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ADDRESS FOR SUBSCRIPTIONS: Chris Hansen, P.O. Box 1226, New York, NY 10159

EDITORIAL ADDRESS: Skip Arey, P.O. Box 421, Mount Holly, NJ 08060

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HELLO ONCE AGAIN, AND A HAPPY HOLIDAY SEASON TO YOU ALL. Am I the only person in the world who decorates his shack Christmas tree with TUBES?? First, the news. The new 1985 ARRL Handbook is out, and when compared to my 1964 edition, it is quite amazing. The 1964 edition is almost exclusively tubes and tube circuits, with tons of data about our little glass-enclosed friends. The 1985 Handbook contains a mere one and one-quarter COLUMNS on a SINGLE PAGE (out of hundreds of pages). There are no references to receiving tubes at all. So it goes. Still, it is a handy book to have to learn about electronics; you will be even happier if you chase down a pre-1965 edition at a hamfest. I recently located a 1965 ALLIED (that's pre-Radio Shack for you younger folks) Electronics Data handbook, cover price \$0.75. My tube friends and I read it only after midnight in a circle gathered around the light from an overdriven 6AU6. But, I am waxing nostalgic, and I want to save that for MEET THE TUBE. Excelsior. . .

Our first tidbit comes from JOHN SCHMELZER, WB5WRW (who owns a 1966 Allied Radio Tube Substitution list -- there I go again). John tells us that some older tube socket contacts may have oxidized over the years, giving non-linear contact resistances. Unusual R.F. and I.F. amplifier oscillations often result from this oxidation. The offending tube can be identified by wiggling each tube slightly. A little contact cleaner sprayed into the socket is a quick solution; more permanent results can be had by soaking a toothpick in the cleaner and wiping the insides of the contacts, but care must be taken not to spread the contacts apart so that the spring pressure is lost.

THE WINNER OF THE NEW CONTRIBUTOR CONTEST IS (drum roll please) EDWARD MC FADDEN, who sent us, along with many items you will see in future issues, this tale about his tube receiver:

. . .Just over 3 years ago, I purchased a used Hammarlund HQ-180AC receiver from an individual in the great State of Iowa. Upon receiving the set from the UPS delivery service, I immediately set about examining it for any problems. Fortunately, there was very little wrong with the set other than dirt inside and out, and its need of alignment. After a few weeks use, I decided I could use a new set of tubes for it, as the BCB DX season was already upon us. So, I ordered a set of new tubes from Lindal Tube and Transistor Company in New Jersey. I had to buy a RCA OA2 as Lindal didn't list that tube on their order form. Shortly after installation of the new tubes and several hours of burn-in time before tweaking up the alignment, I noticed a problem. I smelled burning carbon and heard an arcing and sizzling sound. As I turned the RF gain pot counterclockwise, I noted the problem ending. I realized that by turning the

RF gain pots ccw, that more resistance was being introduced into the cathode circuit of the 6BZ6 RF amplifier tube, and that the RF gain pot had to be handling more voltage than it was intended to. Unfortunately, I didn't realize all of this quite quick enough, as permanent and unreparable damage had already occurred to the pot. Upon examining the underside of the chassis, I noticed a 2-watt resistor (R-18 47K) hidden under the IF transformer TC was burned up, and the 10K pot of the dual 10K/15K RF gain control also burned up. Upon replacing these 2 parts I fired the set up again. The new 2-watt resistor began to warm up quite quickly, so I turned the set off. I pulled the 6BZ6 RF tube and replaced it with the original tube the set came with. The 2-watt resistor appeared normal when I fired it up this time. I tried the other 6BZ6 from Lindal that I had installed in the crystal calibrator circuit. I turned the set on for a few moments and, lo and behold, the resistor had already begun to smoke. I had no 4-watt 47K resistors, so I soldered 4 1-watts in a series parallel configuration equal to one 4-watt 47K. Now I couldn't fit all this into the space available, so I soldered leads to the points where the resistor was attached, and brought them out to the far side of the place where the shaft passes underneath. . .

(it is well known that tubes often vary somewhat in characteristics and quality; a visit to your local Radio Shack with its tube tester might reveal what's wrong with the two 6BZ6's. ch)

From WILL MARTIN comes this observation: "Anyone who works on SW receivers needs an RF signal generator. Traditionally, these have been relatively elaborate and expensive devices, because they needed not only stability, but also an accurate dial mechanism for frequency readout. The advent in recent years of the digital frequency meter, often at very reasonable prices of less than \$100, has made the need for fancy dials or accurate calibration superfluous on a signal generator; the operator can easily put a frequency meter in the test circuit and read the frequency exactly.

"Therefore, why has no company come out with a low-cost (under \$100) RF signal generator? It should be no more expensive to make a good RF signal generator than it is to make a decent AM radio. Anybody have an answer??"

Publisher: "Well, I suppose the answer is this: there is really a bigger market for AM radios than there is for RF signal generators. I would guess that if we commission a market research company to do research on this market, come up with conclusions, and present them to a manufacturer, they might be swayed into putting one out. Most of the market is with repairmen and amateurs/SWL's/tinkerers. Most have their own setups now with or without a frequency meter. Perhaps the solution is a very low cost frequency meter advertised as being compatible with everything electronic, and sell that to all the people who now have an RF signal generator with a dial readout?!"

In the spirit of international relations we share this letter from FRITZ BRUNS, DC8XA, Stupfstr.2, D-8 Munich 19, Federal Republic of Germany: "Hundreds of OM's and SWL's in Germany own R390A's, R388's, and R392's. I have been an R390 owner for two months now. It is an old one that needs some technical polish. Of course, repair parts are not available here. I need some parts for the reconstruction of my R390A, and some spare parts. 1) VFO, complete (6BA6W/5749W). 2) Line level meter. 3) Crystal oven w/ crystals 0.2 & 17mc. 4) Top and bottom dust covers 5) condensers 2x 45uf, 3x 30 uf, 300 VDC. 6) Technical manual, and 7) SSB converter. If anyone can help Fritz, please write him at the above address, including the prices, and possibly some discussion of shipping arrangements. I have this image in my mind of one of our members trying to cram a rack-mounted SSB converter into a Coca-Cola bottle while checking out a map of the Gulf Stream currents.

YOUR HUMBLE EDITOR HAS RECENTLY RECEIVED Catalogue Supplements WS-84 from Fair Radio Sales, 1016 East Eureka Street, P.O. Box 1105, Lima, OH 45802. If you are an R390 owner you cannot last another day without the supplement. They list not only the rig itself at competitive rates but spare upon spare upon spare, all at reasonable rates (Hi, boys and girls, can you say 'Slug Racks and Springs, only \$3.00'?) I called out to lima recently, and they assure me that they can meet many of the parts needs of R390 and R388 owners well into the future. Also, they are glad to accept your calls concerning your particular needs at (419) 227-6573.

WAYNE HEINEN has something to relate to us all concerning GARAGE SALE SCROUNGING. Wayne tells us to Never Overlook the Not Too Obvious. . . a used Heathkit VTVM with a busted case yielded up a 12AU7, 12AT7, and a 6AL5, all good and all for \$2.00 (total). A used and abused reel-to-reel tape recorder (Wollensak) got Wayne a variety of tubes, 12AT7s and 12AU7s among them, '1 for \$1.00. Along with the older AM and AM/FM radios that don't work, these items appear regularly at prices that save money on spare tubes. Wayne also says not to be too quick to strip these old sets. Wayne collects old production model AM radios (an addiction he shares with your humble editor). He hits the garage sales for the occasional real find, for example, an RCA 5X model, circa 1936 for only \$5.00. (Hmmm, I saw a few old Art Deco AM radios with Bakelite cases (remember Bakelite??? You're getting old!) selling in a flea market next to the Post Office where P.O. Box 1226 hangs out for more than \$100 each!! ch).

By the way, don't forget to tune your vintage tube-type shortwave rigs to HCJB for Wayne's program, Medium Wave Interlude, on DX Party Line once a month or so.

DALLAS LANKFORD has rethought some of his thoughts on soldering, so we'll share them with you. Dallas changed his mind about using steel-plated soldering iron tips. Radio Shack's steel tip rusted internally, and welded itself to the heating element. After buying a spare 45W heating element, force was necessary to remove the old steel tip, naturally damaging the element. Of course, one could only diagnose the problem after removal. Anyway, Dallas uses only copper tips now. They periodically have to be cleaned, reshaped, and retinned, but they don't 'corrode-weld' to the threads of your heating element. Be looking in future issues for a number of Dallas Lankford's excellent articles on the R390 and HQ180.

CAN WE TALK??? A number of our well-intentioned members have sent xerox copies of articles taken from other publications, mainly commercial. All the non-commercial club bulletins, newsletters, et al. have long operated on the basis of free permission to copy each other's material with proper credit given. We do this, and our sister publications do this with our material. However, commercially published material such as that found in QST, CQ, Ham Radio, and even in out-of-print magazines such as the much-missed Electronics Illustrated, are protected by copyright law. In some cases we are trying to locate the author for permission to publish his article; we cannot publish without it. This may seem unimportant to some of you, but I must relate that some of your humble editor's commercially-published material has been reprinted without permission, and it is not pleasant or courteous. I have also had to deal with individuals breaking the "code of credit" that makes sharing among hobby publications possible; that is sad and a hassle. I thank each and every one of you who have sent articles in, and I assure you that we are making every effort to get permission to publish some of these articles. But, it is a simple fact that respect for an author's material is always the best policy. End of harangue; off the soap box.

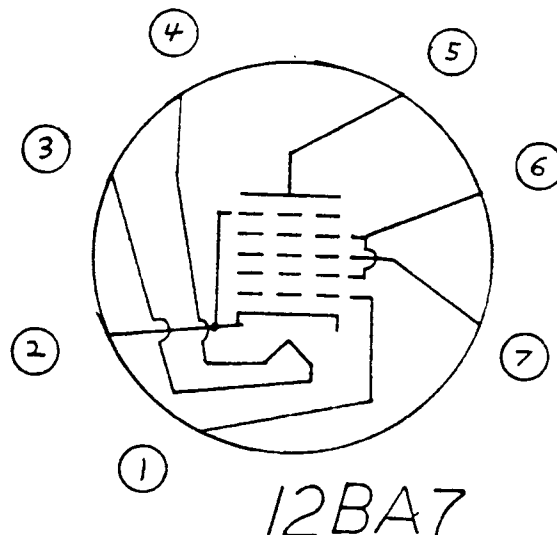
JOE BUNYARD has some data to add to the tube substitution list for the R390 that TODD ROBERTS gave us in issue #7:

For: 6DC6, substitute 6BJ6A (Mil.) or 6662; for 6C4, sub 6100; for 5814A, sub 7316, 6B 6189, 6189, 6067; for 5654/6AK5, sub. 5591, GB 408A, 6028, 6968; for 6AK6, sub GB 5136, 7543; for OA2, sub. 6830. Joe goes on to point out that most of these military type ID numbers don't mean anything to a person without a substitution list. Maybe this will help someone to keep from passing up otherwise new tubes at usually very reasonable prices. Most times the seller doesn't know what he has either, and wants to be rid of the tubes.

OKAY, OKAY, I've dragged my feet 'til now, but the nostalgia bug has reared its ugly head once more. And now, another episode of MEET THE TUBE. Many years ago I was trying to decide between taking woodshop or electronics in my freshman year in high school. Since I knew absolutely nothing about either, I sent to the library to look these subjects up. While going through the stacks I came upon a book that simply said on its binding "TUBES." It was a period RCA tube substitution manual. I took it down from the shelf and leafed through trying to make sense of it all. Here was a book with pictures for better understanding which I couldn't understand. Wow, this is something, I thought. Then my eyes fell upon the words: "PENTAGRID CONVERTER." From that moment on, woodshop was out of the picture, as I began to imagine hanging around Pe Kennedy in a white shirt and narrow tie casually dropping phrases like PENTAGRID CONVERTER into the conversation. Anyway, with a tear in the corner of my eye I give you the 12BA7 Pentagrid converter. It's the very tube that started me suffering through eight semesters with "Blinky" Austel, who kept trying to teach me about these things called transistors.

The 12BA7 is a miniature-type tube used as a converter in AC/DC superheterodyne circuits, especially those for the FM broadcast band. Heater voltage is 12.6 V AC/DC at 0.15 amperes. Except for the heater rating this tube is identical to the 6BA7. No substitutions available.

Modern electronics forces us to talk in abbreviations. We have ICs, CMOS, and such. Wonderful gadgets that can be destroyed by the static electricity in your fingertips. But what young ham can forget firing up his first one-tube transmitter and goofing up the plate setting, making the tube glow cherry-red? It never complained. It understood you were new at this thing called electronics. It forgave you and let you try again, and in trying, learn. Remember your mother yelling down the basement stairs with the lights in the house dimmed? Nope, you just can't pull that one off with an IC circuit.



Before the nostalgia bug leaves me completely I must relate an experience at a recent hamfest. I was walking around with a friend who is a rather jaded Extra-Class ham with all the awards, a 2 kW station, and no more worlds to conquer. We came upon one table of goodies and he broke into tears. There on the table was an Ameco-AT-1 two-tube transmitter. He immediately paid the \$5.00 asking price -- a cardinal sin in hamfest circles. As we headed on he related that he started off with one of these little crystal-controlled transmitters, and he never recaptured the spirit of those times no matter how hard he tried and how many awards he accumulated. Well, he took this thing home, fired it up, and the last I heard of him he was floating around the novice bands having the time of his life once again.

A few issues back we related that Ken Vito Zichi was willing to share his SAMS/RIDERS collection with members for a SASE and \$1. His address has changed: 2017 Dexter Road, Ann Arbor, MI 48103 will now find him. SUE COULTER, Space 11a, 1000 West Columbus Av., Bakersfield, CA 93301 also can be contacted for schematics for older radios. Between the two of these HSners I'll bet you can find whatever your little heart desires.

PSSST...HEY, BUDDY...Ya say you aren't an amateur radio operator yet??? Well, wake up and smell the 12AX7 burning, bunky! Now that the volunteer examiners program is in full swing it is easier than ever to get licensed. No more trudging off to FCC offices. Any local group of hams or ham club in your area will have VECs willing to ELMER you into hamdom. Why, even your publisher might become a ham! (That's a hint, Chris. ed)(I'll wait for the codeless license, even if I have to have the application buried with me. ch). Don't know any hams? Well, contact the ARRL, 225 Main Street, Newington, CT 06111. They will get you in touch with your nearest VEC group. The reason I am pushing amateur radio even to those who have long resisted the urge is that the bands are full of old Uncle Charlies who go all the way back to the days of spark gap transmission, and some of these old birds (said affectionately in case any of you are old birds) know so much about tube-type technology that it would be foolish for a serious HollowStater not to tap into this data base. (I think the old birds will get more upset at being referred to as a 'data base' than they will at being referred to as 'old birds,' hi! ch) Did you know you could raise bias voltage of a power supply that teeny extra tad you need by hooking up a 9-volt battery in line with it? No??? Well, get on the air with these folks and you will learn all kinds of tricks that never appeared in any technical manual or magazine.

WHILE ON THE SUBJECT OF HAM RADIO, those of you who are interested might drop me a card telling me what bands you are on so that we might give consideration to a regularly scheduled net. I could only be net control about once a month, but we might rotate that responsibility. We could publish the schedule in these pages so that non-hams (you mean us peons, Skip? hi! ch) could listen in and benefit from what we have to offer.

MATT STUTTERHEIM, 510 Main Street, #732, Roosevelt Island, NY 10044 lists the following equipment for sale:

- Hallicrafters SX-62-A receiver, .54-108 MHz, continuous. Works, but needs alignment.....\$ 95.00
- TMC GPR-90 receiver with GSB-1SSB adapter. Both in near mint condition, except that receiver only works on two lower bands..... 200.00
- Hammarlund HQ180A receiver, good condition..... 225.00
- Collins 51-J-3 (R-388) receiver. Coast Guard issue..... 185.00
- R-1134/WRR-3 receiver. Covers VLF 15-600 kHz. No power cord, as received. Uses digital readout like R390; appears to be ok, never used by me..... 125.00
- Hammarlund SP-600, .54-54 MHz receiver..... 175.00
- Rycom R-2174-A VLF receiver, 10 kHz to 450 kHz, in portable case. Has large signal strength meter/panel speaker..... 95.00
- Communitronics MR-17 receiver, 25-225 MHz, AM-CW-FM, with LED readout, thumbwheel entry of frequency, plus fully functional spectrum analyzer/display. Instruction manual (cost \$150 in 1984) included. Solid state (boo! hi! ch)..... 500.00
- Surplus rack mount (19") RF distribution amplifier. Plug in an antenna and it will distribute identical signals to eight receivers. Hollow state. Covers 2-30 MHz. With panel tube-tester/meter..... 65.00
- MFJ-950 receiving antenna tuner..... 45.00
- MFJ-1020 active antenna..... 55.00
- McKay-Dymek DA-5 BC loop with amplifier. Sleek looking. Good condition. Nulls out interfering stations, use for DF..... 95.00
- Hammarlund HC-10, extra IF states plus audio amp. Takes 455 kc from receiver and reconverts to 60 kHz IF strip with passband tuning, notch filters, SSB detection etc. No cabinet but complete..... 95.00
- Heath SB-620 Panadapter/Spectrum display..... 100.00
- Vaesu FRA-7700 active antenna with AC adapter..... 50.00
- J-752 active audio filter..... 65.00
- Racal RA-17-C-3 receiver, 500 kHz to 30 MHz, rack mount, works well, very good shape, but could use a realignment for even better performance..... 275.00
- Dentrol 160 meter longwire antenna tuner (transmitting)..... 100.00
- NRC loop built by Bohac, excellent..... 160.00

All prices are exclusive of UPS shipping. Matt's phone number is (212) 838-5182, no collect calls, please.

OUR STOCK OF ARTICLES is quickly returning to healthy proportions. However, I must ask you all to go to the well again and continue to produce more stuff. The reason is that your humble editor has taken on a responsibility to Uncle Sam by joining the Army reserve (perhaps another way to get R390s?). I will be heading out for training at Fort Benning sometime this June, so the summer issue will need to be prepared not too long after the spring issue has gone to press, so remember: they also serve who only stay and wait!!! Get your articles in early. You'll be doing your newsletter and your country a big favor. Come to think of it, you'll be doing me a favor too -- there's no place to plug the electric typewriter into on bivouac!

PUBLISHER'S CORNER. Well, your publisher learned his lesson as regards DX furniture recently. For the last four years my R390A and my HQ150 or whatever other receiver I owned stood on a kitchen table in my bedroom. I had no occasion to move it, so it just stood there. Well, I recently added a roommate with bed &c. to my menagerie, and had to move the radios to the other wall to accomodate her. Well, we got the radio table over there, all right. However, in adjusting the position to accomodate the window repairman, the rear left leg fell off and the equipment fell (or, rather, slithered, as I had the presence of mind to hold things as well as I could) to the floor. The table, being made of particleboard, was not really sturdy enough to hold all that heavy equipment. I bought some bolts and drilled holes through the tabletop to bolt the leg back on. The R390 hides the boltheads nicely, and the left rear leg will now stand even after the rest of the table disintegrates. I have more bolts for the right rear leg. The moral of the story is: when you own heavy hollow state equipment,

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make sure your furniture will be sturdy enough to hold it.

Meanwhile, as usual, we leave the December/January issue of HSN until the holidays are well over. Well, we'll call it the winter issue from now on. I haven't gotten any complaints yet, but this is in case you wondered where the December issue is.

Skip and I don't contemplate any increase in the Domestic/Canada/Mexico rate when postage goes up by 2¢ in February.

You will notice an advertisement for Sue Coulter and Stan Lopes is included in this issue. This is an experiment to see whether an occasional paid ad will keep the costs down. We aren't making any money on this one, as the ad rate only pays for printing the ad itself and part of the postage. We aren't beating the bushes for commercial advertising, but if any of you out there have a Hollow (or even, fie, a Solid) State-connected business and you wish to run an ad, write your publisher for details.

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EDITOR: SKIP AREY, P.O. BOX 421, MOUNT HOLLY NJ 08060

PUBLISHER: CHRIS HANSEN, P.O. BOX 1226, NEW YORK, NY 10159

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THE NEXT PUBLISHING DATE IS MARCH. YOUR CONTRIBUTIONS OF MATERIAL MAKE THIS NEWSLETTER POSSIBLE.

SUBSCRIBERS NOTE: Check your mailing label -- if corrections are needed send the corrected label to the publisher at the New York address above. To find out when you are due for renewal, look at the envelope. If the stamped legend 'last issue please renew' appears, this is your last issue. Otherwise, look at your label -- you will see the words "SUB EXP #" and a number. The number is the issue number of your last issue (9 is March 1985, 10 is June 1985, 11 is September 1985, etc.) Thank you for your support.

WANTED TO BUY: Automobile radios, BCB only models and/or European models with LW/MW/SW. Unfortunately, no tube radios needed (too much bother to hook up and keep going). Also looking for a rack/stand suitable for R-390A and SSB converter. Write your publisher, Chris Hansen, P.O. Box 1226, New York, NY 10159 or call (212) 549-3039 (no collect).