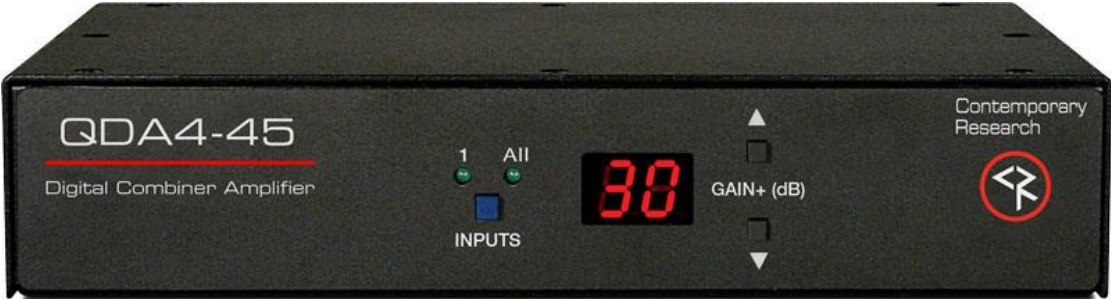Product Manual

QDA4-45 RF Amp/Combiner

July 14, 2016

Installation

Basic Setup

The QDA4-45 is designed for QMOD applications, but can be used with other RF channels at similar levels.
Use only the included 12 VDC power supply, do not use with shared 4 or 6 amp DC power supplies.

Connect one source to Input 1

- Connect to the In 1 RF Input (not 2-3)
- Select **Input 1** on the front panel
- Adjust gain up and down, 0 – 32 dBmV, add in input level for total RF level. For example to amplify one QMOD (typical 29 dBmV) to 45 dBmV, add +16 dB of gain. For amplifying QCA9-33 Active Combiners that are fed from QMODs (typical 32 dBmV), add +13 dB for a 45 dBmV level output.

Connect up to four sources or QCA9-33 Active Combiners to Inputs 1-4

- Connect to the Inputs 1-4
- Select **All** on the front panel
- Adjust Gain up and down, 0 – 25 dB, add in input level for total RF level. The gain setting compensates for the 7 dB loss in the combiner, so you just add the gain setting to the input level. For example to amplify four QMODs (typical 29 dBmV) to 45 dBmV, add +16 dB of gain.

RF Amp Out

The QCA9-33 accepts up to 38 dBmV RF level, and can amplify up to +50 dB.

RF Levels

If the RF level is too strong, the TVs can act as if there is no RF signal.

- The input RF level and the QDA gain level should not exceed 50 dBmV; the goal is to average about 45 dBmV or less. If the total gain is too strong, the amplifier can be overloaded, which could appear as No Signal to TVs.
  - If you're combining one to four QMODs, the gain should be no more than 16-20 dB
  - If you're combining one to four QCA9-33s, the gain should be no more than 13-17 dB
- The RF level at the TVs should be about 0 to 20 dBmV. Digital RF channels are very flexible, and we've found that some TVs can receive the channel at about 29 dBmV. However, if the RF level to TVs is too high, the TVs can respond as if there is no signal.

2-Way Operation

The QD4-45 is not designed for 2-way operation, but that could be performed using 2 sub-channel diplexers.

Specifications

Physical

Size: 8.5" [216mm] wide x 1.75" [38mm] height (1RU) x 6.0" [153mm] deep
Weight: 1.1 lb [500g]
Enclosure: Durable metal enclosure, rack mountable

Front Panel

Input Selection, 1 or 4 inputs, Green LED indicators
RF Gain Selection with LED display, 0-25 dB for four inputs, 0-32 dB for one

Back Panel

Inputs: 4 F Connectors
Amp Out: 1 F connector
DC Power: Power 2.1 mm coaxial jack (inside center conductor positive), 700 mA maximum, 11.5 to 12.7 VDC
Use the included 12 VDC power supply, do not share DC power with other power supplies

Inputs

Max Input Level: 40 dBmV
Combiner Isolation: 38 dB typical, 30 dB minimum, 54 - 860 MHz
Return Loss:13 dB typical for single input, 30 dB typical for All

Output

Input 1 only: 0-32 dB gain, low noise, linear performance through 860 MHz
All Inputs: 0-25 gain (7 dBmV loss from combiner)
Max Level: Maximum level +50 dBmV
CTB: Composite Triple Beat -60 dB, 134 channels at +44 dBmV per channel
Noise: Noise Figure 4.5 typical
Return Loss: 17 dB typical

Includes

Options PS12-1 1A 12 VDC power supply
RK1 Rack Kit for single unit, 1 RU
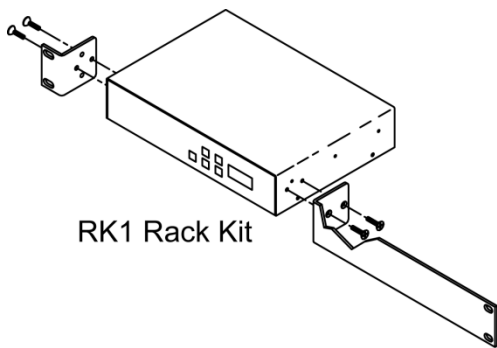RK2EZ Rack Kit for dual units, 1 RU

Rack Mounting

Two options are available for rack-mounting the QDA4-45 and QCA9-33; the units should not be mounted adjacent to QMOD or QIP encoders, as there is no flow-through ventilation through the QDA4-45 and QCA9-33.

RK2EZ Dual Rack Kit with Tie Bar Mounting
Use this rack kit for mounting one unit in a half-width rack. QIP enclosures have a slot in the bottom middle of the case. This will accept a tie bar that will lock the two enclosures together without taking the cases apart. Do not mount the QCA9-33 or QDA4-45 units next to QIPs, as the units will block flow-through fan ventilation.

1. Check that your enclosures have the tie bar slot.
2. Slide the included tie bar into the side of one unit and attach with the included screws.
3. Slide the other unit into the tie bar, and attach the screws
4. Add the rack mounts to the sides.

RK1 Rack Kit

RK1 Single Unit Rack Mount
Attach the long and short rack ears to the side and towards the front of the unit with the four (4) supplied 8-32 by ¼" (black) countersunk screws

Limited Warranty and Disclaimer

Warranty: Three (3) year limited warranty on all parts and labor for Contemporary Research manufactured products from the day of purchase by authorized dealer. Manufactured products are warranted against defects in materials and workmanship. If Contemporary Research receives notice of such defects during the warranty period, Contemporary Research will repair or replace, at its option, products that prove to be defective.

Exclusions: The above warranty shall not apply to defects resulting from improper or inadequate maintenance by the customer, customers applied software or interfacing, unauthorized modifications or misuse, mishandling, operation outside the normal environmental specifications for the product, use of the incorrect, modified or extended power supply, or improper site operation and maintenance. *Please note Contemporary Research SSV-DX Display Express PC product carries a six month limited warranty.*