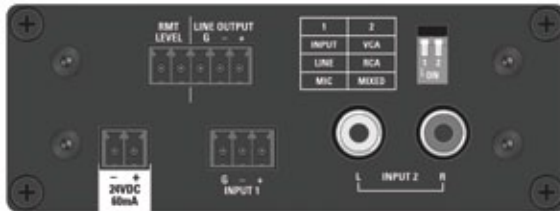




## TSD-RL21 2x1 Mic/Line Mixer with Remote Level





## Description

The versatile Atlas Sound TSD-RL21 2x1 mic/line mixer is ideal for applications where paging, public address, and BGM music is required.

Use as a standalone remote mixer or in conjunction with Atlas Sound power amplifiers in applications such as conference center meeting rooms, football stadiums, gymnasiums, retail/hospitality or other areas requiring versatile, multi source mix control.

Channel one may be configured via rear panel dipswitch to accommodate mic or line level while channel two features a stereo summing RCA line level input. Both inputs are adjustable by front panel controls with removable knobs, which may be easily replaced by security covers to prevent tampering.

The remote level control feature allows use of the Atlas Sound AAVC-10K (or equal) decorative wall plate control for convenient remote adjustment of either the entire mix bus or RCA input 2 only (the typical BGM input).

The TSD-RL21 is part of a full line of Atlas Sound Time Saving Devices. These compact (1.5" x 4" x 2.75") units are designed to solve some of the common audio system problems in the easiest and in the 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-proof security covers.

## Features

- Selectable Balanced Mic or Line Input
- RCA Actively Summed Input
- High Gain Mic Input 50dB
- Balanced Line Output
- Peak & Signal Indicator LEDs
- Remote Level Control Assignable to the Mixed Signal or to a BGM Source
- High Gain Output for Driving Long Balanced Lines
- Cable Management System
- Multiple Mounting Configurations
- Separate Ground Connections
- Removable Phoenix Style I/O Connectors
- Meets Energy Star™ Standards
- Compact Chassis Design

## Audio Applications

- Mixer
- Mic Preamp
- Line Preamp
- Stereo Summing Preamp
- Line Drive
- Remote Level Control

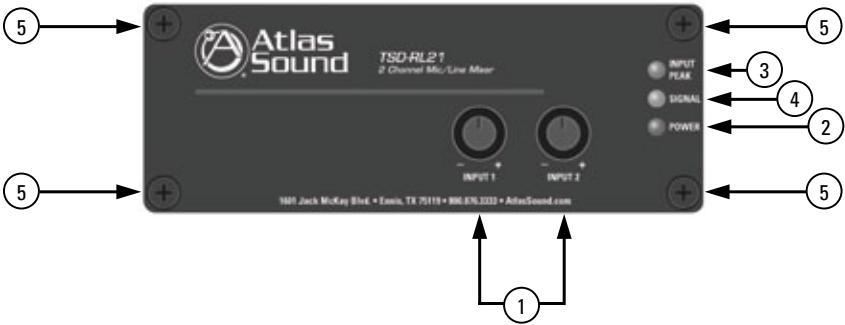
## Installation

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





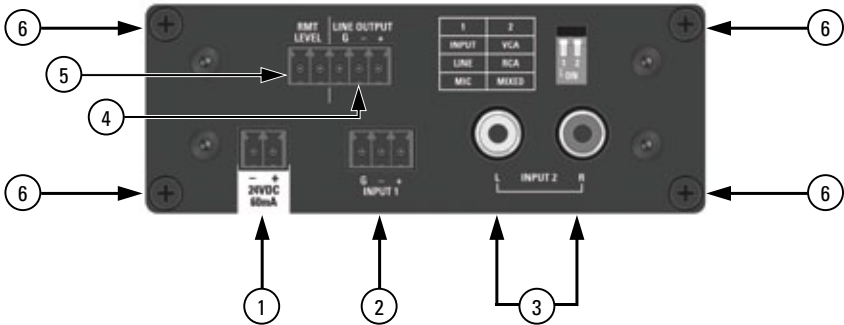
### Front Panel Description



1. **Input Level Controls 1-2** - Adjusts audio signal level that is applied to the RL-21 input circuitry. 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.
2. **Power LED** - Illuminates BLUE when 24VDC power is present.
3. **Input Peak LED** - Illuminates Red when the input 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. **Signal LED** - Illuminates Green when the input signal strength reaches 25mV to verify a signal path.
5. **Bracket Retainer Points** - Each TSD includes two mounting brackets for securing the TSD to a cabinet or wall. Remove screws and align the bracket with the panel hole before firmly tightening the screws.



## Rear Panel Description



TSD Input/Output connections are removable for easy system wiring. The connector has 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. **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 1** - Connects to balanced line or mic level sources. Your connection must be mated properly to the input connector or signal loss and/or noise may occur. For gain or source input type selection, refer to the "Dip Switch Function Identification" chart for proper input setting. **Note:** Unbalanced line level inputs can be inserted with proper wire configuration by connecting the (G) and (-) terminals together.
- 3. RCA Input 2** - Unbalanced audio signals applied to these female RCA connectors are summed electronically and fed to the output.
- 4. Line Output** - Provides output when an input signal is present for connection to balanced mic or line level devices. Your output connections must be connected properly to the connectors or loss and/or noise may be introduced into the signal. **Note:** Unbalanced line level devices can be used with proper wire configuration by connecting the (G) and (-) terminals together.
- 5. Remote Level** - For remote gain control of the RL21, connect the Atlas Sound AAVC-10K (or equal) wall plate to this terminals. Set Dip Switch 8 for the remote level to control a mixed signal or Input 3 signal only.
- 6. Cable Management Retainer Points** - Use rear panel screws to secure included cable management retainers.



### Dip Switch Function Identification

SWITCH FUNCTIONS

1	2
INPUT	VCA
LINE	RCA
MIC	MIXED

### Switch Position

SW # 1 - Microphone or Line Input 1 gain selection. Up position is Line, down position is Microphone.

- DIP SW # 2 - Remote Level sets whether the remote volume control adjusts all inputs mixed or Input 2 only. Up position is Input 2 (RCAs) only, down position is both Input 1 and Input 2.

### 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. Do not force or damage may occur to the potentiometer. Small pliers may be required to remove the knobs.

### Mounting

There are three ways to securely mount this TSD:

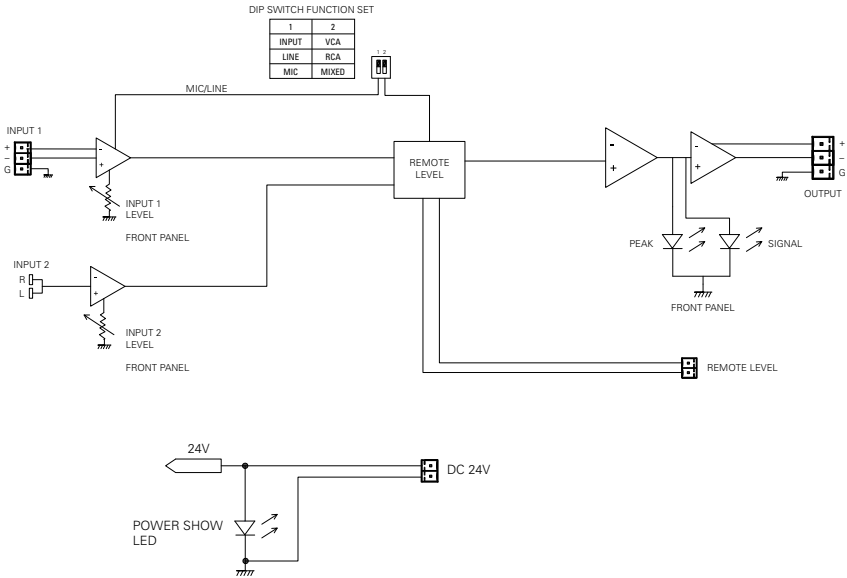
1. Velcro™ - Each unit includes industrial grade Velcro™ with adhesive backing to adhere to any flat surface.
2. Brackets - Each unit includes two mounting brackets to secure to a cabinet or wall.
3. Rack Mount Panel - The optional TSD-RMK rack mount panel supports up to four TSDs in a 1RU space.



# TSD-RL21 2x1 Mic/Line Mixer

## Owner's Manual

### Block Diagram



### Specifications

Description	2 x 1 Mic/Line Mixer with Remote Level
Chassis Color	Black
Chassis Material	Aluminum
<b>Inputs</b>	
Type	Qty 1, Unbalanced
Connection	RCA Left and Right Actively Summed
Impedance	10KΩ
Input Level	316mV (-10dBV) = 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
Line Input Level	1V (0dBV) Balanced = 2V (+6dBV) Balanced Output, Maximum Input 6V (15dBV)
Mic Input Level	46dB Gain 10mV (-40dBV) Balanced = 2V (+6dBV) Balanced Output, Maximum Input 40mV (-27dBV)



**Outputs**  
Type Qty 1, Balanced Line  
Connection Removable 3 Position Captive Screw 3.5mm Spacing  
Impedance 300 $\Omega$  Balanced, 150 $\Omega$  Unbalanced  
Line Output Level 1V (0dBV) In = 2V (+6dBV) Balanced, Maximum Output 6V (15dBV)

**Controls**

Input Level Control Qty 2, Removable Knobs with Security Covers  
Remote Level Control Port 10K External Pot,  
Removable 2 Position Captive Screw 3.5mm spacing  
Dip Switch Function

- Input 1, Mic/Line Select
- Remote Level Assign, Mix or Input 2

**Indicators**

Input Signal Green, 25mV On Threshold  
Input Peak Red, -3dB Before Clip  
Power Blue

**Electrical**

Frequency Response 20Hz - 20kHz ( $\pm$ 1dB)  
THD .06% @ 1kHz  
Signal to Noise Line to Line: 85dBV  
Mic to Line: 70dBV

**Mounting**

Velcro™ Industrial Grade, Included  
Brackets Qty 2, Included  
TSD-RMK Optional 1 RU Rack Mount Panel (Supports 4 TSD Units)  
Cable Retainer Qty 2, Included

**Power Requirements**

Voltage 24VDC  
Power Consumption 60mA  
Power Consumption 1.4W

Dimensions H 1.5" (39mm) x W 4" (101mm) x D 2.75" (70mm)

Weight 6oz, .165kg

**Accessories**

TSD 24VDC Power Supplies  
TSD-RMK 1 RU Rack Panel

**Safety and Certifications**

External Power Supply cUL, CE, RoHS, TUV



## Limited Warranty

All products manufactured by Atlas Sound 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 Atlas Sound 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. Atlas Sound 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 Atlas Sound 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, ATLAS SOUND 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.

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