Assignments During NAB

NAB Attendees

Take notebook. Want report on what you learned. 60 points.

Those not Attending NAB

Parts room organization. 60 points. Possibility of up to 40 extra points.

VIE-306 Circuit

Brandon's assignment.

Party line. On a channel, hear everything that happens on that channel.

Customarily channel 1 is production (cameras, floor person), channel 2 is engineering (cameras, lighting, audio, recorder).

Three pages of handouts (one is two-sided).

Instead of giving cameras a third channel, system provides isolation to isolate cameras from the rest of the system.

Page 1 of Handouts

Two connections from 802 to VCP-6 (the control panel with the 8 buttons on it).

At bottom connector (J1 – not labeled), have pins 3 and 4. K1 is a relay. The coil for this relay is somewhere else. When select cameras with push button, that relay closes. Signals to the 802 to isolate itself from the system. Audio appears on pins 4 and 5 of the 802, audio continues over to pins 2 and 3 of the VCP-6 (TB2).

Switch Board Handout

What's on right side? Indicator lights built into the push button switches. 14 VDC connected to one side of light bulbs. How do they dim the lights? Dropping the voltage via the dim bus. Two Zeners (3.3v at 5 watts each). Lamp designed for 12 volts runs on substantially less. 14 – (2 * 3.3) – 0.7 = about 6 volts.

See switches in middle of page. When two are numbered the same, they are both part of the same switch. We can see single throw double pole switches here. If close S1, both S1 close.

The left column of switches S1 through S6 are like an OR gate. On the left, the left of J1B pins 4 and 5 put a transformer; on the primary of the transformer comes the audio from the 802. If close switch S1 through S6, audio goes to pins 7 and 8; this is ISO audio.

Look at other S1 (right column). What happens when close S1? Negates effect of the dim bus, which will make DS1 brighter. Line running down to J2 pin 1; this pin gets a ground.

Priority Handout

Come into J1 on left. If ground pin 15 if J1, what happens to K1? It will energize. Notice contacts for K1 to right of J4. What happens if K1 closes? Connects pins 7 & 8 and 14. Audio goes through T1 at left middle (same balanced audio as is coming out of 802); transformer converts audio to unbalanced. Notice the load resistor R1. Audio comes into pin 7 of the contact at K1. Routes audio to T4 (still unbalanced). No DC voltage in the path from T1 secondary to T4 primary.

R4, C7, U1 wets the audio before sending it out through J5. U1 is a regulator. Can choose to send audio out dry or wet.

If let up on switch and release ISO, what does the camera user station revert to? It connects to the rest of the system (it isn't isolated anymore). Where does the audio come from that is not isolated (from the rest of the system)? J4. If the relay was open, it would connect pins 1 and 14 on K1. Audio from pin 2 of J4 through to T4.

Why are K13, K7, and K1 in tandem? Why three relays like this? Allows another isolate panel somewhere else. K1 is first priority. K7 is second priority, K13 is third priority. This implements a priority system. Second priority might be the TD. First priority might be the camera engineer.

Switchboard

What's significance of having audio come through switches? To turn audio on. Then, goes out the switchboard and into the VIE (out J2 pins 7 and 8), which then gets a plug depending on what priority gets assigned here. These are the dangly extra plugs on that VIE that we wondered why they were extra. They allow the engineer to choose what priority to apply to the switchboard.

Schematic Conventions for Switches and Relays

When draw schematics, it is as if nothing is energized. So, relay switch contacts for a single pole, double throw switch are drawn as if they are not energized. Switches are drawn open by convention.

Lab

Take inventory of some recent donations.