THE R390 USERS GROUP

A NEWSLETTER FOR URR USERS

VOL. 1 NO. 1 SPRING 1983 FIRST ISSUE
A RUMOR IN ITS OWN TIME!
PUBLISHER T.J. SKIP AREY WB2CHA

WELCOME to our experiment! I want to take a brief line to thank you all for your support. You have made this first issue possible. Lets get started...

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From DALLAS LANKFORD comes this comment on TUBES: It is said that 26Z W5 rectifier tubes are no longer made, and I have never seen a source for them or the RT510 (3TF7 in early R-390A's) current regulator tubes. Modifying the power supply to solid state solves the rectifier tube problem, while the RT510 may b removed and a 42 ohm 5 watt resistor "plugged into" pins 2 and 7 of the tube socket. The 6AK6 line AF output and local AF output tubes seem scarce, with ETCO Electronics, North Country Shopping Center, Rt.9 North Plattsburgh, N.Y. 12901 the only source I have found. The remaining R-390 tubes are easier to find, but Radio Shack and other retail prices are high. Two other reasonably priced tube source are EDLIE Electronics, 27oo Hempstead Turnpike, Levittown, Long Island, N.Y. 11756 and Translectronic, Inc. 1365 39th St., Brooklyn, N.Y. 11218 (in the latter case ask for both regular and industrial tube lists). (Translectronic has a toll free number 800-221-5802 and a minimum order of $25.00 so get together with someone on your tube purchases through the R-390 Users Group Newsletter. SKIP) NEAL PERDUE warns that one should be cautious in choosing a modification to replace the 3TF7 tube. It appears that some methods are better then others. Watch these pages for a source for this tube in a future issue. Also keep an eye out for tube modifications down the road.

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SALES DEPARTMENT Some people actually sells these rigs ya know.
R390A (serial #1074) is up for sale by KEN ROMSTADT 2541 Schroeder Ct., Toledo OH 43613 phone 419-475-3089 He's asking $350 or trade for solid state receiver

R-388 can be had from TONY BRATTON 423 Summit St. Marquette, MI 49855

R390A (serial #37) with manuals and CV591A SSB converter is available from WB0MIX, Rt 2 Box 357, Willow Springs, MO 65793 phone 417-469-3370 for $450 plus you provide the shipping.(from March 1983 QST)

SPEAKING OF SHIPPING: Anyone with creative ideas on how to move one of our beloved URRs with no damage to either rig or owner might write up their ideas for this newsletter.

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CRIS HANSEN'S Bronx NY apartment was once stripped by burglars who took everything but his R-390A. What burglar in his right mind would try???

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PUBLISHING DATE ON ISSUE TWO IS THE SECOND WEEK IN JUNE. SEND IN YOUR ARTICALS This is a USERS GROUP and your contributions will keep this newsletter helpful informative, thought provoking and most of all regularly published.

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AS IF YOU DIDN"T KNOW: A excellent source for almost anything for the R-390 and its kin is FAIR RADIO SALES, 1016 E. EUREKA, BOX 1105, LIMA, OHIO 45802 phone: 419-227-6573. They are currently listing the R-388 for $265 used and $330 checked. There is no truth to the rumor that I bow toward Lima five times a day. They are also a source for the hard to find connectors used on URR equipment. I spoke with them recently about our users group and they said they would keep me posted on any new stock of receivers and related items.

MODIFICATIONS: JIM HERKIMER writes that he uses a modification suggested by ED SHAW for increased audio gain. Jim has placed a jumper across pins 6 and 8 on the terminal strip on the back of the R-390A. (It works great.SKIP) Jim also says he experiences slightly higher gain using the unbalanced antenna input as opposed to the balanced input.

DALLAS LANKFORD found that drift can be reduced in the R-390A by changing the temperature compensating capacitors (10pf N450 and 10pf N1000)to NPO zero temperature coefficient units rated at 20pf. Thats capacitors C702 and C703 by the way.

Ever have a tuning core fall off its rod? WAYNE HEINEN solved this problem as follows. He removed the adjustment screw from the bracket by taking out the two phillips head screws, removed the bracket, and unscrewed the adjusting screw all the way out. He took a small amount of epoxy and put it on the end of the adjustment screw and jammed it into the hole in the ferrite rod. He then waited 15 minutes and then found that the adjustment screw with the rod firmly attached came right out. Wayne then carefully re-screwed the adjustment screw with the ferrite rod attached back into the mounting bracket and aligned the adjustment screw bracket with the tuning bracket, inserted the phillips head screws and proceeded with the normal peaking proceedure.

CHRIS HANSEN suggests that you remove all of the tube shields for improved cooling performance. Has anyone who has performed this modification run into any problems? I am thinking especially of any ham who might be operating in conjunction with a high powered transmitter. I have had no problems here running three hundred watts.

The H. CORNELIUS pathway to improved SSB performance on the R390A. The major reason for poor SSB performance of the R390A is inadequate automatic gain control (AGC) which fails to keep SSB signal strength at the diode detector below the level of the BFO, thus causing severe distortion on strong signals. The changes listed below increase AGC action and greatly shorten the attack time. The end result is greatly reduced distortion on SSB and a somewhat better RATT performance. This modofication should take 30-40 minutes.
1. Remove IF subchassis. 2. Install a diode (1N34/1N60/1N914/1N4148) in place of R546 (180K), with diode cathode facing the tube socket. 3. Remove R545 (100k resistor. 4.Replace R547 (220K) with a 10K resistor. 5.Examine R504. If it is not 560 ohms, change it to that value. (This was a production change in some models). 6. Replace the IF subchassis; realign the BANDWIDTH and BFO PITCH knobs. If you happen to have a few 6AU6 tubes around the shack you might do the following while your in there. 7. Connect a DC voltmeter to read AGC voltag (negative lead to terminals 3/4 of TB102 on rear panel, positive lead to ground 8.Tune a steady signal, such as a calibrate marker. 9. Try various 6AU6 tubes as V508 and select the one giving the highest meter reading. 10. Connect a DC voltmeter to read detector voltage (negative lead to terminals 14/15 of TB103 on rear panel, positive lead to ground). 11 Try various 6AU6 tubes as V505 and select the one giving the highest meter reading. 12. As a final adjustment, the GAIN ADJ control on the IF subchassis should be set for the <u>least</u> usable gain. Too high a setting increases distortion and produces high AGC voltage, which, applied to the front end of the receiver, decreases the signal-to-noise ratio.

DO YOU KNOW OF A MODIFICATION OR PRODUCTION CHANGE ON URR EQUIPMENT? SHARE IT THROUGH THE PAGES OF THIS NEWSLETTER. EVEN IF IT IS COMMON KNOWLEDGE TO YOU IT MIGHT BE A NEW IDEA FOR SOMEONE ELSE. WRITING FOR THE R390 USERS GROUP IS THE EASIEST WAY IN THE WORLD TO ADD THE TITLE OF TECHNICAL WRITER TO YOUR RESUME.

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Your most dedicated and humble publisher has a NEW PHONE NUMBER 609-877-5302 Please use this number for all calls because my old number belongs to my mother-in law. She will throw us out if she gets late night calls and then I might have to move my R390A and you know how hard that is.

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What has seventeen dials, two meters and is loads of fun to carry around? Answer: If you don't know you are subscribing to the wrong newsletter!

ITS REALLY A PORTABLE, IT EVEN HAS HANDLES. this one via JOHN COHEN

MANUALS: Many of our newsletter mavens have volunteered to provide photocopies of the various manuals for our equipment. From time to time I will include these names in the newsletter. But our inaugural issue deserves nothing less then PHIL BYTHEWAY'S list of military manual services. PHIL finds that the best source for manuals is that depository of tax dollars, the US MILITARY. It seems the services will reproduce our much needed manuals at the rate of 2¢ per page plus two dollars shipping and handling. Manuals for ARMY issue gear can be purchased from the U.S. ARMY ADJUTANT GENERAL PUBLICATIONS CENTER, 1655 WOODSON ROAD, ST, LOUIS, MO 63114. Manuals and prices are as follows.

R-389	TM 11-855	($1.45)	Technical Manual
	11-5820-36-24P	(.57)	*
	C3,5&6	(.78)	Changes 3,5+6
R-390A	TM11-5820-358-35	($1.89)	Maintenance Manual
	-10	(.39)	Operators Manual
	-20	(?)	
	-20P	(.36)	**
	-34P	(.96)	*
R-392	TM 11-5820-334-ESC	(?)	
	-10	(?)	Operators Manual
	-20	(.39)	Intallation & 2nd eschelon maintenance
	-20P	(.40)	**
	-34P	(.88)	*

* Direct support and general support maintenance repair parts and special tool lists.

** Organizational maintenance repair parts and special tools lists

Whats the matter bunky? Ya say yer radio was honorably discharged from the NAVY? the write to the NAVAL PUBLICATIONS & FORMS CENTER, 5801 TABOR AVE. PHILADELPHIA, PA 19120

R-390A	0967-LP-063-2010	Operation, Maintenance
	-2011	Change 2/18/72
	-2012	($3.51)
	-2013	
	-2014	

PHIL says that you may only purchase one copy of each of these manuals per person.

JOHN KAPINOS has found out that the U.S. ARMY is not deactivating the R-390A's due to bugetary limitations.
DAVE SCHMIDT tells me that every now and again URR gear can be found amongst the junk "lots" auctioned off through the Defense Department Surplus Sale Cataloge. These lots are sold for scrap and go for very low bids but one lot he knew of contained 2 R390As(be still my beating heart)I will get in touc with DAVE to find out more for a future issue.

Contrary to popular belief you do not tell the Army equipment form the Navy equipment by their tatoos.

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WANTED: PHIL BYTHEWAY 9705 Mary NW, Seattle Wash. 98117 is looking for a VFO for an R-389.
YOUR PUBLISHER, 104 West Franklin Ave. Edgewater Park, N.J. 08010 is looking for any information on the SB-8a Type T-200 Panalyzor. US Army Signal Corps issue Panadaptor. It looks great in the rack over the R-390A but I'm lost as to how to resore it. CAUTION*** Anyone planning to purchase one of these panadaptors be advised that the power supply is a seperate outboard unit. Don' get one without the other.

EVERYONE is looking for sources for tubes parts and racks. Please share your sources through our newsletter.

We will be looking for a group rate on trusses for subscribers who live in second floor apartments.

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Look at it this way. If I use up all the jokes in issue one you wont have to read them in future issues. Unless, of course, you provide some.

ARTICALS WANTED: There are a few ideas for articals that come to mind through the correspondence leading up to this premiere issue. For instance. FREQUENCY COUNTERS: While the mechanical readouts are without compare, has anyone out in newsletter land investigated the possibility of interfacing a frequency counter with URR equipment. ANTENNAS: What works for you and your receiver. PRESELECTORS AND PREAMPS: Many people out there are using them, tell us what kind and how you think it stacks up in signal improvement. SPEAKERS and other audio support gear such as active filters etc. NOTCH FILTERS: has anyone thought of adding an RF notch filter to the R-390? Write up your ideas on these things and anything else about modification and improvment and share it in the newsletter. This project could end in its first year if we don't all do our part to fill these pages with information. Keep those cards, letters and schematics coming folks.

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This might be a good place to give a plug to those who gave our effort its initial advertizing. NATIONAL RADIO CLUB, NORTH AMERICAN SHORT WAVE ASSOCIATION SPEEDX, GLEN HAUSER'S WORLD OF RADIO PROGRAM AND ALL OF YOU WHO TOOK THE TIME TO SHARE THE INITIAL MAILING WITH OTHER DEDICATED LOVERS OF FINE RADIOS.

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And while we are at it a list of charter members whose subscriptions served to offset the start up costs of this project. WAYNE BENKINNEY, KEN ROMSTADT, JIM HERKIMER, DALLAS LANKFORD, DICK TRUAX, NEAL PERDUE, MATT STUTTERHEIM, JOHN KAPINOS, CHUCK HUTTON, GEORGE MULFINGER, CHRIS HANSEN, RON MUSCO, BILL BAILEY, BOB BOWES, BOB MILNE, CHARLES TAYLOR, ROBERT KULOW, TOM FARMERIE, JIM PHILLIPS, ED KOWALSKI, PHIL BYTHEWAY, BILL HOPKINS, BOB LOMBARDI, AND JERRY BERG, and your humble publisher make twenty-five dedicated (read that rabid) hobbyists.

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I contacted ANARC (the Association of North American Radio Clubs) about affiliating our newsletter with their group. TERRY COLGAN said that a users group has never been considered. Perhaps if we called ourselves a club there would be less of a problem. He did not rule out the possibility however. The main requirement for affiliation is that the club be active for six months. I will be attending the ANARC convention as the representative of the NRC but I intend to bring the possibility of affiliating our users group at that time. If your not doing anything July 15-17 You could join me in my efforts at the convention. Also you might petition your various clubs that you belong to to gain their support in this effort. But before I climb to high on this soapbox please write and share your feelings about this with me and your fellow newsletter folks.

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Many of you have sent in articals about the R-390A and R-388 That I would liek to use. The biggest problem lies in obtaining permission especially from people who have written for the commercial magazines such as HAM RADIO and CQ. Please try to write for permission to reprint these articals before they are sent to the publishing shack. This might get them into these pages much faster.

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SO MUCH FOR BUSINESS: ON TO ANOTHER MODIFICATION!!! This might be a moldie oldie for some of the more experienced owners but for the rest I give you DALLAS LANKFORD and his POWER SUPPLY MODIFICATION. If this mod has been done incorrectly in your R-390A, it deserves immediate attention. My most recent manual (1970) describes the solid state conversion <u>without</u> the dropping resistor R (see accompaning diagram). However the diodes increase the B+ voltage from about 240 VDC (with the 26Z5 tube rectifiers) to about 270 VDC with the diodes). If a dropping resistor is not used to bring the B+ down to 240 VDC, the 6AK6 line AF output and local AF output tubes will operate beyond their maximum ratings, with excessive tube failures and possible damage to associated componants. So any R-390A user should check out the power supply. the converted solid state power supply schematic is shown on page five. Any 1000 PIV 1 amp or better diodes are adequate (1N561, Radio Shack 278-1627, Sylvania ECG 125, etc.). For the dropping resistor I use a 25 watt power rating for better reliability and heat dissipation. Perfectionists can diddle with the value of R, but I settled on 200 ohms.

(Cont. on page 5)

Power supply mod cont: There are several potential ways to do the mod, from as simple as soldering the diodes across pins 1 (or 6) and 3 (or 8) of the 26Z5 sockets and remove the tubes, to as complicated as removing the tubes, sockets and their associated circuitry before adding the diodes. If the dropping resistor is to be mounted on the power supply subchassis, the latter approach above should probably be used to facilitate mounting the resistor for good ventilation (the dropping resistor gets quite warm). In my opinion the preferable place to mount the dropping resistor is on the AF subchassis. B+ voltage enters the AF subchassis through pin 5 of J619 and is then routed to L601 by an insulated wire (which is part of a wiring harness). The AF chassis has a plate which covers holes in the chassis, and so is a convenient place to mount a dropping resistor. One hole is drilled for mounting R on top of the AF chassis, and one hole is drilled to bring two wires from the underside of the chassis. Cut the wire which provides B+ to L601 at pin 5 of J619, pull the wire out of the wiring harness until there is enough slack to reach one of the solder lugs on R, and solder to that lug. Remove any solder and wire or other residue from pin 5 of J619, and then solder a length of insulated wire to pin 5 which is long enough to reach the other lug of R. be sure to save and re-use the insulating sleeve which origionally insulated the pin 5 solder joint and lug. If I remember correctly, wire size is #22 stranded. Because many R-390A users will probably convert their power supplies to solid state, it would be a good idea to settle upon a standard approach. Mounting R on the AF subchassis is apparently commonly used by hams, so I have used that approach.

DALLAS also has a few words to say about TOOLS: A neophyte who doesn't recognize that all of the set screws and socket head screws throughout an R-390A are multiple spline (also known as fluted Bristol) will probably strip one or two of these impossible to obtain items. The military manuals call for a fluted no.8 Bristo (sic.) wrench, which is not how the wrench is described in current catalogs. The military also seems to have misspelled Bristol throughout their manuals. The equivalent wrench in current terminology is a .096" Bristol 6-flute wrench (also called a screwdriver). Xcelite makes a good insertable tip (model 99-66) for use with various handles (the Xcelite model 99-1 regular handle is suitable). I would also recommend the 4" extension (Xcelite model 99-X5). My R-390A also includes a few sockets which require a .111 tip (model 99-67). If you work much with military surplus equipment it would probably be worthwhile to get a complete set of spline wrenches. General Cement also makes a set of small, L-shaped, spline key wrenches, GC cataloge #5070 which includes the #8 size. (please send us the company address Dallas, SKIP) You will also need good quality Phillips head screwdrivers in various head sizes, and I have found the Sears Craftsman #9 43441 10-piece combination ignition wrench set very useful for the many small nuts in the R-390A.

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Here is another good question: What kind of lubricant do you use on the gear train of your receiver???

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Well gang, there you have it. Our first issue. You made it possible and you will continue to keep this thing running with your support. If you can think of anyone else who might be interested in our group please let them know about it.

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THE R390 USERS GROUP ~~104 West Franklin Avenue, Edgewater Park, New Jersey~~
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The R390A newsletter is available at the cost of $1.00 per issue. Back issues are available of all issues through the publisher at the same cost of $1.00 per issue. An index will be published of back issues in the first issue of future volumes.

THE NEXT PUBLISHING DATE IS THE WEEK OF JUNE 12TH. GET YOUR ARTICALS IN EARLY.