

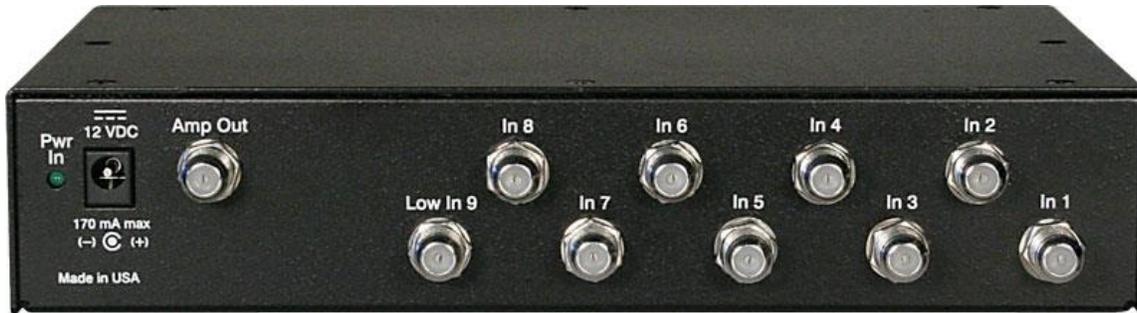
Product Manual

QCA9-33 Active Combiner

July 13, 2016



Installation



The QCA9-33 is designed for QMOD applications, but can be used with other RF channels at similar levels.

Connect High-Level Sources to Inputs 1-8

Feed the RF outputs from up to 8 QMOD HDTV Modulators, normally set to output 29 dBmV.

Connect to the low-level RF Input 9

The ninth low-level (15-19 dBmV) port adds several options. The QCA9-33 will amplify the input by 15.5 dB:

- Add an unplanned modulator – just set the QMOD to 17dB.
- Make room for an ICE-HE Control Modulator. The best practice is:
 - Move a QMOD to Input 9, set to 17 dB
 - Add the ICE-HD RF Out to a high-level output; insert a 20 dB attenuator to reduce the HE output from about 52 dBmV to 32
- Combine a cable feed, usually filtered to knock out cable channels

RF Amp Out

The QCA9-33 accepts up to 30 dBmV level, and after compensating for combining losses, amplifies the input level by +3 dBmV – up to a maximum of +33 dBmV. This means the typical RF level from the QMOD 29 dBmV will be +32 dBmV.

The output level of the low-level input will be amplified by a net 13.5 dBmV. So a 17 dBmV input will be amplified to 30.5 dBmV.

18-Channel Operation (36 Program)

Typically, connect the RF Out from 2 QCA9-33 combiners to a 2-1 splitter. This will provide 16-channel operation, with a small loss of 3.5 dBmV. All QMODs can output two HD programs, the combined output can be up to 32 programs, 36 if Input 9 is used.

8 to 36 Channel Operation (72 Program)

Feed the RF Out of up to 4 QCA9-33 combiners to one QDA4-45. This will provide up to 32-36 channels (64-72 programs) at a level up to 45 dBmV.

Specifications



Physical	8.5" [216mm] wide x 1.75" [44mm] height (1RU) x 6.0" [153mm] deep 1.1 lbs [500g] Durable metal enclosure, rack mountable Mount separately from next-gen QMODs, will block airflow
Back Panel	8 Input F Connectors 1 Low-level Input F connector 1 Amp Out F connector DC Power input Power LED
Inputs	8 High-level Inputs - Max input 30 dBmV 1 Low-level Input - Max input 19 dBmV
Isolation	38 dB typical, 30 dB minimum, 54 - 860 MHz
Return Loss	30 dB typical
Output	17 dBmV amplifier, extremely low noise, linear performance through 860 MHz
Net Level	Net + 3 db gain after combining
Max Level	Maximum level +33 dBmV
CTB	Composite Triple Beat -75 dBc, 132 channels at +30 dBmV per channel
Noise	Noise Figure 1.8 typical
Return loss	20 dB typical
Power	2.1mm coaxial jack (inside center conductor positive), 170 mA maximum, 11.5 to 15 VDC, 12 VDC typical (may be unregulated)
Includes	PS12-500 12 VDC, 500 mA power supply
Options	RK1 Rack Kit for single unit, 1 RU RK2EZ Rack Kit for dual units, 1 RU

Rack Mounting

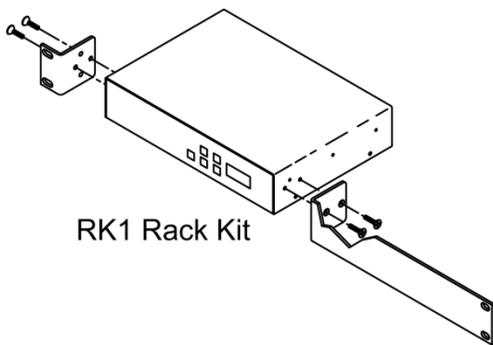
Two options are available for rack-mounting the QDA4-45 and QCA9-33; the units should not be mounted adjacent to QMOD or QIP encoders, as there is no flow-through ventilation through the QDA4-45 and QCA9-33.



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 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 1/4" (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.*