 24-bit depth, at a sampling rate of 48 kHz. Signals to the host can be routed from any

input, from the FX sends, from the MAIN outputs or MIX sends; signals from host can be routed to input channels, to FX returns, to MIX busses.

The internal Dante interface is suited for remote I/O, virtual sound check configurations, and integration of native (host-based) processing with internal processing features on M 20XD.

BLOCK DIAGRAM (M 20X/ M 20XD)



M 20XD: Dante audio channels can be set to replace USB Audio channels.

M 20X REAR VIEW



M 20X / M 20XD TECHNICAL SPECIFICATIONS

INPUTS

MIC/LINE preamps CH 1-8	XLR input connectors Gain range = 60 dB Input impedance = 4.7 kΩ Maximum input level = +24dBu
MIC/LINE preamps CH 9-16	COMBO input connectors Gain range = 60 dB Input impedance (XLR/TRS) = 4.7 kΩ / 10 kΩ Maximum input level(XLR/TRS) = +24dBu / +34dBu
Balanced Line inputs CH 17-18	2 channels 1/4" TRS jack Input impedance = 10 kΩ Maximum input level = +18 dBu
Unbalanced inputs CH 19-20	Stereo 3.5mm mini jack Input impedance = 10 kΩ Maximum input level = +18 dBu

OUTPUTS

MAIN LR	Balanced XLR Output impedance = 150 Ω Maximum output level = +24 dBu
MIX 1-8	Balanced XLR Output impedance = 150 Ω Maximum output level = +24 dBu
OUT 9-10, routable	2 channels 1/4" TRS jack Output impedance = 150 Ω Maximum output level = +24 dBu
Digital output, routable	AES3 (XLR)

DSP ENGINE

Processing	32-bit floating-point, 48 kHz Sample Rate
Internal Mixing Matrix	28 x 16

INPUT PROCESSING

CH 1-16	Hi-Pass filter Delay (up to 100 ms) Gate 4-band Parametric EQ Compressor / De-Esser
CH 17-20	Hi-Pass filter Delay (up to 100 ms) Gate 4-band Parametric EQ

OUTPUT PROCESSING

MIX 1-8 (option to link in stereo pairs)	8-band Parametric EQ Compressor/Limiter Delay (up to 250 ms)
MAIN LR output (with Stereo/Mono switch)	8-band Parametric EQ 30-band Graphic EQ Compressor/Limiter Delay (up to 250 ms)
PAFL	Real-Time Analyzer Delay (up to 250 ms)

INTERNAL FX (4x Z-CORE FX Engine)

FX1 bus	Stereo Reverb (Hall, Plate, Room, Ambience)
FX2 bus	Stereo Reverb (Hall, Plate, Room, Ambience)
FX3 bus	Stereo Delay (Stereo, Modern, Vintage, Dual, ER)
FX4 bus	Stereo Delay / Modulation (Chorus, Flanger, Tremolo)

ON-BOARD MULTITRACK

SD Card Play/Rec	Recording: 20 channel WAV, 48kHz 24-bit, patchable Playback: 20 channel WAV, 48kHz 24-bit, patchable
USB Audio Interface	Upstream: 24 channel WAV, 48kHz 24-bit, patchable Downstream: 24 channel WAV, 48kHz 24-bit, patchable

USB DRIVE PLAY/REC

2-channel Play/Rec	Recording: WAV 48kHz, 24-bit Playback: WAV (16/24-bit), MP3, AIFF; allowed sample rates from 44.1 to 96 kHz
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CONTROL INTERFACES

LAN	1000-BaseTX for remote control (M 20X) Dual 1000-BaseTX for Dante audio streaming and remote control (M 20XD)
USB host	two ports MIDI interface, WiFi dongle (must be enabled), USB mass storage

POWER

Input Voltage Range	100-240 VAC, 50/60 Hz
Power Requirements	55 W (M 20X/M 20XD)

PHYSICAL

Weight	7.9 kg (M 20X/M 20XD)
Dimensions [D x L x H]	428 x 388 x 131 mm (M 20X/M 20XD)

The data and designs are not binding; RCF reserves the right to modify the data and designs at any time and without previous notice.