



Raven Labs PMB-1 Owner's Manual



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GENERAL DESCRIPTION

The Professional Master Blender (PMB-1) from Raven Labs provides the professional musician the ultimate device in blending together two separate signal sources. It can be used with an acoustic guitar or bass having a piezo pickup and soundhole microphone, a stereo instrument, two separate instruments or keyboards, or instrument, drum machine, tape deck, etc. Of course, it also makes a great preamp for any single instrument.

Great care has been taken in the selection of components and impedances to insure crystal clarity, wide frequency response, low noise and minimum distortion. As well, it is packed with useful features. The Master Blender can be powered with two nine-volt batteries, or a wall mounted A/C adapter (sold separately).

Front Panel Features

INPUT JACKS

Three individual input jacks labeled INST (Instrument), STEREO, and AUX/MIC (Auxiliary/Microphone) are provided. Each input is equipped with an RF trap to help eliminate radio station interference.

The INSTRUMENT input is ideal for piezo pickups and all devices needing a high input impedance. The input impedance is 10 Meg ohms. If you are not blending two signals, we recommend using this input regardless of the type of pickup. The AUXILIARY/MICROPHONE input has an input impedance of 820K Ohms, and is suited for microphones, magnetic pickups, keyboards, drum machines, etc. It also has "phantom power" if needed. The STEREO input jack can receive a dual signal, such as a pickup and soundhole microphone. The TIP of the stereo jack is sent to the Instrument channel. The RING is goes to the Aux/Mic channel. When the Stereo input is used, it disables the Instrument and Aux/Mic inputs. Therefore, they cannot be used in conjunction with the Stereo function.

PHASE SWITCH

A Phase switch is provided for each channel to help eliminate feedback and other phasing problems. In the OUT position, the input and outputs are normal (in phase). Pushing the switch IN reverses the phase. If you are experiencing early feedback with an acoustic instrument, try using the Phase switch to alleviate the situation. As well, remember that your position on stage can influence when feedback can occur. Always start out with the Phase switch in the normal (out) position.

PHANTOM POWER SWITCH

Pushing this switch in provides nine-volts DC to the Aux/Mic input jack or to the Ring of the Stereo jack. This voltage is slightly higher when using the optional A/C adapter. Activate this function ONLY when you are using a soundhole mic or other device needing 9 volt "phantom power". Engaging the Phantom Power switch with nothing plugged into the Aux/Mic or Stereo input jack, will effectively reduce battery life. ALWAYS check the position of this switch BEFORE turning on the Master Blender. If you need phantom power, push the switch in after your connections are complete.

GAIN CONTROLS

Each channel is supplied with an individual Gain Control. It affects the level going to your tone controls, and all output jacks. Once you have set your Gain to a desired level, use the Master Volume for "live" adjustments. This will avoid changing the level at the XLR direct out.

Start with the Gain control at about the 10 o'clock position. Then adjust your tone controls to their desired settings. Adjust the Volume to a comfortable listening level. Boost the Gain until you hear some distortion or "clipping" upon striking a loud note or chord (depending on the output level of your instrument, this may not occur). Now, lower the Gain control just below where the distortion disappears. Use the MasterVolume to set your overall volume. This allows you the maximum signal to noise ratio the Master Blender has to offer. Remember that boosting any one of the tone controls can affect the optimum position of the Gain Control.

TONE CONTROLS

Individual Bass, Midrange, and Treble controls are provided for each channel. The "flat" position, or where the controls have no effect, is when the pointer is straight up (12 o'clock). Turning the control clockwise from the flat position boosts the tone control, counter clockwise cuts the tone control. Cut or boost is a maximum of 12 dB.

The Bass is centered around 80 Hz, midrange is set at 800 Hz, and the Treble boosts at 3 KHz. The bandwidth of each control is different, and set to be musically pleasing.

EFFECTS CONTROL

The Effects control blends the signal coming from your effects device with the sound of your instrument. The Effects Loop is a side chain design. Along with the Effects blend, this helps to maintain a truer or more accurate signal. If your effect has a blend control, turn it all the way up. See the Effects Loop section for more information.

If you don't hear a signal coming from your effects, or any other device you may have plugged into the effects return jack, check the position of the Effects

control.

VOLUME CONTROL

The Volume Control adjusts the level at the Line Out (To Amp) jack only. It DOES NOT affect the level at the XLR, Effects Send, Tuner, or Channel Patch jacks. If the level is too "hot" or loud at these points, turn down the Gain control. You can then readjust the level at the Line out with the Volume.

POWER SWITCH

Pressing in the Power switch turns on your Master Blender as indicated by the green LED lighting. Always be sure that your unit is turned off when not in use to avoid draining the batteries. IMPORTANT: Since there are turn on and turn off transients, turn the Master Blender on BEFORE patching to other equipment and off LAST.

MUTE SWITCH

There may be instances when you want to "mute" the signal going to the XLR or Line out jacks, such as when tuning up or changing instruments, etc. Pushing the Mute switch in stops the signal going to the XLR and Line out jacks as indicated by the red LED lighting. Push the switch again to return to normal as indicated by the green Power LED lighting. It does not affect the Tuner, Effects Send, or Channel Patch jacks.

Rear Panel Features

LINE OUT JACK (To Amp)

Present at the line out is the blended signal of all inputs that are in use. The level at this jack is adjusted by both the Gain and Volume controls. Use this jack to send a signal to an amplifier or any piece of equipment desired.

Always use a high quality shielded cable when using any of the input and output jacks on your Master Blender.

TUNER SEND JACK

To tune up silently between songs without disturbing your band mates or sound engineer, hook up a tuner to this jack and push the Mute button. Since the Tuner Send is on a side chain, it does not load down your instrument. Therefore, it is more desirable than plugging your instrument directly into a tuner and then going to your preamp or amp.

EFFECTS LOOP (SEND AND RECEIVE JACKS)

To use the Master Effects loop, plug a shielded cable from the SEND jack to the INPUT of your effects, and a second patch cord from the OUTPUT of your effects to the RETURN jack. Use the Effects blend control on the front panel to adjust the amount of effects with the sound of your instrument. If the Effects control is in the full counter-clockwise position, your effects device will NOT be heard. Turning the Effects control clockwise introduces more of the effect into the overall sound.

You may also use the Return jack to mix in other external signals such as a mono tape source, drum machine, etc.

CHANNEL PATCH JACKS

These jacks can be used as individual channel effects loops, to send the

individual Instrument and Aux/Mic channel signals out to a stereo amp, or to receive a stereo signal that can be mixed in with the Master Blender.

To use as an INDIVIDUAL CHANNEL EFFECTS LOOP, a stereo cord is needed. The "tip" of the Channel Patch jack is the send, and the "ring" of the Channel patch jack is the return or "receive". The Effects blend control on the front panel DOES NOT affect this function. Use the level on your effects device for the desired amount of coloration.

To send the SEPARATE CHANNEL SIGNALS to a stereo amp or mixer, etc, use a normal mono shielded 1/4" plug for each channel. Connect the Channel Patch jack(s) to the input of the unit desired. The level at these jacks is controlled by the Gain control ONLY. The signal going to the Line and XLR outs will NOT be interrupted, and function as normal. This allows for a variety of choices when playing live or recording! Shorting the ring of the Channel Patch jack to ground does not harm or affect performance.

To MIX IN A STEREO SIGNAL you will need a stereo plug with the "ring" and "sleeve" wired ONLY. Do NOT ground or wire anything to the "tip" of the stereo plug inserted into the Channel Patch jacks to use this feature.

To patch from a stereo source, remove the mono plug on the end of the patch cord inserted into the Master Blender and replace with a 1/4" stereo plug. Wire the "hot" wire of the mono cord to the "ring" and the shield to the "sleeve". Again, leave the "tip" blank. Since the master Effects control on the front panel does not function (it's a mono control), the level must be set by the external device.

XLR DIRECT OUT

The XLR is a true electronically balanced output and can be used to send a signal to a tape deck or mixer for recording and live situations. Wiring of the XLR is American Standard: 1 = ground, 2 = hot, 3 = neutral. The level at the XLR is affected by the Gain control only. To "kill" the signal at the XLR, simply use the Mute switch on the front panel.

The GROUND LIFT switch directly below the XLR connector either grounds (GND) pin 1, or removes ground (LIFT). This is useful for eliminating ground loops or humm problems.

A/C ADAPTER IN/OUT JACKS

If you have a Raven A/C adapter, insert the output plug into the A/C adapter "IN" jack. The Master Blender will automatically switch from battery to A/C operation. DO NOT use any other A/C adapter as the Master Blender works on a unique +/- 9 volt supply.

All future Raven products will have A/C adapter capabilities and can be powered using only ONE adapter. To power another Raven product with the same adapter, run a mini-stereo (3.5mm) cord from the OUT jack on the unit the adapter is in, to the A/C adapter IN of the second unit. These can be "daisy chained" for up to 4 Raven units having IN/OUT adapter jacks!

NINE VOLT BATTERY HOLDER

Insert 2 nine volt batteries into the external compartments for battery operation. Be sure and push the drawers back in until they "click" into place.

Observe battery polarity as marked inside the drawers (+ left, - right). Battery life should exceed 50 hours under normal use, provided the unit is turned off after each performance.

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