BROADCAST tools INC

PROBLEM SOLVED

Installation and Operation Manual

Mixer Buddy II

Manual update: 11/1/2017
If you need a firmware upgrade, contact Broadcast Tools®

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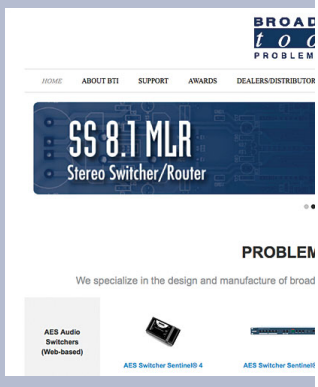

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INTRODUCTION

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

SAFETY INFORMATION

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

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.

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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Internet Home Page: www.broadcasttools.com
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Designed, Assembled and Tested in Washington State, USA.

Broadcast Tools is a Veteran Owned Small Business

CAUTION!

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NOTE:

This manual should be read thoroughly before installation and operation.

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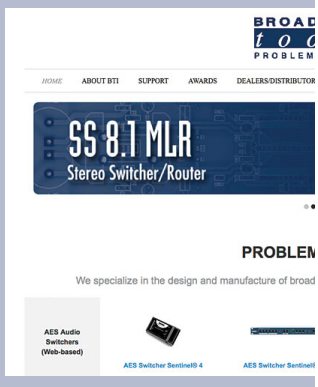

Product Overview

Mixer Buddy II, continuing in the Console Controller Two and Five and original Mixer Buddy traditions, provides four channels of microphone on/off control, monitor source selection and monitor muting, allowing popular "Live Music" audio mixers with microphone to be used in a broadcast and/or production environment. Mixer Buddy II adds six 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. (6) It outputs a balanced monaural line level mix of all four microphone channels, suitable for feeding a telephone hybrid.

Inspection

Please examine your Mixer Buddy II 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 II and a PS-1515 +/-15 VDC power supply. Manuals may be downloaded from our web site.

Installation

The Mixer Buddy II interfaces to external equipment through an assortment of ¼" TRS and RCA jacks. ¼" TRS patch cables, stereo RCA patch cables and other cables will be needed to complete the installation of the Mixer Buddy II.

CAUTION! Installation of the Mixer Buddy II 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 II 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 II 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 II to a UPS system. A UPS helps minimize the risk to the Mixer Buddy II and provides power during a power outage.

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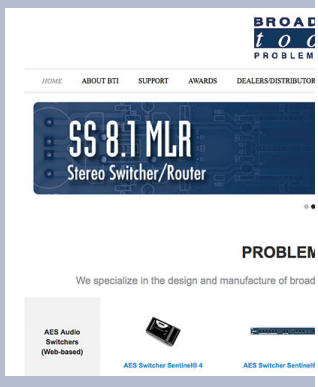

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Microphone Insert Connections

Mixer Buddy II utilizes the "microphone channel process insert" connections on a pro audio/recording mixer to switch its microphone line level audio on and off. Up to four microphones can be independently controlled via the Mixer Buddy II's front panel pushbutton switches.

1 - Connect your microphones to your mixer's microphone inputs.

2 - Connect the mixer's process insert circuits to Mixer Buddy II using the four Microphone Channel Inserts ¼" TRS (tip-ring-sleeve) jacks on the rear panel.

The Mixer Buddy II'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 II'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 Mute Programming

Mixer Buddy II can be configured to mute its monitor audio output when selected microphones are switched on. By default muting is turned on for all four channels. To select the microphones that will activate the monitor mute function use 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.

Audio Output to Hybrid

The Mixer Buddy II features an internal line level audio mixer that combines all four of the microphone insert signals into a single balanced monaural line level output on a ¼" TRS jack labelled "Output to Hybrid." This output can be used as a mix-minus signal and allow you to easily connect your pro-audio mixer to a telephone hybrid's input, typically labelled "Send" "Send In" or "Input."

"Hybrid Output" Output Pinout. ¼" TRS jack.

TIP: Hi (+)

RING: Low (-)

SLEEVE: Ground/Shield.

NOTE: The "Output to Hybrid" audio is always on, it is not affected by the Mixer's fader or mute controls or the Mixer Buddy's On/Off switches.

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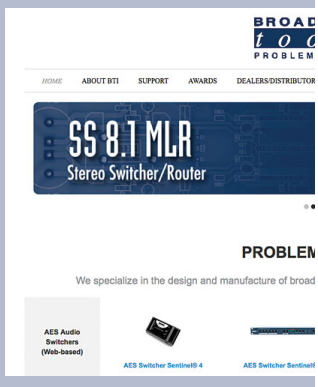

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Monitor Audio Connections

The Mixer Buddy II has two unbalanced (RCA) stereo monitor audio inputs and one unbalanced (RCA) stereo monitor audio output. The Mixer Buddy II provides monitor mute functionality for monitor audio routed through the Mixer Buddy II via these connections.

1. Connect the mixer's unbalanced (RCA) stereo monitor outputs to the Mixer Buddy II's "PGM" mixer program audio input jacks labelled "From Mixer Output". The red connector (top) is the right channel and the white connector (bottom) is the left channel.

2. If an external monitor audio source (air monitor, etc) is also being used it can be connected to the Mixer Buddy II's unbalanced (RCA) stereo "EXT" external monitor input connection jacks labelled "From External Source." The red connector (top) is the right channel and the white connector (bottom) is the left channel.

3. Connect the Mixer Buddy II's unbalanced (RCA) stereo monitor audio output connection labelled "To Spkr Amp/Powered Spkrs" to the unbalanced input of your monitor speaker amplifier or power speakers. The red connector (top) is the right channel and the white connector (bottom) is the left channel.

CAUTION! Never 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.

On-Air Light Relay

Mixer Buddy II provides a means of controlling "On the Air" studio warning lights, switching the lights on whenever a microphone is in use. Low voltage (less than 30 VDC @ 900ma) warning signs may be controlled directly from the Mixer Buddy II's "Mic Tally" dry contact normally open relay output. CAUTION! Do not connect directly to 115-volt AC circuits.

"Mic Tally" On Air Light Relay Output Pinout. ¼" TRS jack.

TIP: Relay Common (C.)
RING: Relay Normally Open (N.O.)
SLEEVE: Not connected.

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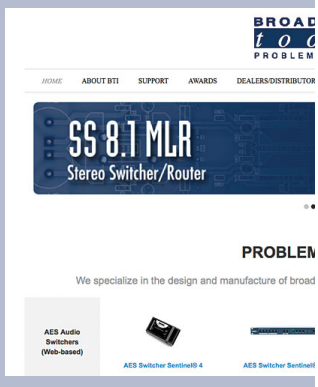

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To switch 120-volt AC warning light circuits, we recommend using the Mixer Buddy II's Mic Tally relay output to control an external power controller like the Middle Atlantic RLM-15-1C. The Mixer Buddy II interfaces to the Mid-Atlantic RLM-15-1C via the normally open and common terminals of the Mixer Buddy II's "Mic Tally" on-air light relay. Run a wire between the Mixer Buddy II'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 II'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 RLM-15-1C to the normally open position and set it for Auto mode.

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.

Power

Connect the supplied PS-1515 +/-15 VDC switching power supplies 3-pin AMP-style latching power output connector to the unit and the power supply into a 120 or 240 Vac 50-60 Hz power source.

NOTE: Never use any type of power supply other than the specified/supplied power supply.

Counter-top/Turret Mounting

NOTE: A template for counter-top and/or turret mounting is provided in the appendix. If mounting of the Mixer Buddy II external to its 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 II.
2 - Remove the four #4-40 Philips-head screws from the top of the Mixer Buddy II.
3 - Carefully remove the Mixer Buddy II from the plastic case
4 - Utilizing the supplied template, cut a hole in the counter-top and/or turret.
5 - Install the Mixer Buddy II into the hole.
6 - Purchase appropriate screws to secure the Mixer Buddy II in the new location.
7 - Re-connect all cables and check operation.

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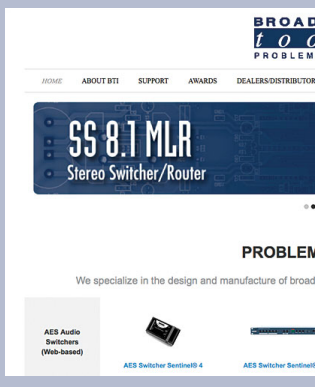

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OPERATION

Plug the supplied external PS-1515 +/-15 VDC power supply in to the POWER jack on the rear of the Mixer Buddy II.

Microphone On/Off Control

The microphones are turned ON or OFF via the front panel pushbutton switches labelled 1-4. The LED below each button will illuminate indicating that the selected microphone channel is switched ON. The monitor speaker output will mute whenever any of the microphones are switched ON via the Mixer Buddy II. The "Mic Tally" on air light relay output will be active whenever any of the microphones are switched ON via the Mixer Buddy II

Monitor Speaker Source Selection and Volume Control

The "Monitor Select" pushbutton switch allows you to switch between the two monitor audio input sources, selecting one or the other to be fed to the monitor output labelled "Speaker Amplifier/Power Speakers." The two LEDs labelled "EXT" and "PGM" respectively indicate which source is selected, either the External Input or the Mixer Program Input.

The Monitor Speaker Level control knob labelled "MON LVL" may be used to adjust the monitor volume level.

Note: The monitors and microphone on/off functions will still operate even if the Mixer Buddy II is powered down. Power is required to activate the monitor mute operate the on-air light relay, drive the output to hybrid, as well as illuminate the front panel LED's.

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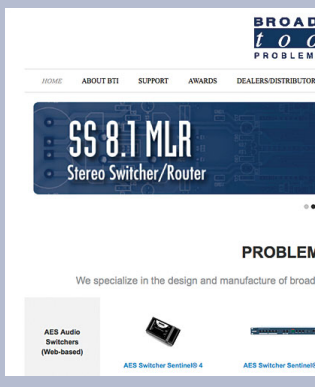

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Specifications

Microphone On/Off control:	Four-line level, unbalanced, ¼" TRS insert jacks. Latching pushbutton switches.
Monitor I/O line level:	Unbalanced, RCA jacks. Two stereo inputs, one stereo output.
Monitor mute programming:	Dip-switch, user selectable for each microphone channel.
Audio Output to Hybrid:	Line level, balanced, ¼" TRS jack.
On-Air light relay:	SPST Normally Open Relay. 30 VDC @ 900 mA maximum.
Power Requirement:	PS-1515 universal switching power supply with IEC C14 AC inlet. +/-15 VDC 500mA output with 3-pin AMP-style latching power output connector.

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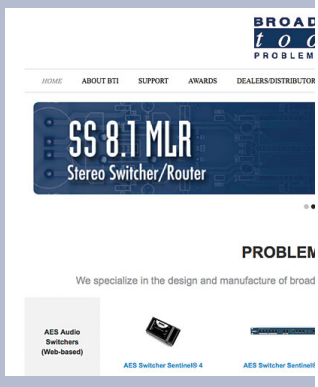

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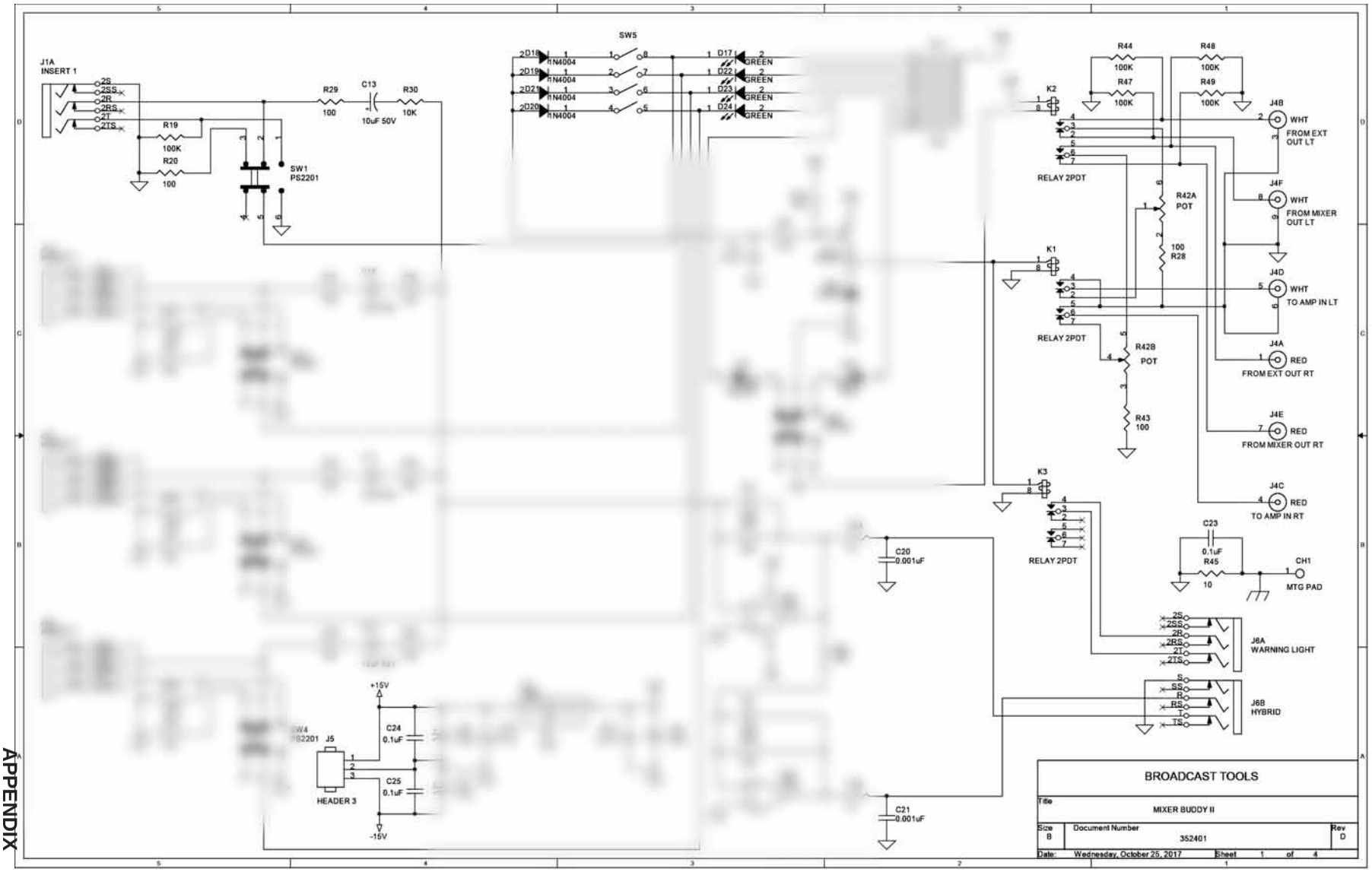
FRACTIONAL SCHEMATIC



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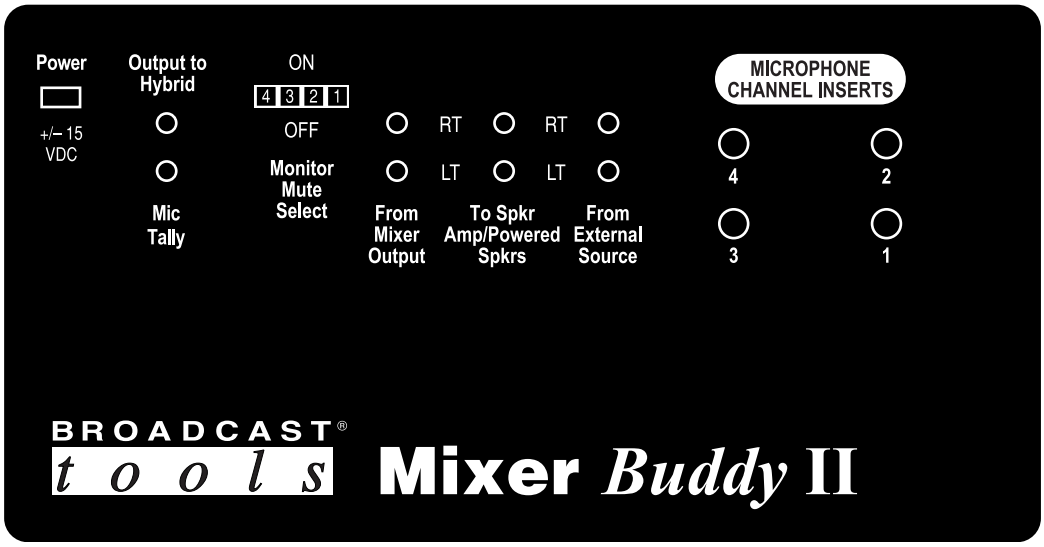
Power
+/– 15 VDC
Output to Hybrid
Mic Tally
ON
4 3 2 1
OFF
Monitor Mute Select
RT
LT
RT
LT
From Mixer Output
To Spkr Amp/Powered Spkrs
From External Source
MICROPHONE CHANNEL INSERTS
4
2
3
1
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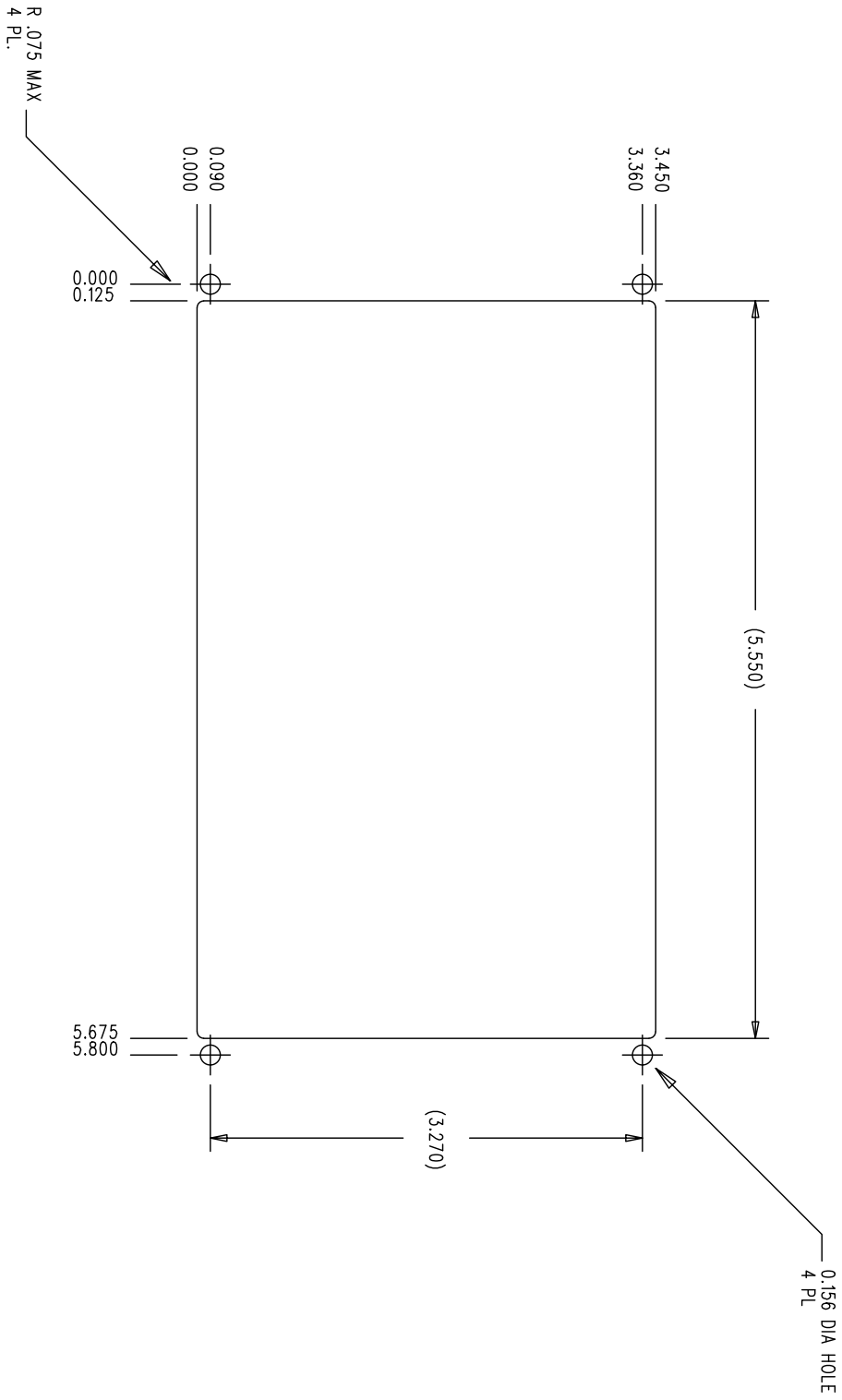
COUNTER-TOP and/or TURRET MOUNTING TEMPLATE



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