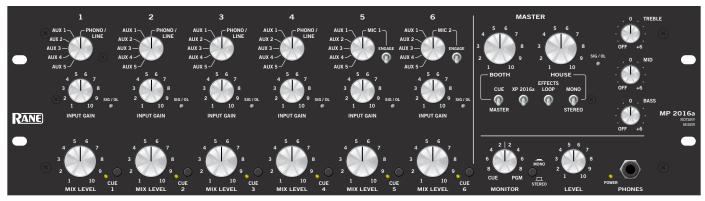
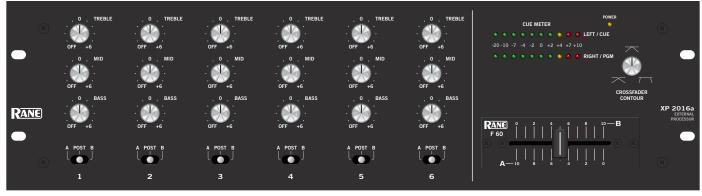


MP 2016a

ROTARY MIXER



MP 2016a Mixer



Optional XP 2016a Processor

MP 2016a Features

- Six stereo Input channels
- Four dedicated stereo Phono / Line preamps
- Two dedicated Mic / Line preamps with:
 - Gain trims 2-band Tone controls
 - Engage switches
 Booth ducking
- Five stereo Auxiliary Inputs
- Input Gain controls for level matching
- Switchable Effects Loop
- Booth Output with Master / Cue source switch

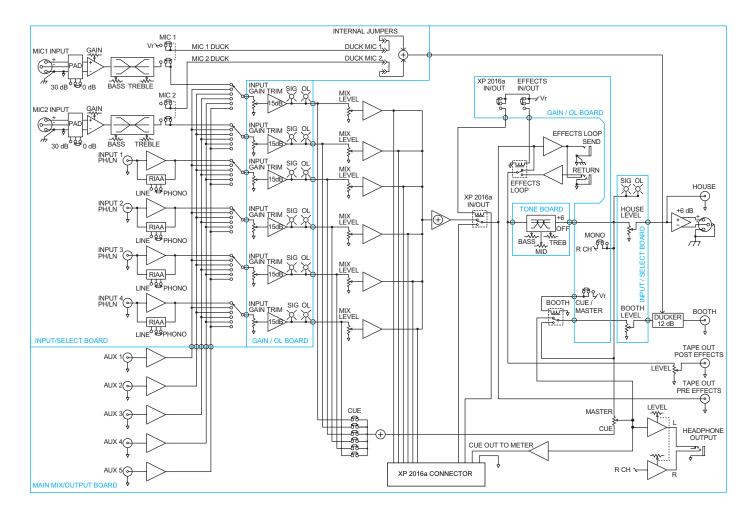
- Separate Pre- and Post-effects Tape Outputs
- Master Accelerated-Slope[™], full-cut, 3-band Tone controls
- · Audiophile / Studio sound quality; Uses highest-quality ALPS pots
- Split Cueing with high power headphone amplifier

XP 2016a Features

- Active-Crossfader[™] with full-range Contour control
- A-POST-B Crossfader assign switches
- Stereo Master / Cue Meter with peak hold
- Six channels of stereo, Accelerated-Slope[™], full-cut, 3-band Tone controls.



MP 2016a Block Diagram



MP 2016a General Description

The MP 2016a is a rotary-controlled mixer featuring six Input Channels, Booth and House Outputs, Pre-Effects Tape Outputs, Post-Effects Tape Outputs with Level control, switchable Effects Loop, and Headphone Cueing. Input Channels 1 through 4 feature high quality RIAA phono preamplifiers which may be switched to line input via rear panel switches. Input Channels 5 and 6 each provide a balanced mic preamp with Input Gain trim, Mic/Line switch, two-band EQ, Mic Engage switch and an internal Booth Ducking enable jumper. In addition to the six dedicated preamplifiers, all six Input channels may select any of the five stereo Auxiliary Inputs.

Each Input Channel provides a 6-position source selector, Input Gain control for matching levels, Signal/Overload indicators and a studio-grade Master Mix control. The Booth Output may select Master or Cue as its source. An ultra-low noise, high power headphone amplifier also allows monitoring the Master Mix or Cue Mix.

The MP 2016a improves on the original MP 2016 by adding Split Cue. Individual Cue switches on each channel drive a panning Master / Cue control for the Headphone output.

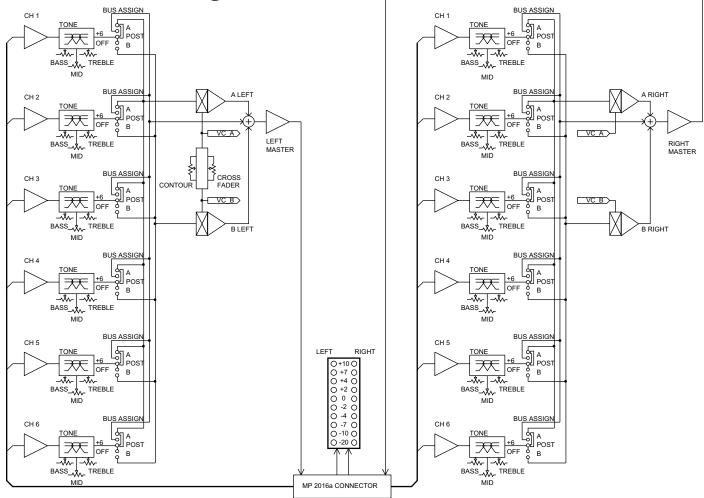
The Master Mix circuit provides Signal/Overload indicators, Mono switch and high-pass/rumble filters. In addition, the Master Output features patent-pending high performance 3-band, full-cut, *Accelerated-Slope*[™] tone controls (see page 5).

The MP 2016a provides exceptional ergonomics, good feel and a clean, intuitive layout packaged in a compact 19 inch, 3U rack mount chassis, a scant five inches deep.



ROTARY MIXER

XP 2016a Block Diagram



XP 2016a General Description

So you say..."Great, but to accommodate the diverse needs of all DJ mixing styles, I need dedicated high performance threeband, full-cut, *Accelerated-Slope* tone controls for *each* of the six Input Channels, high-performance *Active-Crossfader*[™] with full range contour control, A-Post-B crossfader assign switches and a stereo, 10-segment, peak dBu Master/Cue meter with peak hold; all without effecting the ergonomics of my classic rotary mixer."

We've got you covered! With the flip of a switch on the MP 2016a front panel, you can engage the *optional* XP 2016a External Processor and acquire all of these features.

The XP 2016a is an *optional* external processor designed specifically for use with the MP 2016a. The XP 2016a is intended to mount above or below the MP 2016a. It connects with a single 10-inch ribbon cable and is engaged with the flip of a switch on the MP 2016a front panel. If an XP 2016a is not connected, the XP 2016a engage switch on the MP 2016a has no effect.

The XP 2016a provides dedicated *Accelerated-Slope*, 3-band, full-cut tone controls for *each* of the six stereo Input channels, A-Post-B Crossfader Assign switches for all six Input channels,

a high-performance *Active Crossfader*[™] with full range Contour control, and a stereo 10-segment peak dBu Master/Cue Meter with peak hold.

The six stereo, post Mix Level signals in the MP 2016a are fed to the XP 2016a. When the XP 2016a is *not* engaged, the post Mix Level signals go directly to the Master Mix in the MP 2016a. When the XP 2016a *is* engaged, the stereo Master Mix comes from the XP 2016a.

If all Input channels on the XP 2016a are assigned Post-Crossfader, the Mix will be identical to the MP 2016a (with the addition of tone controls for each Input channel). For Crossfader control, simply assign a channel to the A or B side of the Crossfader. The *Active Crossfader* features a full-range Contour control for smooth blending or ultra fast cuts.

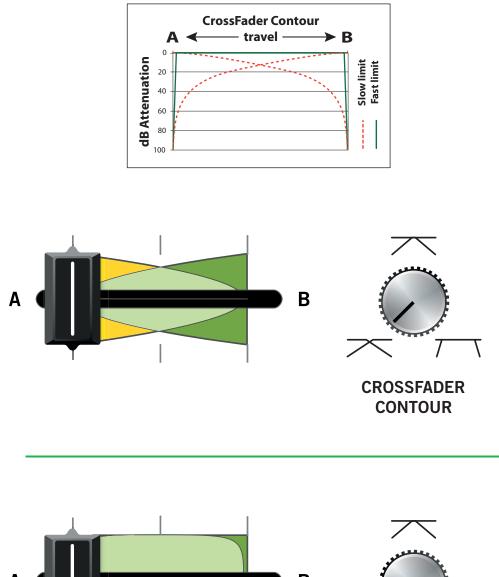
The Master/Cue Meter follows the source selection of the headphone monitor on the MP 2016a. If Master is selected, the XP 2016a Meter monitors the pre-house-level Master signal. If Cue is selected, the XP 2016a meter monitors the Cue Source.

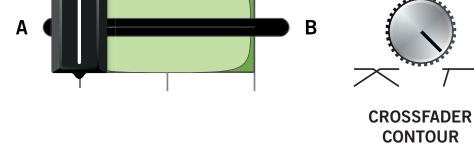
The XP 2016a matches the MP 2016a ergonomics, packaged in a compact 19 inch, 3U rack mount chassis, 5 inches deep.



Crossfader Response

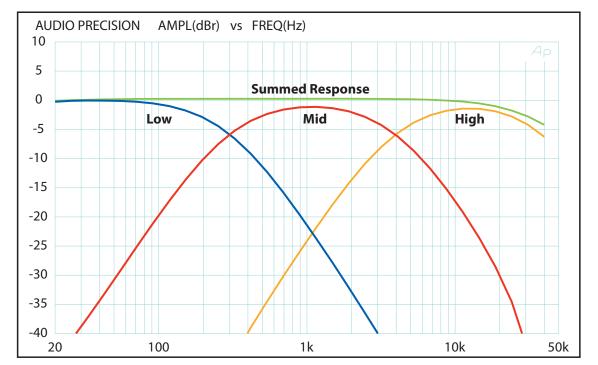
This graph shows curves representing upper and lower limits for gain response verses fader position. Contour controls allow smooth and continuous adjustment between the two responses.







ROTARY MIXER



MP 2016a and XP 2016a Accelerated-Slope EQ Control Response

Figure 1 shows the three EQ filter bands and the flat summed response

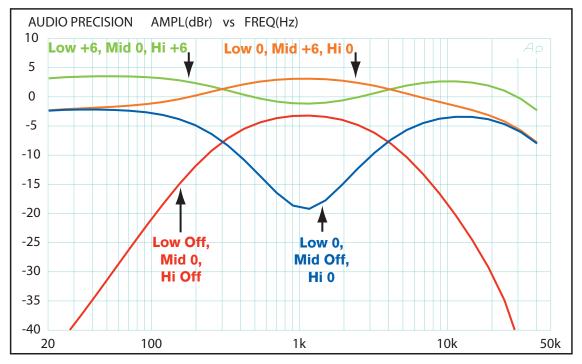


Figure 2 shows the interactive operation of the Accelerated-Slope[™] EQ



MP 2016a Features and Specifications

Max Input Level: Max input before immediation in the stage overload, @ 1 HzNoImmediation in the stage overload, @ 1 HzNo	Parameter	Specification	Limit	Units	Conditions/Comments
Aux Line160.5.dBMouse667 361.5.dBMouse667 360.5.dBMouse660.5.dBInpur Impedance:	Gain (Unbalanced Outputs): 1 k	•	for balanc	ed output	
	Phono/Line	52 / 16	0.5	dB	
	Aux Line	16	0.5	dB	
	Mic/Line	66 / 36	1.5	dB	
Input Impedance:IIIIIIIII	XP 2016a port	0	0.5	dB	
nN19%ΩShuned by 200 pFAux Line23k1%6ΩDifferential input impedanceMic/Line1.02k/29k1%6ΩDifferential input impedanceEffects Return5.11k1%6ΩDifferential input impedanceBetters Return7.755%6mVFAux Line*201dBuFMic/Line, Max Gain-30/02dBuFMic/Line, Min Gain0/+032dBuFMic/Line, Min Gain0/+031%ΩEach legBalanced1501%6ΩCher / BoothBalanced300 / 1501%6ΩQ 1 kHz	House	+6	0.5	dB	
	Input Impedance:				1 kHz
	Phono/Line	47.5k	1%	Ω	Shunted by 200 pF
Effects Return5.11k1%ΩΩLLMax Input Level: Max input before transformed and a single overload, @1 kHzKKKKPhono/Line77.55%mVWKAux Line420IBuKKMic/Line, Max Gain-30/02BuKKMic/Line, Min Gain0/0402BuKKOutput Impedance:KKKKKBalanced1501%LCKBalanced100 / 1501%QCKMax Output Levels:KKKKKBalanced150 / 120minBu2k OloadK	Aux Line	23k	1%	Ω	
Max Input Level: Maxing before membraneType stage overload, Q 1 MinSinceSince membrane	Mic/Line	1.02k/29k	1%	Ω	Differential input impedance
m.m.Phono/Line7.5 m5%mVMiteral methods	Effects Return	5.11k	1%	Ω	
num. Aux Line420fdBu	Max Input Level: Max input before	re input stage overload, @ 1 kHz			
	Phono/Line	77.5	5%	mV	
Mic/Line, Min Gain0/+302dBudRuOupput Impedance:	Aux Line	+20	1	dBu	
Output Impedance:ImpedanceImped	Mic/Line, Max Gain	-30/0	2	dBu	
num.metal 150 1% Ω Each leg	Mic/Line, Min Gain	0/+30	2	dBu	
	Output Impedance:				@ 1 kHz
Max Output Levels:····························	Balanced	150	1%	Ω	Each leg
num.Ba426min.dBu2k Ω loadUnbalanced420min.dBu2k Ω load	Unbalanced	300 / 150	1%	Ω	Other / Booth
Unbalanced+20min.βun	Max Output Levels:				@ 1 kHz
num.Headphone150/120nin.nW60/150 ΩInfrasonic Filter155%Hz18 dB/octaveThD+N0.1 (Line in our balanced our protect%2 0 20 20 kHz, 80 kHz RWSignal-to-Noise Ratio: Input startInput start10Bau10 and startPhono91BauInput start10 and startBig60 (Mic Gain max, Input Gain max)1BauInput start10 and startBig941BauInput start10 and startSignal Indicators: SIG / OL2/ +181BauInput startCrosstalk70Input startBauInput startControl Feed-through80Input startInput startMater Thomas5%12Input startBass100, Shelving5%12Input startBass100, Shelving5%12Rate 21 and 12	Balanced	+26	min.	dBu	2k Ω load
Infrasonic Filter155%Hz18 dB/octaveTHD+N.01 (Line in to unbalanced output)iyp.%20 to 20 kHz, 80 kHz BWSignal-to-Noise Ratio: Input gamInput shorted, "A" weightedPhono91dBuInput shorted, "A" weightedLine60 (Mic Gain max, Input Gain max)1dBuInput shorted, "A" weightedSignal Indicators: SIG / OL2/ +181dBuInput shorted, "A" weightedCorostalk-2/ +18Input shorted, "A" weightedMaxBauControl Feed-through-2/ +18Input shorted, "A" weightedMaxMaster Tone Controls: Treble4k, ShelvingMaxBauInput schanzet, a feed bat full kliptic	Unbalanced	+20	min.	dBu	2k Ω load
THD+N.01 (Line in to unbalanced output)iyp.%20 to 20 kHz, 80 kHz,	Headphone	150 / 120	min.	mW	600 / 150 Ω
Yeak of the set flat; Any one mix set V max (all others with), any unbalanced out.Signal-to-Noise Ratio: Input gain set for unity, Tones set flat; Any one mix set V max (all others with), any unbalanced outPhono911dBuInput shorted, "A" weightedMic60 (Mic Gain max, Input Gain max)1dBuInput terminated with 150 ΩLine941dBuInput terminated with 150 ΩSignal Indicators: SIG / OL-2 / +181dBuCrosstalk-70max.dBChannel to channel, 1 kHzControl Feed-through-80max.dB1 kHzMaster Tone Controls: Treble4k, Shelving5%Hz2nd-order, range +6 dB to full killMid300 to 4k, Band-pass5%Hz2nd-order, range +6 dB to full killMicrophone Tone Controls:Bass100, Shelving5%HzRange ±12 dBTreble5k, Shelving5%HzRange ±12 dB	Infrasonic Filter	15	5%	Hz	18 dB/octave
Image: Phono911dBuInput shorted, "A" weightedImage: Mice Control60 (Mic Gain max, Input Gain max)1dBuInput terminated with 150 ΩImage: Mice Control941dBuInput terminated with 150 ΩSignal Indicators: SIG / OL-2 / +181dBuInput terminated with 150 ΩCrosstalk-70max.dBuChannel to channel, 1 kHzControl Feed-through-80max.dB1 kHzMaster Tone Controls: Treble4k, Shelving5%Hz2nd-order, range +6 dB to full killImage: Microphone Tone Controls:300, Shelving5%Hz2nd-order, range +6 dB to full killMicrophone Tone Controls:Image: Missing Microphone Tone Controls:Image: Mi	THD+N	.01 (Line in to unbalanced output)	typ.	%	20 to 20 kHz, 80 kHz BW
Mic60 (Mic Gain max, Input Gain max)1ButInput terminated with 150 ΩLine941BuInput terminated with 150 ΩSignal Indicators: SIG / OL-2 / +181BuInput terminated with 150 ΩCrosstalk-2 / +181BuInput terminated with 150 ΩControl Feed-through-70max.BBChannel to channel, 1 kHzMaster Tone Controls: Treble4k, Shelvingmax.BH1 kHzMid300 to 4k, Band-pass5%Hz2nd-order, range +6 dB to full killBass300, Shelving5%Hz2nd-order, range +6 dB to full killMicrophone Tone Controls:Bass100, Shelving5%HzRange ±12 dBTreble5k, Shelving5%HzRange ±12 dB	Signal-to-Noise Ratio: Input gain	set for unity, Tones set flat; Any one mix set	to max (a	ll others m	nin), any unbalanced out.
Image: A standard stan	Phono	91	1	dBu	Input shorted, "A" weighted
Signal Indicators: SIG / OL-2 / +18IdBuCrosstalk-70max.dBuChannel to channel, 1 kHzControl Feed-through-80max.dB1 kHzMaster Tone Controls: Treble4k, Shelving5%Hz2nd-order, range +6 dB to full killBass300 to 4k, Band-pass5%Hz2nd-order, range +6 dB to full killMicrophone Tone Controls:5%Hz2nd-order, range +6 dB to full killBass100, Shelving5%Hz2nd-order, range +6 dB to full killBass100, Shelving5%HzRange ±12 dBTreble5k, Shelving5%HzRange ±12 dB	Mic	60 (Mic Gain max, Input Gain max)	1	dBu	Input terminated with 150 Ω
Crosstalk-70max.dBChannel to channel, 1 kHzControl Feed-through-80max.dB1 kHzMaster Tone Controls: Treble4k, Shelving5%Hz2nd-order, range +6 dB to full killBass300 to 4k, Band-pass5%Hz2nd-order, range +6 dB to full killBass100, Shelving5%Hz2nd-order, range +6 dB to full killBass100, Shelving5%HzAnge ±12 dBTreble5k, Shelving5%HzSange ±12 dB	Line	94	1	dBu	Input terminated with 150 Ω
Control Feed-through-80max.dB1 kHzMaster Tone Controls: Treble4k, Shelving5%Hz2nd-order, range +6 dB to full killMid300 to 4k, Band-pass5%Hz2nd-order, range +6 dB to full killBass300, Shelving5%Hz2nd-order, range +6 dB to full killMicrophone Tone Controls:	Signal Indicators: SIG / OL	-2 / +18	1	dBu	
Master Tone Controls: Treble4k, Shelving5%Hz2nd-order, range +6 dB to full killBass300 to 4k, Band-pass5%Hz2nd-order, range +6 dB to full killBass300, Shelving5%Hz2nd-order, range +6 dB to full killMicrophone Tone Controls:Bass100, Shelving5%HzSnage ±12 dBBass100, Shelving5%HzRange ±12 dBSnage ±12 dBBass5%HzSnage ±12 dBSnage ±12 dB	Crosstalk	-70	max.	dB	Channel to channel, 1 kHz
Mid300 to 4k, Band-pass5%Hz2nd-order, range +6 dB to full killBass300, Shelving5%Hz2nd-order, range +6 dB to full killMicrophone Tone Controls:Bass100, Shelving5%HzRange ±12 dBTreble5k, Shelving5%HzRange ±12 dB	Control Feed-through	-80	max.	dB	1 kHz
Image: Market Bass300, Shelving5%Hz2nd-order, range +6 dB to full killMicrophone Tone Controls:100, Shelving5%HzRange ±12 dBImage: Market Bass5k, Shelving5%HzRange ±12 dB	Master Tone Controls: Treble	4k, Shelving	5%	Hz	2nd-order, range +6 dB to full kill
Microphone Tone Controls:Image: Control StateMicrophone Tone Controls:Image: Microphone Tone Controls:100, Shelving5%HzRange ±12 dBImage: Microphone Tone Controls:5%HzRange ±12 dBImage: Microphone Tone Controls:5%HzRange ±12 dB	Mid	300 to 4k, Band-pass	5%	Hz	2nd-order, range +6 dB to full kill
Image: Bass 100, Shelving 5% Hz Range ±12 dB Image: Line Bass 5k, Shelving 5% Hz Range ±12 dB	Bass	300, Shelving	5%	Hz	2nd-order, range +6 dB to full kill
Treble 5k, Shelving 5% Hz Range ±12 dB	Microphone Tone Controls:				
	Bass	100, Shelving	5%	Hz	Range ±12 dB
Note: 0 dBu=0.775 Vrms	Treble	5k, Shelving	5%	Hz	Range ±12 dB
	Note: 0 dBu=0.775 Vrms				

Data Sheet-6



XP 2016a Features and Specifications

Parameter	Specification	Limit	Units	Conditions/Comments	
Gain	0	1	dB	1 kHz, tone flat	
Input Impedance	20k	1%	Ω	1 kHz	
Max Input Level	+20	min	dBu	Max before input stage overload @ 1 kHz	
Output Impedance	100	1%	Ω	@ 1 kHz	
Max Output Levels	+20	min	dBu	@ 1 kHz	
THD+N: Post Crossfader	.01	typ	%	20 to 20 kHz, 80 kHz BW	
Crossfader	.1	typ	%	20 to 20 kHz, 80 kHz BW	
Noise	-82	1	dBu	Tones set flat	
Meters: Type	Peak dBu			Follows MP 2016a Headphone source	
Crossfader: Type	Active with Contour control				
Crosstalk	-70	max	dBu	Channel to channel, 1 kHz	
Control Feed-through	-80	max	dB	1 kHz	
Tone Controls: Treble	4k, Shelving	5%	Hz	2nd-order, range +6 dB to full kill	
Mid	300 to 4k, Band-pass	5%	Hz	2nd-order, range +6 dB to full kill	
Bass	300, Shelving	5%	Hz	2nd-order, range +6 dB to full kill	
Note: 0 dBu=0.775 Vrms					

Agency, Power and Shipping Specifications

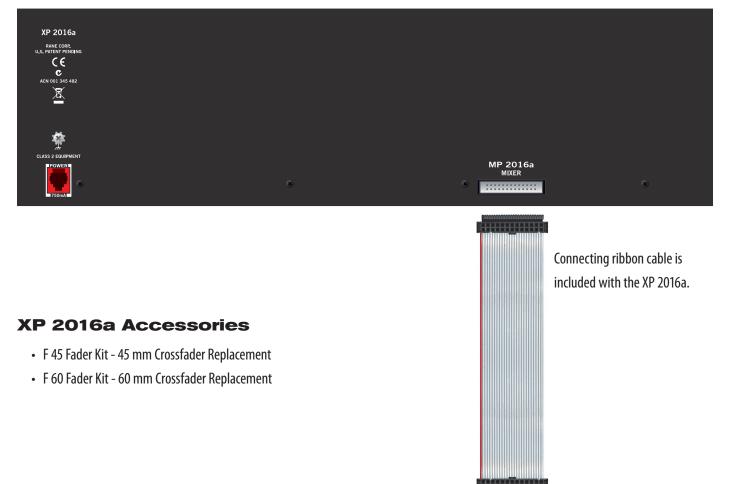
Parameter	Specification	Limit	Units	Conditions/Comments
Unit: Agency Listing				
120 VAC model	Class 2 Equipment			National Electrical Code
	UL, CSA			Exempt, Class 2
230 VAC model	VDE, SELV			Safety extra low voltage
	CE (EMC)			EMC directive 89/336/EEC
	CE (safety) Exempt			Article 1 of LVD 73/23/EEC
Power Supply: Agency Listing				Class 2 equipment
120 VAC model	UL listed			File no. E88261
	CSA Certified			File no. LR58948
230 VAC model	CE (EMC)			Meets EMC directive 89/336/EEC
	CE (safety)			LV directive 73/23/EEC
Power Supply Requirement	18 VAC w/ center tap			RS 1
Maximum Current	750		mA	RMS current from remote supply
Unit Construction	All Steel			
Size	5.25"H x 19"W x 5.3"D (3U)			(13.3 cm x 48.3 cm x 13.5 cm)
Weight	11 lb			(5.0 kg) Each Unit
Shipping: Size	11" x 23" x 16"			(27.9 cm x 58.4 cm x 40.6 cm)
Weight	18 lb			(8.1 kg) Each Unit



MP 2016a Rear Panel



XP 2016a Rear Panel



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All features & specifications subject to change without notice. DOC 107891