AtlasIED

TSD-MIX42RT
4x2 Mic/Line Mixer with
Priority Sense and Remote Control
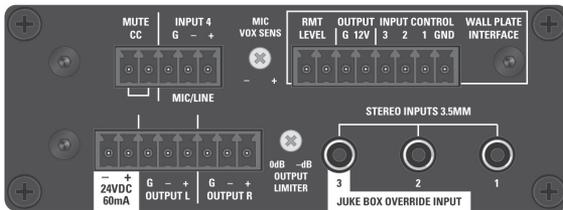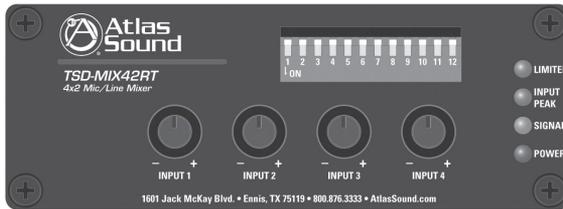
AtlasIED

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Specifications are subject to change without notice.

Description

The versatile AtlasIED TSD-MIX42RT 4x2 mic/line mixer is ideal for applications where paging, priority music override and/or remote input selection with level control are required. Use alone or in conjunction with amplifiers in meeting rooms, digital signage, luxury suites, and/or other applications requiring versatile, stereo or mono multi source mix control.

The unit includes one mic/balanced line input via removable Phoenix style connector and three stereo 3.5mm inputs. Switchable phantom power is provided for the mic input to facilitate condenser microphones. The high quality, low noise internal mic preamps ensure clarity and quiet operation without unwanted coloration. A 12dB/octave high pass filter @ 125Hz also is available on the mic input to minimize bass rumble and low frequency feedback.

Priority paging can be accomplished via contact closure or VOX trigger on Input 1 that will mute Inputs 2, 3, or 4 (assignable). A remote level control feature allows use of the AtlasIED AAVC-10K or WPD-VC10K decorative wall plate control for convenient remote adjustment of either the entire Master mix bus or Inputs 2, 3, or 4.

Remote Input selection and level control can be accomplished by using the optional WPD-MIX42RT wall controller. The WPD-MIX42RT can be placed up to 200 ft away from the TSD-MIX42RT. The audio quality is not affected by the distance because no audio is present at the WPD wall controller. All that is needed to obtain maximum system control are 8 conductors, a TSD-MIX42RT and a WPD-MIX42RT.

There are several installations that require audio override sensing for applications such as a Juke Box's playback or digital signage advertisement. The TSD-MIX42RT is ideal for these types of installations. When Input 3 is assigned to Juke Box Override and receives a signal, it mutes stereo Inputs 1 and 2. When the audio is not present on Input 3 for 20 seconds, Inputs 1 and 2 fade back in and resumes play.

A variable output limiter provides system protection by reducing clipping and distortion - which is especially useful when mixing mic and/or line sources with varying volumes.

The TSD-MIX42RT is part of a full line of AtlasIED Time Saving Devices. These compact (1.5" x 4" x 2.5") units are designed to solve some of the common audio system problems in the easiest, most efficient, and cost-effective way. All models are made from high quality components and include removable individual I/O connectors for quick and precise wiring, separate ground terminals for all I/Os assuring secured connections, and removable level controls that can be replaced with tamper-resistant security covers. The TSDs are highly efficient and meet most energy standards as one 24V DC power supply (available separately) can power multiple Atlas Time Saving Devices.

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Features

- Stereo or Mono Configurations
- One Balanced Mic/Line Input
- Switchable 24V Phantom Power
- Three Unbalanced Stereo Line Inputs 3.5mm
- Vox Sense and Contact Closure, Priority Mute
- Variable Output Limiter
- Remote Level Control
- 12dB/Octave Low Cut Filter @ 125Hz Mic/Line
- Remote Control Input Select & Level Control
- Audio Auto Sensing Juke Box Override
- Input Signal & Peak Indicator LEDs
- High Gain Output for Driving Long Balanced Lines
- Separate Ground Connections
- Security Covers Included for All Front Panel Controls
- Cable Management System
- Multiple Mounting Configurations
- Removable Phoenix Style I/O Connectors
- Meets Most Energy Standards
- Compact Chassis Design

Audio Applications

- Mixer
- Mic Preamp
- Line Preamp
- Stereo Summing Preamp
- Line Drive
- Remote Level Control
- Priority Paging
- Music Override
- Digital Signal Auto Sense

Installation

- Restaurants
- Sports Bars
- Schools
- Industrial Facilities
- House of Worship

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Front Panel Description
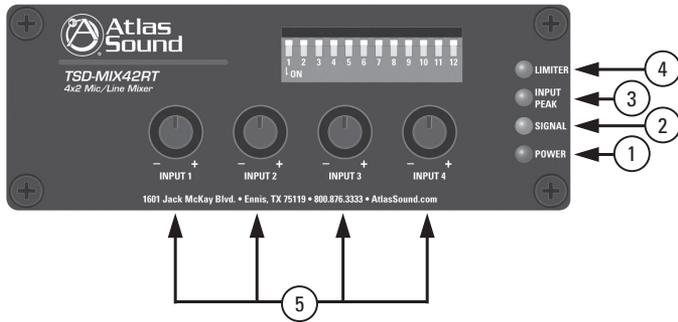
1. **Power LED** - Illuminates Blue when 24VDC power is present.

2. **Signal LED** - Illuminates Green when the input signal strength reaches 25mV to verify a signal path. **Note:** The LED will not illuminate if the input level is turned Off.

3. **Input Peak LED** - Illuminates Red when the output signal reaches 3dBV below when signal clipping will occur. Occasional flashing is normal but if this indicator is continuously On, then reduce the input level using the input level control on the front panel.

4. **Limiter LED** - Adjustment of the Limiter feature should be done after the input gain(s) have been properly set. Each Input should be adjusted so the Output Limiter control can be set so this LED flashes to indicate that the limiter circuit is active.

5. **Input Level Controls 1, 2, 3, and 4** - Independently adjust the level of input signals 1 through 4. Turn clockwise to increase the signal level and counter-clockwise to decrease it. **Note:** The Input Level Control knobs can be removed and replaced with a supplied security cover to prevent unauthorized adjustment.

Rear Panel Description
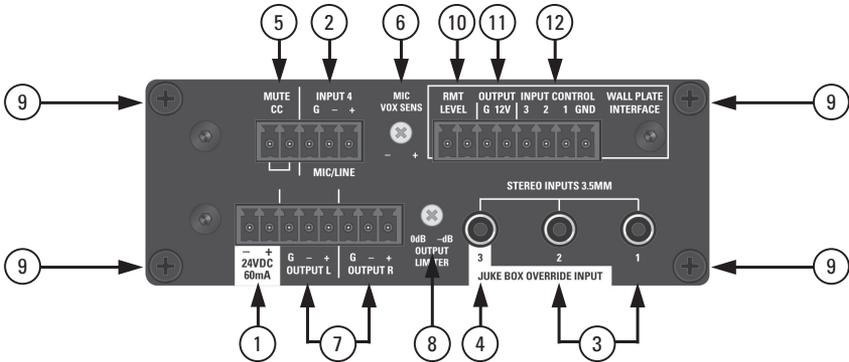
TSD Input/Output connections are removable for easy system wiring. The connectors have a 3.5mm pitch between pins.

1. **DC Power Input** - Each TSD that requires DC power comes with a 2 position connector for an external 24VDC power supply (sold separately). Because of the TSD's low power consumption, a single external power supply may power more than one TSD. Please refer to the specifications on current requirements in milliamps to match with the appropriate power supply. Please observe the polarity of the wiring to this connector. **Note:** It is acceptable to exceed the current requirements of the TSDs but NOT safe to use a power supply that is below the current requirement of the device.

2. **Mic/Line Input 4** - Connects to balanced line or mic level sources. For gain or source input type selection, refer to the "Dip Switch Function Identification" chart. **Note:** Unbalanced line inputs can be inserted with proper wire configuration by connecting the (G) and (-) terminals together.

3. **Unbalanced Inputs 1 & 2 Stereo 3.5mm (⅛")** - Stereo Unbalanced Audio Signals.

4. **Unbalanced Input 3** - Stereo Unbalanced Audio Signal. Input 3 is also the auto sense Juke Box Override input. **Note:** Juke Box Override will not work when Remote Wall Plate is activated.

5. **Remote Mute** - To mute Input 1, 2, or 3 via a remote switch, assign which channels you want to be muted via the dip switch provided and short the two terminals together using a dry contact closure.

6. **VOX Sense** - Adjusts the sensitivity of the Mute circuit for priority pages. Assign the input to be muted via the corresponding dip switch.

7. **Balanced Left & Right Output** - Provides output for connection to balanced line level devices. **Note:** Unbalanced line level devices can be used with proper wire configuration by connecting the (G) and (-) terminals together. Mono or stereo configurations are assigned via the associated Dip switch. When Dip switch 9 is down or "Mono", both outputs receive a summed L + R signal.

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8. **Output Limiter Control** - Sets peak output levels by increasing or decreasing the sensitivity. The Limiter LED on the front panel indicates when limiter is in use.

9. **Cable Management Retainer Points** - Each TSD includes two cable retainer straps for securing the included cable management retainers. Remove one of the rear panel screws, align the panel hole with a retainer and firmly tighten the screws.

10. **Remote Level** - For remote gain control, connect the AtlasIED AAVC-10K (or equal) wall plate to this terminals. Set dip switch 10 to control a mixed signal or Inputs 1, 2, and 3 signal only.

11. **DC Output (Remote LED)** - A 12VDC output is provided to power a remote system ON LED Indicator on the WPD-MIX42RT wall controller.

12. **Wall Plate Interface Input Selection** - Inputs 1, 2, and 3 can be remotely selected by shorting the terminals 1, 2 or 3 to ground. The WPD-MIX42RT provides proper connectivity to easily do this.

Wall Plate Interface

The TSD-MIX42RT is designed to mate with the optional wall plate WPD-MIX42RT. This control accessory allows you to select Inputs to be sent to the Output, along with a system level control and a remote system on power indicator. To activate the input selection section, you must assign the corresponding dip switch. **Note:** Placement of the WPD-MIX42RT can be placed up to 200 ft away from the TSD-MIX42RT. The audio quality is not affected by the distance because no audio is present at the WPD wall controller. All that is needed to obtain maximum system control is 8 conductors, TSD-MIX42RT and a WPD-MIX42RT. Cat5 cable is ok to use. **Note:** Juke Box Override will not work when Remote Wall Plate is activated.
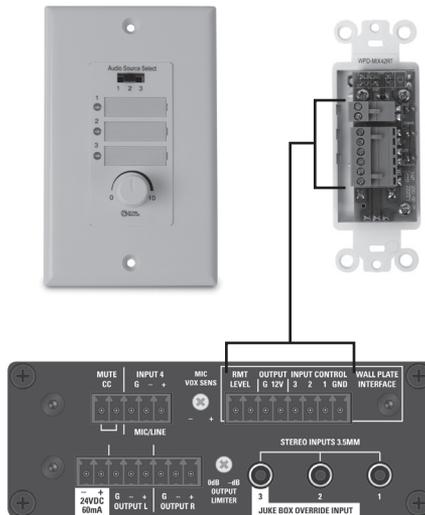
Specifications are subject to change without notice.

Dip Switch Function Identification

SWITCH FUNCTIONS

| 1	2	3	4	5	6	7	8	9	10	11	12
INPUT 4	INPUT 4	INPUT 4 125Hz/12dB LOW CUT	INPUT 3 JUKE OR	INPUT 3 JUKE MUTE DELAY	INPUT 3	INPUT 2	INPUT 1	OUTPUT STEREO/ MONO	REMOTE LEVEL	WALL PLATE	NC
PHANTOM					MUTE RCV	MUTE RCV	MUTE RCV				NC
OFF	LINE	OFF	OFF	20 SEC	OFF	OFF	OFF	STEREO	MASTER	OFF	NC
ON	MIC	ON	ON	3 SEC	ON	ON	ON	MONO	INPUT 1,2,3	ON	NC

Switch Position

- Dip Switch # 1 - 24VDC Phantom Power applies power for condenser mic operation to corresponding input terminal. Down position is ON.
- Dip Switch # 2 - Input Mic or Line Select for input gain selection for Input 4. Up position is Line, down position is Microphone.
- Dip Switch # 3 - Low Cut Filter engages at 125Hz with a roll off rate of 12dB per octave. This filter operates either in the Line or Mic mode and is available on Input 4. Ideal for vocal microphones to reduce low frequency energy and to increase intelligibility. Down position is ON.
- Dip Switch # 4 - Input 3 can be used as an Audio Override to Mute Inputs 1 & 2. When set to the ON position, if Input 3 receives a signal it will mute Inputs 1 or 2 if they are set to Mute Receive ON. This is also known as a Juke box Override feature. See DIP SW 5 for delay settings. If the switch is in the OFF position, standard mix summing Inputs 1, 2 and 3 can be done. **Note:** VOX & Remote CC will also Mute Inputs 1, 2, and 3 if they are assigned to Mute Receive.
- Dip Switch # 5 - Corresponds with DIP SW 4 ON settings. When Input 3 receives a signal to mute Inputs 1 or 2, you need to select the length of time needed to sustain the mute. This will depend on the application and/or audio source material triggering the Override function at Input 3; you may want short or long Mute Delay (hold) time after the signal has stopped at Input 3 to assure a smooth transition from Input 3 to inputs 1 or 2.
- Dip Switch # 6 - Input 3 will be muted when audio is present at Input 4 or when the mute CC pins are shorted together. Down position is mute receive ON.
- Dip Switch # 7 - Input 2 will be muted when audio is present at Input 4 or when the mute CC pins are shorted together. Down position is mute receive ON.
- Dip Switch # 8 - Input 1 will be muted when audio is present at Input 4 or when the mute CC pins are shorted together. Down position is mute receive ON.
- Dip Switch # 9 - Outputs left and right can be configured for stereo left and right or combined into a summed mono output. Up position is stereo and Down position both outputs receive a "summed" L + R signal.
- Dip Switch # 10 - Remote level sets whether the remote volume control adjusts all inputs mixed (Inputs 1, 2, 3, and 4) or Inputs 1, 2, and 3 only. Up position is all Inputs, down position is Inputs 1, 2, and 3.
- Dip Switch # 11 - Wall Plate Activation - This switch is used for the optional WPD-MIX42RT remote wall controller. When the switch is in the UP position, it is OFF, meaning that all inputs are active to the outputs. When in the ON position the wall controller selects Inputs 1, 2, or 3 to be at the output of the TSD. **Note:** Input 4 is always present at the outputs in either mode. **Note:** Juke Box Override will not work when Remote Wall Plate is activated.
- Dip Switch # 12 - Not Used

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Cable Management
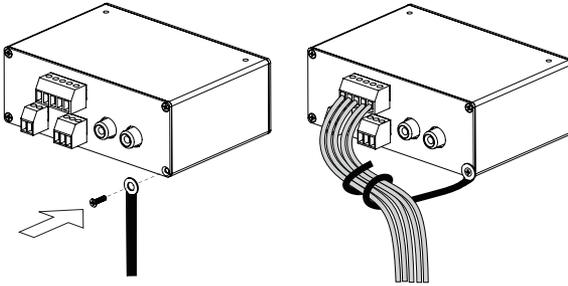
Knob and Security Cover

All front panel level controls feature a removable knob that can be replaced with an included security cover. Follow these steps to prevent potentiometer damage or unwanted changes.

1. Knob Installation - Turn the potentiometer shaft fully counter-clockwise. Align the knob indicator to the lowest setting on the panel and the potentiometer shaft slot. Carefully press the knob onto the potentiometer shaft. Do not force or damage may occur to the potentiometer.
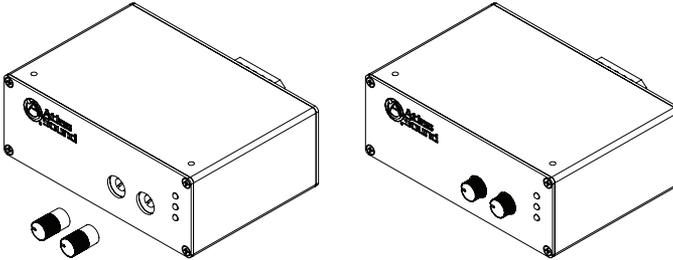
2. Security Cover Installation - Remove the knob from the panel and insert the cover. Small pliers may be required to remove the knobs. Align the security cover to the level control panel hole. Push the cover into the hole until it snaps into place. Do not force or damage may occur to the potentiometer.

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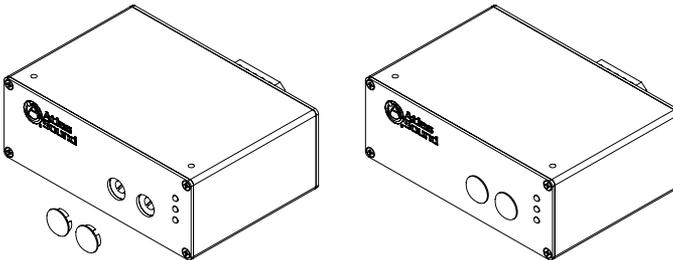
Mounting

Listed below are the ways to mount the TSD and the optional accessories that can be purchased.

1. Velcro™ - Each unit includes two 2" x 2" pieces of industrial-grade Velcro™ with adhesive backing to adhere to any flat surface. Clean all surfaces before applying the adhesive side of the Velcro™.
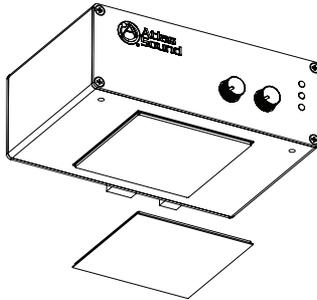
2. Multi Mount Plate - Each TSD includes a versatile multi-position mounting plate. This plate allows the TSD to be mounted to any surface; but is ideal for use with rear rack rails or side rack hat channels. Use the included M3 x 4mm screws to install the plate on the TSD. **Note:** Only use the included M3 x 4mm screws as other screws may be too long and will cause internal damage to the TSD. The multi-position mounting plate is a new addition being included with TSDs. If the TSD being used did not include the mounting plate, contact AtlasIED customer service at 1-800-876-3333.
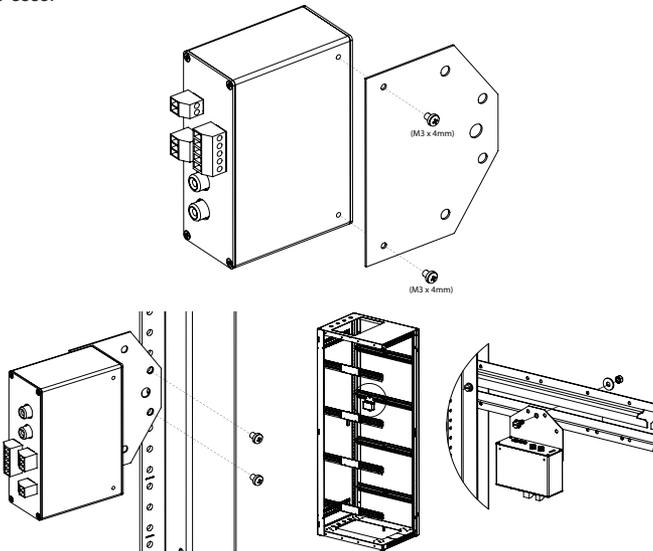
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Optional Mounting Accessories

1. TSD-RMK 19" Width Rack Mount Kit - For 19" rack mounting, AtlasIED offers an optional rack mount kit, the TSD-RMK. This rack mount kit can support up to four TSD units. The kit includes three blank panels designed to fill any unused slots. Use the included hardware to mount the TSD into the rack mount kit using the top mount screw holes on the TSD.
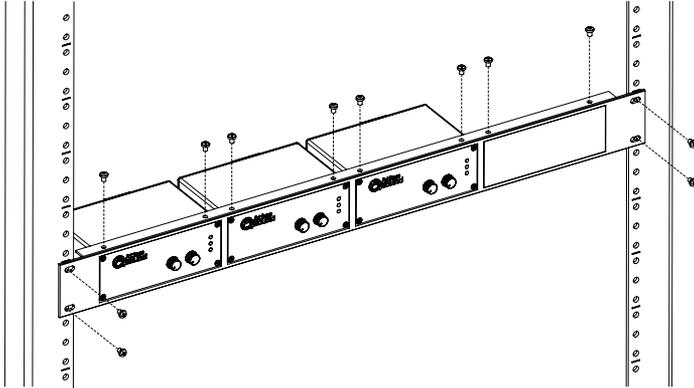
2. TSD-RMKHR Half Width Rack Mount Kit - AtlasIED offers an optional rack mount kit that can be used in half width rack applications including the AtlasIED WMA-HR and AWR-HR models. The TSD-RMKHR can support up to two TSDs. Included is an extra blank panel to fill one of the spaces if only one TSD is being used.
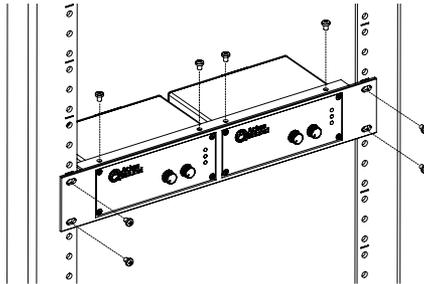
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3. TSD-RRMK Rear Rack Mounting Kit - For complete flexibility in mounting a TSD or TSD external power supplies the optional TSD-RRMK is available. The TSD-RRMK can support mounting of either two larger TSDs with external power supplies or up to 4 TSD models. **Note:** Only use the included M3 x 4mm screws as other screws may be too long and will cause internal damage to the TSD.

Block Diagram
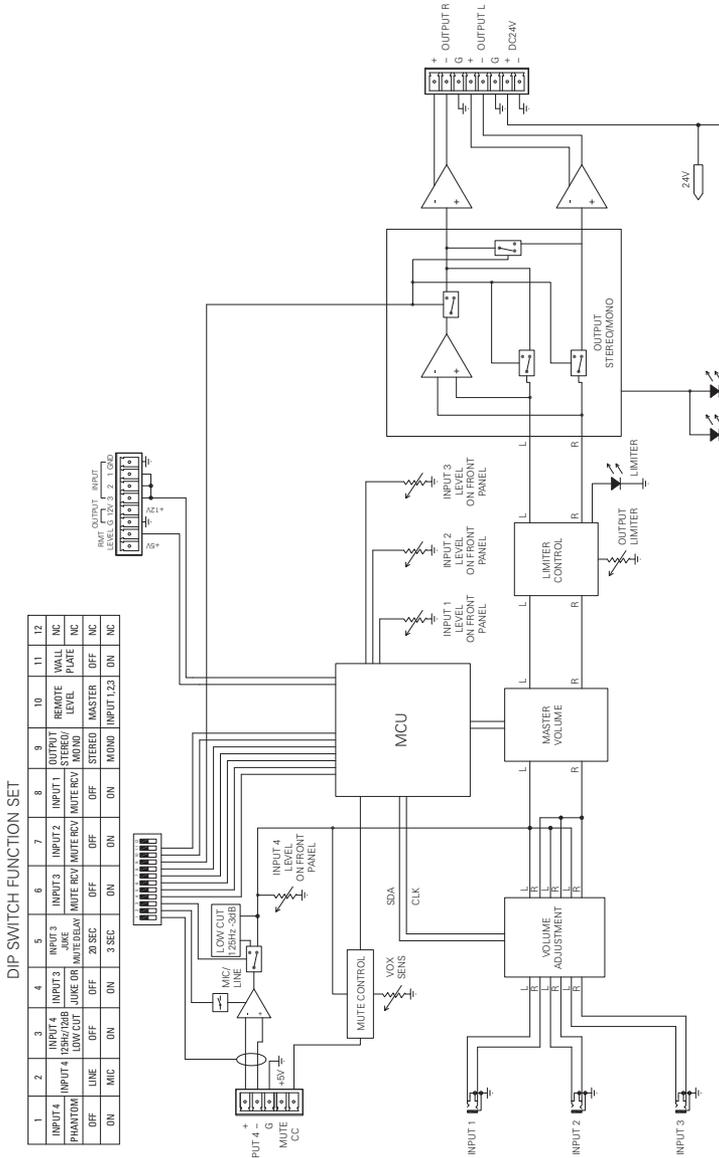
DIP SWITCH FUNCTION SET

1	2	3	4	5	6	7	8	9	10	11	12
INPUT 4 + PHANTOM	INPUT 4	INPUT 4 125Hz/12dB LOW CUT	INPUT 3 JUKE OR JUKE OUT	INPUT 3 JUKE MUTE DELAY	INPUT 3 MUTE RCV	INPUT 2 MUTE RCV	INPUT 1 MUTE RCV	OUTPUT STEREO/MONO	REMOTE LEVEL	WALL PLATE	NC
OFF	LINE	OFF	OFF	20 SEC	OFF	OFF	OFF	STEREO	MASTER	OFF	NC
ON	MIC	ON	ON	3 SEC	ON	ON	ON	MONO	INPUT 1,2,3	ON	NC

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Specifications

Description	4 x 2 Stereo Line Mixer with Priority Sense & Remote Level
Chassis Color	Black
Chassis Material	Aluminum

Inputs

Type	Qty 3, Unbalanced
Connection	3.5mm Stereo
Impedance	10kΩ
Input Level	316mV (-10dB) = 2V (+6dBV) Balanced Output, Maximum Input 1.6V (4.1dBV)
Type	Qty 1, Balanced Mic or Line Selectable
Connection	Removable 3 Position Captive Screw 3.5mm Spacing
Impedance	1.2kΩ Balanced, 600Ω Unbalanced
Phantom	24VDC Defeatable
Low Cut Filter	125Hz/12dB Defeatable
Line Input Level	1V (0dBV) Balanced = 2V (+6dBV) Balanced Output, Maximum Input 6V (6dBV)
Mic Input Level	46dB Gain, 10mV (-40dB) Balanced = 2V (+6dBV) Balanced Output, Maximum Input 40mV (-27dBV)

Outputs

Type	Qty 2, Balanced Line, Left & Right
Connection	Removable 3 Position Captive Screw 3.5mm Spacing
Impedance	300Ω Balanced, 150Ω Unbalanced
Line Output Level	1V (0dBV) In = 2V (+6dBV), Maximum Output 6V (15dBV)

Controls

Input Level Control	Qty 4, Removable Knobs with Security Covers
Mute CC	Contact Closure, Removable 2 Position Captive Screw 3.5mm Spacing
VOX Mute Sens	Trim Adjust for Mic Sensitivity
Output Limiter	Threshold Adjust
Remote Level	Control Port 10kΩ External Pot, Removable 2 Position Captive Screw 3.5mm Spacing
DC 12V Output	12V DC to power wall controller LED, Removable 2 Position Captive Screw 3.5mm Spacing
Wall Controller Interface	Connects to optional WPD-MIX42RT wall controller, Removable 4 Position Captive Screw 3.5mm Spacing
	Note: Juke Box Override will not work when Remote Wall Plate is activated.

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Dip Switch Function

Dip Switch # 1	24VDC Phantom Power
Dip Switch # 2	Input 4 Mic or Line Select
Dip Switch # 3	Low Cut Filter 125Hz
Dip Switch # 4	Juke Box Override
Dip Switch # 5	Juke Box Override Mute Hold Delay
Dip Switch # 6	Input 3 Mute Receive
Dip Switch # 7	Input 2 Mute Receive
Dip Switch # 8	Input 1 Mute Receive
Dip Switch # 9	Outputs Left and Right Stereo/Mono
Dip Switch # 10	Remote Level Master/Inputs 1,2,3
Dip Switch # 11	Wall Plate Activation
Dip Switch # 12	Not Used

Indicators

Input Signal	Green, 25mV ON Threshold, Qty 1
Input Peak	Red, -3dB Before Clip, Qty 1
Limiter	Red, Limiter Activation, Qty 1
Power	Blue, Qty 1

Electrical

Frequency Response	20Hz - 20kHz (±1dB)
THD	.06% @ 1kHz
Signal to Noise	Line to Line: 85dBV
	Mic to Line: 78dBV
Output Limiter	Threshold Adjust 50mV Minimum Output to No Limit

Power Requirements

Voltage	24VDC, 60mA
Power Consumption Current	60mA
Power Consumption VA Watts	1.4W
Dimensions	H 1.5" (39mm) x W 4" (101mm) x D 2.5" (70mm)
Weight	13oz, .3kg

Included Accessories

Velcro™	Industrial-Grade
Multi-Mount Plate	Qty 1, Includes Two (2) M3 x 4mm Screws
Cable Retainers	Qty 2
Level Control Knobs	Qty 4
Level Control Security Covers	Qty 4

Optional Accessories

WPD-MIX42RT	Wall Controller
TSD 24VDC	Power Supply
TSD-RMK	1 RU 19" Width Rack Mount Panel (Supports 4 TSD Units)
TSD-RMKHR	1 RU Half Rack Width Panel (Supports 2 TSD Units)
TSD-RRMK	Rear Rack Mounting Kit

Safety and Certifications

External Power Supply	cUL, CE, RoHS, TUV

Specifications are subject to change without notice.

Notes:

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Limited Warranty

All products manufactured by AtlasIED are warranted to the original dealer/installer, industrial or commercial purchaser to be free from defects in material and workmanship and to be in compliance with our published specifications, if any. This warranty shall extend from the date of purchase for a period of three years on all AtlasIED products, including SOUNDOLIER brand, and ATLAS SOUND brand products except as follows: one year on electronics and control systems; one year on replacement parts; and one year on Musician Series stands and related accessories. Additionally, fuses and lamps carry no warranty. AtlasIED will solely at its discretion, replace at no charge or repair free of charge defective parts or products when the product has been applied and used in accordance with our published operation and installation instructions. We will not be responsible for defects caused by improper storage, misuse (including failure to provide reasonable and necessary maintenance), accident, abnormal atmospheres, water immersion, lightning discharge, or malfunctions when products have been modified or operated in excess of rated power, altered, serviced or installed in other than a workman like manner. The original sales invoice should be retained as evidence of purchase under the terms of this warranty. All warranty returns must comply with our returns policy set forth below. When products returned to AtlasIED do not qualify for repair or replacement under our warranty, repairs may be performed at prevailing costs for material and labor unless there is included with the returned product(s) a written request for an estimate of repair costs before any nonwarranty work is performed. In the event of replacement or upon completion of repairs, return shipment will be made with the transportation charges collect.

EXCEPT TO THE EXTENT THAT APPLICABLE LAW PREVENTS THE LIMITATION OF CONSEQUENTIAL DAMAGES FOR PERSONAL INJURY, ATLASIED SHALL NOT BE LIABLE IN TORT OR CONTRACT FOR ANY DIRECT, CONSEQUENTIAL OR INCIDENTAL LOSS OR DAMAGE ARISING OUT OF THE INSTALLATION, USE OR INABILITY TO USE THE PRODUCTS. THE ABOVE WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

AtlasIED does not assume, or does it authorize any other person to assume or extend on its behalf, any other warranty, obligation, or liability. This warranty gives you specific legal rights and you may have other rights which vary from state to state.

Service

Should your Atlas TSD require service, please contact the AtlasIED warranty department at 1-877-689-8055, ext. 277 to obtain an RA number.

AtlasIED Tech Support can be reached at 1-800-876-3333 or support.atlasied.com.

Visit our website at www.AtlasIED.com to see other Atlas products.

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