R-390 Reflector July '03 Edited

From tburr@dixie-net.com Tue Jul 1 02:02:58 2003
Subject: [R-390] R390, R390A, R392 VFO Question

Is the VFO of the R392 compatible with the R390/R390A VFO ? Thanks Terry

From w5or@comcast.net Tue Jul 1 03:26:38 2003
Subject: [R-390] R390, R390A, R392 VFO Question

The tuning ranges are the same, but everything else is different. Here is a reference to more than you probably wanted to know: http://militaryradio.com/pto.html Don Reaves W5OR

From Tue Jul 1 18:49:54 2003
Subject: [R-390] FW: [ndblist] WLO NMC KFS KPH KLB freqs today

Hi. I was asked to post this to the R-390 list as it may be of interest to many owners of "vintage" radio gear. This is taking place today.

73 de Phil, KO6BB

--Original Message--

NDB List Information Page: http://www.beaconworld.org.uk/info.htm

FYI

FROM MOBILE ALABAMA RADIO / WLO

WLO will be transmitting on 12660.0 We will listen for ships on the 12 Mhz calling frequencies after our transmission to NMC which will occur at 2pm CDT . 73 Rene WLO RADIO Mobile, Alabama

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KFS KPH INFORMATION:

KPH will activate its HF and MF transmitters to participate in this historic event and to give listeners the opportunity to hear three US coast stations on the air - possibly for the last time. KFS will also return to the air on a single frequency.

KPH will transmit on 6477.5, 8642.0, 12808.5 and17016.5 on HF and on 500 and 426kc on MF. KFS will transmit on 17026.0kc. These frequencies have been made available through the generous cooperation of Globe Wireless, the current owner of the KPH and KFS licenses.

KPH and KFS operators will listen for calls from ships on 6276.0, 8368.0, 12552.0 and16736.0 on HF and 500kc on MF.

NMC UPDATE,,,,,, 1900Z 1 JULY 2003

Current advisement on the event:
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On July 1st, Coast Guard Communications Area Master Station Pacific (CAMSPAC), Pt Reyes will retire the historic "Sparks" from the Telecommunications Specialist Enlisted Rating Badge, as the Coast Guard restructures its work force replacing that specialty with two others, the Operations Specialist and the information Technology Specialist. The ceremony will honor the Sparks and those that have worn them with speeches, vignettes of significant events in the Coast Guard's rich communications history.

To commemorate the day CAMSPAC will be open for public tours starting at 9am and running throughout the day until 3pm

A commemorative message will be sent at 12 noon lasting approximately 20 minutes and is expected to be acknowledge by radio stations KFS, KPH, WLO, and KLB who will be on-air as well.

CAMSPAC will be send a preliminary call on 500Khz followed by the commemorative message on 448Khz and 8574Khz.

Simplex Radioteletype will be available on 9373Khz and a voice broadcast will be made on the following NMC voice broadcast frequencies: 4426, 8764, 13089, 17314 kHz (USB)

Following the commemorative message there will be a cake cutting ceremony acknowledging the passing of the Telecommunications Rating and along with it the symbol used to describe Coast Guard communicators for 78 years "Sparks". During and after the cake cutting ceremony other sentiments may be sent by those in attendance. Anyone desiring to send their own commemorative message are requested to provide a printed copy of the message if possible to include in our station history book as memorabilia of the days event.

QSLs may be sent real-time via email directly to our Telecommunication Specialist In Charge, TCCS Bill Heckler at: WHeckler@D11.USCG.MIL

Your Email QSLs will be posted real time so that members in attendance will have an opportunity to see who is listening and read their comments during the event. Those sending QSLs will receive a commemorative QSL card response along with a copy of the commemorative message.

Requests for QSL cards may be mailed to:
c/o (TCIC)
COMMANDING OFFICER
USCG CAMSPAC PT REYES
17000 SIR FRANCIS DRAKE BLVD.
P.O. BOX 560
POINT REYES STATION, CA 94956-0560

When requesting QSLs responses either via email or snail mail please include your return postal address along with other pertinent information you may want to include.

P.S. (1900UTC is 12 Noon out here) -30-

From w7itc@hotmail.com Tue Jul 1 19:47:19 2003
Subject: [R-390] Vacuum tube question

I have a Viking II transmitter which has the low modulation levels in part from low au. I am not interested in extensive modifications to this unit I would just as soon leave it in stock condition. There are a number of tubes which are a direct replacements for the pair of 6AU6 tubes at the beginning of the audio chain. Some of these replacements have either a higher plate,and/or higher grid dissipation.

Kenneth A. Crips W7ITC, Cheyenne, Wyoming

From robert_h_goff@hotmail.com Tue Jul 1 21:10:58 2003
Subject: [R-390] Blasphemy!

Can anyone tell me why you would want to do this to a nice radio? (or one that could easily be made nice?): http://joppegaard.com/rak-7.html A computer box? People need to get their priorities straight. Robert Goff W7MKA

From barry@hausernet.com Tue Jul 1 21:32:28 2003
Subject: [R-390] Blasphemy!

Hi Robert: Nope not blasphemy at all. It would qualify as blasphemy if someone were just to talk about doing something like that to a classic piece of gear, like the RAK-7, which was the epitome of regenerative design and still effective today as a "low-fer" receiver. Fairly involved audio filter circuits, too.
Actually doing that to a radio qualifies as heresy, with the appropriate cure involving a vertical post and suitabile flammables. The word "abomination" applies as well. Where's the Spanish Inquisition when you need 'em? Barry

From roy.morgan@nist.gov Tue Jul 1 21:39:31 2003
Subject: [R-390] A question of covers.

wrote: > ... I plan on putting this unit back in it's CV-979 cabinet. >... It 'seems' to me that >leaving the plate on would prevent dust and dirt .. I wouldn't think it >would allow much if any heat buildup since there are only a few tubes in >that area of the receiver. > >Are there any thoughts on the subject?

Phil, My thought is that you could install the Utah plate and figure out a way to also include in the case a small muffin fan or two. Just a small amount of moving air can keep a radio much cooler than without any fan(s).

The R-390 non-A REALLY needs a fan at the voltage regulator tubes. Really. Roy

From cbscott@ingr.com Tue Jul 1 21:41:48 2003
Subject: [R-390] Blasphemy!

Hmmm, the way the side panels fold down on my TEK561A, it would make a cool bread box...
Barry(III) - N4BUQ

From Tue Jul 1 22:14:25 2003
Subject: [R-390] Clean gear train

Hi Folks. Today I pulled the RF deck out of this EAC that I'm presently overhauling. This unit has to have absolutely the cleanest gear train I've ever seen in an R-390A upon arrival at this QTH. When I got it I was told the set had been "gone through" but could probably use lubing as it had been awhile. I'm not sure what "gone through" meant but it certainly wasn't re-capped.

Yes, there is some light dirt between the coils etc but nothing like what I've come to expect. Even the rack springs are still shiny!

Normally, I pull the RF deck, remove all slug racks, tubes coils etc and then do a complete "slosh" cleaning of the mechanism with a solvent and garden hose. Not this time. Instead I'm removing each rack and its coils individually, clean said coils/slugs, squirt a little DeOxit in the coil sockets, clean/oil the rollers and reassemble doing one rack at a time. Then of course I'll "LIGHTLY" lube any points that I feel need it. I've been down that road several times now and feel that excess lube is worse than no/little lube.
NOTE: My first R-390A ever got a FREQUENT and GENEROUS treatment of a special "extra slick" lubricant from a pump spray bottle at regular intervals. This was BEFORE I was on the Internet or had even heard of the R-390 mail reflector. Needless to say, there was always a "puddle" of that stuff on the table under the receiver!!! I don't recall the name of the product but I must say it was slippery, but I'm not really sure it made the receiver any easier to tune 8^) 73 de Phil, KO6BB

From dsmaples@comcast.net Wed Jul 2 01:49:26 2003
Subject: [R-390] R390A AFGain Pot Repair

All: I have had a defective LOCAL AUDIO pot for some time and would very much like to replace it. The usual suspects (Allied, Newark, Digi-key, Mouser, etc.) don't seem to want to stock much in the way of audio-taper pots. Anyone recommend a good source for this? Dave Maples

From: r-390-admin@mailman.qth.net [mailto:r-390-admin@mailman.qth.net]On
Subject: [R-390] R390A AFGain Pot Repair

I had noticed a marked deterioation inb the Audio quality and level of a Blue Streak 390A I have here. When I renovated the receiver I never changed any of the pots, spending most of the time on the cleaning and re-capping of the modules.

Any how I measured the AF Gain pot, and found that it had soared to more than 8k-ohm in value. I had to get the DVM on the bench, as I did not believe what my AVO-8 was telling me!....Bothe were in agreement in the end, so I changed the pot for a 2500 ohm one from the junk box as an initial replacement.
The result was perfect audio and lots of it too! This pot is in one of the audio stage cathodes and, I guess mine had just worn away with use. Anyone with weak and distorted audio would do well to ckeck the value of the pot before launching into a more detailed diagnosis! 73 to all Pete G4GJL

From dsmaples@comcast.net Wed Jul 2 01:49:29 2003
Subject: [R-390] R-390(A or non A) entertainment

Hmmm...reminds me of using one of the old Radio Snack sound-effects records (the track of bloodcurdling screams) played in the electronics building behind my high school one morning. All kinds

of folks at the windows wondering what female teacher was being butchered... Dave WB4FUR

From: r-390-admin@mailman.qth.net [mailto:r-390-admin@mailman.qth.net]On
Subject: Re: [R-390] R-390(A or non A) entertainment

Forrest, I agree with you. I was in the Radio Repair section at Herzo base in the late 50's and we always had a R390A or non A tuned to AFN Bremerhaven. Being from the South, I always enjoyed the "HillBilly Gasthaus" programs and still have a tape from there that I occasionally enjoy playing. Really brings back good memories! I remember one day that we mounted a large horn type speaker on the roof and aimed it across the street at the EM club. With the volume cranked up, the sound bounced off the front of the club and no one could tell where it was really coming from. Everyone got a good dose of country music that day! Howard "Rainman"

From BRingwoo@csir.co.za Wed Jul 2 10:11:37 2003
Subject: [R-390] Blasphemy!

What a waste of precious time.

From Wed Jul 2 00:44:42 2003
Subject: [R-390] Swap Collins Tag for '67 EAC Tag (It's a vanity thing 8^)

Hi. I have a VERY nice Collins R-390A tag (good paint, not scratched up) that I'll swap for a '67 EAC tag in similar condition. Guess you could say it's a vanity thing since all modules and the mainframe on this unit are EAC and in very nice condition.

Tag Specifics: Collins, Order number 8717-P-55, S/N 4563. 73 de Phil, KO6BB

From cbscott@ingr.com Wed Jul 2 14:36:53 2003
Subject: [R-390] R390A AFGain Pot Repair

Not sure where you can find one, but one thing to watch out for is the new pots don't always have 3/8" threads. Many of them are using metric threads. It's not too much of a big deal, but they aren't very original. I found a replacement for an old Fender guitar amp there that I couldn't find anywhere else.

Have you looked at Antique Electronic Supply (www.tubesandmore.com)? They have a lot of pots but I doubt if they are milspec. Also, did you ask Fair Radio? Good luck, Barry(III) - N4BUQ

All: I have had a defective LOCAL AUDIO pot for some time and would very much like to replace it. The usual suspects (Allied, Newark, Digi-key, Mouser, etc.) don't seem to want to stock much in the way of audio-taper pots. Anyone recommend a good source for this? Dave Maples

From ence-ack@rio.com Wed Jul 2 09:41:00 2003
Subject: [R-390] Clean gear train

>Needless to say, there was always a "puddle" of that stuff on the table under the receiver!!! I don't

recall the name of the product

ukumpucky? spence

From cbscott@ingr.com Wed Jul 2 14:41:28 2003
Subject: [R-390] R390A AFGain Pot Repair

Oops. I added the comment about the Fender amp at the wrong place and notice the first paragraph doesn't make much sense. I found the pot at Antique Electronic Supply. Barry(III) - N4BUQ

From ezeran@concentric.net Tue Jul 1 21:29:50 2003
Subject: [R-390] Blasphemy!

That is as bad as the site a few years back showing how to gut a BC-611 then install a CB set. I did email to see if any parts were left, can use them as spares for my RAK/RAL and back up for LST325. EdZ

From r390a@rcn.com Wed Jul 2 01:59:40 2003
Subject: [R-390] Blasphemy!

Here's what a friend of mine did with a Tek 500 series scope cart:
http://www.geocities.com/plutoniac2003/ScopeCart.jpg

From cbscott@ingr.com Wed Jul 2 19:14:48 2003
Subject: [R-390] Blasphemy!

Somewhat like passing a crash scene, it's horrible to see - yet, somehow, I can't look away. Barry(III) - N4BUQ

From ah7i@atl.org Wed Jul 2 19:01:40 2003
Subject: [R-390] Blasphemy!

I think you guys are all looking at this the wrong way.. The kid wants to build things. Someone familiar with the RAK should tell him some cool things to do with the innards and get him interested in radio... - Bob ah7i

From barry@hausernet.com Wed Jul 2 20:26:06 2003
Subject: [R-390] Blasphemy!

Probably too late, Bob The kid's other project a computer file server that's actually a regenerative lowfer tube receiver inside. The green light for filament, the yellow for plate voltage and the red one for signal strength. Barry

From odyslim@comcast.net Thu Jul 3 02:24:09 2003
Subject: [R-390] Rack Wanted

Hi Gang, This is a longshot but if there is anybody within 50 miles from Ft Meade that has a rack for sale, I would like to buy it. The radios are starting to take up too much room and space is valuable. Thanks, Scott W3CV

From ezeran@concentric.net Wed Jul 2 23:23:44 2003
Subject: [R-390] Blasphemy!

Weren't the "ScopeMobiles" available with gas as well as charcoal grills?

From ToddRoberts2001@aol.com Thu Jul 3 03:42:07 2003
Subject: [R-390] Blasphemy!

writes: > Can anyone tell me why you would want to do this to a nice radio? (or one that could easily be made nice?): http://joppegaard.com/rak-7.html

Talk about wrong priorities! An RAK-7 is already a museum-piece of valuable history. The dial-drive castings and beautiful machine-work alone probably could not be duplicated today for many thousands of dollars. This kid turned it into a piece of junk. 73 Todd Roberts WD4NGG.

From Thu Jul 3 03:51:40 2003
Subject: [R-390] Is it REALLY worth this much?

Hi. I just ran across this R-390A and the man is asking nearly $1300 for a nice one. It doesn't even say it's been re-capped/serviced etc.
http://www.auctionworks.com/store/itemDetail.asp?sid=3D200307022236110000= 00003 6188067&sfid=3D4474&id=3D7917813 73 de Phil, KO6BB

From Thu Jul 3 04:33:20 2003
Subject: [R-390] Is it REALLY worth this much?

Ok, try the following, then click on "Receivers Collins" in the left frame then on the R-390A (he also has a R-390). It's not on the E place but looks like an "E-store" at the auctionworks site.
http://www.auctionworks.com/store/default.asp?sfo=3Dke9pq 73 de Phil, KO6BB

From Scott Seickel" <polaraligned@earthlink.net Thu Jul 3 11:35:20 2003
Subject: [R-390] Is it REALLY worth this much?

No. Scott

From hankarn@pacbell.net Thu Jul 3 12:09:44 2003
Subject: [R-390] Is it REALLY worth this much?

It appears as a store front tied in from the e*ay joint. You can sell on the bay through it and list your stuff. Take a look at www.auctionworks.com. Seems like a good place to sell your stuff on and off

auction. I am going to consider it to get rid of my 5 tons or more of "Hi-Class Junque" Hank KN6DI

From r390a@rcn.com Thu Jul 3 15:14:55 2003
Subject: [R-390] Blasphemy!

The first 'SmokeMobile' was charcoal only. You applied the juice, threw in a match and waited for it to come to operating temperature. Pretty much like using the scope except for the flame part. Later, when solid-state scopes came on the scene, users demanded an instant-on version so it was reconfigured for propane - the '-A' model.

From roy.morgan@nist.gov Thu Jul 3 16:25:54 2003
Subject: [R-390] Is it REALLY worth this much?

Phil, If you enclose long URL's in brackets as below, many email programs will manage them just fine even though they have been line-wrapped into segments. PS: It is an EAC, apparently, and thus worth more, but not $1300 in my opinion!! Roy

From courir26@yahoo.com Thu Jul 3 18:49:42 2003
Subject: [R-390] Is it REALLY worth this much?

No, its not worth that much, unless a pro like Chuck has recently gone through it. As master of the obvious, I'd like to point out that if its an EAC radio, then it's not a Collins. Also, he doesn't say what the sn is. 10717 is the latest noted, one that Rick Mish has. 73 Tom N5OFF

From ToddRoberts2001@aol.com Fri Jul 4 06:32:45 2003
Subject: [R-390] Sylvania R-1451A/WLR-6 Waterboy Receiver

Would like to inquire if someone on the list may have one of these R-1451A/WLR-6 receivers or know where I can find documentation or a manual for one? Recently picked up one of these unusual receivers and it is working! I believe these were made for use on submarines back in the early 70's. Tunes .5 - 30.0 MHz with nixie tube readout. Has similar I.F. filter selection to the R-390 sets - .1-1-2-4-8-16 KHz however this set uses ceramic filters. There are some pictures of one in Josh Rovero's website. Thank goodness this set is working but don't know what I would be able to do for it without a manual if it ever fails. 73 Todd Roberts WD4NGG.

From arturz@myrealbox.com Fri Jul 4 15:16:00 2003
Subject: [R-390] Help finding contact info.

Does anyone has updated e-mail address for Ken K4XL owner of BAMA archive. Both addresses I have are undeliverable. 73. Artur KC2HTQ

From jtone@sssnet.com Fri Jul 4 15:56:07 2003
Subject: [R-390] Blasphemy!

Gents, Yikes! Where do they come from? But its ok...its got an already obsolete computer in it... 73, Gene

From Sat Jul 5 03:46:42 2003
Subject: [R-390] FS: Hammarlund HC-10 Sideband adapter.

Hi. Due to the absolute necessity of purchasing a couple air conditioning units for the home (central air went belly up) I am putting a couple of my boatanchor accessories for sale so I can pay off the "plastic". NO, NO RECEIVERS ARE FOR SALE! I'd rather take a beating than part with them, particularly the Hammarlund HC-10, but that's how it goes <grin>.

1. Hammarlund HC-10 Sideband adapter. This unit is basically the IF strip, Notch filter, AVC, BFO/product detector and audio section of a Hammarlund HQ-180 and will provide superb SSB AND AM performance of SP-600, R-390A and other boatanchor receivers with a 450-500 KHz IF frequency. Some specifics.
 A. IF filters: .5, 1, 2 & 3 KHz in SSB, twice that in AM modes.
 B. Modes: LSB, USB, CW and AM.
 C: AGC. OFF, Slow, Medium, Fast.
 D: Slot (notch) filter +/- 5KHz.
 E. Passband Tuning +/- 3KHz.
 F: Noise limiter/Squelch.
 G: Audio Output, 1 Watt into 3.2 Ohm Speaker or headphones.
 H: Internal 120VAC Power supply and 10 tubes.

COSMETICS: I would rate it an honest "8". Case looks quite nice, trim ring has some light rust in the bottom area that I'm sure is fixable, but I'm not set up to do it correctly. Face looks very good EXCEPT some lettering on the white Hammarlund name has peeled leaving bare metal. It's not a glaring defect.

ELECTRICAL: Everything works as it should though the can electrolytic capacitor hasn't been replaced. So far as I can tell it's all original with no mods. COPY of the manual printed from the BAMA file and a 2nd manual that I am sure isn't original.

PRICE: I'm not sure what these are going for now days though I understand they're relatively hard to find and I saw one listed at $340.00 Considering the cosmetic defects mentioned I'll take 250.00 plus shipping. It will be well boxed and go UPS. 73 de Phil, KO6BB

From Sat Jul 5 03:48:49 2003
Subject: [R-390] FS: URM-90 LCR Bridge.

Hi. Due to the absolute necessity to purchase a couple window air conditioners for the home (central air unit went belly up) I'm putting a couple of my Boatanchor accessories up for sale to pay back the "plastic" <grin>. NO, NO RECEIVERS ARE BEING SOLD!

I have a very nice URM-90 LCR bridge that is in very nice condition, at least a 9 of 10 in appearance. I just re-formed the capacitors on a variac and everything appears to work as it should, though I have NOT gone through a calibration procedure on it. I did check some coils (main reason I got it) and it indicated the correct values as well as some resistors to check the Galvanometer (good) and some capacitors to make sure everything works.

There are not "spares" in the lid but the cabinet is VERY nice and the well printed manual copy with large schematics is not bound. Asking 140.00 plus shipping costs via UPS. Unit will be well packaged

for shipping. 73 de Phil, KO6BB

From andy@champ1.freeserve.co.uk Fri Jul 4 14:42:03 2003
Subject: [R-390] New 390A owner & fan

Greetings to all on this list.

Having recently realised a long ambition to own a R390A receiver I have become a subscriber to this list and I gather that you guys like to know some details on "new found" sets. It is a Motorola built one from order 14 - PH - 56 serial No 564. It has a screen-printed front panel in excellent condition and the whole set is pretty clean and shiny for going on 50 years old. Both meters are originals and the set has top and bottom covers but these look so new and un-marked that I suspect they are repros. The PTO is a Collins and most of the sub-assemblies are stamped MFP which I assume is Motorola. Five of the tubes have IERC cans but mostly it has original silver ones. It still has both rectifier tubes and the RT501 barretter is in place. There is no diode load jack.

It has some mods by a previous owner, the BFO V505 has been replaced with a 6BE6 to make a product detector which I guess follows one of the well-known mods to do this. Also, the unbalanced antenna connector has been replaced with an SO239 which I should be able to replace with the proper C type. The balanced twin connector is still on pushed-in wires though as the proper plug is unobtainable here. The cover that goes over the crystal oscillator subchassis is missing.

Haven't had the chance yet to look deep inside to see what's been replaced but it was demonstrated working before I bought it so functionally I know that it's basically OK. Functionally, everything seems to work.

Question: It has only a single fuse holder on the rear panel which I think is correct for this serial number but if the additional B+ fuses were worth fitting in production, should I add them to my back panel like the factory or hide them internally? Or not bother?

73 to all, and happy Independence Day to our friends on the other side of the pond. Andy Jackson G8JAC Surrey, England

From ai2q@adelphia.net Sat Jul 5 14:42:43 2003
Subject: [R-390] New 390A owner & fan

Good luck with your new receiver Andy. I have a similar Motorola one here. By the way, MFP stands for "mildew fungus protectant." MFP is the hard greenish colored paint or coating used on many subassemblies as a passivation layer. Vy 73, AI2Q, Alex in Kennebunk, Maine

From Barry Hauser <barry@hausernet.com> Sat Jul 5 15:57:37 2003
Subject: [R-390] New 390A owner & fan

Hi Andy & Welcome to the '390 Asylum ;-) > Having recently realised a long ambition to own a R390A receiver I have become a subscriber to this list and I gather that you guys like to know some details on "new found" sets.

Yes as a rule, we're very nosy about other folk's '390's. Eventually we'll have live web cams running

24/7 with multiple channels with channels like Newly arriving '390's being unpacked (suspense), Full-Blown Recapping (intense) , Full Gear-Train Teardown, Cleaning & Reassembly (higher intensity), Mechanical Synch and full Electronic Alignment (cerebral), Panel & Knob Refinishing (fine arts 'n crafts), Modifications (horror), Demodification (redemption), Actual Reception Performance (sports), and so on ....

> It is a Motorola built one from order 14 - PH - 56 serial No 564. It has a > screen-printed front panel in excellent condition and the whole set is > pretty clean and shiny for going on 50 years old.

Just don't compare it to the inside of that PC you bought six months ago. They catch more dust than those HEPA air filters.

Both meters are originals > and the set has top and bottom covers but these look so new and un-marked > that I suspect they are repros.

Probably. Most originals are either (a) missing or (b) dented and scratched with some smashed in louvers.
The PTO is a Collins and most of the > sub-assemblies are stamped MFP which I assume is Motorola.

That's Mildew-Fungus Protection, or Moisture-Fungus-Protection. Someone just called it "greenish". Usually more yellowish or golden in color. If any is flaking (unlikely), be careful not to ingest it as it contains mercury and possibly other bad stuff. Perfectly safe in place. It does become a bit of a problem if you have to do any soldering as it has to be scraped away from the joints before proceeding.

> Five of the tubes have IERC cans but mostly it has original silver ones. It > still has both rectifier tubes and the RT501 barretter is in place. There > is no diode load jack.

Some of the silver ones aren't so bad pull a few and check them. I've found some retrofitted with black heat sink inserts, usually of the "accordion fold" or pleated type. If so, they're nearly as good as IERC shields. On the other hand, I just got a Stewart Warner which has all IERC shields, but someone made off with the inserts.

> It has some mods by a previous owner, the BFO V505 has been replaced with a 6BE6 to make a product detector which I guess follows one of the well-known mods to do this. Also, the unbalanced antenna connector has been replaced with an SO239 which I should be able to replace with the proper C type.
I suppose, if you want to be a purist. You might just locate a C-type panel connector and keep it close by. The SO239 is more convenient.

>The balanced twin connector is still on pushed-in wires though as the proper plug is unobtainable here. The cover that goes over the crystal oscillator subchassis is missing.

You should be able to find them easily they are "twinax" connectors commonly used in IBM-type networking (token ring?). They are usually available new and cheap as most networking has gone 10-base and 100-base-T which is twisted pair with modular (telephone style) plastic plugs. You can also find an adapter that goes from twinax to C or something else. These have one side of the pair grounded internally. Might be able to get one from Fair Radio or watch the "e-place".

> Haven't had the chance yet to look deep inside to see what's been replaced but it was demonstrated working before I bought it so functionally I know that it's basically OK. Functionally, everything seems to work.

Even so, pull the IF deck and look "under the bonnet". Hopefully you have a spline wrench to unfasten the two clamps on the controls. You should check C553 (I think) that's the mechanical filter killer, should it short out. We routinely replace those with a new orange drop or other new manufacture cap as a preventative. There are clear photos on Chuck Ripple's web site http://www.r390a.com/ProbCaps.html

Also be sure to visit Al Tirevold's web site http://www.r-390a.net/faq-refs.htm

The audio deck is easy to pull. Check for a leaked out 8 mfd metal tantalum cap, usually with a nasty blemish on the mounting board. This can be replaced with a 10 mfd electrolytic. If it has not yet spilled its acid guts, best to pre-empt that.

> Question: It has only a single fuse holder on the rear panel which I think is correct for this serial number but if the additional B+ fuses were worth fitting in production, should I add them to my back panel like the factory or hide them internally? Or not bother?

There is some value to the added fuses (one is for filament). An overload on the B+ will blow the 1/8th amp fuse much sooner than the line fuse, which might not blow until after collateral damage occurs. Frankly, though, I have no idea how often this may happen. If you are going to retrofit, it might make more sense to fit the proper fuse holders to the back panel, using some of the drawings (Y2K manual, etc.) to position them. The correct way is to use a "Greenlee Punch" which has the correct "D" shape or circle with a flat on one side. This keeps the fuseholder from rotating in the panel. If not, then improvise or make sure you get the fuseholders with the large starwashers which bite into the rear surface and perhaps secure with a drop of epoxy or something.

Internal fuseholders would be more convenient and keep the back panel "authentic" to the version, however, I haven't found any that were very confidence inspiring. Tempted to use the inline type often used in automotive installations, but I don't think they're rated for high voltages.

> 73 to all, and happy Independence Day to our friends on the other side of > the pond.

Well, thank you very much, Andy. Very sporting, all things considered. (Imagine if someone told King George III that one of his subjects would be conferring greetings on the dual occasion of the anniversary of the (declared) independence of the colony and his receipt of an American-made radio receiver. Well, maybe he wouldn't feel so bad if he also knew how much Racal stuff we've got here ;-) Best of luck with 'er and enjoy! Barry

From jlkolb@cts.com Sat Jul 5 16:33:32 2003
Subject: [R-390] New 390A owner & fan

wrote: > Internal fuseholders would be more convenient and keep the back panel "authentic" to the version, however, I haven't found any that were very confidence inspiring. Tempted to use the inline type often used in automotive installations, but I don't think they're rated for high voltages.

A high percentage of the inline types I'v used for car radios have failed with the plastic cracking, so that the assembly flys apart, leaving a hot lead dangling. I'm not a purist and would have no problem with added fuseholders, on the rear panel if neatly done. If the modules are all orignal, rather than a depot dawg, it could possibly affect the resale value. John

Date: Sat, 05 Jul 2003 13:06:57 -0500 (CDT)
Subject: [R-390] New 390A owner & fan

wrote:>You should be able to find them easily they are "twinax" connectors commonly used in IBM-type networking (token ring?). Thick ethernet, actually. Very common, if you know where to look. I even have one that has a built-in balun to an RJ-11 jack.

From R390rcvr@aol.com Sat Jul 5 19:39:08 2003
Subject: [R-390] Imperial R-390A for sale

Good afternoon all: Well, the shack is too full, so I need to make at least a bit of room.

For sale: Imperial Electronics 37856-PC-63 # 1884

Condition: Missing original meters, does have a pair of unhooked up replacements. Assume they are not the proper specs, I haven't tried them, as it came this way. No covers. 4Kc filter dead Antenna relay has had the twin-ax connector removed for some reason. Unbalanced connector is OK. Should be easy to do the field change #5, where the unbalanced connector becomes the preferred connector. Ding/crease in PTO cover, works fine however Power Transformer works fine, but same insult that dinged the PTO pushed in the top down. Matching ding on left lower edge of side panel Engraved panel, with uneven paint, should be refinished, as should the knobs. No extra holes, such as diode load on front panel.

Radio plays well, on all bands. I had the front panel down because of several slipping/broken gear clamps. They have been replaced. I cleaned the gear train, and it works nicely. The MC detent spring is set very lightly, so it is very easy to spin up the dial, but you do have to pay a bit of attention to be sure it stays in the detent. It has a new 3 wire cord. Three fuses on back panel.

Having seen a lot of the St. Julien radios, this one internally is much better, with minimal corrosion. I have had several of Fair's used/repairable units, and this one is a sig. better starting point. I don't think there will be a lot of corrosion related gremlins to chase, as I have had to do with the Fair units. Module composition. Cosmos PTO, Collins IF(Mod 1), Teledyne for other modules. It still has the rectifier tubes. 3TF7 has been jumpered, with 12BA6 in PTO.

Price $275. I have a Hank Arney shipping box, which I will be happy to send to you, but you will need to mail it back, usually 12-15$ depending on your location. I can provide any level of digital photos required. I also can burn a CD with the tech. manuals and send with the unit. Randy Stout

From Llgpt1@aol.com Sat Jul 5 16:38:50 2003
Subject: [R-390] New 390A owner & fan

writes: > Well, thank you very much, Andy. Very sporting, all things considered. > (Imagine if someone told King George III that one of his subjects would be > conferring greetings on the dual occasion of the anniversary of the > (declared) independence of the colony and his receipt of an American-made > radio receiver. Well, maybe he wouldn't feel so bad if he also knew how > much Racal stuff we've got here ;-) > > Best of luck with 'er and enjoy! > > Barry >

Oh, the irony of that statement.....:-) Les Locklear Gulfport, Ms.

From R390rcvr@aol.com Sat Jul 5 21:31:32 2003
Subject: [R-390] Imperial R-390A is sold!

Thanks to all who replied. The 1st offer to buy came in within 30 seconds from the posting. I have some others which may come onto the market soon. My only concern is to not see them show up on ebay the next day. I want them to be restored and used, not just turned over. I could sell them on ebay directly, but would prefer the group have 1st dibs. Thanks again Randy

From mg@harvesting.com Sun Jul 6 00:28:19 2003
Subject: [R-390] Wanted to buy CY-979A military receiver cabinet

Will pay top dollar for good or NOS CY-979A cabinet. Surely there must be one more of these around. Please e-mail me at KC9VF@arrl.net or phone me at 1-800-745-1680. 73's Marvin KC9VF

From AdamAnt316@aol.com Sun Jul 6 02:56:57 2003
Subject: [R-390] DIY cabinet/shielding questions

Hello everyone. I recently began work on my R-390A and, since I don't have any sort of cabinet or rack for the set to go in, I've been toying with the idea of building a wooden cabinet for it. I thought that this sort of project would be relatively straightforward, but then the issue of shielding came to mind. Are the top and/or bottom covers detrimental to the correct operation of the receiver? I have the bottom cover and the oft-mentioned "Utah plate," but am currently missing the top cover (anyone know of a source for just this one cover? Would Fair Radio be willing to sell me only the top one, since the bottom one is passable?). While looking through the overheating section of the R-390A Pearls of Wisdom archive, I found one post which said that the milspec metal cabinet one owner had used RFI screening over all the holes in the case. Would it be better to try to restore the top cover, cover the insides of the wooden case with some sort of metal screening, both, or would neither be necessary? Also, what would be the best way to bolt the R-390A into the wooden cabinet? TIA. -Adam Adam Vaughn

From barry@hausernet.com Sun Jul 6 12:48:27 2003
Subject: [R-390] DIY cabinet/shielding questions

Hi Adam & gang: First of all welcome aboard!

When putting an R-390A in a cabinet or rack, an important consideration is ventilation. You don't want to suffocate the radio.

The basic mil procedure when installing in a cabinet or rack was to remove top and bottom covers, which is why so many are missing. It pays to keep the Utah cover in place as there aren't many tubes under it and it helps keep dust out of the coils.

Might be arguable, but the 390's are pretty well shielded while uncontained. Additional shielding is needed only in special situations. Wood has insulating properties, so you have to make sure there are plenty of vents in whatever you build. The '390's have the "H-frame" design with modules suspended on the bottom. The convection air flow is primarily from the bottom and out the side panel holes (for the "downstairs modules"). So, the case design should have openings on the bottom AND the sides, not just one or the other.

Consider simply getting a nice top cover. If Fair Radio won't break a set, check with Hank Arney.

If you're going to make a full wooden cabinet, plan on cutting a lot of vent holes. (Some kind of open frame design might be more practical.) Leave the top and bottom covers off. If you add screening, I'd suggest a fine mesh so it helps keep some dust out, but not so fine that it restricts airflow. You might be able to find a standard cabinet at a reasonable price (under $100) that will fit or maybe one that's taller with room for "accessorizing". Barry

From jbrannig@optonline.net Sun Jul 6 13:14:37 2003
Subject: [R-390] DIY cabinet/shielding questions

During the last shack re-build, I incorporated a rack size box on one end of the shelving unit. It is 24 inches tall, 11 inches deep. The total length, including the "rack" is 7 feet.

The entire shelf/rack box is made from 3/4 inch birch veneer plywood, trimmed with edge moulding. The shelves are reinforced with 2 inch wide "stringers". Stain and about 6 coats of polyurethane give it a nice look and a hard finish.

For the vertical "face" of the rack section, I used 3/4 inch aluminum angle iron. The wood is routed so the angle is flush to the inside of the "box" then drilled and tapped as appropriate. Because of the weight, the R-390A is on the bottom and a CV-591 is mounted above it. A blank panel with a large line voltage meter is the top piece. (the line meter is a big 'ole power station job with a brass face plate) The back of the rack is open for ventilation and ease of access.
All the covers are in place. Their primary purpose is to keep dirt out of the radio.

The aluminum has not stood up very well. They should be replaced with iron or steel angle, also I would mount three flush metal strips, front to back, into the base of the unit. The wood has been gouged by the weight of the receiver.

From hankarn@pacbell.net Sun Jul 6 13:54:44 2003
Subject: [R-390] DIY cabinet/shielding questions

I have a DX-100 cabinet that has been stripped and painted, is disassembled with all hardware for $125.00 plus UPS. Also have all of the covers. Hank KN6DI Cabinet is a light gray wrinkle I think.

From theprof@texoma.net Sun Jul 6 18:06:02 2003
Subject: [R-390] DIY cabinet/shielding questions

Hello Adam, I traded a cabinet-maker some repair work and had him build an oak veneer 3/4" plywood case that I designed for my R-390A/URR. The cabinet is just wide enough to fit a pair of rack slides on either side of the radio. The chassis does not touch the cabinet. The cabinet is deep enough to contain a 4" AC fan and filter and there are ventilation slots cut near the front edge on the top and bottom. The fan draws outside air through a filter and exhausts after flowing through the radio. There is a two piece trim molding around the edge of the front panel to hold the radio and cover the mounting holes. I used large furniture glides on the bottom so the cabinet is easy to slide. The back panel is hinged for cable access. The fan and the radio plug into a small outlet strip in the back of the cabinet. I plug the thing into a small variac with a AC line-meter I built for this purpose. I can remove the trim strips and slide the radio out

of the cabinet for minor things like zeroing the carrier level meter and setting the IF gain. The cabinet weighs in at about 20 pounds.

I do not have the top and bottom covers on the radio. Originally I was thinking of using copper sheeting or the copper paint used on the inside of plastic computer monitor housings, but I don't seem to have any issues at all with emitted or received EMI using an outside long-wire antenna. As far a heat, I use IERC tube shields and there is a good bit of airflow though the cabinet. I measured temperatures at various points in the chassis and was quite pleased with the results. Good luck and 73 de Richard W5SRB

From mparkinson1@socal.rr.com Sun Jul 6 20:21:50 2003
Subject: [R-390] looking for 51J4 original filter 4 or 6 KC

Hi I am looking for an original 4or 6 KC mechanical filter for a 51J4 is there one out there Simi cheap and working. I know I can buy a new one for 200.00 plus but was hopping to get one cheaper and original.
I have one that is not original and working but the circuit has been modified for this filter and is causing the AVC or should I say agc circuit not to work at all I think it has been disconnected to accommodate this filter.

Is there something cheaper that would work and fit into the socket made for this.

I believe that this filter is a 500kc I.F so the one for the R-390a won't help at all here.
Any help would be appreciated. I am just trying to get this working for another ham who doesn't really doesn't have the skills to fix this at this time. Thanks Matt Parkinson KE6UOS

From jtone@sssnet.com Sun Jul 6 21:04:46 2003
Subject: [R-390] DIY cabinet/shielding questions

Gents, Interesting questions re cabinets for the R-390X's ... Several approaches here...but some are;

1. Use DX-100 cabinet per Hank posting...they show up from time to time, but must do some custom hole cutting on rear panel if you use it...the depth clearance is ok, but no room for errors...plus in my case the standard 19" hole patterns were not what my DX-100 cabinets presented...drilled and tapped them...not a big deal...but had to do it...

2. Main station op position here at W8KXR is constructed floor to ceiling with eight bays of racks that allow movable shelving...veticle shelving supports, when needed are 'shimmed out' with addition of right angle aluminum stock to fill gaps and provide for rack mounting...main weight is on shelving. This is an extremely flexible system and allows for lots of station changes as up grading and mix an match combos are tried...Currently have two R390x's mounted this way...vry neat . ..

3. Open frame racks also used, but no R-390x should be mounted suspended on panel alone...this is old info discussed on this list several years ago...it is also the way military racks were designed, in some cases, with essentially 'micrometer' shelf adjustments that came up under the rigs...to minimize panel loading and main frame/gear train alignment.

4. Bud has made custom runs of cabinets from time to time that are deep enough for the R390x's and SP-600's . .. had to get 'em quick because they were sold out within hours of posting...

5. Have found cabinets at the Hamfests, that appeared to be for commercial test gear wo mfg. id...but were deep enough to handle the '390's . .. gotta keep looking and be a bit innovative in these cases...

6. Have been able to scrounge (rescue) four computer cabinets from work that were dumpster fodder...they are commercial grade, deep enough, mostly with five to six feet of usable vertical mounting space....
7. Also intercepted a two double 19" rack from scrapped scecurity system that was being up graded...works great...easy to add support shelving either custom fit per me, or scrounged shelving used for Video monitors in this case...

So, if you are persistent, these are some ideas...for avoiding a custom build...really dressing up ur stuff, and avoiding valuable waste of time needed for more building and scrounging...take your pick from really big for lots of stuff, or one at a time stuff... Good luck and good hunting... Gene

From AdamAnt316@aol.com Sun Jul 6 21:17:11 2003
Subject: [R-390] Re: DIY cabinet/shielding questions

Thanks for all the comments so far. The case I build will most likely be about the same size as the faceplate (height/width wise) with an open back, although I may make it a bit taller on top to accommodate a 240V fan and an outlet strip. What sort of ventilation holes should I put on the four sides? I'm hoping for something relatively discrete, if at all possible. As far as alternative cabinets go, I'll keep an eye out for one (haven't been too successful so far), but will still build this wooden one so that I have something nice (and with the potential of fitting in with existing furniture) to put my set in. As for the 390A itself, owning it has been quite an adventure, especially since I've never worked on something this complex before. I recently finished restuffing the can capacitors, and currently have the IF deck sitting on the bench for replacement of the problem caps (details of the restoration so far can be found at <A
HREF="http://www.angelfire.com/ma2/AdamVon/r390a.html)">http://www.angelfire.com/ma2/Adam Von/r390a.html</A>). Once I get done with this, I will hook the set up to a Variac to bring power up to it slowly, and hopefully it will work (when I acquired this set, it was said to be nonworking, but I discovered that the 3TF7 had gone open, and have since replaced it). -Adam Adam Vaughn

From dsmaples@comcast.net Sun Jul 6 22:07:48 2003
Subject: [R-390] DIY cabinet/shielding questions

All: I am late to review mail today, but is there anyone else besides me that would like to see a picture of this? It sounds like a real treat. Dave WB4FUR

From jlap1939@yahoo.com Mon Jul 7 00:40:46 2003
Subject: [R-390] Re: [R-390]--Blasphemy Indeed?

My Friends, >From the interest in this subject, it would seem that it is close to the hearts of many. So tell me, How do you feel about the changes, not in fact needed, that some of you do to the "hollow state" units you own?

Product det, enhanced audio, discard Lc, and put X or mech filters? Throw away the final IF tube and add a converter...

Changes in modules..("It doesn't matter as so many were constantly being changed in pratice").. Yes, but

that is not really necessary if you are willing to prove your tech. prowess.

Drill holes..(Its' not enough that the Navy already did that a lot???)

I have said it before, and been dressed down, so Oh Well...:

I don't believe you should make ANY (Read that "ANY") changes in these old sets...Period. Just the way I feel...whatever.... My Regards, John

From Mon Jul 7 01:08:45 2003
Subject: [R-390] DIY cabinet/shielding questions

wrote: > All: I am late to review mail today, but is there anyone else besides me > that would like to see a picture of this? It sounds like a real treat. > > Dave WB4FUR

I certainly would; as I understand The Rules, posting images to the list is A Bad Thing; maybe someone has some website space for the image? Mike Andrews

From redmenaced@yahoo.com Mon Jul 7 01:29:29 2003
Subject: [R-390] DIY cabinet/shielding questions

Hi Adam, I would build the cabinet with sufficient space to allow air circulation and put solid wooden slide blocks on the bottom to carry the weight and allow proper alignment of the radio in the cabinet, down each side of the front I'd screw 2" wide by 1/8" thick flat steel to the inside front of the cabinet to align with the mounting holes of the front panel. That should secure it well enough for table-top use.

But what I'm wondering is which would look more appropriate, raised panel sides, art deco styling, or maybe, an overhanging top panel with LED lighting aimed at the meters and counter. What wood finish would look "right" with a grey radio? I'd almost be tempted to make it out of maple and paint it grey to match the radio! That WOULD be correct for early 40's cabinets. Joe

From k4kwm@hotmail.com Mon Jul 7 02:57:16 2003
Subject: [R-390] Help needed

Well I tried to do what I thought was going to be an easy job. That is to replace the on switch behind the panel. Panel came off just fine. Switch changed out fine panel went on fine and off/on switch works fine. Problem. The tuning is now terrible. Main tuning binding. Sometimes doesnt work at all. It was great before. It now tunes from around x.600 to +x.600. In other words it is now tuning into the next megacycle range. The problem seems to be in the zero adjust mechanism. I have not removed the panel the 2nd time as I want to get the wisdom of the group. Hope I havent screwed this thing up too bad. Thanks in advance for any help. John John Page K4KWM

From Mon Jul 7 02:58:54 2003
Subject: [R-390] Them sneaky resistors

Hi. Since I've been waiting for the PTO and the capacitors to arrive so I can finish the overhaul of this R-390A receiver I've had time to spend a little extra time checking and re-checking components in such

places as the IF module, audio module etc. So far everything has checked in spec resistance wise. Except that is for one resistor in the screen circuit of V508. It should be 47K and was 104K. Now, I went through that amplifier very methodically from one end to the other THREE times before finding it on the third trip through the module.

Now, either a gremlin crawled into that resistor between the second and the third check OR I somehow overlooked it on the first two passes, and I went through it with a fine toothed comb! Since V508 is the AGC amplifier this could cause weak AGC action when I finally get the set finished. Moral of the story? You can't check those old resistors enough times 8^) 73 de Phil, KO6BB

From billsmith@ispwest.com Mon Jul 7 03:34:01 2003
Subject: [R-390] Them sneaky resistors

Hi Phil, I doubt you missed your failed resistor. I recall recapping and checking resistors in a HRO-7R. The set played fine, but died about two weeks later. I was rather surprised, but opened it to find several of the 470K resistors had opened up. I replaced them and thought my troubles were over. They were, for another two weeks or so. To make a long story short, I replaced all the 470K resistors in that set.

National seemed to use a supplier who provided particularly poor resistors (at least from a longevity standpoint). I have found more poor resistors in those receivers than any of the other popular manufactuers.

Interestingly, there was no obvious current or temperature change that could have affected the faulty resistors. Most were in grid circuits, used to decouple the AVC line, for example. Perhaps the shock of the temperature change when unsoldering associated bad capacitors started some sort of process.

At any rate, it doesn't seem that unexpected that running your set will affect some of the components and some of them can take a while before they obviously fail. 73 de Bill, AB6MT billsmith@ispwest.com

From BRingwoo@csir.co.za Mon Jul 7 08:18:40 2003
Subject: [R-390] Re: [R-390]--Blasphemy Indeed?

Hi, Best to keep them original. Modified sets have a bad effect on my blood pressure. OTOH undoing all the mods keeps me busy :) - Bryce

From ghayward@uoguelph.ca Mon Jul 7 13:15:50 2003
Message-ID: <3F096476.50103@uoguelph.ca>
Yes, I'm a witch scheduled for incineration but I agree. Once I engaged in drilling and blasting but I now look for nicer ways to do any mods. My cathode follower mod for the R-392 plugs in and did NO damage to the set. My R-390A is in the same condition I got it - no Navy holes either. I did bend up a cover from some aluminum with vent holes, but this is removable and for the purists, discardable. As stated in one of the recent postings I guess undoing mods will be my redemption, so there's hope for me yet. 73 de Gord (VE3EOS)

From jlap1939@yahoo.com Mon Jul 7 15:56:48 2003
Subject: [R-390] Re: Blasphemy Indeed..

Friends, Short (?) note...Had one point out privately that if my radio was rebuilt by Dave (Medley) it prob. had the 12 volt tube mod...So why should I say anything about people doing modifications on antique equipment....

It Does indeed.....(You could also complain about solid state supply for that matter, but as seen in 390 mailman...Some spend their time, and make money from removing "unauthorized" mods....). So maybe someone could buy the orig. radio changed to a computer, and restore it...

I send junk (often unwelcome) to people all the time in hopes they will preserve another bit of tube tech. CORRECTLY.. Thats something I have done for years w/antique clocks..(Sometimes what I send is not junk....)

A reminder about Daves' 12V tube mod...Remember (as pointed out by Dave), If you don't like it just put 6V tubes back in, and find a ballast...Easy correction, and still possible to do... Regards, John

From Mon Jul 7 18:50:02 2003
Subject: [R-390] Replacement pto arrived.

Hi! This morning I picked the replacement PTO up at the post office. Examination disclosed the following.
1. No label but it is obviously a Cosmos PTO from the fact that it has the 25KHz linearizing screws that only the Cosmos units have.

2. It's an older unit, the coax shield and outer covering (green instead of white) around where the coax exits the PTO is cracked all the way around, with the shield basically non- existent. Some light corrosion on the housing and around where the power cable exits the can.

3. Bent slug shaft on the output transformer (the small can).

4. The linearity adjust screws has those itty bitty hex or fluted screw holes instead of the slots, the size nobody can find a tool to fit 8^) (I 'might' have a itty bitty fluted wrench that will do the job)

An electrical check of the unit showed that it's working but the end points are out by over 12 KHz, which means that I'll have to go into the unit and tweak the end point coil and check other things.

While I'm inside it I'm going to do a thorough examination for overall condition etc. It may behoove me to use the flexible linearity ring to repair the other unit since it's in otherwise pretty nice condition. A little more work but I want the best possible PTO in this radio! 73 de Phil, KO6BB

From krkaplan@cox.net Mon Jul 7 23:08:03 2003
Subject: [R-390] Re: Them sneaky resistors

Hi Bill, Phil, all, Wow - same problem here. Just yesterday I had to replace a couple of resistors in the RF Amp of a National NC-98. One was a 470k control grid resistor and the other a 47k screen grid resistor. They were as open as a blown fuse. I examined them under a 10x magnifying lens and could see no signs of over-heating or any other kind of stress. Down with carbon comps <g>... 73 Ken kb7rgg

From k4kwm@hotmail.com Tue Jul 8 03:48:25 2003

Subject: [R-390] Re: help needed

Thanks to all who offered suggestions on the binding problem. Gene Beckwith gets a gold star as he hit it right on the nose. The right side angle gear on the counter was out off adjustment just a touch and would slip and then bind up. This of course screwed up the dial alignment. It is smooth as silk now. I really feel better. What a great bunch of guys. I knew that I could putz around and maybe screw it up or go upstairs and ask a whole bunch of experts. Thanks again guys. And thank you Gene. John John Page K4KWM

From Barry Hauser <barry@hausernet.com> Tue Jul 8 05:00:57 2003
Subject: [R-390] Re: help needed

Hi John & List: Happy to learn your problem is solved.

Not so pleased that (apparently) all the replies were off-list. Doubtful that bandwidth overload has been much of a consideration lately. I thought the whole idea was to share solutions and interact two heads better than one, etc. It's also a matter of conserving off-list bandwidth and keystrokes and courtesey when the solution someone might offer has already been suggested.

What might the motivation be? the suggestion might not be the right one? If not, it may well be the next time. So .. c'mon guys ... click on "reply all" next time.

Anyway I can't seem to picture how dropping the panel and changing out a switch affected the counter gears. Thanks for letting us know you've got it fixed. Barry

From BRingwoo@csir.co.za Tue Jul 8 08:14:23 2003
Subject: [R-390] Re: help needed

Replies might get sent off-list inadvertently because "reply-to" on email defaults to sender, not to list. - Bryce

From Forrest Myers" <femyers@attglobal.net Tue Jul 8 14:28:37 2003
Subject: [R-390] C551

Hello All, The **C551** in my R390a is not quite up to par. I was wondering where a suitable replacement may be found. I found a "music" capacitor with axial leads that would probably work if I could figure out how to mount it. Anyone had any experience with finding good replacements for that capacitor? Yesterday, I bit the bullet and rebuilt my own filter capacitors. The result is not as neat as some I've seen but not too bad. If I ever do it again, the result will be much better as I learned a lot from doing it the first time. The audio on the radio sounds much cleaner with the new filter capacitors installed. Slowly but surely, I'm replacing questionable parts in the radio, Capehart #557. The radio is fully functional but the alignment is off and the PTO is not as linear as I'd like. I figure that after replacing all the questionable caps and bad resisters, I'll tackle the alignment problem. In no hurry though. Sure is fun working on such a well built piece of equipment. Forrest Myers AG4ND

From drewmaster813@hotmail.com Tue Jul 8 18:22:54 2003
Subject: [R-390] New 390A owner & fan

wrote: and I gather that you guys like to know some details on "new found" sets."

Hello Andy, Welcome to the fraternity of R-390A enthusiasts! Yes, we do enjoy hearing about someone else's new acquisition, for me, I start thinking about what I would do if I were them!

On single fuse R-390A's, you can check r-390a.net, references, pearls of wisdom for horror stories relating to damage done when failures didn't blow that one fuse soon enough. There was a field change to add 2 fuseholders so obviously the designers realized that there was a problem.

If you have an aversion to "drilling and blasting", and don't feelike adding in-line style fuse holders, you can add pigtail type leaded fuses. A convenient place to do so would be under the audio module on unused terminals of the sockets for the plug-in electrolytic filter capacitors.
Pulling audio module to replace fuses so installed would not be much hardship because blowing those fuses should be a rare event indeed.

A measure of added protection can also be realized by "downgrading" the main fuse to 2 amps for 110v AC line or 1 amp for 220v AC line.

Check also the aforementioned reference for information relating to the AC line filter. That filter has paper capacitors and like the rest of those capacitors in the radio are a prime candidate for leaking or shorting with associated unpleasantries. This is especially of concern to you on the other side of the pond with your 220 volt AC supply. Drew "Better living through modifying and repairing R-390a's vicariously via advice to others"

From ba.williams@charter.net Tue Jul 8 18:25:03 2003
Subject: [R-390] Re: help needed

I was wondering how dropping the panel fixed the gear problem too. Wasted bandwidth? What bandwidth? We hardly get any messages nowadays. Barry non-Hauser

From jlap1939@yahoo.com Wed Jul 9 00:08:51 2003
Subject: [R-390] CL80....

Friends, If someone could drop me a short reply sometime...

I already had my radio IN the rack, and so I put the Keystone thermistor in the "brute force" line filter I made, (this was a few yrs ago, after my switch stuck, and by a stroke of luck, came back apart with a bit of tapping on the front cover...! I put the thermistor in RIGHT THEN...)

All has been fine, but I often worried about the new limits it might face, as due to the location, the four tube Teleregister receiver amp/monitor I use runs through the same filter..(The filter has four outlets...). Now I have had to add a 40 W light, as the location is changed slightly, and I needed more light to read...The amp/mon is a four tube VTVM unit, with a very large low pass filter, and a series of line filters.

To be honest, there have been times when I have turned on the SP 600 while the 390 was still on, as well as the tele. amp...(In order to warm up the 600, as it drifts for a half hr or so...to start with..) In other words, all this can at times run through the one thermistor...How Bad is that???

This is probably too much load. huh?..What about just the 390 (or 600), and the amp...Sorry to say I still don't relate amps and watts, and voltage very well..(well...I mean not at all, in fact....?) Don't even know the amps for the thermistor, (In my "little" mind I seem to remember 3 amps, maybe???)

Also, another subject: Someone asked about backlash and accuracy for SSB tuning, as they were not able to get as close in freq. readout as I said I do..If in fact, you have worn teeth, or loose or missing sgrings in your gear train, it will be too much backlash for the 1 to 2 hundred hertz readout I get..(Thought I would mention this as others may have run into it.. ! Of course you can blaspheme and add an electronic readout....)...

By the way, who elses' SP 600 drifts from cold to full warm?.. My 390 doesn't drift enough to notice..I can cut it off on say, 3927 (!!!) (SSB set-up)...come back the next evening, and it is right where I left it, cold as a house ...and doesn't change as it warms up ...(390 non a...remember...) Thats hard to beat.. My Regards to the list..John (JLAP)

From jlap1939@yahoo.com Wed Jul 9 01:37:34 2003
Subject: [R-390] CL80....

Friends, I'm a dumb one... just re-wire the filter so only the 390 is going through the thermistor...just got a note.. But...I thought it would be better for the other gear too..is why I was thinking about letting it stay as it is... Regards, John (JLAP)

From k4kwm@hotmail.com Wed Jul 9 01:42:55 2003
Subject: [R-390] Re: help needed

Dropping the panel didnt fix the problem. I dropped the panel to fix the switch and the gear seems to have picked that exact moment in history to move a hair to the left. I dropped the panel the second time to check things out and thats when I checked that area. The clamp was none to tight. Hope that clears that up. John John Page K4KWM

From ba.williams@charter.net Wed Jul 9 01:44:25 2003
Subject: [R-390] CL80....

> By the way, who elses' SP 600 drifts from cold to full > warm?.. My 390 doesn't drift enough to notice..I can > cut it off on say, 3927

John, My SP 600 drifted a lot all the time when I first got it. I replaced the OA2, forget the location number, and it stopped most of the drift. I didn't use the radio for a few months, came back and fired it up, and it hasn't drifted since that time. I scratched my head a few times over this but I ain't complaining.

> Of course you can blaspheme and add an electronic readout....)...

Gotta disagree with you on this one. My SP is too inaccurate for me. I built one of those Almost All Digital frequency meters that works in half the bands at the present. I need to add the little amp board to it, maybe this evening. Anyway, when that meter is working right it sure is nice as the SP dial can be 10-15 kHz off in some places. For instance, I may be trying to catch a certain TIS on 1.610 and the dial is reading somewhere around 1.600. Those TIS signals are pretty weak, so careful tuning is required sometimes. I rarely listen to bcst stations, so I can't just say this is this, or that is that from the SP dial.

All I have to do is pull on the wire to remove the meter. Voila, a stock SP again! Barry non-Hauser, non-Greg Brady

From wewilson@knology.net Wed Jul 9 02:32:51 2003
Subject: [R-390] C551
References: <008c01c34554$d763b0b0$d908410c@TRIDENT>

Forrest, I have found a nice poly cap, 2.2 uF, 630V rated (Mouser part number 5989-630V2.2), that can be squeezed inside the existing can that held C551. It's a real pain to cut and clean out the old C551 can, so some just solder the new ones underneath the IF deck.

How do you know that C551 is not up to par? On a local (steady) AM station, does the carrier meter reading change between the slow, med, and fast AGC positions? If so, I'd agree that C551 is leaking enough to affect performance. If the carrier meter reading is the same at all AGC positions, your problem might not be C551, but rather somewhere else in the AGC circuit. Walter Wilson - KK4DF

From laffitte@prtc.net Wed Jul 9 03:54:47 2003
Subject: [R-390] R390A test rig

The OS8/U oscilloscope appears as part of the test setup in the original R390A manual with the URM 25D signal gen. Upon working on several OS8/Us, I have found that the usual culprits in most malfunctions are the multiple section electrolytic caps of the power supply. Replacing them brings back the little 3" scope as good as new. Of course any paper caps especially in earlier models should be replaced but always go after those filters first. Just a note for those who like to see some action on the CRT while operating the R390A or nonA or would like to use it in an original test set up. Take those scopes out of the storage and get them to work. The little devils have a lot of life left in them for years to come and they look quite nice beside our beloved 390s. Best 73s to all, Guido Santacana KP4FAR San Juan, PR-USA

From Wed Jul 9 03:55:42 2003
Subject: [R-390] PTO SUCCESS!!

Hi. Well, I finally met with success in getting a PTO set up for this '67 EAC. If you recall this Cosmos PTO had a linearity ring with a crushed "footbridge". It's not perfect, but it is much, much better than when it arrived here. Smooth tuning and no minor frequency jumps when tuning either!

Well, the PTO that arrived in the mail was also a Cosmos. It worked but had a number of "issues" with it also. Notably the damaged Coax cable, the damaged slug screw for the output transformer etc. BUT, the one thing it did have was a good linearity ring. So, I decided to rebuilt the one that came with the receiver as it was otherwise in pretty nice condition.

First order of the day was to tear both PTO's all the way down to the inner sanctum where the linearizing hardware resides. I then swapped the linearizing rings, backed all the linearizing screws counterclockwise and then one turn clockwise.

Reassembling the unit it took about 4 tries before I got the disk in the right position so that I had screws at both ends of the tuning range. I had previously marked the tuning slug position for 3455KHz to make it easier. I quickly discovered that I could pull the assembly far enough apart to reposition the disk

without having to take the lead screw all the way out of the tuning slug. This helps keep things in position.

While reassembling the unit one other problem reared it's ugly head. I had previously mentioned this PTO was not "virgin". Somebody had worked on the coil tap for the main tuning coil. In the process of taking the wire off the feedthru this same wire pulled loose from the coil, breaking the winding in two (previously repaired). So, my fix was to solder a heavier piece of hookup wire to the feedthru, carefully position this over the two ends of the broken wire and solder them. Some clear fingernail polish then secured the fine wires to the coil form and the hookup wire. I was very careful how I positioned this wire, even so I was afraid that it might affect the tuning range of the coil. However, I was pleasantly surprised that upon re-assembly the PTO tuned just fine, the 3455 position being just about where it was when I removed it (A little difference but I attribute that to the fact that I backed the linearizing screws out).
You might ask, if I had two PTO's here and was using one for parts, why didn't I rob the tuning coil out of the parts unit? Good question! The answer is simple. While both were Cosmos units there were significant differences in the two units, particularly around the tuning coil. I'm sure the coils were electrically the same, however the hook-ups were somewhat different, the older unit having three feedthru wires to the oscillator, two of which were from the coil. The other unit (one I used) had only two feedthru wires.
All the above was THE EASY PART!! It took me a good 10-12 hours of work to set the end points AND all the linearizing screws. I had no test jig so I did it in the set, using the Veeder Root counter and lifting PTO out of the set for each adjustment. I quickly found out that if I left the back bracket on but not screwed to the chassis and left the front screws unscrewed from the chassis I could hold it in position, tune up to the next point, lift PTO out and tweak it and re-insert the PTO without knocking the PTO shaft out of position (I have a fine touch ;-) .

It also took several trips through the routine as I found that the first setting I did for end points was not optimum for having sufficient range on all the linearizing screws. The final results are that I have a couple screws that are backed all the way out, MOST in the mid-range and a couple in as far as I could go without getting any binding on the PTO tuning. Where there was any problem there I backed them out a little more than the optimum point as I figured a couple hundred Hz non-linearity was better than getting the screws too tight.

No, this is NOT a PERFECT PTO, worst case non-linearity is at 025 KHz where it actually reads 025.7 on the counter (000 and 050.1 on 25KHz points either side). AVERAGE non-linearity is probably better than 300 Hz, this with the end points at 000 and +000 being dead on the money. I think some of the non-linearity may be due to the repairs that have had to be made to the tuning coil etc. That and if I had a test jig where I could EASILY adjust the critter it may have made a difference. Not having a frequency counter I used my Yaesu VR-5000 in LSB mode to Zero Beat the PTO when the Yaesu receiver was tuned to the desired frequency.

However, I DO feel pretty good about rescuing what was otherwise a "Sows Ear" and which was useful only for parts! BESIDES, THEY DON'T MAKE PTO'S LIKE THEY USED TO 8^)

NOTES: DIFFERENCES BETWEEN THE TWO COSMOS PTO'S (#1 came in my receiver). It appears that unit #1 is a much newer PTO than unit #2.
1. PTO#1 had two feedthru wires from coil to oscillator.
   PTO#2 had three feedthru wires from coil to oscillator.
2. PTO#1 had new style coax with clear jacket, good condition.
   PTO#2 had old green coax with cover and shield broken at body.
3. PTO#1 had slotted linearizing screw shafts for screwdriver.

PTO#2 had some sort of hex or fluted linearizing screw shafts.
4. PTO#1 Disk had a number of missing linearizing screws.
PTO#2 Disk had linearizing screws in all holes.
5. PTO#1 Heater wires entered through front of PTO unit.
PTO#2 Heater wires entered through side of outer can.
73 de Phil, KO6BB

From billsmith@ispwest.com Wed Jul 9 04:37:40 2003
Subject: [R-390] PTO SUCCESS!!

Congratulations! Have been following your story with great interest. Good work. 73 de Bill, AB6MT

From w5kp@direcway.com Wed Jul 9 12:46:35 2003
Subject: [R-390] CL80....

Sounds like some RF tweaking is in order, per the good 'ol manual alignment procedure. 10KC is WAY too much for one of these, my 600 is not off more than 1 KC anywhere in the BC band, and is very close to dead on most of the way. Noticeable drift is essentially non-existent, too. That's not a "nyaah, nyaaah", it's just proof these things are capable of much better tuning accuracy than you are experiencing. This one is a JX-17 w/factory ceramics, totally virgin, untouched and un-aligned from day one as best I can tell. Likely yours was "aligned" by a previous ham owner with a wandering screwdriver and no non-magnetic alignment tools. :-) I'll bet you can get it MUCH closer than that without too much trouble, as long as it's been recapped or has factory ceramics. 73, Jerry W5KP

From ghayward@uoguelph.ca Wed Jul 9 13:17:28 2003
Subject: [R-390] CL-80

If the 390 is on, the thermistor will be hot so it will not protect the other set when it is turned on. I put my CL-80 in a box on the back of the 390A covering the power filter pins too. Cheers de Gord.

From Forrest Myers" <femyers@attglobal.net Wed Jul 9 14:05:09 2003
Subject: [R-390] C551

Walter, The carrier meter reads lower on the slow AGC setting. The audio is also distorted on strong stations while in the slow AGC position. On medium or fast settings, the carrier meter reads higher and the audio is never distorted, no matter how strong the signal gets. Reading, somewhere on the web, I seem to remember that this could be caused by a leaky C551. Does that sound reasonable? Forrest Myers AG4ND

From Wed Jul 9 16:24:05 2003
Subject: [R-390] What size screws??

Hi. What size/thread screws do I want to use on the CV-979 cabinet for the R-390A? I presume they're standard "rack" screws but I don't recall the size. I need to go down to Ace hardware and see if I can get some for this one. 73 de Phil, KO6BB

From cbscott@ingr.com Wed Jul 9 16:27:24 2003
Subject: [R-390] What size screws??

IIRC, they are 10-32. Barry(III) - N$BUQ

From jlap1939@yahoo.com Wed Jul 9 16:31:56 2003
Subject: [R-390] OA2 and Freq. Readout

Friends, Thanks to Barry (non) for the OA2 suggestion for a drifting 600. I had several and traded out and guess what? MUCH BETTER...(which is why I am thanking him on list- someone else may benefit, as I tried it and got a great result..)

As for freq. readout, I was kidding about blasphemy regarding a modern readout...I realize it is needed on the 600..and I would not mind having one myself, for that matter.. Regards, John (JLAP)

From Llgpt1@aol.com Wed Jul 9 16:36:09 2003
Message-ID: <79.150a04b6.2c3d9069@aol.com>

writes: > What size/thread screws do I want to use on the CV-979 cabinet for the > R-390A? I

Phil, 10-32.I prefer the 5/8" length YMMV. Les Locklear

From Wed Jul 9 16:59:13 2003
Subject: [R-390] What size screws??
>
> 10-32.I prefer the 5/8" length YMMV.

Although I've seen 10-24 racks a couple of times. I agree that 10-32 is much more common. 5/8" is good, and if you can find them, there are some wider-and-flatter-than-pan-head screws that work especially well in racks. Mike Andrews

From Wed Jul 9 17:08:40 2003
Subject: [R-390] Screws, thank you all.

Thanks to everybody who told me what size screws to use. 73 de Phil, KO6BB

From bill.riches@verizon.net Wed Jul 9 17:32:00 2003
Subject: [R-390] What size screws??

10/32 x 3/4" Pan head.

You might try a sound system installer or music store for rack screws and trim washers.They would probably look better than normal hardware store stuff. 73, Bill Riches, WA2DVU Cape May, NJ

From Michael Melland, W9WIS" <w9wis@charter.net Wed Jul 9 17:57:34 2003

Subject: [R-390] Alternative to Rack Screws...

I found utilizing regular rack screws in my CY-979 cabinet was sort of a pain. A better solution for me was a cool rack mounting knob system by a small company called Rack Release Systems.

The rack screw kits come with a black oxide 10-32 "stud" that screws into the cabinet. It makes lining things up very easy if you take the rig in/out of the cabinet... especially if your holes don't line up perfectly. The kit also contains a black plastic/nylon washer and the nice knurled knob.

They are available in hex or knurled round and standard or extra length. I have both and the extra length works best for CY-979 cabinets.

Here is their web page: http://www.rackrelease.com/QuickReleaseRackScrewsExtendedRoundCap.asp

The link to my R-390A pics on my web page show how they look with the cabinet:
http://webpages.charter.net/w9wis Regards, Mike, W9WIS

From ba.williams@charter.net Wed Jul 9 18:23:56 2003
Subject: [R-390] CL80....

Jerry, Good to hear from you again. No worries about your advice being nyaah here. I got the radio from a list member who gave me a great deal. He did the alignment, black beauty replacements, etc. It is a fine SP. I think I'm being a bit picky at this point and it should not reflect on the alignment work that he did. In my opinion, he did too much work on it for the low price, patience with payment/pickup, etc. You are right that I should do the tweaking. I have enjoyed the radio quite a bit.

These radios do drift for various reasons like bumping them, lifting a corner, etc.

One of the reasons for desired dial accuracy is that I send my logs to sources for logging DXs. Also, a lot of the stations that I log are not listed anywhere, so frequency logs are important. Barry non-Hauser

From hankarn@pacbell.net Wed Jul 9 19:59:34 2003
Subject: [R-390] RE: R-390-A Engraved Panels

The status of the work is they are now being engraved and I will have them for filling this weekend and the rear of the panels screened the first of the week. Then shipping I hope by Wed. the 16th. Sorry for the delays.

NOTE!!! The plan is to fill all with white. If you notify me by Friday the 11th I will fill the CAUTION wording statement with red as some have requested.

I had to wait for a new batch of powder as the other batch was too old and when shot it looked like hell warmed over this color is very very close to the original ones. They are masked on the rear at the contact points and 2 dots on the meter for the different ground points.

I had to run nearly all of the panels through the time saver, some of them several times. About 3 of them should have been scrapped due to corrosion, dents and half moon. So what sent me you are getting back as they are all marked. I got charged $75.00 for the time saver labor and materials. I only had to have tig welding on one of them which was paid for in advance.

FYI the 30 odd people that said they were going to have the engraving done Only 18 came through with their money and word. You live and learn Thanks to all who participated and non of the delays were of my doing. Hank KN6DI

From jtone@sssnet.com Wed Jul 9 20:37:51 2003
Subject: [R-390] What size screws??

Gents, Regarding rack screws - bolts -and mounting heavy gear - - -

System now being used here at W8KXR when a piece of heavy gear is often in and out of a rack...especially when it's heavy...(use ur imagination here 'cause u gotta know ur limitations...). I use 1/4 inch stainless steel machine bolts inserted from the back side of the rack rails and held with a nut on the front side..

Yep...the panels do not fit flush against the rails, but other than cosmetics, there is no advantage to having it flush...(or perhaps egos..)...

Once mounted it is a piece of cake, to mount up a heavy piece of gear on the already positioned mounting bolts

I've learned to do it routinely...and have mostly forgotten about the pain of alignment and holding the rig, or waiting for help...

Finally, stainless washers, are added, and wing nuts spun on . . . use anti scratch washers as prudent...

Can mount a '390, once system is set up in about five minutes, complete with stainless hardware as above...and routinely mount them shoulder height by myself with this method...

Hope this helps...for show piece rigs...the cosmetics are sometime nice...but for a working station where lots of gear is moving around for upgrades, modification, and service, the above allows lots of work on an otherwise nasty phase of service and improvement... Good Luck, Gene

From jtone@sssnet.com Wed Jul 9 20:57:43 2003
Subject: [R-390] CL80....

John, Agreed...SP-600 takes a little more time to stabilize....but seldom used for ssb here...

R-390x in good shape is as u say...try it with a broad cast station sometime as a standard...it's very cool to come back the next night and find it less than a hundred cycles off ... Great toys...!! Cheers... Gene

From barry@hausernet.com Wed Jul 9 20:50:03 2003
Subject: [R-390] What size screws??

Hi Gene & list ... Sounds like a good idea to me. If you want more "flushness", you can use the thin nuts made for controls providing you can match up threads. To provide a more finished look maybe matching cap nuts (AKA acorn nuts) or uh .. thumb-nuts? similar to those used for battery terminals. The inner nuts are just used for keeping the bolts in position so don't need to be that strong. Outer ones don't need

to be torqued to 87 foot pounds either. I suppose though that the receiver ought to be resting on supports, not hanging on the front bolts. Barry

From jtone@sssnet.com Wed Jul 9 21:09:30 2003
Subject: [R-390] What size screws??

Barry, Good to hear from u...and ur are correct on all counts... I use the wing nuts for quick and dirty changing and ease of handling when wrestling with the big gear...

Once in place and all secured ... would be easy to go back and add the finish nuts if needed for cosmetics...
I've found I get into a lot of stuff now that was previously delayed because I didn't want to do the lifting - bolting job...and often wait for a friend to help do the alignment of 'machine treads' in the rails...

I found too that it minimizes the chance for getting hurt, pinching, dropping and generally developing a bad attitude, which I generally start with, embellished with an array of Marine Language...

All in all, I hope the ideas help those just getting into the Big Iron ... 73, Gene

From Wed Jul 9 21:10:13 2003
Subject: [R-390] What size screws??

wrote: > I use 1/4 inch stainless steel machine bolts inserted from the back side of > the rack rails and held with a nut on the front side..

Sounds good. Sounds _really_ good, in fact, but I hope you're not hanging an R-390 or R-390A from the front panel alone, with no other support. Mike Andrews

From Forrest Myers" <femyers@attglobal.net Wed Jul 9 21:25:54 2003
Subject: [R-390] C551

Thanks to everyone the list for all the helpful responses on what to do about C551 on the R390A. Don't know which method I'll use yet but will certainly use one of the suggested ones. Thanks again. Forrest Myers AG4ND

From jbrannig@optonline.net Wed Jul 9 23:15:17 2003
Subject: [R-390] Alternative to Rack Screws...

While we are on the subject of racks, parts, etc. This is an interesting site. They custom fabricate racks for your non-rack mount radios. I'm thinking about one for my Heath SB-220 (non-SB-230) amp. http://www.middleatlantic.com/rsh/rshcus2.htm Jim

From jlap1939@yahoo.com Wed Jul 9 23:54:30 2003
Subject: [R-390] Freq. Readout

Friends, Had 2 notes asking about reading the 390 series dial correctly, so I assume a few don't see how

it is actually marked, (and maybe don't want to ask in public..(???))

By the units dial member to the right you will see a tiny white mark on the finger...Your units member is cal. in 200 Hz segments..(Four marks, then the next Khz ....=5 spaces total, between Khz numbers, which is 200 Hz. total for each space). As said, I can easily stay within less than a hundred Hz to perhaps 200 Hz, any kind of reception. Ex: For 3898.5, put your marker exactly between the second short line, and the third short line...between 3898 and 3899...(or exac. in the middle).

Another Question asked me (why dum ole me?)is:

Why do some people use (example)... 3898.5 (Khz)
Others use... 3.8985 (Mhz)
Yet Others... 3.898.5 (???)

???? Surely the last is not really proper..(This last question from me...) Someone please answer for my correspondants.. and me.. I await comments with "baited" breath...(I ate spagetti with a lot of garlic bread for the evening meal..(uhh....the first one....) Regards, John (JLAP)

From ba.williams@charter.net Thu Jul 10 00:54:16 2003
Subject: [R-390] OA2 and Freq. Readout

John, It would be okay if you were serious. Some folks are purists and I can understand that. The meter does look out of place next to the beautiful dial on the SP. Les (the witch) told me about swapping out the OA2 when I talked to him about the radio. Barry

From Thu Jul 10 03:13:34 2003
Subject: [R-390] Error in Power supply Mod page.

Hi. The capacitors arrived today and I'm doing the total re-cap of the receiver, which is nearly finished. I'm leaving the receiver basically unmodified with a couple minor exceptions, most notably Solid state rectifiers and the Dallas Lankford AGC mod (I've discovered it really works). While perusing the modification page I downloaded from the http://r-390a.us/R-390A_Modifications.htm website I discovered a very glaring error in the Power supply (solid state) modification. The procedure says to connect the Cathodes pf the solid state rectifiers to <Pin 4> of the tubes. THIS SHOULD READ <PIN 3> AS PIN 4 IS A FILAMENT PIN AND IS ESSENTIALLY GROUND FOR B+. I'll notify the owner of the website but I wanted to post it here in case somebody tries to do this modification following the website info.

I guess the moral of the story is that if you intend to do ANY modification of equipment, no matter how minor you should ALWAYS check the schematic to be sure that things are as stated in the Mod procedure! IF I had gone ahead and done this and powered it up I'd have had "maximum smoke", possibly blown line fuse (hopefully but also VERY LIKELY THE POWER TRANSFORMER WOULD HAVE BEEN SMOKED AS THIS IS BEFORE ANY B+ FUSES IN THE SET 8^(. 73 de Phil, KO6BB

From jrg.dk3ng@t-online.de Thu Jul 10 09:35:00 2003
Subject: [R-390] Filters for 51j4

Anyone able to help Matt Parkinson with the mechanical 4 or 6kHz filters might keep me in mind, too.

I recently acquired a mint 51J4 custom-made (with Croatian front panel lettering!) for the (former) Yugoslav government. Sadly, it only has the CW filter and I desperately need a wider filter. Any help would be much appreciated! J R Groeger, DK3NG, EL0AA/MM, G4XXW

From jfd@warwick.net Thu Jul 10 13:30:40 2003
Subject: [R-390] SSB-Modified R-390A

Hi All: I have a Collins-made R-390A S/N 756 from the very first contract (14214-PH-51). It was modified to add SSB capability. The BFO switch was changed from the "Off-On" to "LO-UP-AM-BFO" and the dial lock was removed and replaced with a "VFO Vernier" control. The mod was very nicely done and works well, with screened lettering on the front panel, and there are no immediately obvious circuit additions from looking at the top of the chassis. I don't know exactly what type of mod was done, but it's certainly not a typical hack job normally assosciated with military radio conversions by amateurs.
I have three questions: where can I find a list and descriptions of known SSB conversions for the '390A so I can identify the mod? Also, were there commercial conversions done by/for the government? This radio came from an estate which included equipment from a US Army experimental SSB station AN/GRC-108 XC-1, so perhaps this radio was modified for the Army and not by a ham. Finally, does a "professional" SSB conversion add to or lessen the radio's value? I guess it depends on the type of mod and who did it, but some thoughts along those lines would be appreciated. Thanx & 73, Jim WA2MER

From federico@dottorbaldi.it Thu Jul 10 14:12:15 2003
Subject: [R-390] SSB-Modified R-390A

Hi Jim and friends, very interesting. I agree with you that a MOD done (well done) by factory or from Army Lab can add value to the receiver in the same way of some strange contracts (for example I have a 51J-4 manufactured from Collins for Yougoslavian Press Agency TANJUG silkscreened in yougoslavian language). Can you put on the web (or send by mail) a photo of your R- 390A/URR for a better evaluatiun. 73 de Federico IZ1FID

From jlap1939@yahoo.com Fri Jul 11 00:54:08 2003
Subject: [R-390] Rack Mount, and GREAT POSTINGS..

Friends, I have an old AF rack..holds 4(.5) radios that are the size of a 390 or 600..I have screws that were in it orig. so I don't know how they are meas.,. but they are the orig. it appears to me, that came in the rack..they do match very well..Wonder if any knows the correct nomen. for those screws?? The rack is on heavy casters..It also has removable panels/ top and sides, I assume for access etc..

I have 390 on top, SP 600 next, and Teleregister amp on bottom..Works well as I usually run the 390 alone, 'till I warm up the 600. (Am stopping that now.) listening to 390 thru headset...Since I am almost always on the 390 'till I get lazy, and start sloppy band cruising, heat doesn't build up while the 390 is on..
Tried to get some info on racks before, but no one seemed interested..

Mine Is: Rack Mount 452/AF
Kane Mfg. Co.

Order #32174
Phila - 55

The D- thing weighs more than the 390 and teleregister together...(Has extra panels to fill in..and they are thick as a 390 ft. panel, and heavy..) Never saw this kind of mount in army units that I was in...but saw something sim. on my one visit to Monmouth early '61.. Also saw several taller than a man, and one that went to ceiling, (at Drum on an encampment in summer of (maybe "63?)). Wonder about shipboard methods..??

Any one want to mention racks they have or have seen? I would be interested in knowing...but don't worry if you are not interested...

Also want to mention how I have enjoyed the material all of you put in postings...They are generally very

From ba.williams@charter.net Fri Jul 11 01:23:57 2003
Subject: [R-390] OA2 and Freq. Readout

Les, I think I put in a used OA2 from that deal on pulls about 2 years ago. A few people on the list contacted me and ordered from that guy. I got about a dozen of them and a lot of other R-390A tubes. Anyway, it works like a champ now. I think those tubes were only a dollar each, or something like that.

Thanks for that advice on drift. I put the radio back in the Bud cabinet last night. Barry non-Hauser

From Thu Jul 10 17:36:52 2003
Subject: [R-390] Rush Limbaugh sure sounds good on '67 EAC ;-)

Hi. Well, last night I got this '67 EAC all back together after recapping it (I did the RF deck the other day before I ran out of caps). Anyway, right now I'm listening to Rush on it as I want to break it in right!

I'll let it sit here and burn in all morning and then this afternoon I'll check the tubes (something not yet done) and do the preliminary alignment on it. After re-capping I like to do a preliminary alignment, run the set for a week or so and then do a final alignment which rarely changes much if any. But it gives me a chance to see if anything is changing in the set.

Last night when I did a brief checkout it seemed that I had a high erratic noise floor being generated in the 3rd mixer stage (V204). If I pulled V204 or the PTO connector it'd go away, pulling V203 had no effect on it, telling me it was coming from the 3rd mixer or circuitry between 2nd and 3rd mixers. It was there on all bands, however, Voice of Russia on 17690 KHz was coming in at 90dB on the meter with all of 2 feet of test lead for an antenna! Any decent station covered up the noise.

This morning it seems much better so maybe it was a fluke? 73 de Phil, KO6BB

From From: (mikea) Fri Jul 11 02:18:52 2003
Subject: [R-390] Rush Limbaugh sure sounds good on '67 EAC ;-)

wrote: > I had a high erratic > noise floor being generated in the 3rd mixer stage (V204). If I pulled V204 > or the PTO connector it'd go away, pulling V203 had no effect on it, telling > me it was coming from the 3rd mixer or circuitry between 2nd and 3rd mixers. > It was there on all bands, however, Voice

of Russia on 17690 KHz was coming > in at 90dB on the meter with all of 2 feet of test lead for an antenna! Any > decent station covered up the noise. > > This morning it seems much better so maybe it was a fluke?

No, it's an EAC. Congratulations anyway! EAC R-390s is good stuff. Imagine a _radio_ built to Fluke standards! I'd love to have one. Mike Andrews

From redmenaced@yahoo.com Fri Jul 11 03:31:04 2003
Subject: [R-390] Rush Limbaugh sure sounds good on '67 EAC ;-)

wrote: > I'm listening to Rush on it as I want to break it in > right!

Then try Mike Savage, but to do it RIGHT try AM 740 from Toronto, CA. Joe

From ba.williams@charter.net Fri Jul 11 04:46:28 2003
Subject: [R-390] Rush Limbaugh sure sounds good on '67 EAC ;-)

Phil, It sounds like you have a fine hunk of radio there on the bench. Not to take away the thunder of your efforts, but Rush would sound good over 2 tin cans and some string. (g)

Can you get him on 1400 here in Alabama? I think it is 640 out of Atlanta. Maybe we should have a list DX contest. How many Rush stations can we log with our best R-390A? (okay, the beta version could be included) Barry non-Hauser

Real diversity is owning a Colt, a Ruger, a Marlin, a Winchester, a Browning, a Glock, etc etc

From ba.williams@charter.net Fri Jul 11 04:47:45 2003
Subject: [R-390] Rush Limbaugh sure sounds good on '67 EAC ;-)

> Then try Mike Savage, but to do it RIGHT try AM 740 from Toronto, CA. Joe

Toronto, California??? CA= California. the other other Barry

From rodney_bunt@yahoo.com Fri Jul 11 05:44:29 2003
Subject: [R-390] SSB-Modified R-390A - factory or not ?

I recently aquired a National HRO-Senior, it has 'factory' installed a minature tube for the Oscillator, and a Collins filter (2.1kHz)in place of the 1st IF can. It is so neatly done, soldering, components, mounting etc. if it wasn't factory it sure does look as good as.

Very good on CW/SSB but too narrow for BC listening. Am looking to 'retro' the original IF can back in, anyone out there with a HRO IF can, T2 to be exact. Circuit is pretty simple, maybe a change over switch Collins Mechanical Filter / IF filter. Rodney VK2KTZ

From dwade@pacbell.net Fri Jul 11 06:22:49 2003
Subject: [R-390] SSB-Modified R-390A

I tried to post this earlier today, but no joy. I think the internet ate my mail. Apologies if this is a dupe.

Jim and the group, A very interesting report! Pictures posted somewhere would be an excellent idea.

I too have what appears to be a factory or professional SSB mod. Its a Motorola contract tag with an EAC if deck. Under the chassis is an extra module with a 6U8 and 2 (I think) crystals. Note in the pics (link below) that the silk-screened panel has been changed. Looks factory/professional to me. Pictures are at: http://kg6zi.homestead.com/

I had hoped to be well into the receiver by now, but an accident while engaging in another of my avocations (cycling) is keeping me from picking up much more than a couple of pounds, much less a boatanchor! I am not entirely sure if the mod is simply a fixed frequency BFO, or if other changes have been made for SSB.

Perhaps others can give more history about military/commercial attempts to modify the '390A for SSB. Feel free to comment on the pictures. I would love to find some documentation on this particular variant. Note that the email on the site is outdated...use the mail addy in this post to write if you wish. Dennis

From ross@hypertools.com Fri Jul 11 07:24:49 2003
Subject: [R-390] SSB-Modified R-390A

Dennis & the gang - Does this describe the LSB-USB-AM-CW mod for the R-390A?

"Mounted on a small L-bracket chassis, it consisted of circuitry featuring a 6U8 tube with two crystals and a USB/LSB selector switch. The original BFO switch was removed and the new assembly installed in it's place. A short cable fit into an 8-pin connector added near the front of the IF deck for power and signal output. The front panel was refinished, repainted and silk screened with new lettering for the USB/LSB switch"

This is from the February 2003 issue of Electric Radio, page 32, article titled "Dick Walser Remembered". Dick is apparently the fellow who came up with this SSB mod. The article mentions Dick's company, Airborne Electronics and further states:

"In all, Airborne remanufactured about one thousand R-390As. A large number of them were shipped to radio dealers in the (Los Angeles/North Hollywood) area. Not all of them went to the dealers. Todd Shipyards purchased ten radios that were to be installed in five destroyer escorts being built in the 1970's, and in the 1980's a mysterious Japanese entrepreneur purchased twenty R-390A's for his well-heeled clients in Tokyo. Most of their rebuilt radios were shipped to well-known 3-letter Government agencies. Some were shipped to countries in South America. R-390As that were under contract to Columbia Electronics received a new nameplate that reflected 'Columbia Electronics' as the manufacturer."
Columbia Electronics does show up as an R-390A manufacturer on an R-390A FAQ at: http://www.r-390a.net/faq-manuf.htm 73 Dave Ross N7EPI ross@hypertools.com

From jlap1939@yahoo.com Fri Jul 11 10:40:25 2003
Subject: [R-390] SSB-modified R390A

Friends, How may you be correct on frequency indication, if you replace the normal use Zero knob

w/BFO vernier? The BFO will still do better with any of several old mil. zero methods, for SSB. BFO can vary quite a lot due to hard to control factors, I always found..

Saw NO mil. variations for SSB during my time, But I was not in the Sig Corps..However I saw a lot of these units, and observed them closely, and learned the old method for SSB reception from a few in Sig. Corps. What I did see were TMC converters... My Regards, John (JLAP)

From chejmw@acsu.buffalo.edu Fri Jul 11 13:23:10 2003
Subject: [R-390] Rush Limbaugh sure sounds good on '67 EAC ;-)

RUSH LIMBAUGH? Jim WB2FCN

From w5or@comcast.net Fri Jul 11 16:49:12 2003
Subject: [R-390] Rush Limbaugh sure sounds good on '67 EAC ;-)

Forrest, et.al., Did you use that 70 volt line transformer we dug out of my spares box? If so, post your results to the group as to which taps work best and if you figured out the color codes. There are a couple of new list members who want to know. For some reason I can't find my line transformer docs that I saved from years ago when I worked in the audio business. Hmmm, wonder how a R-390() would sound feeding a big Altec Lansing horn array, tapped off the diode load? Sure would be better than a pink noise generator for equalizing tests.

By the way, listening to Rush on a newly acquired or resurrected R-390() is pretty much a US benchmark standard of comparison as decreed by the list. I'm surprised it got left out of the Y2K manual. I wonder if there is a Rush equivalent in every country? The second benchmark, of course, is ever present WWV, especially during the 45+ seconds of the minute, when its just those hynoptic 5ms ticks followed by the voice announcement. Time to crank up the audio and check for hum. Might as well check zero beat with WWV, too. Don

From krkaplan@cox.net Fri Jul 11 18:01:31 2003
Subject: [R-390] Re: Rush Limbaugh sure sounds good on '67 EAC ;-)

Phil, Did you just use a pun? You know - Rush / break it in "right"... 73 Ken kb7rgg

From krkaplan@cox.net Fri Jul 11 18:06:48 2003
Subject: [R-390] 70v line transformers sale

fyi, Radio Shack has their 70 line transformers (32-1031B) on sale for $2.49 thru 7/27. I finally got one for my 390A. 73 Ken kb7rgg

From Llgpt1@aol.com Fri Jul 11 19:32:38 2003
Subject: [R-390] SSB-Modified R-390A

writes: Under the chassis is an extra module with a 6U8 and 2 (I think) crystals. Pictures are at: http://kg6zi.homestead.com

A not uncommon modification. Several variations of this particular mod are around. Some have the 6U8 and the USB & LSB X-tal on the audio deck, some are inside the front panel, others as in your pics. The article in ER covered it. Also covered in Paolo Viappiani's R-390/URR R-390A/URR Handbook with photos and schematics. Les Locklear

From Forrest Myers" <femyers@attglobal.net Fri Jul 11 19:55:26 2003
Subject: [R-390] Rush Limbaugh sure sounds good on '67 EAC ;-)

Don, Yes, I did use the 70/25 vole line transformer you gave me. Before hooking it up, I did some calculations assuming an 8 ohm speaker. I figured that 600/8 25. The square root of that is 8.66. That should be the turns ratio for a 600 to 8 ohm transformer, 8.66/1. Also calculated for 4 ohm speaker and came up with a turns ratio of 12.24/1.

Then took my ohm meter and figured out which side of the transformer had the primary wires and which had the secondary. The primary side had three wires. I don't remember the colors but I figured the black one , marked "C", was the common wire. The other two wires on the primary side were marked 25 and 70. The other side of the transformer had at least four wires coming out of it, maybe five. There was a black wire there also, marked with the letter C. The other taps were labeled with a number followed by a "W". I don't remember the numbers but I think they were 5, 10 and such.

I hooked up the primary of the transformer to my audio signal generator and set it for 1000cps (that's 1000hz for the younger crowd). To start with, I hooked the 70v and the common wire across the audio generator output. Measured the AC voltage going into the transformer and noted that value. Then started measuring across the various taps on the secondary side for the proper voltage according to a turns ration (or voltage ratio) of 8.66/1. I didn't find a good match so re-connected the primary using the 25v and C wires. This time, I got a match on the secondary side using the common lead and the second wire away from it. Found that the common lead and the wire next it gave correct results for a 4 ohm speaker.

Since the mystery speaker I was using was assumed to be 8 ohms, I wired up the transformer accordingly. On the primary side, I used the common wire and the 25v wire to connect to the local audio output of the R-390A. On the secondary side, I hooked the common wire and, skipping one, the third wire from the end to the speaker terminals. Fired it up and it sounded pretty good. Did some experimenting by changing both primary and secondary taps while listening to the R-390A and found the primary taps were correct. Found that the secondary side needed to be wired to the common wire and the second wire, not the third. It appears that my mystery speaker was a four ohm speaker instead of an 8 ohm one. It sounded OK as originally wired up but was a little louder on the other secondary tap.

This is a fairly long winded explanation and probably confuses more than it helps.

I'm currently beefing up my workshop infrastructure to be able to support working on a radio as large and heavy as the R-390. I've worked on the audio unit and swapped out the blocking capacitors in the IF unit. However, I have to get a bigger and stronger workbench before I can remove the front panel and get into serious work. Serious work like re-capping the RF unit and cleaning up the gear train. Am really enjoying working on the radio though. Cheers and 73 Forrest Myers AG4ND

From Forrest Myers" <femyers@attglobal.net Fri Jul 11 20:01:14 2003
Subject: [R-390] Name plates

Hello All, My r-390A was manufactured by Capehart. It did not arrive with a name plate and I've been

looking around for a Capehart plate but haven't come across any. However, I did find a picture of one on the web. Had a bright idea, why not make one?

Figured I could fix up the image of the name plate from the internet and use it to photographically reproduce one. I thought I'd use the methods used for photo etching printed circuit boards. The main difference would be that I wouldn't want to etch the metal away but just make it black. Does anyone on the list know what chemical would be used to cause aluminum to turn black? Would it have to be done with electrolysis? Any help would be appreciated. Forrest Myers AG4ND

From (Phil Atchley)Fri Jul 11 20:08:24 2003
Subject: [R-390] 3rd Mixer NOISE in R-390A.

Hi. I was going to align this '67 EAC before putting it in one of the listening positions. However, another problem has reared it's ugly head. I mentioned this briefly the other day but "thought" the problem went away.

When first turned on and it's "come to life" it is quite noisy, especially of there are no signals to cover it up. Any decent signal will cover it but that's not good enough for me. After the set has run awhile it seems to abate.

I've traced it to the 3rd Mixer as pulling that tube OR disconnecting the PTO (and shorting the jack to complete the cathode circuit) clears it up. IF I pull the 2nd mixer it has no effect on noise level so it's between the two units or in the 3rd mixer itself (noisy resistor or capacitor). Since I had to spend significant time and work in the PTO I thought that might be the problem. However, listening to it on an external receiver shows no noise on the Oscillator.

Anyway, it looks like the RF deck is going to have to come out of this receiver again.

WHAT I KNOW IT'S NOT!
1. NOT a tube, all have been checked AND subbed.
2. NOT the PTO, at least it 'seems' quiet and stable.
3. Not the power supply filters, they've all been replaced.

QUESTION. Has anyone else had problems with noise in this particular circuit and if so what did you find bad?

And lastly. This receiver seems to be exceptionally sensitive, even for an R-390A. Running the front end "noise test" (using line meter and peaking the Antenna trimmer) it seems to be better than 10 dB. This AFTER the warm-up noise cycle has abated. 73 de Phil, KO6BB

From barry@hausernet.com Fri Jul 11 20:45:05 2003
Subject: [R-390] Name plates

Hi Forrest & gang.

I had the same thought, due to an experience I had the first time I rolled my own PC board a few decades ago. I figured the etchant was supposed to dissolve copper so it would be OK to use an aluminum pie plate. NOT! The etchant has a much greater appetite for aluminum. I'll never forget it <pour><silence> ... sizzle! (WOW, this stuff works fast!) followed by a WHOOSH! and a big cloud of

acrid smoke. The copper on the board was yet untouched, but the bottom of the pie plate was gone.

Actually, most of the tags are embossed, with the black area etched or stamped down and filled with black paint. If my accidental aluminum-etch method would work, then you can apply resist ink or transfer to what will be the lettering (raised raw aluminum) and leave the other areas exposed. I suppose the back should be resist-inked over also.

Just dip the piece for a few seconds and take it out. If not enough, dip it again. Then clean off all the echant and resist ink, and fill the etched down area with black paint. Squeegie off the excess paint to exposed the aluminum lettering, then finish off with some fine grit sandpaper after it dries and cures.

Or get yourself a repro tag from Hank Arney. Barry non-Williams

From jbrannig@optonline.net Fri Jul 11 21:08:43 2003
Subject: [R-390] Rush Limbaugh sure sounds good on '67 EAC ;-)

Dang, you are right! There are times when listening to WWV time ticks is more interesting than listening to Rush.

From jamesmiller20@worldnet.att.net Fri Jul 11 21:05:40 2003
Subject: [R-390] 3rd Mixer NOISE in R-390A.

Some ideas::

(1) Bad resistor or capacitor around mixer circuit, or elsewhere in RF deck. I have found the usual suspects to be screen resistors and capacitors, cathode resistors, plate resistors...anything that handles "power". They will tend to change behavior as they warm up. Your Rx seems unusually hot (sensitive). That could be a clue. The gain of 3rd mixer or another stage is abnormally high maybe? Is AGC working properly in the RF deck? Bad AGC resstor or cap maybe?

(2) Loose screw or hardware, usually the screws that hold the tube sockets or ground lugs. They loosen with repeated temperature cycling. Tighten them all.

(3) Noisy or corroded switch contacts on the RF deck switch wafers. Carefully clean with deoxit but don't get any on the wafer material itself...it can act as a "load" in the high impedance circuits. In fact, AGC behavior can be reduced if you're too liberal with cleaners or lubricants in and around switch wafers and the Ant. Trim gears. Hope that helps. 73 N4BE

From jmerritt2@capecod.net Fri Jul 11 21:10:35 2003
Subject: [R-390] Rush Warning

I'm not sure about the (lesser) R-390-A, but I know for sure that listening to Rush on an R-390 will cause all of the tubes to develop gas. Chuck N1LNH

From Dave_Faria@hotmail.com Fri Jul 11 23:42:45 2003
Subject: Fw: [R-390] Rush Warning

Ur mistaken its when u listen to that liberal "Kookie Roberts". Rush probably owns a couple of 390's and thoroughly understands their sensitivities (no pun intended). Dave WA5TEZ

From buzz@softcom.net Fri Jul 11 18:36:11 2003
Subject: [R-390] 70v line transformers sale

wrote: > Radio Shack has their 70 line transformers (32-1031B) on sale for $2.49 thru 7/27. I >finally got one for my 390A.

Ken, Please check the part number. I couldn't find it on their web page. Thanks, Buzz

From Llgpt1@aol.com Fri Jul 11 21:49:20 2003
Subject: [R-390] Rush Warning

Rush is a legend in his own mind. Les Locklear

From hankarn@pacbell.net Fri Jul 11 21:50:05 2003
Subject: [R-390] SSB-Modified R-390A

Les, I have about 50 of Dick Walsers panels, the 6U8 module and instructions and schematic in Italian. If I can ever get the info translated to English. I am going to look at the possibility of making a complete kit available. Hank KN6DI The panels are not for sale at the present time.

From Llgpt1@aol.com Fri Jul 11 21:50:39 2003
Subject: [R-390] 70v line transformers sale

writes: > Please check the part number. I couldn't find it on their web page.

32-1031 will get it. Les Locklear

From Llgpt1@aol.com Fri Jul 11 21:51:35 2003
Subject: [R-390] SSB-Modified R-390A

writes: > I am going to look at the possibility of making a complete kit available.

Make 'em and you will sell them no problem. Les

From barry@hausernet.com Fri Jul 11 21:57:14 2003
Subject: [R-390] Rush Warning

> listening to Rush on an R-390 will cause all of the tubes to develop gas.

Need to install an in-rush (current) limiter. ;-) Barry Non-Williams

From jbischof@nycap.rr.com Fri Jul 11 22:12:53 2003
Subject: [R-390] if deck troublesI I think

I have been working on my r390a for the last few months . Put the power to it yesterday. I have no agc action. When I turn on the limiter the audio goes to silence! I have replaced almost all the vitamin caps in the if deck. James

From barry@hausernet.com Fri Jul 11 22:06:26 2003
Subject: [R-390] SSB-Modified R-390A

Whatsa matta Hank? No kapeesh Italiano?

You can use one of those free websites that translates from/to many different languages. Of course it will be translated into broken English, but usually with obvious gaffes which are fairly easy to fix if you have some idea of what the thing is "trying" to say. While it involves some work, the goofs are entertaining along the way. They usually limit to 500 or 1000 words at a time, so you do it in batches. Also goes smoother with a glass of Chianti and a DiNobile.

I suppose you could bring the instructions to the nearest pizzeria, but they probably no kapeesh either. Barry non-Sullivan

From jrg.dk3ng@t-online.de Fri Jul 11 22:17:00 2003
Subject: [R-390] Dittmore- Freimuth 390-A - Information wanted

Among the three 390s I own is a Dittmore-Freimuth, Serial# 55, Contract DAA B05-68-C-0040

It is unusual in that it has a five digit seven-segment LED frequency readout mounted in place of the mechanical V-R counter. The first two digits (tens and unit Megahertz) are not driven by the electronic counter but appear to merely represent a voltage derived from a multi-turn potentiometer mechanically coupled to the range switch. The counter is encapsulated in a small metal box mounted directly to the front panel in the position normally occupied by the V-R counter mechanism. The orginal black counter cover to the front panel has been retained.

The whole affair seems to have been purpose designed and has a professional= appearance.

I have heard rumours of a small batch of Dittmore-Freimuth receivers having= been fitted with electronic counters under a special order but have never seen a report of an actual sighting. Anyone able to shed some light on this mystery, thank you very much in adva= nce. J R Groeger DK3NG, EL0AA/MM, G4XXW
All the 1968 Dittmore-Freimuth Corp. R-390A's were manufactured by EAC, the mechanical filters were manufactured by Dittmore.

Look here <A HREF="http://www.r-390a.net/faq-var.htm">http://www.r-390a.net/faq-var.htm</A>

For more info on your variant. Les

From krkaplan@cox.net Fri Jul 11 22:33:45 2003
Subject: [R-390] Re: 70v line transformers sale

Les et al, The part number is correct. I have it right in front of me. Try it without the B (as in 32- 1031). It was advertised in their Summer Swelter Sale flyer (pg 12) mailed to my home. It's listed as a 70 volt, 10 watt distribution transformer for PA systems. A lot of the flyer items are identified for clearance. Maybe it is only for Arizona (where I live)? I doubt it. Try calling a few stores. I'd grab one for you but the postage would probably eat the savings. Regards, Ken

From n4xy@earthlink.net Fri Jul 11 22:44:10 2003
Subject: [R-390] Dittmore- Freimuth 390-A - Information wanted

Interesting! 73 Ed Tanton N4XY <n4xy@earthlink.net>

From andy@champ1.freeserve.co.uk Thu Jul 10 22:14:03 2003
Subject: [R-390] New 390A owner & fan

Gents, (haven't noticed any ladies on the list yet) Thanks for the comments and encouragements. As England is (unusually) having a nice hot summer at the moment, I don't expect to get round to doing any work on my 390A until the fall or even the winter. At the moment it's sitting on the bench tuned to our local country station on 1035kc which is sort of appropriate. 73, Andy Jackson G8JAC

From brumac@juno.com Sat Jul 12 02:20:35 2003
Subject: [R-390] Re: 70v line transformers sale

Les, all the Barrys, et al: They are on special at the RS in Ontario, NY I haven't seem the 12 page flyer yet tho. Bruce

From jbrannig@optonline.net Fri Jul 11 23:31:49 2003
From: jbrannig@optonline.net (Jim Brannigan)

I had noise in my '67 EAC third mixer. On inspection it was a 6BE6 mixer instead of a 6C4. (and you had this radio how many years, Jim?) I replaced the 6BE6 circuitry with the proper 6C4 components and that cured the problem. I don't know which resistor or capacitor was the culprit, but there are only a few components in the mixer, so replace them all. Jim

From w5kp@direcway.com Fri Jul 11 23:27:47 2003
Subject: [R-390] Rush Limbaugh sure sounds good on '67 EAC ;-)

Well, heck yes, at least in between Sean Hannity and Glenn Beck. If my EAC had stereo, I'll bet nothing would come out of the left speaker. Jerry W5KP

From krkaplan@cox.net Fri Jul 11 23:39:30 2003
Subject: [R-390] Re: Re: 70v line transformers sale

Bruce, Les, all the Barrys and all the et als, Actually it was a 40 page flyer that came with my newspaper. The transformer was listed on page 12... Ken

From w5or@comcast.net Fri Jul 11 23:48:10 2003
Subject: [R-390] KPH broadcasts

Put your receivers to work tomorrow, the 12th, for a radio SWL treat. KPH and others will be on the air afternoon and evening. With permission I am forwarding this message to another list to the R-390 group. For background information, not to mention whiling away a few hours taking Richard's historic KPH tour, drag your CRT screen on over to www.radiomarine.org Don

Message follows:

Night of Nights IV in which KPH (and other stations - see below) will return to the air takes place tomorrow, Saturday, 12 July.

Here are some updates on participating stations and their frequencies:

KPH - Frequencies, Transmitters & Antennas - All 4 - 5 kW

426 Henry - Marconi T
500 Henry - Marconi T
4247.0 RCA - Double Extended Zepp
6477.5 RCA - Double Extended Zepp
12808.5 RCA - H over 2
17016.8* RCA - H over 2
22477.5 Henry - H over 2

* Note the change from 17016.5

KFS -

17026.0 Henry - H over 2

Reception reports for KPH and KFS may be sent to:

Ms. DA Stoops
P.O. Box 381
Bolinas CA 94924-0381
USA

WLO & KLB -

Rene of Shipcom LLC, new owners of WLO, KLB, WCL and KNN, has advised that WLO and possibly KLB will be active for this event. Through Rene's good work WLO and KLB were activated for the commemoration of the retirement of the USCG Sparks insignia and Radioman rank. His efforts are a most welcome addition to the effort to return US coast stations to the air on Morse. Here's a note from Rene regarding the Shipcom stations:

========

Looks like we will be on 8445.5 and 12660.0 and possibly a 17MHz. (Depends on the condx of the

transmitter)

We will start here noon our time and run until midnight your time or possibly later if there is any activity.
73 Rene Rene@shipcom.com
========

Reception reports should go to Rene at the above email address.

NMC -

NMC, the Coast Guard station north of San Francisco, may also be on
the air. Listen on 8574.0 and possibly 500 and 488.

Reception reports for NMC should go to:

USCG CAMSPAC Pt. Reyes
ATTN: LCCT O'Banian
1700 Sir Francis Drake Blvd. , POB 560
Point Reyes Station, CA 94956-0560
USA

We wish you good listening. Please let us know what you hear. VY 73, RD

From gharmon@idworld.net Sat Jul 12 00:47:26 2003
Subject: [R-390] Rush Warning

Also, the tubes will all lean to the right butt that's a good thing! 73, gary RUSH 24/7

From brumac@juno.com Sat Jul 12 04:15:10 2003
Subject: [R-390] Rush Limbaugh sure sounds good on '67 EAC ;-)

Barry, no, not you, I mean the other one, I think Joe means Toronto, Ontario Province, Canada. We both listen to that one.

From Forrest Myers" <femyers@attglobal.net Sat Jul 12 01:22:14 2003
Subject: [R-390] New 390A owner & fan

Hello Andy, Can you get Rush Limbaugh over there? ;-) Forrest Myers AG4ND

From richey2@mindspring.com Sat Jul 12 01:50:18 2003
Subject: [R-390] (no subject)

I put a moron filter on my R390A a few years ago and haven't heard Rush since.. Joe W2DBO

From jbrannig@optonline.net Sat Jul 12 01:34:22 2003

Subject: [R-390] KPH broadcasts

It is interesting when you look at the timeline.....

In 1912, with the sinking of the Titanic, "bleeding edge" technology, spark CW, was mandated for all ships at sea. Tube CW followed, SW and LF broadcast flourished from the 30's to the 70's. In the 40's, 50's and 60's SSB HF was used for overseas telephone calls. Huge HF stations dominated the East and West coasts.

Satellite, cable, internet has made the medium obsolete. BBC, Germany, Albania, Moscow, etc. are shadows of their former selves. Now we are reduced to using very sophisticated MF, HF radios to listen to "Rush".

This has to be the shortest term (life span) for a major technological break-through in history. In 2003 LF, MF and HF is the domain of hobbyists. I wonder what then next 20 years will bring. Jim

From Llgpt1@aol.com Sat Jul 12 01:39:42 2003
Subject: [R-390] (no subject)

writes: > I put a moron filter on my R390A a few years ago > Joe W2DBO

I've had one for him and his lap puppet Hannity for a long time, it's called a vfo!!! Les

From (Phil Atchley) Sat Jul 12 01:51:17 2003
Subject: [R-390] 3rd Mixer noise, STINKIN' COSMOS PTO 8^)

Hi. Well, I located the source of the warm-up noise in my '67 EAC. When it was first turned on it would snap, crackle and pop and just generally be noisy. I'd traced it to the 3rd mixer stage. So, I pulled the RF deck and replaced all the resistors/capacitors in the 2nd and 3rd mixers as well as a "bulged" 2.2K resistor in the plate coil circuit of the RF amplifier. That resistor had measured 5.5K 8^(I had checked the PTO by listening to its signal on another receiver. It appeared to be nice and quiet with no drift or noise.
After re-assembling the unit (I'm getting to be a whiz at the RF deck removal/installation) I again checked it with no apparent change in status. Still noisy at turn-on. On a whim I disconnected the receivers PTO and patched in the "parts" PTO, not bothering to mount it in the frame. This PTO while operational is really only good for parts as I've swapped out the spring loaded linearizing disk, the heater wires are disconnected and the output coil slug damaged. After tuning the PTO to roughly the same frequency as the receiver was tuned to (as evidenced by the local station on 1480KHz) I listened carefully.
EUREKA!! Just the normal white noise or hiss of a normally functioning R-390A. To be sure I patched in the original, SNAP, CRACKLE POP! On a hunch I pulled the 6BA6 tube out of the parts unit and put it in the original PTO. EUREKA AGAIN! No more snap crackle pop!

Now, you can ask, why didn't I test the tube earlier? I DID, before doing an alignment of the PTO and it tested good. Checking it now shows a shorted tube with VERY low transconductance!

THE SICKENING THING IS I AM PROBABLY NOW GOING TO HAVE TO GO THROUGH A SEVERAL HOUR PROCEDURE TO SET ALL THOSE 48 LINEARITY SCREWS again. . . 73 de Phil, KO6BB

From jlap1939@yahoo.com Sat Jul 12 01:58:17 2003
Subject: [R-390] Teleregister Receiver Level Monitor

Friends, I try this every year or so hoping to find someone who knows the particulars about my unit. The talk about transformers reminded me. The only answers I have got is about Teleregister, and I have never found anything on the net, but I am pretty bad (!!!) at using the search engines..

I will put the information as it appears on the nomen. tag, on the front. The unit has a concealed hinge door on the front and the components are behind the door, and on the rear. It has large and heavy duty line filters and a large low pass filter, as well as others.

It is VTVM, w/four vacuum tubes doing the work... All trim is chrome, and the panel is black crackle.. This Nomenclature tag is black w/gold letters,rather large, as follows:

Receiver Level Monitor
Made for Department of Commerce
Civil Aeronautics Administration
Type CA 1318 Contract Cca-26540 Serial NO. 383
The Teleregister Corporation New York, N.Y.

The one normally used control, a volume, has a black knob w/ dark purple skirt. There is a screwdriver adjust calibrate through hole in front cover as well. Input is a reg. phone jack on ft. cover.

It is in my opinion, without any real flaws, for running any receiver through. I have run the 390 and SP 600, as well as the NRD 515 and SB 303 and 313, and a Hammar. HQ 180..They are wonderful, on the 5 inch PM speaker in the unit..Flawless sound for speech.

It allows me an excellent speaker sound without the need for transformers, as it is able to allow for any input, it would seem...runs the same from the phones jack, or any of the line set-ups...just slight differences in volume setting.

The wiring is that old point to point, in PERFECT line-up, with stress loops at every connection, always matched to each neighbor...(You have all seen this wiring I am sure....). The Ft panel height is 7 inches. and it is normal rack mount...

Anyone ever see one, or know anything? How about when it was built??

Also, wonder if I should have THE ELEC. CAN FILTERS rebuilt..And how would I get it done? Is it necessary? (There are several lg ones..) I don't hear anything wrong, but don't know what I should be looking for with electrolytics...

My Regards, and thanks for reading this mess.... John (JLAP)

From ba.williams@charter.net Sat Jul 12 02:41:25 2003
Subject: [R-390] Rush Warning

> I'm not sure about the (lesser) R-390-A, but I know for sure that listening to Rush on an R-390 will cause all of the tubes to develop gas. Chuck N1LNH

That's okay. The getter will get it.

From ba.williams@charter.net Sat Jul 12 02:46:05 2003
Subject: [R-390] Rush Limbaugh sure sounds good on '67 EAC ;-)

> Well, heck yes, at least in between Sean Hannity and Glenn Beck. If my EAC had stereo, I'll bet nothing would come out of the left speaker. Jerry W5KP

Sean Hannity had Charlie Daniels on today. Interesting. Also, Ann Coulter. What a babe. I used the SP. Barry non-Hauser

From ba.williams@charter.net Sat Jul 12 02:54:08 2003
Subject: [R-390] (no subject)

> I put a moron filter on my R390A a few years ago and haven't heard Rush since.. Joe W2DBO

A good antenna may cure your problem as the moron filter would only block all CNN (Castro News Network), NBC, ABC, and CBS propaganda, i.e., anything they produce. Also, the BBS doesn't stand a chance of passing your filter. I read where the Royal Navy has moron filters on every ship for the BBC. Barry non-Hauser

From dwade@pacbell.net Sat Jul 12 02:58:19 2003
Subject: [R-390] SSB-Modified R-390A

David and all, Yes...that pretty much describes it. Thanks to Dan Arney, I'm now sure its indeed a product detector/fixed BFO mod.

The history of my radio sort of fits...I bought it from a guy on the 40 meter swap net in North Hollywood in the 87-88 time frame (pre Ebay thank heavens).. Fits with that story. However there are no obvious markings that would betray its history. Should there be any? Did Columbia Electronics tag their units?
Several have asked if the mod works well, so I'll answer here. Sorry guys...I just can't say yet. The radio is still in "as received" condition. I've done nothing to it. Keep this in mind when I say I wasn't impressed with the AGC action, and I will not be surprised to be troubleshooting the AGC system when I can actually lift the thing to the bench.

Thank you to all who took the time to write both to the list and privately. As the bones heal and I get going, I will document my progress and share it here.

By the way...if any one would like to copy that ER article from 2/2003 and send it along (costs reimbursed), let me know.

Also, Les Locklear's post reminded me about Paolo Viappiani's R- 390A book. Does anyone know if its still available? ISBN searches reveal nothing so far. Would anyone care to comment on its value despite being in Italian? (No Barry H., I don't kapish either :). Thanks....Dennis

From rbethman@comcast.net Sat Jul 12 03:02:49 2003
Subject: [R-390] SSB-Modified R-390A

Hank, Keep me in mind if you get to making kits. If you don't, I'd sure be interested if/when you get the Italian translated, to get the schematic info. Copying certainly paid for! Bob Bethman - N0DGN

From mark.richards@massmicro.com Sat Jul 12 03:54:59 2003
Subject: [R-390] (no subject)

Wow! I have a sneaking suspicion that the last time Barry tuned into these networks was 1972! Back then, he could have picked up their broadcasts of Republican Nixon's arrogant and self-engineered demise from news networks the White House considered beyond "left-leaning".

A lot has changed since then. The R-390 can still pick up a few of these same networks on medium wave, but the tune has changed radically.

CNN especially, and all the others to a large degree, act as a cheering squad for the current US administration. Each war has a theme song, a slogan, and for TV fans a ticker at the bottom of the screen scrolling off the latest "propaganda".

News, and the real work associated with it, is out of the question. Pushing the limits of the First Amendment, being bold and beyond commercialism, and holding true to the heady principles of real journalism and the public's right to know are long gone. Advertising and ratings is the only answer and so news has become another entertainment.

I really think the monikers "Castro News Network" and "propaganda" have long since died.

Fox is the rabid exception, which is doing a better job of P-R than the White House Press Office itself. Why are their ratings so comparatively low? They continue to preach to the choir and I suggest it is dwindling rapidly.

My 390 is wide open, yet all I hear is pro-war static. I found a good filter for it, too: The "off" switch. Mark K1MGY

From w5or@comcast.net Sat Jul 12 04:01:44 2003
Subject: [R-390] Raging Rush thread

Calm down, folks! This isn't r-390.flamefest newsgroup. Stay within the dotted lines, please.

Don

Don Reaves R-390 list administrator <mailto:r-390-admin@mailman.qth.net>
R-390 Mailing List Rules: 1. Stay on topic 2. Be civil and courteous

Date: Fri, 11 Jul 2003 20:17:08 -0700
Subject: [R-390] Rush Limbaugh sure sounds good on '67 EAC ;-)

Hi. > > Well, last night I got this '67 EAC all back together.....

I have an EAC but is #237 from 1960. Nice receiver, works!

From jbischof@nycap.rr.com Sat Jul 12 05:48:55 2003
Subject: [R-390] agc problem +

Agc problem fixed. It was resistor 546 in the if deck.

Now I have to figure out why I loose all audio when I turn on the limiter. I am feeling good this morning. I want to thank every one who responded. James

From Dave Campbell" <wcampbell@odyssey.on.ca Sat Jul 12 08:13:05 2003
Subject: [R-390] Name plates

I have a Capehart plate. Not for sale but I will trade for another plate, preferably a Collins. Dave VE3ZZY

From barry@hausernet.com Sat Jul 12 10:41:31 2003
Subject: [R-390] 3rd Mixer noise, STINKIN' COSMOS PTO 8^)

Phil wrote: >Now, you can ask, why didn't I test the tube earlier? I DID, before doing an alignment of the PTO and it tested good. Checking it now shows a shorted tube with VERY low transconductance!

I was going to suggest a bad tube as most likely, but you said that you tested them all. What probably happened is that the tube was good or perhaps becoming borderline with no initial shorts indication. But then, you were repeatedly installing, removing, fussing with, reinstalling, etc. that PTO. Tubes sometimes don't tolerate shock very well and they're most prone when plugged into a chassis that's being moved around especially if the tube is still hot which I suspect happened as you were working on the PTO from the way you described it at the time.

BTWhow do you know the transconductance/quality was low? If you get a shorts indication on a tube tester, as a rule you should never go to the quality test, as you risk damage to the tube tester. An exception might be if you can clear the short while in the shorts test by allowing the tube to warm up and tapping on it. However, that kind of fiddling is basically pointless, as the tube should be discarded. (The purpose of tapping on a tube is to check for an intermittant short in a suspect tube i.e. to force a short, not temporarily finesse it away.)

>THE SICKENING THING IS I AM PROBABLY NOW GOING TO HAVE TO GO THROUGH A SEVERAL HOUR PROCEDURE TO SET ALL THOSE 48 LINEARITY SCREWS again. . .

Go easy on the PTO as you do this and periodically check the tube if you are going to be repeatedly removing/installing the unit. Put a piece of foam down on the table where you are going to set the PTO. When re-installing, avoid bumping it. Another consideration short-proneness and other latent defects tend to run in families production runs. So, if your supply of 6BA6's all came from the same lot, it may well happen again. Barry

From w5or@comcast.net Sat Jul 12 15:14:31 2003
Subject: [R-390] 3rd Mixer noise, STINKIN' COSMOS PTO 8^)

Let me comment about Phil's adventure with his 'new' EAC. It is precisely this kind of narrative that makes this list unique and useful. Phil's story, which we all know is going to end with his success because he is going beyond the call of duty with a Cosmos PTO, gives us all a bit of inspiration to do battle with our own tough nuts. So, on behalf of the list, Phil, thanks for sharing your trials and tribulations with us - you have 600 interested onlookers in your workshop, looking over your shoulder, double checking your work, nodding our heads in approval. It does get a bit crowded, doesn't it? OOPS, 1 percent of us stray for some unknown reason, and start babbling about off the wall subjects, distracting the rest of us from the task at hand. Those people will be shown the door! Don't worry about running out of 6BA6 tubes - there are plenty of those available. So, good job, Phil. Don

From (Phil Atchley) Sat Jul 12 16:56:49 2003
Subject: [R-390] Found some nice Rack Screws locally

Hi. The other day I posted an inquiry as to what is the right sized screw for the CV-979 cabinets, turned out to be 10-32, 5/8" long.

A trip to my local Ace hardware store turned up some very nice stainless steel countersunk screws with a slightly concave or oval head, that is they bow out rather than being totally flat like the screws that are in the front panel of the R-390 (they also have those for folks needing them). They also had the matching countersunk Washers for them that make for a very nice combination. I 'think' they call those "trim washers" or something to that affect. No nylon inserts for the trim washers however (Like we used to 'sometimes' see in military racks).

The above combination would look very nice in any rack and would also cover up any "screw head scratches" in your front panels.

My local Ace hardware (Parker's) store has probably been here since Noah's ark. It is pretty small but has an AMAZING array of what they call "builders hardware", screws, washers, and other items I've found useful in various restorations. No long, large rows of pegboard displays like the "big boys", but rather small drawers containing compartments of screws and hardware in all sizes and they sell in single unit quantities too! No need to buy a gazillion screws when you need one.

One last note. IF you have one of the fancy R-390A's with a repainted front panel you may want to try to find trim washers with nylon inserts. Alternately you may be able to "fill" these trim washers with a silicon rubber or similar to prevent scratching your panels. 73 de Phil, KO6BB

From (Phil Atchley) Sat Jul 12 19:32:01 2003
Subject: [R-390] COSMOS PTO, starting over again.

Hi. Y'all are gonna to get tired of all these Cosmos PTO's. But! Let me tell you, you're not as tired of them as I am of working on the blasted thing.

In trying to adjust the linearity of it after having changed out the bad 6BA6 tube I noticed that I wasn't getting "repeatability" on the linearity screws. I could tweak one, tune away and come back and it'd be off. In the most severe cases by a couple KHz, most of the time a couple hundred or so. What was maddening is that it demonstrated no discernable pattern as to when or where. . .

So, I've stripped the PTO down completely AGAIN. All the way down to the inner sanctum where the

linearity "guts" lie. Upon pulling the "spring ring thingy" and checking the plunger of the linearity coil I noticed just the tiniest bit of roughness or grittiness in its action. Very minute, but possibly enough to prevent repeatability of the core position.

So, I unsoldered the wires of the coil and removed it thinking that would allow me to remove the Plunger and clean/lube it. WRONG!! It is a sealed assembly with the coil.

So I did the next best thing. I used some semi-synthetic grease and applied it to the part of the plunger that was visible (after wiping that part clean). I did this a couple times, each time working the plunger in as far as it'd go to spread it around. NOTE: DON'T use oil as it may run down the plunger and contaminate the coil core. The plunger now is smooth and silky. Don't know how many years it'll last before the grease hardens some but I've had good luck with this Valvoline DuraBlend on many items. It "seems" to stay "greasy" and not harden any.

Next, I am backing all the linearity screws out again and pre-setting them one turn clockwise to give me a good starting point and the BIG job of tuning will start again. Luckily I have that down rather pat. As I mentioned before, I tune it IN the receiver. I leave the rear mount attached to the PTO (but not screwed to the receiver frame), leave the front screws unscrewed and that allows me to hold it in place against the Oldham couple for tuning and EASILY lift it out for tweaking.

NOTE to Barry: This doesn't put any undue shock on the PTO as I lift it out very easily and tilt it back for adjustment. I HAVE to be gentle so as to not knock the tuning shaft position out of place.

HEATER NOTE: This time upon disassembly I completely removed the thermostat and the heaters from inside the PTO. I NEVER use them anyway and they just complicate the teardown-rebuild of the unit. Yes, I'll keep the insulation intact as I'm sure it adds to the thermal stability.

One FINAL note. IF this doesn't get it this time I'll be giving up on this PTO and will be looking for a Collins or other unit ;-) 73 de Phil, KO6BB

From AdamAnt316@aol.com Sat Jul 12 20:10:25 2003
Subject: [R-390] Yet another R-390A rises from the dead... (long)

What follows is a relative newbie's journey into the R-390A world. The story behind my getting an R-390A is a long one. For over 20 years, the back room of the electronics shop at the technical high school I used to go to held a small collection of older boatanchor radios, including an R-390A/URR, an R-392/URR, and an R-48/TRC-8. All three were said to be in nonworking condition, including the R-390A (in fact, there had apparently been two more R-390As there at one time, which were said to be in working condition, but they disappeared over the years, leaving the nonworking one). I discovered this cache of radios during my second-to-last year at the school, where I was able to simply fiddle around with the nonworking receivers, but wasn't allowed to take them home at that point. This year, due to an upcoming renovation of the school, the shop needed to get rid of over twenty years worth of junk. I showed up there one day, and the first thing they asked me was, "Did you come for these radios?" I then proceeded to load all three boatanchors into the back of my Dodge Spirit, and the rest was history. After years of putting up with mid-end shortwave radios, I finally had a decent HF receiver.

The R-390A was in relatively good shape; missing it's top cover, as well as two of it's 5814As and their WPM tube shields, which I soon replaced (though I could only find two small 9-pin IERC shields; anyone have any spare medium 9-pin WPM tube shields? TIA), but otherwise complete, including the meters. Upon examining the 3TF7, I discovered that one of it's filament strands had a small gap in it, so

I bought one to replace it (thanks to Dan Arney!), and also made a 12BY7A sub for it which would go in it's place much of the time. Perhaps a bad ballast tube was what kept it from working all those years, I thought to myself. I then decided to go through with the standard preventative maintenance, which would allow me to power up the set without the threat of fireworks. After restuffing the can capacitors and replacing both C-553 and C-549, I decided that it was time to try the set out for the first time in several years. I hooked the 390A to both a Variac and a device which would allow me to read it's current draw with a Simpson 260 VOM, connected the output to a stereo receiver through the diode load jack on the back, hooked a long piece of wire to the balanced antenna input through a twin-pin plug, I then began running tests on the set.

After confirming that the microswitch attached to the function selector was doing it's job, as well as finding that the standby mode doesn't like to be run at very low voltage, I then began bringing power to the set slowly with the function switch set to AGC, during which I began to see signs of life come from the receiver. After reaching 120V on the Variac, I listened for signs of reception, but didn't hear any until I turned up the RF gain, upon which I began to hear static coming from one of the stereo receiver's speakers. I then proceeded to tune around, and I soon received my first signal, which was WBCQ (though I received it several KC from where it should've been). I continued tuning around on several bands, on some of which I managed to pick up foreign-language broadcasts (one of which had a musical station identification, which came booming through the speaker). I then did some tuning around on the AM broadcast band, where I picked up several stations close to where they should've been, though tuning seemed to be shifting around (turned out later that I had the zero adj. knob screwed in, when it should've been unscrewed). I considered my test to have turned out to be a success! I had had a feeling that a bad ballast tube might've been the reason that this set hadn't been working in years, and possibly the only reason that it lingered in the back room of that electronics shop for as long as it did, and I was correct.

Later on, I lengthened my antenna wire, printed out some pages from the manual to help me better understand how to operate the receiver, and decided to take another go at using the set. This time around, all the stations appeared in the general area of where they should've been. I then began using the dial calibration procedure to sync the set to the 100KC calibration points, and everything managed to fall into place. I was able to get WBCQ at 7,415KC, as well as BBC World Service (which I'd been unable to receive well on my other shortwave radios since they turned off their North American transmitters) right at 5,975KC. I also managed to pick up Radio Havana, as well as a station in Czechoslovakia (which seems to be my benchmark when it comes to picking up long-distance SW signals; whenever someone asks me how far away I've received shortwave signals from, I usually tell them that "I picked up a Czechoslovakian station once."). The set appears to be working quite well in most respects, though I need to figure out why the carrier level meter never seems to go below 60dB, even with the RF gain control turned all the way down.

I must say that, so far, owning an R-390A has been an exhilarating experience for me, especially since I'd never really used a high-end receiver before I got this set (most of my shortwave radios have been old radios from the '40s, although I also have a few Zenith Trans-Oceanics, as well as a Hallicrafters S-118, which is a step or two above the S-38/S-120). Once I build a wooden case for it, I'm going to put it in place of the S-118 in my bedroom, where I do most of my shortwave listening. My thanks goes out to those who guided me along the way, as well as those who have put up web sites about how to restore the R-390A (especially Chuck Rippel and Walter Wilson, whose detailed pages on component replacement were extremely helpful). For more on my R-390A saga, see my 390A page at <A HREF="http://www.angelfire.com/ma2/AdamVon/r390a.html">http://www.angelfire.com/ma2/AdamVon/r390a.html</A>. -Adam Adam Vaughn

From r.tetrault@comcast.net Sat Jul 12 20:31:02 2003

Subject: [R-390] COSMOS PTO, starting over again.

Pretty soon you'll be able to write THE book on Cosmos...

From ToddRoberts2001@aol.com Sat Jul 12 21:33:31 2003
Subject: [R-390] COSMOS PTO, starting over again.

Phil, good luck with the (ugh) Cosmos PTO! I know perseverence is a good thing but how many hours have you spent on this thing already? Let's see, at $30/HR labor minimum do you figure this PTO is worth about $500 bucks by now? Oh well, keep up the good work - you will be THE expert on Cosmos PTO's! Maybe someone will send you a Collins or Motorola PTO out of the goodness of their heart! I bet you are longing to see a corrector-stack again! 73 Todd Roberts WD4NGG.

From rbethman@comcast.net Sat Jul 12 21:36:42 2003
Subject: [R-390] 3rd Mixer noise, STINKIN' COSMOS PTO 8^)

Phil, Don, and the List: I second this! I'm restoring a '52 Collins 390A. The ONLY non Collins component is - you guessed it - a Cosmos PTO. I'm saving ALL this traffic for my close future endeavor. It looks like THIS could be INTERESTING.

From jamesmiller20@worldnet.att.net Sun Jul 13 00:22:23 2003
Subject: [R-390] COSMOS PTO, starting over again.

Check to be sure the linearity disk isn't slipping on the shaft. That was the cause of the problem with the one in my Cosmos article on the web. The disk would slip and cause all kinds of problems with repeatability. It appears to be welded to the shaft with some kind of tiny electronic weld that can break loose. It can be repaired if this has happened. Also you would be wise to build a little test jig for the PTO. It will save you a lot of time in the long run. I built one with some cheap lumber, some metal brackets with holes threaded to match the PTO mounting screws, a few plastic couplings, a foot of brass stock shaft, and John Harvie's PTO calibration sale attached to a plastic disk. I will take a picture and post it on the web for any who want to do the same. I used a counter attached to the PTO, and a lapttop with an Excel spreadsheet that plots the tuning curve (I type in the counter measurements at each quarter turn).

The little test jig eliminates the need to swap the PTO in and out of the receiver, and provides relatively easy access to the tuning screws.. You will soon go bonkers if you keep doing that. I'll see if I can get that on the web also. It took me a few hours to build it, but saved a lot of hours in return.

It's nice with the spreadsheet to be able to "see" the linearity error on the screen and know what areas need tweaking. Before you decide that the Collins PTO is better, keep in mind that it's stack of linearity "discs" inside the PTO are horrible to work with, and you have to keep taking the shield can off and back on again. I can linearize a Cosmos in an afternoon if it is working. Took me a week to do a Collins (a few hours a day). Jim N4BE

From ToddRoberts2001@aol.com Sun Jul 13 01:45:39 2003
Subject: [R-390] COSMOS PTO, starting over again.

writes:> It's nice with the spreadsheet to be able to "see" the linearity error on the screen and know what areas need tweaking. Before you decide that the Collins PTO is better, keep in mind that it's stack

Thanks for all the info, Jim. Not sure why a corrector stack was seemingly hard for you to work on. I linearized a Collins PTO in an afternoon - got it to within 200Hz every 100KHz checkpoint. I did it outside of the R-390A using a degree wheel on the shaft. Just write down where it is off then you can return to each spot with the shield cover off. Just slip the cover on-and-off when you reach inside and then check linearity. You can get a "feel" for how much to change the corrector stack for the desired change. 73 Todd Roberts WD4NGG.

From Forrest Myers" <femyers@attglobal.net Sun Jul 13 02:17:44 2003
Subject: [R-390] KPH, KFS and WLO

Hello ALL, Played around with the R-390A today using a piece of wire about 20 feet long for an antenna. I was also running an ICOM M710 on a 9-band vertical antenna, ground mounted with plenty of radials. At noon local time here in West TN, Jackson, I picked up a very weak but very readable signal from WLO on both radios. As time went on, the signal strength improved to the point where it would move the carrier meter needle every once in a while. I kept looking for KPH but didn't have much luck. On 12808.5 there was a very weak CW signal. It was so weak that I couldn't read it reliably. I could read it well enough to tell it wasn't KPH though. The signal strength and readability was about the same on both receivers. Every once in a while, I'd hear someone tuning up on 12808.5. Suddenly,at 23:36z I heard ,"VVV DE KPH" and that was it. I was wondering if it was really KPH or someone playing around.
Later on, at about 00:20z on 07/13/2003 I tuned the 390A to 12808.5 and there was a very strong KPH calling. At 01:00z I started checking other frequencies and KPH was quite readable on 6477.5, 12808.5, and 17016.8 on both the R390A and the ICOM M710. Tried for KFS on 17016.5 and it was quite strong as well on both receivers at 01:05z.

The R390A has a poor antenna and needs to be aligned and re-capped. However, it compares favorably with my ICOM M710 which has a good antenna. BTW the ICOM M710 is a commercial grade solid state marine SSB transceiver. 73 and good listening, Forrest Myers AG4ND

From w5or@comcast.net Sun Jul 13 03:22:19 2003
Subject: [R-390] KPH, KFS and WLO

KPH is S9 here in Little Rock at 0220UTC (920pm) on 6.47745, despite the heavy atmospherics. They seem to be experimenting with bugs, straight keys and electronic keys, so its fun to hear the accents. Some I have much trouble copying. Don

From (Phil Atchley) Sun Jul 13 03:53:21 2003
Subject: [R-390] Cosmos, I broke it 8^((

Well, I guess with all the taking it apart and putting it back together it was bound to happen. After this last surgery the poor thing is deader than a doornail! I've since pulled it apart twice and can find absolutely NOTHING wrong. All coils have continuity, I have both B+ and screen Voltages on the tube, tube lights up, tube is good but "she no worky".

I replaced the 2.2K resistor in the B+ supply as the original was somewhat burned and while I was at it

replaced the capacitor that bypasses it to ground (as it was the only thing I could think of that would overheat that resistor).

I've had it open twice to try to figure out why it doesn't work. It is a SIMPLE one tube circuit and with 45+ years of tube experience it shouldn't be a challenge for me. But then engineers have a saying that the two most maddening things in engineering are "Oscillators that don't and amplifiers that do" (oscillate).
Anyway, I've put it aside for the evening. I'm going to pick up the guitar and just have some "fun time" for a couple hours.

Maybe tomorrow after church I'll look at it one more time and if I can't resurrect it I'll resurrect the parts unit I have here. But I'll have to take the "spring thingy" and linearity disk out of the original PTO as I don't have the tiny tools needed to tune the disk in the parts unit. Also I don't like the looks of the coax cable or the output transformer on that unit (but it does work). 73 de Phil, KO6BB

From jamesmiller20@worldnet.att.net Sun Jul 13 06:52:52 2003
Subject: [R-390] PTO Test Jig

These are photos of the test jig I use to align PTO's. It is made of pieces of stock lumber. As you can see it is rough but it works. The tuning circle is cut from plastic sheet stock with a PTO calibration template glued to it.I found this template as a printable download from the web, created by John (Harvie?) N3JKE. I can't seem to find that web page now however..

It ain't pretty but it works. http://home.att.net/~jamesmiller20/ptojig.htm

Also my original Cosmos adventure story is at: http://home.att.net/~jamesmiller20/cosmos.htm Hope these are useful to anyone interested.

From jamesmiller20@worldnet.att.net Sun Jul 13 06:58:30 2003
Subject: [R-390] COSMOS PTO, starting over again.

Todd, Well maybe I was doing it wrong. You have to take the can off, then loosen that clamp screw in the back and then nudge the one slice of the stack you need to adjust, then tighten the screw again, then put the can back on, then check your frequency, and repeat those stepst every 25 khz... seemed like the stack would squirm around whenever I loosened that clamp screw throwing a bunch of them back out of alignment, and I'd have to repeat it all again... or if I tweaked one slice, it would mess up those either side. If there's a better way I sure wouldlike to know. I have heard the rumor that Collins had a few very unique people locked away who did nothing but PTO calibration. 73 N4BE

From root@al.tirevold.name Sun Jul 13 12:43:04 2003
Subject: [R-390] PTO Test Jig

John Harvie's PTO calibration label is at: http://r-390a.net/R-390A-PTO-label.PDF Enmjoy! Al

From federico@dottorbaldi.it Sun Jul 13 13:06:40 2003
Subject: [R-390] SSB-Modified R-390A

Hi to All Friends, if some of you send me a scan of the instructions I can translate from Italian to a reasonable good english. 73 de Federico IZ1FID

From ToddRoberts2001@aol.com Sun Jul 13 13:49:56 2003
Subject: [R-390] COSMOS PTO, starting over again.

writes: > the stack would squirm around whenever I loosened that clamp screw throwing a bunch of them back out of alignment, and I'd have to repeat it all again... or if I tweaked one slice, it would mess up those either side. If there's a better way I sure wouldlike to know. I have heard the rumor that Collins had a few very unique people locked away who did nothing but PTO calibration.

Jim, thanks for all the info AND PICTURES you posted on your web pages on repair and calibration of the Cosmos PTO. Now I have a much better understanding of the inner workings of the Cosmos! When I recalibrated the Collins PTO with the corrector stack, what I did was loosen the corrector stack holding screw just enough so that with some force I could slide the adjustment disks but not so loose that the corrector stack would loose its shape. Instead of trying to slide one disc at a time I would gently curve the outline of the discs at the correction point. I checked mine every 100 KHz but I'm sure it would take more time and be more tedious if someone wanted to check every 25 KHz. The linearity seemed very good so I didn't bother to check every 25 KHz. Mine was off a half a KHz or so between about 3 or 4 100KHz checkpoints in a row so it was not a real tedious job. I can see the benefits of the Cosmos design - as long as it has not been abused or the ring damaged along the way. I can see how someone not familiar with the Cosmos might try to screw those linearity adjustment screws in by mistake thinking it was the end-point adjustment. I bet that is how some of them got broken or damaged in the past. Thanks to Al for posting the address for getting a copy of the degree wheel - a handy item! 73 Todd Roberts WD4NGG.

From jamesmiller20@worldnet.att.net Sun Jul 13 14:34:18 2003
Subject: [R-390] PTO Test Jig

Someone asked me about the equations for the little spreadsheet I used to graph the PTO error. I lost your email. Send to me again and I will email an attachment. back to you Or go back to the web page and click on the link I added to a sample .xls file (scroll down to the bottom). It calculates expected frequencies at each quarter turn. Then you have to manually enter the actual measured frequencies, and it uses the Excel chart function to plot the differences, Pretty simple really.

From redmenaced@yahoo.com Sun Jul 13 18:03:09 2003
Subject: [R-390] KPH, KFS and WLO

I got WLO, KPH, and KFS here in Western NY, all noisey, but easily readable. Joe KG2CI

From K6LQI@aol.com Sun Jul 13 19:17:25 2003
Subject: [R-390] Setting end points on Cosmos PTO

Hi guys: I'm aligning my first R390. I pulled the PTO to correct the 14 khz error it had in it's 1 mhz travel. I turned the screw several times but it had no effect on either end point. I removed the outer cover on the PTO and saw what I was turning was a brass screw with a fine thread on it's OD and a 1/8" diameter hole through it. Any ideas? Is this screw supposed to move a slug in the coil like the schmatic shows or is this a varible cap? Thanks and 73 Tom k6lqi

From Llgpt1@aol.com Sun Jul 13 18:16:46 2003
Subject: [R-390] KPH, KFS and WLO

writes: > I got WLO, KPH, and KFS here in Western NY, all noisey, but easily readable.

All received here pretty much in the clear. But, I have a low noise enviroment and lots of wires. Les Locklear Gulfport, Ms.

From w5or@comcast.net Sun Jul 13 19:40:12 2003
Subject: [R-390] KPH, KFS and WLO

One message on KPH said to try WLO on 8445.5 and they were on the air at 0300Z calling CQ and broadcasting Tropical Storm Claudette warnings. Those warnings seem to take on more weight having to copy them down rather than hearing a few second sound byte on the WX channel. The old transmitters and maybe the operators have a few glitches in them, as I heard a few of their hiccups. Fun stuff. I was using R-390A/URR Capehart serial 965. Don't forget to send in reception reports. Richard and the radiomarine historical crew need to hear from listeners.

From (Phil Atchley) Mon Jul 14 00:59:29 2003
Subject: [R-390] Setting end points on Cosmos PTO

Hi Tom. It sounds to me like you're adjusting the thermostat instead of the End points. The thermostat is the far LEFT screw (left side of the tube) as you look at the front of the PTO with tube UPRIGHT. The End point is on the far RIGHT when looking the same way. The one in the middle is the linearizing window to access those 48 screws! (BOY DO I KNOW ABOUT THOSE 48 SCREWS 8^) 73 de Phil, KO6BB

From dsmaples@comcast.net Mon Jul 14 02:17:16 2003
Subject: [R-390] (no subject)

All: As a DoD contractor in the 1980s I witnessed news broadcasts that demonstrably got the facts wrong in favor of favoring the positions of the leftists in the country. The kinds of errors made were not those that could be excused by anything other than drooling incompetence or a deliberate agenda.

One of my friends' daughter was a nurse in Grenada in 1983 when the action took place there. She was able to confirm that the things the Reagan administration said were taking place really WERE taking place. She was interviewed by a Nashville, TN, TV station. At the end of the interview her dad (my friend) asked the TV crew, "You aren't going to use this interview, are you?". Needless to say, they didn't.
The success of Fox News is quite simple. The political conservatives were made fun of and consistently denigrated throughout the 70s and 80s by the leftist mainstream press and their entertainment brethren as selfish, greedy, racist warmongers who'd stab their own mother in the back for any reason whatever. Their most cherished beliefs (including most particularly their religious faith) were absolutely round-the-clock fair game for ridicule. Complex issues were degenerated into emotional "soundbites" that could be rapid-fired during the course of a news show to attack those on the right. It was all very cosy. In the early 1990s Rush Limbaugh and others figured out that there was a HUGE set of disaffected folks

in the country who were tired of being manhandled and kicked in the teeth daily by the mainstream press and entertainment branches, and there was a relatively cheap medium (AM radio) to use to reach them. Those folks determined to serve this disaffected body and give them a voice, and the rest, as they say, is history. The folks at Fox did precisely the same thing, with the same results. None of this would have been necessary or successful if the rest of the press hadn't sold their birthright by quitting the business of reporting the news completely and accurately in favor of emotional nonsense. In case there are doubters about this, the book by the former CBS reporter on bias in the media is a highly-recommended read.

My dad was a print journalist for almost 50 years and I am thoroughly aware of the way a REAL journalist practices his craft. His governing principles were quite simple:

1. Don't print until you absolutely have the truth by the throat.

2. Once you do, don't be afraid to print it all.

3. If you make a mistake, OWN IT and FIX IT.

If a journalist practices in that fashion, he probably won't win a Pulitzer prize, and he sure won't work for the NY Times or CNN, but he will be treasured by those around him as few folks are. I can state with assurance that the majority of the current crop of journalists haven't practiced that form of journalism in 30+ years, and I don't expect they ever will again.

That's my opinion, as Mark expressed his opinion. Please recall that opinions are like socks in a drawer. Many times they are mismatched, and some have holes in them. R390s, anyone? Dave Maples

From dsmaples@comcast.net Mon Jul 14 02:37:42 2003
Subject: [R-390] the press, etc.

All: After I sent this I saw the request to "stay within the lines". If any of you want to continue this off-list I'll be happy to discuss, but to respect those who don't want to see any more I'll not post on this topic again here. Dave WB4FUR

From (Phil Atchley) Mon Jul 14 05:19:16 2003
Subject: [R-390] Cosmos PTO, FINAL Chapter!

Hi. I know, y'all are saying, sure, sure, we've heard that before 8^)

However, I DO finally have a very sweet PTO mounted in the '67 EAC. After totally killing the original unit yesterday, (and I still don't know what happened, I could find nothing wrong, it just refused to work any more.) I decided the ONLY recourse was to rebuild the Parts unit that I'd received. It had already donated its linearity ring and tube to the other PTO. It had a bad coax cable, VERY frozen end point adjustment (it was actually corroded white and WOULD NOT budge) and a couple other minor issues.

The first order of the day (after church) was to tear down the original PTO and remove its coax cable, end point coil, linearity ring, tube, linearity screw disk (with the slotted screws) etc. I then turned all linearity screws fully counter-clockwise then one turn clockwise.

After thoroughly cleaning the parts PTO with alcohol, lightly greasing the linearity plunger,

linearity gears, lag screw etc I carefully assembled the "new" unit, using all the best parts from both PTO's.

Then I installed it in the receiver (without screwing it down), let it get good and warm and proceeded to align it. From the time I started adjusting the end points till I had run through it the "second time" to double check it took me less than 2.5 hours total! It really tuned up nicely with no repeatability problems. When I reached the 475 KHz spot it had gone -1 KHz and my screws wouldn't back out far enough to compensate (1 turn, remember). So I re-zeroed my Veeder counter there and started back at the beginning.

This time I was able to get through the entire PTO range (PLUS an extra screw on either end for good measure). Worst case is well under 200 Hz and that is primarily due to "slop" in the way I was doing it in the receiver.

The double check turned out well. Not one screw had to be re-adjusted!

NOW, I'm taking a hard earned break and do some beacon chasing in the longwave band (IF the noise isn't too high). Tomorrow I'll do a complete alignment on the receiver and HOPEFULLY nothing else will rear its ugly head. If all goes well it should be in the cabinet and ready to do some DXing tomorrow evening!

NOTE: Before the linearity screws were dead in the middle of the window at the 25 KHz points. On this unit the screws were centered at about -12.5 KHz, exactly at the halfway points. So, I just compensated on the frequency I was looking for (my counter was again using zero beat on the Yaesu
VR-5000 in LSB mode). AS NOTED ELSEWHERE, IT IS IMPORTANT THAT THOSE LINEARITY SCREWS BE CENTERED IN THE WINDOW!! 73 de Phil, KO6BB

From (Phil Atchley) Mon Jul 14 05:53:26 2003
Subject: [R-390] 3rd Mixer noise, STINKIN' COSMOS PTO 8^)

> INTERESTING.

Hi. Well, I won't say that ALL Cosmos PTO's will give you as much trouble as I had. Remember, the first PTO I had contained some damaged components ("Springy thingy") and a couple other problems and the 2nd unit had some other "multiple issues" with it.

However, as evidenced by the relative ease I had after overhauling the second unit I will have to say that if your PTO is otherwise in good condition you may have little or no problems at all tuning it up.

One thing that IS worth noting is that neither of my units needed to have a turn removed from the end point coil though I did that to the first unit and ended up having to rewind the coil with the proper 3 turns. It appears, at least in the case of these units that cleaning and lubing them seemed to bring the end points in to where they could be adjusted with the end point coil. Good luck with your Cosmos. 73 de Phil, KO6BB

From jfd@warwick.net Mon Jul 14 13:59:08 2003
Subject: [R-390] SSB-Modified R-390A

Hi All: I didn't get the chance this weekend to remove the '390A from the rack to photograph the mod.

Next week, maybe. I'll post a URL when I get the photos up. 73, Jim WA2MER

From LairdThomasN@JohnDeere.com Mon Jul 14 14:39:19 2003
Subject: [R-390] NO WORKIE - was, I broke it!

AMEN!!! I am working on an old Johnson business band transceiver that the 1st mixer won't oscillate. Very simple circuit and I changed everything including the crystal (twice). Damn thing won't fire. I can inject a signal from my HP8640B and it receives just fine. I'm thinking about building a separate sand state circuit and going that route. hang in there! Tom Laird WC9M Moline, Il.

From Tnjent98@aol.com Mon Jul 14 14:46:46 2003
Subject: [R-390] NO WORKIE - was, I broke it!

another engineering postulate: "bad amplifier designers make good oscillator designers" the inverse may also be true!

From cbscott@ingr.com Mon Jul 14 15:23:19 2003
Subject: [R-390] NO WORKIE - was, I broke it!

I thought mixers mixed. Barry(III) - N4BUQ

From ghayward@uoguelph.ca Mon Jul 14 15:45:19 2003
Subject: [R-390] Then try Mike Savage, but to do it RIGHT try AM 740 from Toronto, CA.

What a station - two 50KW transmitters multicoupled onto the same vertical stick. Here's some station pics. Any 390 anywhere should hear this station. It was better when it was a CBC station. AM 740 (was Rush whoever) http://www.hammondmuseumofradio.org/cbl.html Cheers de Gord.

From roy.morgan@nist.gov Mon Jul 14 19:48:55 2003
Subject: [R-390] Rush Limbaugh sure sounds good on '67 EAC ;-)

wrote: >Dang, you are right! There are times when listening to WWV time ticks is more interesting than listening to Rush.

One thing is pretty sure: WWV is always right. Roy Who toured WWV last week.

From mikea Mon Jul 14 19:53:31 2003
Subject: [R-390] Rush Limbaugh sure sounds good on '67 EAC ;-)

wrote: > Dang, you are right! There are times when listening to WWV time ticks is more interesting than listening to Rush.

wrote: > One thing is pretty sure: WWV is always right. Roy Who toured WWV last week.

Certainly close enough for a cigar *all* the time in my book. Get any good stories? Mike Andrews

From pha@pdq.com Mon Jul 14 20:05:47 2003
Subject: [R-390] COSMOS PTO, starting over again.

wrote: > HEATER NOTE: This time upon disassembly I completely removed the thermostat and the heaters from inside the PTO. I NEVER use them anyway and they just complicate the teardown-rebuild of the unit. Yes, I'll keep the insulation intact as I'm sure it adds to the thermal stability.

Phil - it has been great reading all your notes about your rebuild experience. I've got only Cosmos PTO's for my R-390A's, plus one spare that I have taken partway apart.

Regarding the fiberglass insulation... it must be there to keep heat IN the PTO with the heater running. If the heater is off, or left out, the blanket slows the absorption of heat from the radio.

Stability is reached when the temp is the same over time.

Therefore, I suspect that it would be better to leave the blanket off, since you'd reach thermal soak more quickly (i.e. the radio heats the PTO to the same temp). Paul

From roy.morgan@nist.gov Mon Jul 14 21:07:00 2003
Subject: [R-390] Rush Limbaugh sure sounds good on '67 EAC ;-)

wrote:>Certainly close enough for a cigar *all* the time in my book. >Get any good stories?

Well, lets see:

The staff is battling a number of bad weeds, as part of their good neighbor policy toward nearby farmers. The Russian Olive trees on the site grow way too fast and need to be thinned out.

The site was chosen in the early 60's partly because of the ground conductivity in that area.

Some of the main line transmitters are now Contenental ones. They replaced the larger TMC transmitters, which are now used for standby service.

The hulks of the *old* 60 kc transmitter are headed for the scrap heap. The new 60 KC transmitters are Continential, each with two sections running a total of four 4CX5000 tubes. Two of the installed three 60 KHz transmitters run continuously. "... each transmitter only has to produce a forward power of about 38 kW for WWVB to produce its effective radiated power of 50 kW." Two diamond shaped flat top antennas, some 850 meters apart and each about 400 feet tall are fed through matching networks to form a sort of dipole. An automatic tuning system keeps them in proper phase by nudging a variometer under motor control. For more info on NIST time services see: www.time.gov and: http://physics.nist.gov/GenInt/Time/boulder.html To see pictures of WWVB, WWB and WWVH, see: http://tf.nist.gov/

The country's most accurate clock called the "fountain clock", is shown at: http://tf.nist.gov/cesium/fountain.htm It is run from time to time to calibrate a group of Hydrogen maser clocks that constitute the working master clock of NIST at Boulder. (A yet more accurate clock is under development.)

A group of four cesium clocks is used at WWV in Fort Collins to set the time and frequency signals that are broadcast. They are compared routinely with the master clock group at Boulder.

No public tours of the station are now held. (The same is true of the Denver and Philadelphia mints, where tours can be arranged in advance through your congress person's office.) Roy

From Phil Atchley Mon Jul 14 22:57:29 2003
Subject: [R-390] RE: [R-390]PTO Insulation (was) COSMOS PTO, starting over again.

Hi Paul. You're probably right, however I kind of figured that in the case of rapid changes the insulation might help. Though in it's CV-979 cabinet it shouldn't see any drafts from the air conditioner or heating systems. 73 de Phil, KO6BB

From Phil Atchley Tue Jul 15 00:05:41 2003
Date: Mon, 14 Jul 2003 23:05:41 -0000

Hi. Well, it looks like all the trials and tribulations associated with this PTO are over. The receiver alignment went very well, a new 3 wire power cord has been installed and the unit placed in its CV-979 cabinet. The alignment was already very close and just needed a light tweaking. A modest improvement in gain was noted when some of the Xtal oscillator trimmers were adjusted.

Only one minor glitch was noted during alignment. The 28 MHz band was dead, removing its Xtal and tightening up the pins of the socket cleared that problem. Whew, thought I had a bad Xtal at first.

It is now on line in one of the DXing positions. Temporally in the righthand position I'll rearrange the bench to put it in the "left seat" (next to the computer) after it's had a thorough burn-in and I've got confidence in it. Right now I'm listening to Radio Australia (21740 KHz) on it. Of course that is no big challenge here on the left coast.

I did do some listening on the 20 Meter band and SSB seems to be working as it should since I did the Lankford AGC/BFO mods. I've found that one to be worthwhile.

It's now been running a couple hours or so and there doesn't appear to be any heat build-up in that cabinet. It is just warm to the touch. I plan on leaving it on all afternoon/evening and do some DXing with it this evening.

BALLAST TUBE QUESTION: In all the R-390A's that I've had previously (that still had the ballast tube) I seem to recall the filament having just a dull glow in only a small part of the filament. This one glows fairly brightly over nearly the entire length of the filament and makes me feel uneasy in that I'm afraid it's nearing the end of its lifespan (seems I recall reading that was an indicator). No, my line Voltage is under 120 VAC, especially this time of day with everybodies A/C running. Do I have cause for concern? Perhaps I should start looking for a 12BH7 tube (I did the 12BH7 mod while recapping the IF strip). 73 de Phil, KO6BB

From barry@hausernet.com Tue Jul 15 00:37:14 2003
Subject: [R-390] My 'new' '67 EAC is now "on line" 8^) Ballast Tube question.

wrote: >Well, it looks like all the trials and tribulations associated with this PTO >are over.

That's good news! Now that your skill-sets are at their peak, let's everybody send Phil a Cosmos to fix 'n tweak.

>The receiver alignment went very well,

By now the radio probably feels bad about running you through the ringer, so went easy on 'ya.

>Only one minor glitch was noted during alignment. The 28 MHz band was dead, >removing its Xtal and tightening up the pins of the socket cleared that >problem. Whew, thought I had a bad Xtal at first.

I've found the same thing as well as some bad xtals here and there. The crystal sockets vary, but not the greatest in the later receivers. Probably the stamped cupped type. Not much contact area and metal is none too springy. Fix is easy. You probably just staked them down a bit. Was it just the 28 MC band? Is that the one solo crystal usually two or three bands are involved. Anyway its fixed. They tend to loosen up when the radios are moved or shipped and the crystals actually wobble in those holders. Further compromised as a tiny bit of oxidation will cut them out.

<snipped> >BALLAST TUBE QUESTION: In all the R-390A's that I've had previously (that >still had the ballast tube) I seem to recall the filament having just a dull >glow in only a small part of the filament. This one glows fairly brightly >over nearly the entire length of the filament and makes me feel uneasy in >that I'm afraid it's nearing the end of its lifespan (seems I recall reading >that was an indicator). No, my line Voltage is under 120 VAC, especially >this time of day with everybodies A/C running. Do I have cause for concern? >Perhaps I should start looking for a 12BH7 tube (I did the 12BH7 mod >while recapping the IF strip).

My experience is that they don't glow much after power-up. The ballast may be good but you may have excessive current draw. Since you replaced nearly everything else that could affect that, I strongly suggest you check the two tubes involved especially the one in the PTO. Yes lightning (element/filament shorting) does strike twice, (Phil found the previous PTO tube shorted). Two possible reasons, offhand continued bumping/moving of the PTO as you were adjusting the linearity and/or the replacement tube may have come from the same lot with a latent defect.

Now that things are settled in, test those tubes again in the tester. Normally it's not best practice to leave them in the tester too long, but let them sit and tap as you go through the shorts test. Another possibility something in the wiring harness. Maybe you should measure the current draw with the ballast in place.

Do others agree about the bright ballast situation? Barry

From redmenaced@yahoo.com Tue Jul 15 01:23:28 2003
Subject: [R-390] My 'new' '67 EAC is now "on line" 8^) Ballast Tube question.

I agree on the ballast tube, normal function is to come on bright at first then go dim so only a few places are lighted. Not sure what your problem is though too much current draw sounds right. Joe

From dsmaples@comcast.net Tue Jul 15 01:50:15 2003
Subject: [R-390] Rush Limbaugh sure sounds good on '67 EAC ;-)

Roy: I assume since you didn't mention it that WWVL is long gone. That was the 20-kHz station that they used to have around a number of years ago.

Side note: Are any of the VLF stations (NAA, etc.) still transmitting down there? Do any of you (besides Phil) listen down there? Point of curiosity only... Thanks, Dave WB4FUR

From Phil Atchley Tue Jul 15 16:43:17 2003
Subject: [R-390] Heard on my "new" R-390A receiver.

Hi. I don't intend to post these "heard" postings often on this reflector (they're more suited to the SWL reflector) but an interesting thing happened this morning while doing my usual early morning news gathering via shortwave.

Coming in well was Radio Japan on 9750 KHZ in English at 1520 UTC with the "Asian Report" of news from various Asian countries followed by some petty Japanese music. SINPO 45434.

Also coming in very well this morning was Radio Australia on 9580 and BBC Singapore relay on 9740 KHz, both SINPO 45444.

MOTE: I was listening to Radio Australia on the R-390A for about an hour and thought, MAN! Reception is terrible for ABC this time of the morning. I'd have rated it at about SINPO 35333 and the meter read only about 50dB.

THEN, I decided to switch to the Yaesu VR-5000 receiver. Imagine my surprise when it read a very strong signal. Turns out the antenna switch had been left in the VR-5000 position and I was listening on the R-390A with a SHORTED antenna input (unselected receivers are shorted out). MOST receivers when connected to that antenna switch and NOT selected see almost NO signals at all, so I guess the R-390A is doing quite well after all 8^) 73 de Phil, KO6BB

From barry@hausernet.com Tue Jul 15 18:25:10 2003
Subject: [R-390] Heard on my "new" R-390A receiver.

>I don't intend to post these "heard" postings often on this reflector >(they're more suited to the SWL reflector)

While the SWL reflector is more appropriate, as I recall, interesting signals received on R-390's are fair game for the list.

<snipped> >Turns out the antenna switch >had been left in the VR-5000 position and I was listening on the R-390A with >a SHORTED antenna input (unselected receivers are shorted out). MOST >receivers when connected to that antenna switch and NOT selected see almost >NO signals at all, so I guess the R-390A is doing quite well after all 8^)

Yeah R-390A's surely work much better when they're not ... sabotaged. Gee, sometimes we're admittedly stingy antenna-wise, giving 'em only a 2 foot jumper, but shorting them out, well ... I dunno, Phil, you're great with this stuff, but maybe you ought to hang out at the beach for a couple of days or something. You've been turning those 48 tiny screws a bit too long now.

Sounds like another form of "Oh-no! Won't power up at all now! Woe is me!" syndrome after working

on something for days. Theorize this, analyze that, suspect this, surmise whatever, but usually it's a case of: Power cord is plugged into the strip, voltmeter is hooked up to strip, strip is plugged into the Variac, Variac is plugged into extention cord, extention cord is plugged into ... OOOPS .. nothing thin air. Saying "I knew it was some kind of high resistance problem!" doesn't help much - still feel goofy even though no witnesses except the radio.

I would suggest working in the garden this afternoon, but there are too many things crawling around out there with too many moving parts to be safe. "Phil what on earth are you doing with that bug?" "This millipede is out of whack I'm trying to re-linearize it. Nope still pulls to the left." Barry

From drewmaster813@hotmail.com Tue Jul 15 18:48:53 2003
Subject: [R-390] Bright BallasTube

On excessively bright BallasTubes Barry wrote: >My experience is that they don't glow much after power-up

It also is possible that heater strands in PTO or BFO 6BA6 could be shorted to one another and not to cathode. You might check voltage at PTO and BFO tube heaters while in the radio. Since it is unlikely that this type of short would occur in both tubes (Murphy's law notwithstanding) it would show as unequal voltage division between tubes. Make sure that BallasTube is really a 3TF7 and that PTO and BFO tubes are really 6BA6's (hey, maybe someone stuck 3BA6's in there, the 600 mA current specification would really light up that 3TF7). Drew

From jlkolb@cts.com Tue Jul 15 21:23:33 2003
Subject: [R-390] Heard on my "new" R-390A receiver.

wrote: > While the SWL reflector is more appropriate, as I recall, interesting signals received on R-390's are fair game for the list.

What's a good SWL reflector?

<snipped> > Sounds like another form of "Oh-no! Won't power up at all now! Woe is > me!" syndrome after working on something for days. Theorize this, analyze > that, suspect this, surmise whatever, but usually it's a case of: Power > cord is plugged into the strip, voltmeter is hooked up to strip, strip is > plugged into the Variac, Variac is plugged into extention cord, extention > cord is plugged into ... OOOPS .. nothing thin air. Saying "I knew it > was some kind of high resistance problem!" doesn't help much - still feel > goofy even though no witnesses except the radio. >

Well, usually the extension cord was plugged back into the strip :) John

From ba.williams@charter.net Tue Jul 15 17:19:19 2003
Subject: [R-390] Heard on my "new" R-390A receiver.

Phil, Don't feel bad. This has happened to me more than once. I've listened to a lot with only 1-2 feet of wire by mistake too. I once read advice about carrying around a few feet of wire to check these radios when looking to buy one. I think that is enough for a check. Barry non-Hauser

From vk4ns599@optusnet.com.au Tue Jul 15 22:56:47 2003
Subject: [R-390] Re: (R-390) PTO Test jigs

There is an article titled "New life for the Collins 51J receiver VFO" by William Orr, W6SAI (now a SK) in the December 1969 issue of Ham Radio magazine which features a "test jig" to operate on the PTO.

The PTO is a 70E - 15 which covers 2 to 3 Mhz with 10 turns of the tuning shaft.

This PTO does not appear to be as complex as the ones used in the R390 & R390A receivers whose PTO's cover the range 2.455 to 3.455 Mhz.. Lionel L Sharp, VK4NS

From kw0d@netexpress.net Wed Jul 16 02:52:44 2003
Subject: [R-390] Query re. 70v line xformer

Hey All! Got one of these on-sale-specials from RadioShack... the 70v line transformer... got the 4-ohm secondary connected to an appropriate speaker. Which tap do I use for the primary? They're not marked in impedance... they're marked at 0.62w, 1.25w, 2.5w, 5w, and 10w... For 600-ohms (er, 500ish) Do I use 0.62w? Cheers/73! DK :-) 73's from KW0D Dave in LeClaire, Iowa

From Tarheel6@msn.com Wed Jul 16 03:07:20 2003
Subject: [R-390] Query re. 70v line xformer

Dave and all... You use the 10 watt tap. This by way of R=E^2/W. Do the math and you'll see that 10 watts yields an impedance of about 500 ohms. Close enough.... I found several of these xformers in Greensboro for $2.49!! Hooked one up to my R-390A. Hooked another xformer up to my ARC-5 rcvr and used the 3920 ohm tap (uuhhh, that is the 1.25 watt tap). Both worked great. What a deal... 73's, -tom

From ba.williams@charter.net Wed Jul 16 01:51:56 2003
Subject: [R-390] Heard on my "new" R-390A receiver.

>> I don't intend to post these "heard" postings often on this reflector >> (they're more suited to the SWL reflector)

Phil, I think that mentioning your logs is entirely appropriate. I mean, these things are radios, right? We have had some good station comments/logs passed around in the past. All of it was very interesting. A lot of people had interest in some of them. Barry non-Hauser

From Llgpt1@aol.com Wed Jul 16 02:46:31 2003
Subject: [R-390] Query re. 70v line xformer

writes: > Hey All! > > > For 600-ohms (er, 500ish) Do I use 0.62w?

Use the 10W tap. Les

From w5or@comcast.net Wed Jul 16 03:45:22 2003

Subject: [R-390] Query re. 70v line xformer

Radio Shack has these specifications listed for that transformer on their web site. This must be a sample of 5 units.

10 Watt 70 Volt Audio Transformer 320-1031 Specifications 320-1031) Specifications Faxback Doc. # 9663 Transformer Dimension measurements are within specification.

Primary Impedance (at 400 Hz 5V):

Secondary Loading	Primary Watts Range	No.1	No.2	No.3	No.4	No.5
4 Ohm	10 W	535	535	540	547	525
	5 W	1025	1060	1040	1035	950
	2.5 W	2020	2000	2105	2010	1900
	1.25W	3905	4035	4050	4050	3850
	0.62	7120	7365	7205	7200	6855
8 Ohm	10 W	570	595	585	590	595
	5 W	1110	1115	1150	1130	1135
	2.5 W	2050	2090	2245	2240	2240
	1.25W	4205	4100	4150	4305	4100
	0.62	7650	7400	7750	7605	7350
16 Ohm	10W	555	565	565	555	550
	5 W	1070	1070	1090	1085	1020
	2.5 W	2105	2100	2200	2190	2050
	1.25 W	4070	4050	4100	4130	3960
	0.62 W	7405	7395	7400	7410	7150

Primary Inductance:	7.5 H	7.2 H	7.4 H	7.4 H	7.3 H
Primary Resistance:	198	201	202	197	200
Secondary DC Resistance (Ohm):	0.888	0.892	0.886	0.898	0.917

Insulation Resistance:.....100 Meg Min. at 500 VDC
Hi-Pot Test:.....1000 VAC 60 Hz for 1 minute without breakdown
Impregnation:.....Varnish Impregnated
Frequency Response.....100 Hz to 10 kHz

Specifications are typical; individual units might vary. Specifications are subject to change without notice. (IR-04/12/95) Don W5OR

From k4kwm@hotmail.com Wed Jul 16 03:59:20 2003
Subject: [R-390] Low audio

Thanks to all who helped me with my last 390 problem. But here I am again.

Just purchased another one (R-390A). Jeez, you would think I had learned my leason. Oh well, my dad always told me I had to learn things the hard way.

But back to the problem at hand. This one is a Stewart Warner and in pretty good shape. It even has the original meters. I got it home and into the basment. It needed a new power cord even though the guy had been using it I put on a new 3 wire cord. Hooked it up and turned it on and it worked very well. All bands worked and all filter positions worked. Well at this point I figured I would chnge out the cap in the IF module so I wouldnt lose a filter. I used a .01 600v. orange drop.

Now the first 3 filter positions have very reduced audio. Its there but you have to turn the gain up to about 3/4 full. The 4, 8, and 16kc positions work normally.

I checked to see if I had maybe bent some switch terminals or something. I took the IF module out of the other one and of course it worked fine in the new one. I took a lot of resistance readings on the bad one in the filter area following the schematic and couldnt see a problem. Anytime something looked suspicious I would measure the same place on the working unit. My conclusion is a bad 2kc filter. But it works a little??????? What does the group think? Thanks in advance. John

From hankarn@pacbell.net Wed Jul 16 03:50:43 2003
Subject: [R-390] RE: Engraved Panels & Mr. Murphy

Well Gang, Here we are Picked up the panels from the powder coating Co. to be engraved. Ran the first of the production bunch and found out on Sat. morning that the back side had not been coated. The panels will be engraved by noon tomorrow and after I promise to break an arm to get the back side done within a day or so, then the filling done and then the silk-screening will take about 3 hours as I have the original screen. To top it off they bead blasted the back side of the panels and I am going to have to use 30X glass to figure a few of the names so you get the correct panel back.

If any one can talk to Murphy would someone be so kind to buy him a few pints of STOUT so he might pass out until this drill is over with.

Have help lined up to do the filling. Last call anyone want the Caution wording statement in red????
Hank KN6DI

From Phil Atchley Wed Jul 16 05:03:45 2003
Subject: [R-390] My 'new' '67 EAC is now "on line" 8^) Ballast Tube question.

> That's good news! Now that your skill-sets are at their peak, let's everybody send Phil a Cosmos to fix 'n tweak.

You do that and I'll return them to you very well packed, in FRESH cow manure!! I know where there's a dairy just down the road a few miles. 73 de Phil, KO6BB

From kw0d@netexpress.net Wed Jul 16 04:39:18 2003
Subject: [R-390] Query re. 70v line xformer

Hey- thanks everybody! The responses were direct, detailed, and prompt- I couldn't ask for more! Gonna go hook up a speaker to the new (to me) R390A! DK :-) 73's from KW0D Dave in LeClaire, Iowa

From rbethman@comcast.net Wed Jul 16 06:31:14 2003
Subject: [R-390] My 'new' '67 EAC is now "on line" 8^) Ballast Tube question.

Phil, Experience has shown that the filament of the ballast tube SHOULD only partly glow when all is well. The symptoms you describe SHOULD mean that the circuit that it regulates is drawing too much current. Either one of the tubes has some form of a short, or something else is causing excessive current draw.

It's probably going to be painful to track down, but will be worth it in the long run. As mentioned in an earlier post, if the PTO tube came from the same lot, it could be a bad lot.

Try swapping the two tubes that R510 regulates from another R-390A. If the ballast tube goes down in brightness, then one or both of them are problem children. IF NOT, then something else is awry. Perhaps a bad or flaky ground. These radios are notorious for this with the MFP coating

From jlap1939@yahoo.com Wed Jul 16 16:04:57 2003
Subject: [R-390] R-390 - SP 600

Friends, One quick one here...As I have the R-390 back working, wonder if I should keep my SP-600 JX 17..(Some rust, and extra hole in frt panel.. Some "skint" spots on that panel.. no case, probably not good enough to rate any above average, even if cleaned up. But it works great, and always works..)

Question: What are they worth.?. Is it best to keep it now, (since I will probably want another eventually..), or sell or trade for a 390a, (which I still do not have an example of... (mine went to rebuild the 390..))
How many are there? Or should "I" look it up? (Yeah I should try..I know..) Thanks in advance for your patience... My Regards, John (JLAP)

From Phil Atchley Wed Jul 16 20:31:23 2003
Subject: [R-390] My 'new' '67 EAC is now "on line" 8^) Ballast Tube question.

Well, to reassure myself and others who have expressed concern I borrowed some tubes from another receiver here (my homebrewed longwave beacon set) and subbed both the PTO and BFO tubes at the same time (and yes, they are 6BA6's, not 3BA6's 8^). No change, the ballast glows the same. I've just come to the conclusion that this one may be drawing close to the end of its lifespan. I can't find it in my archives, but I KNOW I read somewhere in the past that is an indicator that either the ballast tube filament is getting "thin" (worn out) OR that possibly the inert gas has leaked out of it around the seals.

I also tightened up the ground screws on the applicable tubes, though I would suspect that a loose one would open up the filament line or at least present a high impedance that would actually REDUCE current rather than increase it. 73 de Phil, KO6BB

From r.tetrault@comcast.net Wed Jul 16 21:39:35 2003
Subject: [R-390] My 'new' '67 EAC is now "on line" 8^) Ballast Tube question.

Phil, Methinks you are right about the loss of gas as probable cause. Mine failed through old age but not loss of gas. When first powered up most of it would glow but some places were brighter than the rest. Those places remained glowing after inrush. Those places were visibly marginal (thinner) when

inspected with a loupe. Bob Portland, OR

From barry@hausernet.com Wed Jul 16 22:40:55 2003
Subject: [R-390] My 'new' '67 EAC is now "on line" 8^) Ballast Tube question.

Well, Phil, you may have another project on your hands .... time to re-string and recharge that ballast tube.
There are several ways of cutting the glass open, but making all those tight curlycues in the iron wire is tough. Then you have to carefully drape it over the insulators and spot weld the ends to the pins. Use a torch to re-fuse the envelope back together, open the nib, apply vacuum then quickly infuse the hydtrogen and seal it with a torch somehow without exploding the hydrogen. Then check DC resistance, and if it's too far off, start over again.

Yessss I'm joking. Just an extended application of the Cosmos rehab thing.

Anybody know:

1. Is the performance degraded when the ballast tube starts to glow brighter or show hot/thin spots?
2. How long before total failure?

It would seem unwise to invest in used 3TF7's, unless observed in operation. Someone (Hank?) is offering NOS 3TF7's at a (relatively) reasonable price, so you might want to have one in reserve. If you don't want to make that investment, I'd suggest the power resistor option have one handy as you can just stuff the leads into the tube socket at a moment's notice. If you subsequently want to convert to 12 volt tubes or whatever, you're not tossing anything expensive. (I know once you get into DXing and monitoring mode, you don't want to be down long even though you have that VR-5000 as backup.)
Barry

From jlap1939@yahoo.com Thu Jul 17 02:39:44 2003
Subject: [R-390] My SP 600

My Friends, Boy! A lot let me know...I should keep it, or I may be sorry....

Actually, I do cruise with it, and set down on AM that I like, and it, I agree, sounds as good as any you will hear..And it never complains, and always works..

When I tighten up on some SSB sta. I switch automatically, to the 390, as I do for AMers, as I can be very accurate and hear sig. that I would never tie down on any other radio..as I also do for the very hard to hear DX stations...and a few distant pirates on occasion..(And by the way...The 390 non a can sound VERY GOOD as well...)

I will keep it...I can't get as much as I paid anyway, and I really like it a lot...Will just save up and get the 390a later.. My Best Regards...I won't try to answer everyone, so I ask forgiveness...I do thank all of you very much for your kind comments..! John (JLAP)

From keng@moscow.com Thu Jul 17 04:14:07 2003
Subject: [R-390] R-390 - SP 600

> Friends, One quick one here...As I have the R-390 back working, wonder if I should keep my SP-600

JX 17

John: You don't want that dirty old piece of junk iron cluttering up the space next to your beautiful R-390. You better pack it up carefully so that none of the PCBs leak out and send it to me. I can dispose of it for you.

I have an SP-600-JX here that would look nice alongside of yours in my sha....uh...junk pile. ;-)
Ken W7EKB

From Phil Atchley Thu Jul 17 05:41:19 2003
Subject: [R-390] ?iso-8859-1?Q?RE:_=5BR-

Hi Ed. Bingo! You hit the nail on the head. I just took the screws out of the front panel (again) and took a peek at the Ballast tube. IT IS a 3TF4! I didn't even think about the possibility that it had the wrong tube in it. I rechecked the Voltage across the output of the ballast, going to the BFO and VFO and see 11.5 Volts tonight (think I had just over 12 when I checked before). Well, since it's what=92s in there and it isn't applying too much Voltage to the tubes I think that I'll just run it till it quits 8^) 73 de Phil, KO6BB

From keng@moscow.com Thu Jul 17 06:21:29 2003
Subject: [R-390] 3TF7 and other ballast tubes...

I recently sent an e-mail to Amperite, the makers of the 3TF7 and asked if that tube, the 4H4C and the 1HT4 were still available and how much they wanted for new ones. Both the 3TF7 and 4H4C (used in some models of National HRO receivers) were still available, and although the 1HT4 was not, its replacement, the 1HTF4 was. They want $107.00 EACH for them. Gee... Ken Gordon W7EKB

From lal@cyberwc.net Thu Jul 17 12:57:16 2003
Subject: [R-390] R-390A filter needed

Hello to the list.. Would anyone have a 2 KC filter for the R-390A for sale? If so please drop me a note and thanks.. Merle W1GZS

From barry@hausernet.com Thu Jul 17 14:56:08 2003
Subject: [R-390] ?iso-8859-1?Q?Re:_=5BR-390=5D_RE:_=5BR-

Hi Phil, Ed & List, The last time it came up, I recall that word was that the 3TF4 was not a good sub resistance is something like double or triple that of the 3TF7 and would not be long-lasting. However, in some contacts here and there I came across someone who has used them and says "no problem".

What about this?:

What if you put a resistor in parallel with a 3TF4 of the right value to get the filament voltage up a notch and take some of the current off the ballast tube to reduce glow and increase life?

Would there still be some ballast action with the combination? Might be a bit tricky to install alongside the tube. The resistor probably should not be inside the module chassis. Any thoughts on this? Barry

From r390a@rcn.com Thu Jul 17 16:06:00 2003
Subject: [R-390] 3TF7 vs 3TF4

There is a good discussion of the 3TF7 vs 3TF4 in the 'pearls' http://www.r-390a.net/Pearls/ballast-tube.pdf

From jbischof@nycap.rr.com Thu Jul 17 17:30:09 2003
Subject: [R-390] crystal pack adjustment

Crystal pack r390a, there is a transformer how do I adjust for highest out put. I know that if I turn the transformer I get higher out put. There must be some reference point cause one can adjust the trimmer capacitors for highest out put. So what I think in need is a reference point before I adjust the trimmers.

From jbischof@nycap.rr.com Thu Jul 17 17:30:09 2003
Subject: [R-390] crystal pack adjustment

Crystal pack r390a, there is a transformer how do I adjust for highest out put. I know that if I turn the transformer I get higher out put. There must be some reference point cause one can adjust the trimmer capacitors for highest out put. So what I think in need is a reference point before I adjust the trimmers.

From mail08458@pop.net Thu Jul 17 15:54:48 2003
Subject: [R-390] 3TF7 and other ballast tubes...

All, If anyone is interested, I have a limited supply of NOS 3TF7 available for $25/ea plus postage. Also have NOS 26Z5W for $16/ea plus postage. Request a limit of one 3TF7 and two 26Z5W per person so we can spread these around a bit.

Other NOS tubes I have available:

6CB6A	**2.00**	**JAN GE**
6CB6A/6676	**1.00**	**TRIGON (UK)**
6H6	**2.00**	**JAN GE (metal)**
6K7	**2.00**	**JAN GE (metal)**
6U8A	**4.00**	**JAN PHILIPS/ECG**
6360	**5.00**	**JAN AMPEREX**

Please contact me directly if you are interested. Thanks. Bryan Stephens KG4UPR bryanste@yahoo.com

From ghayward@uoguelph.ca Thu Jul 17 18:29:11 2003
Subject: [R-390] Re: Crystal Oscillator Coil Adjustment

When I ehabilitated my R390A I asked the same question. The advice (good) was that because the resonance depends on both L and C, if all the trimmer caps give a peak not at the end of their ranges the coil is set right. If one cap hits the end before it peaks, then adjust the coil a bit and realign ALL the others again. Cheers, Gord (VE3EOS)

From drewmaster813@hotmail.com Thu Jul 17 21:27:46 2003
Subject: [R-390] Re: BallasTube Question

Phil Atchley wrote: " IT IS a 3TF4! I I think that I'll just run it till it quits 8^) "

The 3TF7 is specified for 290-330mA over a range of 8.6 to 16.6v, the 3TF4 regulates at 280-320mA over a range of 4.3 to 8.3v. Outside voltage range the current range is not specified. I'd say that your BallasTube is on its way out, but if it isn't hurting the 6BA6's, what the hey. Drew

From David_Wise@Phoenix.com Thu Jul 17 21:47:56 2003
Subject: [R-390] Re: BallasTube Question

If it's fully lit, it's not regulating. If you don't mind a clumsy adaptor or an incompatible mod to the IF deck, supplement the 3TF4 with a 22-ohm 5W series resistor. 73, Dave Wise (SWL)

From odyslim@comcast.net Thu Jul 17 22:22:51 2003
Subject: [R-390] Can someone help with an ols R388?

Hi, I wonder if there is anyone that can help me figure out a few things about an R388 that I bought on eBay. At least, I think it is an R388. I am not even close to an expert on these things. Is is item 3033508027. The url is:
http://cgi.ebaycom/ws/eBayISAPI.dll?ViewItem&item=3033508027&category=4673&rd=1

Here is what concerns me.

PTO is marked 70E-18. Could the cover have been replaced? My manual lists a 70E-15 for the 388, 51J and so on.

The tubes there were 6JH6's I put 6BA6's back in.

I brought the radio up slowly with a variac and it works. Just a little warble in the audio. Other than that it seems to be pretty sensitive. It is right on frequency. This makes me think the PTO cover is a replacement cover as I do not know if it would work with the 70E-18 in it.

The front panel does not have that wrinkle finish. Did Collins paint any like that or is it a re-paint job?

The radio needs some work. The good thing is that it looks to be all original and not butchered up inside. Any input on the PTO and paint? Thanks, Scott W3CV

From w5or@comcast.net Thu Jul 17 23:28:38 2003
Subject: [R-390] Can someone help with an ols R388?

Scott, The 70E-15 is the correct PTO for the R-388. 70E-18 is the 28 volt PTO for the R-392, so they are definitely not interchangeable. As you say, covers or labels may have been exchanged.

The 6JH6 could sub for a 6BA6 in an emergency. Semi-remote vs remote cutoff pentode. Perhaps others

on the list have tried the 6BZ6/6JH6 as subs.

As to front panel, it should be a wrinkle finish. The ebay picture looks like a flat coat of paint. Here's your link back, all restored and repaired:
http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=3D3033508027&category=3D= 4673& rd=3D1

Have fun with it, post your progress. Don W5OR

From lal@cyberwc.net Thu Jul 17 23:34:56 2003
Subject: [R-390] Collins PTO Identification Guide

Hello Scott and the list.. You might find this site helpful when working on PTO's I use it often ! Good luck.. Merle W1GZS http://www.militaryradio.com/pto.html

From Jhowings@aol.com Fri Jul 18 06:14:41 2003
Subject: [R-390] R-390 (R-392 parts)

For any of those like myself who have been looking for 28vdc pwr cable & audio cables for the R-392/URR, they seem to be available at: The William Perry Co. Louisville, KY. Telephone (502)893-8724. Only has the conns. at this time, so it's do it yourself. Info from eBay seller known as"radiojunkyard" in S. Carolina. Joe K0AHD

From rbethman@comcast.net Fri Jul 18 10:14:59 2003
Subject: [R-390] My 'new' '67 EAC is now "on line" 8^) Ballast Tube question.

Phil, This gentleman that just posted the following, is one fine gentleman. I acquired several 3TF7s, NOS, still in the military boxes. The same with the 26Z5Ws. He's good people, is a delight to deal with, and I recommend him HIGHLY. He also puts together and sells kits of tube spares for R-390As. As you can see, he's also VERY reasonable with his stated costs. I've never gotten a single bad tube from him: Bob Bethman - N0DGN

From Llgpt1@aol.com Fri Jul 18 14:06:30 2003
Subject: [R-390] Tube Class 101 for 3TF7 substitutions

Since Phil ran across a 3TF4 in his R390A recently, I thought this "oldie" from the archives would still be relevant. Les Locklear

From: Llgpt@aol.com Date: Thu, 13 Apr 2000 18:39:42 EDT
Subject: [R-390] Tube Class 101 for 3TF7 substitutions

To the group, Concerning the replacement of the 3TF7 with the 3TF4.

1. ballast tubes have two ratings, a voltage range where current regulation takes place, and the regulated voltage.

3TF7 8.6 - 16.6 volts 200 - 300 milliamps

3TF4 4.3 - 8.3 volts=A0=A0 280 - 320 milliamps.

2. If you substitute a 3TF4, it will be operated beyond its recommended operating voltage rating. and the two filaments it regulates will operate beyond their recommended or maximum voltage ratings.

3. Sure it will work, but rather than replacing a 3TF7 with an improper tube sub one of the resistor or other mods. Just my 3 cents worth. Les Locklear

From jbischof@nycap.rr.com Fri Jul 18 18:20:58 2003
Subject: [R-390] crystal pack

Gord, this is what I did. I tweaked the nine megahertz crystal trimmer capacitor and at the same time kept adjusting the coil back and forth to see which gave me the highest out put. Then I tweaked the rest of the trimmer capacitors. James

From James Smith" <n1xas@comcast.net Fri Jul 18 18:16:13 2003
Subject: [R-390] Oldham Coupler Spring

Greetings The spring is missing from my R-390A/URR oldham coupler. Is there a source of them available? Or if someone has a spare that they will sell me. Please email me at N1XAS@comcast.net Thanks Jim Smith N1XAS

From mikea Fri Jul 18 21:36:14 2003
Subject: [R-390] Oldham Coupler Spring

I imagine that they're still being made, or at least something close enough for a replacement. I know what "Close enough for government work" originally meant, and it did *NOT* have to do with accepting sloppy work. Mike Andrews

From roy.morgan@nist.gov Fri Jul 18 22:13:15 2003
Subject: [R-390] R-390 (R-392 parts)

wrote: >For any of those like myself who have been looking for >28vdc pwr cable & audio cables for the R-392/URR,

More detailed info on William Perry is:
> >William Perry Company
> >92 Beechwood Rd. (Rear)
> >Louisville, KY 40207
> >502-893-8724

From r390a@rcn.com Fri Jul 18 23:11:57 2003
Subject: [R-390] R-390 (R-392 parts)

Bill Perry generally has a setup at the Hamfesters swap at the Will County Fairgrounds in Peotone, IL. This year it's Sunday August 10, 2003. In the past he's had R-392 and R-390 power connectors, assorted SCR-274N/ARC-5 connectors and many others. http://www.hamfesters.org/ /dave N9ZC

From hankarn@pacbell.net Fri Jul 18 23:09:44 2003
Subject: [R-390] R-390 (R-392 parts)

wmperry@covad.net Hank KN6DI

From bernice@videotron.ca Sat Jul 19 04:04:07 2003
Subject: [R-390] Oldham Coupler Spring

Jim, I have enough of them to last me a lifetime. Email me direct for my mailing address and you can have a few of them for the price of postage. Anybody else need some let me know. There are more available at my source here north of the border. Al

From James Smith" <n1xas@comcast.net Sat Jul 19 04:14:12 2003
Subject: [R-390] Oldham Coupler Springs

Thank you for the kind offer. I was able to get some. Thank you Jim Smith N1XAS

From ToddRoberts2001@aol.com Sat Jul 19 04:18:27 2003
Subject: [R-390] 8-36 stainless-steel hex-socket setscrews used in the R-390A Knobs

I think this has been mentioned before on the list but I'm not sure when. Does anyone know of a source for the 8-36 stainless-steel hex-socket setscrews used in the R-390A small and medium size knobs? The length should be 1/4". They don't have to be Bristol socket, regular hex-socket will do. I tried Small Parts Inc. but no luck there, they don't seem to be able to special order them either. Stock Drive Products don't list them. Must be a really oddball thread size to order. Thanks for any leads. 73 Todd Roberts WD4NGG.

From kw0d@netexpress.net Sat Jul 19 06:55:38 2003
Subject: [R-390] Proper Muting

Hi All! After reading the tech manual, it appears that all I need to do to make the R390A operate amidst tranciever archetecture, is to connect TB 103's term 9 (Brk In) and term 16 (Gnd) to my Dow-Key's auxiliary contacts, and set the Break-In switch to break-in position... Is this all there is to it, or is there something else? Does it automatically mute itself when the contacts are closed, or open? DK :-) 73's from KW0D Dave in LeClaire, Iowa

From stevehobensack@hotmail.com Sat Jul 19 13:12:47 2003
Subject: [R-390] Oldham Coupler Spring

I have used one out of a ball point pen. Clip it to size and bend hooks ...Steve..KJ8L

From courir26@yahoo.com Sat Jul 19 15:47:13 2003
Subject: [R-390] Oldham Coupler Spring

Your ACE hardware will have a box with beaucoup springs in it. I've used one from ACE. Tom

From Phil Atchley Sat Jul 19 16:04:46 2003
Subject: [R-390] Oldham Coupler Spring

Yes, I've found many items at my local ACE hardware store that I never thought I'd find including steel pins for gears on old radios, cotter keys, springs and you name it. No I have no affiliation with ACE, but think that most any radio restorer would enjoy just going to their local store one day and browse the little boxes of goodies to get familiar with what they have. I've found very nice Stainless screws of all varieties, brass thingies and you name it. AND, they have screws in both "Metric" (what's that 8^) and standard threads too! 73 de Phil, KO6BB

From Phil Atchley Sat Jul 19 16:22:19 2003
Subject: [R-390] A couple good R-390a loggings including Tibet.

Good Morning. I thought that I'd forward this log to the list as it includes a couple stations not often heard here. Guess it took an R-390a to pull them out.

This morning Asia was coming in well, as it usually does here on the left coast in the morning 8^) Anyway, a couple stations made it into the logbook that might be of interest.

1430 UTC, 9465 KHz, KFBS Saipan, In Russian with a Male speaker. SINPO 35333. For some reason not a "regular" here though it "should" be.

1436-1454 UTC, 9490 KHz, Tibet Peoples Broadcasting Service, Lhasa, Tibet (China), Some very pretty vocal music with mostly Female singers, totally different from the typical Chinese music. Female announcer. SINPO 25332 with total fade into the noise at 1454 UTC. Rarely heard here this well.

NOTE: I also checked this last logging on the Yaesu VR-5000 with DSP. At first, with the DSP on it was a 'little' clearer than the R-390 but it was lost in the noise significantly sooner than it was on the R-390A. 73 de Phil, KO6BB

From jlap1939@yahoo.com Sat Jul 19 17:08:33 2003
Subject: [R-390] Variac

Friends, Wise thing to do? Three items? The two rec, one 390 non, and one SP 600, and the Rec. Monitor, 40W. Would this not solve the prob of inrush voltage, as well as other "overstress"?

Just never understood when it was discussed before, and since it was mentioned by someone, it made me think of it again.. My Regards, John (JLAP)

From redmenaced@yahoo.com Sat Jul 19 17:55:45 2003
Subject: [R-390] Proper Muting

Yup, that's all there is to it, test it by grounding either of the terminals to make sure the relay is working, it should mute the LINE and LOCAL amplifiers and ground the antenna input. You may still have to reduce the RF GAIN while transmitting though, this will show on your modulation monitor(scope). Joe

From Llgpt1@aol.com Sat Jul 19 17:23:50 2003
Subject: [R-390] Variac

writes: Friends, > Wise thing to do? Three items? The two rec, one 390 non, and one SP 600, and the Rec. Monitor, 40W. Would this not solve the prob of inrush voltage, as well as other "overstress"? > Just never understood when it was discussed before, > and since it was mentioned by someone, it made me > think of it again.. > > My Regards, John (JLAP)

My personal opinion, I do not use one. Don't see any need for it. People who insist on 115v may need to have one. Les Locklear

From buzz@softcom.net Sat Jul 19 19:17:16 2003
Subject: [R-390] Increase output power of your R-390's

Listers, Connect one of these to your 390's so that your neighbors can enjoy yor radios as well. http://nleinternet.net/alteclansingunofficial/proelectronics/proamplifiers/1590E-Manual.pdf $100 ea + ship. These amps are in good condition and were removed from a casino during an upgrade. Regards. Buzz

From theprof@texoma.net Sat Jul 19 20:36:20 2003
Subject: [R-390] Brownells GunKote for knobs

Has anyone tried Brownells GunKote for knobs? Is there something equivalent I can find at the local five and dime?

This is the blurb from the catalog:
http://www.brownells.com/aspx/NS/store/ProductDetail.aspx?p=3D1150

Now you can easily apply the self-lubricating benefits of molybdenum disulfide to alloy steel, stainless steel, brass and aluminum, even properly prepared nickel plating, in just minutes. Prepare, clean and pre-heat your part to100°, spray on Brownells GUN-KOTE and allow the part to dry. Bake the part in an oven at 300°, for one hour and you're done. You have protected the metal parts of your valuable firearm from rust, corrosion, and scratches with a beautiful, matte black finish that will wear for years and help keep your gun looking just like new.

Brownells GUN-KOTE is a durable, second-generation epoxy, thermoset resin finish that will not break down, peel or dissolve. In fact, once it is applied, the only way to remove Brownells GUN-KOTE is to abrasive blast the part. It is resistant to all known gun solvents and thinners. Each coat is approximately .0004" thick so Brownells GUN-KOTE can be used on both internal and external parts where a close-tolerance fit is required without having to worry about interference. This makes Brownells GUN-KOTE the perfect, maintenance-free coating for handgun slides and frames, shotgun receivers and magazine tubes, rifle actions and bolts, anywhere you need an ultra-thin, self-lubricating, permanent coating that protects and wears like crazy.

I know mentioning "firearms" products such as oil and grease got me flamed once before, but this looks like pretty good stuff:) 73 de Richard W5SRB

From w5kp@direcway.com Sat Jul 19 20:48:38 2003
Subject: [R-390] Brownells GunKote for knobs

Knobs, heck... I'm already thinking PANEL! Jerry W5KP

From w5kp@direcway.com Sat Jul 19 20:53:36 2003
Subject: [R-390] Brownells GunKote for knobs

OTOH, it might be fun to try and find a filler paint for the lettering that would stick! Jerry W5KP

From barry@hausernet.com Sat Jul 19 23:35:33 2003
Subject: [R-390] Brownells GunKote for knobs

Hmmm ... sounds interesting, but most gun metal is steel. Will GunKote take to aluminum alloy and pot metal?

One thing I've been meaning to try dipping the KC and MC knobs in that vinyl coating made for tool handles. I think it comes in red, black and yellow. It might reduce fatigue and wristitis by providing a better, more comfortable grip. I have some of the "dip" on hand, but it's red which would render the '390 inappropriate for formal settings. Might even be a zoning violation.

Somebody else go first and tell me how it works out ;-) Barry

From ence-ack@rio.com Sat Jul 19 23:48:14 2003
Subject: [R-390] Brownells GunKote for knobs

>Bake the part in an oven at 300° for one hour and you're done.

I'll say I'm done. If my wife catches me one more time baking on a finish in our oven I'll be cooked. spence

From rbethman@comcast.net Sat Jul 19 23:50:17 2003
Subject: [R-390] Brownells GunKote for knobs

I don't know about the "Tool Dip", but I submitted the question as to whether GunKote will work with aluminum alloy and pot metal.

I'll post the answer when I get it. To be honest, since it IS epoxy, it should work just fine. Bob Bethman - N0DGN

From jfd@warwick.net Sun Jul 20 01:03:13 2003
Subject: [R-390] SSB Conversion Photos

Hi All: For those interested, I shot a couple of photos of the SSB conversion on my Collins R-390A. Here are the links:

http://webusers.warwick.net/~u1016524/r390afront.JPG
http://webusers.warwick.net/~u1016524/r390assbadapt.JPG

You can see on the front panel that the Mode switch positions are "LO-UP-AM-BFO" and the dial lock control is now a "VFO Vernier," which provides kind of a fine tuning of the SSB signal, although in my opinion it's not really necessary, since SSB signals are easily tuned in with the main tuning knob.

The subchassis on the underside of the radio supports a 6U8 and associated circuitry. Near as I can tell from the photographs it looks identical to the rare factory SSB conversion described on r390a.com, but since my radio is a Collins-made unit from the first contract in 1954, it's almost certainly a later addition.
So there you have it. 73, Jim WA2MER

From Phil Atchley Sun Jul 20 01:28:17 2003
Subject: [R-390] Brownells GunKote for knobs

> I'll say I'm done. If my wife catches me one more time baking on a finish in our oven I'll be cooked.

Get her a gift Certificate to your local "Shoes R Us" store, hand it to her and say "look what I found today". Then while she's shopping bake your panel 8^) 73 de Phil, KO6BB

From n4xy@earthlink.net Sun Jul 20 01:36:02 2003
Subject: [R-390] Brownells GunKote for knobs

Are you sure about that 300 degrees? Only time I ever got above ~ 125-150 degrees F (with black wrinkle-not GunKote) it 'parched' it into flakes and such. And I didn't think baking at 125 degrees F could smell any worse!!! 73 Ed Tanton N4XYEd

From theprof@texoma.net Sun Jul 20 02:19:33 2003
Subject: [R-390] Brownells GunKote for knobs

For panels I was thinking about this puppy 96 check out the color choices. A gray parkerized or stainless steel front panel just seems kind of appealing :) 73 de Richard W5SRB

From Llgpt1@aol.com Sun Jul 20 02:19:11 2003
Subject: [R-390] SSB Conversion Photos

writes: > For those interested, I shot a couple of photos of the SSB conversion on my Collins R-390A. Here are the links: > > http://webusers.warwick.net/~u1016524/r390afront.JPG > http://webusers.warwick.net/~u1016524/r390assbadapt.JPG

That is basically the same conversion as pictured in Paolo Viappiani's R-390 - R-390A Handbook. The Schematic is printed in it also, schematic is in english, noted as an EAC conversion. Les Locklear

From ba.williams@charter.net Sun Jul 20 03:31:30 2003
Subject: [R-390] Brownells GunKote for knobs

> I know mentioning "firearms" products such as oil and grease got me flamed once before, but this looks like pretty good stuff:) > 73 de Richard W5SRB

Richard, I have no idea why you got flamed for mentioning guns, oils, or greases around here. It all sounds good to me. Barry non-Hauser

From federico@dottorbaldi.it Sun Jul 20 09:34:37 2003
Subject: [R-390] SSB Conversion Photos

Hi Jim, very interesting. A question : the front panel is silkscreened or engraved? 73 de Federico IZ1FID

From lal@cyberwc.net Sun Jul 20 12:41:10 2003
Subject: [R-390] SSB

Hello to the list.. Very interesting pictures and write up about the SSB Conversion. Would anyone on the list be able to scan the schematic and put it up here? Sounds like a nice winter project. Thanks Merle W1GZS

From federico@dottorbaldi.it Sun Jul 20 14:05:59 2003
Subject: [R-390] SSB

Hi to all, I have already done the scan of the EAC circuit for SSB conversion, I shall try to put on the web or I can send by mail to the group. 73 de Federico IZ1FID

From dwade@pacbell.net Sun Jul 20 17:29:54 2003
Subject: [R-390] SSB Conversion Photos

Jim and the group, Thanks for sharing the pictures. I'd agree...probably the same or very similar electrically to the EAC 6U8 mod already discussed. Considerably different though in some cosmetic/front panel details. Maybe an earlier implementation? Different layout of the 6U8 subassembly. You can compare your pics with my SSB mod pics at: http://kg6zi.homestead.com/

Note the lack of a VFO vernier on my version. For my tastes, I'd like to have some kind of vernier for SSB, and especially for CW when I use an outboard audio filter. Is the vernier electrical or a mechanical type?
My panel is silkscreened by the way in case anyone is interested. Thanks again for sharing the pics. Dennis

From redmenaced@yahoo.com Sun Jul 20 18:10:30 2003
Subject: [R-390] Brownells GunKote for knobs

wrote: > Get her a gift Certificate to your local "Shoes R Us" store, hand it to her and say "look what I

found today". Then while she's shopping bake your panel 8^)
+
Are you NUTS?? She'd be sure to suspect something then. Joe

From Jim DiMauro" <jfd@warwick.net Sun Jul 20 21:25:58 2003
Subject: [R-390] SSB Conversion Photos

Dennis, Federico, Les & the Group: Thanks to all for your responses and information on the SSB mod. I'm looking forward to seeing the EAC schematic, since it seems to be the type I have.

Federico: my panel is silkscreened. Dennis: the VFO vernier is electrical; the control that replaced the dial lock is an air-variable capacitor, connected to a line that seemingly connects to the PTO. I didn't trace it carefully. 73 to all, Jim WA2MER

From rbethman@comcast.net Sun Jul 20 21:34:28 2003
Subject: [R-390] SSB Conversion Photos

To the group concerned with this conversion: I would be most happy to receive ANY photos that go into detail on this modification, AND any and all schematics of this. Bob Bethman - N0DGN

From drewmaster813@hotmail.com Mon Jul 21 03:04:48 2003
Subject: [R-390] Re: BallasTube Question

wrote: " If it's fully lit, it's not regulating. If you don't mind a clumsy adaptor or an incompatible mod to the IF deck, supplement the 3TF4 with a 22-ohm 5W series resistor."

That would allow us to use a good resource we couldn't before. Another way to accomplish the same result (brace yourself) would be to add a diode in series with the 3TF4. With the half wave rectification a voltage of 17.8VRMS would be presented to the series connection of ballast and 12.6 volts worth of heaters, leaving 5.2 volts for the 3TF4. That is certainly within the 3TF4's regulation range of 4.3 to 8.3 volts.
If one doesn't mind some loss of regulation headroom (who runs an R-390A at 100VAC anyway?) Dave's suggestion could be used to extend the life of the 3TF7. Up to about 13 ohms could be used. Such a scheme was recommended by National for NC-300 et. al. to extend the life of that troublesome 4H4C BallasTube.

David Wise did not mention the most elegant BallaSolution of all: the 3DW7 tubester he developed. It plugs right in and fits entirely within the tube shield. It is a true 2 terminal device which will regulate down to about 18v input. It dissipates almost no power, relying instead on zero crossing phase control via a sophisticated microcontroller/MOSFET implementation. Drew "Vicariously modifying and repairing R-390(*) through advice to others"

From roy.morgan@nist.gov Mon Jul 21 16:08:57 2003
Subject: [R-390] Proper Muting

wrote: >Yup, that's all there is to it, test it by grounding either of the terminals to make sure the relay is working, it should mute the LINE and LOCAL amplifiers and ground the antenna input. You may still

have to reduce the RF GAIN while transmitting though, this will show on your modulation monitor(scope).

Notes:

1) The relay is operating on 6.3 volt filament current supply and uses about 40 ma of current. One side of the circuit is ground. The think is in MUTE mode when the terminal 9 on TB 103 is grounded and the mute relay is energized. The MUTE relay is in the audio deck. (The Antenna relay is also energized at this time.)
2) The entire radio ahead of the audio amplifier stage is operating normally.

3) The antenna connections (both UNBALANCED and BALANCED) are grounded, but strong signals from transmitters will get through, as Joe notes above. Roy

From Forrest Myers" <femyers@attglobal.net Mon Jul 21 16:14:11 2003
Subject: [R-390] Ballast tube

After reading some posts on how much a ballast tube should glow in an R390a, I decided to check mine. Took off the top cover and tube shield and could not see any glow at all. The radio was turned on and working. Felt the tube and it was very hot, as expected. I looked closely at the tube and was not able to read the markings on it. Removed it and still couldn't read the markings on it. I don't know if it is the correct ballast tube or not but it does not glow, even in the dark.

Anyone out there had the same experience or have any ideas on the subject? Forrest Myers AG4ND

From cbscott@ingr.com Mon Jul 21 16:33:07 2003
Subject: [R-390] 8-36 stainless-steel hex-socket setscrews used in the R-390A Knobs

That was probably me. I bought some screws that were supposed to be for the knobs that had Bristol drives, but they turned out to be #8-32 instead of #8-36. The fellow I bought them from tried to get some #8-36, but no luck.

#8-36 is the standard fine thread form, but there must be about zero demand for these. Otherwise, I don't know why they are so rare. Good luck, Barry(III) - N4BUQ

From cbscott@ingr.com Mon Jul 21 16:35:58 2003
Subject: [R-390] 8-36 stainless-steel hex-socket setscrews used in the R-390A Knobs

BTW, McMaster (www.mcmaster.com) has #8-36 x 1/4" set screws with hex drives, but they are standard alloy steel, not stainless. Barry(III) - N4BUQ

From: jlap1939@yahoo.com (jlap1939@yahoo.com)
Subject: [R-390] Variacs

My Friends, Have got a lot of "no no no" from many...who pointed out your variac is probably not right anyway...

So,, What is the correct voltage to be applied to the 390 series??? What are they supposed to run on..Seems I read it, but can't find it right now...

Why is control ever needed, and (subject to everyone getting mad at this old man again), why is it that way? How much variation is there, and how does it vary throughout our fair land..Why can't the power cos. get it right, or do they even want to, and how much additional (we don't know about) does it cost you and me,, and...do they care if the power is "right"..? Wht is "right" and how can the average person ever know?? (Maybe its' like the pharms...we don't "understand" the cost of R&D, and the expense of operating, which is why some pills cost $40 bucks each..)(Give me a break...)

If all is not as it should be, why do they get all those hugh tax breaks, and raised rates, when they claim they have to "build" again...

Does Europe or the East run any better, (or different) Put another way, can I take my R-390 with me to Mongolia?? Or Iraq? My Regards, John (JLAP)

From ah7i@atl.org Mon Jul 21 16:42:15 2003
Subject: [R-390] 8-36 stainless-steel hex-socket setscrews used in the R-390A Knobs

mscdirect.com
they have in alloy steel but not stainless or brass
1/4"
8-36 UNF
5/64 key
$5-$10+ / 100 depending on alloy, point, and manufacturer. they have hardened, extra deep, cup point, knurled cup point, other than that, just look on google under fasteners. Star has had oddball stuff in the past but I don't know if they have an URL. You could have them made. Look on web under 'cold heading'. probably run you a few $1000 but you'd have a lifetime supply. -Bob ah7i

From Tarheel6@msn.com Mon Jul 21 17:31:49 2003
Subject: [R-390] 8-36 stainless-steel hex-socket setscrews used in the R-390A Knobs

Fellow Anchorites, Thanks to Scott, I just ordered the 1/4" 8-36 AS set screws and some #6 1/4" SS phillips head screws to fasten my R390A top and bottom covers. McMaster-Carr makes ordering a breeze!! 73's, -tom

From kw0d@netexpress.net Mon Jul 21 17:44:38 2003
Subject: [R-390] Variacs

wrote: >Put another way, can I take my R-390 with me to Mongolia?? Or Iraq?

Hee hee... not unless you're willing to either disassemble it, or pay the 'heavy bag' charge... Seems like every airline anymore says 49lbs is the limit... DK :-) 73's from KW0D Dave in LeClaire, Iowa

From k6fsb@juno.com Mon Jul 21 17:51:56 2003
Subject: [R-390] Ballast tube

Forrest Yours is working just fine. upon pwr up it'll glow till the other 2 tube filaments catch up then die down to a no glow or just barely perceptible glow in the dark. Ron

From n4xy@earthlink.net Mon Jul 21 17:56:53 2003
Subject: [R-390] Variacs

You could mail it to yourself Dave. Takes about 6 weeks. That R-390 I sent to mainland China got there-as the Chinese Army receiver I got in trade <http://www.n4xy.com/index2.html> and <http://www.n4xy.com/rcvr_Chinese_Army.html>, did safely get here. 73 Ed Tanton N4XY <n4xy@earthlink.net>

From rbethman@comcast.net Mon Jul 21 18:07:00 2003
Subject: [R-390] Variacs

John, The power companies are sort of caught in a Catch-22. The days when these old boatanchors were made and originally used, the cost of producing power was a LOT cheaper. Remember the gas prices in the '60s?

The problem they face is the increased cost of production AND the LOSSES caused by transmission and distribution. One method of reducing the losses caused by transmission and distribution is to increase the voltage, thereby lowering current. Remember that power losses are based on the power formula P=I**2 x R. By reducing the current they reduce their loss in transmission and distribution. They waste less power in the transmission lines. This is NOT a trivial loss.

I was involved in power line transmission and distribution preventative maintenance. The best way to find problems is to perform infrared scans of the lines, connections, and transformers. For the best results these scans are performed during the summer months when loads are at the highest, and are also done at night.
You would be amazed what can be seen. Our scanners were originally manufactured by either Motorola or Magnavox (my memory doesn't recall like it used to.) In any event, these devices could spot a bird at over a quarter mile. We would find some spring loaded in-line splice connectors that had developed a poor connection from quite a distance. We photographed the bad spot through the scanner, and return during daylight hours and photograph the bad spot during the day so they could easily locate the problem. Copious notes and logging are made during the entire process, to ensure the repair crew can locate the problem.

I've unlocked the cover to the enclosed pad mounted transformers to scan them, only to find there was NO need to scan it. The connections were glowing a medium red in the dark. I remember one in particular. Not only was it glowing, it had been installed when the use of aluminum power lines was at its peak. This one had a puddle of molten aluminum lying on the concrete pad. Obviously this one was marked urgent! It was repaired the very next morning.

The whole purpose of the infrared scans is to reduce the expense of just waiting until it fails. Once they have a failure, there is loss of equipment and labor costs.

As part of this progression to harness these expenses, our line voltages have risen over the decades. I have a dedicated AC voltmeter plugged into my ham shack. During the course of a 24 hour period, it has read as low as 122VAC and as high as 127VAC.

Our old equipment was designed for anywhere from 100VAC to perhaps 115VAC. My BC-610s transformers were designed for 100VAC input. So with a 20%+ over voltage condition, I would expect their lifetime to be reduced. This is why there is so much discussion over methods to reduce the voltage applied to this equipment.

First, the components are already aged. Second, they are being subjected to voltages from 10% to 20+% over their original ratings.

Roy Morgan, K1LKY, has given several great treatises regarding proper variac connection, and fused plugs, not to mention providing us with the color code equivalents of the Asian power cords to American standard color codes for wiring.

There is NOTHING wrong with the use of an ADEQUATELY rated variac to protect our treasures. Neither is there anything wrong with adding a "bucking" transformer. These devices allow us to run this aged pieces in a modern world, and extend their life spans. Bob Bethman - N0DGN

From lester.veenstra@lmco.com Mon Jul 21 18:16:40 2003
Subject: [R-390] Variacs

"My BC-610s transformers were designed for 100VAC input." That strongly suggests a unit setup for Japan domestic application

Is this generic to BC-610's or particular to this unit ?

From rbethman@comcast.net Mon Jul 21 18:35:15 2003
Subject: [R-390] Variacs

Mea Culpa! Mea Culpa! Mea Culpa!

My "forgetter" works better than my "rememberer"! They are indeed 110VAC primaries.

I trying to locate a rack, preferably a short one. I have a Superior Variac rated at 50A. I had to add a 30A breaker and a circuit with 10 gauge wire to provide power for the "Beasts". They run close to 30A when transmitting. Therefore the 25A 12 gauge circuit in the shack was holy inadequate. If I keyed up for more than one or two minutes, I would ALWAYS trip the breaker. Bob Bethman - N0DGN

From ToddRoberts2001@aol.com Mon Jul 21 18:49:45 2003
Subject: [R-390] 8-36 stainless-steel hex-socket setscrews used in the R-390A Knobs

writes: > BTW, McMaster (www.mcmaster.com) has #8-36 x 1/4" set screws with hex > drives, but they are standard alloy steel, not stainless. > > Barry(III) - N4BUQ

Thanks Barry! I checked McMaster-Carr and went ahead and ordered 2 packs of 100 Alloy Steel setcrews, size 8-36 x 1/4" , hex-socket, cup-point @ $7.32 per pack. Now I should have a lifetime supply of the R-390A medium and small size knob setscrews. McMaster-Carr has a very easy, logical system worked out for ordering hardware/fasteners online, a great way to order! Thanks to everyone who wrote back to my inquiry! 73 Todd Roberts WD4NGG.

From rbethman@comcast.net Mon Jul 21 18:54:07 2003
Subject: [R-390] Proper Muting

Roy is entirely correct!

I run a BC-610 and an R-390A for AM operations. I have a Kenwood SM-220 Station Monitor with Panadaptor attached to the BNC connector on the rear of the R-390A.

Even with the use of the muting function AND an EF Johnson T/R switch, I have to keep the RF gain rolled back enough to prevent feedback into the microphone. There is PLENTY of RF at these power levels. I've also applied toroids on the mic cable, the muting wires, AND the coax from the T/R switch to the R-390A. Bob Bethman - N0DGN

From tetrode@comcast.net Mon Jul 21 19:13:32 2003
Subject: [R-390] SSB Conversion Photos

Jim, very interesting! Can you see what the "VFO Vernier" is controlling behind the panel? Probably a variable cap or a pot? 73, John

From redmenaced@yahoo.com Mon Jul 21 19:31:21 2003
Subject: [R-390] Ballast tube

The only glow should be at the very ends of the wire, and may not be much of a glow at that. Joe

From rbethman@comcast.net Mon Jul 21 20:35:11 2003
Subject: [R-390] Brownells GunKote for knobs - Brownells RESPONSE

Here is the response directly from the Brownells Tech Support Staff:

Dear Sir, We certainly do appreciate your interest in Brownells.

Gun Kote should work on any material that will withstand 300-350 degrees Fahrenheit for up to an hour, and that can be aluminum oxide abrasive blasted to prepare the surface. "Pot metal" or zinc alloys, may not hold up to this temperature range. You may want to take a look at our air-cured epoxy finish, Aluma-Hyde II. David Kaiser Technical Services Bob Bethman - N0DGN

From jfd@warwick.net Mon Jul 21 21:36:52 2003
Subject: [R-390] SSB Conversion Photos

John: The VFO vernier is an air-variable cap. Jim

From federico@dottorbaldi.it Mon Jul 21 22:04:17 2003
Subject: [R-390] SSB Conversion Scheme

Hi to all Friends, I succeed to put the scheme of SSB EAC Mod, please follow the link :

www.dottorbaldi.it/militaryradio

and there you shall find the scheme and some photo of my shack. Let me know if there are any problem. 73 de Federico IZ1FID

From jbrannig@optonline.net Mon Jul 21 22:20:52 2003
Subject: [R-390] SSB Conversion Scheme

Federico, Mni tnx fer the schematic. It is very similar to the product detector I installed in the FM socket of a 75A3 many years ago. Very nice pictures of the shack. Ciao, Jim

From jlap1939@yahoo.com Tue Jul 22 00:33:01 2003
Subject: [R-390] Variacs

My Friends, Great comments on the Variac Question, as well as power company requirements...

Now, who do we believe???

Will run my 390 on just an inrush thermistor for now,,.maybe I can do better later.. My Regards, John (JLAP)

From kw0d@netexpress.net Tue Jul 22 05:04:03 2003
Subject: [R-390] Variacs & original spec...

Hi all!

The whole variac concern is very valid to me, on account of the age of these machines...

But interesting to note that in the R390A's spec, listed on page 1-6 of Rev 8 of the 21st Century R390A/URR Technical Reference: :> 115 or 230vac +/- 10%...

Which comes out to 126.5v on the high end. My mains are pretty darned stable here... between 119 and 122, less a tad'a sag when the air-conditioner cycles on... DK :-) 73's from KW0D Dave in LeClaire, Iowa

From robert_h_goff@hotmail.com Tue Jul 22 15:52:52 2003
Subject: [R-390] Sound powered headphones?

Does anyone have any experience using sound powered headphones with a tube radio? They're prized by crystal radio builders for their extreme sensitivity. I have a pair of "deck talkers" and have wondered how they would work with an R-390/392 or even a one tube regen set. If I'm not mistaken, the impedence is a bit lower, something on the order of 100 ohms, so they would require some sort of matching network. Anybody have experience with this? Thanks, Robert Goff W7MKA