



CQ1520-RX and CQ1515-RX Power Sequencers with RX Series Surge Protection



General Description

The CQ Series-RX models combine reliable AC power sequencing with the proven performance of the Juice Goose RX Series surge protection and filtration.

Each CQ Series product contains the circuitry needed for sequenced activation and plug-and-play coordination with other CQ Series models or RC Series accessories. All power up and power down sequences are performed automatically. Commands are passed from one CQ Series unit to the next.

Operation

The CQ-1515 (15 amp) and CQ-1520 (20 amp) are rack mount, plug-in models featuring AC line protection and seven power outputs. These devices can be used by themselves, activated via local or remote control or included with a more extensive power sequencing system. In a typical sequencing system the rack mounted CQ is used to control power to the signal source or “front-of-house” equipment before power is applied to amplifiers. In this configuration, the initial CQ in the series is connected by way of RJ45 modular cable to another CQ device at that or another location. No time delay settings or additional equipment are required. All CQ units will automatically turn on and off in the proper sequence. Note: the CQ-1520 has a 20 amp capacity and requires a NEMA 5/20R AC receptacle for connection of the power cord to the main AC power.

The CQ-1515 and CQ-1520 feature three sequenced duplex receptacles and one unswitched single AC receptacle on the back of the chassis. Each duplex has its own preset turn on and off timing. Because the CQ activates its outlets in three stages it is useful as a stand-alone sequencer. Signal source and processing equipment can be powered by the first sequence stages while amplifiers are powered by the last ones. The CQ can be triggered by the switch on the front of the unit, by a remote contact closure or by a Juice Goose RC5 accessory.

Proven Power Protection

Published test results prove the effectiveness of the power protection circuitry contained in the CQ Series-RX and other RX Series based products.

This RX power protection technology is particularly valuable because it works against common mode as well as normal mode events. While it protects against dramatic surge events of up to 6,000 volts at 3,000 amps on hot and neutral (normal mode), it also limits ground line (common mode) surges to one-half (0.50) volt to prevent operating faults of digital processing equipment.

Power protection circuitry in the CQ Series-RX includes a differential transformer, lots of filtering capacitance and control circuitry providing protection from dangerous surges, high frequency interference, building wiring faults and over voltage. RX technology is proven to deliver protection comparable to an isolation transformer.

Controls and Monitors

All CQ products can be controlled by way of 8 wire, RJ-45 cable. (Consult the CQ Series Owners Manual before assembling the cable.) Each CQ has a *Sequence Signal Input* and *Output* connector on the chassis which allows daisy chaining multiple CQ devices in a power sequencing system. Sequencing between two CQs is controlled by a nominal 8 VDC “Outputs Active” circuit between the units which is regenerated with each CQ module. There is no limit to the number of CQ devices that can be connected and no practical distance limit between them.

The system can be activated with the sequence control switch on the CQ device itself or a Juice Goose RC5 control accessory. The sequence process can also be initiated with a latching contact closure, enabling use of a custom mounted single pole switch, a relay or processor based controllers from Crestron, AMX or other manufacturers. The standard two second delay in a CQ 1515-RX or CQ 1520-RX can be adjusted by changing DIP switch positions on the CQ circuit board. See the product manual for additional information.

The CQ Series-RX models feature a two position switch on the front of the chassis. This switch is active only if there is no control cable on the *Sequence Signal Input* connector. When active, this switch causes the unit to turn outlets on or off in sequence and to control the sequencing of any unit connected to the *Sequence Signal Output* connector. A Manual Override switch allows the CQ to be manually operated, overriding the control circuit in the unlikely event of a fault or failure. LEDs on the front panel show status of sequence processor, surge protection and AC outlets on the back.

Specifications

Chassis.....Tour Class ^(tm) 16 gauge steel with 11 gauge rack mount brackets
Dimensions.....1.75”H x19”W x 7”D
Weight.....10 lbs
Circuit Breaker (thermal on back of the chassis).....15A or 20A

AC Power Filtration @ 30 MHz.....80dB Common Mode, 60dB Normal Mode
Transient Energy Absorption.....1,020 Joules
Max AC Surge Let Through.....10 Volts Normal Mode, 1/2 Volt Common Mode (Ground)

Number of Sequence Events.....Three
Power Input (seven foot power cord).....12/3 SJ with 5/20P or 14/3 SJ with 5/15P
Power Outputsix sequenced 5/20R or 5/15R and one unswitched 5/15R

Input Voltage.....US standard (120 VAC @60Hz)
Signal Connections.....RJ-45, eight wire cable

Monitor LED Features

POD 1,2,3.....Blue indicates power activation
Processor

Blue/Red Blinking.....Sequencer and surge protection are functioning
Red Blinking.....Surge protection fault
Solid Blue or Off.....Sequencer fault



CQ Series-RX Back

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