JUICE GOOSE ™

CQ15 Series
SEQUENCED POWER CONTROL

CQ 1515 and CQ 1520

GENERAL DESCRIPTION
The Juice Goose CQ-1515, CQ-1520 and other CQ Series models provide a convenient and economical means of remotely activating AC power to turn audio equipment and similar components on and off in a proper sequence. CQ Series products need no additional controllers or programming. Each contains the circuitry to be activated by another CQ, an RC Series accessory or a simple contact closure. When connected with control lines each will automatically turn on and off in coordination with other CQ devices. All power down sequences are exact reversals of the power up sequences.

OPERATION
The CQ-1515 (15 amp) and CQ-1520 (20 amp) are rack mount, plug-in models featuring AC surge protection and seven power outputs. They can be used by themselves, activated via remote control or included with a more extensive power sequencing system with other CQ units. In a typical audio system the rack mounted CQ is used to apply power to the "front-of-house" equipment before turning on amplifiers. The first CQ in the series may be linked by way of eight wire modular cable (RJ45) to another CQ device. No time delay settings or additional equipment are required. All CQ units will automatically turn on and off in the proper order.

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 latching contact closure (including those available from processor based controllers such as Crestron) or by a Juice Goose RC5 accessory.

CONTROL LINE CONNECTION
Each CQ unit has a *Sequence Signal Input* and *Output* connector on the chassis. Coordinated activation is achieved by "daisy chaining" all units output-to-input using 8 wire, RJ-45 cable. Design of the CQ control cable is similar to but not identical to Ethernet cable. Consult the CQ Series Owners Manual before assembling the cable. This control link allows any CQ device to be installed at any stage in a power sequencing system. Sequence timing 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.

SEQUENCE TIMING
Standard delay time between sequence up and sequence down events is 2 seconds. That can be adjusted in the CQ 1515 and CQ 1520 by changing position of two DIP switches located on the main control circuit board. Timing options are 2 seconds (standard), 10 seconds, 20 seconds and 30 seconds.

CONTROLS AND MONITORS

The two position switch on the front of the chassis 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 one or more CQ units 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.

The *Processor* LED light on the front panel will blink alternating blue and blue/red to indicate surge protection is in place and the CQ control processor is working. If surge protection is lost the *Processor* LED will blink on and off red. A solid red indicates a fault with the processor, but surge protection is still functioning. The *POD* lights are illuminated blue to indicate activation of the duplex receptacles on the back of the unit.

POWER PROTECTION

The CQ-1515 and CQ-1520 feature replaceable, fast acting, triple stage AC surge protection across line and neutral. This protection is designed to be durable and is expected to last for many years in a normally occurring power line environment. Should the surge protection fail due to excessive surge exposure or an extreme power line event the Processor LED on the front of the CQ will blink red. To replace the surge protection module unplug the CQ and follow directions in the product manual.

DETAIL 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)
    CQ 1515..15 Amp
    CQ 1520..20 Amp
Replaceable Surge Protection
    Design……………….............Triple MOV surge protection hot and neutral. No ground contamination.
    Maximum Clamping Voltage………………………………………………......340 Volts @ 100 Amps
    Energy Absorption………………………………………………………….…...300 Joules
    Peak Surge Current (Single Pulse)……………………………………….………10,000 Amps

Number of Sequence Events………………………………………………………...…………....Three
Sequence Delay (seconds)……………………………………………………Selectable 2, 10, 20 or 30
Power Input (seven foot power cord)
    ....CQ-1515 14/3 SJ with NEMA 5/15P plug
    ....CQ-1520 12/3 SJ with 5/20P (requires a 5/20R receptacle)
Power Output (plus one unswitched NEMA 5/15R on back of the chassis)
    ....CQ-1515 six sequenced NEMA 5/15R
    ....CQ-1520 six sequenced NEMA 5/20R
Input Voltage………………………………………………………………..…..US standard (120 VAC @60Hz)
Signal Connections………………………………………………………………........…….RJ-45, eight wire cable

Monitor Features
    POD 1, 2 and 3……………………………………………..……..……………..Indicate power activation
    Processor
        Blue/Red Blinking…………………….……...Processor and surge protection are functioning
        Red Blinking.……………….……………………………………..……….Surge protection fault
        Blue Solid or Off.………………………………………………..…………….…..Sequencer fault

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