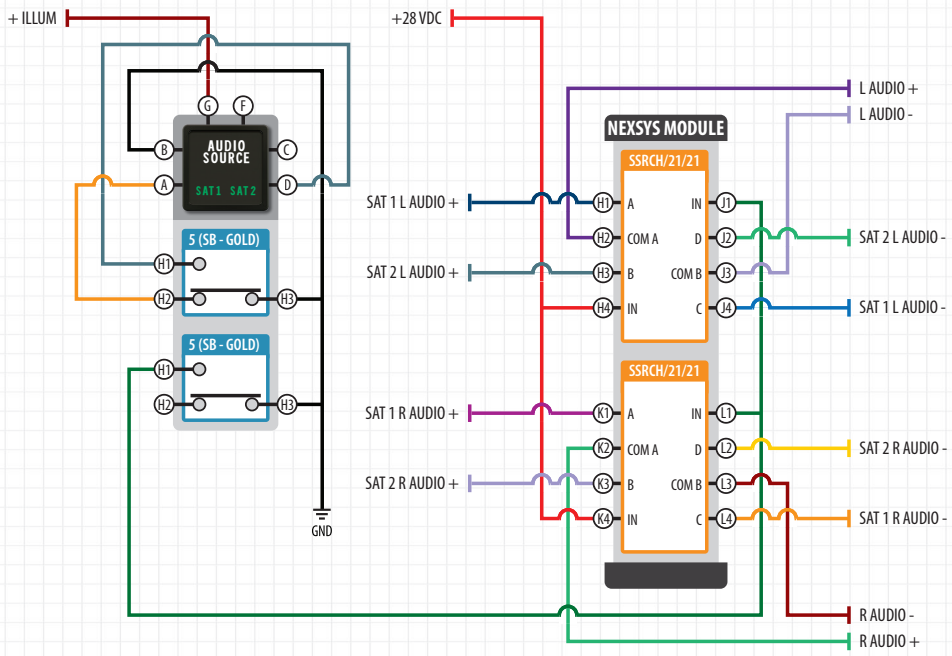
Audio Switching

This application diagram depicts an annunciator that selects and indicates the active audio source as determined by the position of the built-in alternate action switches. The switches control external relays which allow signals of the selected audio source to be sent to downstream systems.

The design uses a single annunciator that has a VIVISUN Compact Body which houses two alternate action switch poles, and a standalone NEXSYS module which houses two NEXSYS Combination Solid State Relay (SSRC) components. The SSRCs are both configured as 28 VDC (H) dual common components with each common connected to a normally closed (2) and normally open (1) contact (SSRCH/21/21). The alternate action switches control both the indicated state and SSRCs. The SSRCs control the left (L) and right (R) audio signals by switching based on the selected source.

The AUDIO SOURCE (B) indicator is always illuminated via connection to ground. The default state has source SAT 1 (A) selected via the normally closed (A2 & A3) contact of the upper alternate action switch. In this state, both SSRCs are de-energized. This allows the SAT 1 L AUDIO+ and AUDIO- signals present at the normally closed contacts A (H1) and C (J4) to pass through COM A (H2) and COM B (J3) of the upper SSRC. Similarly, the SAT 1 R AUDIO+ and AUDIO- signals present at normally closed contacts A (K1) and C (L4) pass through COM A (K2) and COM B (L3) of the lower SSRC.

When the alternate actions switches are pressed, the SAT 1 (A) indicator turns off and the SAT 1 (D) indicator turns on via the normally open (A1 & A3) contacts of the upper switch. At the same time, a ground signal passes through the normally open (B1 & B3) contacts of the lower switch which energizes both SSRCs (J1 & L1). This causes the normally closed contacts A (H1 & K1) and C (J4 & L4) to open and the normally open contacts B (H3 & K3) and D (J2 & L2) to close. This allows the SAT 2 L AUDIO+ and AUDIO- signals present at contacts B (H3) and D (J2) to pass through COM A (H2) and COM B (J3) of the upper SSRC. Similarly, the SAT 2 R AUDIO+ and AUDIO- signals present at contacts B (K3) and D (L2) pass through COM A (K2) and COM B (L3) of the lower SSRC. Pressing the alternate action switches again will return the system to the default state.



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