Product Manual

QDA4-45 RF Amp/Combiner

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" [216 mm] wide x 1.75" [38 mm] height (1RU) x 6.0" [153 mm] deep
Weight: 1.1 lb [500 g]
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 devices

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

PS12-1.5 12 VDC Power Supply (5402-001), Input 100 to 240 VAC autosensing, Output: 12 VDC, 1.5A maximum
RKU Universal Rack Kit

Options

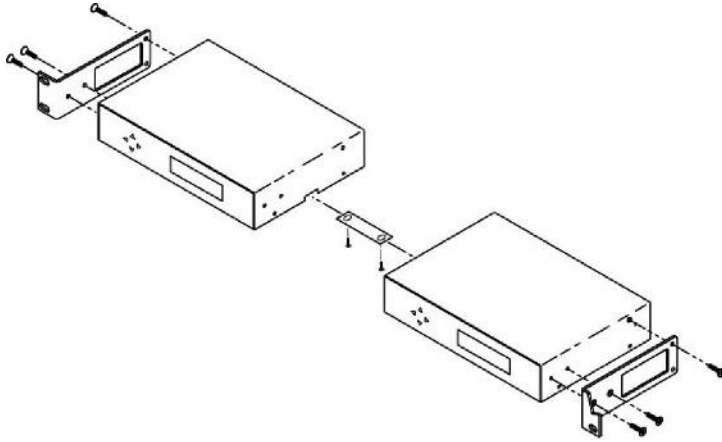RK1 Rack Kit for single unit, 1 RU
RK2EZ Rack Kit for dual units, 1 RU

RKU Universal Rack Mount Kit

All Contemporary Research rack-mountable products will now include a Universal Rack Mounting Kit (RKU). The RKU will allow for mounting of a single unit or two units side-by-side in a 19" rack. One Universal Rack Mounting Kit will be included with the purchase of each product and will include the following parts:

- Two (2) Short Rack Ears
- One (1) Long Rack Ear
- One (1) Center Mount Tie-bar
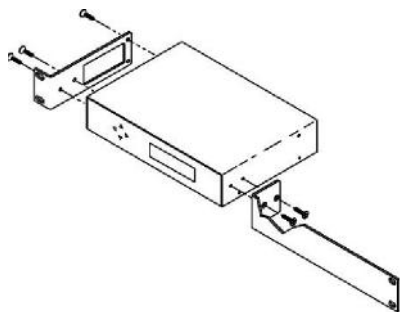- Six (6) 8-32 x 1/4" Screws
- Two (2) 4-40 x 3/16" Screws

2-Across Mounting

When mounting two components in one RU rack space, use the two short rack ears and the tie bar assembly. Note that the QDA4-45 and QCA9-33 have solid side panels and should not be mounted next to components with the ventilation holes, as that will block airflow.

- Check that your enclosures have the tie bar slot.
- Slide the included tie bar into the side of one unit and attach with one included 4-40 x 3/16" screw, but do not tighten.
- Slide the other unit into the tie bar, attach with the second 4-40 x 3/16" screw, and tighten both screws.
- Add the rack mounts to the sides using the six 8-32 x 1/4" screws.

Single Unit Rack Mounting

Attach a long and short rack ear to each side at the front of the unit, using five of the 8-32 x 1/4" screws.

Warranty: Three (3) year limited warranty on all parts and labor for Contemporary Research manufactured products. Contemporary Research warrants its manufactured products against defects in materials and workmanship for a period of three years from the day of purchase by authorized dealer. If Contemporary Research receives notice of such defects during the warranty period; Contemporary Research, at its option, will repair or replace 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, acts of God, weather, or improper site operation and maintenance. *Please note Contemporary Research SSV-DX Display Express PC product carries a six month limited warranty.*

Product Service: Contemporary Research will test, repair, or replace the product or products without charge if the unit is under warranty. If the product is out of warranty, Contemporary Research will test, and then repair the product or products. The parts and labor charge will be estimated by a technician and confirmed by the customer prior to repair. All components must be returned for testing as a complete unit. Contemporary Research will not accept responsibility for shipment after it has left the premises.

Technical Support: Contemporary Research technicians will determine and discuss with the customer the criteria for repair and/or replacement. Contemporary Research Technical Support can be contacted through one of the following resources: e-mail support at support@crwww.com or phone at: 972-931-2728

Return Material Authorization (RMA) Number: Before returning a product for repair or replacement, request an RMA from Contemporary Research's technical support. Provide tech support with a return phone number, e-mail address, shipping address, product serial numbers and original purchase order number. Describe the reason for repairs or returns as well as the date of purchase. See the General RMA Terms and Procedures section for more information. RMA's are valid for 30 days and will be issued to authorized Contemporary Research dealers only. End users must return products through authorized Contemporary Research dealers. Include the assigned RMA number in all correspondence with Contemporary Research. Write the assigned RMA number clearly on the shipping label of the box when returning the product. All products returned for credit are subject to a restocking charge without exception.

Voided Warranty: The warranty does not apply if the original serial number has been removed or if the product has been disassembled or damaged through misuse, accident, acts of God, weather, modifications, use of incorrect, modified or extended power supply, or unauthorized repair.

Shipping and Handling: Contemporary Research will not pay for inbound shipping transportation or insurance charges or accept any responsibility for laws and ordinances from inbound transit. Contemporary Research will pay for outbound shipping, transportation, and insurance charges for all items under warranty, but will not assume responsibility for loss and/or damage by the outbound freight carrier. If the return shipment appears damaged, retain the original boxes and packing material for inspection by the carrier. *Contact your carrier immediately.*

Products not under Warranty: Payment arrangements are required before outbound shipment for all out of warranty products.
General RMA Terms and Procedures: RMA's are valid for 30 days and will be issued only to authorized active Contemporary Research dealers only.

- End users must return products through authorized Contemporary Research dealers. End users may be eligible for a RMA at the discretion of CR Technical Support.
- Before a defective product can be authorized to send in for repair, it must first go through the troubleshooting process with a member of the Contemporary Research Technical Support team.
- Products authorized for repair must have a valid RMA (Return Material Authorization) number.
- Contemporary Research Technical Support will approve the issue of an RMA number.
- An RMA number is to be included in all correspondence with Contemporary Research.
- The RMA number must appear clearly on the shipping label when the product is returned.
- A packing slip must be included on the inside of the box with the RMA number listed and reason for RMA return.
- Products received at Contemporary Research that do not have a valid RMA number clearly marked on the outside of the shipping container may be refused and returned to sender.
- Boxes showing external damage will be refused and sent back to the sender regardless of the clearly marked RMA number and will remain the responsibility of the sender.

Advanced Replacement Policies:
For Contemporary Research manufactured products, advance replacement will be provided for "out-of-the-box" failures up to thirty (30) days after the initial shipment of products.

Shipments of equipment that are refused upon attempted delivery, for any reason, are subject to restocking charges.

3220 Commander Drive, Suite 102
Carrollton, TX 75006
Ph. 888-972-2728
www.contemporaryresearch.com