



**ProRack – Monitor (M1016)  
OWNER'S MANUAL**

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## **IMPORTANT SAFETY INSTRUCTIONS**

### **CAUTION:**

**PLEASE READ AND OBSERVE ALL WARNINGS AND INSTRUCTIONS IN THIS INSTALLATION AND**

**OPERATING GUIDE AND THOSE MARKED ON THE UNIT. RETAIN THIS GUIDE FOR FUTURE REFERENCE.**

This unit has been designed and manufactured to assure personal safety. Improper use can result in electric shock or fire hazard. The safeguards incorporated in this unit will protect you if you observe the following procedures for installation, use, and servicing. This unit does not contain any parts that can be repaired by the user.

### **DO NOT REMOVE ANY COVERS OR SUB-ASSEMBLIES, OR YOU MAY BE EXPOSED TO DANGEROUS VOLTAGES. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL ONLY.**

- Read these instructions. – All of these safety and operating instructions should be read before this product is operated
- Keep these Instructions. – The safety, operating and use instructions should be retained for further reference.
- Heed all warnings. – All warnings on the product and in the operating instructions should be adhered to.
- Follow all instructions. – All operating and use instructions should be followed.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the prong does not fit into your outlet, consult an electrician of the obsolete outlet.
- Do not use this apparatus near or water. – Do not expose apparatus to dripping or splashing and ensure that no objects filled with liquids, such as vases, glasses or cups are placed on this apparatus. Do not operate on or near wet surfaces such as swimming pools and do not expose to rain.
- Clean only with dry cloth. – Unplug the product from the wall outlet before cleaning. Do not use liquid cleaners.
- Do not block ventilation openings. Install in accordance with manufacturers instructions. – Slots and openings in the assembly are provided for ventilation, to ensure reliable operation of the product, and to protect from overheating. Care should be taken never to block these openings in any operating situation.
- Do not install near any heat source such as radiators, heat registers, stoves, or other apparatus that produce heat.
- Protect the power cord from being walked upon or pinched, particularly at the plugs, convenience receptacles, and the point where they exit from the unit.
- Only use attachments/accessories specified by the manufacturer.
- Use only the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- Unplug this apparatus during lightning storms or when unused for long period of times.
- Refer all servicing to qualified service personnel. Service is required when the apparatus has been damaged in any way, such as power-supply cord or plug damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- To completely disconnect mains power from this apparatus, the power supply cord must be unplugged.
- Check AC power source for correct voltage and sufficient current capacity.
- Unplug the unit from AC mains before moving, servicing, or cleaning.
- Do not use frayed or damaged power cords or connectors.
- Do not place the unit on an unstable surface.
- Do not operate and immediately unplug equipment from AC mains if liquid has entered the unit.
- Do not plug unit into AC mains if it has physically been damaged in any way.
- Secure and protect ALL cabling to and from the units to prevent they being walled on, pinched, or pulled.
- Do not install the unit in areas of high electromagnetic or RF fields.
- Observe proper procedures for lifting and moving this unit as its weight and size requires that more than a single person be employed in these operations.
- Should the unit be damaged in any way or contaminated with liquid, have the unit inspected and serviced by qualified service personnel.
- This unit contains no user serviceable parts. All servicing must be performed by a qualified service engineer or through APB-DynaSonics or its qualified dealer.
- Operate in accordance with U.S. Governments' Occupational and Health Administration (OSHA) requirements, specifications, suggestions and regulations or those of any other local governing requirements where the equipment is to be used or serviced.

## **YOUR PRORACK MIXER**

Congratulations on your purchase of one of the finest live performance professional audio mixers manufactured in the United States. Please take a moment to review this manual. It will insure a better understanding of the operation of this mixer and may open up new possibilities into how you use this product.

In addition to the hard copy of this manual, it will appear within our web site [www.apb-dynasonics.com](http://www.apb-dynasonics.com) with the latest updates as well as new supplemental information. We suggest that you occasionally check our web site for additional information about your mixer as well as for new product releases and news from APB-DynaSonics.

Should you have any questions or comments about this or any other APB product, please do not hesitate to contact us at:

Tel: 973-785-1101 Fax: 973-785-1105

e-mail: [info@apb-dynasonics.com](mailto:info@apb-dynasonics.com)

## **Manual Scope**

This manual is not intended to teach you how to mix or how to set up a complete sound system. Should you be looking for such information, May we suggest that you do a search for "Pro Audio Books" on the internet, or attend one of the many fine Recording Schools that may be available to you. Many of these schools offer courses in Live Performance associated subjects as well as basic mixing techniques.

One of the best sources of teaching the technical aspect of system design and operation is through the Syn-Aud-Con organization:

Synergetic Audio Concepts, Inc., 8780 Rufing Road Greenville, IN, 47124 – USA

Tel: 800-796-2831 Fax : 812-923-3610 For calls outside of the US: 812.923.0174

Email: [bbrown@synaudcon.com](mailto:bbrown@synaudcon.com)

[www.synaudcon.com](http://www.synaudcon.com)

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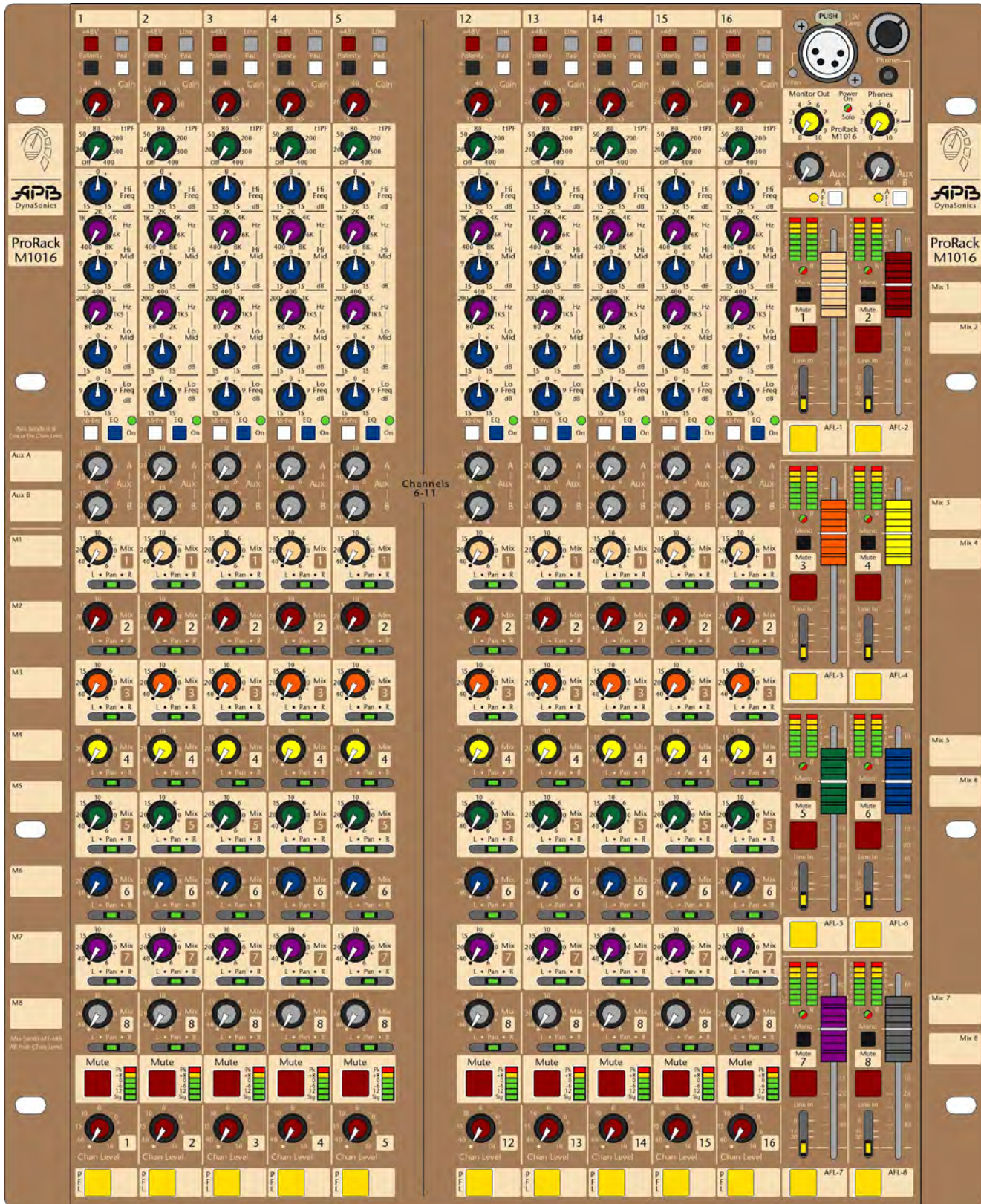
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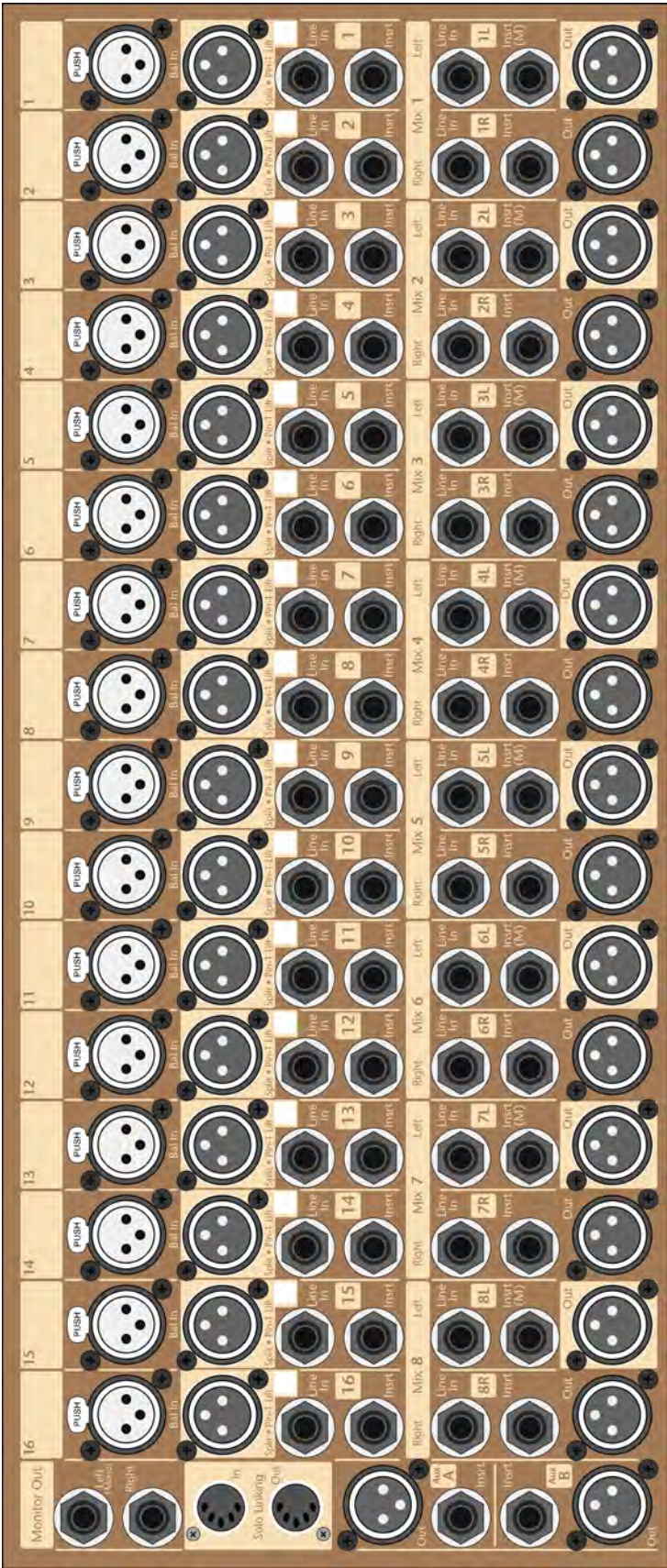
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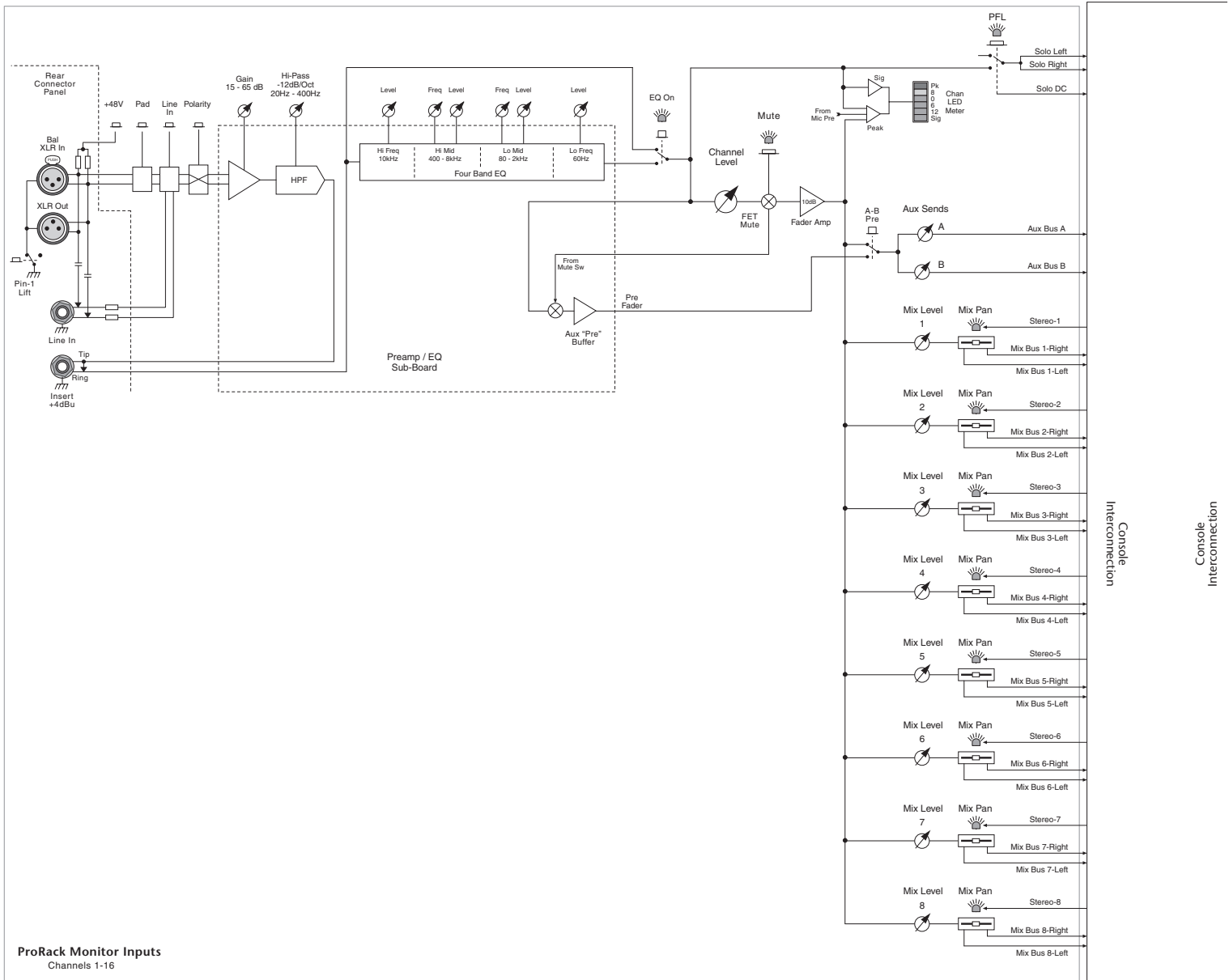
# Front Panel Overview

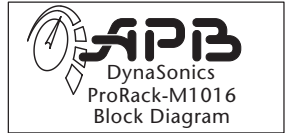
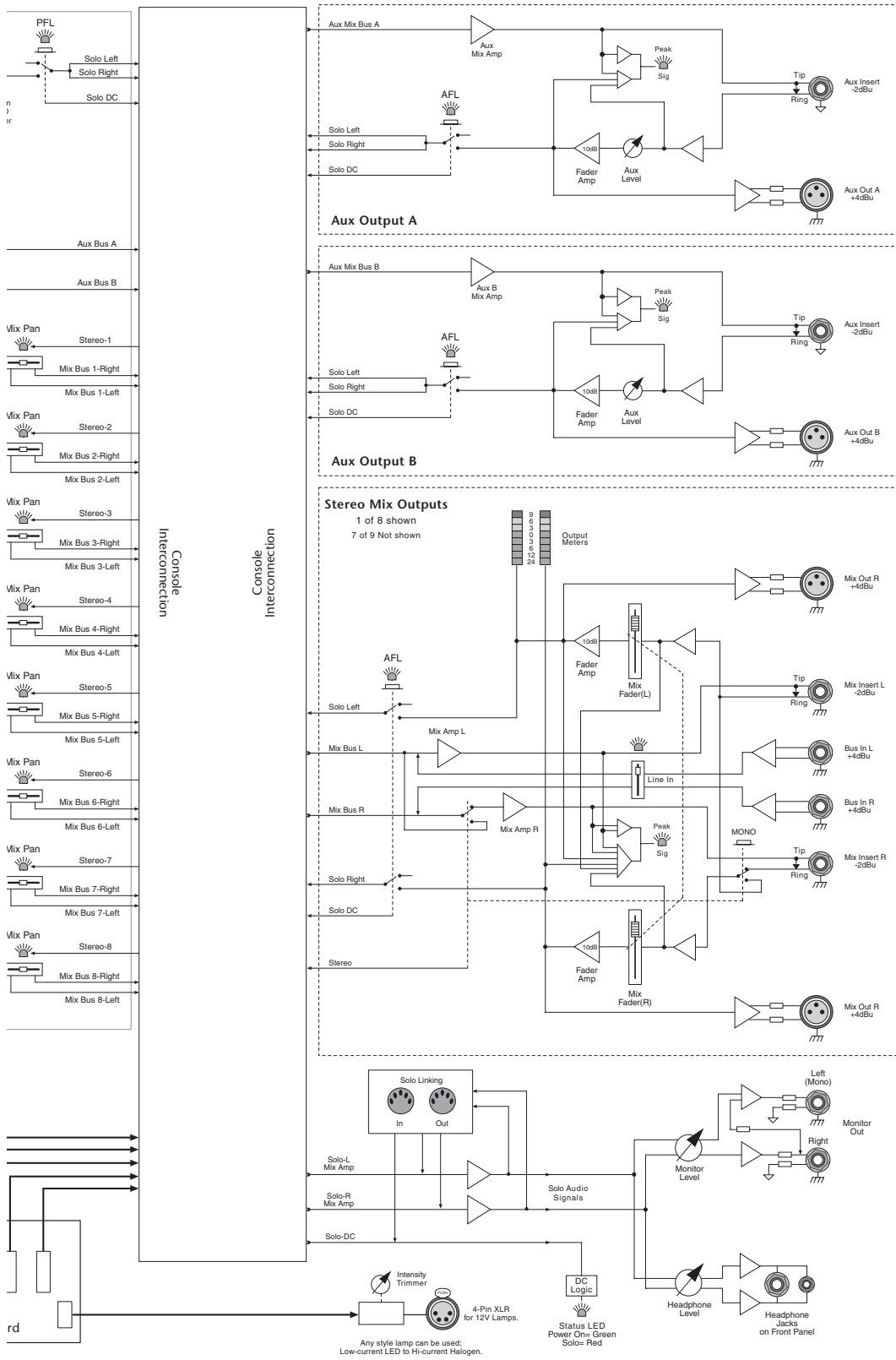


# Rear Panel Overview



ProRack-Monitor Block Diagram





## PRORACK MONITOR - INPUT CHANNELS (1-16)

### Channel Preamp

#### 48 Volt Phantom Power Switch

When depressed, activates 48-Volt phantom power to the XLR connector. Phantom power is required for operation of most condenser microphones. See your microphone instructions to see if phantom power is required or is to be defeated (some –though few–microphones require phantom power NOT be activated or they may be damaged). Some active Direct Boxes can also use phantom for power.

#### Mic/Line Switch

Selects between mic input source on XLR connector and line input source on the XLR connector or 1/4" Line input Jack. When in the UP position, the XLR source is processed as a microphone input signal. When in the DOWN position, the input is processed as a line level signal from the XLR connector or 1/4" connector, with the 1/4" connector having priority over the XLR connector. If both connectors are in-use, this switch will select between the XLR (Up) and the TRS (Down)

#### Polarity Reverse Switch

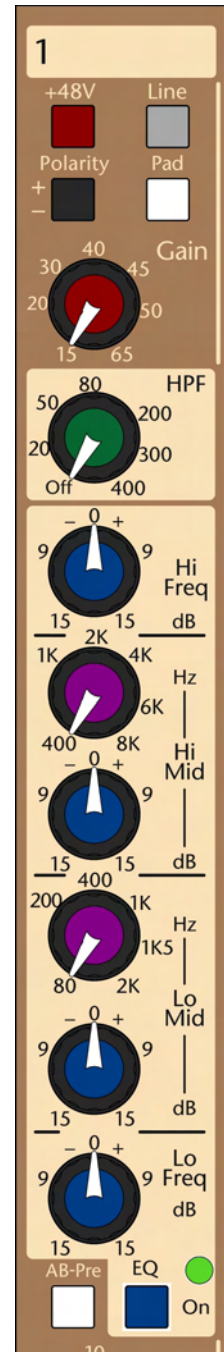
When depressed, reverses the electrical input polarity of any microphone or line level input signal. Use of this control may alter the sound quality of an input relative to other channels when multiple microphones are picking up the same sound. (In the past, many consoles labeled this function as "Phase" or used the Ø symbol).

#### Pad Switch

When depressed, inserts a 26dB pad into the microphone input signal path prior to the microphone preamplifier to prevent overload of excessively high microphone input signal levels. Use this pad switch when you find that you are operating the gain control in the lower 20% of the control range and still showing excessive signal levels (yellow and red indications) on the channel meters.

#### Input Gain Control

This control adjusts the amount of gain at the input stage for the best signal performance within the console. The goal is to achieve the best signal-to-noise while amplifying input signals to workable levels, neither too high nor low. The channel's six-segment meter is used for visualization of proper channel levels while soloing the channel will give more detailed level information by using the higher resolution meters in the Master section. Proper level is achieved when there is continuous full green illumination when input sources are at their highest levels with occasional flashes of the yellow and red LEDs.



# PRORACK MONITOR - INPUT CHANNELS (1-16)

## Channel EQ

### High Pass Filter Control

Adjusts the high pass filter frequency between 20Hz and 400Hz at a roll off rate of 12dB per octave. This control is used to remove unwanted signal content below the indicated frequency, such as stage rumble. This results in a clearer signal that reduces low frequency buildup in an audio system, which is often perceived as a muddy signal. When this control is turned fully counter-clockwise, the filter circuitry is removed from the signal path to maintain optimum phase response.

**NOTE: The High-Pass filter is NOT controlled by the EQ On switch (See below).**

### High Frequency Level Control - Shelving

Adjusts the high frequency shelving EQ response between +/-15dB. The center, or "0", position of this control has a detent to indicate that it is having no effect on the associated channel signal. Boost or cut of the high frequency level control is used for tonal adjustments. The corner frequency of the shelving filter is 10kHz.

### High-Mid Frequency Control

This frequency control selects the center frequency of the high-mid frequency band EQ between 400Hz and 8 kHz with a bandwidth of approximately one octave.

### High-Mid Level Control

Adjusts the high-mid frequency cut/boost between +/-15dB. The center "0" position of this control has a detent to indicate it is having no effect of this frequency band. The high-mid frequency controls are used for minor tonal adjustment or repair of a specific band of frequencies.

### Low-Mid Frequency Control

This frequency control selects the center frequency of the low-mid frequency band between 80Hz and 2 kHz with a bandwidth of approximately one octave.

### Low-Mid Level Control

Adjusts the low-mid frequency cut/boost between +/-15dB. The center "0" position of this control has a detent to indicate it is having no effect of this frequency band. The low-mid frequency controls are used for minor tonal adjustment or repair of a specific band of frequencies.

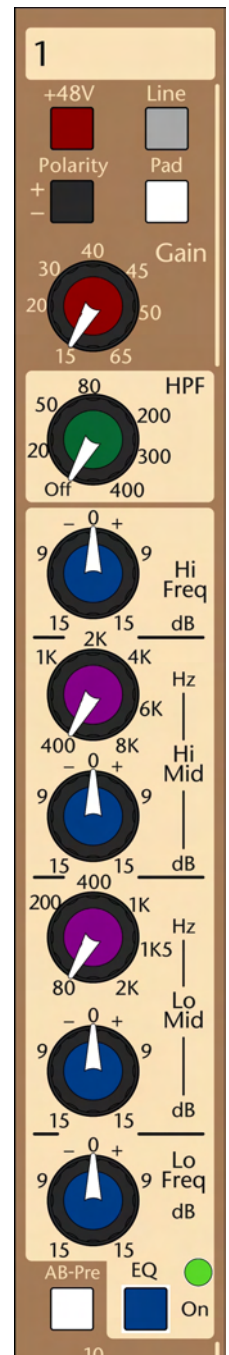
### Low Frequency Level Control - Shelving

Adjusts the low frequency shelving response between +/-15dB. The center "0" position of this control has a detent to indicate that it is having no effect of the associated channel signal. Boost or cut of the low frequency level control is usually used for minor tonal adjustments. Corner freq is 60Hz

### EQ ON Switch with LED

This switch inserts the 4-band EQ into the channel signal path. EQ activation is displayed by the illumination of an LED next to the EQ On switch. When not in use, it is suggested that the EQ be kept in the OFF position for the best phase performance.

**NOTE: The EQ On switch only affects the 4-band EQ circuitry. The High-Pass Filter is controlled ONLY by its own rotary control**



## PRORACK MONITOR - INPUT CHANNELS (1-16)

### Aux Sends A & B

These 2 Aux buses can be used as Effects sends or to generate an additional pre or post mix from the ProRack for recording or other purposes. When selected Post-fader (button UP), the signal will follow the level set by the Channel (Rotary) fader. When selected Pre-fader (button DOWN), the signal will be independent of the Channel fader. In either switch position, Auxes A & B will mute with the channel.

#### **Aux A-B Pre Switch**

This switch determines the signal source for Aux mixes A and B between Post-fader (Up) or Pre-fader (Down).

#### **Aux Level Control A**

Adjusts the mix level of the channel into Aux bus A.

#### **Aux Level Control B**

Adjusts the mix level of the channel into Aux bus B

### Mix Sends 1 thru 8 (Stereo)

These 8 sets of paired controls (rotary-pot for Level, horizontal-slider for Pan) determine the amount of channel signal sent to their associated paired mix buses. These controls are always fed from the Post-fader/Post-Mute channel signal. The rotary pot controls the level into the mix-pair, the slider controls the panning. There is a detent at the center position of the slider to indicate equal levels (-3dB each side) into the L & R sides of the stereo mix. These mix-pairs are normally operated in Stereo; indicated by the Green LED being illuminated on the adjustment lever. When the pair is switched to Mono (see the Master section), this LED turns Off and the Pan slider has very little effect on the mix. When using the mix-pair in Mono mode, the right-side circuitry is blended into the left. This single left path is then used as a mono source to the Insert jacks- both left and right Insert returns are fed from the left Insert send. This allows a single (Mono) EQ or compressor to be patched into a ProRack mix. The 2 outputs of the affected mix (L & R) will be identical- they can be used as multiple outputs.

#### **Mix 1 (rotary) Level**

This pot controls the level sent to both sides (L & R) of Mix 1

#### **Mix 1 (slider) Pan (with LED)**

This slider controls the Panning between L & R of Mix 1. When the LED is OFF, this control has little effect on the signal and equal amounts are sent to L & R.

#### **Mix 2 thru Mix 8**

These controls perform the same operations on the remaining Mix buses. Their colors match their associated Master fader knob in the master section.

#### **Mix 1: Cream**

#### **Mix 2: Red**

#### **Mix 3: Orange**

#### **Mix 4: Yellow**

#### **Mix 5: Green**

#### **Mix 6: Blue**

#### **Mix 7: Violet**

#### **Mix 8: Grey**



## PRORACK MONITOR - INPUT CHANNELS (1-16)

### Channel Control

#### **Channel Mute Switch (Internally Illuminated)**

When pressed, this latching switch will mute all mixes of the channel and any pre or post auxiliary sends. The Mute does not affect the channel's PFL feed. This switch illuminates RED when activated.

#### **Channel Level Meters**

6-segment LED meter indicates the pre-fader channel level. The top segment peak indicator will illuminate red if any of the multiple sample points in the signal chain approaches 3dB of clipping. A yellow LED illuminates in the caution zone at a +8 reference level. Four green LED segments indicated signal levels of 0, -6, -12, and Signal Present. The signal present LED first illuminates at approximately -30 and increases in brightness with level until it is at full intensity. Best operation is achieved when the bottom 3 green LED's are illuminated with average input signals with only occasional short yellow/red bursts of the +8 and peak LEDs.

#### **Rotary Channel Fader**

This rotary pot controls the post-fader channel level.

#### **PFL Switch (Internally Illuminated)**

When pressed, this latching switch will route the Pre-fader channel signal to the Solo system (located in the Master section). This switch illuminates Yellow when activated.



## PRORACK – MONITOR Input Channel Connectors (Rear Panel)

### XLR Input Connector

This connector accepts microphone or line input signals, as determined by the front panel input source switch and if the TRS line input connector is occupied. When the front panel input source switch is in the microphone position (Up), this XLR connector will be used as a microphone input and will have an input impedance of >3000 ohms. When the input selector source switch is in the LINE input position (Down) and nothing is plugged into the TRS line input connector, this XLR connector is used as a balanced line input with an input impedance of >10k ohms. If a connector is plugged into the TRS line input connector, the XLR connector will always be configured as a microphone input connector with an input impedance of >3000 ohms. This is a locking connector. To remove an XLR cable, depress the Tab on the connector before attempting to remove the cable plug from the console connector.

### XLR Output (Split) Connector

This Male-XLR connector can be used as a split of the input signal. This connection typically feeds the FOH mixer when the ProRack-Monitor is being used as the Monitor console. This connection is wired as a passive-split (also called a Y-Split); no active electronics or transformers are involved—each pin of each XLR is wired to its corresponding pin on the opposite XLR.

### Pin-1 Lift Switch

A Pin-1 Lift switch is available that can be used to isolate the Pin-1 connection between the 2 mixers when the split is being used. When the switch is in the OUT position the Pin-1 connection of each XLR jack is tied to the ProRack chassis. When the button is pressed IN, that chassis connection is broken. This switch disconnects the Pin-1 of BOTH XLR jacks from the ProRack chassis ONLY; they remain connected to each other at all times. This type of switch is also called a “Ground-Lift” switch.

**NOTE: If this switch is depressed, Phantom Power from the ProRack will be unable to power any connected microphones or direct boxes. Pin-1 is used as the return path for the phantom voltage; once that path is broken (via the Pin-1 lift switch) there is no longer a complete circuit.**

**Also NOTE: If phantom power is engaged on a channel and the Pin-1 lift switch is activated, loud bangs and other noises can occur as the +48 volt phantom voltage disconnects. Make sure that the channel is muted or turned down or see that the phantom voltage is Off for that channel.**

### 1/4" TRS Line Input Connector

This connector accepts line input signals and has an input impedance of >10k ohms. When the front panel source switch is selected to line input, signal is first sourced from this connector. If nothing is plugged into this connector, the XLR input is normal through this connector as a line input signal. The line input may be balanced or unbalanced signal.

NOTE: Any signal present on the TRS connector is NOT fed to the Split XLR connector. The Split Connector only sees the signal present on the Input XLR connector.

### 1/4" TRS Insert Connector

This connector allows external processing or effects electronics to be inserted into the channel's signal path after the variable high pass filter. Tip= Send, Ring= Return, Sleeve= Ground. Examples of external devices include additional equalization, notch filters, compressors, limiters, vocal doublers and harmonizers, reverb devices, etc. The insert send has an output impedance of 100 ohms unbalanced and the insert return has an input impedance of 5k ohms unbalanced. Operating level is +4dBu.

NOTE: The user should ensure that any device inserted into the channel's signal path is capable of maintaining the signal integrity of the console. The device must be able to accept a +22dBu signal without clipping, and have an output impedance of 100 Ω or less and be capable of driving +22dBu into a 2k Ω load.



## PRORACK MONITOR – MASTER SECTION

### MIX OUTPUT SECTION (2 of 8 shown)

#### **Output LED Monitoring**

Dual 8-segment LED meters display the post-fader output level of the stereo mix. These meters have a VU-type response- they show the average level of the music. The Red segment is not a Peak indicator; when lit it is indicating high average levels. For peak warnings, see the dual-color LED below.

#### **Main Output Fader**

This 60mm fader controls the Mix output level appearing on the associated XLR balanced output connector.

#### **Dual-Color Bus Level LED Monitoring**

This bi-color (Red/Green) LED monitors both sides of the stereo mix. Varying intensity Green indicates proper bus levels while red indicates a bus is at or near overload, indicating that a mix level control reduction should be made on the associated mix channels. The red Peak LED monitors the mix bus outputs, Insert-returns AND the post-fader signal levels.

#### **Mono Switch**

The 8 mixes normally operate in stereo, with each of the mix pan faders on the channel controlling the L-R blend. When a single Mono mix is needed, you can slide the fader to extreme left or right and use only that mix output. Or, you could press the Mono button and ignore the position of the individual pan faders. The L-R mix is collapsed to mono and sent thru ONLY the left-side pre-fader circuitry. The Green LEDs on the channel pan faders for that mix will turn off. The right-side insert return is tied to the left allowing a single, mono effects device to be patched into the ProRack. The return from that device will feed both sides of the mix fader and show up on both output meters. Either Left or Right (or both) output XLRs can be used; they will be the same signal. Further detail is given on the Rear Connector info page.

#### **Line Input Fader**

Each mix bus has associated rear panel Line-in jacks. This 10mm fader controls the amount of signal from the rear Line-Input TRS jacks into the mix. Some uses for the controlled Line-in signal include: common click-track to all mixes, effects returns into selected mixes and console linking. When at the top of its travel, the fader feeds the external signal to the mix bus at unity. There is a Yellow LED fitted to the lever. It doesn't indicate anything, it just helps you find the fader in the dark.

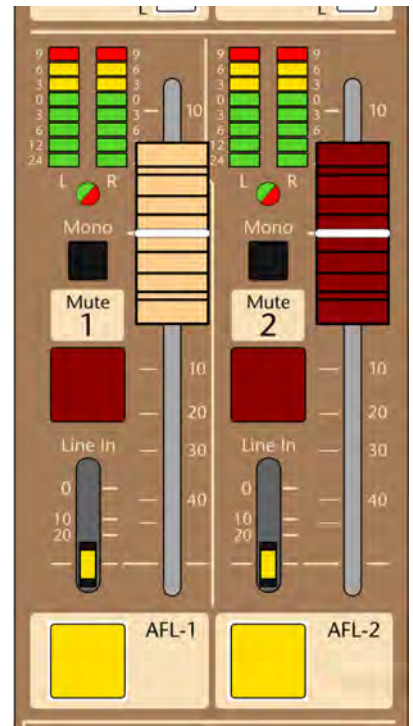
NOTE: See the rear panel details for information about the normalling functions between the Line-In jacks.

#### **MUTE Switch (Internally illuminated)**

When depressed, this switch will mute the main outputs of the mix.

#### **AFL Switch (Internally illuminated)**

When selected, this switch will route the stereo, post level (post insert point) mix signals to the console's PFL/AFL Solo system for display on the console's master meters and to the monitor/headphone system. The AFL point is after the Mute switch, so no signal will be heard in the Solo system if the mix is muted.



## **MIX OUTPUT CONNECTORS – REAR PANEL**

### **Balanced 1/4" TRS Line-Inputs (to each Mix)**

The 10k ohm balanced inputs are provided to bring an external line level signal into the Mix amp thru the mini-fader level control. This allows these Line-in jacks to be used as an additional line level input into each mix bus. It may also be used as part of the system to link multiple mixers together by bring the group output signal of the slave mixer (output level set to unity) into these group TRS connectors. Any signal brought into these inputs will be mixed with any other input signals assigned to the mix bus.

**NOTE:** These Line-In jacks have a normaling priority. The Mix-1 Left Line-In is fed to the normal contacts of the Mix-2 left Line-in jack; similarly, the Mix-1 Right Line-In signal is fed to the Mix-2 right Line-In jack. This is continued down the line, the higher channel is fed to the next lower channel. This allows a single stereo signal, plugged into the Mix-1 Line-In jacks, to feed all 8 of the Stereo mixes. This is handy if you need to send a common reference or click track to all of the mixes. Each mix can still control the amount of signal via its own mini-fader. If additional signals need to be patched into the Line-In jacks, they would break the normalled contact at that point- they now become the signal that is fed downstream to the lower mixes. An additional feature of the Mix-1 Line-In jacks: If nothing is plugged into the Right Line-In jack, it receives its signal from whatever is plugged into the Left Line-In jack. This allows a single, mono source, on 1 plug, to feed both sides of all of the Mixes.

Internal buffering prevents a single source from excessive loading; the input impedance of any Line-In will not drop below 5K $\Omega$ .

### **1/4" TRS Insert Connectors**

This connector allows external processing or effects electronics to be inserted into the Group's signal path after the mix amp. Tip= Send, Ring= Return, Sleeve= Chassis. Examples of external devices include additional equalization, notch filters, compressors, limiters, vocal doublers and harmonizers®, reverb devices, etc. The insert send has an output impedance of 100 ohms unbalanced and the insert return has an input impedance of 5k ohms unbalanced.

Operating level is -2dBu.

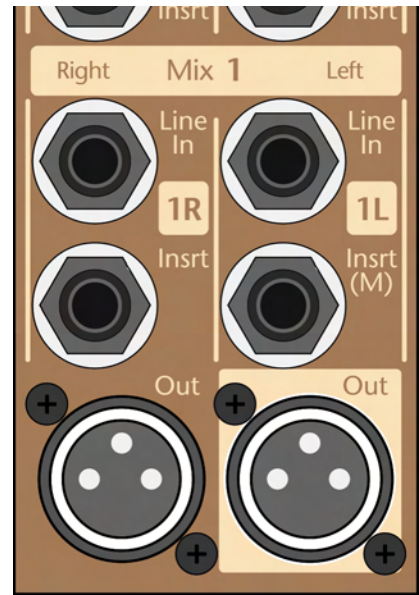
**NOTE:** The user should ensure that any device patched into the Insert signal path is capable of maintaining the signal integrity of the console. The device must be able to accept a +22dBu signal without clipping, and have an output impedance of 100  $\Omega$  or less and be capable of driving +22dBu into a 2k  $\Omega$  load.

**NOTE:** The L & R Insert jacks operate in tandem with the Mono switch on the front panel. When in Stereo mode (default) the Left Insert jack affects the left side of the Mix, the Right Insert jack affects the right side. When the Mono switch is pressed, the Right-side insert jack is bypassed; the Right-side of the mix will get its Insert-return from the Left-side Insert jack. This allows a single, mono effects device to be patched into the Mix and affect both sides. The signal appearing at both of the L & R XLR outputs will be identical (processed thru the effects device). Either or both of the XLR outputs can be used to feed the mix to your system.

### **XLR Balanced Mix Outputs**

This is an 100 ohm electronically balanced line level output on an XLR connector designed to drive a 600 ohm load or greater.

Operating level is +4dBu



## PRORACK MONITOR – MASTER SECTION

### HEADPHONE AND MONITOR SYSTEM

#### **Headphone Level Control**

This control adjusts the level being fed to the headphone system.

#### **1/4" And 1/8" Headphone Connectors**

A 1/4" and a 1/8" set of headphone connectors are located on the front panel of the console.

#### **Monitor (Speaker) Level Control**

This control adjusts the stereo level being fed to the Monitor TRS output connectors on the rear panel of the mixer.

### Monitor/Headphone Source Selection

The Monitor and Headphone outputs are normally inactive unless a Solo switch (PFL or AFL) is depressed. When that occurs, the Power On/Solo LED will turn from Green to Red and the selected meter channels or buses will be heard in the monitoring system. There is no dedicated meter to display the Solo levels- use the (many) individual meters and LEDs within the mixer to keep track of your levels.

#### **Auxiliary Output Level Control (A & B)**

This control will adjust the auxiliary output level appearing on the associated XLR balanced output connector.

#### **Auxiliary AFL (Solo) Switch with LED**

When selected, this switch will route post level (post insert point) auxiliary signal to the console's PFL/AFL Solo system for monitoring.



### SOLO (PFL/AFL) LINKING SYSTEM

Two 5-pin DIN connectors are provided that allow the Solo systems of multiple ProRack mixers to be linked together. Thus, a single set of headphones can be used to monitor the solo functions of multiple mixers. This Solo-linking can also be used with a larger APB Spectra console if it is fitted with a Solo Linking option.

Use a 5-pin circular DIN cable to link the OUT connector of the Slave console to the IN connector of the Master console. Any Solo activity on the Slave console will still show up on that console but will now also activate the Solo function on the Master console where the Slave's solo audio can be heard, mixed in with any Master Solo activity.

The DIN cable should be wired pin-to-pin with an overall shield tied to the connector shells on each end.

Contact APB about where to obtain a Solo-Linking cable.

## PRORACK MONITOR – MASTER SECTION REAR PANEL

### Rear Panel Monitor Output Connectors

Impedance Balanced 1/4" output connectors are provided for Left and Right monitor speaker outputs. If a mono source is desired for monitoring (i.e. for a single wedge), use the Left output jack without plugging anything into the Right jack.; a summed-mono signal will be available there. Plugging into the Right jack disconnects the summing circuits.

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The DIN cable should be wired pin-to-pin with an overall shield tied to the connector shells on each end.

Contact APB about where to obtain a Solo-Linking cable.

### Aux A & B 1/4" TRS Insert Connector

This connector allows external processing or effects electronics to be inserted into the Aux signal path after the mix amp. Tip= Send, Ring= Return, Sleeve= Chassis. Examples of external devices include additional equalization, notch filters, compressors, limiters, vocal doublers and harmonizers, reverb devices, etc. The insert send has an output impedance of 100 ohms unbalanced and the insert return has an input impedance of 5k ohms unbalanced.

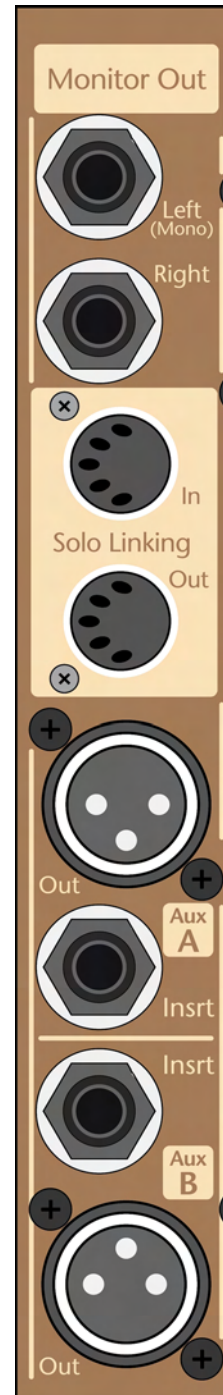
Operating level is +4dBu.

NOTE: The user should ensure that any device inserted into the Aux signal path is capable of maintaining the signal integrity of the console. The device must be able to accept a +22dBu signal without clipping, and have an output impedance of 100  $\Omega$  or less and be capable of driving +22dBu into a 2k  $\Omega$  load.

### XLR Balanced Auxiliary Output

This is an 100 ohm electronically balanced line level output on an XLR connector designed to drive a 600 ohm load or greater.

Operating level is +4dBu



### Aux A & B and Bus Expansion

For the main mix buses (Stereo Mixes 1-8), there are Line-In jacks. When tying 2 ProRacks together, the output signals from the Slave mixer's balanced XLRs are fed into the TRS Line-In jacks of the Master mixer. All Slave output level controls are operated at "0" and the Line-In mini-faders on the Master are set to the top of their travel; this effectively creates 1 larger mixer. However, there are no Line-In or Bus-In jacks for the Aux A & B mix buses (we ran out of room). There is still a way to connect these Aux buses when tying 2 ProRack mixers together by using the Insert jack of the Master mixer along with a 2-resistor network to create a summing circuit. The details are shown in the Interconnect section of the manual (keep reading).

## PRORACK MONITOR – ADDITIONAL FEATURES

### LAMP AND DIMMER SYSTEM

#### **4-Pin XLR Lamp Connector**

A four-pin XLR connector can be used with a Littlite® or other similar gooseneck lamp. Compatible with Hi-intensity (Halogen), regular incandescent or LED lamps. A straight, 12-inch length gooseneck works best for this console. A locking connector is provided for this lamp which must be depressed and held while removing the plug in lamp.

Positive voltage on Pin-4, 0V on Pin-3, No Connection to Pins 1 & 2.

An internal resettable fuse protects against shorts on this connector.

Maximum allowed current draw is 350mA @ 12V.

#### **Lamp Intensity Control**

A recessed trimmer control is provided adjust the brightness of the plug-in lamp. This may be adjusted with a small flat-blade or jeweler's screwdriver. Maximum brightness is achieved by turning this control to its full clockwise position (12V); minimum brightness at full counter-clockwise (< 2V).



### ROTATING CONNECTOR POD

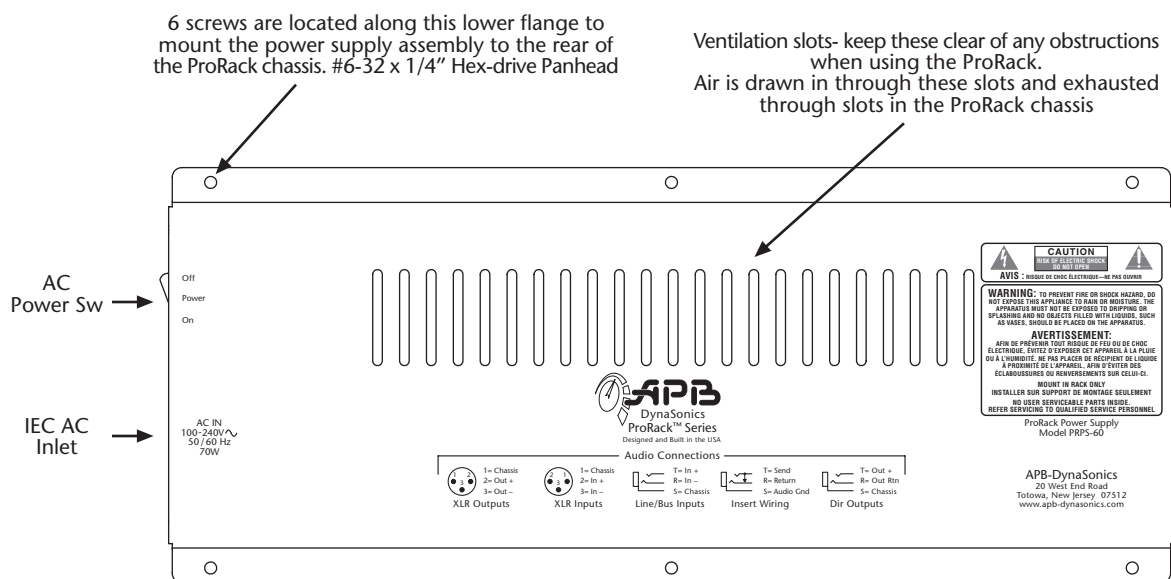
The rear connector chassis may be rotated between three different locking positions. When used freestanding on a desktop, the fully opened 90-degree position is recommended. When mounted in an upright rack, the 180-degree position may be selected. In an angled rack, a mid position may be the best choice. The connector panel is locked into position using the two provided #10-32 screws on each side of the panel. Remove these screws before trying to rotate panel or damage (maybe to you) may result. It is suggested to reinstall these screws once the panel position is selected.

If these screws are lost, replace with #10-32 x 1/4" Flat-head Stainless Steel screws- maximum length allowed is 3/8".

Do not transport the mixer with the rear panel unsecured. See the following pages for additional mounting information.



## ProRack Power Supply Model PRPS-60



The power supply for the ProRack is designed to be easily field-replaced: 6 screws secure it to the rear panel of the ProRack; a captive wire-lead with locking connector is used to mate with the circuits within the Mixer. A small internal fan circulates air through the supply into the Mixer. All internal power supply assemblies are medically-rated and agency approved (UL/CSA/VDE/CE). There are no user-serviceable parts inside; heed all printed warnings.

Input Voltage: 100 to 240 VAC 50/60Hz

Input Power: <72W

AC Mains Connector: IEC 15A Receptical

ProRack is supplied with mating IEC cordset with either an Edison-plug (USA/Canada) or Euro-plug (Export)

DC Output Voltages & Currents (as used by the ProRack):

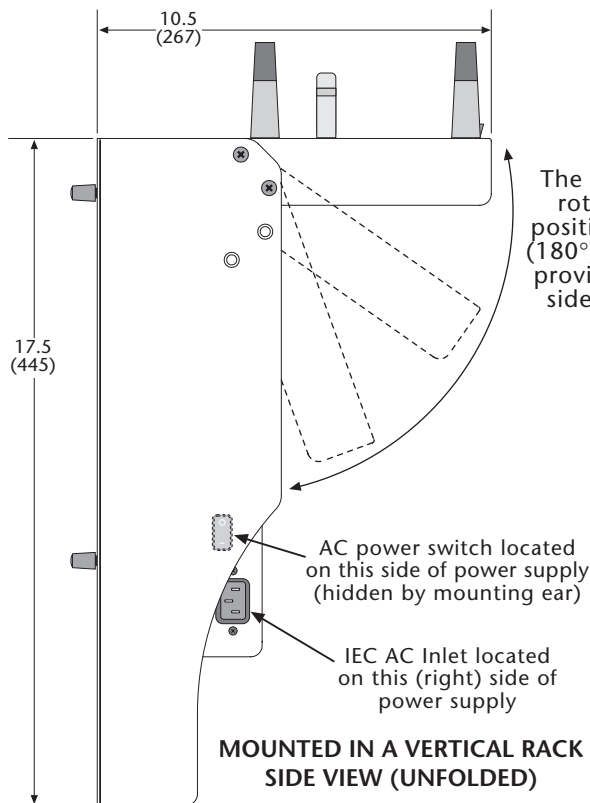
+17.6V @ 1.3A

-17.6V @ 1.3A

+15V @ 1A

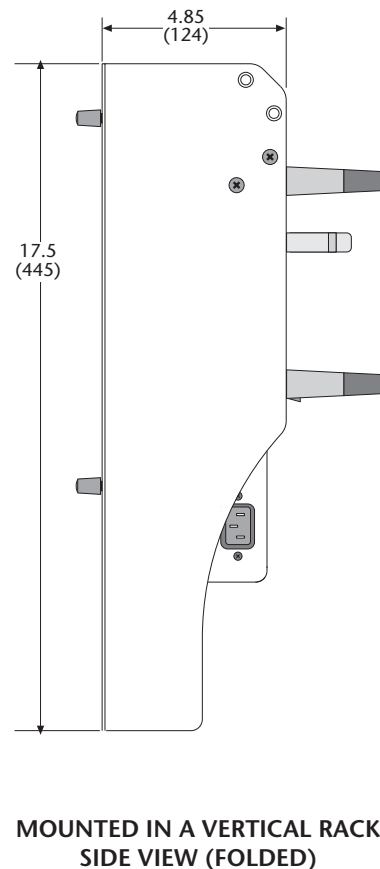
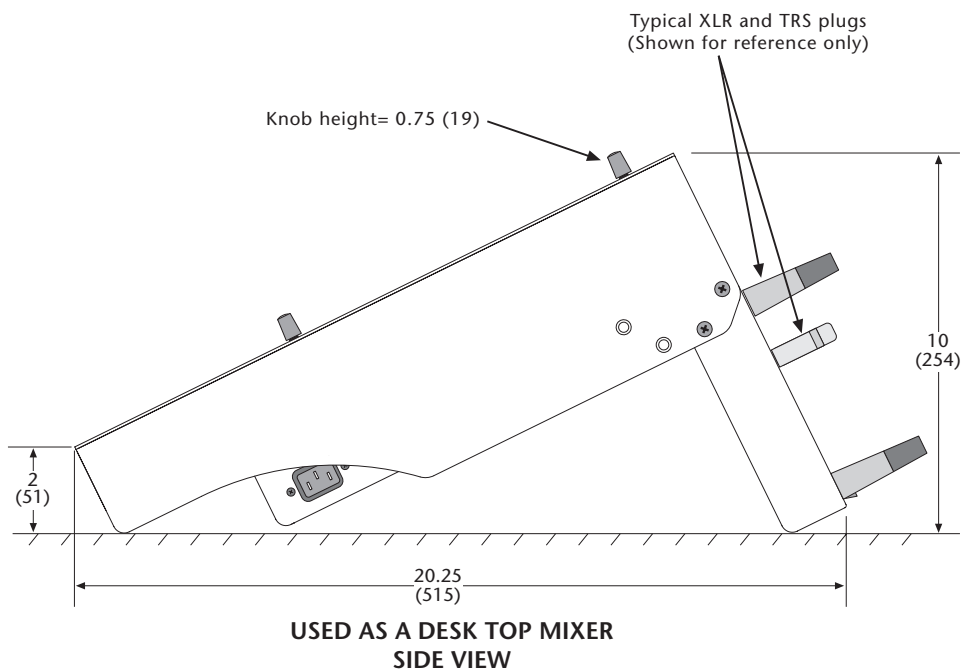
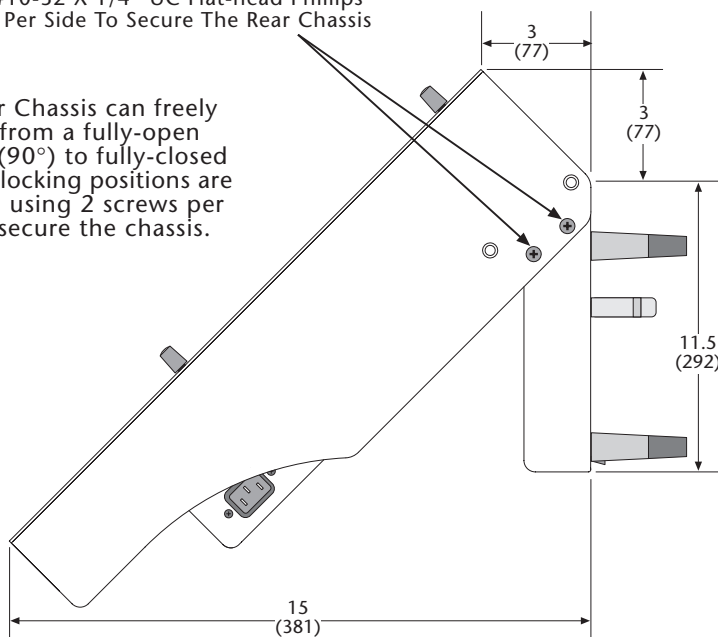
+48V @ 0.2A

DC Output Connector: 7-Way Molex 0.156" pitch



Note Different Position Of Locking Screws For Each Orientation Of The Rear Chassis:  
#10-32 X 1/4" UC Flat-head Phillips  
2 Per Side To Secure The Rear Chassis

The Rear Chassis can freely rotate from a fully-open position (90°) to fully-closed (180°). 3 locking positions are provided using 2 screws per side to secure the chassis.

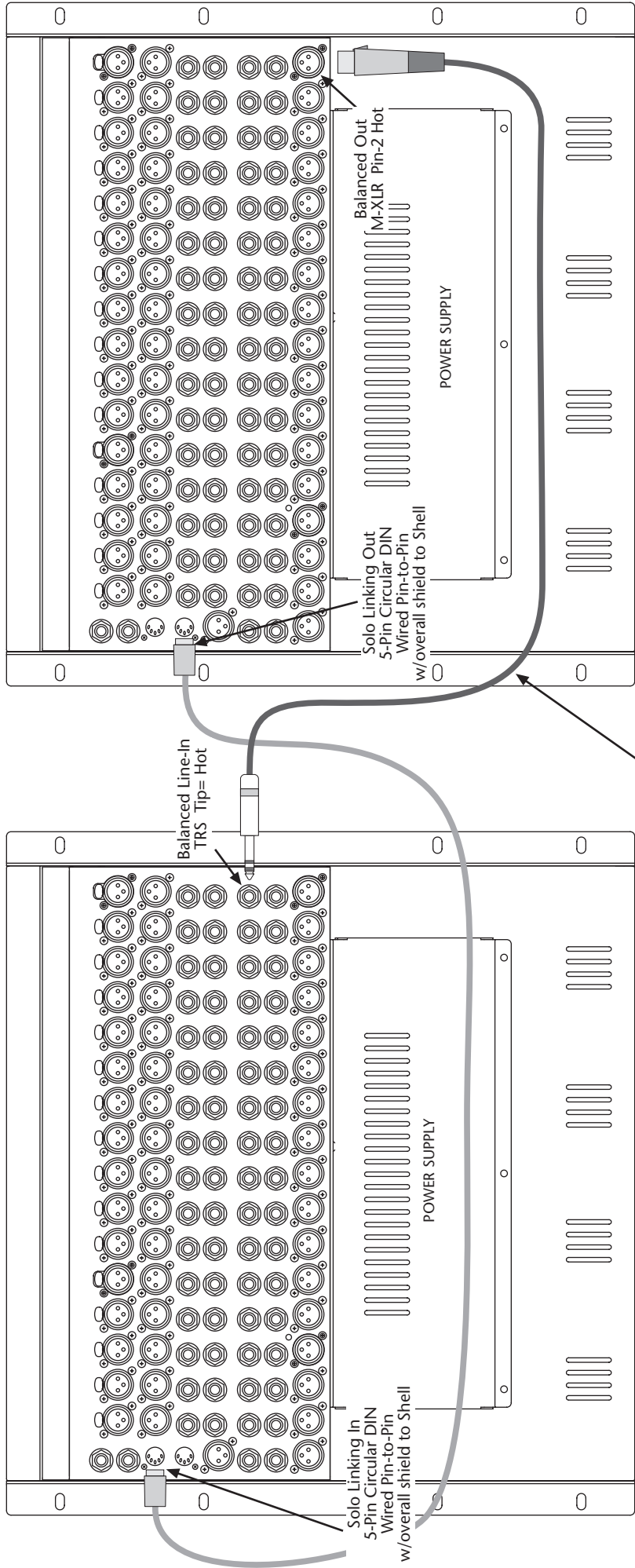


Dimensions shown for the different orientations  
Given in inches and (mm)  
-to the closest 1/4" or mm -

Weight= 34 lbs (15.5kg) for all orientations  
Shipping Weight (boxed)= 40 lbs (18kg)

**ProRack Mounting Options**

# Interconnecting two ProRack Mixers as Master and Slave



Repeat this connection for each of the Bal-Out / Bus-In pairs that will be shared across the 2 consoles.  
16 connections needed to tie all like-buses together  
8 Stereo Mixes

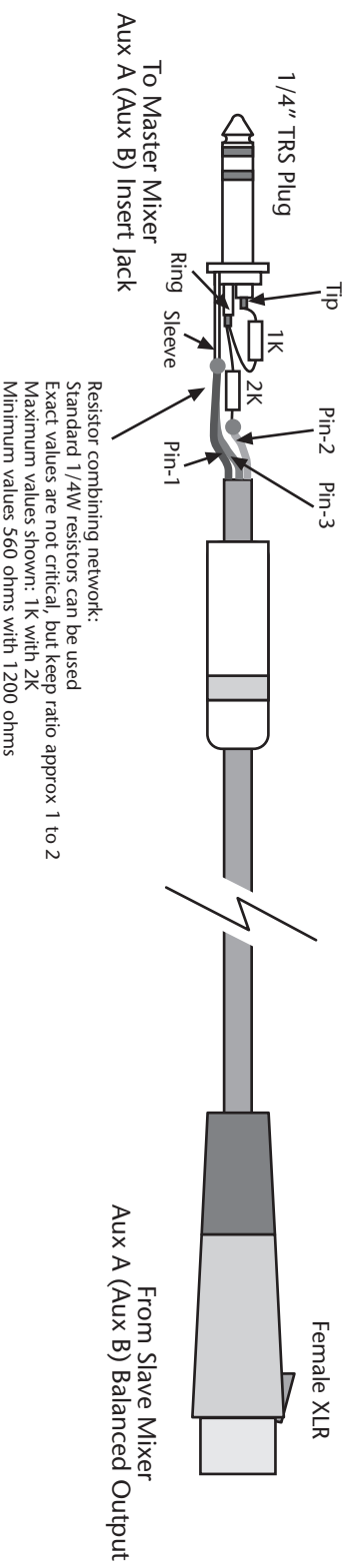
16-way XLR to 1/4" TRS Audio Snake can be used

**- Master Console -**  
Audio signals from all buses in the Slave Console are mixed into the Master Console buses at unity gain.  
Solo also monitored from this Mixer

**- Slave Console -**  
To ensure correct mixing levels into the Master console, all bus output controls on the Slave console should be set to "0" (unity).  
Solo System is linked between Consoles with a single DIN cable: Each end fitted with 5-Pin circular DIN connector wired pin-to-pin with 5 conductor (overall) shielded cable. Shield tied to connector shell at both ends of the cable.

Since Aux-A & Aux-B do not have Line-In or Bus-In jacks, another way must be used to inject signals into those mixes when tying 2 consoles together. The method shown takes the +4dBu balanced output from the Slave mixer and unbalances and pads it to match the -2dBu insert level of the Master's Aux-A & Aux-B outputs. Because there is some loss in this resistor network, the Aux-A & Aux-B output controls on the Master mixer may be turned up slightly to compensate for the loss.

Note:  
The Aux-A & Aux-B output levels on the Slave mixer should be kept at "0" for accurate matching of levels between the two mixers.



Adapter Cable to allow 2 ProRacks to combine their Aux-A & Aux-B mixes



APB-DynaSonic  
ProRack-Mon  
Track Sheet

Artist

Song

Engineer

Date

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
	+48V Line Polarity Pad Gain HPF Hi Freq Hi Mid Lo Mid Lo Freq EQ	+48V Line Polarity Pad Gain HPF Hi Freq Hi Mid Lo Mid Lo Freq EQ	+48V Line Polarity Pad Gain HPF Hi Freq Hi Mid Lo Mid Lo Freq EQ	+48V Line Polarity Pad Gain HPF Hi Freq Hi Mid Lo Mid Lo Freq EQ	+48V Line Polarity Pad Gain HPF Hi Freq Hi Mid Lo Mid Lo Freq EQ	+48V Line Polarity Pad Gain HPF Hi Freq Hi Mid Lo Mid Lo Freq EQ	+48V Line Polarity Pad Gain HPF Hi Freq Hi Mid Lo Mid Lo Freq EQ	+48V Line Polarity Pad Gain HPF Hi Freq Hi Mid Lo Mid Lo Freq EQ
	Aux A	Aux A	Aux A	Aux A	Aux A	Aux A	Aux A	Aux A
	Aux B	Aux B	Aux B	Aux B	Aux B	Aux B	Aux B	Aux B
	M1	M1	M1	M1	M1	M1	M1	M1
	M2	M2	M2	M2	M2	M2	M2	M2
	M3	M3	M3	M3	M3	M3	M3	M3
	M4	M4	M4	M4	M4	M4	M4	M4
	M5	M5	M5	M5	M5	M5	M5	M5
	M6	M6	M6	M6	M6	M6	M6	M6
	M7	M7	M7	M7	M7	M7	M7	M7
	M8	M8	M8	M8	M8	M8	M8	M8
	Mute	Mute	Mute	Mute	Mute	Mute	Mute	Mute
	Chan Level	Chan Level	Chan Level	Chan Level	Chan Level	Chan Level	Chan Level	Chan Level
	P F L	P F L	P F L	P F L	P F L	P F L	P F L	P F L



ProRack  
M1016

Aux Sends A-B  
Post or Pre Chan Level

Mix Sends M1-M8  
All Post-Chan Level

APB-DynaSonics  
ProRack-Mon  
Front Panel  
10-Sept-07

Artist

Song

Engineer

Date



## TECHNICAL SPECIFICATIONS

<b>General Specifications</b>	
<b>Frequency Response (any input to any output)</b>	+0/-0.5dB 20Hz to 20kHz (ref to 1kHz)
<b>THD + Noise (Mic Input to Main Output)</b>	<0.01% @ +15dBu output
<b>Phase Response (Mic Input to Main Output)</b>	+10/-15 degrees 20Hz to 20kHz (ref to 1kHz)
<b>Noise</b>	
<b>Mic EIN</b>	-128dBu @ 60dB gain, 150Ω source
<b>Mix Bus (1-8) Output Noise</b>	-85dBu (All Chan assigned w/faders down, Mix Master fader at unity)
<b>Aux Bus (A-B) Output Noise</b>	-90dBu (Aux Sends down, Aux Master at unity)
<b>Crosstalk (measured at 1KHz)</b>	
<b>Channel Mute</b>	>100dB
<b>Channel Fader Attenuation</b>	>100dB
<b>Channel Pan Isolation</b>	>70dB
<b>Channel to Channel Isolation</b>	>90dB
<b>Aux Send Attenuation</b>	>90dB
<b>Input / Output Impedance</b>	
<b>Channel XLR Input</b>	>3KΩ Balanced (with or without Pad)
<b>Channel Line Input (via TRS)</b>	>20KΩ Balanced
<b>Channel Line Input (via XLR w/Pad)</b>	>4KΩ Balanced
<b>Bus XLR Outputs (Mix 1-8)</b>	100Ω Symmetrically-Balanced (To Feed 600Ω or greater)
<b>Channel and Bus Insert Sends&gt;Returns</b>	100Ω Unbalanced / 5KΩ Unbalanced (To Feed 2kΩ or greater)
<b>Monitor TRS Outputs</b>	100Ω Impedance-Balanced
<b>Input / Output Levels</b>	
<b>Channel Insert</b>	+4dBu (Tip= Send, Ring= Return, Sleeve= Chassis) Max Out= +22dBu
<b>XLR Balanced Outs</b>	+4dBu (Symmetrically-Balanced, Pin 2= "Hot") Max Out= +26dBu
<b>TRS Balanced Outs</b>	+4dBu (Impedance-Balanced, Tip= "Hot") Max Out= +22dBu
<b>Bus Insert</b>	-2dBu (Tip= Send, Ring= Return, Sleeve= Chassis) Max Out= +22dBu

