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Radial® engineering

MR5

MIDI CONVERTER

User Guide

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MR5™ MIDI CONVERTER

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Thank you for purchasing the Radial MR5™, a useful tool that allows Radial JR5™ foot switch compatible devices to respond to MIDI control signals.

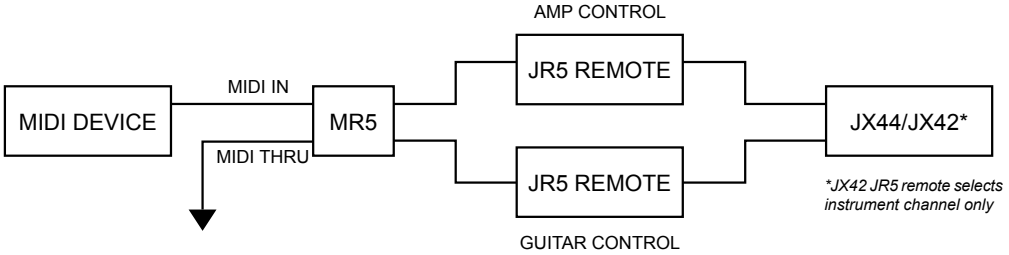
Before using the MR5 for the first time we suggest that you review this manual. It will explain what features and functions can be controlled by MIDI control and program changes, along with channel selection and other configuration options. Once you are done, if you find yourself asking questions, please visit the FAQ page on our web site. This is where we post questions and answers for players like yourself. Then, if you still find yourself looking for more, we invite you to send us an email at info@radialeng.com and we will do our very best to reply in short order.

FEATURES

1. **MIDI IN:** Input jack for MIDI signals.
2. **MIDI OUT:** This jack is not currently used.
3. **MIDI THRU:** Thru-put for daisy chaining MIDI signals.
4. **AMPS:** XLR jack to connect to amplifier JR5 input on Radial device.
5. **GUITARS:** XLR jack to connect to instrument JR5 input on Radial device.
6. **DIP SWITCHES:** Configure MIDI channel setup.
7. **SAVE / RESET:** Save MIDI configuration after changing DIP switch position or reset if errors such as stuck notes occur during a performance.
8. **POWER / STATUS / MIDI LED's:** Let's you know the status of power and MIDI connections, and shows when MIDI note ON/OFF signals are present.
9. **14-GAUGE STEEL:** I-Beam construction prevents circuit board from being torqued which could lead to part failure.

OVERVIEW

The MR5 is a translator that takes the MIDI data output from a controller or sequencer and converts the commands to the JR5 footswitch language. This allows any Radial device that employs the JR5 to be integrated into MIDI controlled guitar rigs, or be used in sequenced performances.



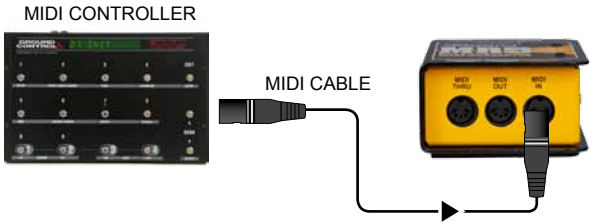
The Radial JR5 itself employs a proprietary interface that uses standard XLR connectors. It is important to note that the reason the JR5, or products like the JX44 or JX42, do not employ MIDI is that the MIDI protocol is not designed to carry power. When developing the interface for the JR5 remote, we wanted the power to come from the device (example JX44) so that local power would not be required. Furthermore, the XLR is a much more robust connector than a typical 5-pin DIN and is readily available from any PA company. It is also extendable which means that on larger stages, you can simply connect two or more XLR cables in line to achieve the required cable length.

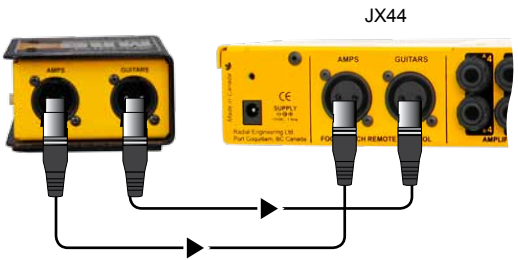
MAKING CONNECTIONS

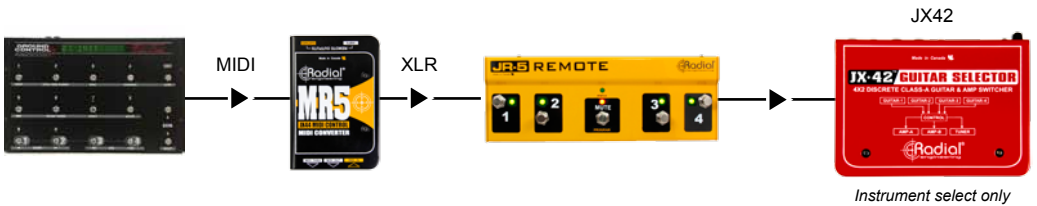
1. Connect the MIDI output from your MIDI controller or pedal board to the input of the MR5 using a standard 5-pin MIDI cable. Additional MIDI devices can be daisy chained via the MR5's MIDI THRU connector.

2. Connect the MR5 XLR outputs to the JR5 inputs of the Radial JX44, JX42 or any other product that employs a JR5 footswitch. The MR5 is equipped with dedicated XLR outputs for both 'Amps' and 'Guitars'. No power is required, as the MR5 will derive its power from the Radial device that you are controlling.

3. If you wish to use a JR5 footswitch in conjunction with the MR5, simply connect one of its XLR jacks to the MR5 and the other to the JR5 input on your Radial device. The pedal will now be in-line with the MR5, and your Radial device will respond to commands from both.

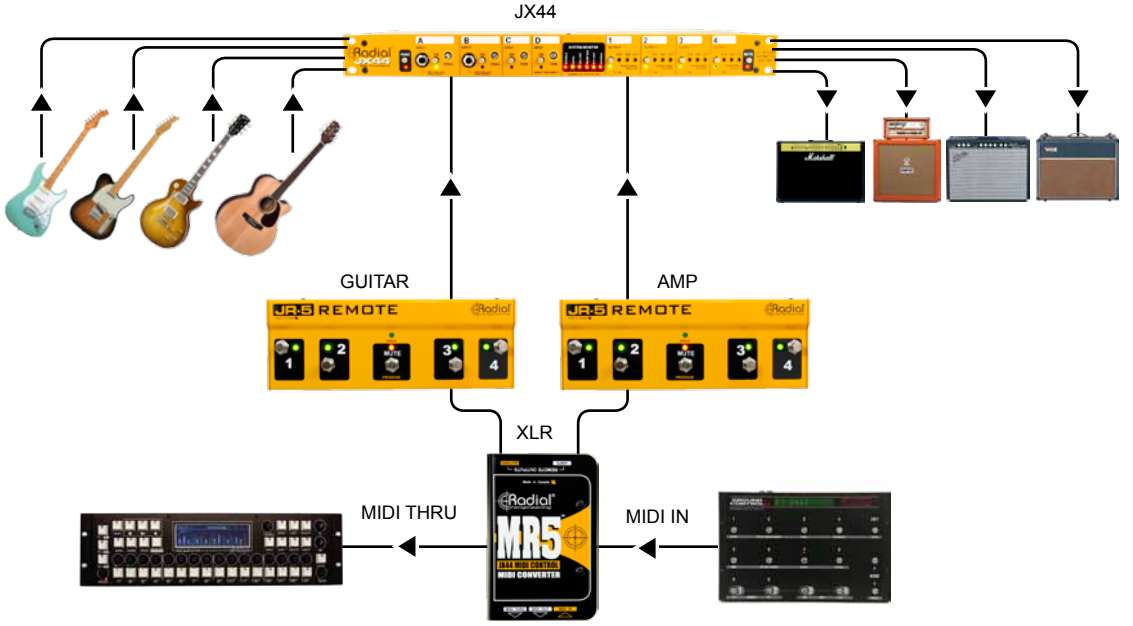






Instrument select only

Not only can the MR5 be used to control both JX44 and the JX42, the MR5 can also be used in conjunction with the JR5 remote control. This allows a musician to still have their stage remote and have the MR5 send control messages to the JX44 or JX42 from a midi sequencer, or MIDI control pedals, or MIDI playback, from a MIDI track from back ground orchestration software. This allows for incredible flexibility for live performances to not just replace the JR5 remote as an option, but to augment and add extra functionality to a full JR5 - JX44 - JX42 system.



MIDI SETUP

The MR5's MIDI channel selection and configuration is set via the 8 DIP switches on the side panel. It can be setup to respond to an individual MIDI channel (1-16), or put into OMNI mode to respond to messages sent on all MIDI channels simultaneously. Once each switch is set to its desired position, push the SAVE/RESET button on the side panel to set the configuration as the changes will not take affect until you do so. DIP switch details can be found on the following pages.

OMNI Mode

OMNI Mode allows the MR5 to respond to control and program changes on any MIDI channel (1-16). Setting the MR5 to a specific channel is particularly useful when linking multiple MIDI devices as they can all be set to only respond to changes on their assigned channel. Some MIDI equipment will default to OMNI mode when first switched on, so it is important to check configurations upon power-up and re-select the channel on your device if necessary.

Select OMNI mode by setting DIP 5 in the up position

LED

The side panel is equipped with LED indicators to show you the status of the MR5. The power LED indicates that the MR5 is receiving power from your Radial device from the JR5 connection. The STATUS LED illuminates when a midi signal is being transmitted to the MR5. The MIDI indicator shows when a midi device is connected to the MR5.

DIP switches 1-4:
These four switches select which MIDI channel (1-16) the MR5 will respond to. The guide below shows which position each switch should be in for each corresponding channel.

DIP #	1	2	3	4
Midi Ch 1	UP	UP	UP	UP
Midi Ch 2	DOWN	UP	UP	UP
Midi Ch 3	UP	DOWN	UP	UP
Midi Ch 4	UP	UP	DOWN	UP
Midi Ch 5	UP	UP	UP	DOWN
Midi Ch 6	UP	DOWN	UP	DOWN
Midi Ch 7	DOWN	UP	DOWN	UP
Midi Ch 8	DOWN	DOWN	UP	UP
Midi Ch 9	UP	UP	DOWN	DOWN
Midi Ch 10	UP	DOWN	DOWN	UP
Midi Ch 11	DOWN	UP	UP	DOWN
Midi Ch 12	DOWN	DOWN	UP	DOWN
Midi Ch 13	DOWN	UP	DOWN	DOWN
Midi Ch 14	UP	DOWN	DOWN	DOWN
Midi Ch 15	DOWN	DOWN	DOWN	UP
Midi Ch 16	DOWN	DOWN	DOWN	DOWN

DIP switch 5:
This switch is used to select OMNI mode. When in the UP position, Omni mode is OFF and the MR5 will only respond to MIDI messages on the channel selected with switches 1-4. When in the DOWN position, Omni mode is ON and the MR5 will respond to MIDI messages sent on all channels.

DIP switches 6-7:
The amplifier switching capability of the MR5 can be selected using MIDI Control Changes, Program Changes, or both. Switches 6 and 7 select how the MR5 will respond to these messages.

DIP #	6	7
Amp PC	DOWN	UP
Amp CC	UP	DOWN
Amp PC and CC	DOWN	DOWN

DIP switch 8:
No current function

MIDI IMPLEMENTATION CHART (CONT. NEXT PAGE)

The MR5 is setup to respond to both MIDI Control Changes and Program changes. Control changes can select both guitars and individual amplifiers on the JX44. Program changes are reserved for amplifier selection only, which allows for custom configurations with multiple amplifiers on devices like the JX44. The following chart shows which instruments and amplifiers will be activated when the MR5 sees various Control and Program changes sent by your MIDI pedal board or sequencer:

	GUITAR 1	GUITAR 2	GUITAR 3	GUITAR 4	Amp Out 1	Amp Out 2	Amp Out 3	Amp Out 4
CC 88 off 0..63/on 64..127	ON							
CC 89		ON						
CC 90			ON					
CC 91				ON				
CC 92					ON			
CC 93						ON		
CC 94							ON	
CC 95								ON

	GUITAR 1	GUITAR 2	GUITAR 3	GUITAR 4	Amp Out 1	Amp Out 2	Amp Out 3	Amp Out 4
Program C1					ON			
Program C2						ON		
Program C3							ON	
Program C4								ON
Program C5					ON	ON		
Program C6					ON	ON	ON	
Program C7					ALL AMPS ON			
Program C8							ON	ON
Program C9						ON	ON	ON
Program C10					ON		ON	ON
Program C11					ON	ON		ON
Program C12						ON	ON	
Program C13					ON			ON
Program C14					ON		ON	
Program C15						ON		ON
Program C16					ALL AMPS OFF			
Program C17 (Mute)					ALL MUTE ON			
Program C18 (unmute)					ALL MUTE OFF			

RADIAL ENGINEERING
3 YEAR TRANSFERABLE 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 604-942-1001 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.

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

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