

KEY•LARGO



USER GUIDE



TrueToYourMusic®

Radial Engineering Ltd.
1845 Kingsway Ave.
Port Coquitlam BC V3C 0H3 Canada
Tel: 604-942-1001 • Fax: 604-942-1010
email: info@radialeng.com

RADIAL KEY-LARGO

USER GUIDE

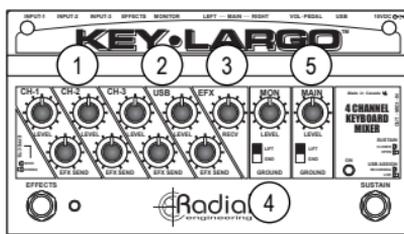
Table of Contents	Page
Overview	1
Features and Functions.....	2-3
Making Connections.....	4
Using the Key-Largo.....	5
Going Digital.....	6
Using the Effects Loop	7
Adding a Volume Pedal.....	8
Sustain Pedal	8
Using with Midi	9
Recording vs Live Mode.....	10
Specifications	11
Block Diagram.....	13-14
Warranty.....	Back Cover

Thank you for purchasing the Key-Largo, a unique and powerful device that gives you control over your keyboard setup like never before, all in a compact pedal that can be easily controlled during a live performance.

The Key-Largo is packed with features, and offers a number of ways in which it can be used. To fully utilize all the possible functions of the Key-Largo, please take a moment to read through this manual, which details each feature and outlines their use. If afterward you still find yourself with questions, visit the FAQ page on the Radial website. This is where we post questions from other users along with product updates. If you still require clarification feel free to send an email to info@radialeng.com and we will do our best to respond promptly.

OVERVIEW

The Key-Largo is a compact keyboard mixer that also includes the real-time performance attributes of a footswitch controller, allowing you to easily create an exciting and professional performance on stage. The best way to approach the various features of this powerful device is to break each section down into modules before addressing the Key-Largo as a whole.



1 CH-1, 2, 3

The design begins with ¼" TS (tip-sleeve) inputs that allow you to connect up to three stereo keyboards at once. The Key-Largo has tons of headroom so it can handle your hottest keyboard outputs, and it features individual level controls to balance the signal levels of each instrument. For mono keyboards, simply connect to the left input only – the Key-Largo will automatically route the signal to both the left and right outputs.

2 USB

In addition to functioning as a mixer, the Key-Largo is also a high-quality USB audio interface. This means you can connect to your laptop to play back soft synths or other backing tracks. This connection can also be used to record your performance using your digital audio workstation of choice.

3 EFFECTS

The Key-Largo effects loop lets you share your favorite pedal or rackmount effects unit across all of your keyboards. This can be used with mono or stereo effects, and is easily activated/deactivated with a built-in footswitch. EFX SEND/RECV knobs provide precise control over which channels feed the effects loop, as well as how much of the effects return is blended with the dry signal from your keyboards.

4 MONITORS

Balanced ¼" TRS monitor outputs provide the option to connect to a pair of powered speakers for easy on-stage monitoring. A level control lets you adjust the volume to suit, and a ground lift switch is provided to help reduce noise from ground loops.

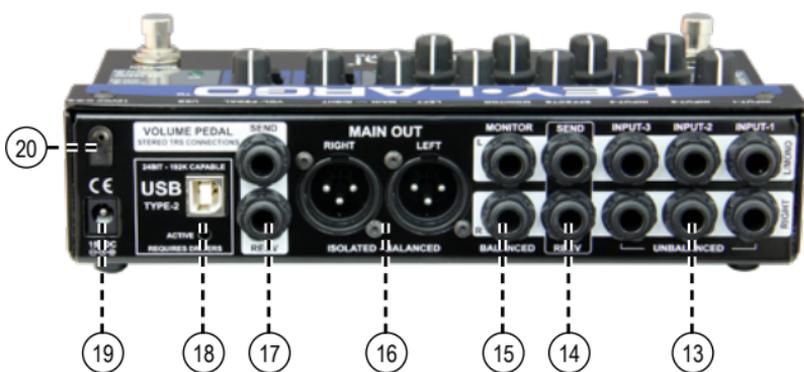
5 MAIN OUT

The main outputs of the Key-Largo are balanced XLRs for connection to a console or PA system. They feature transformer isolation to eliminate buzz and hum, as well as a ground lift switch for additional noise abatement.

FEATURES



1. **EFFECTS LOOP MONO:** Switches the effects loop from stereo to mono when pushed in.
2. **EFFECTS FOOTSWITCH:** Latching footswitch used to turn on or off the effects loop in order to add echo or reverb when soloing.
3. **EFX SEND:** Individual controls on each channel are used to set the desired amount of effect that will be applied to each device.
4. **LEVEL CONTROL (1, 2, 3):** Used to adjust the input levels of your three analog keyboards.
5. **USB LEVEL CONTROL:** Used to adjust the USB audio return from your laptop.
6. **EFX RETURN:** Master effects return control, used to optimize the effects loop signal path.
7. **MONITOR OUT:** Used to adjust the stage volume for the keyboard monitors.
8. **MAIN OUT:** Used to set the Key-Largo output level going to the PA system.
9. **SUSTAIN FOOTSWITCH:** Momentary footswitch used to activate the sustain function on a master keyboard or digital piano.
10. **USB ASSIGN:** Configures the Key-Largo for live performance use or as a recording interface.
11. **SUSTAIN FOOTSWITCH POLARITY:** Enables the Key-Largo sustain footswitch function to work with various keyboards.
12. **MIDI:** IN and OUT connections to send & receive MIDI over USB.



13. **STEREO INPUTS (1, 2, 3):** Used to connect the analog outputs of your keyboards to the Key-Largo.
14. **EFFECTS SEND & RECEIVE:** Stereo ¼" TRS jacks used to feed an external effects device.
15. **MONITOR OUT:** Stereo ¼" TRS balanced outputs are used to feed a pair of powered speakers for on-stage monitoring.
16. **MAIN OUT:** Stereo XLR balanced outputs are used to feed the PA system - transformer isolated to eliminate ground loops.
17. **VOLUME PEDAL SEND / RECV:** Stereo TRS insert for a master volume pedal.
18. **USB TYPE-2:** High quality USB I/O for Mac or PC. Drivers required for PC.
19. **15VDC:** Connection for the Radial 15VDC/260mA power supply (included).
20. **CABLE CLAMP:** Prevents accidental power disconnection by locking down the AC adapter cable.

MAKING CONNECTIONS

Before connecting to the Key-Largo, it is always best to turn your audio system levels down in order to prevent plug-in transients that could damage more sensitive components such as high frequency drivers. It is also a good idea to test at low volumes before turning up. This way, should a cable not be properly seated, making a live connection will be safer.

The Key-Largo is powered via a 15VDC center-pin positive supply. A power supply cable lock is located just above this connection, allowing you to secure the cable and prevent accidental disconnection. Unscrew the lock using a hex driver, insert the power cable through the cavity and then retighten.

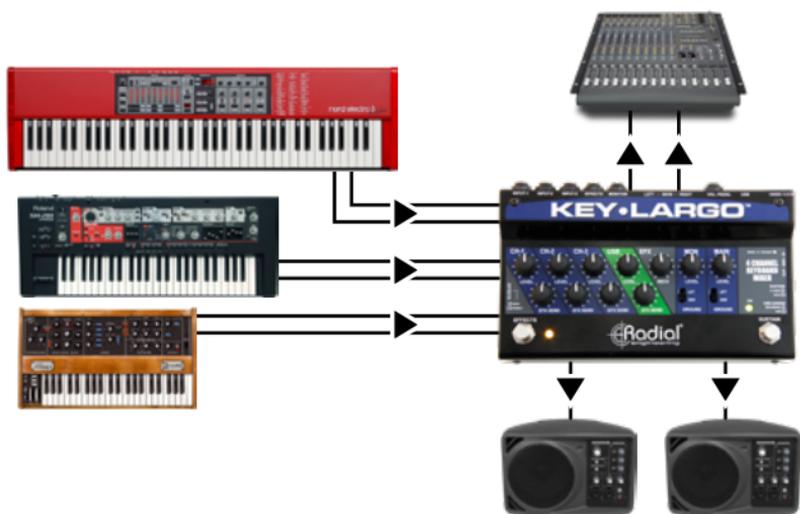
Connections from your keyboards to the Key-Largo are done using standard ¼" TS coaxial cables. The main outputs to the PA system are typical XLR connections wired to AES standard pin-1 (ground), pin-2 (+), and pin-3 (-). The Volume pedal, Monitor, and Effects Send/Receive connections are ¼" TRS jacks wired tip (+), ring (-), and sleeve (ground).



USING THE KEY-LARGO

There is no power switch on the Key-Largo, as soon as you connect the power supply the ON light on the front of the unit will illuminate and the Key-Largo will be active.

Connect your first keyboard to INPUT-1 Left and Right (if using a keyboard with only one output, connect to the Left/Mono input, the Key-Largo will automatically reconfigure this channel for mono), then connect the MAIN OUT to the PA or a set of powered speakers via XLR cables. Start with the CH-1 level control at around 12 o'clock, and slowly turn up the MAIN level until you can hear your first keyboard. Repeat the process with your next two keyboards, using the input levels for each channel to balance the levels between them. The MONITOR outputs allows you to connect to an additional set of powered speakers via TRS cables, for local monitoring on stage or to send to a headphone amplifier. Should you experience any hum or buzz due to ground loops, the MAIN and MONITOR outputs are each equipped with a ground lift switch to help eliminate this problem.



GOING DIGITAL

The Key-Largo features a Type-B USB connection, and requires a USB 2.0 cable to connect to the port on your computer or laptop. This is a common 'TYPE A to TYPE B' cable that is compatible with the majority of printers, hard drives and audio interfaces.



TYPE A USB

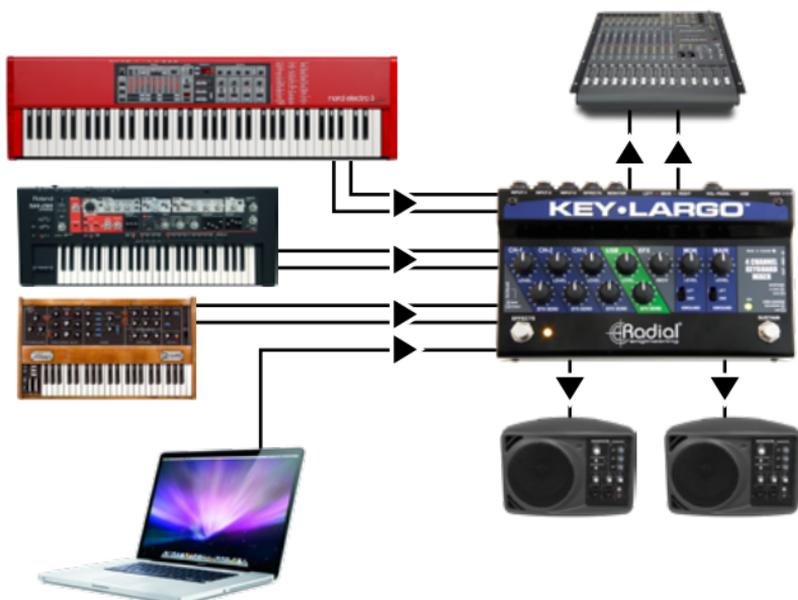
Fits most laptops and computers

TYPE B USB

Used to connect to the Key-Largo

If using with a Mac, the Key-Largo is plug-and-play, with no drivers required. Upon first use, if your audio software does not immediately recognize the Key-Largo, try restarting your Mac with the Key-Largo connected. For users running Windows, please visit www.radialeng.com/drivers to download the latest drivers for the Key-Largo. Install these drivers before connecting the Key-Largo to your computer via USB.

Once connected to your computer via USB, the Key-Largo will appear in the list of available audio devices in your system setting/control panel. The Key-Largo functions as a 2-in/2-out audio interface, so you can set it as your audio input device (for recording audio into your digital audio workstation), and as an audio output device (for playing back audio from your computer through a PA system). When playing back audio from your computer, the USB LEVEL control affects how much is mixed in with your keyboards and fed to the MAIN and MONITOR outputs. Test this output with the volume turned down, then slowly increase the level until you reach a good balance with the instruments connected to channels 1-3.



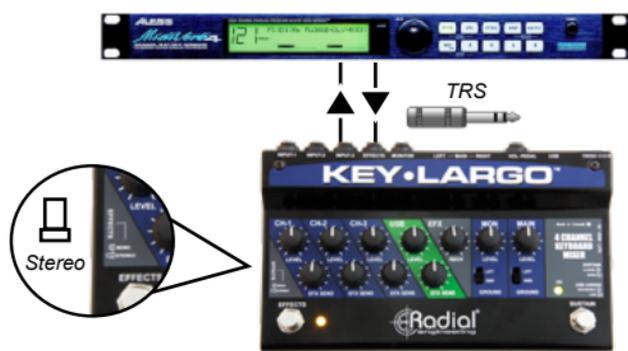
THE EFFECTS LOOP

The Key-Largo is equipped with an effects loop to allow you to share outboard effects units across all of your keyboards. This feature can be used with both mono and stereo effects, as well as with pedals or rackmount equipment. A latching footswitch turns the loop on and off, so you can quickly add in a delay or a chorus and have it affect each keyboard as much or as little as you want.

For mono effects, engage the recessed switch on the left side of the Key-Largo. Then connect the SEND jack to the input of your effects unit, and the output to the RECV jack using 1/4" TS coaxial cables.



For stereo pedals and effects, make sure that the recessed Effects switch is disengaged. Use insert cables wired with 1/4" TRS to 2x 1/4" TS connectors to connect the SEND jack to the left and right inputs of the effects unit, and use a second insert cable to connect the outputs of the device to the TRS RECV connector on the Key-Largo.



Start with the EFX RECV level control at 12 o'clock, this controls how much of the overall FX you will hear in the mix. Engage the EFFECTS footswitch on the Key-Largo and slowly turn up the EFX SEND control on each channel that you want to send to the effects loop. The EFX SEND controls follow the input level controls in the signal chain, so if you turn down CH-1 LEVEL, you'll also be reducing the amount of signal sent to the EFX SEND on channel 1. Note that when the Key-Largo is set to Recording mode, the EFX SEND for the USB input will not be active.

ADDING SUSTAIN

The Key-Largo features a dedicated footswitch to act as a sustain pedal for one of your keyboards. This is a momentary non-latching switch, so it will only apply sustain when you are physically pressing down on the switch. Connect the SUSTAIN OUT to the Key-Largo to the connection on your keyboard for a sustain pedal. Test by playing a note and holding down the sustain footswitch. If the footswitch works the opposite way you expect it to (sustain is always on, except when the footswitch is pressed), then engage the recessed sustain switch on the side of the Key-Largo, to change the connection from normally open to normally closed.



ADDING A VOLUME PEDAL

You can use an external stereo volume pedal to control the overall output of the Key-Largo, giving you control over all your levels in one place. Simply connect the Volume SEND on the Key-Largo to the input of your pedal, and the output of your pedal to the RECV connector using ¼" TRS cables or TRS>2x TS insert cables. The volume pedal will control the level of the MAIN OUT, MONITOR OUT, and the USB send to your recording software. Note: When the Key-Largo is set to recording mode, any USB audio output from your computer to the Key-Largo will not be affected by the volume pedal.

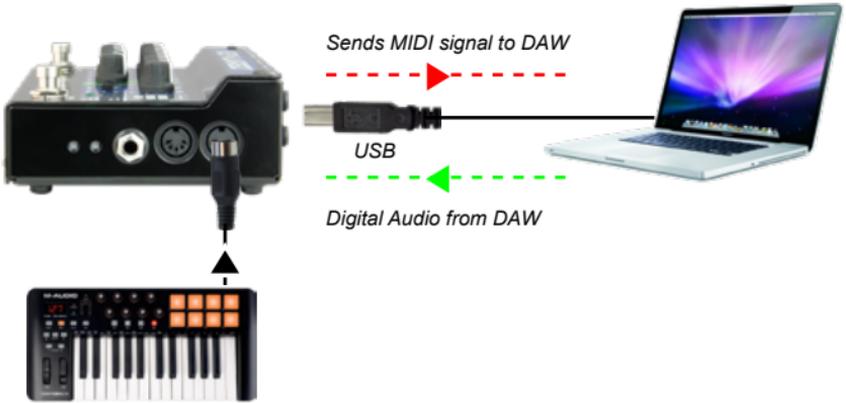


USING WITH MIDI

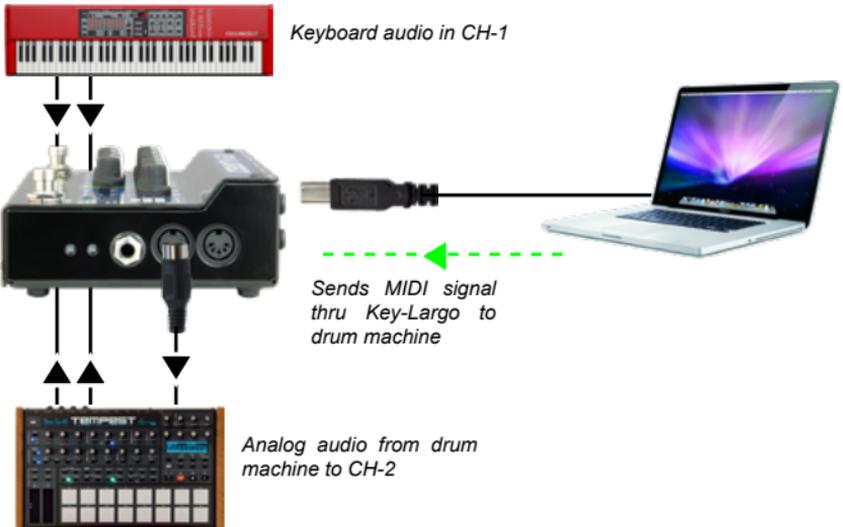
The Key-Largo can send and receive MIDI information over USB, allowing you to use a controller to play a soft-synth on your laptop, or record and playback MIDI using your computer's digital audio workstation (DAW). The Key-Largo doesn't generate MIDI information on its own, nor can it be controlled via MIDI; it simply transmits the information between the MIDI and USB connections.

To send MIDI to your DAW to control a soft-synth, connect the MIDI output of your keyboard to the MIDI IN on the Key-Largo using a standard MIDI 5-pin DIN connector. Please refer to your DAW's manual for instructions on how to set up a MIDI record/playback track or soft-synth. To playback MIDI information from your computer to control an external device, connect the MIDI OUT on the Key-Largo to the MIDI input on your keyboard or other MIDI-enabled device.

Application: Using a controller to send MIDI to your DAW



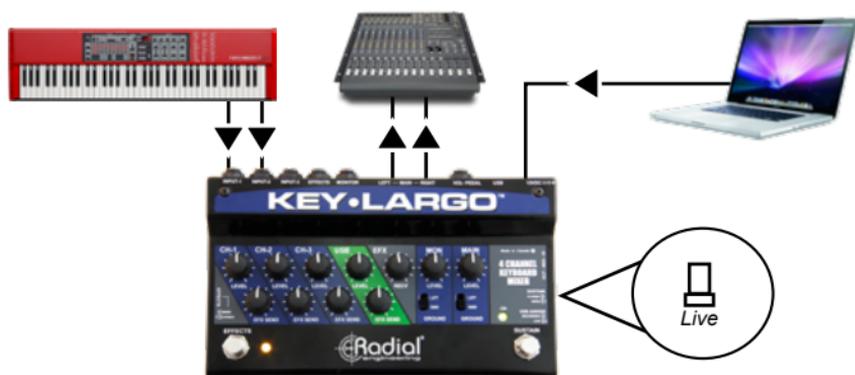
Application: Using a laptop as the MIDI source to control an external drum machine



RECORDING VS. LIVE MODE

The Key-Largo has two modes, set via the USB ASSIGN recessed control on the side of the unit. When this switch is disengaged the Key-Largo is set to LIVE mode. This means the USB audio from the computer is treated like any other keyboard input; you can send it to the effects loop, blend it with the other keyboard inputs, and control it with an external volume pedal. Most players will keep the Key-Largo in LIVE mode for the majority of the time, especially when using the device during a performance.

In LIVE mode, the Key-Largo is the centerpiece of your performance rig. Control your inputs, sustain, effects, and output volume in a compact footprint.



When the recessed switch is engaged, the Key-Largo is in RECORDING mode, and the USB audio from the computer is sent directly to the MAIN and MONITOR outputs. This configures the Key-Largo for use as a USB recording interface for tracking and overdubbing keyboards. You can use the volume pedal to control your performance without affecting the backing tracks that you're playing along to, and the effects loop will only affect the inputs that you'll be recording. In this mode, the USB EFX SEND will not be active, and an external volume pedal will not affect the signal returning from the computer.

In RECORDING mode the Key-Largo is a powerful 24bit/192kHz interface, allowing you to capture ideas on the road or in the studio.



SPECIFICATIONS

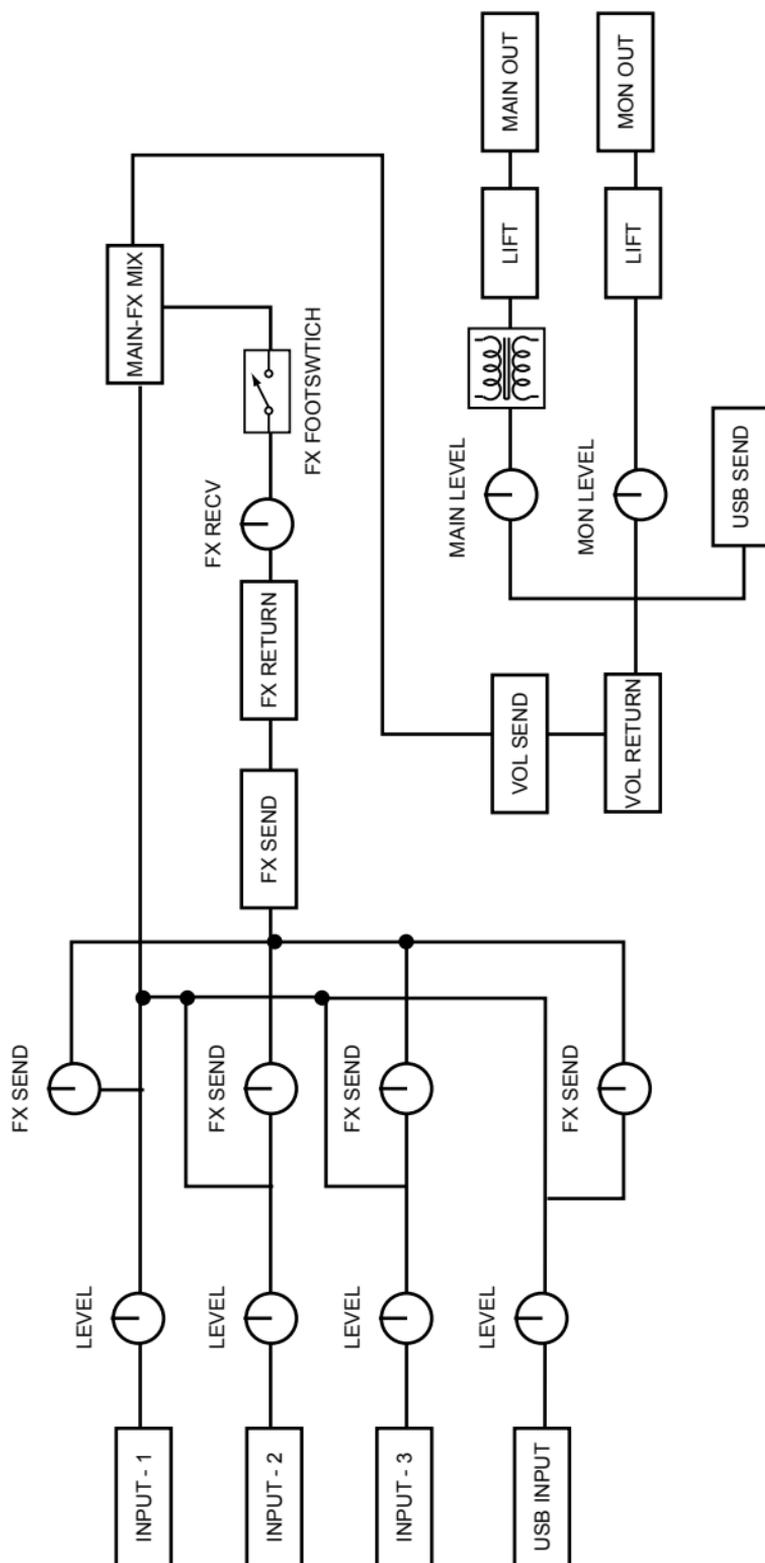
Audio Circuit Type:	Active circuit with audio-grade operational amplifiers
Frequency Response:	20Hz - 20kHz \pm 0.5dB
Noise Floor:	-91dB
Clip Level - Input:.....	+12dBu
Clip Level - Output:.....	+24dBu
Maximum Gain - Input to Output:	+12dBu
Total Harmonic Distortion:	<0.005% @ 1kHz
Input Impedance - Analog Inputs:.....	20k Ohms
Input Impedance - FX Return:	50k Ohms
Input Impedance - Volume Return:.....	485k Ohms
Output Impedance - XLR:.....	300 Ohms
Output Impedance - 1/4":	450 Ohms
Output Impedance - FX Send:.....	1k Ohms
Output Impedance - Volume Send:	300 Ohms

General

Power:	260mA, 15VDC (center pin positive)
Construction:	14-gauge steel
Finish:.....	Durable powder coat
Size:.....	
FCC Approval:	Complies with section 15 of the FCC rules
Conditions:.....	For indoor use at temperatures between +5°C and +40°C
Warranty:	Radial 3-year, transferable

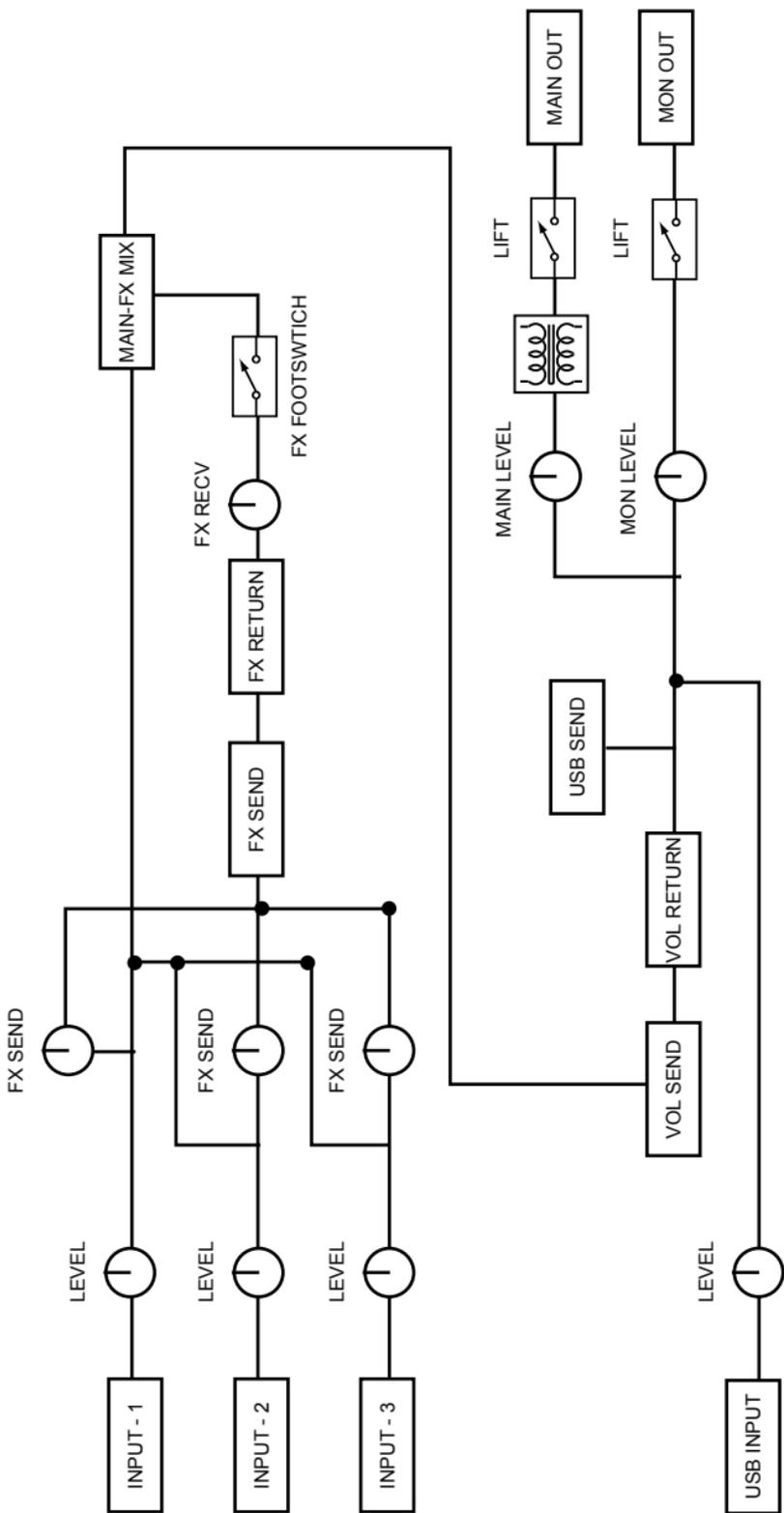
Specifications are subject to change without notice

BLOCK DIAGRAM - LIVE MODE



Subject to change without notice

BLOCK DIAGRAM - RECORDING MODE



Subject to change without notice

THREE YEAR TRANSFERABLE LIMITED WARRANTY

RADIAL ENGINEERING LTD. ("Radial") warrants this product to be free from defects in material and workmanship and will remedy any such defects free of charge according to the terms of this warranty. Radial will repair or replace (at its option) any defective component(s) of this product (excluding finish and wear and tear on components under normal use) for a period of three (3) years from the original date of purchase. In the event that a particular product is no longer available, Radial reserves the right to replace the product with a similar product of equal or greater value. In the unlikely event that a defect is uncovered, please call 1-800-939-1001 or email service@radialeng.com to obtain a RA number (Return Authorization number) before the 3 year warranty period expires. The product must be returned prepaid in the original shipping container (or equivalent) to Radial or to an authorized Radial repair center and you must assume the risk of loss or damage. A copy of the original invoice showing date of purchase and the dealer name must accompany any request for work to be performed under this limited and transferable warranty. This warranty shall not apply if the product has been damaged due to abuse, misuse, misapplication, accident or as a result of service or modification by any other than an authorized Radial repair center.

THERE ARE NO EXPRESSED WARRANTIES OTHER THAN THOSE ON THE FACE HEREOF AND DESCRIBED ABOVE. NO WARRANTIES WHETHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE SHALL EXTEND BEYOND THE RESPECTIVE WARRANTY PERIOD DESCRIBED ABOVE OF THREE YEARS. RADIAL SHALL NOT BE RESPONSIBLE OR LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSS ARISING FROM THE USE OF THIS PRODUCT. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS, WHICH MAY VARY DEPENDING ON WHERE YOU LIVE AND WHERE THE PRODUCT WAS PURCHASED.

To meet the requirements of California Proposition 65, it is our responsibility to inform you of the following:

WARNING: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Please take proper care when handling and consult local government regulations before discarding.



www.radialeng.com

Radial Engineering Ltd.
1845 Kingsway Ave.
Port Coquitlam BC V3C 0H3 Canada
tel: 604-942-1001 • fax: 604-942-1010
info@radialeng.com



Radial Key-Largo User Guide - Part #: R870 1019 00 / 03-2026 / V3.2

Appearance and specifications subject to change without notice.

Copyright © 2016 Radial Engineering Ltd. All rights reserved.