

ONYX 4-BUS SERIES

The Onyx 4-Bus Series mixing consoles set the new standard in mid-format mixing. With improved Onyx mic preamps, acclaimed 4-band Perkins EQ on every channel, and a built-in assignable compressor/limiter, the Onyx 4-Bus is packed with premium features and maximum flexibility.

The 6x2 matrix allows for two additional submixes, perfect for zone outputs, IEM systems and more. A high-quality onboard compression and limiting section features adjustable threshold, ratio and fast/slow attack controls and dedicated 12-segment metering. The talkback section has separate level controls for phones, monitor out, solo, mono out and talkback. True 4-bus architecture means four accessible group faders, each with 4-segment metering and mute, solo and AFL functions for each group.

The mic/line channel strips each include a Mackie Onyx mic preamp, individual 48V phantom power, a pad switch and a 100Hz high-pass filter. “British-style” 4-band Perkins EQ is very effective and extremely musical, with frequency points selected for optimum versatility. Six auxiliary sends may be set individually to pre/post operation and each boasts an AFL switch on their master. The fader itself is a 100mm Panasonic™ fader for smooth, high-resolution control. Oversized mute and PFL buttons are easy to access when needed. The last two channels are specifically designed for stereo devices such as effects returns, stereo synthesizers or other two-track playback devices. These are full channel strips with appropriate 4-band fixed EQ, all six Aux sends and full routing.

With stunning sound quality and renowned Mackie engineering — combined in a full-featured, portable, highly affordable, mid-format mixing console — the Onyx 4-Bus is certainly the new standard.

APPLICATIONS

Live sound mixing, houses of worship, small-to-medium-sized clubs, theaters, banquet halls, conference rooms, boardrooms, multitrack field recording, and many, many more.



FEATURES:

- 24-channel and 32-channel / 4-bus premium analog live sound mixer
- Onyx microphone preamps with class-leading fidelity and dynamic range
- 4-band Perkins EQ for warm, musical sound
- 6x2 Matrix Mixer provides two additional mixes for cry rooms, monitors, etc.
- Assignable stereo compressor/limiter designed by THAT® corporation
- 12-segment LED ladders for Main output and compressor/limiter
- Six Aux sends with Pre/Post, Solo and Mute switches
- Two dedicated stereo channels
- 100mm Panasonic™ faders on all channels, Groups, and Mains
- Compact and rugged

ONYX 4-BUS SPECIFICATIONS

Frequency Response

(Mic Input to Main Output, Gain @ unity)	
+0 dB/-1 dB	10 Hz to 80 kHz
+0 dB/-3 dB	10 Hz to 120 kHz

Distortion (THD and IMD)

(Mic Input to Main Output @ +4 dBu)	
THD+N (20 Hz to 20 kHz bandwidth)	<0.007% 0.003% @ 1 kHz typical
SMPTE IMD (7 kHz/60 Hz, 4:1)	<0.005%

Dynamic Range

Mic Input to Main Output	>115 dB
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Noise Floor

(20 Hz to 20 kHz bandwidth, 1/4" Main Out, channel gains @ unity gain, channel EQs flat, all channels assigned to Main Mix, odd channels panned left, even channels panned right)	
Signal-to-Noise Ratio (ref. +4 dBu, Mic Input to Main Output)	
32 channels and Main Mix levels @ unity	-87 dBu
24 channels and Main Mix levels @ unity	-89 dBu
Equivalent Input Noise (EIN) (150 Ω termination, 20 Hz to 20 kHz bandwidth, +60 dB gain)	
	-129.5 dBu
Mic Output Noise	
Mic Input to Direct Output, min. gain	-100 dBu
Residual Output Noise	
Main Out (Channel and Main Mix levels off)	-100 dBu
Main Out (32 channels and Main Mix levels @ unity)	-83 dBu
Main Out (24 channels and Main Mix levels @ unity)	-85 dBu

Common Mode Rejection Ratio (CMRR)

Mic Input, max gain @ 1 kHz	better than -70 dB
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Attenuation/Crosstalk

Adjacent Inputs @ 1 kHz	-95 dB
Input to Output @ 1 kHz	-85 dB

Input Gain Control Range

Mic Input	0 dB to +60 dB
Line Input	-20 dB to +40 dB
Stereo Input	-20 dB to +20 dB

Phantom Power

+48 VDC

Equalization

Mono Channel EQ	
High Shelving	±15 dB @ 12 kHz
High Mid Peaking	±15 dB sweep 400 Hz-8 kHz
Low Mid Peaking	±15 dB sweep 100 Hz-2 kHz
Low Shelving	±15 dB @ 80 Hz
Low Cut Filter	18 dB/octave, -3 dB @ 100 Hz
Stereo Channel EQ	
High Shelving	±15 dB @ 12 kHz
High Mid Peaking	±15 dB @ 2.5 kHz
Low Mid Peaking	±15 dB @ 400 Hz
Low Shelving	±15 dB @ 80 Hz
Low Cut Filter	18 dB/octave, -3 dB @ 100 Hz

Mixer Rated Output

Nominal Output @ Main, Monitor and Matrix Outputs and Aux and Group Sends	+4 dBu
Maximum Output @ Main XLR and TRS Outputs	+21 dBu

Maximum Input Levels

Mic Input (Gain @ unity, pad out)	+21 dBu
Mic Input (Gain @ unity, pad in)	+30 dBu
Line Input (Gain @ -20 dB)	+21 dBu
Tape Input	+30 dBu
Stereo Return	+21 dBu

Maximum Voltage Gain

Mic Input to	
Main Out	90 dB
Group Out	80 dB
Aux Sends	86 dB
Monitor Out	103 dB
Matrix Out	105 dB
Phones Out	103 dB
Line Input to	
Main Out	70 dB
Group Out	60 dB
Aux Sends	66 dB
Monitor Out	83 dB
Matrix Out	85 dB
Phones Out	83 dB
Stereo Return to	
Main Out	53 dB
Group Out	43 dB
Aux Sends	49 dB
Monitor Out	66 dB
Matrix Out	68 dB
Phones Out	66 dB

ONYX 4-BUS SPECIFICATIONS CONTINUED...

Input Impedance

Mic Input	3 k Ω balanced
Mono Channel Line Input	34 k Ω balanced
Stereo Returns	20 k Ω balanced
Talkback Mic	1 k Ω balanced

Output Impedance

Main Output (XLR)	100 Ω balanced
Main Output (TRS)	300 Ω balanced
Direct Output	300 Ω
Group Output	300 Ω
Monitor Output	300 Ω
Matrix Output	300 Ω
Aux Sends	300 Ω
Phones Output	25 Ω

VU Meters

Channel (4 segments) OL (+18), +10, 0 (0 dBu), -20
Main Left and Right (12 segments) Clip (+20), +10, +7, +4, +2, 0 (0 dBu), -2, -4, -7, -10, -20, -30
Compressor Input (12 segments) Clip (+20), +10, +7, +4, +2, 0 (0 dBu), -2, -4, -7, -10, -20, -30
Compressor Gain Reduction (12 segments) 1, 2, 3, 4, 5, 6, 7, 10, 15, 20, 25, 30

AC Power Requirements

Power Consumption	100 watts (Onyx 24•4) 120 watts (Onyx 32•4)
Universal AC Power Supply	100 - 240 VAC, 50 - 60 Hz
Operating Temperature	0° - 40°C 32° - 104°F

Physical Properties (packaged product)

Onyx 24•4	
Height	12.0 in / 305 mm
Width	36.5 in / 927 mm
Depth	27.3 in / 694 mm
Shipping Weight	61.0 lb / 27.7 kg
Onyx 32•4	
Height	12.0 in / 305 mm
Width	45.1 in / 1145 mm
Depth	27.3 in / 694 mm
Shipping Weight	86.0 lb / 39.0 kg

Physical Properties (product)

Onyx 24•4	
Height	7.4 in / 185 mm
Width	31.2 in / 792 mm
Depth	21.9 in / 555 mm
Net Weight	39.5 lb / 17.9 kg
Onyx 32•4	
Height	7.4 in / 185 mm
Width	39.8 in / 1011 mm
Depth	21.9 in / 555 mm
Net Weight	48.0 lb / 21.8 kg

Options

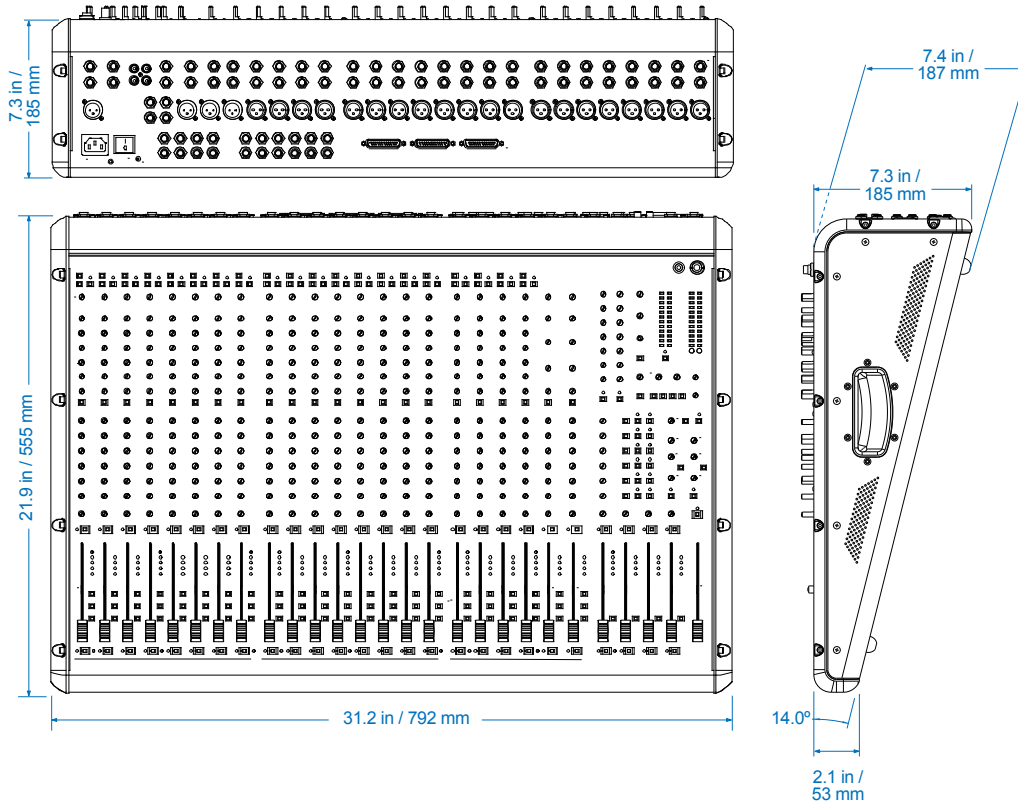
Onyx 24•4 Dust Cover	P/N 0023437
Onyx 32•4 Dust Cover	P/N 0023438

Ordering Information

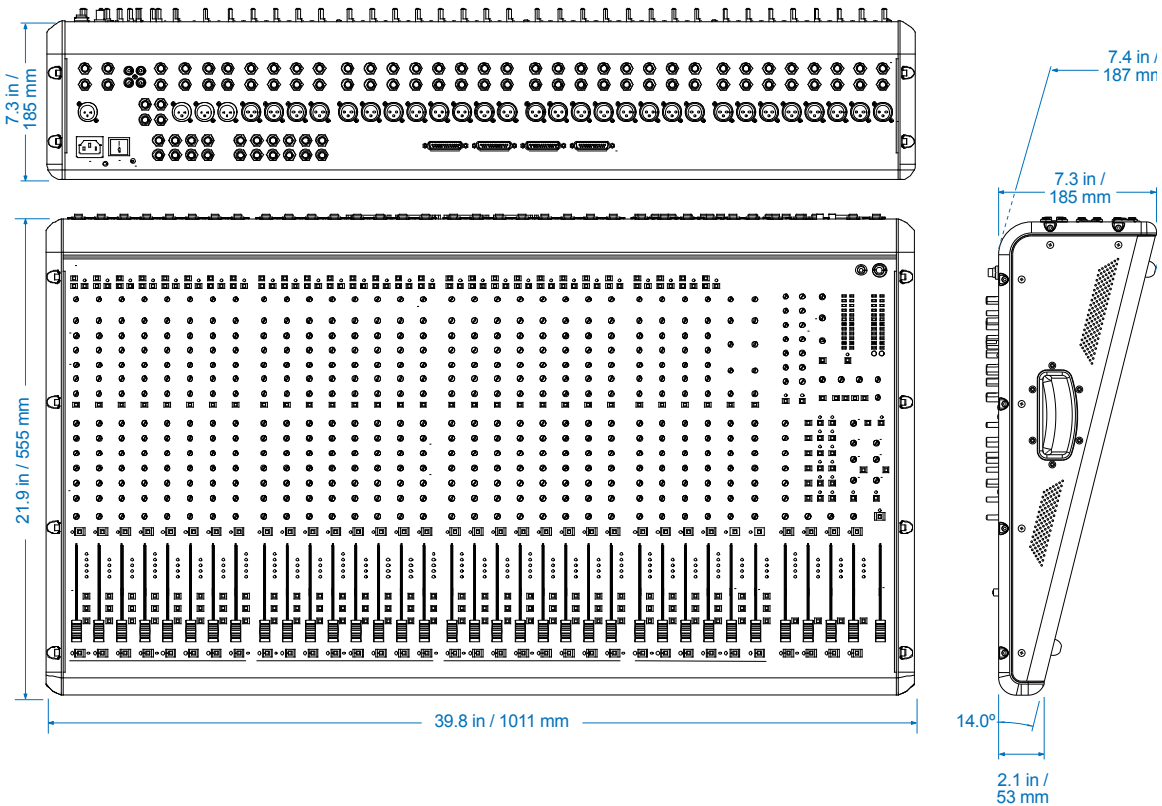
Onyx 24•4 24-Ch./4-Bus Premium SR Console, Universal	P/N 0015900-00
Onyx 32•4 32-Ch./4-Bus Premium SR Console, Universal	P/N 0015901-00

ONYX 4-BUS DIMENSIONS

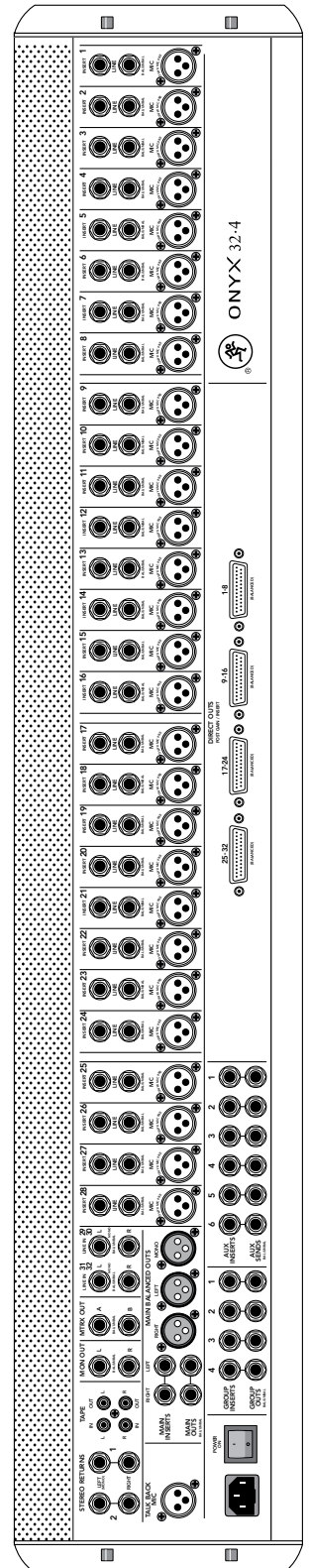
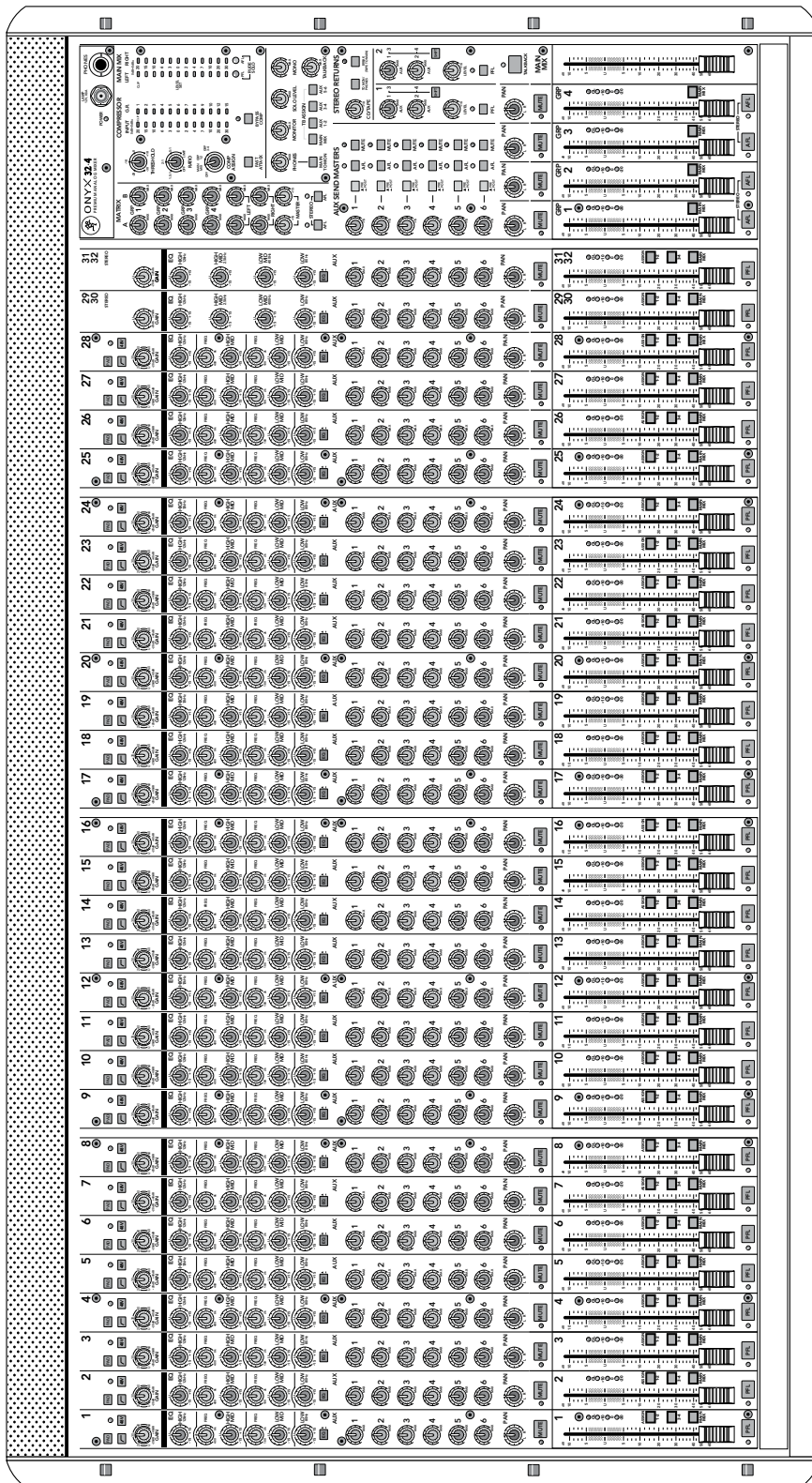
Onyx 24•4



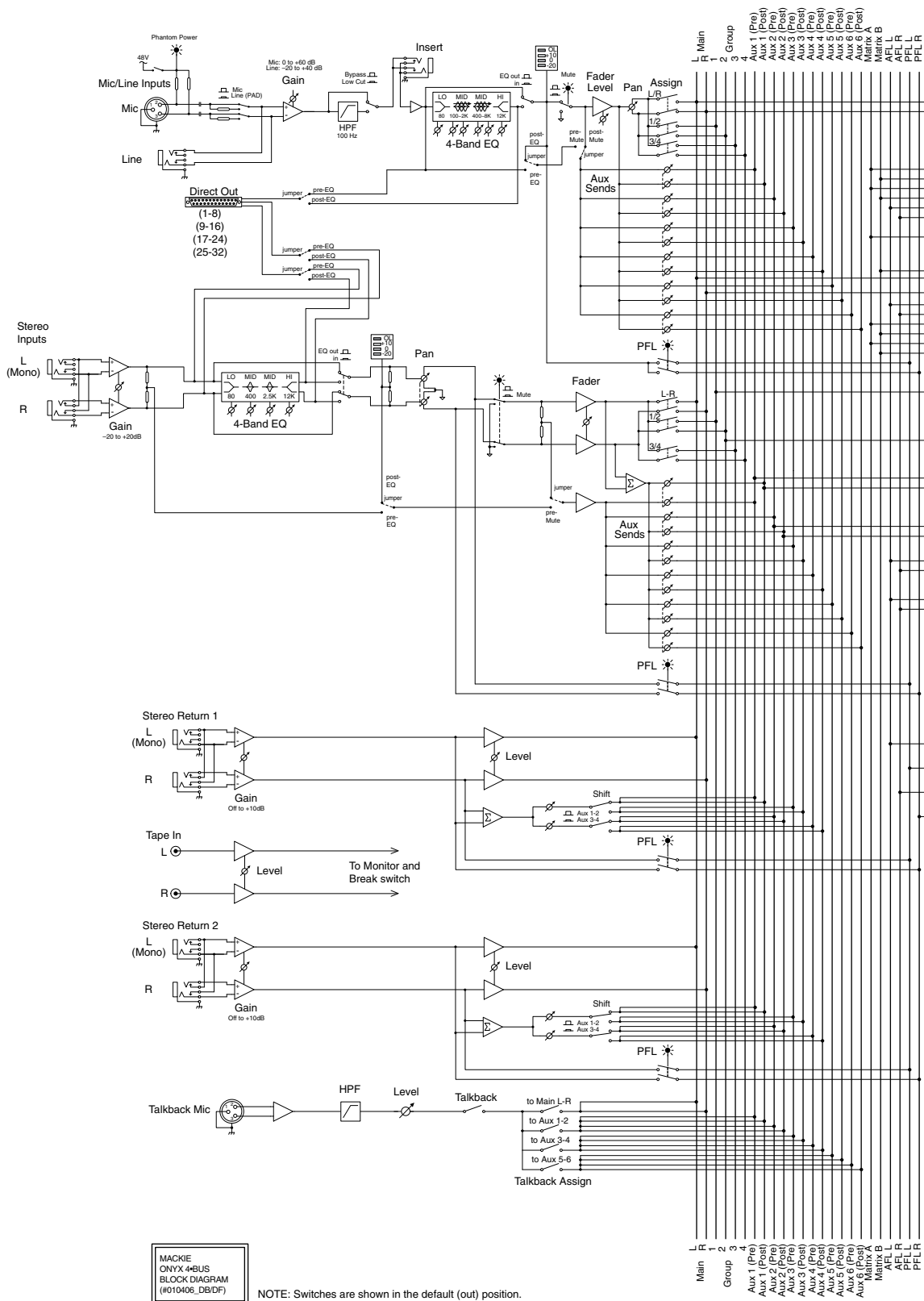
Onyx 32•4



ONYX 32-4 FRONT AND REAR PANELS



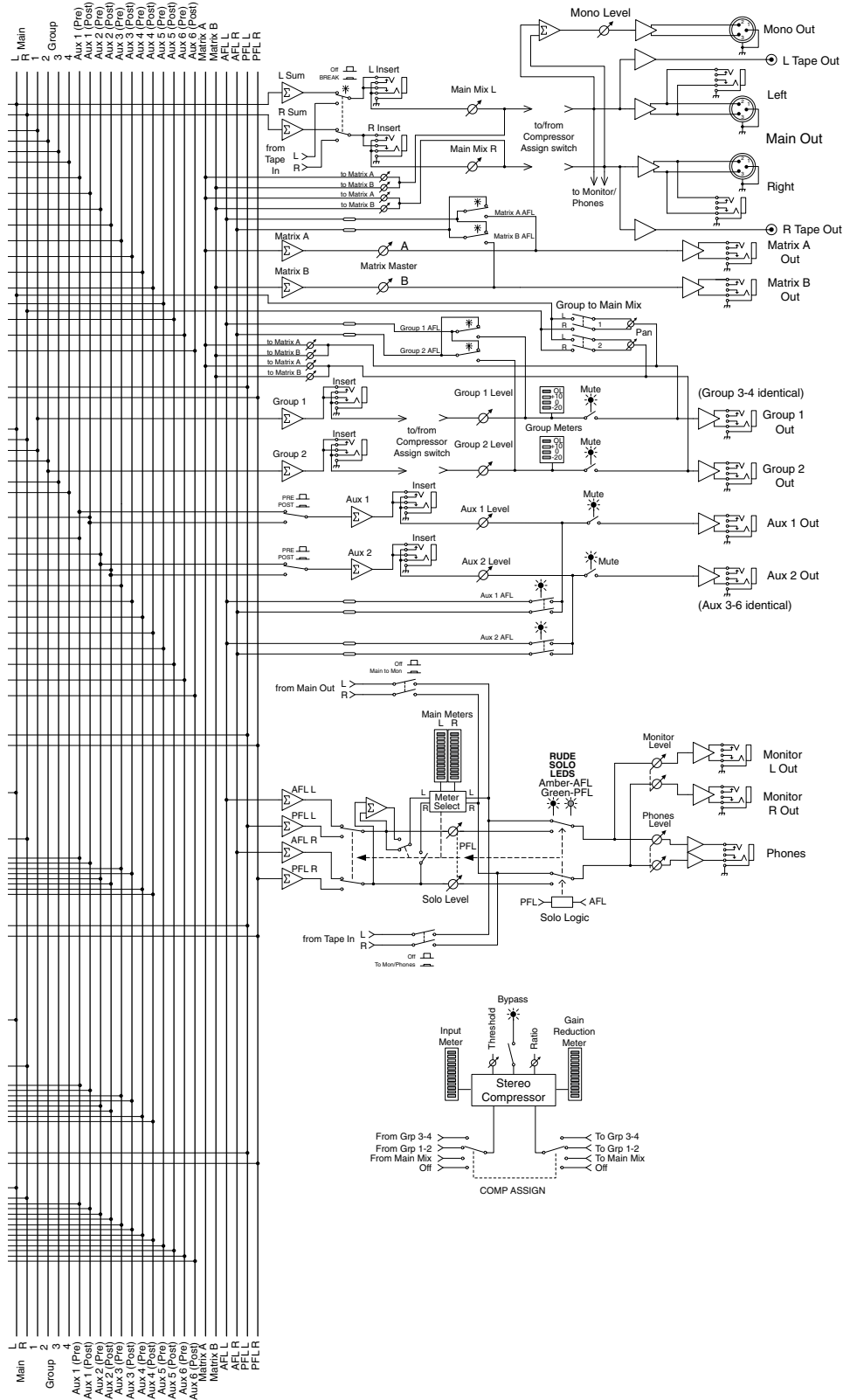
ONYX 4-BUS BLOCK DIAGRAM



MACKIE
ONYX 4-BUS
BLOCK DIAGRAM
(#010406_DB/DF)

NOTE: Switches are shown in the default (out) position.

ONYX 4-BUS BLOCK DIAGRAM



MACKIE®

www.mackie.com

16220 Wood-Red Road NE

Woodinville, WA 98072 USA

800-898-3211, Fax 425-487-4337, sales@mackie.com

Part No. SW0775 Rev. B 10/10

Electronic files for this product are available at:

www.mackie.com

Specification Sheet	Onyx_4Bus_SS.PDF
Owner's Manual	Onyx_4Bus_OM.PDF

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