

Onyx 1620i

The Onyx 1620i features eight full mono mic/line channels (each with 4-band dual sweep Perkins EQ), four stereo channels (each with 3-band Perkins EQ), four aux sends on all channels with pre/post capability and a powerful master section.

The Onyx 1620i is equipped with 16x2 FireWire capability, allowing all channels, aux sends and main L/R to be routed to any desired DAW, including Pro Tools® 9 and M-Powered™ 8. The FireWire output from the computer may be brought back straight into a channel strip for easy mix integration. FireWire aggregation allows multiple Onyx 1620i mixers to be connected.

Each mono channel has an Onyx mic preamp, phantom power, an input Gain control with 60 dB of gain, a sharp 18 dB/octave, 75 Hz Low Cut filter, Pan, Mute, Solo, a 60mm fader and a Channel Insert jack for connecting an external processor.

There are built-in DIs on the first two channels for direct connection of guitars or bass and a dedicated talkback section for easy communication with band members on stage or during recording sessions.

Other features include a stereo tape input and output, a 1/4-inch stereo headphone jack, stereo 12-segment LED meters and XLR and TRS stereo output jacks.

The Control Room/Phones section has its own level control, outputs and input matrix for selecting any combination of Main Mix, Tape In and Alt 3-4.

Despite its large channel count, the Onyx 1620i is compact and rack mountable. Plus, it's a Mackie which means it is "Built-Like-A-Tank" and will survive years of abuse.

APPLICATIONS

Live sound mixing, houses of worship, clubs, gymnasiums, banquet halls, conference rooms, boardrooms, multitrack studio and field recording, video post-production, multimedia applications, broadcast, and many, many more.



FEATURES:

- 16-channel premium analog mixer with integrated 24-bit / 96 kHz FireWire I/O
- Eight Onyx boutique quality mic preamps
- 4-band Perkins EQ with sweepable mids on mic/line channels
- 3-band Perkins EQ on stereo line channels
- 16x2 FireWire routing, including aux sends, main L/R and pre/post EQ assignment for all channels
- Compatible with most major DAWs
 - Pro Tools® 9 / M-Powered™ 8
 - Logic®
 - SONAR™
 - Cubase®
 - Ableton® Live
 - Final Cut Pro®
 - ...and more
- Four aux sends with pre/post assignment
- Smooth 60mm channel and master faders
- Built-in DI on first two channels for direct connection of guitars, bass, etc.
- Individual 48V phantom power switches on all mic inputs
- Talkback section with built in mic and flexible routing
- "Planet-Earth" switching power supply for worldwide use
- Optional rack kit available
- Includes Tracktion 3™ Music Production Software for Mac or PC

Onyx 1620i SPECIFICATIONS**Noise Characteristics**

Equivalent Input Noise (EIN)	
(mic input at insert, 150 Ω source impedance, 20 Hz to 20 kHz)	
60 dB (max) gain:	-127 dBu
40 dB gain:	-126.5 dBu

Equivalent Input Noise (EIN)	
(mic input at insert, 50 Ω source impedance, A-weighted)	
60 dB (max) gain:	-130.5 dBu
40 dB gain:	-130 dBu

Output Noise	
(1/4" Main out, all channels assigned to main, Gain knobs at unity, 20 Hz to 20 kHz)	
Main Mix knob down, channel Level knobs down:	
	-102 dBu (-106 dB SNR, ref +4 dBu)
Main Mix knob unity, channel Level knobs down:	
	-92 dBu (-96 dB SNR, ref +4 dBu)
Main Mix knob unity, channel Level knobs unity:	
	-88 dBu (-92 dB SNR, ref +4 dBu)

FireWire Through (Record + Playback) Dynamic Range	
(0 dBu in, mic input to FireWire send, returned to Control Room, all gain stages at unity, 20 Hz to 20 kHz)	
44.1 kHz sample rate:	-104 dB
96 kHz sample rate:	-106.5 dB

Frequency Response

Mic input to any output	
(all gain stages at unity, +0 / -0.5 dB)	20 Hz to 20 kHz
Stereo channel line input to any output	
(all gain stages at unity, +0 / -0.5 dB)	20 Hz to 20 kHz
FireWire in and out (mic input to FireWire send, returned to Control Room, all gain stages at unity):	
44.1 kHz sample rate (+/-0.5 dB)	20 Hz to 20 kHz
	-3 dB at 21 kHz
96 kHz sample rate (+/-0.5 dB)	20 Hz to 20 kHz
	-3 dB at 45 kHz

Distortion (THD+N)

(20 Hz to 20 kHz bandwidth)	
Mic input at insert	
(+4 dBu in, 0 dB gain, +4 dBu out)	0.0057%
Mic input at insert	
(-36 dBu in, +40 dB gain, +4 dBu out)	0.017%
Stereo channel line input to any output	
(+4 dBu in, all gain stages at unity, +4 dBu out)	0.005%
FireWire in and out	
(+4 dBu in, mic input to FireWire send, returned to Control Room, all gain stages at unity)	
44.1 kHz sample rate:	0.01%, (20 Hz to 2 kHz)
	0.02%, (2 kHz to 20 kHz)
96 kHz sample rate:	0.01%, (10 Hz to 1 kHz)
	0.03%, (1 kHz to 47 kHz)

Attenuation and Crosstalk

Main Mix knob down, 1 kHz	-85 dBu
Channel Alt/Mute switch engaged, 1 kHz	-88 dBu
Channel Level knob down, 1 kHz	-87 dBu

Common Mode Rejection Ratio (CMRR)

Mic input to insert, max gain, 1 kHz	-60 dB
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Maximum Input Levels

Mic input, gain at min (0 dB)	+22 dBu
Mic input, gain at max (60 dB)	-38 dBu
Line input, gain at -20 dB	+22 dBu
Instrument input, gain at -20 dB	+22 dBu
Tape input	+12 dBu
Aux return	+22 dBu

Maximum Output Levels

All outputs	+22 dBu
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Equalization

Mono Channels	
Low	± 15 dB @ 80 Hz
Lo-Mid frequency	100 Hz to 2 kHz
Lo-Mid gain	± 15 dB
Hi-Mid frequency	400 Hz to 8 kHz
Hi-Mid gain	± 15 dB
High	± 15 dB @ 12 kHz
Stereo Channels	
Low	± 15 dB @ 80 Hz
Mid	± 15 dB @ 2.5 kHz
High	± 15 dB @ 12 kHz

FireWire

Sample Rates	44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz
Buffer Size	32 (44.1 kHz and 48 kHz only), 64, 128, 256, 512, 1024, 2048 samples
Resolution	24-bit

Onyx 1620i SPECIFICATIONS continued...**Meters**

2-segment pre-fader channel meters	OL (+18 dBu), -20 dBu
12-segment pre-fader Control Room meters	OL (+20 dBu), +15, +10, +6, +3, 0, -2, -4, -7, -10, -20, -30 (0 dB = 0 dBu)

Input Impedance

Mic input	2.8 k Ω balanced
Hi-Z input	1 M Ω unbalanced
Mono channel line input	30 k Ω balanced 15 k Ω unbalanced
Stereo channel line input	20 k Ω balanced 10 k Ω unbalanced

Output Impedance

Main XLR output	100 Ω balanced
Phones output	25 Ω unbalanced
Channel Inserts	150 Ω unbalanced
Tape Output	2 k Ω unbalanced
All other outputs	300 Ω balanced

AC Power Requirements

Power Consumption	40 watts
Universal AC Power Supply	100 – 240 VAC, 50 – 60 Hz
Operating Temperature	0° – 40°C 32° – 104°F

Physical Properties (packaged product)

Height	10.0 in / 254 mm
Width	22.5 in / 572 mm
Depth	23.0 in / 584 mm
Shipping Weight	24.5 lb / 11.1 kg

Physical Properties (product)

Height	19.1 in / 485 mm
Width	16.6 in / 422 mm
Depth	4.3 in / 110 mm
Net Weight	20.0 lb / 9.1 kg

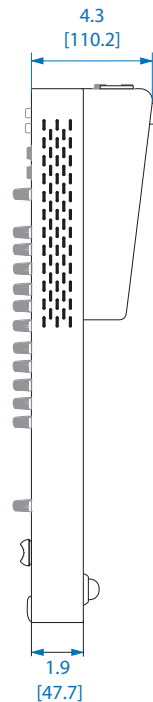
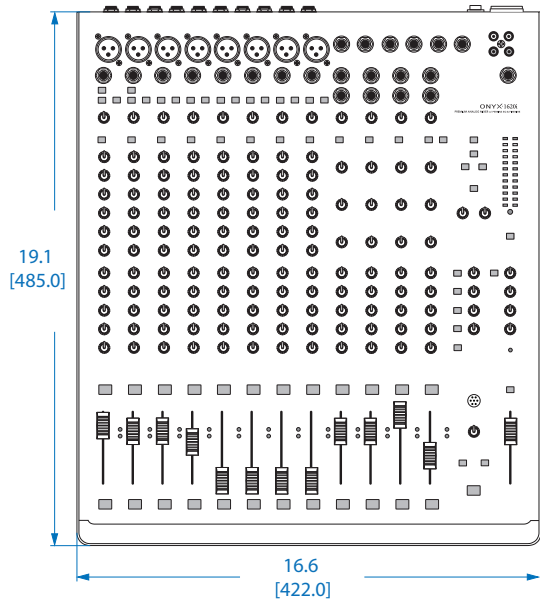
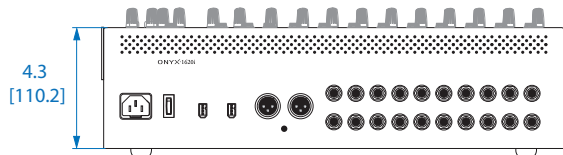
Options

Rackmount Kit	0031911-00
Mixer Bag	0032347

Ordering Information

Onyx 1620i 16-Channel Premium Mixer with FireWire, US	P/N 0031077-00
Onyx 1620i 16-Channel Premium Mixer with FireWire, EU	P/N 0031077-01

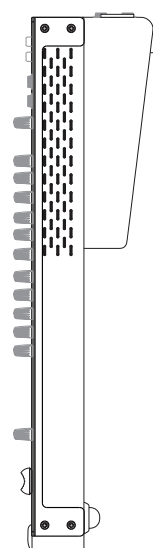
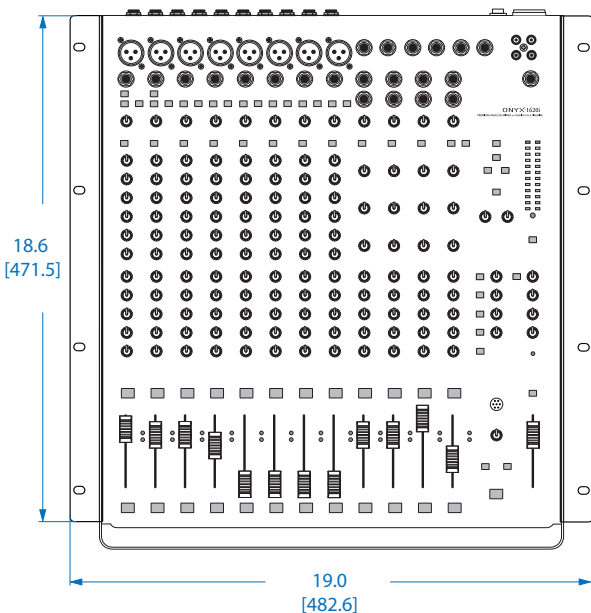
Onyx 1620i DIMENSIONS



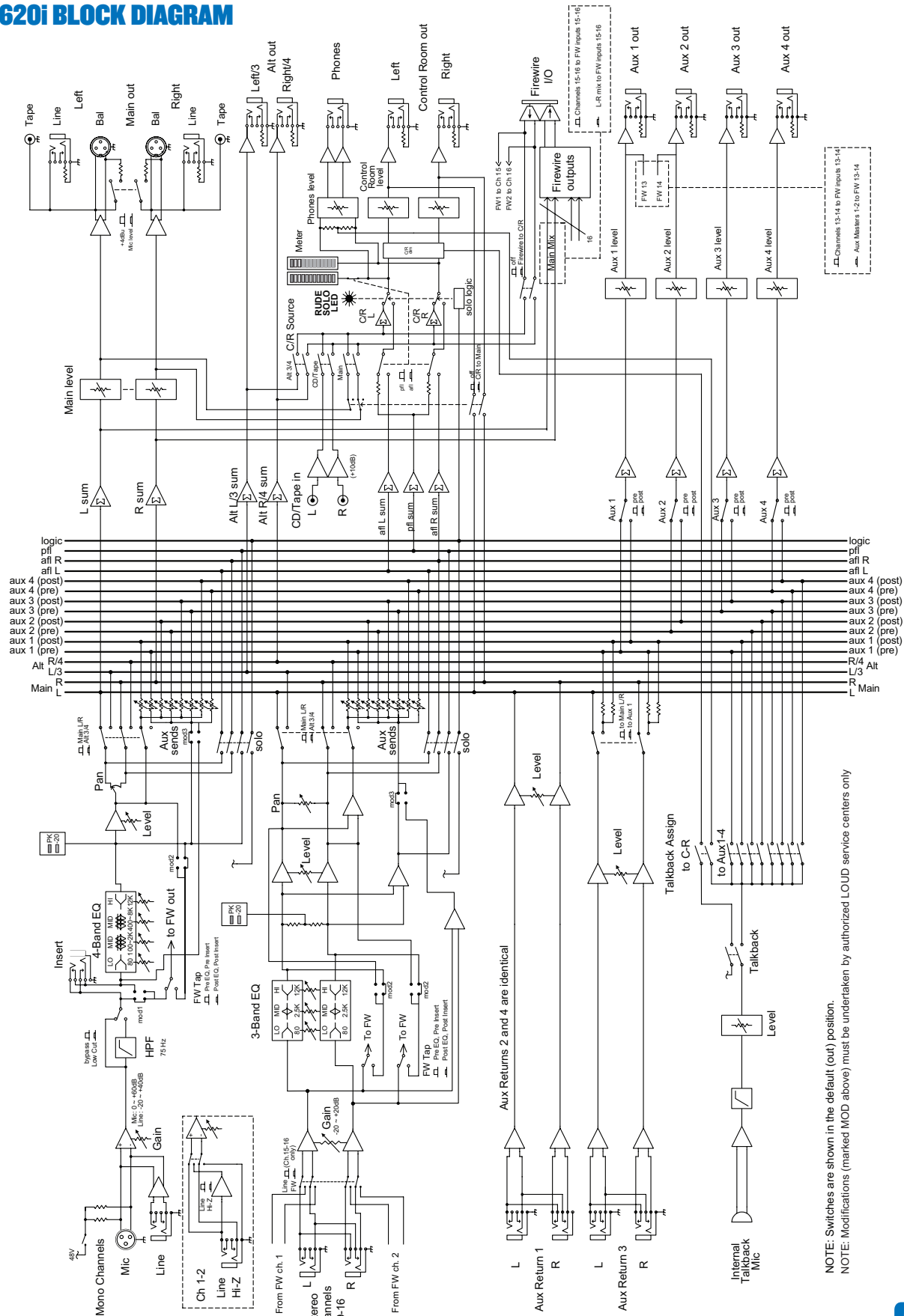
NOTES:

1. WEIGHT APPROX. 20.0 lb [9.1 kg].
2. SHIPPING WEIGHT APPROX. 24.5 lb [11.1 kg].

UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS ARE IN INCHES. DUAL [MM] DIMENSIONS FOR REF ONLY

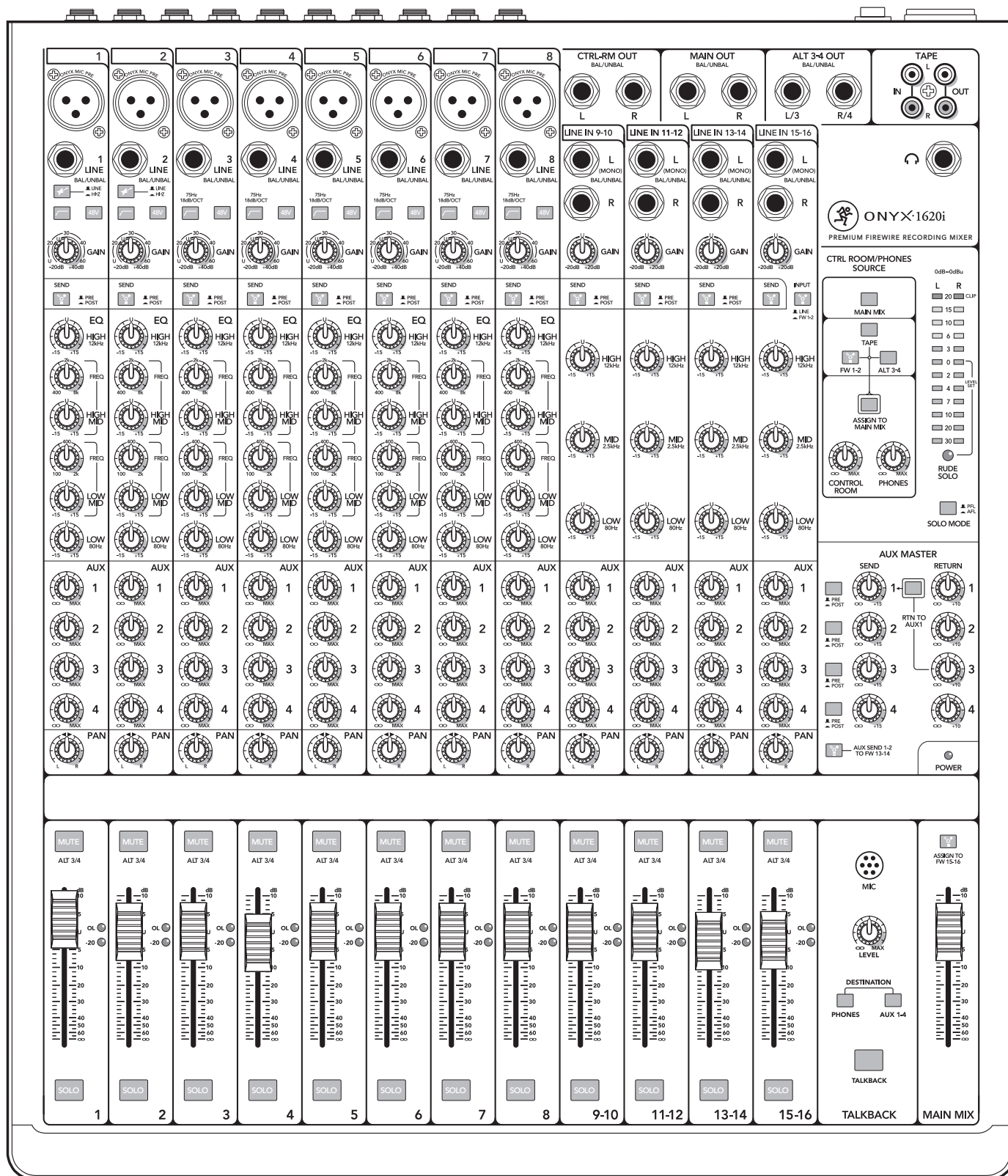


Onyx 1620i BLOCK DIAGRAM

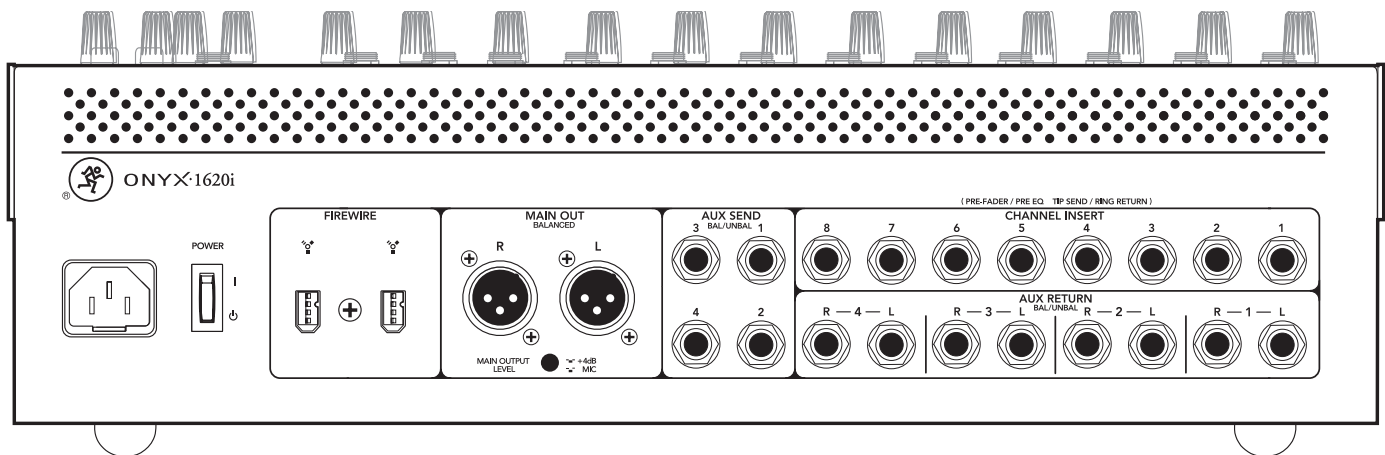


NOTE: Switches are shown in the default (out) position.
NOTE: Modifications (marked MOD above) must be undertaken by authorized LOUD service centers only

Onyx 1620i FRONT PANEL



Onyx 1620i REAR PANEL



Electronic files for this product are available at:

www.mackie.com

Specification Sheet

Onyx1620i_SS.PDF

Owner's Manual

Onyx1620i_OM.PDF

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