PROFESSIONAL SOUND CORPORATION

AlphaMix

Portable Audio Mixer

Operation Manual for Mixers with PCB V1.1

Professional Sound Corporation
Printed in the U.S.A.

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DESCRIPTION

Thank you for purchasing the Professional Sound Corporation AlphaMix Portable Audio Mixer. PSC is confident that this new AlphaMix mixer has set new standards for portable mixer technologies and features. Please feel free to contact us if you have any comments or questions concerning your new mixer. Additionally, we invite you to share your suggestions for new products you would like to see developed.

Professional Sound Corporation extends a one-year warranty on parts and labor to all AlphaMix owners who return their warranty cards at the time of purchase. This warranty gives you specific rights, which are stated on the card, and enables us to keep you informed of product updates.

The PSC AlphaMix provides all the functions necessary to produce studio quality recordings in the field. It's user friendly features, rugged design and sonic purity make the AlphaMix perfect for electronic news gathering (ENG) electronic field production (EFP) and feature film production. There's only one AlphaMix and it's from PSC.

HEARING SAFETY WARNINGS:

Please be sure that you have read this entire manual before operating this mixer.

While special attention has been given to your safety and hearing protection, the operator determines proper and safe operating levels.

Please note the following:

Always turn down the headphone volume before plugging in your headphones.

Always operate your headphones at the lowest practical level.

Be especially cautious in unknown or widely varying environments.

Remember, your ears are your livelihood. Turn it down!

APPLICATIONS

- Electronic News Gathering
- Location recording (Dialogue and Music)
- Digital Recording and Playback
- Broadcast remotes
- Desktop Mixing for Video Post Production

INPUTS:

A. BALANCED INPUTS

The PSC AlphaMix Audio Mixer provides four input channels utilizing female XLR connectors. The ultra low noise input circuitry has been developed to set new standards in low noise field production gear. The XLR connectors are wired as follows: Pin 1 shield (ground), Pin 2 Audio high (in phase), Pin 3 Audio low (out of phase). Balanced wiring enables longer cable runs without the worry of excessive noise due to nearby electromagnetic and radio frequency interference. These balanced inputs may be unbalanced if desired. Either pin 2 or 3 may be tied to ground (pin 1) to unbalance the inputs of the AlphaMix. Note: The AES standard for unbalancing an XLR connector is to tie pin 3 to ground (pin 1).

B. INPUT LEVELS

The PSC AlphaMix can accommodate a wide range in input levels. Microphone levels of all types can be handled as well as line level signals. The input range of the AlphaMix is –70dBu to +4dBu. Thus the AlphaMix is compatible with all forms of consumer and professional audio equipment. The input level switches are located below and to the right of each input XLR connector. These input level switches provide for two level settings: “M” Microphone (0dB attenuation), “L” Line (50dB attenuation). In addition to the line/mic switch, each input channel of the AlphaMix is equipped with a rotary trim pot that allows the user to set precise pre-amplifier gain. These input gain trims have a range of approximately 40dB. The combination of these two input level controls can be used to correctly interface sources of varying levels to the AlphaMix’s preamplifiers. Correct level matching ensures maximum headroom and lowest possible noise floor.

C. MICROPHONE POWERING

The AlphaMix can accommodate the most popular microphones used today. The microphone powering switches are located directly below the input XLR connectors. They can be switched to either: Dynamic (D), Tornader (T) or 48Phantom (48).

In the Dynamic position the mixer provides no microphone powering. This position is used with dynamic microphones, line level inputs and when using wireless receivers.

In the T Position the mixer provides 12 volts DC to power 12T microphones. This 12T microphone power standard is also known as AB power. 12T microphone power supplies 12 volts dc across pins 2 and 3. Pin 2 is positive with respect to pin 3. Pin 1 is ground. 12T microphone power should only be used with microphones designed to operate on 12T. Do not use it with microphones designed for 48PH or 12PH.

In the 48 Phantom Position the mixer provides 48 volts DC to power 48PH microphones or simplex powered microphones with a range of 9 to 52 volts or 12

to 52 volts. Pin 1 is shield to ground while pins 2 and 3 carry 48 volts DC. The term “phantom” is derived from the fact that there is no voltage potential developed across a dynamic microphone transducer that would interfere with its operation. However, most portable wireless receivers will not operate with 48PH turned on. We strongly recommend setting inputs to “dynamic”0 for use with all wireless systems.

D. LOW CUT FILTERS

Each input channel of the AlphaMix is equipped with an active low cut (high pass) filter. These filters are activated via the three way switches located below the adjacent channel fader knobs. These filters will attenuate all frequencies below a preset frequency at a rate of 12dB per octave. When set at “20Hz”, frequencies below 20 Hz are effectively rolled off with the mixer operating at full frequency response. Optional low cut filter settings of 80Hz and 140Hz will roll off the frequencies below these figures at a rate of 12dB per octave (-3dB level at 80Hz and 140Hz respectively. Low cut filtering is important in location recording where wind noise can cause pre-amplifier overload. Switching the low cut filter setting to either the 80Hz or 140Hz cutoff setting can minimize this effect. The low cut filter switches are located on the front of the AlphaMix.

E. CHANNEL GAIN

In order to limit noise and increase headroom, the channel fader controls are located in the feedback path of the channel amplifiers. This provides continuously variable gain rather than just a decrease in channel output level when an overload situation occurs. This results in increased headroom and lower chance of signal clipping (severe distortion). The AlphaMix uses sealed, conductive plastic Clarostat tm pots for channel faders. In addition the gain of the first pre-amp is continuously variable over a 40Db range. This gain trim pot is located on the front panel of the mixer and is retractable so it is out of the way when not being used.

F. CHANNEL PANS

The new AlphaMix contains front panel mounted pan pots. These pan pots are used to route the individual input channel’s signal to either the left or right summing buss. These pots are equipped with center detents allowing the pots to remain centered when the operator so desires. These pots are also equipped with a retracting mechanism that allows the pots to be pushed in flush with the front panel after they have been set to the operators desired setting. This helps keeps the front panel “clean” and uncluttered and reduces the chance of the operator accidentally bumping the pan pot setting.

H. CHANNEL METERING

Each input channel on the PSC AlphaMix is equipped with a basic three LED meter. This meter indicates pre-fader audio level thus it is active even when the channel fader is turned down. By making this meter pre-fader, you can preset channel gain levels before opening up the fader. The three LED’s are colored green, yellow and red. These LEDs are calibrated to represent specific audio

levels. The bottom most LED (Green LED) is activated when the pre-fader audio level reaches –20dB relative to nominal Zero level. The middle LED (Yellow LED) is activated when the pre-fader signal level reaches –6dB. The top LED (Red LED) is activated when the pre-fader signal level reaches 0dB. For proper signal level setting, you should adjust the retractable gain trim pot so that the Red LED is just lighting on the peaks of signal. It should not be lit on continuously. For example: If you are recording dialog from an interview you would want to set the gain trim pot so that the Green LED is on whenever the interviewee is speaking and the Yellow LED is on about half the time. The Red LED should only light occasionally.

These LED meters are also useful when sending audio out of the individual line outputs that are located directly above the XLR inputs. These balanced outputs have a nominal signal level of 0dBV and are wired as pre-fader so they are active at all times. The above mentioned audio levels are equivalent of what you will find on the individual line outputs.

I . BOOM POLE REMOTE CONTROL

The AlphaMix offers the ability to remotely control the audio level of the channel one input. This feature allows the operator to boom with two hands rather than holding the boom pole with one and riding levels with the other. To use this feature you must first set up the mixer as normal (appropriate microphone power turned on, channel fader turned off for the moment). Strap the boom pole remote control to your boom pole, and plug the boom remote connector into the “remote” control connector located on the left side of the mixer directly above the number one input XLR. Set the slide fader on the remote control to it’s mid position and re-open the channel fader upward (clockwise) until a normal signal level is indicated on the meters. You are now free to ride gain using the remote control. Sliding the knob toward the cable end of the remote control lowers the volume, sliding the knob away from the cable end of the remote raises the volume. **Please note that the use of the remote control overrides the channel gain trim pot while the remote is in use. Whenever the boom remote is plugged in, a front panel mounted LED will indicate its use.** To remove the boom pole remote control, you must simply press the release button on the connector and pull on it. ***Safety Note*** **You must always turn down the channel fader before removing the remote control! High audio levels may occur if the channel fader is in the maximum or near maximum setting when the boom pole remote control is unplugged.** You should note that the boom pole remote allows an approximate control range of 25 dB. This allows you complete working control over audio levels from the boom pole.

OUTPUTS:

A. BALANCED OUTPUTS

The AlphaMix contains very high quality custom-made dual isolated audio output transformers. These transformers have been designed to provide wide bandwidth, low distortion and real-world ease of use. These dual output transformers allow you to feed two cameras without interference. Dual outputs require twice the transformer size, weight and cost. Other manufacturers have

cut corners and wind their transformers on standard single output size cores. Ours were custom made to our specifications by a leading transformer manufacturer. Transformers have been chosen over a transformerless design because of their inherent ability to interface with virtually any other device, especially RF based products. This is very important in this day and age in consideration of the frequent use of multiple RF transmitters. These outputs are available via the right hand panel mounted male XLR connectors. These outputs are switchable between line or microphone levels. At the line level setting, the mixer outputs deliver a nominal +0dBv signal into 10K Ohm loads. When set to microphone level, the outputs supply –50dBv signal levels. Please note that 10K Ohm loads are typical of the loads imposed on the mixer by most Betacams, and other recording devices. Additionally, the AlphaMix's outputs are capable of driving 600-Ohm loads.

B. MULTI-PIN (BETACAM) CONNECTOR

The AlphaMix is equipped with two multi-pin in/out connectors designed primarily to interface with Betacams. These connectors provide left and right balanced outputs as well as left and right tape returns used for confidence monitoring. The two connectors are labeled Camera A and Camera B. The Camera A connector is wired in parallel to the standard XLRs. These multi-pin connections provide a convenient means of interfacing the AlphaMix to two Betacams. Professional Sound Corporation manufacturers a complete line of Betasnake cables used as umbilical cables between mixer and camera. These cables are offered in 15' (4.5 meters) and 25' (8 meters) lengths and with and without camera fan out breakaways (quick disconnects).

C. OUTPUT LIMITERS

The limit threshold (activation level) is factory set at +3 on the meter. The limiters compress the signal at approximately 2.7 to 1 ratio. This is to say an increase of 2.7dB in input signal will result in only a 1dB increase in output signal. Output channel limiting is displayed on the LCD meter.

The AlphaMix contains two separate limiters that are controlled by one front panel mounted switch. This switch has three settings: Off, Separate (S), and Ganged (G). In the off position, no limiting occurs.

In the separate position, the limiters act independently of each other. This is especially useful when recording split tracks. I.E. interviewer and interviewee on separate channels. Thus, if one person un-expectantly raises their voice, that limiter will activate, but the other will not. In the ganged mode, both limiters are tied together and can be triggered by either input. This is useful in recording stereo, as independent limiting would alter the stereo image. **PRACTICAL USE NOTE**: **IT IS HIGHLY RECOMMENDED THAT THE LIMITERS BE USED AT ALL TIMES WHEN RECORDING TO BETACAM TYPE CAMERAS**. Most video cameras have limited audio track headroom and can easily be overloaded resulting in distortion of the recorded audio. Play it safe, use the limiters!

D. TRANSCRIPTION OUTPUTS (AUX OUTPUTS)

The AlphaMix also contains two outputs used to feed transcription recorders, wireless feeds, etc. These connectors are located directly above the main XLR outputs. They are 3.5mm Stereo connectors wired as follows: Tip = Left, Ring is Right, Sleeve = Ground. The output signal level is switch-able line or microphone level (-10dBv, -50dBv). This allows these outputs to be used with virtually all external equipment.

E. HEADPHONE OUTPUT

The Headphone output is located on the left side panel of the mixer. The AlphaMix's headphone amplifier circuitry is designed to drive virtually any headphone with an impedance rating of 32 to 600 Ohms. The headphone circuitry is controlled by the use of two switches and a convienient front panel mounted volume control. The two switches are used to control what the operator listens to. The most commonly used switch is a rotary switch located on the front panel and is used to allow the operator to choose between monitoring left to both ears, normal stereo, right channel to both ears, mono or MS decoding. (L,S,R,M,MS) This feature is an improvement over previous M4 designs. The AlphaMix also contains tape returns allowing monitoring from two cameras.

***SAFETY NOTE* ALWAYS TURN DOWN THE HEADPHONE VOLUME BEFORE PLUGGING IN YOUR HEADPHONES.**

F. TAPE RETURNS

The AlphaMix is equipped with two tape returns used to monitor tape confidence heads from any two recording devices such as Betacams. These tape monitor amplifiers can be adjusted to match the signal levels of most any device. These levels are adjusted using a small jewelers screwdriver (or "Greenie" screwdriver). The adjustment points are located on the bottom panel of the AlphaMix. The tape/direct switch is located on the upper right hand corner of the front panel. When set to "D" (Direct) the phone amplifiers to monitor the mixers output signal. If switched to "Camera A" (Tape), then the phone amplifies monitor the external source such as the Betacam that is connected to the multi-pin labeled Camera A. When set to "Camera B" the headphones monitor the Betacam connected to the multi-pin labeled "Camera B"

METERS:

A. PEAK READING METERS

The AlphaMix is equipped with a custom made LCD meter. We designed this meter to be easy to read and camera emulating. Because the most common use of this type of mixer is with Betacams, we designed the AlphaMix's meters to emulate the peak reading attributes found on many Betacams. In this manner, you can be confident of your recording levels even when the Betacam is being fed via Betasnake cable or wireless transmission. The LCD meter also displays Left and Right Limiter functions as well as Low Battery Warning. When the "Lo

Bat" indicator comes on, you have approximately 15 to 30 minutes of battery life remaining.

The AlphaMix is equipped with meter lamps used for night viewing of the meters. The light source for this meter back lighting is provided by a 18,000mc (18 candela) high performance "green" LED in conjunction with a specially made woven fiber optic light transmission panel. These two new technologies were chosen as they provide good quality back lighting without adding noise to the mixer as some electro-luminescent systems do. The use of the meter back lighting adds approximately 40mA of power consumption to the mixer.

ADDITIONAL FEATURES:

A. SLATE MICROPHONE

The AlphaMix is equipped with a slate microphone. This microphone is activated when the front panel "slate" momentary push button switch is pressed. The slate microphone allows the operator to put voice slates (notes) on tape for later reference. These are normally notes for editing tape. A level adjustment trim pot is located on the bottom panel of the AlphaMix. ***Note* When the slate microphone is activated, the input channels are automatically muted.**

B. REFERENCE OSCILLATOR

The AlphaMix is equipped with a reference oscillator used for setting of levels between the mixer and recorder. This known reference level is also used when transferring tape during editing. The AlphaMix's oscillator operates at 440Hz at "0" on the meters. When setting up typical Betacams with LCD bar graph meters you simply adjust the Betacams inputs until "0" is reached. From that point on, you can monitor levels from the mixer only. We have chosen 440Hz simply because it is much more pleasant in your headphones than the typical 1Khz used by other manufacturers. We have used 440 Hz on our mixers for many years. The reference oscillator is equipped with a level adjustment trim pot located on the bottom panel of the AlphaMix. This adjustment is factory calibrated and should not be adjusted without proper measurement equipment.

C. BATTERY TEST

In addition to the low battery indicator on the LCD meter, the AlphaMix is equipped with a push button activated battery test function: When this "Batt Test" button is pressed the remaining battery life is displayed on the top (left meter). A full battery will indicate approximately "0" on the meter. A dead battery will not indicate on the meter. You can read the meter as a "fuel gauge". Full bar = full battery, half bar = half battery, etc. This battery level meter can be adjusted for the differences in NP-1 battery voltages. This battery test function can be adjusted to specific NP-1 type batteries via a bottom panel mounted rotary switch.

D. M-S AND X-Y STEREO RECORDING

The PSC AlphaMix can be used to make stereo recordings in both the mid-side and X-Y stereo techniques. The AlphaMix is equipped with an input channel-ganging switch designed to allow the ganging of input channels 3 and 4. This switch is located on the bottom panel of the mixer. When switched to the "ganged" position, both input channels 3 and 4 are controlled by pot 4. All microphone powering and attenuation settings remain independent. X-Y stereo recordings are accomplished by plugging in two identical microphones into channels 3 and 4. The channel 3 pan pot is set to the extreme left and the channel 4 pan pot is set to the extreme right. The headphone monitor mode switch is set to "stereo".

If M-S stereo recordings are desired, the "M" or middle microphone (cardiod pattern) is plugged into channel 3. The "S" or side microphone (Figure 8 pattern) is plugged into channel 4. As with the X-Y setup, pan pot 3 is panned to the extreme left and pan pot 4 to the extreme right. In this case, the headphone mode switch is set to "MS". In the MS mode, the headphone amplifiers are fed MS decoded signals. The left headphone amp is fed M-S signals and the right headphone is fed M+S signals. In this manner, MS signals appear as standard stereo signals for headphone monitoring purposes. Note that the MS decode function only affects the headphone feeds, not the main XLR outputs.

More complete descriptions of the M-S and X-Y stereo recording techniques can be found in the literature of the major microphone manufacturers such as Neuman, Sennheiser, and Scheops.

POWERING:

A. INTERNAL POWER, NP-1 BATTERY

PSC is the only company to offer compact ENG mixer to offer the ability to be powered from an ***internal*** NP-1 rechargeable battery. This feature provides a convenient way of powering the mixer without added size, adapters or cables. In addition, because the NP-1 battery is securely housed within the mixer, there is little chance that the battery could be knocked loose as with conventional battery adapters.

There are several high capacity NP-1 batteries now on the market. These include the standard Ni-Cad, Nickel Metal Hydride and most recently Lithium-Ion. Most of these batteries are available in both 12, 13.2 and 14.4 Volt varieties. Either voltage will work in your AlphaMix. The AlphaMix consumes approximately 210mA of current when no microphones are being powered. This translates into a battery life of 10 to 15 hours depending on the battery type. Powering wireless will shorten battery life considerably depending upon wireless models selected. The NP-1 battery pack is held in place with a simple spring steel latch. To remove the battery simply push down on the latch and pull out the battery. If you have not yet chosen a battery chemistry, and voltage, you should know that the longest possible run time will come from batteries with the highest amp/hour rating. Thus is you have a choice between a 13.2Volt battery at 3.9 amp/hour and a 14.4V battery at 2.5amp/hour, chose the 3.9 amp/hour battery.

Additional voltage does not extend run time and is of no benefit for most wireless receivers.

B. INTERNAL POWER, ALKALINE BATTERIES

Ten “AA” alkaline batteries can also power the AlphaMix. These batteries are housed in a convenient battery tray designed to be inserted in the standard NP-1 battery slot. When using alkaline batteries, you can expect 4 to 7 hours of operation under normal circumstances. **It is not recommended that the alkaline battery tray be used when trying to power wireless receivers. They simply cannot deliver enough power to operate the mixer and wireless simultaneously.**

Note: Never store your AlphaMix for extended periods of time with alkaline batteries installed in the mixer. There is a possibility that the batteries may leak causing corrosion damage of the mixer. Battery leakage and the resulting corrosion damage are not covered under the AlphaMix warranty.

C. EXTERNAL POWER

The PSC AlphaMix can also be externally powered from any source of DC power from 10 to 18 Vdc. The mixer consumes approximately 210 mA of current over this voltage range. This current consumption is nearly constant and does not vary dramatically over operating voltages like other mixers. The external power connector is located on the right side of the mixer below the NP-1 battery slot. Pin outs of this Hirose 4 pin connector are as follows:
Pin 4 (+) Positive
Pin 1 (-) Negative
This external DC input is protected from reverse polarity. If you in-advetantly connect external power of the incorrect polarity, the mixer will not be damaged, it simply will not power up.

CONSTRUCTION

A. CHASSIS

The new AlphaMix chassis has been designed for maximum torsional rigidity. This increased rigidity provides a stable base for the mixers modern electronics. The complete chassis is formed from 0.040” and 0.050” aircraft aluminum. All punching is done on a computer controlled “Strippet” rotary turret punch press for extreme accuracy. In addition, through careful design, we have managed to keep the overall weight of the AlphaMix to 4.25 lbs. (1.9Kg) total.

The mixers sheet metal is hand-formed using various press brake setups before the all stainless steel threaded inserts are pressed permanently into place. The housing parts are then Chem Film TM plated for superior corrosion resistance before being electro-statically coated with an epoxy powder coating. This powder coat paint is then baked on in an oven. Powder coating is chosen for its durability and environmental friendly characteristics.

All silk-screening is printed sub-surface (below) a hardface Lexan tm overlay. This process provides a silk-screened label that is virtually wear proof. The lettering will not wear off as on other mixers.

B. ELECTRONIC TOPOLOGY

The new AlphaMix was designed from a clean sheet of paper. It utilizes completely new circuitry designs based upon the latest advances in semi conductor technology. In addition, it features surface mount technology for reduced size and weight.

The AlphaMix uses proprietary preamplifier designs that are the result of many hours spent testing and tweaking the input circuitry. We believe you will find them to be very, very quiet. The AlphaMix uses the highest quality dual isolated output transformers available on an ENG style mixer. We had these transformers designed to our specifications and custom built with you, our customers in mind. The transformer manufacturer refers to our design as the "Cadillac" of transformer designs. Transformer topology was chosen for its inherent ability to reject RF, thus making this new mixer perfect for use with multiple RF systems.

This new design uses modern semi-conductors from Maxim, Linear Technology National Semiconductor and Analog Devices to name but a few. These operational amplifiers, voltage regulators and precision voltage references feature low power consumption, low noise and low distortion. They also feature the ability to swing from rail to rail resulting in an energy efficient design.

C. ENVIRONMENTAL OPERATION

Your new AlphaMix has been designed to operate under extreme field conditions. The electronics have been designed to operate over a temperature range of -4 to 158 degrees Fahrenheit (-20 to +70C) less the affects on batteries. This in addition to the AlphaMix's ability to operate under high humidity conditions makes it perfect for harsh field conditions.

D. PORTA BRACE CASE

Each PSC AlphaMix is supplied with a custom-made Porta Brace case and shoulder strap. This case includes sewn on mounting rings allowing you to mount Porta Brace accessory cases such as their RF Multi case. These cases accommodate your wireless receivers. You can call Porta Brace or any of their authorized dealers for the complete line of Porta Brace products.

INTERFACING

A. TO BETACAMS:

The PSC AlphaMix is especially designed for easy interfacing with all popular Betacam type cameras. The AlphaMix is equipped with two 10 pin Hirose tm connectors on the right-hand side panel. These all-inclusive connectors provide both left and right balanced outputs and tape returns. Pin Outs are as follows:

Pin 1	Left Output High
Pin 2	Left Output Low
Pin 3	Right Output High
Pin 4	Right Output Low
Pin 5	Right Tape Return
Pin 6	Tape Ground
Pin 7	Left Tape Return
Pin 8	Tape Ground
Pin 9	Ground
Pin 10	Ground

The “Camera A” outputs are electrically the same as the XLR outputs on the right side of the mixer. The “Camera B” outputs are electronically isolated from the “Camera A” outputs. Both outputs can be independently switched to the mic or line levels.

PSC manufactures a selection of standard AlphaMix Beta snake cables for use with the new AlphaMix. These cables are available in standard and camera breakaway versions from any authorized PSC dealer. Part numbers are as follows:

FPSC1091M4A	15’ (4.5M)	Standard
FPSC1091M4B	15’ (4.5M)	Breakaway
FPSC1091M4C	25’ (7.5M)	Standard
FPSC1091M4D	25’ (7.5M)	Breakaway

B: TO RDAT RECORDERS:

The AlphaMix can be interfaced to virtually any professional recorder via the standard XLR outputs. In addition, you can use the two 10 pin Hirose tm connectors if you desire to use the tape return functions.

C: TO WIRELESS MICROPHONES:

The AlphaMix will easily accept the output signal from virtually any wireless receiver. It can accept microphone or line level signal via a simple switch setting. Please note that most wireless receivers are not compatible with 48PH mic power. You should always set the AlphaMix’s mic powering switch to “D” dynamic when using wireless receivers.

The AlphaMix can also be used to send audio signals to Betacams via wireless transmitters. The use of transmitters is normally accomplished by connecting the AlphaMix’s output XLR to the audio input of the specific transmitter. Many transmitter manufacturers supply application specific cables for this purpose. The AlphaMix has been designed to minimize RF interference through the use of output transformers and other RF filtering. It is important to note that transmitter placement greatly affects transmit range and clarity. For best results, transmitters should be mounted away from the mixers surface allowing un-impeaded RF radiation. This can be accomplished by mounting the transmitters up and away from the mixer on the PortaBrace Strap.

WARRANTY AND NON-WARRANTY SERVICE

In the unlikely event your AlphaMix requires service it should be carefully packed and shipped prepaid to:

Professional Sound Corporation
Service Department
28085 Smyth Drive
Valencia, CA 91355 USA
PH 661-295-9395
FAX 661-295-8398
e-mail techsupport@professionalsound.com

Please call before shipping your mixer. We may be able to solve your problem via the phone. Many older M4, M4A+ and M4mkII Mixers have been shipped in to us for service with incorrect switch settings. We are always willing to help you with your AlphaMix questions.

WARRANTY:

Complete details of the PSC AlphaMix warranty are given on the enclosed blue warranty registration card. If you did not receive one, please contact your local dealer or call us directly.

CONNECTOR PIN ASSIGNMENTS:

XLR INPUTS:	XLR-3-FEMALE -70 to +4dBV Nominal PIN 1 Ground PIN 2 Audio High PIN 3 Audio Low
INDIVIDUAL LINE OUTPUTS:	TA3M 0dBV Nominal PIN 1 Ground PIN 2 Audio High PIN 3 Audio Low
BOOM REMOTE CONTROL:	TA5M PIN 1 Ground PIN 2 Resistance PIN 3 Resistance PIN 4 & PIN 5 Jumped
AUXILIARY OUTPUTS:	3.5MM Stereo Female -10dBV or –50dBV Switch-able Tip = Left Ring = Right Sleeve = Ground

MONO BALANCED OUTPUT:	TA3M 0dBV Nominal PIN 1 Ground PIN 2 Audio High PIN 3 Audio Low
GANGING CONNECTOR:	TA5M -10dBV Nominal PIN 1 Ground PIN 2 Left Audio Output PIN 3 Right Audio Output PIN 4 Left Audio Input** PIN 5 Right Audio Input** ** Requires 2.74K series resistor
MAIN XLR OUTPUTS:	XLR-3-MALE 0dBV Nominal PIN 1 Ground PIN 2 Audio High Pin 3 Audio Low
MULIT-PIN (BETASNAKE):	HIROSE 10 PIN FEMALE PIN 1 Left Audio High PIN 2 Left Audio Low PIN 3 Right Audio High PIN 4 Right Audio Low PIN 5 Right Tape Return PIN 6 Tape Ground PIN 7 Left Tape Return PIN 8 Ground PIN 9 Ground PIN 10 Ground

SPECIFICATIONS

Size:	10.125” x 6.825” x 1.900”? (257mm x 173mm x 48mm)
Weight:	4.25lbs. (1.9Kg)
Temp Range:	-4 to +158F (-20 to +70C)
Batteries:	NP-1 Rechargeable, any type or 10x AA Alkaline
Case Material:	0.040” and 0.050” (1mm and 1.25mm) Aluminum
Finish:	Epoxy Powder Coat
Overlays:	0.005” Hardface Lexan tm with Sub-surface Epoxy silk screening
Global Gain:	80dB
Freq. Response:	20-20Khz +/-1dB
Signal to Noise:	130dB EIN 150 Ohms
Distortion:	00.085% THD
Low Cut Filter:	80Hz, 140Hz 12dB/Octave
Mic Power:	DYN, 48 PH, 12T to DIN Specs
Oscillator:	440Hz, automatically mutes inputs.
Slate Microphone:	Electrete, variable gain. Automatically Mutes inputs when activated.
Limiter:	1mS Attack, 100 mS Release 2.7:1 Ratio
Warranty:	1 Year, Limited

CE

DECLARATION OF CONFORMITY

EMC: **This product is in compliance with the Electromagnetic Compatibility Directive, 89/336/EEC as defined in EN 50081-1, EN55022 and EN 50082-1. IEC801-2, IEC801-3 and IEC801-4.**

LVD: **This product is in compliance with the requirements of the Low Voltage Directive, 73/23/EEC. 93/68/EEC as defined in EN60065, 1993 and/or EN60950/A1/A2/A3: 1995**

TRADE NAME:	**PSC**
MODEL:	**AlphaMix Audio Mixer**
RESPONSIBLE PARTY:	**Professional Sound Corp.** **28085 Smyth Drive** **Valencia, CA 91355 USA**
CONTACT PERSON:	**Ronald Meyer** **(661) 295-9395**
TYPE OF PRODUCT:	**Audio Mixer**
MANUFACTURER:	**Professional Sound Corp.** **28085 Smyth Drive** **Valencia, CA 91355 USA**

We hereby declare that the equipment bearing the trade name and model number listed above has been tested in accordance with the requirements contained in the above listed directives. All necessary steps have been taken and are in force to assure that production units manufactured will conform to Directive guidelines.

Professional Sound Corporation
November 2002