AES PNW Section Meeting - Zoom Chat Log
2022 Dec 05 - Eddie Ciletti, A Repair-centric Approach to Audio Gear Repair?
Is there a shortage of technical expertise to meet demand?

Times are USA-CST

20:06:43 From Micah Hayes : 1/2 time Audio/Visual position at SPU (around $25 an hour):
20:06:44 From Micah Hayes : https://spu.interviewexchange.com/jobofferdetails.jsp?JOBID=156291
20:09:39 From Steve Turnidge : !!!!!!!!
20:50:51 From Steve Turnidge : So far so good!
20:55:08 From Alan Fierstein : Hey Eddie, speaking of switchers, do you ever work on smd's on PC boards? Or do you just say get a new one?
20:56:14 From Dan Mortensen : Question about switching power supplies: I *think* that the PS's for digital consoles (all? many? some?) are switching. They do not offer backup power supplies for those consoles, which has been concerning to me but not an issue so far. Are those PS's more reliable than the other type?
20:58:50 From Alan Fierstein : I used to build my supplies with slow rise.
21:00:03 From Wayne Edwards : re Dan: "it depends....". Switching PS have a lot more parts, so more opportunities to fail. Linears have their possible issues too. Mostly comes down to how good is the design?
21:03:38 From Bob Smith : Power Supply design is responsible for 50% of the performance of any audio device. Better designers allow much higher component design margins and also account for high initial currents during power on sequence. This, of course, costs more money which is reflected in the end product price point.
21:04:12 From Graham Gibson : So, I buy a scope. How do I manage the ground hookup - cheater, diff probes? What I the best practice?
21:05:49 From alangarren : It dissappeared
21:06:04 From michael swanson : what are some of the symptoms of a bad PSU vs. some other failure?
21:06:43 From Bob Smith : Differential probes are best practice to connect oscilloscope to Bridge Tied Load amplifier outputs.
21:08:39 From Rick Chinn : you can get pdf versions of the RCA tube manual from Pete Millet's website. (google search for it)
21:09:08 From Thomas Maguire : I like my Tektronix fet differential and high voltage differential probes and my 3H 5 channel active load.
21:13:23 From Thomas Maguire : ADA4000A and PS5200A
21:13:30 From Alan Fierstein : for best reliability, when the old analog linear supply has it, set the power supply input

voltage to 127 rather than 110 or 115 volts.
21:14:27 From Pete Eggebrecht : ON UREI 1176 various circuit designs were used.
21:15:02 From Pete Eggebrecht : Did they sound different
21:16:36 From alangarren : varyingly so
21:18:33 From Rick Chinn : also all-american 5 radios should be run with an iso transformer
21:19:15 From alangarren : yes
21:21:00 From Dan Mortensen : You should be able to unmute yourself to ask a question/make a comment.
21:45:18 From Dan Mortensen : Another thing would be: Will fixing stuff in the future be different than it is now, fixing vintage stuff?
21:46:01 From Steve Turnidge : Eddie, can you talk about the magazine articles you wrote over the years?
21:46:09 From Dan Mortensen : It would seem like having a pile of resistors and capacitors to fix things is one thing, but now with modular objects you have to replace modules rather than components..
21:51:53 From Alan Fierstein : I think it's all going digital and virtual, the techs are in a few years not have nearly as much work. Popular Electronics magazine is a thing of the past, as are all the big kit companies Eddie was talking about.
21:53:34 From Dan Mortensen : Thanks, Alan. So will future tech repair people still be mostly working on vintage gear that needs to be pampered?
21:53:53 From Thomas Maguire : cap post mortem: Analog Discovery 2: 100MS/s USB Oscilloscope, Logic Analyzer and Variable Power Supply
410-3211$399.00 USD$399.00 USDImpedance Analyzer for Analog Discovery
410-3781$24.99 USD$24.99 USDBNC Adapter for Analog Discovery
410-2631$19.99 USD$19.99 USDSubtotal:$443.98 USDDiscount:-$239.40 USD
21:54:16 From Dan Mortensen : That gear will likely never go away, if people can keep fixing it.
21:55:55 From Alan Fierstein : I agree, and they'll mostly have to be good with computers, software and interfaces.
21:56:17 From Thomas Maguire : and an LC-102
21:56:19 From Bob Smith : Personally I prefer a Picotech 5243b USB oscilloscope, 16 bit vertical resolution to 100 MHz. Very useful for audio work.
22:01:10 From JD Wong : Thanks AES for putting this presentation together. Sorry but have to leave for work matters
22:01:38 From Jess Berg : Thanks JD!
22:04:31 From Bob Smith : Picotech 5243b
22:04:52 From Bob Smith : $1400?
22:05:06 From alangarren : Tektronics used digital
22:05:07 From Bob Smith : 16bit vertical resolutionb
22:05:28 From Steve Turnidge : https://www.picotech.com/downloads/_release-panel/picoscope-5243b
22:07:30 From Thomas Maguire : 16 bit at what bandwidth? I

was looking at the 14 bit diligent 4ch with 2 awg....
22:08:09 From Matthew Sutton : Nothing quite like an old - incredibly inexpensive - Tek analog scope
22:08:56 From Dan Mortensen : Would you like to elaborate about that Tek analog?
22:09:10 From Ed Blackwood : My favorite analog scopes are the 2465B and 2467B's. I also use an old scope set up with an "Octopus Component Tester".
22:10:02 From Dan Mortensen : Asking for a friend: How do you learn to read a schematic?
22:10:23 From Matthew Sutton : Lots of 1980s-1990s vintage Tektronix scopes are on ebay for just a few hundred dollars. For most audio signals, these scopes are much more useful, in my experience
22:11:03 From Dan Mortensen : That would be a good point to make and elaborate upon.
22:11:55 From Ed Blackwood : Jim Williams "Vintage Scopes Are Better". Here is Part 1 of several parts: http://readingjimwilliams.blogspot.com/2012/02/vintage-scopes-are-better-part-1.html
22:12:34 From Ed Blackwood : I use (2) Tektronis 2465B's.
22:12:36 From Alan Fierstein : Reading Schematics- just Google your exact question. I'm sure you'll find tons of tutorials
22:12:36 From michael swanson : what are some entry level signal generators/
22:13:16 From Rick Chinn : the only thing my digital scope has over my analog scopes is portability.
22:13:50 From Rick Chinn : my digital scope has jaggies, but it was cheap.
22:15:54 From alangarren : entry level generator for many people is pro tools
22:16:15 From michael swanson : mmm what about that dedicated HW?
22:16:22 From Bob Smith : To augment, the 5243b has a signal generator and also performs spectrum analysis.
22:16:39 From Christina Masha Milinusic : Alan, indeed. I need to google the history of Urei and Universal Audio too…
22:18:05 From alangarren : My everyday generator is a hp function generator 3312 I think. Includes a square wave gen
22:18:36 From Steve Turnidge : Thanks Luke!
22:19:17 From Dan Mortensen : Looking up “How do I follow signal flow in an electrical schematic diagram?” one of the responses: https://www.circuitbasics.com/how-to-read-schematics/
22:19:23 From michael swanson : cool thanks alan
22:21:09 From Steve Turnidge : I always loved your articles...
22:22:27 From Ed Blackwood : Here is a link to free pdf copies of back issues of Mix magazine: https://worldradiohistory.com/Archive-All-Audio/Mix-Magazine.htm You can also do a search using the "Search All Issues of Mix" icon.
22:22:56 From Christina Masha Milinusic : Thanks Dan and Ed.

22:23:08 From Christina Masha Milinusic : and Eddie!
22:25:46 From Ed Blackwood : Caps and Op Amps: Analog Maintenance and Upgrade Considerations by Eddie Ciletti Mix October 2000 pgs 48-50. https://worldradiohistory.com/Archive-All-Audio/Mix-Magazine/00s/2000/Mix-2000-10.pdf
22:26:43 From Ed Blackwood : The Tech's Files: Analog Maintenance and Upgrade Considerations; Locating Parts, Improving and Ground Distribution by Eddie Ciletti Mix December 2000 pgs 114, 116, 118 https://worldradiohistory.com/Archive-All-Audio/Mix-Magazine/00s/2000/Mix-2000-12.pdf
22:29:04 From Matthew Sutton : Thanks everyone, but I have to go.
22:29:21 From Dan Mortensen : Good to see you, Matthew
22:29:32 From Rick Chinn : see ya bye matt
22:29:39 From michael swanson : same... thank you! great stories and tech talk
22:31:07 From Randy Karl : Thanks! Have to go
22:31:36 From Dan Mortensen : Thanks, Randy!
22:31:39 From Bob Smith : Thank-you Eddie, Luke & Dan for an excellent AES meeting. I have to give a zoom presentation to corporate tomorrow and need to run now,
22:32:07 From Dan Mortensen : Take care, Bob. Good luck tomorrow.
22:39:03 From Dan Mortensen : We're approaching the witching hour (not there yet, though); would you want to talk about how to approach troubleshooting a problem?
22:39:39 From Dan Mortensen : In general.
22:44:33 From Dave Quick : I have to go. Thank you Eddie.
22:44:51 From Dan Mortensen : Thanks, Dave, glad to have you with us.
22:52:25 From Jess Berg : Thank you Eddie and everyone here! See you next time, I gotta early am. Happy Holidays!! 🙂
22:52:54 From Dan Mortensen : Thanks, Jess!
22:55:31 From alangarren : all of the above
23:00:51 From Luke Pacholski : brb
23:00:55 From Jayney Wallick : Glad you could make it Jess, hope to see you again soon!
23:01:23 From Ed Blackwood : Thomas and Eddie, Do either of you use any old Quan-Tech noise test sets or Radiometer/Dandbridge component linear testers (CLT's)? The CLT's measures third harmonic index and is also a good predictor of reliability.
23:02:47 From Ed Blackwood : I have several Quan-Tech's.
23:02:57 From Steve Wilkins : Thanks
23:04:07 From Chris Myring : Thanks, Eddie. I was interested in your opening remarks re customer interaction.
23:05:16 From Cary Wakeley : I worked with Cal at Mackie a bit. A very smart man. Cal Taylor and I thank you all for a great meeting.
23:08:10 From Ed Blackwood : Cary Wakeley are you related to Johnny Wakeley?

23:11:10 From Thomas Maguire : hahaha
23:11:20 From Cary Wakeley : No Ed. But I met him at American Music Seattle when I worked there.
23:16:59 From Charlie Fox : Thanks Eddie and Pacific NW AES. Nice to hear the story about EQ and Hector, Both of you bright lights in the audio world.
23:17:18 From Dan Mortensen : Thanks, Charlie
00:04:27 From Christina Masha Milinusic : Passed my bedtime. Thanks for the interesting meeting. Take Care!
00:05:54 From Jayney Wallick : You too Christina, many thanks for joining us, and please come back again!
00:15:34 From Thomas Maguire : The bode plot and phase margin of the Sansui w/ 4mhz parts should be more revealing than the distortion spec.
00:21:13 From Ed Blackwood : Relationships Between Values of Capacitance Measured by the Sencore LC53 ‘Z Meter and Other Standard Techniques by Dr. Jerald A Tunheim PhD 98 pages, final report submitted to Sencore Corporation, September 30, 1985.