



**RDL**<sup>®</sup>  
Radio Design Labs

SPECIALISTS IN PRACTICAL PRECISION ENGINEERING™

# HALF-RACK SERIES

## Model HR-UDC1

### Universal Digital Audio Converter



- Data Conversion Between S/PDIF and AES/EBU
- Electrical Conversion Between Digital Audio Formats
- Input: AES/EBU, Coaxial or Optical S/PDIF, AES-3ID
- Output: AES/EBU, Coaxial or Optical S/PDIF, AES-3ID
- Operation Up to 24 bits, 192 kHz
- Exclusive **SURE-LOK™** Auto-Recovery Sentinel
- Transformer Isolated AES/EBU Input and Output
- Digital Signal *Reclocking*
- Sample Rate Indicators
- Digital Signal Lock Indicator for Each Input Format

The HR-UDC1 is an RDL HALF-RACK product, featuring an all metal chassis and the advanced circuitry for which RDL products are known. HALF-RACKs may be operated free-standing using the included feet or may be conveniently rack mounted using available rack-mount adapters.

**APPLICATION:** The HR-UDC1 is the ideal choice in installations where digital audio signals must be converted between consumer and professional formats. The input and output support AES/EBU, S/PDIF and AES-3ID formats. The HR-UDC1 automatically detects a valid input on any of the four input jacks: S/PDIF optical, S/PDIF coaxial, AES-3ID or AES/EBU. The input is decoded, reclocked and transmitted to the output. All pro/consumer, emphasis, and sampling frequency bits common to both S/PDIF and AES/EBU standards are inserted in the output data stream. Front-panel LEDs display the digital audio format and sample rate of a valid source received without any phase-lock or bit errors.

The output is switch-selectable to provide an AES/EBU, S/PDIF coaxial or optical, or AES-3ID output. The switch enables the appropriate output jack and any required electrical and data format conversion. The AES/EBU input and output are 110 Ω terminated; the S/PDIF coaxial and AES-3ID jacks are 75 Ω terminated.

The HR-UDC1 is powered from 24 Vdc, which may be connected through the detachable terminal block or through the dc power jack. A front-panel power switch is provided.

RDL's proprietary **SURE-LOK™** auto-recovery supervision monitors possible causes of latch-up and reinitiates digital signal lock, bringing a high level of stability to digital audio signal conversion under the variety of conditions encountered in professional environments.

Use the HR-UDC1 individually, or combine it with other RDL products as part of a complete audio/video system.

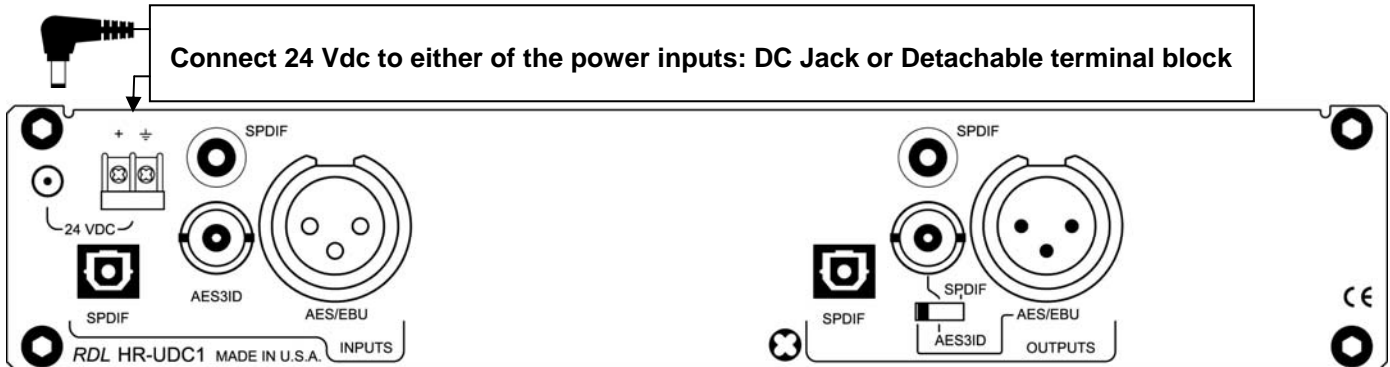
# HALF-RACK SERIES

## Model HR-UDC1

### Universal Digital Audio Converter

## Installation/Operation

**CE** EN55103-1 E1-E5; EN55103-2 E1-E4  
Typical Performance reflects product at publication time exclusive of EMC data, if any, supplied with product. Specifications are subject to change without notice.



Connect one digital audio source to the appropriate input jack:

S/PDIF OPTICAL,  
S/PDIF COAXIAL,  
AES-3ID or  
AES/EBU

Connect one digital audio cable to the appropriate output jack:

S/PDIF OPTICAL,  
S/PDIF COAXIAL,  
AES-3ID or  
AES/EBU

Set the output format switch to the desired format:

S/PDIF (enables the COAXIAL and OPTICAL jacks),  
AES-3ID (BNC jack) or  
AES/EBU (XLR jack)

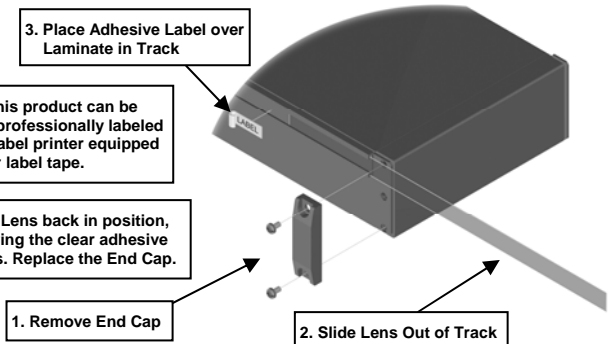
### MOUNTING



For free-standing operation, use the four provided machine screws to mount the feet to the bottom of the module as shown.  
OR  
Use the four provided machine screws to secure the module to an optional RDL mount, such as an HR-RA2 Rack Adapter.

### LABELING

The functions of this product can be conveniently and professionally labeled with a hand-held label printer equipped with 1/4" wide clear label tape.



### TYPICAL PERFORMANCE

Inputs (4):	110 Ω AES/EBU XLR, transformer isolated; S/PDIF optical; 75 Ω S/PDIF coaxial phono jack; 75 Ω AES-3ID BNC	
Outputs (4):	110 Ω AES/EBU XLR, transformer isolated; S/PDIF optical; 75 Ω S/PDIF coaxial phono jack; 75 Ω AES-3ID BNC	
Selector:	Rear-panel output format selector	
Sample Rate:	32 kHz to 192 kHz	
Resolution:	16 to 24 bits	
Indicators (12):	POWER LED; INPUT FORMAT LEDs (2); Sample Rate LEDs (9)	
Standards:	AES3-2003, IEC60958	
Power Requirement:	24 to 33 Vdc @ 50 mA, Ground-referenced	
Mounting:	Rack-mount using optional rack adapters such as HR-RA2; or operate free-standing (feet included)	
Dimensions:	Height:	1.7 in      4.3 cm
	Length:	8.6 in      20.6 cm
	Depth:	4.59 in     11.66 cm

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rule. These limits are designed to provide reasonable protection against harmful interference in a residential installation. The equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.