# BROADCAST tools ®

## PROBLEM SOLVED

# *Installation and Operation Manual*

# Mixer *Buddy*

Manual update:  Manual update: 03/28/2012

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## INTRODUCTION

Thank you for your purchase of a Broadcast Tools® **Mixer Buddy** is a four channel microphone and monitor controller (referred to as the Mixer Buddy 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 Mixer Buddy.

## SAFETY INFORMATION

Only qualified technical personnel should install the Mixer Buddy. 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 Mixer Buddy 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 Mixer Buddy.

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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*BROADCAST TOOLS® BRAND PRODUCTS!*

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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.
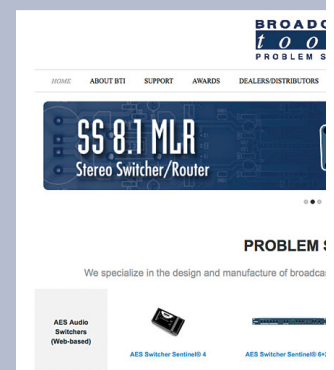
**NOTE:**

This manual should be read thoroughly before installation and operation.

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## Product Overview

Mixer Buddy, continuing in the Console Controller Two and Five traditions, provides four channels of microphone control, monitor source selection and monitor muting, allowing popular "Live Music" audio mixers to be used in a broadcast and/or production environment. Mixer Buddy adds five important functions to the mixer: (1) It provides convenient On/Off control of up to four microphones, (2) It mutes the monitor audio when a microphone is in use, (3) It allows the user to monitor either the mixers program audio or an external sources, such as off-the-air audio, (4) It allows the user to adjust the monitor level locally, and (5) It provides control of "On The Air" studio warning lights.

## Inspection

Please examine your Mixer Buddy carefully for any damage that may have been sustained during shipping. If any damage is noted, please notify the shipper immediately and retain the packaging for inspection by the shipper. The package should contain the Mixer Buddy, this manual and/or CD, 7.5 to 12.0 VDC ONLY @ >200ma wall transformer. Manuals may also be downloaded from our web site.

## Installation

The Mixer Buddy interfaces to external equipment through an assortment of jacks and connectors. The removable terminals accommodate wire sizes from 16 - 28 AWG solid or stranded wire. Before installing a wire, remove the euroblock screw terminal plug and turn each capture screw fully counterclockwise. Strip each conductor to a length of 0.25" and insert the conductor fully into the terminal. Turn the capture screw fully clockwise to secure the conductor.

**CAUTION!** Installation of the Mixer Buddy in high RF environments should be performed with care. The station ground should be connected to the designated chassis ground terminal using a 20 to 24-gauge wire.

## Surge Protection

The Mixer Buddy has built-in resistance to voltage changes; we recommend that you use a power surge protector or line conditioner on the incoming AC line. Lightning strikes and/or other high voltage surges may damage your Mixer Buddy and connected equipment if it is not properly protected. For lightning protection devices, check out www.polyphaser.com and www.itwlinx.com.

## UPS Standby Power System

We recommend that you connect your Mixer Buddy to a UPS system. A UPS helps minimize the risk to the Mixer Buddy and provides power during a power outage.

## Microphone Insert Connections

Mixer Buddy utilizes the mixer's "microphone channels process insert" facility to switch the mixer's microphone line level audio on or off. Up to four microphones can be independently controlled via the Mixer Buddy's front panel pushbutton switches.

1. Connect your microphones to your mixer's microphone inputs.
2. Connect the mixer's process insert circuit to Mixer Buddy using the four Microphone Channel Inserts ¼" TRS (tip-ring-sleeve) jacks on the rear panel.

The Mixer Buddy's ¼" TRS connections should be wired as follows:
TIP: From mixer's microphone preamp output.
RING: To mixer's microphone channel return input.
SLEEVE: To mixer ground.

In most cases ¼" TRS ONLY patch cords can used to connect the mixer's microphone inserts to the Mixer Buddy's microphone insert connections. Appropriate patch cords can be purchased online from sources such as: Broadcast equipment dealers, Amazon.com, Hosa Technology, Monster Cable and Radio Shack.

## Monitor Audio Connections

Mixer Buddy can provide monitor mute functionality for monitor audio routed through the Mixer Buddy. Monitor audio can be muted when selected microphones are in use.

1. Connect the mixer's unbalanced (RCA) stereo monitor outputs to the Mixer Buddy's mixer monitor output connection jacks. The red connector (top) is the right channel and the white connector (bottom) is the left channel.

2. Connect the EXTernal sources (air monitor, etc) unbalanced (RCA) stereo outputs to the Mixer Buddy's "EXT" monitor output connection jacks. The red connector (top) is the right channel and the white connector (bottom) is the left channel.

3. Connect the unbalanced stereo line level input on your monitor amp to the monitor amp input jacks on the Mixer Buddy. The red connector (top) is the right channel and the white connector (bottom) is the left channel.

**CAUTION!** Do not connect directly to the high-power speaker outputs of a monitor amplifier.

**✎ NOTE:**

*If you require the ability to switch headphone monitoring between the mixer's program and stations air (EXT) signal, we recommend using the Broadcast Tools HPA-2. This would allow the headphone monitoring of two different sources.*

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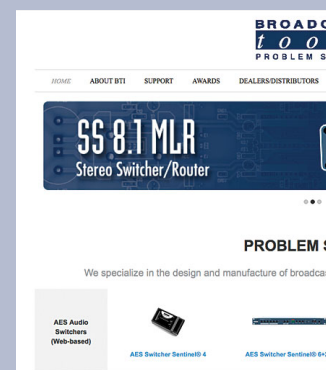
**INSTALLATION**

## On-Air Light Relay

Mixer Buddy also provides a means of controlling "On the Air" studio warning lights, switching the lights on whenever any microphone is in use. Low voltage (less than 30 vdc @ 900ma) warning signs may be controlled directly from the Mixer Buddy's "On-Air Light Relay".

**CAUTION!** Do not connect directly to 115 volt AC circuits.

To switch 115 volt AC warning light circuits, we recommend the (not provided) Mid-Atlantic, p/n: RLM-15-1C. The Mixer Buddy interfaces to the Mid-Atlantic RLM-15-1C via the normally open and common terminals of the Mixer Buddy's on-air light relay. Run a wire between the Mixer Buddy's N.O. (normally open) contact terminal and one of the Mid-Atlantic RLM-15-1C control terminals. Connect a second wire between the Mixer Buddy's on-air light relay's C (common) terminal and the other control terminal on the RLM-15-1C. Set the activation switch on the Mid-Atlantic RLM-15-1C to the normally open position.

*NOTE: If you require the on-air warning light(s) to flash, we suggest using a SSAC flasher (p/n: FS126RC) module (not provided) between the 120 volt output of the Mid-Atlantic RLM-15-1C and on-air warning light.*

## Monitor Mute Programming

Mixer Buddy can be programmed to mute the monitor system when selected microphones are in use. Select the microphones that will activate the monitor mute function using the "MONITOR MUTE SELECT" DIP switches on the rear of the unit. There is a switch for each microphone channel. Example: If DIP switch ONE is in the ON position (default), the monitor audio will mute when microphone channel ONE is ON.

## OPERATION

Plug the supplied external DC power supply in to the POWER jack on the rear of the Mixer Buddy.
*NOTE: The Mixer Buddy accepts DC voltages from 7.5 to 12 volts DC ONLY, center positive.*

The microphones are turned ON or OFF via the front panel pushbutton switches. The LED below each button will illuminate indicating that the selected microphone channel is ON. The monitor system will mute whenever the selected microphones are ON. Tally lights will be active whenever any microphone channel is ON.

Two different monitor sources may be selected using the monitor select switch, along with two led's to display which source is being monitored. The monitor level control may be used to adjust the monitor level. Note: The monitors and microphone on/off functions will still operate even if the Mixer Buddy is not powered-up. Power is required to activate the monitor mute and operate the on-air light relay, as well as illuminate the front panel LED's.

## Specifications

| | |
|---|---|
| Microphone On/Off control: | Line level, unbalanced, ¼" TRS jacks |
| Monitor I/O line level: | Unbalanced, RCA jacks |
| Monitor mute programming: | Dip switch, user selectable for each microphone channel. |
| On-Air light relay: | SPDT 30vdc @ 900 ma. |
| Power Requirement: | 7.5 to 12.0 VDC only @ up to 1 amp, center positive. 2.1mm ID x 5.5mm OD coaxial connector. Surge protected. Domestic power supply supplied. |
| Approvals: | Power supply, UL, CE Optional. |

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*NOTE: A template for counter-top and/or turret mounting is provided in the appendix. If mounting of the Mixer Buddy external to the plastic case is required, follow the steps below:*

**CAUTION!** Be aware that ample clearance is required for the rear panel connectors.

1. Remove all connections from the Mixer Buddy.
2. Remove the four Allen-head screws from the top.
3. Carefully remove the Mixer Buddy from the plastic case
4. Utilizing the supplied template, cut a hole in the counter-top and/or turret.
5. Install the Mixer Buddy into the hole.
6. Purchase appropriate screws to secure the Mixer Buddy in the new location.
7. Re-connect all cables and check operation.

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**SPECIFICATIONS**
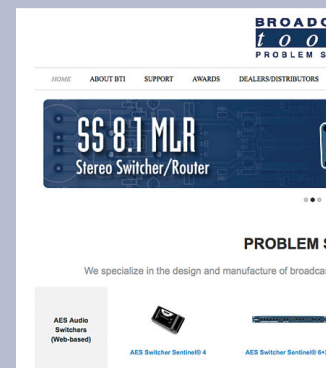
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The term "Buyer" as used in this document refers to and includes both (but only) (a) any person or entity who acquires such an item for the purpose of resale to others (i.e., a dealer or distributor of an item), and (b) the first person or entity who acquires such an item for such person's or entity's own use.

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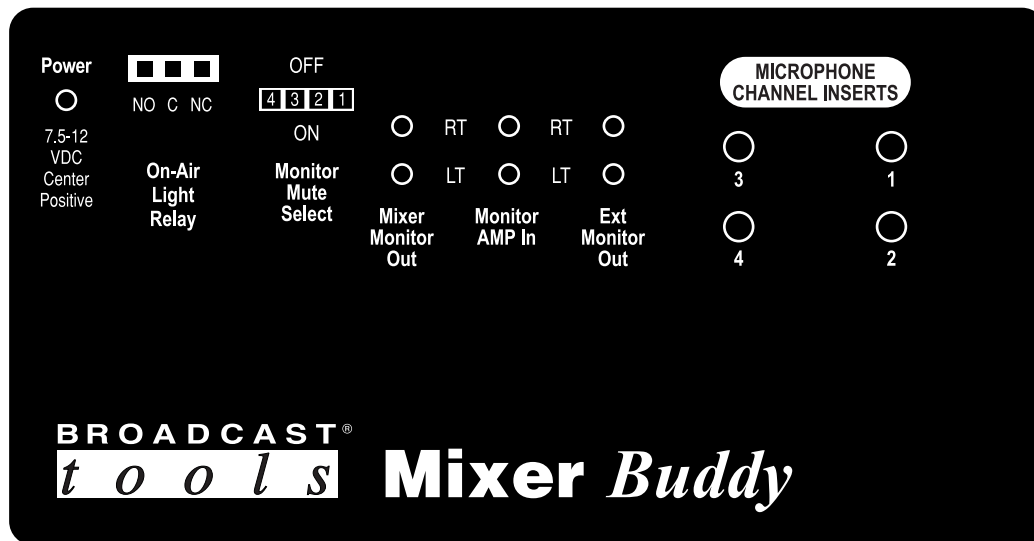
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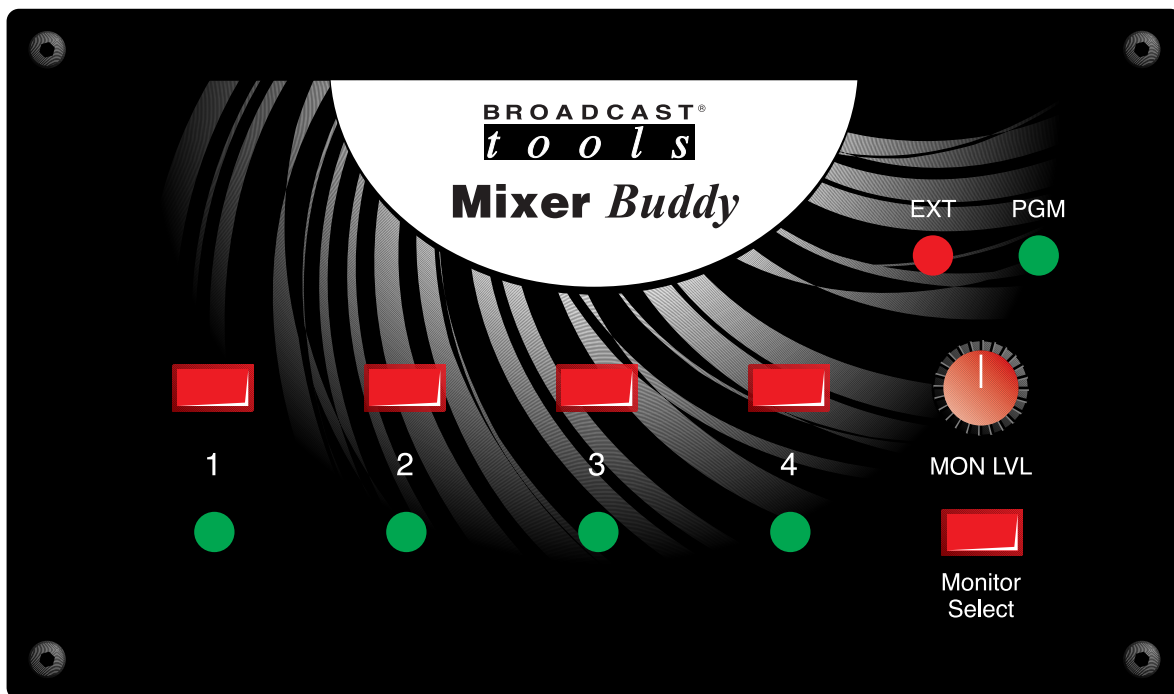www.broadcasttools.com **website**

## Fractional Schematic

Modification date: 03/27/12

## CONNECTOR LABEL

| | |
|---|---|
| **Power** ▢▢▢ NO C NC | OFF |
| ○ | 4 3 2 1 |
| 7.5-12 VDC Center Positive | ON |
| **On-Air Light Relay** | **Monitor Mute Select** |

MICROPHONE CHANNEL INSERTS

○ RT ○ RT ○

○ LT ○ LT ○

**Mixer Monitor Out**  **Monitor AMP In**  **Ext Monitor Out**

○ 3    ○ 1

○ 4    ○ 2

**BROADCAST**® *t o o l s*  **Mixer** *Buddy*

## FRONT PANEL LAYOUT

## COUNTER-TOP and/or TURRET MOUNTING TEMPLATE

R .075 MAX
4 PL.

0.090
0.000

3.450
3.360

0.000
0.125

(5.550)

5.675
5.800

(3.270)

0.156 DIA HOLE
4 PL