

## R-390 Reflector May '03 Edited

From r.tetrault@attbi.com Thu May 1 00:37:21 2003  
Subject: [R-390] Gear train lubricants

Other than age, there is no problem. At the time these manuals were written, that was the best available. As well as being Qualified for Mil use, which means they were probably years older than the 390 when they were qualified. Now there are VASTLY superior lubricants in a range of choices that defy this list's ability to qualify. I've mentioned the Tri-Flow brand of Silicone with Teflon grease and Red-Line synthetic gear lube, others prefer something more crepuscular. YMMV & TANSTAAFL, Bob Portland, OR

From smithw@WPI.EDU Thu May 1 00:54:27 2003  
Subject: [R-390] Balanced and Unbalanced antenna leads.

Hi, The r390a that I own had a simple mod done to it, usually Cable p207 goes to j107, p206 to j106 and p205 to j105... mine has p205 to j106 and p206 to j105... one of the balanced going to the unbalanced-in and the unbalanced going to the balanced-in...

Schematic Dia fig 5-13 shows the radio with either configuration...

Which one is right? At the moment the reciver is basically deaf from the balanced input with the cables either way but hears fine from the unbalanced whip input. Thanks -Bill KE1GF

From jlkolb@cts.com Thu May 1 01:40:37 2003  
Subject: [R-390] WTB 16 kHz Filter

wrote: > Anybody have a working 16 kHz filter to part with? > Jim N4BE

Aell, yes, as a matter of fact I do, listed on my new web site I've put up in the last two days.  
<<http://members.cts.com/king/j/jlk>>

Info on Mechanical Filter testing, Kokusai filter repair, my For Sale list, with more to come as I learn more about html. Please let me know if you have any problems with it. John

From jamesmiller20@worldnet.att.net Thu May 1 02:39:19 2003  
Subject: [R-390] WTB 16 kHz Filter

John I get a "Page Cannot Be Found" error when I try your page. Also, I think I found the problem, I hope. I reheated all the solder joints on the filter and while doing so noted that a bare wire from one of its pins was barely touching the metal case... I think it was shorting to ground as the case heated and expanded and contacted the wire..., or possibly a bad solder joint. Anyway it has been working without failure for a couple of hours now. Knock on wood. Thanks, Jim N4BE

From pha@pdq.com Thu May 1 03:02:55 2003  
Subject: [R-390] Meters

R-390/R-391/R-390A carrier meters are 1 MA FS, 17 ohm, as far as I know. R-392 meters are 27 ohm, again as far as I know. I'm sure there is some variation.

I was lucky to snag a small bunch of 5.6 ohm 1MA FS meters, which just need a small inline resistor to approximate 17 ohms.

Some of the simpson 100 ohm 1MA FS meters have an internal shunt resistor that can be bridged, giving a new resistance that is much lower.

The meters are radioactive, and you should be careful, but it ain't plutonium. I remember having some radioactive isotopes in my 7th grade science class. Paul

From hankarn@pacbell.net Thu May 1 04:25:53 2003  
Subject: [R-390] Meters...

What a bunch of worry warts. How many 1,000's of guys were around them for 50 years and "DO YOU KNOW OF ANY STERILE OR MIS FORMED OLD OPS?" No way. I flew over the AEC test site for 2 years in Airborne Radiation Monitoring Service (ARMS) wearing a dosimeter to measure 4 different forms of radiation plus all of the instruments in the aircraft with never an excessive reading on the bi monthly dosimeter checks. I can assure you that there is no way to exceed the annual allowed M-roetgin (sp) readings.

My ROLEX wrist watch has a tare count of 185 Mr on a 18" photomultiplier tube used for setting ZERO prior to flight and then an hour flying over our calibration site near Pahrump, NV to ZERO the plane prior to tracking a leakage event and or tracking all on the nuclear sites in the USA.

So send me all of you hot bad meters and let me clean and store them in all of my 30 plus R-39XX radios.

This has been covered numerous times. Please show proof of damage from meter exposure PERIOD  
Hank KN6DI

From fhaney@inteliport.com Thu May 1 04:58:41 2003  
Subject: [R-390] Gear train lubricants

**Try "SuperLube" also available at Radio Shack as "Lube Gel" in 3 oz tube....goes a l o n g way.**

**Superior adhesion-stays where you put it.....non-toxic/non-corrosive. Won't wash off, disperse, break down or turn rancid. Does not attract dust or other contaminants. Impervious to salt and fresh water. All temperature use, -45 degrees to +450 degrees F. Non-conductive.**

**I've used it on lots of stuff from sailboat winches to electronics. Leave the dinosaur lubricants to the dinosaurs. 73, Fred AC4IC**

From ToddRoberts2001@aol.com Thu May 1 05:29:22 2003  
Subject: [R-390] WTB 16 kHz Filter

To get John's page to come up use this address: <http://members.cts.com/king/j/jlkolb/> 73 Todd D4NGG

From jlkolb@cts.com Thu May 1 05:36:25 2003  
Subject: [R-390] WTB 16 kHz Filter

wrote: I get a "Page Cannot Be Found" error when I try your page. Thanks for the feedback - darn, don't even know my own name It should be <<http://members.cts.com/king/j/jlkolb>> > Also, I think I > found the problem, I hope. I reheated all the solder joints on the filter

Sounds like a cure. Reheating might fix even a poor connection inside the filter, although I once saw a filter where one of the wires had never been soldered to the inside end of the terminal. No proper cure for that without opening the filter. John

From ba.williams@charter.net Thu May 1 14:20:27 2003  
Subject: [R-390] Meters...

Hank, It has been covered, but we get new members who have questions. Something new always comes out of this stuff. Fer instance, we never knew that you flew those AEC missions. Pretty interesting to read about, only you didn't mention what you flew. Barry

From cbscott@ingr.com Thu May 1 14:29:52 2003  
Subject: [R-390] Re: Refinishing meters

Roy, Well, I got quite a surprise last night. I got the room completely dark and looked at the meters. Nothing. A minute passed. What's this? A faint glow?? Several more minutes passed and to my surprise, all four meters glow! It's faint, but it's there. Presumably the stuff they coated it with that did the actual glowing is all but gone but they still do glow however dimly.

I had tried this before, but I didn't wait to let my eyes adjust. Very interesting. Is it possible these are not radium-caused effects but simply a process that absorbs light and then glows for a while? I doubt it... I plan to do some photography (the camera should pick up what my eyes don't). Thanks for the info.  
Barry(III) - N4BUQ

From Dave\_Faria@hotmail.com Thu May 1 16:53:48 2003  
Subject: [R-390] R-390 Spectrum Analyzer

I have a Singer Spectrum Analyzer and I want to use it with my 390. The unit needs some restoration work. Is there a group list or someone on the 390 list who would not mind questions as I do the work??  
Thanks Dave Faria

From rbethman@comcast.net Thu May 1 14:51:37 2003  
Subject: [R-390] Meters...

The issue ISN'T simply the meters. The issue is OPENING them and getting inside them - thereby exposing the material DIRECTLY to the individual.

I am VERY well acquainted with the missions you were involved in. Worked for AEC for seven years myself, plus eleven years of reactor operations, maintenancs, and refueling.

The issue is alpha particles, while being the easiest to block, are the MOST damaging to the internals of the human body, i.e., ingested or inhaled.

As long as you USE the meters in their designed cases - YOU will have NO PROBLEMS.

This whole thread HAS BEEN REGARDING opening the case, and working on them or even removing the dial face. In regard to exceeding the max annual allowed dosage level - you can't do that even by working on the insides. BUT - would you care to inhale dust from plutonium , uranium, OR radium? That is the topic. Bob - N0DGN

From wb3akd@arrl.net Thu May 1 15:02:54 2003  
Subject: [R-390] Meter Radioactiity

Hit them with some black light. They'll really shine then, even when you turn off the UV. While this does not insure that they are radioactive, it'll prove that it's more than just paint.

My CDV-700 shows the Carrier level meters on the R-390's emitting about half the rate of the test source on the side of the counter (I'll have to doig around and see what that comes out to be as the test source has weakend over the yearsw) , and the line level meters emitting quite a bit less. The R-390A (EAC) emits nothing that I can measure. These were measured by putting the probe right up against the front of the meter fase with the window on the probe open. Meters were not disassembled. The R-392 also emits weakly.

For comparison, I've got an old Kollsman altimeter that puts out about as much as the test source and an Elgin Aircraft clock that emits nothing I can measure through the glass. Durn, I'm gonna have to set up the cloud chamber and see what this altimeter's sending out. Think I'll move it off the desk. 73 Tom WB3AKD

From roy.morgan@nist.gov Thu May 1 15:07:54 2003  
Subject: [R-390] Meters

wrote: There was >a procedure for measuring DC resistance without burning out the armature >coil. Probably can find it in the Pearls of Wisdom on Al's R-390A FAQ site.

In Summary:

- 1) Arrange a source of voltage with a current limiting resistor to make the meter read full scale. 1-1/2 volt penlight cell and a 1500 ohm resistor, for instance, would work for a 1 ma meter movement. If you use variable resistors, make sure you don't over drive the meter.
- 2) While the circuit is operating, put resistors in parallel with the METER until it reads half scale.
- 3) The value of the parallel resistance is equal to the internal resistance of the meter.

Note: R-390A line level meters are AC detecting and include an internal rectifier. They will deflect upwards with applied voltage of either polarity. Their resistance is likely non-linear to some degree, but the above method will give you an approximation of the overall meter-plus-rectifier resistance. Roy

From roy.morgan@nist.gov Thu May 1 15:11:32 2003  
Subject: [R-390] Gear train lubricants

wrote: >crepuscular

I had to look that one up at [www.dictionary.com](http://www.dictionary.com) crepuscular Pronunciation Key (kr-psky-lr) adj. (some parts of the key are missing.) 1.Of or like twilight; dim: the period's crepuscular charm and a waning of the intense francophilia that used to shape the art market<sup>94</sup> (Wall Street Journal). 2.Zoology. Becoming active at twilight or before sunrise, as do bats and certain insects and birds. Roy

From cbscott@ingr.com Thu May 1 15:12:30 2003  
Subject: [R-390] Words

Yeah, but now you have me wanting to look up "francophilia". Does it end? Barry(III) - N4BUQ

From Miguel Bravo" <[mbravoc@wanadoo.es](mailto:mbravoc@wanadoo.es) Thu May 1 16:53:49 2003  
Subject: [R-390] R-390 Spectrum Analyzer

Is the REC-1 Panoramic range extending converter?. I have a manual if you need something from. Miguel

From redmenaced@yahoo.com Thu May 1 16:56:57 2003  
Subject: [R-390] Meters...

Uh oh, she's on to us! Better go to a few football games or sit and watch TV for hours while drinking several beers so you'll appear "normal". Joe

From redmenaced@yahoo.com Thu May 1 17:00:07 2003  
Subject: [R-390] Meters...

wrote: > Hank, >> It has been covered, but we get new members who have > questions. Something > new always comes out of this stuff. For instance, we > never knew that you > flew those AEC missions. Pretty interesting to read > about, only you didn't > mention what you flew.

+++++

Yeah, don't forget, it's the new guys who ask all the leading questions while trying to understand what's going on. What other interesting details are you hiding, Dan/Hank? Joe

From richardlo@admin.athabasca.ca Thu May 1 18:00:57 2003  
Subject: [R-390] Meter Radioactivity

wrote: >> Hit them with some black light. They'll really shine then, even when you > turn off the UV. While this does not insure that they are radioactive, > it'll prove that it's more than just paint.

Quite correct, and Once more with feeling!

It is not the radium that glows, it is the harmless luminous paint. The radium is expected to stimulate the

molecules in the paint to make them glow so that you do not have to depend on outside light sources to get the paint all hot and bothered.

The totally evil news is that the luminous paint has pretty well lost its ability to glow (no matter how well it is stimulated) but the radium is doing just fine thank you very much and it will be just fine for centuries to come.

It is because of things like these uninformed conversations that the government removed the damn things. Stop giving the safety freaks a boost up like this! Richard Loken

From richardlo@admin.athabasca.ca Thu May 1 18:18:27 2003  
Subject: [R-390] Meters... and women

wrote: > Better go to a few football games or sit and watch TV > for hours while drinking several beers so you'll > appear "normal".

My wife recently picked me up at a swap meet and said, "Yuck, it smells like men in here." Must be pheromones, I couldn't smell a thing. Richard Loken VE6BSV

From cbscott@ingr.com Thu May 1 17:23:22 2003  
Message-ID: <697750C28DC0474ABF279ECB3979E37303C430BE@hq4>

Sounds like a no-win situation. I'm sure you would have been in trouble if the place had smelled like women... Barry(III) - N4BUQ

From r.tetrault@attbi.com Thu May 1 17:30:43 2003  
Subject: [R-390] Meters... and women

Rolling on the floor laughing! Twice!

From David\_Wise@Phoenix.com Thu May 1 18:05:03 2003  
Subject: [R-390] Balanced and Unbalanced antenna leads.

I didn't vet your cable swaps for correctness, but this sounds like a standard field mod that was done at some installations, primarily shipboard IIRC. Normally, the balanced antenna jack goes to the primary of the 1st RF transformer while the whip antenna jack goes to the (tuned) secondary. If you use a really long whip, the secondary is pulled so far off that the ANT TRIM control cannot compensate. In situations like that, the mod is done, which connects the whip to the primary and (not that anyone cares) the balanced input (which is no longer balanced) to the secondary. Now your whip will be treated as untuned. You also get a little more gain due to the transformer stepup. Basically, it saved them from having to use an external adaptor. For home use, I'd say it's only useful if your antenna coax ends in a C connector. 73, Dave Wise

From flood@Krohne.com Thu May 1 18:42:41 2003  
Subject: [R-390] Meters... and women.....AND TAGS!!!

Barry, and the crew, I have heard that such a mystical land of women and boat anchors exists but many a

man has been lost on that quest. However more important matters are at hand.

## TAGS

I was lucky to get at a very good price, a beautiful '67 EAC with meters, all covers, wonderful front panel, and to top it off a twinax to SO239 adaptor! 14MHz was dead but a quick poke inside the crystal case cured that problem. It was in recent use plays quite well and has replaced the older Amelco in my rack. (hope I didn't hurt the Amelco's feelings) Sadly the data tag is missing from the front panel. I know I can get a reproduction but was wondering, if all of you are not green with envy and now hate me, if some one has a lonely old '67 EAC tag looking for it's proper home. If so let me know what you want for it. John Flood

From bill@iaxs.net Thu May 1 19:02:00 2003  
Subject: [R-390] Balanced and Unbalanced antenna leads.

wrote: > Which one is right? At the moment the reciver is basically deaf > from the balanced input with the cables either way but hears fine > from the unbalanced whip input. >> Thanks > -Bill KE1GF

Dave Wise gave a good answer, but left the deaf balanced input.

If the plug and jack numbers match up, then the Balanced input really is balanced. This means that it rejects common mode signals. A single wire antenna, being unbalanced, produces a common mode signal that is rejected. That, or the plug is shorted.

Try a dipole antenna with one lead to each balanced input pin. Or, ground one pin and connect the long wire to the other. Regards, Bill Hawkins

From plmills@attglobal.net Thu May 1 19:43:22 2003  
Subject: [R-390] need BFO for R-390A

Anybody got one of the under chassis 10-turn BFO coils for an R-390A that they can part with cheap? thanks, Phil

From dpg@coe.neu.edu Thu May 1 21:02:02 2003  
Subject: [R-390] Re: Meters...

**Yes, the R-390 meters may be radioactive, but what about the PRC-47 meters that Fair radio has been selling as replacements? I sat in my closet for a half hour (live in the city, only room that gets dark enough) waiting for a glow. Nope, none.**

As for the meter dials, I'm thinking of taking the digital scans mentioned and having a print shop make me some custom adhesive labels. Just peel, stick, and reassemble.

Simple: Have the scans printed out onto a adhesive paper, either black on a white paper, or white on black paper. Cutout labels by hand. I'm told this is very cheap, and can be done at a Kinko's or Copy Cop.

Advanced: Have labels made with raised print (like on a business card) with white ink onto a flat black adhesive label material. Have labels laser-cut to fit the removable dial plate (including screw holes). I

like the 'advanced' option. If I get those made, I'll send an e-mail and offer the extras to all the people who have the PRC-47 meters. David Goncalves

From redmenaced@yahoo.com Thu May 1 23:23:06 2003  
Subject: [R-390] Meters... and women.....AND TAGS!!!

wrote: >> Barry, and the crew, >> I have heard that such a mystical land of women and > boat anchors exists but > many a man has been lost on that quest.

++++++

Lost? Well,... that would be a matter of perspective. Joe

From ba.williams@charter.net Fri May 2 00:50:19 2003  
Subject: [R-390] Meters...

> Uh oh, she's on to us! >> Better go to a few football games or sit and watch TV > for hours while drinking several beers so you'll > appear "normal". >> Joe

Or, collect cars/motorcycles. Wait a minute, some of us already do that. Barry

From ba.williams@charter.net Fri May 2 00:54:10 2003  
Subject: [R-390] Meters...

>> Hank, >> What other interesting details are you hiding, > Dan/Hank? >> Joe

I've kept a close eye on Hank's comments, and he has done a lot of flying. My measly 2500 hours are nothing next to his.

How about the Boss on that carrier landing today! That is something you would never see Slick Willie doing.

This is a good group, and I never mind newcomers asking dead horse questions. The more new owners, the more the hobby grows. Barry

From ba.williams@charter.net Fri May 2 00:55:31 2003  
Subject: [R-390] Meters... and women

Cat food. Enough said? Barry

From ba.williams@charter.net Fri May 2 01:15:41 2003  
Subject: [R-390] R-390 Spectrum Analyzer

> I have a Singer Spectrum Analyzer and I want to use it with my 390. The unit needs some restoration work. Is there a group list or someone on the 390 list who would not mind questions as I do the work??  
>> Thanks > Dave Faria

I'm not the list cop, but I would be interested. It would a good addition to a R-390. I hooked up a Heath

HD-1 Q Multiplier last month. Barry

From redmenaced@yahoo.com Fri May 2 03:07:42 2003  
Subject: [R-390] R-390 Spectrum Analyzer

wrote: > I have a Singer Spectrum Analyzer and I want to use > it with my 390. The > unit needs some restoration work. Is there a group > list or someone on the > 390 list who would not mind questions as I do the > work??

+++++

Speaking of which, I just got a TS-723 by UPS from California, I can't really call it shipping damage though it is, kind of. It was packed well enough I thought.

Every screw in it was shaken loose! The four-section air variable cap inside was hanging by one of the four mounting screws, two of the others were rolling around in the cabinet, the fourth was in the shipping box. This was attached by 1/2" long screws!! They had backed out in shipping.

All of the tubes have clamps to hold them in, but the bolts that hold everything else were all LOOSE!

This is the second piece of equipment to arrive with knobs floating around in the box, instead of being attached to the shaft by the TWO setscrews! This one had three loose knobs. Four screws missing from the front panel, found one, so far. Oh, yes, it did show signs of having been dropped on one bottom corner.

This why you should check all the grounding points in your radios. Amazing, Joe

From hankarn@pacbell.net Fri May 2 04:48:47 2003  
Subject: [R-390] Meters...

Slick Willie would have probably made the laundry lady very mad if it was even an idea of being trapped. If I was the LSO I would have given a WO and had the pilot eject and let slick willie find the handle, after 5 minutes of BS he would be shark bait. Hank KN6DI

From gwmoore@moorefelines.com Fri May 2 05:50:45 2003  
Subject: [R-390] Meters...

ROTFLMAO!!!!!!!! Gee, someone forgot to explain to Slick Willie that one actually has to FASTEN one's Koch fittings to the harness on the seat....that would be one unforgettable man/seat separation.....(hi[Big Evil One]) 73 de Greg WA3IVX / NNN0BVN

From mail08458@pop.net Thu May 1 09:21:23 2003  
Subject: [R-390] Meters...

Yes. Two of my R-390A's (Collins ~1955 and EAC ~1968) had little radiation stickers on the VU meter. I bought the Collins from a surplus dealer in Memphis c.1988, and the EAC was from Fair c.1995.  
Bryan Stephens KG4UPR

From djmerz@3-cities.com Fri May 2 17:38:15 2003

Subject: [R-390] R-390 Spectrum Analyzer

Joe, is the TS-723 the fore runner to the HP 333 distortion analyzers; if so is it useful to quantify the audio distortion of various 390/390a setups? Dan Joe Foley wrote:

From jtone@sssnet.com Fri May 2 22:38:59 2003  
Subject: [R-390] R-390 Spectrum Analyzer

Joe, May not be related but have been around overseas shipping containers that have traveled "a long long way"...the point is that when the containers were opened, it was not un common to see little piles of micro fine powder that had erroded from shipping internal shipping containres, packageing and product it self...It was never clear to me where that kind of vibration originated, and no one involved seem to be particularly interested in the phenomena either...??

Seems that is some way, some kinds of shipping can produce what I "speculate" is high frequency vibration that can produce the kind of situation u describe...Truck, ships, how or where...I have no explanaiton....but I've seen it... 73, Gene

From jtone@sssnet.com Fri May 2 23:49:05 2003  
Subject: [R-390] Meters... and women.....AND TAGS!!!

Joe...Have to agee...the quest is 90% of the fun....But if one is on the wrong quest...like chasing after plastic Sushi Boxes, Rice Boxes, QRP stuff and other wimpy stuff...well one's education has clearly been seriously neglected and in need of huge doses of Boat Anchors measure in hundreds of pounds.

Regarding women...now that is a great topic but the same rules apply...but the "Boat Anchor" classification might not just apply quite exactly here...again one must "adjust" your perspectives...but .... now lets get serious and ....get on with the chase!!

Gosh, it must be the fact that there is a boat anchor meet tomorrow...and it's Friday!! Yippeee.... 73, Gene W8KXR

From r390auser@cox.net Sat May 3 00:56:19 2003  
Subject: [R-390] FS SE-3

I have for sell a Sherwood Engineering SE-3 Synchronous Detector. The unit is complete with power supply wall wart and original documentation. It is in excellent condition and fully functional. The serial number is 4550223-A3. The price is \$475.00 plus shipping. Thanks, Kurt Holbrook Phoenix,AZ

From eldim@worldnet.att.net Sat May 3 01:28:46 2003  
Subject: [R-390] Meters...

THIS IS THE WRONG STUFF FOR THIS NET. Especially under the pretense of R-390 meters. SHAME ON YOU! 73, Glen Galati Tacoma, WA

From ba.williams@charter.net Sat May 3 02:36:13 2003

Subject: [R-390] Meters...

R-390 meters I would have punched out for sure, but not before I took a snapshot of the idiot's face as my canopy blew away. Let him find his handle? No way. It would have been removed before flight. The truth is, I would have refused to even speak to him, much less salute him or fly his lying, Commie loving butt around in MY Navy plane. Don't get me started on Sen Bruno Clinton. Barry (the shameless)

From frledda@attbi.com Sat May 3 02:46:04 2003  
Subject: [R-390] Meters...

List owner, please, stop this non-sense!

From jtone@sssnet.com Sat May 3 02:55:23 2003  
Subject: [R-390] Meters...

Barry, Hooraaa....keep the faith.... Gene

From ba.williams@charter.net Sat May 3 03:02:26 2003  
Subject: [R-390] R-390 Spectrum Analyzer

> Please share the details of your Q Multiplier hook-up with us. Thanks.

I hooked it up per Hollow State Newsletter #24. I tapped pin one of V204. It says that it won't affect anything, but audio is a bit lower with the HD-11. It works well when I need it. It won't do anything to a strong station, but it works very well on weaker ones. It pulls them right out. I haven't had to null much yet, but I have tried to null and 'flop' over to peak like I do on a Datong FL-3 on the RBL-5/Quantum QX Pro loop setup for LF beacons. It doesn't seem to be as sharp that way. On the Datong, I can catch a weak beacon in a mess of other ones, put it in null mode and null out the weak one that I want to ID. Then, I just hit the peak button and that station pops out louder and much, much better. The HD-11 is no Datong FL-3, but it is simple and works using two sides of a 12AX7. One side for nulling and one side for peaking. No coupling cap is needed. I think the voltage range is up to 300 vdc. You can get these things for around \$25, and it well worth the money to peak weak stations. I'm sure the nulling will be more valuable as I use it more. I have a QF-1, which is almost identical, but it needs something like 160vdc for power to the 12AX7. The HD-11 is easier to hook up. Barry

From ba.williams@charter.net Sat May 3 03:04:19 2003  
Subject: [R-390] Meters...

> ROTFLMAO!!!!!!!!!! Gee, someone forgot to explain to Slick Willie that one actually has to FASTEN one's Koch fittings to the harness on the seat....that would be one unforgettable man/seat separation.....(hi[Big Evil One]) 73 de Greg WA3IVX / NNN0BVN

I have a better idea. Let's put Bruno Rodham in that separating seat and film it. Maybe it would still be a man/seat separation??? Barry (the shameless)

From redmenaced@yahoo.com Sat May 3 03:18:15 2003

Subject: [R-390] Meters...

wrote: >> I would have punched out fer sure, but not before I > took a snapshot of the > idiots face as my canopy blew away. Let him find his > handle? No way. It > would have been removed before flight. >> The truth is, I would have refused to even speak to > him, much less salute > him or fly his lying, Commie loving butt around in > MY Navy plane. Don't get > me started on Sen Bruno Clinton.

+++++

On second thought, it just might be worth ONE Navy plane. Remember HE was the one that scrapped the SR-71's, fed the M-1 Garands to Cap'n Crunch, and left the R-390A's out in the weather! But at least they invented the Internet! Joe

From ba.williams@charter.net Sat May 3 03:28:21 2003

Subject: [R-390] Meters...

> On second thought, it just might be worth ONE Navy > plane. >> Remember HE and left the R-390A's > out in the weather! >>> Joe

You mean St. Julien Creek? Dirty, rotten, lying bastard. Barry (the shameless)

From gwmoore@moorefelines.com Sat May 3 04:15:54 2003

Subject: [R-390] Meters...

A better idea has never been put forth. That film would be a blockbuster!!!!!!!!!! Yup, think you're right, it still would be a man/seat separation. I don't believe that Bruno Rodham's sex has been unequivocally determined...LOL.... I am just about rolling on the floor laughing at the mental picture of this..... Greg (who ain't any less shameless than you!!)

From w5or@comcast.net Sat May 3 05:04:52 2003

Subject: [R-390] OFF Topic Posts

Several list members are now in the penalty box. Your posts will be moderated for a while to see if you can adhere to two simple rules.

Don Reaves R-390 list administrator <mailto:r-390-admin@mailman.qth.net>

Rules:

1. Stay on topic
2. Be civil and courteous

From k6fsb@juno.com Sat May 3 01:19:58 2003

Subject: [R-390] Re: Refinishing meters

Ok folks- I'll take all the radio active metres, no problem in dealing with them. I regularly deal with far worse. Seriously folks use common sense! this applies to more than just the metres. Think first.. if you are only doing a few , no big deal, but do take some simple precautions like keep it off your skin (like use gloves latex or nitrile) and work with a slight air flow across the work area. don't play with it , fix it and reassemble it. some of the simpson metres with the bakelite case, the glass is recessed and the rubber seal has glued itself to the case and the glass. To open it I machined four 1/8 inch slots one on

each side so as to get a "prybar" under the glass. Be careful and patient. Ron, K6FSB

From rickmurphy1001@earthlink.net Sat May 3 14:42:18 2003  
Subject: [R-390] Meters - Back Lighting

Hi Group      Has anyone in the group tried to back light the meters? Murph

From rbethman@comcast.net Sat May 3 15:13:40 2003  
Subject: [R-390] Meters - Back Lighting

Murph, I don't think it will work. I have similar meters from aircraft. The dials/faces are metal. You'd have to figure a way to cut a slot in the top center of the cylindrical portion and use a bulb very similar to the veeder root illumination ones. Bob N0DGN

From rbethman@comcast.net Sat May 3 15:17:51 2003  
Subject: [R-390] Meters - Back Lighting

Now if my FINGERS would just learn to spell BULB....

From courir26@yahoo.com Sat May 3 15:23:33 2003  
Subject: [R-390] OT: Rat Shack Loops \$10

Gentlemen? Rat Shack discontinued their little resonant AM loop ant. They were \$30, reduced to \$10. I got the last one at my local store (rone says "Dude, I don't know what you're talkin' about . . .oh, those! What do they do???" Anywho, they ain't Kiwa but for \$10 you can't lose. Works just like my homemade one, only much prettier (relative term). Tom

From Barry Hauser" <barry@hausernet.com Sat May 3 16:56:15 2003  
Subject: [R-390] OT: Rat Shack Loops \$10

Thanks for the heads up, Tom. Good news is that the price is down, bad news is they're discontinuing the few remaining items of interest to most of us, in favor of name brand general consumer goods and yup MORE phones. The one near here (and probably all of them) put in cabinets with drawers for the small parts, like caps, resistors, connectors, etc. Only problem is that the cubbies in the drawers are too small so what did they do? Cut the tops of the blister packs off!

For a while there they had the same nice group running it, but then turnover set in again. I always love it (arrrggh) when they greet me at the door asking if they can help me. I feel like saying "Not really kid first, you won't know what the heck I'm talking about and second, you won't be able to find it."

Also love it when they say Oh, we don't carry those. Then I find it on the wall and flash the thing and say "You mean these you don't carry these? I see, OK, must be mine then."

Have to admit, I am grateful when I find some part that goes into an R-390 in there, but you should have seen what I had to go through to buy a 50 ohm BNC jumper in the place.

If I had my way and enough money, I'd buy out the chain and rename it "R-390's 'r Us Plus Phones!" Go broke, y' think, eh? People would come in asking what the heck is an R-390 and we'd explain, show them the new R-390S with all-wave automatic tuning, stereo FM and AM, satellite, etc. for \$3,499.95 - - and then sell 'em another cell phone or maybe a super deluxe waterproof shower radio the R-392S.

Aside from the money, I'd need some key personnel to bring it off. Hope that Iraqi Information Minister didn't get himself blown up. "No, this is not a cheap stereo (knobs falling off). Our batteries have a lifetime guarantee (Is Saddam dead yet?). Yes, you need the 3 year extended warranty, even though it will double what you are paying. No that is not static, it's part of the music. 3TF7's? Yes we have plenty in stock, but have a look at this matched pair of 6V6's meanwhile. How about a new cell phone with a color screen. You can get Radio Baghdad on it. OK, maybe not, but here's the CNN web site. OH NO, that was true!"

Aww, maybe not.

BTW what's the catalog number of that loop antenna? The only thing they can find without the number are the batteries well, most of 'em, OK some of 'em. Barry

From hankarn@pacbell.net Sat May 3 13:23:10 2003  
Subject: [R-390] RE: TRULY CNC ENGRAVED PANELS

NOW IS THE TIME to get the panels into me for stripping, powder coating , CNC engraving and silk screen on the rear on R-390A panels. \$150.000 includes return shipping. Tags removed. Still have a few that originally stated they would order but fell through the cracks or just plain flaked out. Thanks to several that have opted to fill in the voids by sending more than one. The support is very much appreciated.

Thanks,

Hank KN6DI I have had a few request for doing the NON A panel. If I get enough TRUE commitments I will consider a run of them also. After the A run.

From gwmoore@moorefelines.com Sat May 3 16:02:25 2003  
Subject: [R-390] Meters - Back Lighting (an expensive proposition)

The question is could R390 meters be backlit- YES

Is the process feasible for the average restorer-NO

reasons" to backlight something, one either has to have the substrate of a plastic material, either polycarbonate or plex, have room for lamps at the rear, then go thru a multitude of painting and etching steps to create the indicia on the meter. While the result is truly outstanding to look at, the process is both labor and \$ intensive.

Ok, how about edgelit or prislit lightitng, same problems...one puts the lamp (s) at the top, then designs a prism to properly refract the light over the dial face, and this prism is NOT the dial face itself, it resided behind the glass face. Again, very doable but also labor and \$ intensive for a "one-off" project. Basically, to do either of these options, one would be designing a entirely new meter (except possibly for the movement), and tooling up for the case and all the other goodies from scratch.

Option 3 (Electroluminescent)...same answers, sure, its very doable, and one can get EL material in a

variety of shapes..but the cost of getting the indicia on the EL material would be prohibitive...(Damn, they look good though)

I used to design these things for aircraft use, and, trust me on this, you would NOT BELIEVE the pitfalls and roving groups of alligators one finds themselves facing. Once the design is finalized, and you have one working, properly lit, model produced, you have expended a huge chunk of capital, invented much project-specific tooling, and are on the way to a full blown ulcer.

I hope these comments help... Frankly, I would love to see a well backlit meter in either an R390 or R-392, but it just wouldn't be viable for the quantity we have to work with. 73 de Greg Moore

From tplaninac1@charter.net Sat May 3 17:00:03 2003  
Subject: [R-390] want R-390

not one of the hot fancy expensive ones, but one that needs some TLC so I can tinker and play....  
Sincerely, Tony AFA6TP

From ToddRoberts2001@aol.com Sat May 3 18:25:18 2003  
Subject: [R-390] R-390 Meters - Front Lighting

I was thinking that possibly a way to light up the R-390 meters would be to elight them from the front. A small hood could be fashioned from a piece of ealuminum that would only have to stick out maybe 1/4 inch from the front top eof the meter face. It could be fastened to the meter with 1 of the top emounting screws and the other hole left open to feed one wire thru the front epanel and tie in with the original lighting circuit ( the other wire would be egrounded to the chassis via the screw holding the hood to the meter).A small egrain of wheat bulb would fit nicely inside the hood out of sight and shine a elight directly down onto the meter face. If it was done well it would look egood and only slightly change the appearance of the front panel. The hood ecould be painted black on the outside to match the meter and left reflective eon the inside. If it didn't turn out right just take it off, put the other escrew back in the meter and you are back to original. 73 Todd Roberts WD4NGG.

From billsmith@ispwest.com Sat May 3 19:33:44 2003  
Subject: [R-390] Meters - Back Lighting (an expensive proposition)

How about using the new white LEDs? Perhaps a red one too to warm up the ecolor a bit. Or a green one to simulate the original phosphor emission. eOne or more could be mounted inside the meter case and could be expected to elive there a while. Don't know what the radioactvity would do, though.

OTOH, do you really want to modify a R-390, especially meters? I still need ea signal stregnth meter for the club R-390A if anyone has a spare. ;^) e e73 de Bill, AB6MT ebillsmith@ispwest.com

From ah7i@atl.org Sat May 3 20:01:22 2003  
Subject: [R-390] R-390 meter s and luminous paint, source

Buy some fresh luminous paint and fix 'em that way!  
<http://translate.google.com/translate?hlen&slit&uhttp://www.swissfurniture.com/catalogo.asp%3Fcat%3D12%26pag%3D40&prev/search%3Fq%3DBERGEON%2B5680%26hl%3Den%26lr%3D%26ie%3D>

UTF-8%26oe%3DUTF-8%26sa%3DG

It's about \$10 plus ship.-bob

From jbrannig@optonline.net Sat May 3 22:08:37 2003

Subject: [R-390] R-390 Meters - Front Lighting

You might try picture lights. These are the long bulb lights frequently seen over paintings. They have a top shield that can be used to direct the light and keep it from shining in your eyes. With a low watt bulb they are perfect for illuminating a flat surface. Jim

From mahlonhaunschild@cox.net Sat May 3 22:19:08 2003

Subject: [R-390] Dayton Hamvention hotel room available

Hello, list(s). I'm turning loose one of the hotel rooms I have reserved for the Dayton Hamvention, since I no longer need it for my purposes. Details are as follows:

Location: Comfort Suites Hotel; 42 Prestige Plaza Dr; Miamisburg, OH (near the Dayton Mall).

Room type: 2 queen beds plus one hide-a-bed. Fridge & microwave in the room. Indoor pool/spa. Cold breakfast in the morning. Three people will be very comfortable in the room; two will be positively rattling around in it. I've heard of situations where as many as ten (yes, ten) people stayed in one of these rooms (they were college students; say no more).

Rate: \$85 per night. That's what was guaranteed to me when I reserved it a year ago; YMMV.

READ AND HEED: The first person who replies to me OFF-LIST that he/she wants it, gets it. We'll work out the details for transferring the reservation later. If you don't receive a reply from me, you should assume that you didn't make the cut. I have no business or personal connection with Choice Hotels; I'm simply a satisfied customer that reserved more rooms than necessary. regards, Mahlon - K4OQ

From mahlonhaunschild@cox.net Sun May 4 00:17:19 2003

Subject: [R-390] Re: Dayton Hamvention hotel room available

I have a winner. No more e-mails, please. regards, Mahlon - K4OQ

From Scott Seickel" <polaraligned@earthlink.net Sun May 4 01:04:22 2003

Subject: [R-390] Polishing

> YEAH, go ahead and remove the rest of it, BUT, be careful. While virtually > harmless when intact, that MFP stuff has some nasty ingredients, > > Barry

Maybe these toxins we are exposed to catches up with some of us. I just got out of the hospital after 6-1/2 weeks. 38 years old and I have an aggressive form of leukemia which almost took my life. I am in remission now and prognosis is good. I just can't help thinking that it was caused by some toxin I unknowingly was exposed to. Maybe radio related. I will never know. Doesn't really matter. Just be careful folks. Scott

From DCrespy@aol.com Sun May 4 01:19:35 2003  
Subject: [R-390] Meters - Back Lighting

I have not posted in a while, but I do have something on this topic, so.. I have been collecting all of the R-390A size/style meters I could over the last 4 or 5 years (as I am sure most of us do..).

About 2 years ago, I picked up 4 meters that were backlit from the factory. These are not meters for the R-390, but are the correct size and style for the radio. They are the "International" brand / construction. All four were identical and had frosted plastic scales, that the light illuminates from behind. The top of the rear vertical surface of the housing is recessed and has a hole for a lamp like the 390 dial lamps. There is a small plastic piece that snaps over the lamp to hold it in place and to facilitate making electrical connections. Pretty slick actually. (They were 1mA 100 ohm movements as I recall.)

I'll make pictures for those interested. (But the meters are not for sale). 73 Harry KG5LO Saline MI

From DCrespy@aol.com Sun May 4 13:44:42 2003  
Subject: [R-390] Meters - Back Lighting

I got the meters with "factory backlighting" out to photo for a list user. I found they were a little different than I'd described.

There is simply a hole in the housing (rear surface near the top). Everything else is handled in the plastic gadget that attaches to the back. The gadget is held in place with extended meter terminal screws. The bulb inserts from right to left into the gadget as viewed from the rear of the meter. There are two terminals at the top for the lamp connections. The right hand of these two terminals swings out of the way for lamp removal. I do now have a decent JPEG for any one interested. Harry KG5LO

From Darryl Jones" <sherri-darryl@erols.com Sun May 4 18:46:16 2003  
Subject: [R-390] (OT) Does anyone know a good place for selling tabletop tube radios?

I have several wood and bakelite tabletop radios that I need to get rid of in order for my wife to let me keep the 390-A - I have an ultimatum "It's looking like a junk shop in here, and that thing is HUGE so if you're keeping it, you're gonna have to make some room in here" so I guess I'm looking for a site I can list them (all very reasonably) where they're gonna get the kind of home they deserve.

Why is it women don't appreciate anything that isn't "new" or "modern" or just plain shiny???

Also, while I'm making an OT request, has anyone heard of United Motors (later became Delco) making in-home art deco wooden tabletop radios? Does anyone have any info? I have one here and can't find any record of UM making anything that wasn't "in-car". I called Delco and they don't have any records. I would have to say that the radio is late 20's, possibly VERY early 30's. As all this stuff is "Off Topic", could you reply off the list please? Thanks for your help :) Darryl

From mahlonhaunschild@cox.net Sun May 4 20:04:19 2003  
Subject: [R-390] FS: Right angle HMB connectors for RG-58

Hello, list. I am selling off a small quantity of my stock of used HMB connectors for RG-58 cable. They

are cut-offs, but they are in excellent condition. The center conductor cover plugs are soldered on with only a small dollop of solder (as opposed to a continuous fillet) so they can be easily soldered and re-used. \$5 each; two for \$8, three for \$11, postpaid in a padded envelope in the "lower 48". Please reply off-list if you want any.

These connectors might be usable with RG-174 if you "shim" the cable with heat shrink, but I haven't tried this. regards, Mahlon - K4OQ

From hankarn@pacbell.net Sun May 4 17:47:03 2003  
Subject: [R-390] Meters - Back Lighting

Grimes Co. makes eyebrow lights for the aircraft industry in all sizes. plus light assemblies for backlit panels. Which are a whole new can of worms to get into. Due to the inherent frugality of hams most will have cardiac arrest with the sticker shock. I have made full aircraft panels using Grimes systems. I think in the 60's when we did this panel for a Lodestar it was over \$15,000. Hank KN6DI

From r.tetrault@attbi.com Mon May 5 01:26:45 2003  
Subject: [R-390] Meters - Back Lighting

I was Chief Engineer at a competitor in LA back in late 80's early 90's. Grimes was notorious in new airframe programs in providing gratis an entire shipset of lighting for prototype and safety of flight. They'd invariably get the initial contract but default or charge 10X the original quote when it came time for actual production. We'd usually get the second source contract and it would turn into the whole enchilada after a while. I've got strobes flying on much of our military inventory: AV8B, FA-18E/F, F-14D, F-15 something, S3B, stuff in the B-2 and F-117, C-130, P-3, etc. Grimes or Sheldahl couldn't deliver, we could. And yes, the pricing for that kind of stuff would make most hams go into shock. Imagine a little dimmable fluorescent using those little 6W tubes selling to Northrop for 1200 dollars. Real cost wasn't too far off, either. S rated components, Tempest certified, documentation out the wazoo. We'd build twenty per year... Among other things. We also made widgets. Bob Portland, OR

From smerriga@compusmart.ab.ca Mon May 5 02:38:58 2003  
Subject: [R-390] R390A PTO

Does anyone know of a vendor for R90A main tuning PTOs other than Fair Radio? The units that they are selling are without connectors (ie snipped off) and are in poor shape.

I have done some searching on the web, and I will share my results with the group as I follow them up. Thanks, Shaun

From ba.williams@charter.net Mon May 5 02:33:59 2003  
Subject: [R-390] (OT) Does anyone know a good place for selling tabletop tube radios?

Darryl, I believe that I've seen a nice wood Delco a few years ago. Also, Crosley and Firestone made plastic and wood radios. I did have a Firestone that I swapped for a little Hallicrafters HT-202 5 tube plastic AM refrigerator top radio. It has a rounded bottom to fit on top of the old round top fridges. That is my wife's favorite. Gotta keep her in the collecting part of the hobby. (g) I still have the Crosley. They look very much like the metal car dashes and are sometimes called car dash radios. My Sam's index

shows a few Delcos. Send me the model # and I'll look it up. I don't have all of them. Barry

From ba.williams@charter.net Mon May 5 02:39:58 2003  
Subject: [R-390] Meters - Back Lighting

> Grimes Co. makes eyebrow lights for the aircraft industry in all sizes.

I remember elbow lights. The red ones were crappy, but got better when they went to blue-green lighting. Those little things never worked good. The trim ball in the OH-58A/C did not have lighting. We always used the mini cyalumes to light them. Barry

From terryo@wort-fm.terracom.net Mon May 5 23:37:27 2003  
Subject: [R-390] Grimes - Back Lighting

I have a sizable collection of LTV gear with Grimes backlighting. It works very well. Most of the LTV gear is repackaged Watkins-Johnson/Communications Electronics, Inc. gear except for the G-133 which is a repackaged Collins 51S-1.

LTV took the WJ/CEI gear and made front panels of translucent material and silk screened them with a negative of the front panel (no paint where lettering occurs). Thus the labels light up in a black panel. The panels don't wear well, every paint nick lights up, but they sure look cool in the dark. The overall effect, when combined with the tactical knob tops (different shapes for different functions) makes for a really cool radio.

It seems to me that Grimes system panel could easily be made. A sheet of plexiglass or lucite drilled for all the controls, meters... could be spray painted black. Then the letters could be added using a pantograph or CNC like the ones you see at hamfests for making name tags. Then all you need are the little Grimes light fixtures. 73 Terry O' WB9GVB

From jtone@sssnet.com Tue May 6 02:00:32 2003  
Subject: [R-390] Meters - Back Lighting

Gents, With diligent scrounging...one can find meters with lighting already designed it....the ones I found were 1ma. movement if I recall....Haven't used them in the 390X's but know the format is out there and would take some shunting and bridges to adopt...but would be really cool in that one of a kind built from parts 390 73, Gene

From jtone@sssnet.com Tue May 6 02:07:57 2003  
Subject: [R-390] OT: Rat Shack Loops \$10

Barry, Well said...I always think that someone is scripting the folks in the Rat Shack...no real people could be like that .... errr .... I hope not ...but sure would be intersting where the RS management finds them...? Scarry to think the management is just like them... and btw...I've seen the little drawers...at least your's had something in them . . 8>( Gene

From tbigelow@pop.state.vt.us Tue May 6 15:44:11 2003

Subject: [R-390] Hosstraders Spring 2003 hamfest report

Well, it took a couple days to recover from all the excitement. Hosstraders Spring 2003 meet is history. Got to meet a few listmembers I hadn't met before as well as touching base with old friends like George Rancourt K1ANX and Michael Crestohl W1RC, a.k.a. 'Mr. Mike'. Dale, KW1I had his usual great military surplus goodies for sale including a TBW(?). Got to meet Alex, AI2Q and John KB1FQG. John had his Amelco R-390A along for sale. Very nice rig, clean and in great shape. Did it sell, John? I never even asked what the price was to prevent being tempted. Alex and I made tentative plans to get the URC-32 working on the USS Albacore in Portsmouth, just to insure sure we had enough radio projects to stay busy. Also met Bruce W1UJR and Larry NE1S who came down from Maine.

George had some nice old military gear for sale with good prices - ART-13s, BC-312s and 348s, a nice HT-9 and an SP-600 JX-17 he had picked up with the original cabinet (no, it wasn't for sale). I saw one of the ART-13s walking away in someone's arms later. Saw one other SP-600 for sale by Chuck, K1KW. This was a later model without the crystal unit but with ceramic disc caps throughout. John was hoping to buy this if he sold his R-390A, but at the end of the day Chuck sold it to one of the AM crowd for \$200. Saw a fair amount of old gear. Here are some examples:

Johnson 500 - \$1500

Collins KWS-1 and 75A-4, \$1500

numerous HQ-120, '129, an early SP (no prices and owner was off wandering)

Several Knight transmitters, one with the matching receiver

KWM-2 w/Waters rejection tuning and 516F-2 supply, \$900 (sold for \$875)

numerous old keys and bugs, including a Vibroplex in a foam lined case for \$295 (he took it home)

SP-600 (mentioned above) \$275, sold for \$200

misc. hacked up Command sets, 1 ARC-5 HF/VHF receiver control box, misc. dynamotors, a fair amount of mil surplus gear throughout

One thing I did not see this year were R-390s or R-390As. John's was the only one I saw, and it was nice. There may have been others there as well on Friday, I arrived early Saturday morning. Friday was another washout, with high winds and torrential rains. I had thought about going over and sleeping in or under my truck (last minute planning will get you everytime), but one glance at the radar loop convinced me otherwise. If it's any hint just how nasty it was, the Old Man of the Mountain rock formation in Franconia Notch collapsed. For those who have never heard of it, just look on the back of a NH quarter. Here's a link if you'd like to know more: <http://www.mutha.com/oldmanmt.html>

That must've been some storm!

Saturday was once again the better of the 2 days. Sunny skies, warm temps, just beautiful weather. My treasures included some IERC shields found in a box for \$2 along with some military connectors that looked like they might fit the R-390 power connector (right plug, wrong center pin thread), a pair of 6080 tubes for \$1, 5 NOS 40/450v x 2 Twist-Lok filter caps for \$1/ea., a nice old round mobile speaker from George which looks like it might be an early Motorola unit (\$2 w/bracket and hardware), noise-cancelling hand mic for \$2, pair of Navy 838 tubes with porcelain bases for \$5, misc, oddball tubes for \$1/ea., an absolutely beautiful Clegg 22er MKII FM from my Clegg benefactor Warren Zeigler, K2ORS (ex NY2H) for \$20 (he donated a Comet to me a couple years back as well), and a nice Collins 26W limiting amp for the AM station given to me by Joe, WA2PJP. Joe and I have sworn an oath to reduce our piles of 'radio stuff' in the coming year. He's doing better at it than me, though - which is why I stuck to picking up pieces and parts only (other than the two units delivered to me there).

Ended the day at the 'AM Luncheonette' a few miles down the road with Joe, Chuck, Tim (WA1HLR)

and Jack (W1JS). This was at least as much fun as the 'fest. Great food, great radio talk, great company. We solved most of the problems in the world and amateur radio over lunch and a couple beers. Topics included the pros and cons of ePay, property taxes and antenna restrictions, and the upcoming Rochester NY hamfest.

For those of you who have never made it to Hosstraders, you really should. It is held twice each year, generally the first weekend in May and October. It's one of the best social gatherings for radio nuts in the east. Plenty of old gear to go around, too. 73 de Todd/'Boomer' KA1KAQ

From wli@u.washington.edu Tue May 6 16:16:33 2003  
Subject: [R-390] Re: R390 panel meter resistance

A few days ago, a msg appeared about measuring the internal resistance of a R390 panel meter, employing the classical method of getting a full-scale deflection using a 1.5 volt battery and a pot; and then adding shunting resistors to get half-scale deflection, and concluding that the shunt resistance reflected the internal resistance of the meter. This method appears in all ham and radio manuals, and It shall be referred to as the "traditional" method. The traditional method is clearly described below, and is what we were all taught.

<snip> >1) Arrange a source of voltage with a current limiting resistor to make the meter read full scale. 1-1/2 volt penlight cell and a 1500 ohm resistor, for instance, would work for a 1 ma meter movement. If you use variable resistors, make sure you don't over drive the meter.

>2) While the circuit is operating, put resistors in parallel with the METER until it reads half scale.

>3) The value of the parallel resistance is equal to the internal resistance of the meter. <snip>

Now, if you think about it, this time-honored method results in false results, because by adding the shunt resistor across the meter, you actually LOWER the total resistance of this simple series circuit.... and thus INCREASE the total current flow, thus falsely altering the deflection of your R390 meter. A fresh battery is really a constant voltage device, and not a constant current device.

One workaround is to keep this series test circuit current constant. This method involves a second mA meter. Insert any low mA meter (say a 2 mA one) into the circuit, then connect your R-390 panel meter IN SERIES with it and your battery and pot. Now adjust the pot to get full deflection of the R390 meter, and note the reading on your 2 mA meter. Remove your R390 meter, and substitute a 10-turn precision 500 or 5000 ohm pot, and adjust it alone to get the ORIGINAL READING on your 2 mA meter. Now the resistance of the 10-turn pot is exactly the same resistance as the internal resistance of the R390 meter, since under this scheme the test circuit's current was kept constant.

So to get down to real-world data: (using my meters) carrier meter 14 ohms (traditional); 28 ohms (actual) 1 mA full-scale

line meter 2600 ohms (traditional); 3500 ohms (actual) 250 uA full-scale and is an AC voltmeter in reality

I'd like to take credit, but this subject was already discussed in some detail in the 73 Test Equipment Library volume 1 (1976) pp33-35.

Bottom-line: this is all academic if you are able to find original meters for your unit, but is of some importance in the case you want to adapt non-R390 meters..... W. Li Mercer Island, WA

From r.tetrault@attbi.com Tue May 6 17:03:44 2003  
Subject: [R-390] Re: R390 panel meter resistance

Not only is it published in the reference noted, but it has been the method published in almost every ARRL Handbook I've ever read, from '64 when I was first ticketed to the present. Bob

From flood@Krohne.com Tue May 6 17:03:43 2003  
Subject: [R-390] Hosstraders Spring 2003 hamfest report

Greetings all, My Amelco 390A came back home with me and sadly the SP600 Boomer mentions here went home with someone else. Mr. Mike stopped by and asked why I was thinking about selling it and I told him about the '67 EAC I had picked up and he understood my parting with the Amelco. With "Mr. Mike's" blessings in hand, I put up the radio for \$400.00 /B.O. With meters, a good looking front panel, new (from Fair Radio) BFO I replaced 1-2 months ago, as well as being a working unit, (sounds like a sales pitch doesn't it!) at that price I was convinced that my selling day would end early, the Amelco would go to a new loving home and the SP600 would soon be in the same rack as my "new" EAC 390A. However the B.A. gods did not agree with me. I was Emailing Barry H. about the Y2K manual and the issue came up. He thinks it's an omen that I need two 390A's. However if anyone is interested in it feel free to contact me. Trades of equal weight item(s) are welcome as well! I'd be willing to deliver or meet anyone within a one hour (or so) drive from Metro-Boston. It was great to meet some of the list members including the famous "Boomer" I meant to ask him how he got that name, but forgot to. I expect from a missile boat job in the past? I saw him with the tube shields later and that just added to the pain of the missed SP600. Mike W1MAS made me a deal I couldn't refuse at the end of the day on a 2m plate mod. AM TX and modulator he had for sale. The deal was to take 3-4 times it's weight as well in good heavy metal stuff, a packrats party store! I think that I'll spend more \$ getting my back fixed than I did on the radios! Hmm... Can anyone help me with documentation on a Servo Corp. R5200-A2 V/UHF Rcvr.....That's my input from Hosstraders. See you in the fall, I hope! 73 John Flood(KB1FQG)

From cbscott@ingr.com Tue May 6 18:25:21 2003  
Subject: [R-390] Hosstraders Spring 2003 hamfest report

Boomer?? <http://www.cnn.com/2003/US/Northeast/05/06/oldman.looters.ap/index.html> :) Barry(III) - N4BUQ  
<snip>

<http://www.mutha.com/oldmanmt.html>

That must've been some storm!

<snip>

73 de Todd/'Boomer' KA1KAQ

From tbigelow@pop.state.vt.us Tue May 6 19:54:44 2003  
Subject: [R-390] Re: [Boatanchors] Re: [Milsurplus] Hosstraders Spring 2003

wrote: >HossTraders should be renamed the Drowned Rat Traders, IMO. It POURED. -John >

John - It sure did, Friday. You just have to start going on Saturday instead. That's the trick. All those people going over early for the 'good deals' get dumped on Friday by rain, snow, wind, etc. I got sick of it.

From tbigelow@pop.state.vt.us Tue May 6 19:59:13 2003  
Subject: [R-390] Hosstraders Spring 2003 hamfest report

wrote: >Boomer?? ><http://www.cnn.com/2003/US/Northeast/05/06/oldman.looters.ap/index.html> > >

Doesn't surprise me one bit. Remember, some idiots were trying to sell pieces of the shuttle on there too, after the crash in February. Fortunately for us, we're in good company here with people who just haul home old radios and parts that others want to throw away. We're old men with mountains of 'stuff'. (o:

From roy.morgan@nist.gov Tue May 6 20:40:00 2003  
Subject: [R-390] Re: R390 panel meter resistance

wrote: >A few days ago, a msg appeared about measuring the internal resistance >of a R390 panel meter,  
That was me.

>Now, if you think about it, this time-honored method results in false >results, because by adding the shunt resistor across the meter, you >actually LOWER the total resistance of this simple series circuit....  
>and thus INCREASE the total current flow, thus falsely altering the >deflection of your R390 meter.

Quite true. Lets take an example.

1.2 volt AA cell, normal R-390A Carrier meter. Quoting "Paul H. Anderson" <pha@pdq.com>: "R-390/R-391/R-390A carrier meters are 1 MA FS, 17 ohm, as far as I know."

So for one ma current with 1.2 volt supply we need a total circuit resistance of:  $R_{EI} = 1.2 \times .001 = 1200$  ohms. The fixed (or adjustable) resistor then needs to be  $1200 - 17 = 1183$  ohms.

As a first approximation, when the 17 ohm meter is paralleled with a resistance of equal value the resulting resistance will be 8.5 ohms, and the total circuit resistance will be  $1183 + 8.5 = 1191.5$  ohms. This will in fact increase the deflection of the meter by a factor approximating  $1200 / 1191.5$ , or about 1.007. That is seven tenths of one percent. This is tiny.

I say "first approximation" because the method asks you to set the parallel resistor for half scale deflection. Thus the resistance you set will be just enough smaller than the resistance of the meter to compensate for the tiny increase in circuit current due to the overall reduction of total circuit resistance.

>A fresh battery is really a constant >voltage device, and not a constant current device.

I agree. The battery is unlikely to change voltage much due to either discharge or change in circuit current. However, the circuit described above is approximately a source of constant current, at least to less than one percent change.

>One workaround is to keep this series test circuit current constant. >This method involves a second mA

meter. Insert any low mA meter (say a 2 mA one) into the circuit, then connect your R-390 panel meter IN SERIES with it and your battery and pot. Now adjust the pot to get full deflection of the R390 meter, and note the reading on your 2 mA meter. Remove your R390 meter, and substitute a 10-turn precision 500 or 5000 ohm pot, and adjust it alone to get the ORIGINAL READING on your 2 mA meter. Now the resistance of the 10-turn pot is exactly the same resistance as the internal resistance of the R390 meter, since under this scheme the test circuit's current was kept constant.

This is a basic method of substitution, and is all very fine, but: (I am assuming the circuit is similar to above with a 1.2 volt source and a limiting resistor.)

The change in circuit current with the R-390 meter replaced with a short will be approximately 17/1200 of the original amount. By shorting the R-390 meter, the 2 ma meter's needle will deflect approximately 1.5 percent higher. If the R-390 meter is replaced with approximately twice its internal resistance (34 ohms) the 2 ma meter will deflect about 1.5 percent less. Determining the resistance that causes the 2 ma meter to return to its original deflection will be quite difficult. Mechanical sticking will likely make it impossible. A digital multimeter with 4 or more digits in current mode would make it quite easy to do.

If a higher source voltage is chosen with correspondingly higher series resistance, the changes in mechanical deflection of the 2 ma meter as the substitute resistor is adjusted will be proportionately less. A 9 volt battery, for instance, and 9 K resistor will cause the change in deflection to about one seventh as much, or 0.2 percent.

I'd like to take credit, but this subject was already discussed in some detail in the 73 Test Equipment Library volume 1 (1976) pp33-35.

Here are some factors to consider as you ponder the fine points of the method that the 73 Test Equipment Library suggests:

- 1) Many meters normally used by Hams have higher internal resistance than the R-390 series meters. The 73 Test Equipment Library method was likely developed with these higher resistance meters in mind.
- 2) As the the internal resistance of a meter becomes a higher portion of the overall circuit resistance (as with meters of higher resistance), determining the value if the substitute resistor gets easier.
- 3) Lower supply voltage will have the same effect. The meter resistance and the substitute resistor value, will be greater with respect to the overall circuit resistance.
- 4) As the supply voltage gets higher, the current source more nearly approximates a perfect source, and is more immune to small changes in circuit resistance. This will make the 73 Test Equipment Library method more difficult to use without digital current meters.
- 5) Many meters, even good ones, have mechanical hysteresis and resistance that would hide changed deflection due to small changes in current.
- 6) The width of a graduation line in a normal panel meter may be about one percent or less of the total scale length. The width of an R-390 Carrier meter graduation is about 1/40th of the scale length or about 2 percent. The needle is about the same width in some meters.
- 7) Most R-390 type meters cannot be set to mechanical zero, thus making it difficult to set mid-scale if using the "traditional" method. Roy

From tbigelow@pop.state.vt.us Tue May 6 21:05:51 2003  
Subject: [R-390] Hosstraders Spring 2003 hamfest report

wrote: >Greetings all, > >My Amelco 390A came back home with me and sadly the SP600 Boomer mentions >here went home with someone else

>

Mike has been hauling these things home for decades and he's one of the original founders of this list (along with Chuck), so he has a pretty good idea of value. Considering the condition, that was a great price. Makes no sense that someone would buy one over ePay without being able to see it, for twice as much, yet no one would snap up yours. Being able to see the radio and touch it (sure got your attention when I spun that Veeder Root counter!) is really hard to beat when you're looking to spend some cash on a real radio. For someone who can drive to meet you, it's a great deal. I wouldn't ship it without one of Hank's shipping containers or something similar, though. Too nice of a radio to let a careless shipper smash.

>I was >Emailing Barry H. about the Y2K manual and the issue came up. He thinks >it's an omen that I need two 390A's.

>

Barry is right. You really need at \*least\* two R-390As, and R-390s also. Maybe even SP-600s. There aren't many radios I'd care to have duplicates of, but those three are in the running. After all, the government had thousands, so...keep in mind that as soon as you part with it, you'll regret it. That's one of the rules, it's written somewhere. Check the Y2K manual.

> Hmmm... Can anyone help me with documentation on a Servo >Corp. R5200-A2 V/UHF Rcvr.....That's my input from Hosstraders.

>

Sounds like an interesting rig. Servo made something R-390-related, didn't they? Maybe they modified receivers?

> See you in the fall, I hope!

>

A few years ago we made plans via these lists to meet up at some point. Might be a good idea to try it again in October. I'm already getting emails from people who were there but somehow we missed meeting up. Not only that, it's a great way to do some trading or redistributing of gear. I've had good luck over the years with listmember trades, got hosed once by holding a piece of gear for someone who backed out at the end of the day, but otherwise it's been a great way to get things I need and to get rid of what I don't. Only 5 months to go.... 73 de Todd/'Boomer' KA1KAQ

From roy.morgan@nist.gov Tue May 6 21:22:19 2003  
Subject: [R-390] Re: R390 panel meter resistance

wrote: >Not only is it published in the reference noted, but it has been the method >published in almost every ARRL Handbook I've ever read, from '64 when I was >first ticketed to the present.

Bob and other Meter Measurers, I just happened to have a 1989 ARRL Handbook handy and despite no luck with the index I found the method on page 25-2. It differs from the method outlined by Mr. Li as follows:

Mr Li suggests: "...adjust the pot to get full deflection of the R390 meter, and note the reading on your 2

mA meter. Remove your R390 meter, and substitute a 10-turn precision 500 or 5000 ohm pot, and adjust it alone to get the ORIGINAL READING on your 2 mA meter."

In the 1989 Handbook method, the circuit has

- 1) a series meter able to measure the full scale current of the meter under test
- 2) a series resistor adjusted for full deflection of the meter under test
- 3) a parallel resistor adjusted for half deflection of the meter under test
- 4) the series resistor adjusted to return the total circuit current to the original value.

Steps 3 and 4 are done alternately to arrive at both half deflection and original total circuit current.

The resistor in parallel with the meter is then measured and taken as equal to the meter resistance. A 1.5 volt battery is mentioned as an example with no discussion of the effects of different source voltages.

It seems to me that this method accounts for all significant variables and effects, assuming the battery voltage is constant enough. Roy

From laffitte@prtc.net Wed May 7 12:14:37 2003  
Subject: [R-390] EAC 390A FS

One came in, one has to go. I have an extra EAC R390A for sale. This is an original unit with original meters, IERC tube shields everywhere except in the original rectifiers, 3TF7 ballast in place with a set of extra knobs and coil springs plus a spare VFO. It also has the original cable AC connector. The unit is fully functional in all bands, very good sensitivity. The front panel is in very good condition too. Only one connector cable in the IF section has been repaired but you can get a new one from FAIR. One minor glitch is the function switch where the stand-by position is a little further clockwise from the place where the switch clicks into standby. This is easily corrected. Included is the original maintenance manual with all schematics and details.

I am asking \$600.00 for this receiver plus shipping. I can only ship via USPS priority mail or parcel post. Either service has worked well for me and without a glitch. I also have persons, some from this list, who have received radios from me. Please answer only on my private e-mail if interested or in need of more information. Best 73s Guido Santacana KP4FAR San Juan, PR-USA 00926

From dp@coe.neu.edu Wed May 7 14:22:45 2003  
Subject: [R-390] Re: R-390 and SP-600

It is true, when you get a R-390 you just gotta have something to pair up with it - you've gotta have something to do comparison tests with. A month after I bought my R-390 junker, I picked up (bending my knees, not my back) a SP-600 in complete and working condx for no more than a little letter for tax deduction. A great BA "buy one, get one free" deal. David P. Goncalves Now degreasing the RF deck. Also scanning the PRC-47 dial faces.

From hankarn@pacbell.net Wed May 7 18:13:25 2003  
Subject: [R-390] RE: Engraved panels R-390A

Some one from Pittsburgh,PA sent me a panel USPS insured. With no info or money. Last name only on box looks like Lyon, Lyden ??? St. looks like Loch??N. My ESP function is on vacation. HIHi. Hank

KN6DI

From Richard.McClung@Dielectric.spx.com Wed May 7 22:59:23 2003  
Subject: [R-390] RE: Engraved panels R-390A

Ohhh, that must be mine, sent from San Jose and got miss routed. That's OK Hank just fixer-up. Remember I want a black panel with white lettering..... Uhhh, The checks in the mail. I'm from the gubemint and I'm here to help you..... ;>) - ;>) - ;>) - RICH WA6KNW

From courir26@yahoo.com Thu May 8 00:43:44 2003  
Subject: [R-390] OT: Rat Shack Drones

Forgot to mention, when I went in there to get the \$10 loop, dude says "How about a sat dish to go with that!" I told him, sure, give me a couple. Now what goober thinks that a tight-ass ham who is only breaking off \$10 on a closeout item is going to spontaneously drop several hundred because he recommends it? Tom

From Barry Hauser" <barry@hausernet.com Thu May 8 01:48:49 2003  
Subject: [R-390] OT: Rat Shack Drones

Heh heh heh, hah hah ho ho ho uuuurrrraahhhh! I just remembered something as I was reading your t/a ham vs. the satellite dronesman account and realized/remembered something more of a flashback. This place we're yakkin' about sprang from what? Is still called what? Radio Shack! Who was the prime clientele way back when?

It's a class-A ROTFL when you remember its roots. Try to explain that to the kiddies runnin' the store. "Well yuh see son, a waayy back in the middle o' the previous century there was this big store and catalog house that catered to guys like me." "Say, that's very interesting sir, how about a cell phone?" Oh, well, they ARE two way radios and you can talk around the world with 'em. Hey, you can even get a magic loop for those made of self stick foil that increases the range. <sigh> Barry

From dsmaples@comcast.net Thu May 8 02:16:21 2003  
Subject: [R-390] Re: R390 panel meter resistance

All: Very good point, but I'd add one other piece to this. At the point that you set the two meters in series for a full-scale reading on the R-390 meter and note the current on the other meter, instead of disconnecting and finding a 10-turn pot, why not just read the voltage across the R-390 meter at that point, and then apply Ohm's law to figure out the meter resistance:  $R \text{ (meter resistance)} = \frac{E \text{ (voltage across meter)}}{I \text{ (meter current)}}$  Dave Maples

From ba.williams@charter.net Thu May 8 02:22:18 2003  
Subject: [R-390] OT: Rat Shack Drones

C'mon Barry. This is 2003 already. Forget the foil enhancer. Get the plastic ball that goes on the end of the antenna if you really want to increase your range. Just like the ones taken off of Humvees. Barry

From ai2q@adelphia.net Thu May 8 14:36:51 2003  
Subject: [R-390] Re: R390 panel meter resistance

Why not use a DMM (never a VOM!) and simply measure the internal resistance directly. Works like champ using a Fluke 8020A.

Vy 73, AI2Q, Alex in Kennebunk, Maine <http://users.adelphia.net/~alexmm/ai2q.htm>

From flood@Krohne.com Thu May 8 15:12:07 2003  
Subject: [R-390] OT: Rat Shack Drones

Had to post this!

Stopped in to the local "Telephone and Satellite Shack" looking for the \$10.00 loop. Dude says, "loop? What's that? AM Radio? Oh Yea we got those, lots of them". I realize that I really don't need the loop but this is almost getting fun in a sick kind of way. I notice a tiny little 2 meter mobile on clearance for about \$60.00 and think that I could leave it in the glove box of the wife's car for when I use it. and ask to buy it. Dude says "its the last one , I'll go get the box"..... Dude comes back with a rather large box for this little radio and says "I couldn't find the box but perhaps you would rather have this 10meter radio it's on clearance for \$20.00 less than the 2 meter one. I've got them both in my car and the 10meter works a lot better". I say "Good price but my licence does not allow me to operate on 10 meters" I'm sure most of you see what's coming..... Dude says" What?! you need a licence for this stuff?!" The 10 meter boys have a lot more to worry about than the Russian taxi cabs. John Flood KB1FQG

Sent by:"Barry Hauser" <barry@hausernet Subject:  
Re: [R-390] OT: Rat Shack Drones

Heh heh heh, hah hah ho ho ho uuuurrrraahhhh!

I just remembered something as I was reading your t/a ham vs. the satellite dronesman account and realized/remembered something more of a flashback.

This place we're yakkin' about sprang from what? Is still called what? Radio Shack! Who was the prime clientele way back when?

It's a class-A ROTFL when you remember its roots. Try to explain that to the kiddies runnin' the store. "Well yuh see son, a waayy back in the middle o' the previous century there was this big store and catalog house that catered to guys like me." "Say, that's very interesting sir, how about a cell phone?"

Oh, well, they ARE two way radios and you can talk around the world with 'em. Hey, you can even get a magic loop for those made of self stick foil that increases the range. <sigh> Barry

From dpq@coe.neu.edu Thu May 8 15:19:10 2003  
Subject: [R-390] Painting Notes and Parts

1. Jeez, that paint that they used on the R-390 is tough to remove. I let the knobs soak for a WEEK in Zip-Strip, and I still had to sand them. I spread the stripper on the panel with a plastic scraper (which

then melted into yellow goo) and still has to scrub it for an hour - and that was just the gray bits! The white lettering refuses to go! The bare alodined panel sure looks nice though. If it wasn't for the ugly scratches, I'd just clear coat it. I'd impress my friends with my 'gold plated' radio.

In comparison, the paint I used on one of the knobs (to try out different colors) bubbled and flaked off in a couple minutes.

What the heck is that paint made of? The white paint can't be acrylic, can it?

2. In a Icarus moment: As I was removing my perfectly stripped-sanded-preped-primed-sanded-epoxy painted knobs from my spray painting jig to put them on the baking sheet, the jig fell to the floor, wrecking the finish on each and every knob. I quit for the night and went for a walk in the Common. Next time I'm doing them one-at-a-time.

**3. Leeds Electronics ([www.leedselect.com](http://www.leedselect.com)) seems to be selling a Dejur 100 microamp meter (\$6) in the 1.75" square case most desired for replacements. They also have IERC shields in stock too. If they are reasonable in price, don't buy too many, I need some! Dave Goncalves**

From Darryl Jones" <[sherri-darryl@erols.com](mailto:sherri-darryl@erols.com) Thu May 8 15:26:05 2003  
Subject: [R-390] OT: Rat Shack Drones

RS still has 2 meter rigs? Was it a handie or an "in car" type? Can't beat \$60! :)

From [cbscott@ingr.com](mailto:cbscott@ingr.com) Thu May 8 15:41:58 2003  
Subject: [R-390] Painting Notes and Parts

Wetsanding seems to be the fastest method as the original paint is very difficult to remove. I think it can be removed with commercial hot stripping techniques, but the stuff at the local hardware store is pretty ineffective. I have had success removing the lettering with aircraft aluminum stripper and a very stiff nylon brush. Interesting that Leeds Electronics has replacement knobs for General Radio gear too.  
Barry(III) - N4BUQ

From [cbscott@ingr.com](mailto:cbscott@ingr.com) Thu May 8 15:50:11 2003  
Subject: [R-390] Meters

Okay, we can figure out the internal resistance.

Now, assume I find a 1ma fs meter that has an internal resistance different from what I need. Is it possible with a combination of series and parallel resistors to achieve the 17-ohm (or whatever it needs to be) resistance to make it swing full-scale and appear to have 17-ohms in the circuit? I assume so but I don't like to assume... Barry(III) - N4BUQ

From [tbigelow@pop.state.vt.us](mailto:tbigelow@pop.state.vt.us) Thu May 8 16:33:02 2003  
Subject: [R-390] Painting Notes and Parts

wrote: >1. Jeez, that paint that they used on the R-390 is tough to remove. I let >the knobs soak for a WEEK in Zip-Strip, and I still had to sand them.

>

Someone mentioned an aircraft-grade stripper that works quite well. Anyone remember what it was? I almost think it was Barry #1. It's amazing how scratched and hacked up these panels could get, considering how tough the paint is to remove intentionally.

>3. Leeds Electronics (www.leedselect.com) seems to be selling a Dejur >100 microamp meter (\$6) in the 1.75" square case most desired for >replacements. They also have IERC shields in stock too. If they are >reasonable in price, don't buy too many, I need some!

>

Keep in mind that these guys are on epay, so they're aware of what some fools will pay for a toob shield. If their message just above the sheilds isn't warning enough "(please note the recent change in prices)", the fact that they have NO prices listed for the IERC shields should be. Of the three sizes they have in stock , two are the short nubby 7 and 9-pin sizes for...\$5/each...and the other is the medium/standard 7 pin size for...\$8! Hope you don't need many! You can buy the nice shiney EBY/ELCO types for \$2-\$2.50 though.

I suspect they're in a tight competition with Greedle at SSofN for customers. I'm just glad someone can afford to support them and keep them in business, because I sure can't. I have to resort to diggin' through boxes under tables at hamfests. (o: de Todd/'Boomer' KA1KAQ

From pwokoun@hotmail.com Thu May 8 16:49:03 2003  
Subject: [R-390] Meters

Ahhhhh, therein lies the problem! This meter only requires 17 millivolts across it to achieve full scale deflection. This makes it a very sensitive meter. Typical meters of this size are higher resistance and require 60-100 millivolts or more for full scale deflection. You can get the right resistance or current but getting them both together is what makes these meters 'special'.

One trick used is to get the right resistance with a shunt and use a small DC amplifier on a piece of perf board to drive the meter to get the right current. But then, this isn't 'original', is it? pete KH6GRT

From cbsscott@ingr.com Thu May 8 16:52:39 2003  
Subject: [R-390] Meters

Not original, but better than two big holes in the front panel :) Anyone been there / done that? I seem to recall someone doing this. If so, can you repost? Thanks, Barry(III) - N4BUQ

From roy.morgan@nist.gov Thu May 8 17:10:48 2003  
Subject: [R-390] Meters

wrote: >Okay, we can figure out the internal resistance. >>Now, assume I find a 1ma fs meter that has an internal resistance different >from what I need. Is it possible with a combination of series and parallel >resistors to achieve the 17-ohm (or whatever it needs to be) resistance to >make it swing full-scale and appear to have 17-ohms in the circuit?

Yes but it won't be full scale one milliamp any more.

If you find a higher sensitivity meter (say 100 uA) movement with higher resistance you may be able to make a resistive network to make it behave properly (one ma and 17 ohms) Roy

From cbscott@ingr.com Thu May 8 17:16:06 2003  
Subject: [R-390] Meters

That's what I was thinking. Assume a 0.1mA meter (100uA) with internal resistance of 100 ohms. The parallel resistor should be 1/10 the internal resistance so put a 10-ohm across it. The new "internal" resistance will now be 0.11 ohms. Put a 16.78-ohm resistor in series and it seems this would be an equivalent meter. Is this wrong? Barry(III) - N4BUQ

From Barry Hauser" <barry@hausernet.com Thu May 8 17:46:00 2003  
Subject: [R-390] Painting Notes and Parts

Hi Boomer & List

I think that was me on the stripper no not THAT stripper. The stuff I use is in an oversized can and says aircraft something or other on it. It's a caustic (non-flammable) type. It worked, but not completely.

The panels were primed with one thing, finish coated with another, then refinished once or twice more. So you'll find a mix of things on them. There are two basic kinds of stripper nonflammable (caustic) and the flammable solvent gel types (napalm?) The second type may work on some finishes that the caustic ones fail on. I used a combination of the aircraft spray and denatured alcohol but not at the same time so as to avoid generating nerve gas or explosions or the-end-of-life-as-we-know-it, etc.

There was some stuff yellow primer that neither worked on and called for elbow grease. Best to start with a Scotch-Brite pad or similar abrasive pad rather than sandpaper wet or otherwise. It doesn't load up badly and is easy to rejuvenate as you go along. Never use steel wool as the filaments dig into the pits in the aluminum and keep showing up in the new paint no matter what you do.

As for cleaning out the lettering try one then the other with a detailing brush I prefer the nylon one the brass scratches things. I don't remember if the stripper works or the alcohol on the lettering, which I suspect is most often laquer, but who knows. On stubborn spots, one of Man's original tools is in order a pointed stick, also good for diagnostic work in locating microphonic tubes and bad solder joints. (Actually, can't credit "Man", as apes are known to use pointed sticks for digging out insects and other treats from holes in trees. Not recommended, for while rich in protein, also high in cholesterol.)

Finish off with wetsanding using a block behind it to even out the grain and sharpen up the edges of the stampings. I suggest always sanding/scotchbriting in one direction horizontal. If there are no gouges to fill, the panel looks so nice at this stage, I've been tempted to finish with clearcoat and fill the lettering with black or nothing. (That snazzy brushed aluminum look! One of these days, maybe even in this lifetime.)

Before repainting, you should use a prep solution, such as Alum-Prep (they say) but I couldn't find that nearby, so used a I used self-etching primer. Gotta put it on very sparingly or you'll fill up the "engravings" too much. (Then it becomes pointed stick time again.) Spread out plenty of newspaper or a tarp you won't mind getting rid of. It's a messy business, but somebody has to do it. Barry

From pha@pdq.com Thu May 8 17:50:16 2003  
**Subject: [R-390] Painting Notes and Parts**

wrote: > wrote: > > > 1. Jeez, that paint that they used on the R-390 is tough to remove.

**I've never had any problems removing paint with Mar-Hyde in the spray can, or Tal-Strip III (in gallon cans). I can get specific names for the Mar-Hyde product I like - I get it at the local car parts place.**

The good paint strippers often will only strip one layer of paint at a time - they bubble the layer, then no longer are in physical contact with lower layers.

I have never gotten very effective paint strippers in the hardware stores, although the liquid stripper is ok if you drop something like knobs into a sealed can and shake it around a bunch and let it do its thing for an hour or two.

Most of the semi-paste or especially the safe strippers don't work well for automotive, aircraft or military paint removal. The safe strippers are a lot safer, however, since they don't seem to have methylene chloride.

What I like doing is knocking off most of the paint with a stripper, then plastic media blasting the knob. Last batch I did, I got a little careless and didn't get all the white out of the grooves, though. Paul

From pha@pdq.com Thu May 8 17:58:20 2003  
Subject: [R-390] Painting Notes and Parts

wrote: > The panels were primed with one thing, finish coated with another, then > refinished once or twice more. > etc.

The main strippers I know of use methylene chloride, which is nasty stuff, but works well. Respirator is mandatory, as are rubber gloves, doing it outside, and flushing with water afterwards.

Caustic compounds will lift paint, too, but turn aluminum to jello if exposed long enough. You can make a lye bucket and drop parts in it to remove paint - I've done this with some degree of success on auto parts. Even better but dangerous, is to heat it to near boiling. I'd only do this with iron or steel parts, only outside, and only with a respirator.

**> There was some stuff yellow primer that neither worked on and called for elbow grease. Best to start with a Scotch-Brite pad or similar abrasive pad rather than sandpaper wet or otherwise.**

These pads work real well.

> Finish off with wetsanding using a block behind it to even out the grain > and sharpen up the edges of the stampings. I suggest always > sanding/scotchbriting in one direction horizontal. If there are no > gouges to fill, the panel looks so nice at this stage, I've been tempted to > finish with clearcoat and fill the lettering with black or nothing. (That > snazzy brushed aluminum look! One of these days, maybe even in this > lifetime.)

I did that with a TV-7 panel I refinished. It looked great, and I'd love to try it with an R-390! Paul

From anchor@ec.rr.com Thu May 8 18:27:16 2003  
Subject: [R-390] Painting Notes and Parts

Hi all, I spent my former life in the aluminum industry, learned a lot, forgot a lot, sure didn't learn it all. But, back when I was in some plants that did "coating", or painting, strip/sheet for various things, usually at speeds of several 100fpm & continuously, I learned that the various paints/coatings used like to have a slightly acidic surface upon which to attach, and dislike a slightly caustic surface, which good be left by soapy cleaners.

Phosphoric acid was the "preferred" stuff, & was used in various combinations with other stuff, including chromium, to provide a "conversion coating" for future painting/coating. Phosphoric was/is pretty nasty stuff, and the chromium solution was/is tough to treat for proper disposal. Other safer alternatives were developed, and a conversion coating as such is not always developed or reqd. (If Dr. Ornitz frequents this list I'm sure he could elaborate much better than I.)

**Anyhow, to make a long story useful, the metal surface, especially aluminum, should be somehow acidified before priming. I've found the easiest way to do this is with diluted household vinegar, a few ounces to a pint of water. Just swab it on after the surface has been cleaned. Let it run off & dry naturally. I've even used the mixture when wet sanding between coats, just 'cuz it was still sitting there. Figured it couldn't hurt, might help. I can't think of any flaking or peeling problems with anything I've treated this way over the yrs. I guess the dilute acid actually does slightly etch the surface, and provides a bit of tooth. All FWIW & YMMV 73, AI, W8UT**

From Ed.Hopton@checkpt.com Thu May 8 18:45:22 2003  
Subject: [R-390] Meters

Barry is almost right: Put an 11.11... ohm resistor in parallel with the 100 ohm, 100 uA meter. Put a 7 ohm resistor in series with the meter/11.11 ohm resistor combination. The composite network will have a resistance of 17 ohms and the 100 uA meter will read full-scale when 1 mA flows through the 7 ohm resistor. 73, Ed N3CMI

From LairdThomasN@JohnDeere.com Thu May 8 18:17:16 2003  
Subject: [R-390] RE: Paint stripping

Made yourself a bead blast cabinet! Works much better. Tom Laird WC9M Moline, IL.

From roy.morgan@nist.gov Thu May 8 19:18:05 2003  
Subject: [R-390] Meters

wrote: >That's what I was thinking. >>Assume a 0.1mA meter (100uA) with internal resistance of 100 ohms. The >parallel resistor should be 1/10 the internal resistance so put a 10-ohm >across it. The new "internal" resistance will now be 0.11 ohms.

Barry, I think the parallel resistor would be one ninth of the 100, actually, but close enough. (So that nine tenths of the one ma goes through the resistor and one tenth or 100uA goes through the meter.)

The equivalent resistance of the 100 ohm meter and a 10 ohm resistor in parallel will be  $(R1 \times R2) / (R1 + R2)$  or 9.09 ohms. Then you'd need 17 - 9.09 = 7.91 ohms in series with that combination.

Note that Mr Li reported measured values about twice the expected 17 ohms.

No doubt a clever person could develop a curve or family of curves to tell you the values you'd need to make this work with meters of various internal resistances and full scale currents. I would expect a parabola or some thing like that. And, regions of "it won't work" values could also be plotted. Roy

From hankarn@pacbell.net Thu May 8 20:05:57 2003  
Subject: [R-390] Painting Notes and Parts

I have them professionally stripped in a hot caustic bath and washed down with high pressure water, then off to the powder coater. No mess no fuss. Hank KN6DI

From jbrannig@optonline.net Fri May 9 00:11:27 2003  
Subject: [R-390] OT

>From the Collins list: I have been ordering from Harbor Freight for a while (a delivery came in today, garden hose, magnifying lamp, diamond honing blocks). Keep an eye on the catalog deals. Made in China cheap tools, \$ wise, but good "homeowner" quality. Also great deals on refurbished, full warranty Makita, Milwaukee.....tools. \$5.95 handling charge and frequent "free" shipping deals. In the land of 8 1/2 % sales tax, the one eyed internet screen is king.  
Jim

From eldim@worldnet.att.net Fri May 9 02:16:36 2003  
Subject: [R-390] OT ( CHEAP DVM'S)

Hello Jim, I went there and could not find the DVM mentioned. What date did you do that? Glen Galati

From w5kp@direcway.com Fri May 9 02:46:32 2003  
Subject: [R-390] Painting Notes and Parts

**Went through the same drill a few months ago with the nearly impossible to remove front panel paint on my Imperial/Teledyne. Local bead blaster shop refused to blast it, said they were sure it would round off the edges of the lettering, no matter how careful they were. Plus they were concerned about warping the panel, because I only wanted the front stripped. They did, however, tell me what to use to strip it, and it worked like a charm. It's the same stuff they use in their shop to prep autobody work, and is called JET-STRIP Professional Strength Automotive Paint Stripper. It's "Autobody Master P/N 7713", and is distributed by Auto-Value Associates of San Antonio, TX 78126.**

Seems to be easy to find, as I recall I found it at a large home center type store (sorry, don't remember which one. Like convenience stores, they all look alike to me anymore), but it's sold in gallons only. About \$16 a gallon. Can is blue and yellow in color. I wasted a bunch of time and change on about five other brands and types. None of them even discolored the surface of the original paint, let alone softened it, and I tried soaking some of them overnight. This stuff softened it in about 15 minutes to the point where it was "gently scrapable", and a followup coat and a soft wire brush cleaned up the remainder and the lettering. Piece of cake. It also doesn't seem to be the super-volatile, stinky, methyl-ethyl-xxx stuff. No major smell or fumes. Of course, the gallon is a bit of overkill, since a gallon should do maybe 100 front panels. I wonder what the shelf life of this stuff is... :- ) 73, Jerry W5KP

From n4xy@earthlink.net Fri May 9 03:05:30 2003  
Subject: [R-390] OT

Yeah... I got what I consider to be the deal of all time-then ignored (note the base word there: ignorance) it when I thought it not so useful. What was it???

The deal was: 1)free shipping, and 2) some SERIOUS percentage off, like 30-50% on their super-duper, incredible-hulk of a 5 inch vise... weighing (as I recall) 90 LBS!

Well... in the interim, I found the lost 3 inch'er I had for years ,but had misplaced after a workbench change. I hadn't even taken the big fella ought of the box!!!

So-o-o the other day, I finally decided to take the heavy son-of-a-gun out of that box, and see what it really looked like. Turns out it's awesome!!! The entire vise rotates, and the business end swivels, such that you have either a standard 5-inch bench vise head... or the other side is a multi-jawed monster thing for holding pipes. WOW! Net cost was under \$50 (as I recall)!!! Such a deal it was... all that functionality, a discounted price, AND free 90 LB shipping!!!

By the way, I dug it out because I needed to put 8 5/8 inch holes and one 1/4 inch hole in a piece of \*thick\* aluminum mast. Would those special jaws hold that pipe! And oh yes... I almost forgot the 4 inch square, flat anvil surface on the center/top. Totally awesome!!! 73 Ed Tanton N4XY

From bernice@videotron.ca Fri May 9 03:57:34 2003  
Subject: [R-390] Painting Notes and Parts

Dan, What's the cost of powder coating in qty one in your area. Al

From Tarheel6@msn.com Fri May 9 04:28:27 2003  
Subject: [R-390] CHEAP DVM'S in Greensboro, NC

Yep ... they are here in Greensboro. But the price was \$3.99... But then I showed the manager the email from Joe ... and they knocked a buck off, making the price \$2.99. Soon as I got home, I tried the two I bought out, and they are great. So I'm gonna go back and get a few more. Of course in the process of visiting the store I bought some other stuff too. Which is the method behind this madness in the first place. Even at \$2.99 a pop, Harbor Freight made money off of me! More than that, they have good stuff at VERY reasonable prices; I'll be back to visit Harbor Freight! 73's, -tom

From jtone@sssnet.com Fri May 9 04:14:18 2003  
Subject: [R-390] OT

Jim, You are absolutely right...!! For the most part the better stuff seems to be made in Taiwan... Have a HF store nearby...if one picks and chooses with a bit of knowledge...there are great deals allowing one to add to the 'arsenal' of tools at the electronics repair and fabrication bench...

Currently considering metal lathe watch for the sales have some good testimonials re the performance of these machines, and their milling machines .

I'm going to go for it and see what happens took course in metal lathe this past winter machined heavy duty dial skirts for R-390A St. Juliens Blue Striper did it on a lathe and it is GREAT .also check web and go to minilathe.com use google it might be mini lathe.com two words maybe but u can find it .this will lead to lots of sites and discussion of not only the famous "Mini Lathe" sold by several outfits esp Harbor Freight as the most cost effective .but other web site discussions of how to tune and use .

Harbor F seems to be the most cost effective and for custom parts manufacture for out big pets it's a whole new world of capability to help maintain bushing, shaft clamps, extension shafts, to name a few There are three sizes of lathes choose the largest one u can afford if u decide to get into this level of working on the ST. Juliens and others .u can do small on big, but not big on small

Take a look..but watch out you might get caught up in a whole new aspect of our hobby !! It just gets better and better !! 73, Gene W8KXR

From jtone@sssnet.com Fri May 9 04:50:31 2003  
Subject: [R-390] Meters

Scott and other Gents, The amplified meter gambit has been discussed in "Solid State New" a few years back, complete with a picture of the mounting system on per board. But yes, it has been done before and opens the door to comparatively easy metering up of those 'pure' rigs with the big holes in them

Keep an eye on the boxes under the tables gents the meters are out there and are very usable as are occasionally the back lighted meters about half of those found are center scale meters so not as usable

For the purists out here My five of my R-390X's are up an running now, some are with all original metering, some with mixed meters, and one with mixed meters that is documented "original retro fit by the Navy under at sea conditions .that don't match one white face (Db) and one black "

So whatever pure is enjoy but don't get your shorts in a knot over it . . . In fact, no one has ever seen my R-390X stable and been able to tell whether my paint jobs are new out of the box or re done, or some with battle scares . and like wise for the metering, or the now customized dial skirts on my favorite ST. J Blue with it's freshly machined shaft clamps that are 'not original' Have fun gents es 73, Gene

From k7ais@oco.net Fri May 9 08:06:59 2003  
Subject: [R-390] CY-979 Shockmounts

Howdy R-390 Folk: Picked up a decent cabinet today but it is missing the shockmounts and "skis" which normally support these things. Does anyone have an extra set so it can look like a "real" radio again? Thanks, Brian

From Damon Raphael" <w7md@gci-net.com Fri May 9 08:13:52 2003  
Subject: [R-390] CY-979 Shockmounts

I wish! I need a set too. Can anyone suggest an alternative good way to put mounts on the CY-979 cabinet. Damon, W7MD

From courir26@yahoo.com Fri May 9 13:06:49 2003  
Subject: [R-390] CY-979 Shockmounts

The shockmounts are made by Lord's of Erie, PA. If you want cheaper, I think Murphy's in El Cajon has a bunch out equipment out back from which they can grab some. Regarding the skis, that is a problem. Those skis are pretty stout material. The edges are rolled up. With a sample you could probably have them made, but the paint would be tough to match. Tom N5OFF

From jbrannig@optonline.net Fri May 9 14:03:04 2003  
Subject: [R-390] OT

Gene, It looks like fun, but there is no room for a lathe here. I notice that HF is about to open stores in NY state. That is too bad, they will have to charge sales tax on all NY sales. Look for a deal on the Milwaukee cordless screwdriver. IMHO, the best on the market and just the thing for dealing will all the screws on R-390's and other B/A's. Excelite sells a bunch of nut drivers and screw tips that fit the Milwaukee. Jim

From w9wis@charter.net Fri May 9 14:38:07 2003  
Subject: [R-390] CY-979 Shockmounts

Surplus Sales of Nebraska \$7 each.... the the Lord HT2-35 is the proper mount for the CY-979  
<http://www.surplussales.com/hardware/shockmount.html> Mike

From Ed.Hopton@checkpt.com Fri May 9 14:33:13 2003  
Subject: [R-390] OT

Speaking of Harbor Freight and machine tools... If anyone needs a vertical milling machine, I have one for sale. It came from Harbor Freight and it's a monster! Reply off-list for details. 73, Ed N3CMI

From roy.morgan@nist.gov Fri May 9 16:07:55 2003  
Subject: [R-390] CY-979 Shockmounts

you wrote: >I wish! I need a set too. Can anyone suggest an alternative good way to >put mounts on the CY-979 cabinet.

- 1) Get big rubber feet: - Robber Barons of Nebraska - Fair Radio Sales - any of a large number of other sources
- 2) Bolt the feet to the bottom of the cabinet with suitable hardware.
- 3) Enjoy the radio, knowing that the air can get through the cabinet bottom. Roy

From roy.morgan@nist.gov Fri May 9 16:19:08 2003  
Subject: [R-390] OT ( CHEAP DVM'S)

wrote: Hello Jim, I went there and could not find the DVM mentioned. What date did you do that?

The original poster mis spelled the maker of the thing. It is Cen Tech not Gen Tech, (I think.)

I found it yesterday but today the search function is not working. If you can get a listing of meters, then find the more expensive meter by the same company to confirm the spelling.. the cheap meter is not listed if you search for "meter" or "7-function". Then search on the correct maker's name, once the search engine is running again. There seems to be no good catalog browse function on the web site. It's all very frustrating. Roy

From LairdThomasN@JohnDeere.com Fri May 9 16:50:32 2003  
Subject: [R-390] RE: CHEAP DVM \$2.99

It is Cen Tech. Item number: 30756-4VGA de wc9m Moline, IL.

From cthulhu@fhtagn.org Fri May 9 17:10:20 2003  
Subject: [R-390] Comment on the CenTech DMMs

I bought one, and took it to work with me to the cal lab and put it on the Fluke 5720 calibrator. The darned thing is pretty accurate. I say get one for each tool box at that price and a couple for spares if they are all that good.

Have bought other models as gifts off the E place, and they seem to check out as well. Can't vouch for the durability or how well they will stay in cal in the long run, but for ham and home use, and for the price it's a bargain.

You want a super hand held meter, then buy a Fluke model 89 or something. An affordable rugged meter, get a Fluke model 12 ( under \$100 usually ) but a decent "knocking around meter" get a couple of these. Tom KA4RKT "Trust me, I'm an Instrument Tech"

From cbscott@ingr.com Fri May 9 17:14:54 2003  
Subject: [R-390] RE: CHEAP DVM \$2.99

Looks like all us hams looking for "cheeepie" DVMs have brought HF's server to its knees... :)  
Barry(III) - N4BUQ

From wli@u.washington.edu Fri May 9 17:55:54 2003  
Subject: [R-390] Re: panel meter resistance

>From: "AI2Q" <ai2q@adelphia.net Why not use a DMM (never a VOM!) and simply measure the internal resistance directly. Works like champ using a Fluke 8020A.

One caveat: be sure that you measure the maximum current put out by your DMM on the ohms function before you measure your unknown meter. My Fluke 8120B put out only 350uA with the leads shorted on the 0-200 ohm setting, so it was safe to measure directly the internal resistance of a R390 carrier 1000uA meter. But if I wanted to measure the resistance of a 50uA meter with an estimated resistance of say, 1200 ohms, my DVM put out 950uA on the 0-2000 ohm setting, 14uA on the 0-20K ohm setting, and 14uA on the 0-200K ohm setting. Clearly, it would be foolish to use the 0-2000 setting, but safe to use the 0-20K or 200K settings. YMMV of course,,,,, Wayne

From cbscott@ingr.com Fri May 9 18:58:03 2003  
Subject: [R-390] RE: CHEAP DVM \$2.99

Is the the meter to use to check the panel meter resistance? >:-) Barry(III) - N4BUQ

From buzz@softcom.net Fri May 9 19:09:47 2003  
Subject: [R-390] RE: CHEAP DVM \$2.99

46ellow bargain hunters, I've had one of these meters for a few years and after a few months one of the digits became intermittent. Opening the case revealed that the lcd was a pressure fit to the contacts. I cleaned the contacts with an eraser then reformed, (I was taught long ago that you never "bend" anything) the contacts to provide more pressure and the meter has worked well ever since. BTW, it reads within a few tenths of my Fluke 87 III. As for the Tiwan machine tools..... I consider them a work in process. Buzz

From Darryl Jones" <sherri-darryl@erols.com Fri May 9 21:50:55 2003

What;s the website again please? :)

From jimsim@adelphia.net Fri May 9 22:09:35 2003  
Subject: [R-390] RE: CHEAP DVM \$2.99

<http://www.harborfreight.com/cpi/ctaf/Displayitem.taf?itemnumber30756> will take you to it. Jim

From w5or@comcast.net Fri May 9 22:58:33 2003  
Subject: [R-390] FS: R-390s Dayton Delivery Only

If someone is looking for a 390A, 390, or 391, has paypal funds at the ready, and can take delivery at Dayton, let me know. I have one of each for sale. These are (presently) untested but complete with meters and covers. Contact me off list if you are interested. Price depends on cosmetics, and I have them ranging in fair to excellent shape. I won't offer these to anyone but list members, especially those who don't yet have one. Nor will I take any to Dayton that aren't presold. I have one R-389 I would consider parting with but please be prepared for sticker shock! Serious sticker shock! Thanks.  
mailto:w5or@comcast.net Don Reaves W5OR

From krk@ix.netcom.com Sat May 10 02:10:10 2003  
Subject: [R-390] Re: OT ( CHEAP DVM'S)

Actually H.F. has two different meters. One which is part no. 30756 is the one they have on sale at \$2.99 while the other one is part no. 35761 which is on sale at \$3.99. The difference is the 35761 has a couple of greenish LED backlights for the display which can be turned on/off with a slide switch located in the upper left of the panel. I have both of them in front of me. I just tried them on a 1k ohm .005% lab precision resistor and the 30756 said 1002 while the 35761 said 998. They say it does +-0.8% of range +-2 digits. Looks like they are close enough for \$3 or \$4. If you can get the 35761 for \$2.99, you scored a buck. Either way they come with the 9 volt battery. BTW - the panel lights work well. Just like a .45, I

keep one in every room plus one in the truck <grin>. Durn those Chinese <nuther grin>. Ken

From Darryl Jones" <sherri-darryl@erols.com Sat May 10 02:24:14 2003  
Subject: [R-390] Re: OT ( CHEAP DVM'S)

"handling" is \$5.95 though above the shipping cost, which makes it pretty much a regularly priced DVM @ Rat Shack :(

From TheFirebottle@aol.com Sat May 10 02:35:24 2003  
Subject: [R-390] Re: OT ( CHEAP DVM'S)

writes: > "handling" is \$5.95 though above the shipping cost, which makes it > pretty much a regularly priced DVM @ Rat Shack :(

Heh..heh...There had to be a catch..... I regularly work around high voltages in the industrial chiller business, I don't think I would want to trust one of those on 660 Volts. Just my 2 cents worth.

From jimsim@adelphia.net Sat May 10 02:55:08 2003  
Subject: [R-390] Re: OT ( CHEAP DVM'S)

Strange, when I went in to pick one up the only thing the tacked on was the sales tax. Jim

From Darryl Jones" <sherri-darryl@erols.com Sat May 10 03:02:24 2003  
Subject: [R-390] Re: OT ( CHEAP DVM'S)

Qty	Item Description	Price	Item Total
1	30756-4VGA 7 FUNCTION MULTI-TESTER	2.99	2.99
	Subtotal	2.99	
	Tax Rate	0.00000	
	Tax Amount	0.00	
	(DE) - (2.95) *Shipping	2.95	
	Handling	5.95	
	Total	11.89	

Maybe it's to do with my zip being on the east coast?

From jamesmiller20@worldnet.att.net Sat May 10 03:05:38 2003  
Subject: [R-390] Re: OT ( CHEAP DVM'S)

With all due respect, would folks please take OT posts OL (off line)? Direct email is a wonderful thing, and the hundreds of other 390 list members may not care about this DVM stuff, IMHO. Anybody else out there really want to read this DVM chat?

From ba.williams@charter.net Sat May 10 03:34:14 2003  
Subject: [R-390] Re: OT ( CHEAP DVM'S)

I like reading it. Barry

From w5or@comcast.net Sun May 11 04:40:09 2003  
Subject: [R-390] R-390 Pictures

Even if you don't need to buy another R-3XX, you might enjoy viewing some of these pictures I shot. There is a R-389, two 390s, 391, 390A. Not much organization but self-evident names.  
<http://www.militaryradio.com/FS2003/> Don Reaves W5OR

From jbischof@nycap.rr.com Sun May 11 14:54:09 2003  
Subject: [R-390] Re: R-390 digest, Vol 1 #689 - 1 msg

Don thanks for sending the pictures. James

From stevehobensack@hotmail.com Sun May 11 15:27:15 2003  
Subject: [R-390] IMHO

I'm ex Navy and i know what EMHO is, but what is IMHO? (maybe I shouldnt ask).....Steve....KJ8L

From courir26@yahoo.com Sun May 11 20:59:55 2003  
Subject: [R-390] 9V Batts for AGC Mod

I needed a 9V batt for my 390A AGC mod. Cheapest source I've found is Harbor Freight. Buy two DVMS, use one to measure AGC voltage, junk the other meter and use the 9V battery that came with it to bias agc. Overall lowest price on both. :- ) 73 TOM

From jbrannig@optonline.net Sun May 11 21:50:37 2003  
Subject: [R-390] 9V Batts for AGC Mod

HuH? Harbor Freight has a \$5.95 handling charge per order... If I try REAL hard I can do better for a 9V battery.....

From k4kwm@hotmail.com Sun May 11 22:22:00 2003  
Subject: [R-390] 9V Batts for AGC Mod

This has got to be a stupid question. But I will ask anyway. Did I miss something here on the 9v battery. As far as i know I can still go to the hardware store, krogers, rat shack and get 9v batteries. I apologize if I missed something. Help me out here. Cause if they arent making them anymore I have a problem. John  
John Page

From TheFirebottle@aol.com Sun May 11 22:23:47 2003  
Subject: [R-390] 9V Batts for AGC Mod  
Message-ID: <a7.31be59a4.2bf01963@aol.com>

writes: > I needed a 9V batt for my 390A AGC mod.

Oooooooooooooooooohhhhhhhh, that ought to get things stirred up a little!!!!!!!!!!!! The Firebottle

From TheFirebottle@aol.com Sun May 11 22:24:47 2003  
Subject: [R-390] 9V Batts for AGC Mod

writes: > HuH? > Harbor Freight has a \$5.95 handling charge per order... > If I try REAL hard I can do better for a 9V battery..... > > >I needed a 9V batt for my 390A AGC mod.

Woooooooooooooooooooooshhhhhh.....the sound of that humor flying right over your head..... The Firebottle

From TheFirebottle@aol.com Sun May 11 22:25:31 2003  
Subject: [R-390] 9V Batts for AGC Mod

writes: > This has got to be a stupid question. But I will ask anyway. > > I have a problem. John > > Wooooooooooooooooooooosssssssssshhhhhhhhh.....and another one bites.....:-) The Firebottle

From Richard.McClung@Dielectric.spx.com Mon May 12 14:58:07 2003  
Subject: [R-390] Re: OT ( CHEAP DVM'S)

As do I..... RICH @B> }

From cbscott@ingr.com Mon May 12 15:01:20 2003  
Subject: [R-390] CHEAP DVM'S - Thanks

I bought one for myself and two for stocking-stuffers for my nephews. My thanks to the original poster. First trip to HF. Now if I just had room for that milling maching... Barry(III) - N4BUQ

From jtone@sssnet.com Mon May 12 18:19:50 2003  
Subject: [R-390] CHEAP DVM'S - Thanks

Scott, Milling machines and such .

Hoping to purchase the 12x36 lathe later this month so far all reaseach has been positive on quality mostly by talking to customers in store and on line it has it's limitations but so what doesn't

Also take a look at the insturmentation dial gauges, Micrometers, calipers, etc .Wow! It lets us in the game

Re the milling machine it is also getting good commets from what I've heard I know less about them than the lathe but there are several models in particular take a look at the heavy belt driven model it has provision for two axis power feed attachments that are listed in the "Big Catalog" .for the dollars, both the lathe (even the smaller ones) and the milling machines are great value for the bucks and open a

whole new world of support for our R-390's

btw first project if I should acquire a milling machine, after the lathe is to produce some of the "horseshoe" clamps for the dive shafts and gear camp downs, not to mention the ones that go inside the tuning knobs Had a friend make me a couple a few years ago that got me interested in doing my own and learning some machine work .

Good luck and btw on a broader subject and one that really needs 'no discussion' here simply food for thought those lathes and milling machines are made in Taiwan check the prices and quality . then use ones imagination as to how can this be?

For me I am going to buy one before someone figures it out probably next week if all goes well

And as far as space, even if I have to park it in the kitchen OOOps my wife is just . 73, Gene W8KXR

From jtone@sssnet.com Mon May 12 18:27:31 2003  
Subject: [R-390] CY-979 Shockmounts

Brian, Was in the same situation a year or so ago...Check with Fair...They had several sizes and took a bit of talking on the phone to zero in on what appears to be perfect match...they were very inexpensive... 73, Gene W8KXR

From jtone@sssnet.com Mon May 12 19:53:50 2003  
Subject: [R-390] Re: OT ( CHEAP DVM'S)

Gents, Me too... Maybe some of the uninformed haven't been to HF...?? One might check out the 'up scale' DVM's and the 'Clampers" too. . . you'll enjoy . . . and they too come on sale with several variations . . Also suggest looking at the soft jaw attachments for vices...great to hold shafts and gears without marking them while you clean or otherwise rehab those precious parts Plus HF has a vice mounted system of dies to bend light metal...Great for preping brackes and stuff for mods and small circuit mounting systems... Sorry to burden the masses with suggestions regarding way to add to and improve ones repair and homebrew bench...please use the delete key as needed... 73, Gene

From TheFirebottle@aol.com Mon May 12 21:45:56 2003  
Subject: [R-390] AGC mod batteries

Hey Tom, How many of those 9 volt batteries do I need to get for that "AGC MOD"? Do I need to parallel them or use them in series??? Anxiously awaiting your reply..... The Firebottle

From smithw@WPI.EDU Tue May 13 01:47:36 2003  
Subject: [R-390] Digital Radio Mondiale

Hey, how's everybody doing?

I'm interested in doing DRM with my R390A... I've looked at the drmr page and I've found that you have to downmix the 455kc to 12kc and they offer a kit to do this... Has anybody sucessfully used the kit with the 390 off of the 455kc IF out? -Bill KE1GF

From TheFirebottle@aol.com Tue May 13 02:29:35 2003  
Subject: [R-390] Best ballast tube resistor

Should I use a 39 or 40 ohm resistor to replace my bad ballast tube? 1%, 5% or 10% and what wattage? Someone told me that if I use a resistor, my R-390A would not work properly. What should I do?  
The Firebottle

From rbethman@comcast.net Tue May 13 02:40:18 2003  
Subject: [R-390] Best ballast tube resistor

I have no idea if it is the "best". I purchased my '67 EAC with a 50 Ohm 10W in place of R-510. It is inserted across pins 2 & 7. I have removed it and replaced it with a 3TF7 and can see or detect NO DIFFERENCE. My 3TF7 has a fairly small segment that glows. The frequency stability is as good as any R-390A that I've had the fortune to use. Bob N0DGN

From jamesmiller20@worldnet.att.net Tue May 13 02:53:11 2003  
Subject: [R-390] Best ballast tube resistor

I drilled a 1/4 inch hole in my front panel to the right of the VU meter and installed a 15W wirewound pot. I am able to adjust the pot for optimum operation of the oscillator tubes. Since the changing filament voltage does cause a slight frequency shift, this can also double as a vernier tuning capability. I am now working on calibrating the dial in Hz offset. You must be very careful to avoid turning the pot to zero however, as it will fry the oscillator tube filaments. I am thinking of using a sheet metal screw as a safety stop for this purpose.

From tony@bright.net Tue May 13 03:33:09 2003  
Subject: [R-390] FS at Dayton: The Only (?) Adler Electronics R-390A

Hi Gang, I'll be attending the Dayton Hamvention on Thursday afternoon (setup) and all day Friday and Saturday. I plan on bringing an unusual R-390A to sell, and I'm offering it to list members first.

I own an R-390A which was made by Capehart Corporation for Adler Electronics. This receiver, Serial Number 5, appears to be the only one identified from the Adler contract, number 20878-PP- 63. It seems Adler made truck-mounted communications shelters, and my receiver has Signal Corps markings that indicate it saw service in Europe in the late 1960's. It also has a flip-up privacy cover for the frequency window, installed no doubt to ward off prying eyes.

The set has been in dry storage for three years, and it is in good condition overall. I last used it to receive signals about four years ago, and I've completed no electrical checks since. It very likely needs capacitor and resistor replacement. IIRC, the installed modules were made by Capehart.

The original meters were removed while Uncle Sam still owned the set, and a few touched-up scratches are visible around the meter openings. A set of uninstalled meters and a top cover will be included with the radio.

A fuzzy picture of the tag can be seen on the R-390A FAQ Page: <http://www.r-390a.net/faq-manuf.htm>

I'm an inveterate lurker on the R-390 and Milsurplus lists, mostly because of my lack of knowledge about the subject radios. :-) However, I'll try to answer any questions if you'll send me a note. TNX es 73, Tony W8HRO

From k7ais@oco.net Tue May 13 05:21:47 2003  
Subject: [R-390] Shockmount Thanks.....

R-390 Fans: Thanks for all the answers regarding shockmounts and skis for my new CY-979. There is a local electronics junque shop where I can probably come up with some mounts that are close and fab up some skis.

Had an interesting "find" in the new Motorola (Order No. 14-PH-56, s/n 291).....while looking at the underside of the AF module, I discovered a gecko about 1 1/2 inches long and considerably dessicated, along with three unhatched eggs. Clearly, this radio had spent some time in the tropics. Perhaps he was in there looking for spiders..... Brian, K7AIS

From rodney\_bunt@yahoo.com Tue May 13 07:10:48 2003  
Subject: [R-390] Best ballast tube resistor

Put a fixed reistor in the chain, so when the pot is at ZERO you still have the "40 Ohms" in series with the fillament. Rodney VK2KTZ

From billsmith@ispwest.com Tue May 13 07:28:20 2003  
Subject: [R-390] Best ballast tube resistor

That sounds like a great idea, Jim. There are lots of tubes around, and so what if they don't quite operate at the right voltage as long as they operate ok. You can probably also eliminate drift by adjusting your control. I might try that on mine. I don't have any space left on the front panel, so think I'll use a screwdriver slot type and won't need a knob. It should fit just below the Line Meter switch.

I couldn't find a right meter for my set, so I used a larger meter. It is easier to read anyway. I had to carve a little out of the washer underneath one of the handles, because the meter bezel bumped into it and unfortunately, the saw slipped when I was expanding the meter hole, so there is a little "air" on that side of the meter, but I used larger sheet metal screws and one of them holds it down real good.

I didn't like the on-off switch, so I drilled another hole right above the frequency readout and put in a toggle switch. Also, the calibrator isn't very good, and my PTO isn't very linear anyway, so I drilled another hole just below the function switch and mounted a rotary switch with 100kHz, 10Khz and 1Khz positions. I put in a transistor crystal calibrator kit, mounted it right on back of the front panel. It only took one screw to mount it. A neat trick is to cut up a piece of innner-tube and put it under the circuit card so the parts don't make contact with the panel. I tried using a flat-head screw to mount the card so it would look "original" but I don't think it was worth the effort, cause it is real easy to make the mounting hole too big. Its hard get it just right anyway, but it holds ok. It shouldn't be too tight, or the card stops working. I don't know why.

The mechanical adjuster lets me tune to an exact zerobeat now on most of the dial, but sometimes I have trouble telling which zerobeat is which.

Unfortunately, I can't turn off all of the calibrator, so some of the signals I hear in the radio have a squeel to them now. But the dial light I put in the panel just below the bandwidth switch looks great in the dark, even if it makes the set hum a little. I made real short wire connections from the guts in the radio to the front panel, too. They were a bear to attach from underneath but they finally made good contact.

On the back, I didn't like the antenna connectors, so I drilled holes and mounted a SO-239 plug and connected it right to the antenna coils. Something needs fine tuning, though, because the Antenna Trim adjustment doesn't seem to work anymore. I'll have to try taking turns off the coils to see if that helps.

I also mounted a T/R relay on the back. There is a lot of room to mount whatever you want. Be careful when you drill, though, because there are wire harnesses and parts right on the other side of the back panel. I wonder why they made the set that way. Gees, it is really easy to drill into something when you are making a hole.

I've heard you can soup up the set with some more modern tubes, but I haven't found step-by-step instructions yet that I can follow to let me make the modifications. I hope one of these days a good article will be published on Internet or in a magazine. The radio works pretty well except on the higher frequencies and a preamp should help there. Of course it would be better to modify the front end instead.

Good luck with your radio. What are you planning to do to it next? I'm just about out of bare spots on mine. Bill

From billsmith@ispwest.com Tue May 13 07:45:54 2003  
Subject: [R-390] RE: Best ballast tube resistor

(1) Remove the VFO tube, V701 (5749/6BA6W) and the BFO tube, V501 (5749/6BA6W). The VFO tube is underneath, in the PTO assembly, and the BFO tube on the IF chassis, behind the Line Meter switch.

(2) Replace each with 12BA6 tubes.

(3) Using a small piece of solid wire, make a wire jumper and install it (plug it in) between pins 2 and 7 of the ballast tube socket. No disassembly, soldering or other modifications are necessary. 73 de Bill, AB6MT

From jlkolb@cts.com Tue May 13 07:57:27 2003  
Subject: [R-390] Best ballast tube resistor

wrote: > I didn't like the on-off switch, so I drilled another hole right above > the frequency readout and put in a toggle switch. Also, the calibrator > isn't very good, and my PTO isn't very linear anyway, so I drilled > another hole just below the function switch and mounted a rotary switch > with 100kHz, 10Khz and 1Khz positions. I put in a transistor crystal > calibrator kit, mounted it right on back of the front panel. It only > took one screw to mount it. A neat trick is to cut up a piece of > inner-tube and put it under the circuit card so the parts don't make

>

> The mechanical adjuster lets me tune to an exact zerobeat now on most of > the dial, but sometimes I have trouble telling which zerobeat is which.

I thought about doing that the the xtal calibrator, but found it was a lot easier to just take out the speedometer dial and replace it with a solid state frequency counter. Never have any more of those zero beat problems.

> I've heard you can soup up the set with some more modern tubes, but I > haven't found step-by-step instructions yet that I can follow to let me > make the modifications. I hope one of these days a good article will be > published on Internet or in a magazine. The radio works pretty well > except on the higher frequencies and a preamp should help there. Of > course it would be better to modify the front end instead.

Kinda hard to find enough transistors to replace all those tubes, What you need is to get some of the IC thingies that have lots of transistors inside them. John

From Tarheel6@msn.com Tue May 13 13:51:42 2003  
Subject: [R-390] RE: Best ballast tube resistor

Bill's plan is fine, except for one thing in my experience. The piece of wire that bridges pins 2 and 7 needs to be insulated up to the points where it inserts into the pins. Why? Because in my case the wire was not rigid enough to stay firmly in place and it leaned (or was bent inadvertently by me) against the tube socket shield. A nasty short to ground resulted. So I use a piece of insulated wire. My 2 cents worth; YMMV. 73's, -tom

From Richard.McClung@Dielectric.spx.com Tue May 13 15:11:15 2003  
Subject: [R-390] Re: OT ( CHEAP DVM'S)

I find it interesting. I could use a cheap DVM to work on my R-390 and R-390A's. Also my 51J-2, 51J-4, R-392's and R-648's. The bench mill was especially interesting because it made me realize that I could use one to make some mechanical parts for may beloved boatanchors that are either becoming prohibitive in price or are simply no longer available. The ones I don't want to read I just DELETE.....

OBTW (Oh by the way) I wish people would take the time to remove all the unnecessary trailers, notes, tags, and previous messages that don't relate to the current thread, etc..... because it is really time consuming to go through all of them to see if I want to read them or not. ;>) I'm sure this is going to put me in the penalty box but I MUST stand up for MY rights also. I mean, if 50 people are doing something and one or 2 people don't want them to do what it is they are doing I thought that the majority ruled..... They HAVE the choice to join in or NOT..... Just my 2 cents. With or with out this list I WILL STILL have al the above listed R-390(\*) related receivers. Allah Fatah! RICH @B> }

From tetrode@worldnet.att.net Tue May 13 17:38:32 2003  
Subject: [R-390] Best ballast tube resistor

Bill, those are all great mods you have there, only a matter of time before they become basic restoration must-do's and are included in the FAQ site.

Another useful one is to drill a hole next to or just under the KC tuning knob so that the PTO end point can be adjusted from the front. Depending on the radio type (A or non) you might need to bore through a gear or two for extra clearance but they'll have plenty of metal left over and were over designed anyway. This way you can fine tune the PTO length every time you use the radio. 73, John

From tony@bright.net Tue May 13 12:21:32 2003  
Subject: [R-390] FS at Dayton: The Only (?) Adler Electronics R-390A

Hi Walt, > I'd love to drop by and say hello, and take a peak at your R-390A. If you > have a space at Dayton, please send the number. Or drop by mine at spaces > 323-324 and say hello.

Sorry I failed to post the space numbers - I'll be at 1946 and 1947 with my brother and son. We won't be attending Sunday. 73, Tony W8HRO

From djmerz@3-cities.com Tue May 13 18:05:12 2003  
Subject: [R-390] Best ballast tube resistor

Bill , I don't know why you're re-hashing all these mod's again - they are already available in the archives. I was at a hamfest in Stanwood, WA this weekend and I was discussing the 390 reflector with a local and he mentioned that the participants "resonate" with one another. I think it was a kind compliment. And from my short exposure, I would say it's on the mark. I admire the continuity, humor and knowledge that comprise the tuned circuit of this group. I didn't see any 390's for sale, only one SP 600Jx for \$250, a shop worn example. I came back with a spool of #40 magnet wire, a book and a meter. I missed a free big chassis?? that had a large number of the good tube shields still in place. Dan.

From ghayward@uoguelph.ca Tue May 13 19:31:50 2003  
Subject: [R-390] drill a hole next to or just under the KC tuning

Is drilling holes permitted or is this an unforgivable heresy? I'm still debating a couple of 9/64 hole in the rear panel to locate a 220 ohm Dale resistor near the B+ fuse if and when one of the 26Z5 tubes dies and I have to go to silicon. I think that will be better (and easier) than putting it under the AF deck. I'll replace the selenium bridge at the same time as it will have to move to make room for the resistor.

BTW would a high power Zener be better than a resistor to keep the B+ voltage down with the solid state mod? 73 de Gord, VE3EOS.

From ToddRoberts2001@aol.com Tue May 13 20:26:35 2003  
Subject: [R-390] drill a hole next to or just under the KC tuning

writes: > Is drilling holes permitted or is this an unforgivable heresy?

Hi Gord. I don't think drilling holes in an R-390/R-390A is unforgivable as long as they are NOT in the front panel, are mostly UNSEEN, are NICELY DONE and for a good practical reason, and can be REVERSIBLE. Drilling 2 small holes in the rear panel to hold a power resistor or perhaps to mount an IEC-type power connector I would not consider heresy. Drilling a hole in the front panel to mount a toggle-switch I would consider unforgivable heresy. The other thing I would add is that if making ANY kind of wiring changes to the radio, PLEASE leave documentation on what you did. It would be very frustrating for someone to bring home a radio from eBay or a hamfest and find several wires hanging out the side of the IF deck with no explanation.

Any modification done to the radio should make it BETTER. Solid-stating the power supply with no regard to increased B+ I would consider a BAD modification. Adding a power resistor to bring the B+

back to normal is better, but there is still the question of : is it better to have full B+ instantly on all the tubes before the filaments have had a chance to warm up? In most cases I would keep the radio as the original engineers intended. A lot of design thought and details went into building the radios by engineers that had a world of experience in all aspects of the radio. 73 Todd Roberts WD4NGG.

From r.tetrault@attbi.com Tue May 13 20:43:41 2003  
Subject: [R-390] drill a hole next to or just under the KC tuning

Guys, This thread is nothing but tongue-in-cheek hacking ideas intended to push emotional buttons, hopefully of the belly laugh variety. Can anyone seriously contemplate putting a 15 Watt rheostat on the front panel to vary the filament current of the oscillator tubes? And even a cursory exam of the archives or Pearls of Wisdom point out that the instant B+ topic is also a dead-end, strictly a matter of personal choice. No info has surfaced to establish that this would cause tube failure or even shorten their life. Bob Portland, OR

From jbrannig@optonline.net Tue May 13 22:44:21 2003  
Subject: [R-390] drill a hole next to or just under the KC tuning

Darn, now you tell me !!! I just got it mounted, and only had to drill two holes to find the right spot..... Was that "ZERO ADJ." important? Jim

From ba.williams@charter.net Wed May 14 01:01:20 2003  
Subject: [R-390] Digital Radio Mondiale

Isn't DRM a french company???

From DJED1@aol.com Wed May 14 01:35:27 2003  
Subject: [R-390] Best ballast tube resistor

Been using a resistor for 25 years, and it works fine. I'm planning on using the 3TF7 to fund my 401K when I retire. Ed WB2LHI

From l.baldi@dottorbaldi.it Wed May 14 07:21:36 2003  
Subject: [R-390] DRILLING HOLES IN THE FRONT PANEL

Hi to all, I agree absolutely with Todd, in my personal opinion to drill an hole in the front panel is a very awful thought, furthermore the value of a receiver with added holes in the front panel drop in a very consisten manner. I hope that my english is good enough. Anyway this is only my personal opinion. Thanks to all for the bandwidth. Federico IZ1FID

From l.baldi@dottorbaldi.it Wed May 14 07:23:45 2003  
Subject: [R-390] WTB RCA SRR-13A

Hi Folks, I should like to buy a RCA SRR-13A only if in operating conditions and very good cosmetical and electrical conditions better if "like new", with a full copy of Tech. Manual or, better, an

original one. I can consider to buy only the Tech. Manual if some of you have an original manual for sell. Thanks and excuse me for the off-topic post. Federico IZ1FID

From drewmaster813@hotmail.com Wed May 14 22:37:05 2003  
Subject: [R-390] B+ Dropping Resistance (was Drill a Hole...)

Gord Hayward wrote: >Is drilling holes permitted or is this an unforgivable heresy? I'm still >debating a couple of 9/64 hole in the rear panel to locate a >220 ohm Dale resistor near the B+ fuse if and when one of the 26Z5 tubes >dies and I have to go to silicon. I think that will be >better (and easier) than putting it under the AF deck. <snip>

For the non-heretical who want to use chassis mounted power resistor to drop B+, said resistor can be mounted to a flat piece having holes for resistor mounting plus holes matching diameter/spacing of some existing component's mountings. The adaptor would then be sandwiched between component and chassis, and perhaps use longer screws. Flathead screws for resistor countersunk into adaptor would permit flush mounting to chassis. Pigeon Poop (heatsink compound) could be used for improved heattransfer.

A power resistor (lead mounted, no holes required) can be installed on the power supply unit from transformer HV center tap to ground. It can be spaced away from rectifier tube sockets to provide free air circulation. A disadvantage is proximity to PTO and resultant heating although the rectifier tubes do that anyway.

Locating resistor under audio module chassis worsens the already existing heat problem there.

Under chassis location of power resistors cooks components in a lot of tube gear. I've pondered (but not tried) disumpucking above chassis filter caps, moving power resistors to inside capacitor cans (perhaps with thermally conductive potting), and mounting new leaded caps under chassis.

>BTW would a high power Zener be better than a resistor to keep the B+ >voltage down with the solid state mod? <snip>

Vacuum rectifiers have a forward voltage drop characteristic which is roughly approximated by a constant voltage in series with a resistance. Using silicon (with its lower voltage drop) plus resistance to replace tube rectifiers would result in degraded regulation. One claimed that he could detect FMing of PTO at high audio level when doing this. I've not noticed any untoward effect on PTO stability from use of series resistance to drop silicon rectified B+. Silicon diodes plus resistance is an official gov't approved modification.

Using a power zener for constant B+ drop has been discussed here. Power zeners tend to be expensive and difficult to find. A small zener and power transistor can be connected to perform same function. Note that either of these arrangements would dissipate same power as a resistor but must dissipate it at a lower temperature probably necessitating a sizable heatsink (or sunk to chassis).

If using power transistor plus zener, you have a pass element and voltage reference so you could add error amplification and make it a regulator...ad nauseum.

At r-390a.net you will find Wei Li's brilliantly conceived "Pearls of Wisdom" where postings of this topic have been neatly distilled for convenient reference. Drew

From ba.williams@charter.net Thu May 15 02:02:07 2003  
Subject: [R-390] Shockmount Thanks.....

Brian, Yes, each radio has at least one resident spider. I have a PH-56 myself and I bet it has at least one old spider in there somewhere. Cat pee is the preferred method of keeping spiders out of radios, if you don't have access to geckos. (This only works on boatanchors) Barry

From Barry Hauser" <barry@hausernet.com Thu May 15 02:53:13 2003  
Subject: [R-390] Shockmount Thanks..... & Phantoms of the Radios

Yup, the spiders are so old, they don't move so good any more. They seem to have favorite places to hunker down and die. I don't know if they go in there to die like old elephant burial grounds or they really think it's a good place to set up shop, but then no tasty morsels ever show up.

Maybe I'm nostalgic, but there has to be something special about boatanchor spiders. In '390's I find they like to pass into eternity somewhere on the inside of the back panel. There are a dozen ways to get out, so they're not trapped. They had to go to some trouble to get in there - must have been drawn to the aroma, possible orange glow and plenty of wires and things to hang onto.

These radios come from all over the country. Traveled with the gear to swap meets. Trundled and worse by big brown. Stored in garages and attics and forgotten about for a decade or two. Most I've seen seem to be the same breed as well as I can tell under the circumstances. Meanwhile, all that time standing vigil maybe 10, 20, 30 years?.

I feel bad about summarily brushing or vacuuming them out. I think there should be a procedure or ritual. Maybe they should be put in a tiny shroud and buried in a tube box? (an NOS branded or Jan box, not a "white box") Or immortalized as a fossil by embedding them in resin maybe epoxy, and then replaced in the radio for good luck or to ward off evil spirits. Oooops, might have lapsed into pagan blasphemy there, or start some crazy hobby like pin collecting. If so, back to Plan A and honorable internment in a tube box. OK, just vacuum 'em out then. No 'preciation. Barry

From r.tetrault@attbi.com Thu May 15 06:04:50 2003  
Subject: [R-390] Phantoms of the Radios

snip - Or immortalized as a fossil by embedding them in resin maybe epoxy, and then replaced in the radio for good luck or to ward off evil spirits.

I think you're on to something here, Barry, this good. Better than cat meat. Imagine those that do the 12BA6 substitution and bypass the 3TF7. They could cast up a spider bottle that resides in the ballast socket. A big-assed Black Widow would be appropriate. Bob

From BRingwoo@csir.co.za Thu May 15 08:23:55 2003  
**Subject: [R-390] Digital Radio Mondiale**

Hi - I think its a global consortium originated by France. [www.drm.org](http://www.drm.org)

**I have put the source code (MS Windows) and circuit diagrams for the open-s ource project**

**"dream" on ftp://ftp.csir.co.za/transportek/dream for a few days. to save people chasing about for it. See also <http://www.tu-darmstadt.de/fb/et/uet/fischer.html> . Been too busy to do anything with it. - Bryce**

From ba.williams@charter.net Thu May 15 14:06:31 2003  
Subject: [R-390] Digital Radio Mondiale

A Vichy company? I'll pass. Thanks.

From tbigelow@pop.state.vt.us Thu May 15 14:51:06 2003  
Subject: [R-390] Digital Radio Mondiale

Ditto. Last thing I'd want is for any of my US dollars, no matter how meager, to end up in the hands of those who'd stab us in the back after all we've given and done for them. 'nuff said. Boomer, KA1KAQ

From ai2q@adelphia.net Thu May 15 14:55:26 2003  
Subject: [R-390] Phantoms of the Radios

Should I have given the rat's skeleton found inside my Collins R-390 a better "funeral" than the toss into the woods that it got? Vy 73, AI2Q, Alex in Kennebunk, Maine  
<http://users.adelphia.net/~alexmm/ai2q.htm>

From cbscott@ingr.com Thu May 15 15:01:03 2003  
Subject: [R-390] Phantoms of the Radios

Yes, but don't worry about it. The mouse will get its ultimate revenge when you have contracted the Hanta Virus it left behind for you. 73, Barry(III) - N4BUQ

From ba.williams@charter.net Thu May 15 15:03:43 2003  
Subject: [R-390] Digital Radio Mondiale

Boomer, Yep. Who can forget the scene of Oliver North holding up a French flight helmet near Baghdad? Not me. Another thing that I will never do again is call 'those' countries Allies. Ferget it. Ferget them. Barry

From BRingwoo@csir.co.za Thu May 15 15:22:35 2003  
Subject: [R-390] Digital Radio Mondiale

Gents,

I understand your feelings. I don't think any dollars go to France (?) - 'drm' is a consortium of companies of which VOA and the UK (BBC?) are also members. The commercial software and Rx can be got from a UK firm. Think of 'DRM' as a type of modulation like SSB or AM. I guess if the word 'mondiale' upsets you there's nothing I can say. I'm just curious about the technical side of it like I used to be about FM when they first introduced it into the UK. I suppose we have to forgive them one day anyhow. - Bryce

From Richard.McClung@Dielectric.spx.com Thu May 15 15:33:08 2003  
Subject: [R-390] Phantoms of the Radios

Geeee, I hope that wasn't the pet semetary.....;>) RICH @B> }

From Richard.McClung@Dielectric.spx.com Thu May 15 15:43:48 2003  
Subject: [R-390] Digital Radio Mondiale

The consortium also includes american companies.... The consortium is mostly manufacturers, broadcasters, broadcast associations, or basically anyone who can make a pfennig in the trade of digital radio. over the air, without the converter, It sounds like your DSL on the phone when you forgot to but the filter inplace.

The important thing to remember is, to fully enjoy the service your receiver must have at least a 12KHz bandpass at the IF you are using.

There is also a schematic on the WWW that is a direct conversion receiver directly into your sound card.

As far as I'm concerned give me CW and a one time pad and I'm happy..... That's as digital as I care to get. RICH @B> }

From ba.williams@charter.net Thu May 15 16:10:15 2003  
Subject: [R-390] Phantoms of the Radios

I am going to take digital photos of all spiders from now on. I think that all of the spiders found so far have been light brown with legs about an inch long. I think it is a certain species that stand guard over our radios. I may even pull them out carefully and keep them around to see if this is true.

By the way, I've found 2 dirt dauber nests in radios. One was in a radio that belonged to a neighbor. She wanted to know if I could get it working again. The nest was rolling around inside and had knocked a tube out of the socket. Do wasps carry the Hanta virus? Barry

From Barry Hauser" <barry@hausernet.com Thu May 15 16:19:19 2003  
Subject: [R-390] Phantoms of the Radios

Alex wrote: > Should I have given the rat's skeleton found inside my Collins R-390 a > better "funeral" than the toss into the woods that it got?

Naw, rats are no friends to radios.

Live radio spiders are extremely valuable. Be sure to bring one along to Dayton if you're goin'. Keep the spider on a leash and see if it favors or avoids what you're considering. If it makes a, uh, beeline (?) for a rig and jumps right inside buy it. They're also good for detecting unwanted, annoying computer equipment. Ever see a spider in a PC? I have lots of PC's. They know somethin', I tell ya'. Barry

From ba.williams@charter.net Thu May 15 16:15:31 2003  
Subject: [R-390] Shockmount Thanks.....

Brian, We haven't had a good list project since the R-390A Survival Gear list. So far, we have found these in radios: mice wasps spiders geckos cat piss Anything else? Barry

From ba.williams@charter.net Thu May 15 16:30:42 2003  
Subject: [R-390] Digital Radio Mondiale

> The consortium also includes american companies....

Rich, If this is similar to the U.S. tests, it doesn't work as advertised. Major interference with other stations and performance below stated claims. Yeah, you need a digital radio and antenna, but it sure is a kissing cousin to Internet Radio which ain't Radio to me. I I know what you mean. I'm not going to hack a good boatanchor just to get digital signals. Barry

From dpj@coe.neu.edu Thu May 15 16:57:23 2003  
Subject: [R-390] Trade for Veeder Root Counter

I'm overstocked with old components, and it'd be nice to trade them off to people who can use them.

A small set of Telefunken 12AX7s (17) with red tips, all test around 1.6ma/V. I need a nice looking Veeder Root counter to replace my trashy one. Perhaps somebody is willing to trade? Dave Goncalves

From terryo@wort-fm.terracom.net Thu May 15 19:08:23 2003  
Subject: [R-390] Digital Radio Mondiale

Great. Knee jerk politics where they don't belong. I thought we discussed radios here? Terry O'

From Richard.McClung@Dielectric.spx.com Thu May 15 19:27:05 2003  
Message-ID: <OFDA36BDF6.9B3D8417-ON85256D27.00647A40@spx.com>

HUH..... What jerks? I thought we were discussing D R M and the technical aspects of Digital W I D E C A S T I N G, to include the International trade aspect of the multinational consortium that directs the project. Does this not have to do with radios? Did we not bring up technical information? did we not bring up the cost not only in monetary means for the broadcaster but the consumer as well? Did we no discuss the RF bandwidth and mutual interferrance possibilities for adjoining channels because the signal has a 12KHz bandwidth. By golly, gee whiz, I think we have done pretty well here to stay within the confine of our thread.

The R-390(\*) receiver will work very well with thje IF bandpass in the 16KHz position. In fact is also perfoms quite readily in the 8KHz positioon on strong signals. RICH @B> }

From K2CBY@aol.com Thu May 15 19:54:57 2003  
Subject: [R-390] B+ Dropping Resistance (was Drill a Hole...)

Perhaps this is heretical but I saw little point in retaining the tube sockets on the PS chassis once the rectifiers had been replaced with solid state diodes. I yanked the sockets and plated over the holes with 16 ga. aluminum. I mounted the rectifiers on the underside of the chassis and a dropping resistor on the top side where it can get some air. (Putting the resistor on the PS chassis also eliminates the need to use a "special" audio chassis, so audio units can be freely swapped.)

The VFO and BFO shouldn't chirp no matter what, since they derive regulated B+ from the VR tube mounted on the audio chassis. The only way a dropping resistor in the unregulated line could affect this is if it lowers the regulator supply side voltage to the point where the gas tube loses ignition.

The only thing that bothers me about the solid state rectifier conversion is that B+ comes on full blast almost instantaneously. It takes 30 to 40 seconds for the filaments to heat up enough for the tubes to draw current through the dropping resistor and lower the B+ bus voltage. Putting an inrush protection thermistor in series with the AC line helps but doesn't cure the problem.

For essentially the same reason, I favor replacing the ballast tube with a 12-volt tube having a controlled heater warm-up time (in my case a 12BY7 from an old Tektronix scope) rather than a fixed resistor.

From DAVEINBHAM@aol.com Thu May 15 20:45:42 2003  
Subject: [R-390] The Last of the ReCap kits

I know I promised y'all several months ago I would put the rest of the ReCap kits on EPAY, but due to circumstances beyond my control ( broke my foot in January, wife back in hospital for more cancer treatments in Feb & March, I had a cancer cut out last week ) it did not happen. I have 3 in-the-can kits and 7 under-the-chassis ReCap kits left. And when they are gone, they are gone forever. Regards, Dave

I have put together a ReCap kit for the R390A. It consists of:

(13) 0.1 ufd, 600V,  
C256, C309, C504, C505, C517, C521, C528,  
C531, C536, C538, C543, C547, C548  
(7) 0,033 ufd, 600V,  
C275, C529, C533, C534, C541, C545, C602  
(7) 0.01 ufd, 600V  
C549, C553, C601, C604, C605, C607, C608  
( The above are Orange Drops or equivalent. )

(3) 30 ufd 300 v electrolytic C603A, C603B, C603C

(2) 47 ufd 300 v electrolytic C606A, C606B

( The above electrolytics have axial leads. You can wire them under the chassis and leave the originals in place to retain stock appearance. Or you can order capacitors small enough to fit inside the cans of C603 & C606. Just remember you will have to deal with the Dreaded Black Ukumpucky to get the guts out of the cans of C603 & C606. If you do not specify at time of your order, the under the chassis capacitors will be shipped.)

Finally, one each of :

0.047 ufd 100v C227

8 ufd 30v tantalum electrolytic C609

50 ufd 50 v electrolytic C103

0.22 ufd 100 v C101

I cannot find a source for: 2 ufd 500v C551 oil filled paper

so, I will include a very high quality poly cap. I have installed one of these in one of my R390A's and I can say I cannot hear any difference. They work great. This is the AGC capacitor.

The price for this recap kit is \$80.00 US funds. Price includes UPS or US post delivery. Canada and Mexico US\$85. Western Europe, South America and Pacific rim US\$90, rest of world US\$93. All sent airmail if possible. ALABAMA

RESIDENTS MUST ADD US\$3 STATE SALES TAX.

Send orders to:

Dave Holder

Biological Instruments, Inc.

820 South 29 th. Street

Birmingham, Alabama 35205-1004

USA

Payment may be check or US currency. ( If you send cash put it in an envelope inside the envelope you mail. AND IT IS ENTIRELY AT YOUR RISK) Sorry, no credit card orders. Before anyone starts to bitch about the price, please bear in mind, my gross profit will be about \$3.12 per order. That should earn me something less than minimum wage..... before corporate and personal taxes. I reserve the right to withdraw this offer if it gets to be a pain in the butt. Dave

From tbigelow@pop.state.vt.us Thu May 15 21:48:22 2003

Subject: [R-390] Digital Radio Mondiale

wrote: > Great. Knee jerk politics where they don't belong.

In your opinion. Roughly 70% of the population would disagree with your opinion, though.

> I thought we discussed radios here?

We do. Let's continue. How many French-made R-390(\*)s do you own? How many French-made radios? Do they work, or does the fuse give up as soon as you apply power? Just curious. Boomer, KA1KAQ

From billsmith@ispwest.com Thu May 15 21:55:32 2003

Subject: [R-390] Phantoms of the Radios

Now, if you mounted the Black Widow on pins, you'd have something. Say for example, pins 2 and 7...

From Richard.McClung@Dielectric.spx.com Thu May 15 22:15:22 2003

Subject: [R-390] Phantoms of the Radios

I'm partial to the Brown Recluse or also know as the Fiddle Back Spider. The US Army 7th Infantry Division used the Black Widow Spider beyond any sensible belief. Just because the division shoulder patch is a black hourglass on a red circle they went for the red hourglass on the spiders black body and every thing in the division had a Black Widow spider design..... Anyway I like the Fiddle Back

because it reminds me of the Scottish and Irish fiddle music that I hear from time to time when I'm cruising HF with one of my R-390(\*)'s..... RICH @B> }

From mark.richards@massmicro.com Thu May 15 22:35:34 2003  
Subject: [R-390] Digital Radio Mondiale

Please take the war elsewhere. The 30% of us that remain have had enough of it. It's suggested that if any of you are so fired up, then join up. They still need a few good men for the next conquest. Thanks, -m-

From redmenaced@yahoo.com Thu May 15 23:23:08 2003  
Subject: [R-390] Phantoms of the Radios

NO spiders of ANY kind are EVER to be allowed into a T-368!! If one should happen to take a stroll acrossed the tank coil,..... POOF,..... there goes the plate meter. Joe

From redmenaced@yahoo.com Thu May 15 23:29:10 2003  
Subject: [R-390] Digital Radio Mondiale

An R-390A will work well even WITH a yellow stripe! Joe

From ba.williams@charter.net Fri May 16 01:36:06 2003  
Subject: [R-390] Digital Radio Mondiale

Heh heh, right you are Joe. Not like those French tanks with 5 gears...all in reverse.

By the way, you won't find a 70% disagreement in this country, or some European countries. The last poll in England had them with us by around 63% when asked who was most detrimental to their security, us or the French. A U.S. poll last month of our worst enemies had France in the number 3 slot. The last U.S. disapproval poll of the French that I saw was around that 70% just mentioned. Barry "Facts are stubborn things", Pres. Ronald Reagan

From ba.williams@charter.net Fri May 16 01:56:08 2003  
Subject: [R-390] Digital Radio Mondiale

This started out as a question as how to get a R-390 to receive digital radio signals. That sure sounds on topic to me. If it isn't, big deal. A few laughs never hurt anyone. Barry

From ba.williams@charter.net Fri May 16 02:01:39 2003  
Subject: [R-390] Digital Radio Mondiale

I did that. So did a lot of other members. Barry

From ba.williams@charter.net Fri May 16 02:07:27 2003  
Subject: [R-390] Phantoms of the Radios

Someone wrote and added a new item found in a R-390A. and the new item is: panties!

The list so far: mouse nests without Hanta Virus wasp nests spiders, all brown so far geckos cat piss panties, color and style unknown Anything else? Barry

From ba.williams@charter.net Fri May 16 02:10:40 2003

Subject: [R-390] Phantoms of the Radios

Oops. I forgot the rat skeleton.

The list: mouse nests without Hanta Virus wasp nests spiders, all brown so far geckos cat piss panties, color and style unknown rat skeleton Barry

From r.tetrault@attbi.com Fri May 16 04:24:42 2003

Subject: [R-390] Phantoms of the Radios

make that: geckos AND eggs

From billsmith@ispwest.com Fri May 16 05:06:34 2003

Subject: [R-390] Phantoms of the Radios

You don't have to be a spider to get POOFed on a UTAH 1937 transmitter (2x6L6 in parallel). There are meters on the front panel connected to phone plugs, with four phone jacks to select from. Problem is the 700++ volts B+ for the transmitter (on all the time) is nicely wired to at least one of the jacks. On the front panel! Just try putting your hand on THAT radio. Set is in a million pieces at the moment, undergoing derust/restoration. 73 de Bill, AB6MT billsmith@ispwest.com

From rodney\_bunt@yahoo.com Fri May 16 07:54:40 2003

Subject: [R-390] Digital Radio Mondiale

No need to hack anything. Use the IF out on the SP-600, R-388/51Jx (500kHz), R390. Use the 'FM' switch position on the HRO-50/HRO-60. Personally I think its cool, to have your computer/laptop hanging off the back of your "Fire Bottle Rig" DSP is also an option here, anyone know of some good software that will use the 12kHz IF into the sound card for CW or SSB or even AM DSP ???

Any one know of a 112 Khz rock, so I can use my RA-17 ??? or a 512kHz rock for the R-388 DRM mixer ??? Rodney VK2KTZ

From jbischof@nycap.rr.com Fri May 16 12:48:32 2003

Subject: [R-390] (no subject)

Just received my new old r390a, and I am in some big hot water. I removed all the gears for cleaning. I removed the Geneva Drive and the gear behind the Geneva Drive. This gear is not a normal gear and I don't know how to align this gear up so I can put back the Geneva drive. I sure could use some help. Also does any one know where I can get some small springs that put a load on the split gears? James

From dpg@coe.neu.edu Fri May 16 14:20:31 2003  
Subject: [R-390] R-390 Tags

Hello, I know that R-390A repro tags are available, but where can I get/make tags for the R-390? It looks much like the R-390A Collins tag with the following text:

SIGNAL CORPS U.S. ARMY  
RADIO RECIEVER R-390/URR  
Serial No. 4366 ORDER 14214-PH-51-93  
MFD. BY MOTOROLA INC.  
FOR COLLINS RADIO CO.

Perhaps somebody has a similar one to sell? Dave Goncalves

From ba.williams@charter.net Fri May 16 15:28:10 2003  
Subject: [R-390] Phantoms of the Radios

Yes, I missed the eggs. Thanks for pointing out the error.

mouse nests, without Hanta Virus wasp nests, mud type spiders, all brown so far gecko, with eggs cat piss panties, color and style unknown rat skeleton

Any other items? It has been pointed out to me that certain White House radios may contain some of the following items:

condoms  
whiskey flasks  
soggy cigars  
18 minutes of audio tape  
surrender papers from the French  
funny looking hand rolled cigarettes

Barry

From gwmoore@moorefelines.com Fri May 16 15:38:09 2003  
Subject: [R-390] Radium dials and 3AT7 'unubtanium" ballast tubequery for the group

Ladies and Gentlemen: Forgive me if I bring up a subject (Ballast Tube replacement with solid state components) for probably in excess of 10 to the 6th power (LOL, I couldn't figure out how to do superscript in a Netscape web browser), but it does seem as if this is rather a touchy subject, and many modifications have been proposed to retrofit R390/A's with other methods for B+ control, etc.

Ok, Query (Flaming, comments, mobs with burning torches parading in front of my house are welcome LOL).

Now, here's my proposal:

A. There are one heck of a lot of these fine receivers out there.

B. Oneless one is lucky, most of what is available on the open market has had the meter removed because some unnamed environmentalist brought up the fact that the original meter dials have a dial which was made luminescent with a Radium (RA-86). IMHO, there are too many environmental zealots running around like chicken little about this... Radium is an ALPHA emitter, and since alpha particles can be stopped by a simple sheet of paper, the dial face along with a sealed meter case is more than enough to protect anyone from what is a "hyped" radiation warning.

Consider that I have spent innumerable hours on watch leaning back against one or more R-390(A)'s while in the good ol' USN, and have suffered no ill effects, I, personally don't see the problem. Even if one were to open the meter case for repair, minimal safety equipment would be indicated (a respirator, latex (or non-latex if you are allergic), and some clothes that one wouldn't matter disposing of (not really necessary, but in today's world of liberal created "this has got to have round corners and dull, non harmful edges" it might be prudent, at least the protective mask, and a good source of ventilation with an exhaust hose which could be near the work, containing a filter (gauze is OK) to prevent any dust, radioactive or not, from remaining in the area. forced air ventilation might be a good idea (look at an aerospace laminar flow workstation for an example).

Now, I am seriously doubtful if the dial is the bad part in the meter, the failure usually is something wrong with the movement itself, so there is a very infrequent need to have to actually touch the dial face, and if you do, so what, just wash your hands and exposed arms a few times, and the problem is gone.

I have done enough rambling for this overdiscussed topic, but it leads in to the next, and that is the power of group purchasing. IF enough of R390philes were to desire meter faces, I can't see for the life of me why we could not recreate the dial via screen printing, using a 600X600 wire mesh screen, or even an 800 mesh. One uses an original dial as a template, creates a 4/1 photo master at one's drafting table using layout tape and photo imaging for the large initial indicia, and reduces it in a process camera. The resultant negative is cut to fit a positive location jig which will hold the meter faces in absolute position using the cut-out for the movement and small drill rod pins for the screw holes, this jig will make the dial fit flush with the surface of the dial, and will hold it in absolute position.

One then paints the dial with the lightest coat of epoxy or non-solvent affected paint, bakes until the paint is cured. At that time, the indicia from the screen mentioned above, are screened on to the surface (yes, it is necessary to have a 3axis table with micrometer drive to line the whole shootin match up, but once the sets are completed, and the registration is dead on the money,

My own recommendations, based on my career in aerospace, specifically instrumentation design has led me down this path numerous times, and when one is subject to nitpick inspection every step of the way, since I worked for a NASA subcontractor, one works any bugs or alligators out of the mix early on, and the dials are examined under a 25X loupe or microscope, so they better be right.

For Materials, I suggest either Wornow Cat-L Ink© for the white indicia, and either the same in flat black (opnote: the black isn't really flat, and it is necessary to add a "flattening agent" to the mix in a blender of at least a beaker mixer (the one with the magnetic stirrer) to get the mat'l significantly flat enough.. For those who are thinking of airbrushing matte clear (same mfg) over time, fagedaboutid (LOL) the matte yellows (learned during a disastrous period in 1976), or, as a much better black, Dulac Flat Black Lacquer and if that is also unobtainium. good 'Ol Rust-Oleum in flat black is acceptable.. You will have to locate the Wornow Cat-L- Ink in flat white (FED STD 595) 17875 Use a good screen, mount the jig on a 3-axis table, register, and then print to one's heart's content.

Note, if you have an oven specify the heat cure catalyst (The temp has to be 80C) but you will find that

once you have baked the black it is absolutely permanent, without the use of a epoxy stripper such as Epco-Strip (warning, if you splash this stuff on your legs, pour vinegar immediately and carefully walk to a decontamination shower...this is from personal experience. The red scars look lkind of neat once one gets use to them LOL, and this incident was back in the 70's.

Before I go into meters, if anyone would like additional information, please email me B/C so the discussion doesn't degenerate into a painting and marking thread [huge evil grin].

Once you have gone to the trouble, you are basically in buisness, and are able to produce as many dial faces as one desired, for any meter that is needed. The only requirement is what I have named above, and at least one dial for use as a template for the artwork,. **DO NOT USE THE METER FACE ITSELF AS A TEMPLATE**, most of the one's I have seen are pure scrap, and wouldn't pass any inspection either incoming or outgoing, including the Gov't, basically meaning they should have been rejected and tossed back into the bin for complete rework,

OK, nuff about luminous dials, lets talk about the supreme of supremes in the class of unobtainum.

I think that we have pretty much in agreement that the 3AT7 ballast tube has gone the way of all other good things.. I propose that since there seem to be one heck of a lot of Boatanchrs/R-390 and R-390A enthusiasts out there, I have been wondering if since there are both saftety and clout in numbers, that our group en masse could approach a manufacturer, be it either here in the good old US of A or more promising, a firm in Russia (Svetlana) to produce this tube line again.

Admittedly, it wouldnt be a billion piece run, but the technology is already in existance, as are the manufacturing lines, and since the Russian companies are already MAKING hollow state components, I wouldn't feel that the tooling for both blowing the envelope, and inserting the proper gas for the filler, as well as producing the specialized filaments wouldn't be a reinventing the wheel proposition. The only pitfalls I can see is (A.) setup costs which I believe we could collectively write off our taxes, and (B.) Dealing with the bureucracy as regards to the size of the run... (C.) At any rate, the patent for those puppies has run out, so the manufacture would be in the public domain If you in the group concur, I would be willing to take over a preliminary engineering study oft the feasability of doing so. In addition, any other tubes that have become "unobtainum" could be handlded in the same fashion. The machines already exist, the basic tooling already exists, if not for the exact tube, at least it would be in the ball park.. Incidentally, as long as the tube fits, and works as designed, the cosmetics of the exterior don't amount to a hill of beans. The only requirement which I would require is the ability of tubes to fit an IERC tube shield, so the rig would LOOK original.

If anyone has comments, queries, other business, feel free to email me off list or on list, and let's kick this around a while and see if the idea meets the reality test. I would much rather find out problems first, than discover the alligator pits later on.. Your suggestions and criticisms are welcome, FIRE AWAY 73 de ZGreg WA3IVX / NNN0BVN PA

From BRingwoo@csir.co.za Fri May 16 15:38:14 2003  
Subject: [R-390] Phantoms of the Radios

Once found a metal tin with an antique condom inside. Happily it crumbeld a way to dust in front of my very eyes. - Bryce

From tbigelow@pop.state.vt.us Fri May 16 15:55:14 2003

Subject: [R-390] R-390 Tags

wrote: >Hello, > I know that R-390A repro tags are available, but where can I get/make >tags for the R-390? It looks much like the R-390A Collins tag with the >following text:

Can't recall if Hank Arney made these up or not. He made some repro tags for a few different items in the last year or so. Hank? de Todd/'Boomer' KA1KAQ

From tbigelow@pop.state.vt.us Fri May 16 15:55:21 2003  
Subject: [R-390] Digital Radio Mondiale

wrote: Please take the war elsewhere. The 30% of us that remain have had enough of it.

No war involved, just a dose of common sense and free speech. We discuss the R-390 family of radios here and the tools associated with it, including test equipment. If someone has a piece of information they consider important for the list, they add it. The fact that you object doesn't automatically censor the list. That is left only to the list admin.

>It's suggested that if any of you are so fired up, then join up. They still need a few good men for the next conquest.

Since you're the one in disagreement, perhaps you should be the one seeking to change the current situation. Personally I believe in majority rule, even in the times I don't agree with the outcome (unlike a certain crybaby political party in Texas, for example). So, your case for the tail wagging the dog won't fly with me. Sorry.

And yes - I'd be happy to discuss it further, but not on the list. There's no reason ending up in the penalty box for pointing out the obvious to the few who refuse to accept it. 'nuff said. Boomer, KA1KAQ

From G0out@aol.com Fri May 16 17:02:50 2003  
Subject: [R-390] how to unsubscribe for list please

hello i sold my R390A so can any one let me know how to unsubscribe from list R390A please . many thanks for the help Paim .G0UUT

From billsmith@ispwest.com Fri May 16 17:20:12 2003  
Subject: [R-390] R-390 Tags

Hi David Are you suggesting that

SIGNAL CORPS U.S. ARMY RADIO RECIEVER R-390/URR Serial No. 4366 ORDER 14214-PH-51-93 MFD. BY MOTOROLA INC. FOR COLLINS RADIO CO.

is a repro tag? The reason I ask is mine has the same tag with s/n 4700. I doubt this set ever had any "restoration" help other than a trip or two through a depot before it came my way. 73 de Bill, AB6MT billsmith@ispwest.com

From dpg@coe.neu.edu Fri May 16 12:30:52 2003  
Subject: [R-390] R-390 Tags

>: Oops. I my rush to get an e-mail out, I let my grammar slip. I ment to say that I would like to get a repro tag close to what I have (now had) now; the label text then followed this. It definately wasn't a repro tag - it was coated in MFP. Dave Goncalves

From mikea@mikea.ath.cx Fri May 16 17:33:22 2003  
Subject: [R-390] how to unsubscribe for list please

wrote: > hello > i sold my R390A > so can any one let me know how to unsubscribe from list R390A please . > many thanks for the help > Paim .G0UUT

Right in the headers of *every* message sent by the listserver:

List-Help: <mailto:r-390-request@mailman.qth.net?subjecthelp>  
List-Post: <mailto:>  
List-Subscribe: <>,  
<mailto:r-390-request@mailman.qth.net?subjectsubscribe>  
List-Id: Collins Radio R-390A Military HF Receiver <r-390.mailman.qth.net>  
List-Unsubscribe: <>,  
<mailto:r-390-request@mailman.qth.net?subjectunsubscribe>  
List-Archive: <http://mailman.qth.net/pipermail/r-390/>

From tbigelow@pop.state.vt.us Fri May 16 17:38:31 2003  
Subject: [R-390] (no subject)

wrote: >Just received my new old r390a, and I am in some big hot water. I removed all the gears for cleaning. I removed the Geneva Drive and the gear behind the Geneva Drive. This gear is not a normal gear and I don't know how to align this gear up so >I can put back the Geneva drive. I sure could use some help. Also does any one know where I can get some small springs that put a load on the split gears? >>James

James - There are some great sources of information, like the Y2K manual. Also some members have great sites with good, crisp photos, like Walter Wilson and Scott Seickel. Try the following links: <http://militaryradio.com/r390a-rfdeck-geartrain.html> [http://r-390a.us/gear\\_train\\_rebuild.htm](http://r-390a.us/gear_train_rebuild.htm) Hopefully you'll find the answers there. Some excellent shots of the gear train. As far as the small spring, perhaps someone will chime in with a source. Good luck! de Todd/'Boomer' KA1KAQ

From Miguel Bravo" <mbravoc@wanadoo.es Fri May 16 17:51:01 2003  
Subject: [R-390] Digital Radio Mondiale

512 kc/s was standard in all marine MF TX equipment being used when 500 kc/s was in distress traffic. Big rocks, hard to drive but not for a boatanchor driver. Let us know what to do with the R-388J, the old spare freq and the sound board. Miguel

From hankarn@pacbell.net Fri May 16 21:43:47 2003

Subject: [R-390] R-390 Tags

I have all of the R39XX tags, Racal, T-368, R-274, EFJ KW Desk and others.

Hank

KN6DI

With S/N of your Choice stamped \$30.00 each mailed.

Dan Arney

c/o Global Pack & Mail

21315-R Saticoy St.

Canoga Park, CA 91304-5685

From bratcher@pdq.net Sat May 17 00:27:34 2003

Subject: [R-390] Below 500khz?

Is there a way to make an 390a receive below 500khz all by itself? Is it as sensitive as above 500? What happens when you hit 500? It sounds like the audio gets muted but I'm not sure.... If it's not possible then I'll build a converter that puts 0 to 500 between 4 & 4.5mhz.

From theprof@texoma.net Sat May 17 00:42:21 2003

Subject: [R-390] Radium dials and 3AT7 'unubtanium" ballast tubequery for the group

Once upon a time, way back in 1997, Mr. Thomas W. Bowes, KK8M, put together an R390/R390A meter kit. It consisted of two surplus meters and, the really neat part, stick on decals with A++ grade meter scales. These look much better than the originals.

I tried to contact him last year but the email address I had didn't work. If he still has the art work and the desire, perhaps someone could resurrect the project. 73 de Richard, W5SRB

From rodney\_bunt@yahoo.com Sat May 17 02:47:02 2003

Subject: [R-390] Digital Radio Mondiale

Miguel, I received a mixer kit from SAT-Service@t-online.de cost 25 Euros (about the same for dollars US) yesterday in the mail from Germany. It is VERY small. About 1/2" square. There are few connections, an "in" and an "out" and a volts 7 - 20 v has its own onboard regulator.

The LC version specifications say it can be tuned + or - 12kHz from 455kHz have not hooked it up yet, so it may go to 500kHz.

It is so small it can easily be installed inside anything, but my idea was to build it inside a small 'die cast' metal box, with IF in IF out and volts in using BNC plugs etc. In this way I could move it around and try it on a variety of rigs.

An ideal solution would be to get the Crystal controlled version and switch in crystals for the IF's

455kHz IF 467kHz crystal (supplied)

500kHz IF 512kHz crystal (still looking for one)

100kHz IF 112kHz crystal (hopeing to find one....)

50kHz IF 62kHz probly easier to make an LC or other higher oscillator with a divider circuit, a bit on

the complicated side so not considering this seriously, but would be nice to see how the Hammarlund HQ-180 performs or even the Hallicrafters SX-100.

For a R-388, I would connect to the IF out J104 to the "mixer" then the 12kHz IF out to the sound card input on the PC/laptop and then use the sound/speaker output to listen to the recovered audio. This needs the 512kHz oscillator/crystal. No mods to the rig at all. What do you think ????

From jbischof@nycap.rr.com Sat May 17 05:12:25 2003  
Subject: [R-390] if deck trade for rf deck

I will trade a r390, non A if deck for a r390a, rf deck. all shafts must not be bent. Or for a junker r390a, with a known good rf deck. James Bischof 1485 Lexington Avenue Schenectady, New York. 12309 518-370-1452

From r390a@rcn.com Sat May 17 12:52:47 2003  
Message-ID: <E19H0F5-0004od-00@smtp01.mrf.mail.rcn.net>

Amperite lists the 3TF7 as 'still available' - <http://www.amperite.com/ballastp.htm>

However, if you check prices with their distributors (Newark and Richardson for example), they are \$100+! Makes SSN price of \$45 seem like a bargain.

BTW, the Amperite page shows 3TF7, 3TF7A, 3TF7B and 3TF7/H - what's the difference? Amperite had only general ballast tube info on their site, no specs for individual parts. 73, /dave N9ZC

From ba.williams@charter.net Sat May 17 14:55:45 2003  
Subject: [R-390] Phantoms of the Radios

The panty mystery has been explained. During that time, a rubber was also added. I guess these things run in pairs...or, are they related? We may never know.

mouse nests, without Hanta Virus wasp nests, mud type spiders, all brown so far gecko, with eggs cat piss panties, white old fashioned type & new looking rat skeleton condom, crumbling to pieces in a metal tin Barry

From frledda@attbi.com Sat May 17 16:42:59 2003  
Subject: [R-390] Radium dials and 3AT7 'unubtanium" ballast tubequery for the group

SSN is never a bargain.....

From r390auser@cox.net Sat May 17 22:24:43 2003  
Subject: [R-390] ME-26D/U

To the Group, I recently picked up a ME-26D/U, multimeter with the tip of the RF /AC probe broke off. Does anyone have or know where I can get a replacement cap with the probe tip or a complete probe or

a junker ME-26D/U with a good probe/tip ? How many of these units are in use by members of this group ? Is there anything to look for in getting one up and running ? Any caps that did to be changed ? Any special tricks needed for calibration ? Any help greatly appreciated. Kurt

From w9wis@charter.net Sat May 17 23:04:48 2003  
Subject: [R-390] ME-26D/U

The ME-26D/U is a militarized version of the HP-410B. I had one and the probe tip was broken off too..... I just took that cap off and made a new probe tip and installed it.

The manual is available on the net if you need one. It serves as the maint manual for both the 26 and 410B. Hardest part of the meter to find will be a probe diode tube. It's a Eimac 2-01C and I've seen them listed for up to \$125 each if you can find one. I have several nos .... I don't think they ever switched the 26 to the EA-53 like HP did.... that's even rarer and more expensive. Mike, W9WIS

From r390auser@cox.net Sun May 18 00:09:01 2003  
Subject: [R-390] ME-26D/U

Michael, Please tell me how you made your new tip for the RF probe. Looking at the inside of mine, all of the metal parts seem to be potted and do not turn even though from the outside the tip appears to be threaded. You are correct in that the D model has a different RF probe from the HP 410B. Is it possible to put a 410B probe on the ME-26D/U ? The two different rectifier tubes you mention do not appear to be interchangeable. Any thoughts on this ? Thanks, Kurt

From jtone@sssnet.com Sun May 18 05:12:01 2003  
Subject: [R-390] Radium dials and 3AT7 'unubtanium" ballast tubequery for the group

Gents, Tom's kits were excellent, but I think he has moved emphasis away from Ham Radio the past couple of years...into some other intense hobbies...

Best to contact him by snale mail...His address is "probably" ok on QRZ....but haven't seen him in a year...last time was at Findley Ohio Ham Fest...he was reducing his Ham Radio parts and pieces at that time... Hope this helps...the art work was superb... 73, Gene W8KXR

From gwmoore@moorefelines.com Sun May 18 08:06:06 2003  
Subject: [R-390] MITE gears, M28 stuff, Polar relays

Greenkeys de WA3IVX /NNN0BVN PA

I am in need for some parts for a MITE. The following are needed: A. a drive gear for 100 WPM (the plastic one) I would not turn down a 75 WPM gear if one was available, as long as a 100 WPM gear came along with said 75 WPM gear.

B. If some Greenkeyer has a excess to their needs front cover, preferably in Navy Gray, Please let me know what you desire in terms of price, etc. My cover has a ding, and as Murphy is alive and operating, it is right over the 4 function buttons, which stick in operation. While they can be straightened, I would like to acquire a backup incase there becomes a problem during the straightening process

C. I would also appreciate a MITE manual. This does not have to be an original, a copy will be just fine, if you have such an item, please advise cost of copying and shipping, and funds will be sent forthwith.

D. If anyone has a source for the .1A mini fuse I would appreciate knowing the source. I am now running a kludged arrangement using an inline fuse holder, which, while perfectly satisfactory from an operational standpoint, it is not the original. I would like to have a source for the miniature fuses which are used in the MITE. If you know of a source, please advise. M28ASR material:

I am in need of several items for a M28ASR, as I own a "bare bones" unit which was used for TDD, and therefore has nothing in the lower cabinet.

I therefore require the following

A. A Typing Perforator

B. A Typing Reperforator, with mounting hardware, tape reel, and the front plate with the tape exit tube

C. A set of 100WPM gears, or better yet, a 3 speed gearshift assembly. Again, I would not be averse to a set of 75 WPM gears as long as they came with a set of 100 WPM gears, I would, however, prefer the gearshift assembly.

D, A Line/Local switch, along with the actuator lever.

E. The standard complement of parts (ESU's, etc) for the lower part of the case. A stunt box would not be amiss either. I also require a complete wiring harness for a complete M28ASR as the one which I possess does not have any connections for components in the lower case.

F. A set of polar relays both for a M28ASR and a M14ROTR. I would also appreciate several additional polar relays along with sockets of any marque for experimental purposes.

G, A "Line Unit" preferably for an M15, however any line unit will be satisfactory, as I plan to use it for setting the bias for the above mentioned polar relays.

H. Both lenses for a M28, the copy lamp lens and the end of line warning indicator.

I.. A set of M28ASR manuals, specifically for the Printer assembly, the Typing Perforator, and the Chassis wiring/ESU/Stunt box interconnection. Copies are entirely satisfactory, I do not need originals.

J. If anyone has ribbons for the above machines, I would be interested in acquiring same. I know that I can purchase reinker ink but I would like some spares. Underwood ribbons are hard to come by from Staples or Office Max in this area.

M28KSR or skintight or rack mounted unit.

A. I would appreciate acquiring one of the above units within pickup distance of the Philadelphia area. I also would appreciate a paper take-up reel assembly for the above.

M14ROTR

A. If someone has an excess set of magnets for the above unit, I would appreciate hearing from them regarding price. Mine have had the terminal strip broken off, and although operational, I don't trust the connections to the magnets, and as I am restoring the unit to original condition, I would like a complete set of magnets in original configuration.

AN/URA-17

A. I require two sets of connectors for the input/output of said unit, including the power input connectors (2 sets), the audio input connectors (2 sets) and the loop output connectors (2 sets). I do not require the BNC connectors, as they are available anywhere locally.

19" Relay Rack

A. I require 2 19" relay rack assemblies. The configuration (closed rear, front rails only, etc) is immaterial. Any 19" rack will do. I would even appreciate a short rack which could fit on a table, as I only intend to mount 2 AN/URA-17's and 2 Dovetron TEMPEST TU's. A pickup near the Philadelphia area would be desirable to avoid high shipping costs.

I appreciate any help that any member of the Greenkey list can provide. The following information is provided for contact information:

Gregory W. Moore NNN0BVN PA / WA3IVX  
120 N. Cedar Lane  
Upper Darby, PA 19082-1306

Telephone, as I usually carry my cell around for convenience, the number is (610) 357-3427, If, for some reason, I do not answer, leave a short message, and I will return your call. I have an unlimited long distance plan, and there is absolutely no reason for you to run up a high long distance tab.  
Fax: (610) 446-0357 available 24/7/365

Home Landline (610) 446-5871. I screen my calls to avoid telemarketers, and idjits who routinely dial the wrong number, drunk, at 0-dark-30. You will get my answering machine. As I have stated above, I will return your call ASAP, and since I have an unlimited long distance plan, there is no reason to run up a high long distance tab calling this number. Just leave your name and phone number and disconnect. I will return your call..

Again, thanks much for anyone who can be of assistance in supplying any or all of these components. Please contact me with desired price and shipping cost to my QTH, except for the items (the KSR and relay racks) which I would pickup. Since I am disabled, having had 8 spinal surgeries and am looking at #9, shipping is rather important to me. I will be able to pick up the units listed. If anyone has any of the other components in the Philadelphia area (no particular mileage limit here) I would be willing to pick up any or all of said equipment.

73 es tnx de Greg Moore NNN0BVN PA / WA3IVX

P.S. I am also in the market for an R390A and an R1051, so if anyone has one that they want to sell or otherwise dispose of, I would be interested. In addition, if ANYONE knows the whereabouts of a telegrapher's mill, preferably ex Navy, with all caps and the stroked 0, I would be interested in acquiring same. There is a possibility that I may be in the market for numerous quantities of these mills for use in the restoration of the USS America (CV/CVA-66) once our museum foundation has a firm commitment to acquire the ship as a museum.

I would appreciate all hands to go to our website at <http://www.ussamerica-museumfoundation.org> , read the information concerning the plight of the ship as it now stands, and sign the online petition to help save this historic vessel. There is also a downloadable petition in both MS Word and Adobe .pdf format which is printable and can be passed around. There is an email address of our Secretary, who will provide an address to send the filled out petitions. We do not have addresses listed on the website for obvious security reasons. I also ask all hands to write/phone/fax their legislators and the other contacts listed on the site under "What Can I Do To Help Save the USS America" and besiege them with contacts. Any and all help in this matter will be more than greatly appreciated. As Preservations Officer and Webmaster, I thank you all in advance for your help in this noble cause. This is one carrier that has served in every conflict from Vietnam through Bosnia, and has gone in harms way in each and every deployment. She was decommissioned in 1996 under rather strange circumstances, subjected to an extremely odd strip ship, where equipment was simply thrown in dumpsters, and now sits

ignominiously, chained to a pier at the NAVSEA inactive ships facility at the old Philadelphia Naval Shipyard, which is now closed. She does not deserve this dishonorable end. All efforts are appreciated.

Again, thanks much in advance for your efforts!! Greg "Catman" Moore

From Miguel Bravo" <mbravoc@wanadoo.es Sun May 18 09:34:51 2003  
Subject: [R-390] free world tag

Hi all, How many of you have ever seen this tag. Was side to side to the identification tag on some post WWII USA radio equipment sold to European countries, but not very common here in Spain . I saw it three times, and collected two of them. <http://personal.telefonica.terra.es/web/ea5baa/free.jpg> If did you see it, please say in which country. regards Miguel

From stevehobensack@hotmail.com Sun May 18 13:25:04 2003  
Subject: [R-390] ME-26D/U

The probes should be interchangeable but I think there might be 1 volt difference in the filament voltage. As I remember , the plastic head was difficult to unscrew from the body, but it does dismantle. The input cap is a disk ceramic (without a coating) and it is easy to burn out by putting more than 300 volts AC across it. I put a miniature toggle switch on the meter front plate to turn off the probe filament when I use the meter for ohms or DC. ....Steve...KJ8L

From dsmaples@comcast.net Sun May 18 14:53:57 2003  
Subject: [R-390] Radium dials and 3AT7 'unubtanium" ballast tubequery for the group

All: At the risk of being extremely stupid (again) [I try to follow what goes on on this list, but I have had to can a bunch of messages without really reading them due to other pressures], I am wondering who made the meter movements that fit in the R-390A holes? I have checked some current meter mfrs and have come up dry so far. I'm probably just looking in the wrong place...

Side note to list: What value do you suppose folks would put on a pretty-reliable voice-activated squelch circuit for monitoring SSB (e.g. MARS, CAP, etc.)? It would be an add-on between receiver and speaker. No DSP in this one, just some analog filtering and decision circuitry, patterned in part on some Motorola circuitry I saw a while back. Thanks, Dave WB4FUR

From jbrannig@optonline.net Sun May 18 15:47:19 2003  
Subject: [R-390] Radium dials and 3AT7 'unubtanium" ballast tubequery for the group

SSB can be effectively squelched by turning down the RF gain and raising the AF gain. ( the preferred method for SSB reception with an AM radio.) So I'm not sure how much an SSB squelch circuit would add to the process. Jim

From barry@hausernet.com Sun May 18 15:49:52 2003  
Subject: [R-390] Radium dials and 3AT7 'unubtanium" ballast tubequery for the group

Dave Tsk Tsk you really should make it your business to read ALL of the posts. Priorities, man!

Anyway, the meters were made by a variety of manufacturers like Dejur, International, Simpson, etc. There were a lot of meters made in the same form factor, but with different construction methods. Chances are, if you've seen more than one R-390 or R-390A, you've seen more than one mfr's work. The carrier meter and the audio meter in a particular receiver may have come from different sources.

Somehow doubt if you will find a catalog listing for something that's in production. Some years ago, I think a list member looked into getting more meters made up and it was either impossible or the cost would be out of sight.

There are some NOS meters around, but most are not electrically correct higher DC resistance, etc.

Also, I think that general case style was pretty much mil only. Not sure.

Don't know about the squech circuit, except that the non-A, and R-391 comes with one built in. So, question might be, how many R-390/391 owners actually use the squelch much. I've only used it when checking to make sure it worked. Barry

From G4GJL@btopenworld.com Sun May 18 21:44:11 2003  
Subject: [R-390] free world tag

Yes Seen on Two separate R278A/GRR receivers. I kept one too! Mine are transfers , not metallic like yours. 73 Pete G4GJL  
Subject: [R-390] free world tag

From drewmaster813@hotmail.com Mon May 19 21:13:25 2003  
Subject: [R-390] B+ Dropping Resistance (was Drill a Hole...)

wrote: >Perhaps this is heretical but I saw little point in retaining the tube >sockets >on the PS chassis.  
<snipped>

It would seem that this list has defined "heretical" as major drilling/blasting or ripping out wire harnesses.

>The VFO and BFO shouldn't chirp no matter what, since they derive regulated >B+ >from the VR tube mounted on the audio chassis.

VFO has unregulated plate voltage and regulated screen voltage. Neither plate nor screen supply of BFO is regulated. VFO and BFO are both electron coupled oscillators; frequency stability is relatively insensitive to plate voltage variations. A given percentage frequency shift in BFO also represents less absolute shift than with higher frequency oscillators.

When operated from single unregulated supply (as is BFO) the electron coupled oscillator can be made to have very flat frequency vs voltage characteristic by correct selection of screen resistors (ART-13 PTO is a good example). I would be surprised if Collins didn't take that approach when they designed BFO.

I doubt that voltage variations caused by slightly degraded power supply load regulation (when adding series resistance to drop silicon rectified B+) would have noticeable FMing effect . Perhaps frequency variation claimed by that list member was caused by another fault.

>the only thing that bothers me about the solid state rectifier conversion >is >that B+ comes on full blast almost instantaneously.

Some have claimed that delaying application of B+ until after heater warmup is of benefit only to extend life of thoriated tungsten (transmitting type) tubes and is not necessary for indirectly heated tubes as used in R-390 series. It is noteworthy, however, that Tektronix tube type oscilloscopes (which use indirectly heated tubes) have B+ delay feature. By use of thermal relay (as in Tek scopes) or solid state devices such a feature could be easily added to the R-390 series.

For essentially the same reason, I favor replacing the ballast tube with a >12-volt tube having a controlled heater warm-up time (in my case a 12BY7 >from an >old Tektronix scope) rather than a fixed resistor.

From low impedance (non current regulated) heater supply the 6BA6 draws about 2 amps startup surge; that surge would likely be duplicated in the characteristic of 12BY7 or other tube used as ballast replacement. The 6BA6 VFO and BFO tubes whose heater current is normally regulated by ballast do not have controlled warm up characteristic so any advantage of that attribute in a ballast replacement is lost.

With the traditional 42 ohm resistor used as ballast replacement the startup surge would be about 530 mA-considerably lower than when using 12BY7. The lower (as compared to some other ballast substitution schemes) surge may reduce thermally induced heater mechanical stress and possibly increase VFO and BFO tube life. Drew

From roy.morgan@nist.gov Mon May 19 21:42:49 2003  
Subject: [R-390] Below 500khz?

wrote: >Is there a way to make an 390a receive below 500khz all by itself?

Yes. An article in Hollow State News detailed the technique, but basically it is this: Disconnect your regular antenna (or pull out the RF Amplifier tube) and attach it or your LF antenna to test point E208 on the RF deck.

>Is it as sensitive as above 500?

No.

>What happens when you hit 500? It sounds like the audio gets muted but I'm >not sure....

With the receiver in normal configuration, the front end tuned circuits do not respond well below 500kc.. all signals get attenuated compared to above that frequency.

>If it's not possible then I'll build a converter that puts 0 to 500 >between 4 & 4.5mhz.

A number of converters are available to do the job, Heath made one. Look below for reference to at least one converter article.

From my collected notes here are a couple of messages from the past:

>Subject: [R-390] Operating the R390 from 0 to .5  
>From: "Roger L Ruszkowski" <rlruszkowski@west.raytheon.com>  
>Date: Fri, 25 Aug 2000 15:54:25 -0700

>Reply-To: "Roger L Ruszkowski" <rlruszkowski@west.raytheon.com>

>

>

>Roger, >I remember that you commented once before that you'd seen the R390A's 0-.5 >band shifted down. But practically, what do you do? I presume that you >tune the tank circuits at something like 100kHz and 400kHz with the >appropriate inductor and trimmer. >Then what kind of sensitivity do you get across the band? I do not know >I have never measured it. I agree with your next comment. I presume not too >good as Collins has a whole radio >(R389?) that tunes that 0-.5mHz range in about 7 bands. >Can you provide specifics on how to get the 390A to tune below 500 kHz? >Tom, W4PG  
>Tom, >Watch the cams move as you tune from .5 to 1 and then the 1 - 2 cam as you >tune from 1 - 2. The .5 to 1 cam will be high at 1 bottom out at .5 and >then >go off high again to nowhere as you tune on down to zero. >There is some low point where the cap and slug just will not resonate any >more. >this is the low end of the thing. Or you start loosing sensitivity real >quick. >Pick a top range point (700KHz). Run the dial over to there and get a good >cal zero. Loosen the .5 to 1 clamp and move the cam so this is the high >point. >and clamp it back down. As you tune over 700 you go over the top of the cam >and >loose tracking. at 200 you meet the bottom of the cam and loose tracking. >Now start to tweak the slug at 250 and the cap at 650. If you run out of >slug range before you peak out, then move the cam over a bit to get back in >range. >This will reduce the range to less than 500. Play with this and then try to >go >lower in frequency if you want. >You do not have to keep the band to full width. you can trim the cap and >slugs for some points less on all bands. I have seen a few receivers where >the 4 to 7+000 was tweaked for 7 to 7.5. And where 2 - 3+000 tweaked for 3 >3.5 >for ham use. >I do not know what is under .5 there is a band down there of interest to >hams. >It was just some thing we did to a receiver once upon a time because it >could be done >and we were wondering what we could hear.  
>Roger. >Subject: [R-390] Operating the R390 from 0 to .5 >To: r-390@qth.net >From: "Roger L Ruszkowski" <rlruszkowski@west.raytheon.com> >Date: Fri, 25 Aug 2000 15:54:25 -0700 >Sender: owner-r-390@qth.net >Reply-To: "Roger L Ruszkowski" <rlruszkowski@west.raytheon.com>

>

>

>Roger, >I remember that you commented once before that you'd seen the R390A's 0-.5 >band shifted down. But practically, what do you do? I presume that you >tune the tank circuits at something like 100kHz and 400kHz with the >appropriate inductor and trimmer. >Then what kind of sensitivity do you get across the band? I do not know >I have never measured it. I agree with your next comment. I presume not too >good as Collins has a whole radio >(R389?) that tunes that 0-.5mHz range in about 7 bands. >Can you provide specifics on how to get the 390A to tune below 500 kHz? >Tom, W4PG  
>Tom, >Watch the cams move as you tune from .5 to 1 and then the 1 - 2 cam as you >tune from 1 - 2. The .5 to 1 cam will be high at 1 bottom out at .5 and >then >go off high again to nowhere as you tune on down to zero. >There is some low point where the cap and slug just will not resonate any >more. >this is the low end of the thing. Or you start loosing sensitivity real >quick. >Pick a top range point (700KHz). Run the dial over to there and get a good >cal zero. Loosen the .5 to 1 clamp and move the cam so this is the high >point. >and clamp it back down. As you tune over 700 you go over the top of the cam >and >loose tracking. at 200 you meet the bottom of the cam and loose tracking. >Now start to tweak the slug at 250 and the cap at 650. If you run out of >slug range before you peak out, then move the cam over a bit to get back in >range. >This will reduce the range to less than 500. Play with this and then try to >go >lower in frequency if you want. >You do not have to keep the band to full width. you can trim the cap and >slugs for some points less on all bands. I have seen a few receivers where >the 4 to 7+000 was tweaked for 7 to 7.5. And where 2 - 3+000 tweaked for 3 >3.5 >for ham use. >I do not know what is under .5 there is a band down there of interest to >hams. >It was just some thing we did to a receiver once upon a time because it >could be done >and we were wondering what we could hear.  
>Roger.

From bill@iaxs.net Mon May 19 22:49:50 2003  
Subject: [R-390] B+ Dropping Resistance (was Drill a Hole...)

Drew Papanek wrote: "Some have claimed that delaying application of B+ until after heater warmup is of benefit only to extend life of thoriated tungsten (transmitting type) tubes and is not necessary for indirectly heated tubes as used in R-390 series. It is noteworthy, however, that Tektronix tube type oscilloscopes (which use indirectly heated tubes) have B+ delay feature."

Well, Tek used a number of regulated supplies and all were based on the value of the -150 volt regulator [Warning - Do not adjust -150 unless you are prepared to realign the entire scope]. This was reason enough to delay the application of high voltage. Another reason is that the no-load voltage across filter caps (and wiring) is higher than the loaded voltage. I don't think that either concern applies to our favorite receivers.

Anybody nostalgic for a 535/545 series scope? I have 5 of them. Regards, Bill Hawkins

From Scott Seickel" <polaraligned@earthlink.net Tue May 20 01:22:28 2003  
Subject: [R-390] Radium dials and 3AT7 'unubtanium" ballast tubequery for the group

I don't know what all the hub bub is about the 3AT7 ballast. They are quite readily obtainable for \$25 NOS. This isn't unreasonable considering a sharp 390A will sell for \$600+ on e-pay. Look what new tires for your car cost you. And for those of you that think you can't get a replacement for \$25, there is a nice fellow on this list selling them (NOS) for that amount. There also was one, NOS again, that had no reserve on e-pay and and closed at \$25 with no bidders just a couple of days ago. Scott

From DCrespy@aol.com Tue May 20 01:37:17 2003  
Subject: [R-390] meters

Barry wrote a note about mainly mil applications for the R-390 meter size. My experience also, with one exception:

Every time I get on a DC-9 (Northwest has a lot of them), I notice that there is what looks like a line level meter (R-390 size and....?) near the flight attendant hand set at the cabin entrance to the plane. Seems like some are black scale, some white. (This might also explain why line level meters with white scales are pretty easy to find?)

Anyway, anyone with aviation ties that might know if this is a current part? Or who supplies it? 73  
Harry KG5LO Saline MI

From ba.williams@charter.net Tue May 20 01:40:18 2003  
Subject: [R-390] Below 500khz?

**Robert and Roy, Phil Atchley was on the list for a while and he did this LF connection per HSN. I sent him copies of the plans. He didn't mention low sensitivity, but he did mention low output on the audio. He liked the radio but he had wrist problems with fine tuning. I tried to tell him to use the BFO more but I don't think he did.**

**I've been DXing LF heavy since last September on a RBL-5 and belong to the NDBList. The big**

things you absolutely have to have in order to get decent logs are the things we tend to not want attached to boatanchors. One, you need an amplified antenna. Period. I did a winter of DXing with a passive loop of good design, and then bought the Quantum QX Pro loop for this past winter. No comparison! My best log was 5400 miles from S. America. I had some 4000 miles ones. The other thing you have to have is a good filter unit. I used a JPS NIR-12 the first year and almost all of this past winter. I recently bought a used Datong FL-3 that would have upped my logs by quite a lot if I had it when the winter DX was good. This is the last of the analog filter units and is made in England. A lot of my catches are made with a filter setting of around 500 Hz. The audio on the RBL-5 is so good that I can get a lot wide open at 3400 kHz width, but I would miss a lot too. There are normally 4-5 good beacons on any one freq that is propagating well. You can't get those unless you get very narrow with a good loop...imho. I got a lot of catches with the RBL-5/Quantum/NIR-12 that I'm sure were viewed skeptically. Wait until next winter with the FL-3. It is going to be much better over the NIR-12.

The thing is, if you just hook up a passive antenna you will log a few beacons. You will get a few more with the winter DX is good, but you won't log 10% of what you can get with an amplified antenna and a good filter unit.

As to the R-390A and the Quantum loop, I logged some good beacons down to around 510 kHz last winter, or some freq near that. They drop off below that freq for a block, but the radio was absolutely superb on those beacons. Very quiet and very sensitive. If only we had a boatanchor LF converter of suitable quality we would have the best LF radio around. Barry

From ToddRoberts2001@aol.com Tue May 20 03:54:45 2003  
Subject: [R-390] Below 500khz?

LF Engineering makes a great VLF converter that works great with my R-390A. The L-111 is his newest model that up-converts 0-500KHz to the 4.0-4.5MHz band. The converter works well with either a longwire or active antenna/ pre-amplified loop input. You get all the sensitivity and features of the R-390A in the 0-500KHz range while tuning from 4.0-4.5 MHz. Simply ignore the first digit and you get direct frequency readout. You can see their products at : [lfengineering.com](http://lfengineering.com)  
. 73 Todd Roberts WD4NGG.

From hankarn@pacbell.net Tue May 20 05:01:51 2003  
Subject: [R-390] Below 500khz?

What is wrong with a R-389?? Hank KN6DI Mine works FB.

From keng@moscow.com Tue May 20 06:34:32 2003  
Subject: [R-390] Below 500khz?...R-389...

> What is wrong with a R-389??

So does mine: but there were less than 1000 made and most of those are now in museums...

BTW, does anyone have a spare UN-DAMAGED PTO for an R- 389? I know someone who BADLY wants one for an other wise pristine R-389. Somehow, something stuck in his as it was being motored and it twisted up the insides something awful! He has tried to repair it several times and it is too badly

damaged to fix. Ken Gordon W7EKB

From wf2u@starband.net Tue May 20 15:08:49 2003  
Subject: [R-390] Below 500khz?...R-389...

Last year I made a side-trip from Dayton to Fair Radio. I saw a big pile of R-389 hulks with various amounts of modules and parts still on them. There may be a PTO or two among those carcasses... It may pay to ask Fair Radio. 73, Meir WF2U Landrum, SC

From pha@pdq.com Tue May 20 17:14:44 2003  
Subject: [R-390] Below 500khz?...R-389...

I looked real closely, and didn't see any. The carcasses are mostly just scraps of frames with a few bits of IF/AF/PS decks thrown in. But hey, you might get lucky! Paul

From R390rcvr@aol.com Wed May 21 02:26:57 2003  
Subject: [R-390] Collins tag help. Dr. Jerry, where are you?

Good evening all: Does anyone have a current email for Dr. Jerry? I had a Collins nomenclature question, but the email in the archives is no longer live. Barring that, does anyone know who might have the expertise to identify an unusual Collins sticker on one of their radio. As some of you may know, I am interested in some of the arcane aspects of R-390 history, and saw a unit on eBay with a red and white Collins sticker, no name tag. I will ping Tom Marcotte on this as well. Thanks for any leads. I can supply a JPEG of the tag for anyone interested. Randy

From drewmaster813@hotmail.com Wed May 21 20:49:18 2003  
Subject: [R-390] B+ Dropping Resistance (was Drill a Hole...)

wrote (not in the order I quote): "Anybody nostalgic for a 535/545 series scope? I have 5 of them."

That's a little too much nostalgia for me (I already have a 535). The Tek 535 is a fine scope, works pretty well even by today's standards and is a must-have for boatanchor enthusiasts. If it does nothing else, with its half a kilowatt power consumption and big cooling fan it makes a good space heater.

" Well, Tek used a number of regulated supplies and all were based on the value of the -150 volt regulator [Warning - Do not adjust -150 unless you are prepared to realign the entire scope]. This was reason enough to delay the application of high voltage."

Drift of -150 supply (and moving those other regulated voltages along with it) and failure of a decoupling resistor or two is all the trouble I've had with it over the past 15 years or so. Use a DVM to set -150 and then the adjustment will be repeatable. If you don't have silver solder for the ceramic terminal strips then cut leads close to defective part and then splice to replacement part.

"Another reason is that the no-load voltage across filter caps (and wiring) is higher than the loaded voltage. I don't think that either concern applies to our favorite receivers."

My R-390A has silicon rectifiers and a 220 ohm series resistor. Audio output tube screens measure 240 volts at turn on. As it warms up it drops to 190 volts.

Some have experienced RF deck coil insulation breakdown which they have attributed to elevated B+ before warmup, but I doubt that to be the cause. Also, that voltage surge forms electrolytic filter capacitors to a voltage higher than that encountered in operation and so might improve filter cap reliability in the R-390A. Drew

From tburr@dixie-net.com Thu May 22 01:40:13 2003  
Subject: [R-390] Interesting and Unique Parts/Hardware Source

Just wanted to pass along to the group a source for many unique parts, materials, products, and services, from Small Parts, Inc. I recently received a catalog on a very handy CD in PDF format. Haven't looked it all over yet. They also have website at [www.smallparts.com](http://www.smallparts.com). I have never seen so many unique materials, and products from one source. If you happen to be searching for something special to solve a unique hardware problem, in an R390 or other project, you might find it among the products they offer. Just wanted to pass this along in case it might help someone. Terry.

From BRingwoo@csir.co.za Thu May 22 08:14:03 2003  
Subject: [R-390] B+ Dropping Resistance (was Drill a Hole...)

I turned my nose up at the 535 - until I found it could do things my modern scope couldn't and it always keeps working when needed. If you don't have a scope, it might be worth making an offer to Bill. - Bryce

From hankarn@pacbell.net Thu May 22 19:03:09 2003  
Subject: [R-390] RE: R-390A Engraved Panels

Do to unforeseen computer crashes there has been a slight delay in the CNC engraving process. Hope to have the program in and proved this weekend so we can get the project under way. I am delaying the powder coating until we test a panel that has been coated to make sure the filling will be smooth and sharp. Please bear with me guys,

Any one that wants one done send them in right away, stripped, powder coated, filled and mailed for \$155.00. Paypal or Money order or a GOOD check.

Dan Arney  
c/o Global Pack & Mail  
21315-R Saticoy St.  
Canoga Park, CA 91304-5685.

Thanks,  
Hank  
KN6DI

From Normiehall@aol.com Thu May 22 22:34:02 2003  
**Subject: [R-390] Collins tag help. Dr. Jerry, where are you?**

Hi Randy,

**He is alive and well and seems to only post to the Collins list. He is technical advisor for the CRA**

**() and posts answers to Collins questions quite often. Too bad he got worn out with the R-390 page. 73, Norm Hall, W6JOD**

From cbscott@ingr.com Fri May 23 20:39:48 2003  
Subject: [R-390] OT: Need pot with piggyback on/off switch

Anyone know where I can get a 1-meg. linear-taper pot with a single-pole switch piggy-backed on it? I want one with 1/4" metal shaft and 5/16"(?) threads, not metric threads. This is for a vintage amplifier. Thanks, Barry - N4BUQ

From dpg@coe.neu.edu Sat May 24 16:18:01 2003  
Subject: [R-390] Differential Gear Assembly

Hello all, After disassembling the differential gear assembly and cleaning it, I put it back together with a smile of accomplishment. Unfortunately, the bastar\* binds up now. I did some reading on this in the Pearls, and it seems that the differential assembly has a particular assembly order. Oops, I didn't note that. Now that makes it 18 different ways to assemble it.

Question: Why does it have a preferred assembly order? Why must a gear go onto a particular shaft? Will it ever work again?

Observations: When it binds, it is a soft bind; it can turn through it, but with some force. The rear steel gear is obviously not parallel to the brass detent plate. One of the small planetary split gears has a noticeable gap in the split gears - the worst binding occurs then this gap runs into the sun gear. Oddly, one of the planetary gear shafts is loose. Dave Goncalves

From laffitte@prtc.net Mon May 26 03:29:15 2003  
Subject: [R-390] R390A FS

The pressure has mounted for me to retain only one of my R390As. The last one I will ever ship. This is a completely original and working EAC unit still with the ballast tube and rectifiers. All tubes except the 26Z5s have EARC shields. Cosmetically the set is ok and has the RF unit covers and original power cable. All bands work. Meters are original. Price includes shipping by USPS Parcel Post insured. I am asking \$550.00 and this is what FAIR asks without shipping for a checked unit with replacement meters. Best 73s, Guido KP4FAR

From rodney\_bunt@yahoo.com Mon May 26 04:12:16 2003  
Subject: [R-390] Re: [Collins] R390A FS

USPS wont ship anything weighing more than 40lbs.

From catman351@yahoo.com Mon May 26 04:17:50 2003  
Subject: [R-390] Re: [Collins] R390A FS

It may behoove you to split the rx into separate modules for shipment. In that way, you'll reduce any possible inertial damage from a combined package. FWiW. Cal.

From GEORGE MORTON" <n7hr@teleport.com Mon May 26 13:53:08 2003  
Subject: [R-390] Re: [Collins] R390A FS

That is 140 lbs!!!

From k5jv@kingwoodcable.com Mon May 26 13:58:10 2003  
Subject: [R-390] Re: [Collins] R390A FS

Rodney, This must be something because I have shipped many R-390/A's via UPS. Don't get me wrong, I am not recommending UPS, but we really do not have many other choices. 73 de Lon W. Cottingham, K5JV

From rdavis24@carolina.rr.com Mon May 26 16:21:37 2003  
Subject: [R-390] Any help for a beginner?

Hello, Its been awhile since I have posted, but I have been reading all the posts. I am getting ready to start restoring one of my R-390A's and have some questions. I have one of the rebuild kits and plan on installing all parts, plus tearing down everything possible for cleaning. I plan to paint the front panel last, and I want to make a nice wood cabinet for it also. I have the videos, the manuals and just trying to find space and time to do the job hi. Does anyone know of a complete restore sequence instruction list? I am new to tube rigs, and I have made some mistakes before, and I do not want to make any on the R390A. I have just finished building my third Elecraft K2, and its time to move to the R-390A. I would appreciate any help that you could give me on starting the project. Please remember that im new to tube rigs, new to trouble shooting and new to some of the testing equipment. I have what I think I need to begin the project, that is VTVM, Scope, tube tester, signal generator and the rebuild parts. What I really need is a helping hand on what to do first, what to do second etc, what are the problem areas, what to clean the parts with, how to get the fungi coating off so I can solder the new caps in, how to solder the new caps in so they will look good, how to get the best possible rebuild possible? Sorry for the long post, but this project is important to me as are the rigs. I have several rigs to do and I want to do it right the first time. Thank you in advance. Ronnie KE4VPN

From jamesmiller20@worldnet.att.net Mon May 26 16:57:11 2003  
Subject: [R-390] Re: [Collins] R390A FS

**If you pack it correctly, it will arrive OK. That means double boxing as a minimu. Recently shipped a 75A4 via UPS no problem. Wrap the radio in several layerr of bubble wrap all around. Then wrap in a foam mattress pad (you can get them from WalMart for 9 bucks. Tape the "blob" good with duck tape. Then put that in a sturdy cardboard box that fits snug. Tape that up, then get another box about 5 inches larger all around and put first box in it surrounded with popcorn. Over stuff the popcorn so you have to apply a degree of pressure to close it. Tape it well on all seams and corners. Some people buy the blue foam wall board from Home Deput and ut it in sheets to pack around all sides of the raadio also. It will arrive OK. In the case of the 75A4 I removed the large spinner knob first and wrapped it separately, as well as any "loose" modules internally. The 390 was made to take a beating however. Bottom line if you spend less than 4-5 hours packing the radio, and anyhting less than double boxing, expect damage.. Never Never ever use a 3rd party Mom/Pop mailbox outlet.**

From 1.baldi@dottorbaldi.it Mon May 26 17:20:28 2003  
Subject: [R-390] Re: [Collins] R390A FS

Hi folks, I surely agree with Jim, I bought an R-390/URR from Rick Mish of MILTRONIX, he sent the R-390/URR in a MILITARY FASTPACK (re-usable) and I got it in ITALY without any problem. The MILITARY FASTPACK isn't cheap but worth every dime paid, it is a non-sense to save money on the box and having the risk of a shipment damage. That's my opinion. Federico IZ1FID

From hankarn@pacbell.net Mon May 26 17:52:32 2003  
**Subject: [R-390] Re: [Collins] R390A FS**

I furnish a custom 24x22x15 500#DW stapled box with custom cut polyethylene foam to fit for \$50.00 plus UPS charges for a 30# box. I have one that I have used 5 times for R-390, R-391 and R-390A and have provided close to 50 to other hams and have had no damage to any of the radios.

**DO NOT USE FOAM PEANUTS/POPCORN OR BUBBLE PACK FOR THESE HEAVY RADIOS.**

The peanuts WILL shift with heavy loads. Wad up old newspaper in the corners to preevent shifting if you are going use them. What do you have when the bubble breaks on bubble pack? 2 pieces of plastic with a total thickness of .006 mils. The bubbles always break on the load bearing points first. If you want the radio damaged take it to MBS etc/UPS Store and get a dummy pack job. UPS limit is 150 pounds. FedEx heavy has no limit, just your wallet limit. I think USPS Domestic is 140 # not sure as I do not use them for heavy items for several reasons. Good luck Hank KN6DI

From Robert Nickels" <w9ran@oneradio.net Mon May 26 17:33:47 2003  
Subject: [R-390] R-392 fixes itself

A while back I'd asked for suggestions on what might be ailing my R-392 which had very low audio. I appreciate the hints but it turned out to be a miracle cure ;-)

I followed the troubleshooting procedure outlined in the manual (one of the best I've seen, btw). I found that it is possible to run the upper deck out of the chassis with care and one BNC extender but due to the presence of MFP making it hard to probe the socket pins (not to mention it's crowded under there!) I used the tip suggested in the manual and just stuck the end of a short piece of small insulated wire into the tube socket pin I wanted to measure and then plugged the tube back in. A good "field expedient" if you ask me.

Anyhow, I found good audio at the diode load but almost nothing on the grid of the first audio tube. I suspected a coupling capacitor but in this Stromberg Carlson-built unit they are all Sprague Vitamin Qs and those never fail, in my experience. After probing around a bit - the speaker audio came back loud and clear. My best guess is that an ohmic connection had "grown" thru the MFP at a point where the resistor on the grid made physical contact (or very near) a grounded standoff. This "fix" seems to be permanent, although it's never as satisfying as when you find a bad part that you can at least toss in the trashcan afterwards!

Just wanted to share a bit about the R-392 which remains another great example of the 390 legacy. One more thing - it only takes a few seconds to remove the deck - just don't lose the oldham coupler on the bandwidth control! 73 Bob W9RAN PS: Since I run this rx in a 24 volt vehicle, I'd like to find the solid

state audio module plug-in if anyone has one, tnx.

From rickmurphy1001@earthlink.net Mon May 26 19:16:11 2003  
Subject: [R-390] Wanted - R390 non A IF strip

Hi Group      The 8k mechanical filter is failing in my R390A . I would like to purchase an IF strip from a non "A" R390. If anyone has one that they could part with. Please respond off list.  
rickmurphy1001@earthlink.net Thanks Murph

From bill@iaxs.net Mon May 26 20:00:40 2003  
Subject: [R-390] Any help for a beginner?

Well, I hope someone else will give you their order for doing things. I am not all that procedure-oriented. I'd try the set, find problems and fix what's broke. I would not attempt to refinish the front panel, because I could not make it look as good as it is now. Clean it, sure.

But you didn't mention practicing your mechanical skills. You can do a pretty good job of degreasing and re-lubing without major dis-assembly. OTOH, you can screw up the set forever if you forget any detail.

If I had several R-390A sets and wanted to do a teardown and rebuild just because it felt good, I'd pick the worst set and make it my practice set. Begin by removing the Audio, PS, and IF modules, then remove the front panel. But first, get a pencil and pad and an ice cube tray or an egg carton. As you remove things, write down what you did. Put any loose hardware into compartments for each step. This will make it possible to replace everything just the way the manufacturer intended it to be built.

You can't tear a set down, clean and replace everything, and still remember how you took it apart - especially if you are also working to someone else's schedule. I have ice cube trays and muffin tins full of parts from equipment I have opened just to look at it. By the time I got around to putting the thing back together, I had the parts but I couldn't remember what they were for.

>"I want to do it right the first time."

That is a noble goal, but quite impossible for a complete tear-down of something as complex as an R-390A. Sort of like sitting down at a piano for the first time and playing an unfamiliar piece of music perfectly. Plan on making mistakes, and plan on practicing. Plan on your practice set never becoming fully operational to factory specs. But the second set has a better chance. Regards, Bill Hawkins

From bill@iaxs.net Mon May 26 21:40:19 2003  
Subject: [R-390] Any help for a beginner?

Darn, I forgot to mention springs.

If you have ever opened some mechanical device and had a spring fly out, maybe taking other bits with it, then you know what I'm gonna say.

One of the best reasons to practice is that the R-390A is full of springs - on gears and Oldham couplers, slug racks and others. Use the drawings to find those springs in the set, make notes about how they are installed and what is attached to them. Do this before you pick up the pliers.

If you don't, there is one more R-390A that will not go back together properly. Regards, Bill Hawkins

From myoung76@bellsouth.net Mon May 26 21:50:11 2003  
Subject: [R-390] R390 cover screws

What size screws are used for the R390 top and bottom covers? Seems as though I have lost them....  
Mike

From ba.williams@charter.net Tue May 27 02:51:48 2003  
Subject: [R-390] Any help for a beginner?

Good advice, Bill. And, good questions Ronnie.

I would suggest taking out the AF deck first. It is easy to get to and just about everything is sitting there in the open for you. I need to do the same thing you are considering, plus rebuild another AF deck that is the cause of blowing the fuse about half the time I turn it on.

The board of resistors will be easy to replace for starters. I plan to replace everything rather than testing endlessly as something is wrong somewhere. I'll enjoy the project if I take my time with it. I plan to recap it too, of course. In the end I should have a good AF module and be ready to do my other one in the working Motorola PH-56. I'll only replace the resistors in the module that is shorting somewhere.

After doing these two decks I'll be ready to start on something else...again doing it slowly and trying to make it enjoyable. I think one deck at a time is a good way to approach the whole job. Look at the Y2K manual and get an idea of the equipment you need. The video also gives you advice. You can't have everything on day one unless you are real lucky.

Another good way to start to know your way around the radio is to clean all of the connectors, tube pins, and crystal pins. I did that a few years ago and it is an interesting way to start poking around inside. Everything got a bit of DeOxit after cleaning. It was like getting a new radio when I finished. Barry

From Barry Hauser <barry@hausernet.com> Tue May 27 06:00:56 2003  
Subject: [R-390] R390 cover screws

Mike asks .. > What size screws are used for the R390 top and bottom covers? Seems as > though I have lost them....

Doesn't exactly sound like you're ready for a full gear train teardown, eh?. ;-)

I don't see any other replies on this so I'll jump in. As I recall, and I'm pretty sure, they're 6-32's round head philips. If you can find pan-head, that might be nicer. You can probably use 1/2 inch in most places except a few where there's something right behind a panel edge. Maybe 3/8" is a good compromise. Make sure they're stainless steel no plated screws on '390's puhleeze! Barry

From kc8opp@yahoo.com Tue May 27 12:03:43 2003  
Subject: [R-390] Any help for a beginner?

Ronnie, Well, for what it is worth, I will add my 2 cents worth here. FIRST.....if it's not broken.....Don't fix it!!! Your first goal should be to get the radio operating, maybe not 100% but at least usable for some local AM or shortwave listening. This will get you familiar with the rig and let you enjoy it as you learn its operations.

Start with the power supply, all other modules need it. Repair any obvious damaged and burnt components then verify proper voltages and currents.

Second, work on the audio section. This is the human interface section, it all ends up here for the operator to enjoy. Again only fix what is necessary to get it operating, there will be time later to enhance and buff. At this stage even a good cleaning can wait, but removing large clumps and cleaning all sockets and connector pins is good.

Third, the IF deck. Same as the audio, get it working for the short term. You may uncover problems at this stage and these should be fixed as you go. A complete re-cap is a good thing, but only after the rig is working.

Now you decide what is next, the PTO or crystal oscillator. Both are needed by the RF deck which will be the last sub-chassis to work on. Follow the manual and search the web for help.

When you have the radio working it is time for the cosmetics and enhancements and these can be done as you see fit. I think that having an ugly working radio is much better than having a pretty non-working one.

Good luck. You have a large project ahead, but one that can be accomplished and be very rewarding in the end.

This order is my opinion, others may disagree but this works for my R-390's (non A). YMMV! Currently I have 2 in the rack for day-to-day operation and one on the bench going through the above repair order. I just noticed you have R-390A's, but this order should work for you.

It sounds like you have more than one, if so keep one for seed. Something will come up and having one complete to see where a part goes or a harness routes to is a good thing.

Have fun, work carefully, and save the cosmetics for last. 73's Roger KC8OPP

From my\_black\_shoe@yahoo.com Tue May 27 14:10:05 2003

**Subject: [R-390] R-390 Meter Faces**

Time to pay back for the help...

I took the Visio and JPG files of R-390 carrier and line meter faces from a list member, and did a bit of tweaking just to see what I could get to fit my meters (PRC-47 replacements from Fair). Thus, for those who are interested, please take a look at:

<http://www.coe.neu.edu/~dpg/R390Face.vsd>

Do mind, this is a 1.4M Visio file, and it requires the software to view it. The bonus for those with the Visio software is that you can edit it - how do you think I did this? The Visio viewer is available as a download from Microsoft.

I've yet to try this out on adhesive material, but the test sheet from a color laser printer looks nice. Maybe the "DB" is a little thin. Any comments? I'll be converting it soon for all to enjoy. Thanks to all who helped out, and sorry that I couldn't name you right now. I promise I will soon. Dave Goncalves  
Please e-mail to [dpg@coe.neu.edu](mailto:dpg@coe.neu.edu)

From [Tarheel6@msn.com](mailto:Tarheel6@msn.com) Tue May 27 14:54:58 2003  
Subject: [R-390] R390 cover screws

Barry is correct on all points, except length is 1/4 inch. And while you're at it, go ahead and get the lock washer, and regular washer that goes with the #6 screw. Then you'll have the radio back to as issued!

And finally, I've found the company, Small Parts, to be a great source, at reasonable prices. McMaster-Carr is also a good source, so I've heard on this list. 73's, -tom

From [dpg@coe.neu.edu](mailto:dpg@coe.neu.edu) Tue May 27 11:58:21 2003  
Subject: [R-390] R-390 Meter Faces

Credit for the source material goes to Pete Wokoun, Sr. He was nice enough to send me and couple other list members his images from his work on a new, clearer VU meter. All I did was do some cutting and pasting to make it fit the old dial face. Dave Goncalves

From [drewmaster813@hotmail.com](mailto:drewmaster813@hotmail.com) Tue May 27 21:16:33 2003  
Subject: [R-390] A help for any beginner

wrote: "I am getting ready to start restoring one of my R-390A's and have some questions." <snipped>

You have a big advantage in that you have more than one unit. If none are presently functional, you can swap modules/ tubes to isolate faults to subassembly level and get a receiver working. With a working receiver, you can then restore another unit one module at a time and use working receiver to test modules (thereby catching any mistakes) as you go.

"... plus tearing down everything possible for cleaning."

Having that assembled RF deck to use as an example while reassembling another is of great help. Y2K manual and other resources on [r-390a.net](http://r-390a.net) are quite good also.

"I plan to paint the front panel last, and I want to make a nice wood cabinet for it also."

Maybe Mr. Arney could strip/powdercoat/fill your panel while he is doing those steps as part of his CNC engraving process for other panels. A fan with air filter would be a worthwhile addition to wood cabinet. Drew

From [jbischof@nycap.rr.com](mailto:jbischof@nycap.rr.com) Tue May 27 22:34:34 2003  
Subject: [R-390] r390, non A

I have a working r390, non A for sale. Very nice front panel. Has original meters. No one has been inside of radio to replace any components. This is a cream puff. Pick up only. \$500.00 or \$400.00 and a if deck that works from a r390a. If no wants the r390, non A I might have some other junk laying around

we could trade. I have a front panel. Case,RF deck, power supply chassis. I need a good rf deck for a r390, A. James jbischof@nycap.rr.com

From jbischof@nycap.rr.com Wed May 28 02:54:46 2003  
Message-ID: <002701c324bc\$1e18cfe0\$f542c218@nycap.rr.com>

I mad a big mistake in my posting. I don't need a rf deck. I need a if deck. For a r390a.

From jbischof@nycap.rr.com Wed May 28 22:14:22 2003  
Subject: [R-390] r390, non A

Ok every one some one is going to pick up my r390, non a. If any thing changes I will let every one know .James

From lal@cyberwc.net Thu May 29 13:44:06 2003  
Subject: [R-390] R-392

Hello to the list.. Does anyone on the list know where I might find the schematic for the " Solid state audio module " which would replace the 26A7 tube? I was able to find information about it but no schematic. Thank you for the help 8^)! Merle WIGZS

From dpq@coe.neu.edu Thu May 29 11:01:44 2003  
Subject: [R-390] Epoxy paint toughness

I've repainted my meter cases with black appliance paint from Krylon; did it really nice a with zinc chromate primer, and an hour long bake in my toaster oven.

I packed these wrapped in tissue paper to carry to work; when I unwrapped them, there were wear marks on the finish! How could this be? The meters were packed into tube boxes, and the ride wasn't bumpy. Isn't this paint supposed to be tough? Anybody have experience with this paint? Dave Goncalves.

From robert\_h\_goff@hotmail.com Thu May 29 17:01:48 2003  
Subject: [R-390] ID plate repair

I've got an identification plate from which I accidentally rubbed off some of the black portion while polishing. Is there a way to repair a mistake like that? Can the plate simply be touched up with paint? If so what would be the best kind? Does anyone have experience with this? Any help would be greatly appreciated. Thanks, Robert Goff W7MKA

From r390a@rcn.com Thu May 29 21:43:56 2003  
Subject: [R-390] Mini Mc/Kc Knobs

Some years ago I got a pile of knobs from an industrial surplus place that was located in what was then a low rent warehouse district just north of the Chicago Loop.

In the lot were some that are the same design as the R-390x Mc/Kc knobs but smaller in size:

<http://www.geocities.com/plutoniac2003/Knobs/Group1.jpg>

As you can see from the first photo, two of the three are about the size of two bar knobs of the R-390x. Some knucklehead (not me!) cut a notch in the larger ones. Anybody ever see these smaller varieties on military or commercial equipment? Another odd fact is that Doehler Jarvis was also located in Chicago. They are the supplier identified on the knob print from Jeff Adam's R-390 CD. 73, /dave N9ZC

From billsmith@ispwest.com Thu May 29 21:54:07 2003  
Subject: [R-390] ID plate repair

Yes, use paint remover to take off the rest of the black paint from the label. Then spray the whole thing with gloss black. Set it aside for a month to let the paint fully cure. Then, place part of a sheet of 600 or finer-grit sandpaper on a very flat surface, such as a formica table top.

Place the label face down on the sandpaper and with even pressure, perhaps using a figure-eight sanding pattern, gently sand off the paint from the raised surfaces of the label.

Do not overdo it, but the raised surfaces will be polished by the sandpaper. Finish with a clear coat, or varnish to restore the "weatherized" effect. 73 de Bill, AB6MT billsmith@ispwest.com

From barry@hausernet.com Thu May 29 22:01:26 2003  
Subject: [R-390] Epoxy paint toughness

Hi Dave: Not familiar with that paint, but I wouldn't put anything in contact with a recently painted surface for a long long time. Paint may dry quickly, especially aided by baking, however that baking time sounds short and paints vary in terms of how they respond to baking. For example, some paints are primarily cure by evaporation, however in other formulations (and probably epoxy) the curing is an "inside job" chemical process. Most Krylon paints are fast dry and fairly fast curing, but I don't know about the epoxy version. Rust-Oleum is very slow drying and slow curing actually several months to full hardness.

Powder coating is apparently a whole 'nother story, whereby it's solid and stable right after the process is completed.

Some wrappers are worse than others abrasive, acid content, inks but no wrapper is best. One clue if the painted item still has the faintest aroma (nose right on it), it ain't done yet. Sounds like you should have baked it for a much longer time several hrs. at a fairly low temp maybe 120-150 F - if the epoxy paint responds to baking at all. Other opinions? Barry

From tbigelow@pop.state.vt.us Thu May 29 22:55:04 2003  
Subject: [R-390] Epoxy paint toughness

wrote: >>I packed these wrapped in tissue paper to carry to work; when I >unwrapped them, there were wear marks on the finish! How could this >be? The meters were packed into tube boxes, and the ride wasn't bumpy. >Isn't this paint supposed to be tough?

If memory serves me correctly, folks have posted about Krylon not being as tough as they'd like, Dave.

The consensus seemed to be that Rustoleum was a better choice. However, it sounds like that 'soft' tissue was actually abrasive, like a fine emery cloth perhaps? Seems to be the case too if you wipe your nose too often when you have a cold. What sayeth the others? de Todd/'Boomer' KA1KAQ

From djmerz@3-cities.com Thu May 29 22:57:54 2003  
Subject: [R-390] ID plate repair

Bob, try a black Sanford Sharpie permanent marker pen, build the density by letting it dry. This works pretty well if the area isn't too big and can depend on how light your touch is. It has one big advantage, it's pretty quick and dries rapidly and doesn't have brush marks. But probably not as opaque as the original paint. Dan.

From my\_black\_shoe@yahoo.com Fri May 30 00:10:07 2003  
Subject: [R-390] ID plate repair

I did the same thing :-). I'll be glad when the cleaning/painting part of my radio restoration is done, I've messed up more times than I'd like to say. The following suggestions have a lot of 'shoulds', which means I have yet to do them myself.

You could touch it up with marker or a couple brushes of model paint. It should look OK for little boo-boos.

The model paint should look better - marker ink has an odd shine; it looks like it is refracting light, producing color waves on the surface.

For Major F-Ups: As long as your ID plate doesn't have gouges or dents, this hint I received might help...

1. Strip off all of the paint chemically.
2. Spray on a gloss black paint
3. Wait till it gets dry and hard, days to months.
4. Tape down fine (600) grit sandpaper to a flat surface.
5. Rub the ID plate on the sandpaper till all the letters are clean of paint.

This should (since I have yet to do it) work, as the tags are etched, leaving the letters and numbers raised above the background black. Sanding removes the paint right off the top of them. Even pressure would seem to be very important.

Fair Radio has repro tags for the R-390 for most of the contracts, Hank Arney has quite a few more (almost all R-390 and R-390A contracts, as well as for some other radios) I just got one from him today, it appears to be finished aluminum with silkscreened black. Dave Goncalves

From k7ais@oco.net Fri May 30 03:26:37 2003  
Subject: [R-390] L-603

Howdy Gents: The Motorola '390A (yes, the gecko hotel) is missing L-603 on the AF module.....anyone have one from a junker module they would care to sell? Thanks, Brian, K7AIS

From Scott Seickel" <polaraligned@earthlink.net Fri May 30 12:20:16 2003  
Subject: [R-390] Epoxy paint toughness

The epoxy should be as tough a paint as you can get. You probably did not let it cure long enough or the paint was not mixed well, or a bad can of paint. On a very high gloss finish you will get slight spider web type scratches that you can only see if the angle of the light is right. How bad are the marks?

I painted my meter covers with automotive epoxy and the finish is tough as you can get. Scott

From dpg@coe.neu.edu Fri May 30 08:37:19 2003  
Subject: [R-390] Epoxy paint toughness

Quoting Scott Seickel <polaraligned@earthlink.net>: Wow, what a response! Thanks all.

The can was shaken as much as a can could be (5 minutes!).

I baked the meter for an hour, and let them sit for a week while I worked on fitting new parts into the movement cases.

I used bathroom tissue (soft enough for my rear, soft enough for my meters) to wrap them, then stuck them into a couple of cardboard tube boxes.

There were two types of marks; the spider webbing you mentioned, and wear marks, as if produced by fine grit sandpaper.

Question: Is that paint available in a spray can? Any recommendations? Dave Goncalves

From lawalk@bellsouth.net Fri May 30 15:06:31 2003  
Subject: [R-390] Cover plates

Just got my first R-390 (at Dayton) and wonder if there is supposed to be covers over the RF deck section (I think). The middle right hand section. There are no top or bottom plates (I know they are available from Fair) and there are no covers on any section as viewed from the top.

If there are supposed to be covers, how important is it to have them and is there a source for them? Thanks, I'm sure this is just the beginning. Larry KW4A

From tburr@dixie-net.com Fri May 30 15:28:44 2003  
Subject: [R-390] Re: [R390] Epoxy Paint toughness

Dave, I recommend you trash the Krylon brand paint, or use it on some of your outdoor patio furniture, etc...

I recommend using only a professional brand automotive coating such as Sherwin-Williams, Ditzler, etc... Also go with a "lacquer" coating of your color choice. "Beware" - lacquers and enamels don't mix. Lacquer should go over the zinc-chromate o.k., if the zinc has some age on it. Even enamel based zinc-chromate coatings tend to dry hard enough that lacquers will not harm them - but I recommend using a seal coat over the zinc first. It is best to be sure. A "very" light coat of lacquer primer over the zinc

should be enough to do the job, if you don't use a sealer. Be sure to remove all the old enamel coating - and I mean all. Any traces of a fresh enamel coating will wrinkle and cook under the lacquer coat, as you are applying it. Usually, the off the shelf type paints, such as you used, will never dry or harden. You get what you pay for.....This is why I recommend going with the professional brand materials. Experiment with the lacquer. I think you will like it. You won't have to heat it, and should age to glass like hardness in a week or so. Let me know if I can help further. Terry Burroughs.

From robert\_h\_goff@hotmail.com Fri May 30 16:08:05 2003

**Subject: [R-390] ID plate repair**

**I tried using a sharpie to color the scratched portions of the plate. I figured if I could fix it without having to unrivet the plate, so much the better. The sharpie ink does look a little purplish when you first put it on, probably from the way it reflects light, as Dave Gonzales said in his email. However, after I had colored it with the sharpie I lightly rubbed some Lemon oil on there and that seemed to even out the color and reflection differences. Model paint might look better, but the sharpie and oil worked well enough for now. Speaking of lemon oil: I read a restoration article on the Collins (CCA) site on the 75A4 where they mentioned using lemon (furniture) oil to even out the finish on a black wrinkle front panel or cabinet. I tried it the other day and the results were amazing! I thought I would have to repaint the panel to get it to look good, but now it looks great. Now I'll have to dig out all that ARC-5 stuff I've got lying around and give it the same treatment. Thanks to everyone for your help. Robert Goff**

From chacuff@cableone.net Sat May 31 17:33:32 2003

Subject: [R-390] Re: [R390] Epoxy Paint toughness

Greetings, Good luck finding Lacquer....except in automotive touch up spray cans. Most automotive repair supply stores don't handle it any longer. (exception is gloss black as I understand it) It has been pretty much outlawed but the EPA folks.

It is the most user friendly paint I have ever used. It is available in touch up spray cans because the stuff can be sprayed over just about any cured paint type...Years ago American car paints were enamel. Most body shops shot their repair jobs with lacquer because there were no ill effects with the original paint lifting etc... It will most definitely raise most "green" (fresh) paints.

The good part is overspray dries before it lands on surrounding surfaces so you just dust it off. Try that with other paints.

Down side is it is not as tough and durable as most would like. But it can be touched up with just another shot or two and blends well.

You can color sand the surface with 1000, 1500 and 2000 grit papers and water then polish with fine polishing compound and make a finish like glass!

It should be applied in many light coats...time between coats can be just a matter of minutes...so it's pretty easy to build quite a film thickness. Most old classic cars with Black Lacquer paint jobs that looked a mile deep had 30, 40 or more coats...then color sanded to perfection!

I think it would be ideal for grey panel jobs...goes on very thin, dries in minutes...very forgiving! I found a couple cans of machine grey lacquer a year or so back and plan to give it a try! Cecil...

From ba.williams@charter.net Sat May 31 17:31:37 2003  
Subject: [R-390] Cover plates

Larry, Those are called Utah plates. You can use them or leave them off. They aren't that important. Some have them and some don't. Barry