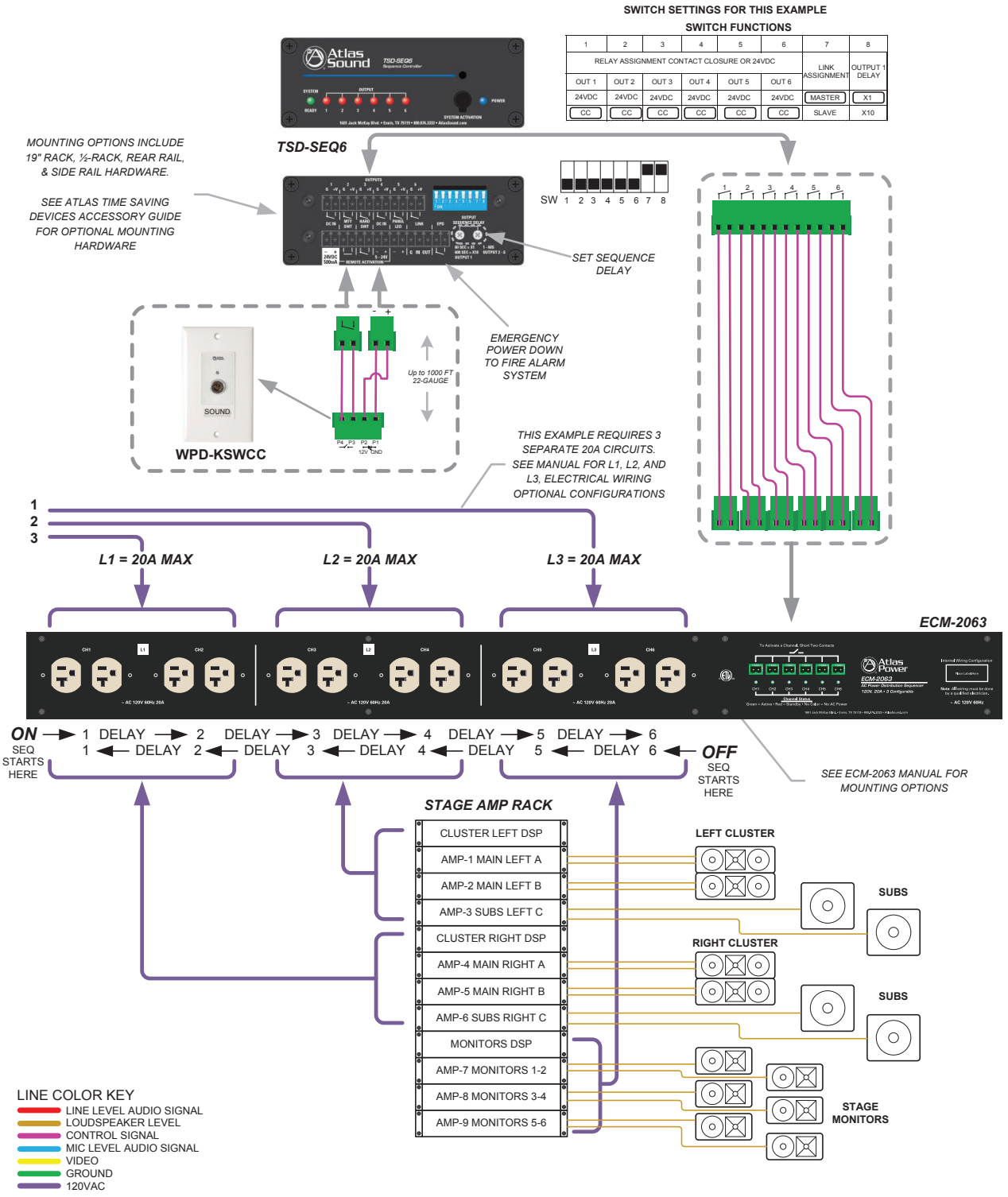
Using an ECM-2063 Raceway and TSD-SEQ6 in a High Current Application



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Overview:

Power Management by sequencing the turn-on and turn-off of the AC power is essential and convenient in any sound system where separate mixers, processors, and amplifiers are deployed. The most common cause of system damage to speakers and drivers is not sequencing the power when turning components Off and On. Sequencing in this example involves automatically turning on the AC power to the speaker amplifiers after the mixer and processors have been powered On and settled into stable operating mode. In reverse, turning Off the AC power to the speaker amplifiers first, so the preamps and processors won't thump or pop through the speakers as they shut down. In addition sequencing the power will avoid tripping the main breaker by eliminating sudden current draw by turning the largest current drawing pieces of equipment On or Off one at a time.

Application Example Description:

This example illustrates the use of a TSD-SEQ6 to sequence the power outlets on an Atlas ECM-2063 for an on-stage amp rack. The ECM-2063 features a total of 12, 120VAC outlets that are divided into 6 sections. Each section is activated by wiring the six-contact closure outputs on the TSD-SEQ6 to the trigger ports on the ECM-2063. The ECM-2063 in this example is dedicated to the power amplifiers and speaker management DSP for the left and right speaker clusters along with subs and stage monitors. With nine high current power amplifiers in one rack and three DSP processors, this application requires wiring each ECM-2063 section to 3 individual 20-amp circuits. The TSD-SEQ6 will turn on the amplifiers, one pair at a time in each section to help reduce in-rush current. Activation of the TSD-SEQ6 is handled using a key switch wall plate mounted at the Front of House mix position. In this example, the Front of House engineer has manual control over the remote stage amplifier rack so mixer set-ups can be completed without requiring the main speakers to be turned on. The TSD-SEQ6 can also be tied into a Front of House equipment rack power sequencer, like the Atlas ECS-204. Connecting the TSD-SEQ6 to the Sequence 4 output on this unit coordinates power ON/OFF of the entire system using a key switch to provide security so the speakers cannot be damaged accidentally.

Application Example Notes:

1. Dip Switch settings for TSD-SEQ6 delay timing is set by turning the time delay pot on the rear of the TSD-SEQ6 until the delay time between steps desired is reached. There is also a range selection for extended time delay. See manual for detailed setting instructions.

2. TSD-SEQ6 can be mounted in the rack on the rear rail, see manual for mounting options that best suit your application.

3. 120V Circuit loads will vary widely in different applications depending on the equipment used. This example is meant to show that up to three 120V circuits can be used with the ECM-2063.

4. Always coordinate the electrical needs with a licensed electrician or the project electrical consultant before finalizing the design.

5. Proper grounding and phase is essential for performance and safety in this or any audio/video system where multiple rack locations are deployed and connected together with signal cables.

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