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Installation and Operation Manual



ProMix-1
Single Channel Remote/Podcast Audio Interface.

Manual update 04/23/18

If you need a firmware upgrade, contact Broadcast Tools®

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INTRODUCTION

Thank you for your purchase of a Broadcast Tools® ProMix-1, Single Channel Remote/Podcast Audio Interface. (referred to as the ProMix-1, throughout this manual). We're confident that this product will give you many years of dependable service. This manual is intended to give you all the information needed to install and operate the ProMix-1.

SAFETY INFORMATION

Only qualified technical personnel should install the ProMix-1. Any attempt to install this device by a person who is not technically qualified could result in a hazardous condition to the installer or other personnel or damage to the ProMix-1 or other equipment. Please ensure that proper safety precautions have been taken before installing this device. If you are unfamiliar with this type of equipment, please contact a properly qualified engineer to handle the installation and setup of the ProMix-1. Broadcast Tools, Inc., is unable to support NON-Broadcast Tools software, hardware or NON-Broadcast Tools computer/hardware/software problems. If you experience these problems, please research your hardware/software instruction manuals or contact the manufacturers technical support department.

WHO TO CONTACT FOR HELP

If you have any questions regarding your product or you need assistance, please contact your distributor from whom you purchased this equipment. If you would like more information about BROADCAST TOOLS® products, you may reach us at:

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Designed, Assembled and Supported in WA State, USA



CAUTION!

Broadcast Tools® Products, as with any electronic device, can fail without warning. Do not use this product in applications where a life threatening condition could result due to failure.



NOTE:

This manual should be read thoroughly before installation and operation.

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INTRODUCTION

PRODUCT OVERVIEW

The ProMix-1 is a single channel monaural remote/podcast audio interface ideally suited for the typical remote or podcast mixing applications. Its features a microphone input utilizing a high performance THAT Corporation microphone pre-amp IC, a headphone output with pan capability between IFB/Cue (Return) audio and program channel audio. Additional features include a program limiter, USB codec, remote on/off toggle control of Program audio, along with a channel status output, and full duplex “party-line” type talkback capability when attached to the optional ProMix HUB-6 controller.

INSTALLATION

AUDIO CONNECTIONS

MICROPHONE INPUT JACK

The ProMix-1 is equipped with one microphone level input. The microphone input feature a high performance THAT Corporation microphone pre-amp IC and an XLR jack. Microphone should be a low-impedance professional unit with balanced output, dynamic microphones are suggested. Powered condenser microphones can be used, although the ProMix does not provide phantom power so an external supply is required. Connect the microphone to the female XLR jack (1) on the rear of the unit. The XLR mic plug should be wired as follows:

Pin 1: Ground/Shield

Pin 2: Hi (+)

Pin 3: Lo (-)

IFB/Cue (Return)LINE INPUT JACK

The ProMix-1 Cue/IFB audio source equipment can be either a stereo or monaural unbalanced operating at consumer (-10dBv) levels. It is connected via a 3.5mm TRS mini jack labeled “IFB In” (2.). Balanced, professional (+4dBu) levels may be used by connecting to pins 3 & 6 on the rear panel “Hub” RJ45 connector (5). The rear panel “IFB Level” control (3) should be used to adjust the level to match the program audio feeding the headphones IFB pan control and HdPh level control.

USB CONNECTION

The ProMix-1 includes a built-in USB professional audio codec (A/D and D/A) which allows digital audio recording and playback on any computer that supports a USB audio device (USB 1.1 or higher). Connect the supplied USB Type A/B cable from the USB jack (4) on the rear panel of the ProMix-1 to the USB connector on the computer. The program output feeds the input to the codec, while the codec output is mixed into the program output. NOTE: Both the codec input and output are summed to monaural.

The computer should recognize the ProMix-1 codec as “USB Audio Codec”. No additional software or drivers are needed. Sample rates of 32.0, 44.1, or 48.0 kHz can be used. Any software that supports a USB sound device will work with the ProMix-1. Set audio recording/editing software settings to select USB Audio Codec as its default.

IMPORTANT! WINDOWS* VOLUME SETTING: Be sure to check the Windows “SPEAKER VOLUME” setting. The Speaker Volume can be accessed via the Windows Control Panel under “Sound and audio devices” or “Adjust the system volume”. Select “Volume” or “Set system volume”, then adjust the slider. **The Speaker Volume should be set to MAXIMUM.**

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OVERVIEW

PROGRAM OUTPUT

The ProMix-1's Program output appears on the male XLR connector (6) and on pins 1 and 2 of the rear panel "HUB" RJ45 connector (5.) The output is electronically balanced and will drive a 600-ohm load. The nominal level is +4dBu.

PROGRAM OUTPUT XLR JACK PINOUT

Connect a female XLR plug as follows:

Pin 1: Ground

Pin 2: Hi (+)

Pin 3: Lo (-)

NOTE: To feed an unbalanced load, connect to Pins 1 & 2 only. DO NOT SHORT PIN 3 TO GROUND! It is not necessary to terminate audio output.

HUB RJ45 JACK

The "Hub" RJ45 jack (5) can be used to connect the ProMix-1 to a ProMix HUB-6 system. Balanced program output audio is always fed to pin 1 (+) and pin 2 (-) (StudioHub Left). Pin 3 (+) and pin 6 (-) (StudioHub Right) are used to receive IFB/talkback audio from the ProMix Hub.

RJ45 Pinout

StudioHub+:	ProMix:	Wire Pair:	RJ45 Pins:
Left+	PGM (Local)OUT+	White/Orange	1
Left-	PGM (Local)OUT-	Orange/White	2
Right+	IFB/TB IN +	White/Green	3
Right -	IFB/TB IN -	Green/White	6
n/c	TB LOGIC	White/Blue	5
GND	GND	Blue/White	4
15V-	n/c*	White/Brown	7
15V+	12V+ IN	Brown/White	8
GND	GND	Shield	Shield

*Not used.

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REMOTE CONTROL AND INTERFACE CONNECTORS

TALLY/REMOTE CONTROL JACK

The MICROPHONE MUTE/WARNING LIGHT TALLY output and Program/Mic Remote Control input is provided on a 3.5mm TRS jack labelled “Tally/Remote” (7.) The Tally relay output can be used to operate a user supplied “ON AIR” warning light controller, etc. The relay contacts are rated at 12-volts DC@1A maximum.

The ProMix-1 is equipped with one remote on/off control input to turn the program output on and off. Simple momentary contact closures to ground will perform this function.

The pin out is as follows:

TIP: On/Off Input. Triggered by a momentary closure to ground.
RING: Program/Mic Tally Relay Output. Normally open relay contact.
Sleeve: Ground/Relay Common

DO NOT EXCEED THIS RATING. NEVER CONNECT THESE CIRCUITS TO A 110 VOLT AC LINE!

DC POWER INPUT JACK

Connect the center-positive 2.1mm coaxial barrel type power connector into the power jack (8.) and the 12 VDC universal switching power supply with domestic connector into a 120 Vac 50-60 Hz power source. Never use any type of power supply other than the specified/supplied power supply.

ADJUSTMENTS

MICROPHONE INPUT GAIN ADJUSTMENT

The microphone input has a GAIN adjustment trimmer (9) to optimize the microphone preamp gain for the microphone being used. The gain can be adjusted from +28 dB to +60 dB. Set the microphone channel’s rotary control to three o’clock and turn Program audio on and adjust the gain trimmer to a normal level. Use a small screwdriver to adjust the gain trimmer as needed.

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INSTALLATION

OPERATION

Operation of the ProMix-1 is simple and straightforward. Microphone and USB audio are mixed to the Program output. The operator can use headphones, plugged into the front panel ¼" headphone jack to monitor the Program audio as well as IFB/Cue (Return) audio fed into the IFB Input.

PROGRAM AUDIO CONTROLS

The Program audio can be turned on and off using the front panel PGM (Local) On/Off button (1). When ON, the "PGM" LED (2) will be illuminated. The output level is determined by the rotary PGM (Local) Level control (3). The "normal" position is at three o'clock position, which yields 6dB of "in hand" gain when the rotary PGM (Local) pot is turned fully clockwise.

HEADPHONE (HdPh) OUTPUT CONTROLS

The user can monitor the PROGRAM output and IFB/Cue (Return) audio via the jack on the front panel (4). Headphones with impedances of 32 ohms or higher can be used. Do not use 8-ohm headphones. The headphone output is equipped with Program and IFB pan pots, (5) which determine what is heard through the headphones. The PGM (Local) pan pot adjusts if the program audio is fed to either the left, right or both ears. The same holds true for the IFB pan pot, which adjusts if the IFB audio is fed to either the left, right or both ears. The headphone volume is adjusted with the HdPh # control (6).

TALKBACK FUNCTION

The ProMix-1 includes talkback capability that permits the ProMix-1 and/or ProMix-4 users to speak to an announcer who is wearing headphones connected to either a ProMix-1 or ProMix-4 via the optional ProMix HUB-6. When the TALKBACK button (7) is pressed the TB LED (8) will light and the "normal" audio being fed to the Program output is interrupted and is overridden by audio from the Talkback circuit. All assigned channels are fed to the "Talkback" buss attached to the ProMix HUB-6. When the talkback push button is pressed, a short burst tone is injected into each headphone, notifying the connected users that one of the attached ProMix's would like to talk. To use the talkback system, simply press and hold the "Talkback" push button for as long as you want to communicate. All parties wanting to talk, simply presses and holds the talkback button.

The short tone burst is generated each time the talkback button is pressed. The tone level can be adjusted on the Hub.

PROGRAM LIMITER

The ProMix-1 is equipped with a soft program limiter, the "Limit" LED (9) will light when the program audio is in a clipped condition.

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SPECIFICATIONS**

Microphone Gain:	+28 to +60dB.
System Gain:	Up to +6 dB
Frequency Response:	40hz to 20 kHz, +/- 0.5 dB.
Noise:	75 dB below nominal, output.
THD+N:	<0.023%, at nominal level.
IMD:	<0.020%, at nominal level. (250/7 kHz)
Connectors:	Female XLR Microphone connection, ¼" TRS audio inputs, XLR output, RJ45 output. Removable screw terminal block remote control.
Power:	12 VDC Universal.
Size:	6.25" W x 7.75" D x 1.63" H
Weight:	3.0 lb.
Options:	ProMix HUB-6

All audio measurements per Audio Precision Portable One Plus test set referenced to +4 dBu operating level with standard IEC-A weighting. Accurate noise and crosstalk measurements require inputs to be terminated with a suitable source impedance.

**Specifications subject to change without notice.

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SPECIFICATIONS

LIMITED WARRANTY

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