

SOUNDMIX / RAKMIX INPUT SECTION



Microphone input (XLR) Each of the input channels have a transformerless balanced microphone input with an impedance of 1.2k ohms which will allow any normal low impedance microphone to be used without matching problems. Line level input (1/4") The line level input is unbalanced with an impedance of 10k ohms (high impedance). Send/Return patch (2, 1/4") The send/return patch point on each channel allows an external device, such as a noise gate or limiter, to be inserted into the signal path of a channel. The send/return patch point is PRE eq, and fader. Direct output (1/4") The post fader output of the input channel can be directly accessed using this jack. pad (20dB - microphone input only) The eq. is very swift and straightforward to 'tune' from a musical point of view, and even though it appears simple compared to some eq. systems available today, the results are more natural, transparent and uncoloured. gain This controls the input level of the microphone and line inputs depending on whether a microphone or line input is selected. The continually variable control has a range of: +20dB to +60dB (pad out) 0dB to +40dB (pad in) line This switches between the balanced microphone input (XLR) and the unbalanced line input (1/4"). auxiliary These controls allow some of the input signal to be "tapped" off the signal path (without affecting the signal strength) at different positions, and sent to an auxiliary device (such as an echo unit) or to a separate amplifier for monitor (foldback) purposes. aux #1. auxiliary #1 takes signal from the signal path PRE insert, eq, and fader (i.e. before the insert eq, eq, and fader) and is therefore only dependent on the input gain. PRE eq, and fader signal is ideally suited for monitoring. aux #2. as aux #1 aux #3. auxiliary #3 takes signal from the signal path POST insert, eq, and fader (i.e. after the fader) and is therefore dependent on the insert point, eq, and output level of the channel fader. POST eq, and fader signal is ideally suited for effects. aux #4. as aux #3 Auxiliary buses #1 and #2 can be easily changed by your Hill authorized dealer to be either PRE or POST insert point, eq, and fader to suit your needs.



equalisation The equalisation section is a 4 band, fixed bandwidth, low Q type. Particular care has been taken to eliminate phase distortion, with the result that full boost or cut of any band will cause minimal phase cancellation in any other. The response is of the 'bell' type on the mid bands and shelving on the top and bottom with centre frequencies at: 10kHz +/- 12dB shelf 1.8kHz +/- 12dB 330Hz +/- 12dB 60Hz +/- 12dB shelf The eq. is very swift and straightforward to 'tune' from a musical point of view, and even though it appears simple compared to some eq. systems available today, the results are more natural, transparent and uncoloured. pan This control adjusts the position of the signal within a stereo image at the outputs selected with the routing switches below. mute This switch prevents signal from leaving the channel. In effect it turns the channel off, yet allows all PRE fader busses (monitors) to operate, and the signal can still be monitored in the headphones and on the pfl VU meter (SOUNDMIX ONLY) and the right master LED display (RAKMIX ONLY). pfl (pre fader listen, sometimes called solo) This switch sends the PRE fader signal to the headphone output, allowing the signal to be monitored in the headphones and on the pfl VU meter (SOUNDMIX ONLY) and the right master LED display (RAKMIX ONLY). Note: the pfl system is additive, in that any number of pfl buttons can be depressed at the same time. routing The POST fader signal can be sent to any of the subgroups, or to the master stereo outputs, using these switches. Using the pan control in conjunction with the routing switches allows the operator to send to one or both of the outputs selected. Example: select groups 1 - 2. pan left - signal in group 1, pan right - signal in group 2, pan centre - signal in both peak This LED (light emitting diode) indicates when the input signal level is at +9dBm. The LED is POST eq, and PRE fader to allow accurate reading of the signal strength. This is not a clip indicator - there is 12dB of headroom after this LED illuminates. fader A 100mm smooth action fader controls the output level of the channel.

AUXILIARY SEND/RETURN SECTION



Auxiliary Master Sends (4 - 1/4") These are the output jacks for the aux busses. Auxiliary Master Level controls These are the overall output level controls for the auxiliary busses. If, after setting the individual aux sends on each channel to your desired level, you find the overall level is too high or low, it can be adjusted using this control, without having to adjust all the individual aux sends. pfl (pre fader listen, sometimes called solo) This switch sends the PRE fader signal to the headphone output, allowing the signal to be monitored in the headphones and on the pfl VU meter (SOUNDMIX ONLY) and the right master LED display (RAKMIX ONLY). Peak This LED (light emitting diode) indicates when the post aux signal level is at +9dBm. This is not a clip indicator - there is 10dB of headroom after this LED illuminates. Auxiliary Returns (4 - 1/4") These are the input jacks for the auxiliary returns. Pan This control adjusts the position of the signal within a stereo image of the master Left/Right outputs if master is selected below. Mute This switch prevents signal from leaving the aux return. In effect it turns the aux return off, yet allows the signal to be monitored in the headphones and on the pfl VU meter (SOUNDMIX ONLY) and the right master LED display (RAKMIX ONLY). pfl (pre fader listen, sometimes called solo) This switch sends the PRE fader signal to the headphone output, allowing the signal to be monitored in the headphones and on the pfl VU meter (SOUNDMIX ONLY) and the right master LED display (RAKMIX ONLY). Group/Master This switch enables the POST fader aux return signal to be sent to either: the subgroup channels as indicated aux 1 to sub 1 and 2, aux 2 to sub 1 and 2, aux 3 to sub 3 and 4, aux 4 to sub 3 and 4 or the master stereo outputs. Level This controls the level of the aux return signal. peak This LED (light emitting diode) indicates when the PRE fader aux return signal level is at +9dBm. This is not a clip indicator - there is 12dB of headroom after this LED illuminates.

SUBGROUP SECTION



Subgroup Direct output (1/4" jack) The fader output of subgroups 1 - 4 can be accessed directly using these jacks. Subgroup Send/Return patch (2, 1/4" jacks.) The send/return patch point on each subgroup allows an external device, such as a reverb or limiter, to be inserted into the signal path of a subgroup. The send/return patch point is PRE fader. 12 segment LED display The PRE fader signal of each subgroup input is indicated on a 12 segment LED display. 0dB on the LED's indicates that the input level is at +4dBm. The LED's are peak read, VU response and PRE fader (i.e. they are looking at what is coming into the subgroup) to allow the operator to ensure that the subgroup summing amplifiers are not overloaded, which is a very common cause of signal degradation, and they will operate with the subgroup faders off. Consult your Hill Audio authorized dealer to have a POST fader modification. pan This control adjusts the position of the subgroup signal within a stereo image of the master Left/Right outputs if the Master switch is depressed. If the Master switch is not depressed, the signal is accessible using the subgroup direct output. mute This switch prevents signal from leaving the subgroup. In effect it turns the subgroup off, yet allows the signal to be monitored in the headphones and on the pfl VU meter (SOUNDMIX ONLY) and the right master LED display (RAKMIX ONLY). pfl (pre fader listen) This switch sends the PRE fader signal to the headphone output, allowing the signal to be monitored in the headphones and on the pfl VU meter (SOUNDMIX ONLY) and the right master LED display (RAKMIX ONLY). routing The POST fader signal can be sent to the master stereo outputs using the MASTER switch. Using the pan control in conjunction with the MASTER switch allows the operator to send to one or both of the outputs selected. Example: pan left - signal in left master pan right - signal in right master pan centre - signal in both fader A 100mm smooth action fader controls the output level of the subgroup. The subgroup direct outputs are factory set at +4dBm - the recording industry standard. An internal adjustment reduces the output level by 14dB allowing the Soundmix/RAKMIX to interface with -10dB equipment. Consult your Hill Audio authorized dealer to have this modification. Consult your tape machine manual to establish the level required.

MASTER SECTION



Balanced output XLR's The master outputs of the SOUNDMIX/RAKMIX are factory set at +4dBm - the recording industry standard. An internal modification reduces the output level by 14dB, allowing the SOUNDMIX/RAKMIX to interface with -10dB equipment. Consult your Hill Audio authorized dealer to have this modification. Consult your tape machine manual to establish the level required. Send/Return patch (2, 1/4") This send/return patch point on each master output allows an external device, such as an equaliser or limiter, to be inserted into the signal path of each master channel. The send/return patch point is PRE fader. Unbalanced Mono output jack mono This is the level control for the separate mono output available on the SOUNDMIX / RAKMIX. The signal for the mono output is the sum of the master left and right PRE fader signals. The mono output can be changed by your Hill Audio authorized dealer to be POST master outputs. 12 segment LED display The POST fader signal of each subgroup output is indicated on a 12 segment LED display. 0dB on the LED's indicates that the output level is at +4dBm. The LED's are peak read, VU response Master Right LED display to PFL - RAKMIX ONLY This switch allows the Master Right LED display to indicate the pfl buss. Note: the pfl system is additive, in that any number of pfl buttons can be depressed at the same time. Talkback microphone The rotary control adjusts the level of the microphone, and a push button switch (push to talk) activates the microphone. Aux 1-2/Slate This switch sends the talkback microphone output to either: auxiliary 1 and 2 busses or all the subgroups and master outputs. phones The rotary control adjusts the level of the signal in the headphones. Note: ONLY the master Left/Right can be monitored in stereo - ALL others are in MONO. mute This switch prevents signal from leaving the master. In effect it turns the master off, yet allows the signal to be monitored in the headphones and on the pfl VU meter (SOUNDMIX ONLY) and the right master LED display (RAKMIX ONLY). pfl (pre fader listen) This switch sends the PRE fader signal to the headphone output, allowing the signal to be monitored in the headphones and on the pfl VU meter (SOUNDMIX ONLY) and the right master LED display (RAKMIX ONLY). faders 2 100mm smooth action faders control the output level of the master stereo outputs.



PSU 5 pin socket receives cable from power supply +V dc LED shows positive rail operational -V dc LED shows negative rail operational +Aux LED shows auxiliary power rail operational PH/PWR: LED shows Phantom power rail operational Light This bnc connector is for a 15VDC desk lamp (not supplied) VU display (pfl) - SOUNDMIX ONLY This VU meter is for monitoring any signal on the pfl buss. The small hole allows access to the zero adjust screw.

INTERFACING THE SOUNDMIX/RAKMIX

RAKMIX variations are in parenthesis [] Input channels 24/16[8] XLR microphone inputs balanced pin #1 ground pin #2 signal (-) pin #3 signal (+) 24/16 [8] 1/4" line level inputs unbalanced 24/16 [8] 1/4" input channel direct outputs unbalanced 24/16 [8] 1/4" input channel sends unbalanced 24/16 [8] 1/4" input channel returns unbalanced Subgroups 4 1/4" subgroup sends unbalanced 4 1/4" subgroup returns unbalanced 4 1/4" subgroup outputs unbalanced Masters 2 XLR master stereo outputs differential balanced 2 1/4" master stereo outputs unbalanced 1 1/4" mono output unbalanced N.B. The XLR outputs may be used as unbalanced outputs, connected to pins 1 & 3, but pin 2 must be left open circuit. Auxiliary 4 1/4" auxiliary send outputs unbalanced 4 1/4" auxiliary return input unbalanced All insert sends are normalised - they do not interrupt the signal path and can therefore be used as PRE eq, direct outputs. All insert returns interrupt the signal path when in use.

SPECIFICATIONS

Table with columns: LEVEL, HEADROOM, GAIN, NOISE, DISTORTION, FREQUENCY RESPONSE, PHANTOM POWER, IMPEDANCE, IC type, Size, Weight. Includes values for Maximum, Input, Overall, THD, IMD SMPTE, and various dB/ohm specifications.

PS-1 POWER SUPPLY UNIT

The fully regulated power supply unit is 19" rack mountable and occupies 1 rack space. FRONT PANEL ON/OFF switch with status led. Phantom Power ON/OFF switch with status led. Depressing this switch applies 48v phantom power to ALL the microphone inputs. A 3 second 'soft start' is featured. BACK PANEL Voltage selector switch The PS-1 is switchable 115/230volts AC (nominal) WARNING: verify the position of the voltage selector switch BEFORE turning on your PS-1. EARTH LIFT switch. This switch isolates the 0v [technical ground] rail of the power supply from the chassis ground. AC ground is permanently connected to chassis ground. IEC 'Euro' AC input socket 5 pin Low voltage output connector This connector links the power supply unit to your SOUNDMIX/RAKMIX pin#1 0 (technical ground) pin#2 +17.5v main rail pin#3 -17.5v main rail pin#4 +15v auxiliary rail pin#5 +48v phantom power SPECIFICATIONS: Output: +/- 17.5V 1A max + 15V 1A max + 48V 100mA max Ripple: less than 1 mV Input: 110-120V ac 50-60Hz 1A 220-240V ac 50-60Hz 500mA Protection: internal fuses to above ratings Size: 435W x 120D x 44H (17.125W x 4.75D x 1.75H) Weight: 6lb