

Collins Radios At Work!

by Tom Hauskins, AA0LF


This is the first in a series of articles written by CCA members. The focus of this column is to allow members to share their stories of how they worked with Collins radios outside of the Amateur Radio Service, such as in the military, commercial, aviation, or space arenas. If you have a story about how you worked with Collins gear, please submit it to me! Enjoy! 73, Floyd Soo, W8RO

I was assigned to Air Forces Iceland on Keflavik Naval base. Keflavik Naval Station was an Army Air Force Base back in the 1950s, and was given to the Navy. When I was there in 1977, I was attached to the Air Force squadron assigned to the base, which, at that time, was called Air Forces Iceland. I worked in the Special Purpose Vehicle Maintenance Shop repairing aircraft towing tractors and deicers in support of the 57th Interceptor Fighter Squadron. This squadron scrambled F-4 jets to chase Russian MIGs back to their airspace. Of course, our planes sometimes accidentally wandered into Russian airspace, and we were chased back into our airspace. I know, you are thinking, "What does this have to do with Collins radios?"

During my high school years I was an avid CBer. I even brought a Johnson Viking 5-channel tube-type CB with me to Iceland. The problem was the radio I brought was 11 meter AM, and the European countries, including Iceland, used 11 meter FM. I did not have a license to transmit, but when the band was open it worked well. I even heard stations in the States. With not much to do after work and on weekends, I started walking around the base and noticed a building with a 40 to 50

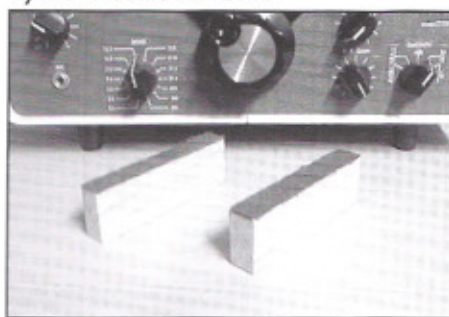
foot tower and a log periodic beam on top of it. I inquired what this building was and found out it was the Base MARS station. It was only open from noon to about 1 PM to send and receive messages. I got to know the operator, Dave, K4SAK, and started showing up at noon to help with the messages. We would go to the USO, pick up completed message forms, and type them onto a teletype tape for sending to NAV in Washington, DC. The radios used were a Collins 32S1 and 75S1. As time went on, I started stopping by the USO and going to the station to send and receive messages on my own. After working at the MARS station for a while, Dave gave me the code and written tests for my Novice license. That was back in the days when only one General or higher class ham was required to administer the tests.

Anyway, I was reassigned. Iceland, for me, was a one-year remote assignment, and from there I went to Hill AFB, Utah. Still working as a Special Purpose Vehicle repairman, and being assigned to the MARS Base Support Team to assist in command communications during contingencies, I requested special duty through the base communications squadron to reopen the base MARS station, AGA5HI. It was a mess. Radios did not work and antennas were falling apart. I repaired the three KWM-2A's and 30L-1's, climbed 90 foot towers, and repaired dipoles. Later, when the Titan missile facility in Green Valley, Utah was disassembled, we were able to get a control console in which to install the radios. The radios were now getting regular maintenance and performed without a problem. We had regular military exercises in which we set up an HF station in a mountain command post and sent coded messages back and forth. We also continued sending and receiving the morale and welfare messages. Often, I assisted the Rockwell MARS station in Anaheim, AGA6RI, with phone patches to and from Korea during holidays so their operators could stay home. I got my General license after leaving Hill AFB, Utah. Now I wish I had done more hamming. We had a log periodic at Hill AFB and a full-wave Rhombic. The Rhombic worked great, but I kept forgetting not to use the 30L-1. I burned up two matching boxes for the Rhombic.

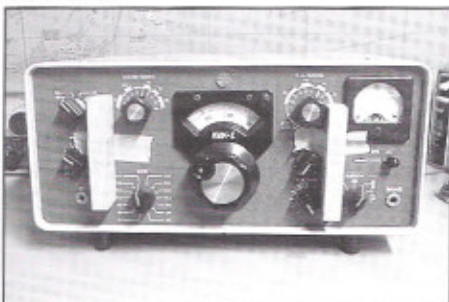
I bought a KWM-2 and used it for MARS at my home station until I retired from the US Air Force in 1992. Now it is a recreational radio and my hobby. 


S-Line Cabinet Removal

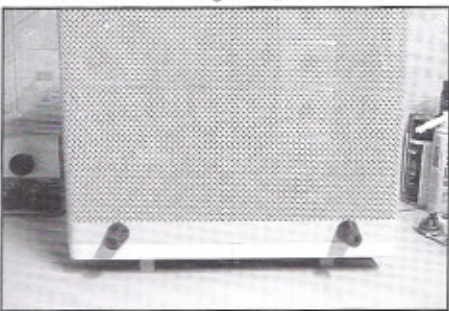
by Steve Conrad W9BDN



Here is an easy way to remove those S-Line cabinets without scratching the bottom of the front trim rings. I cut a couple of small oak wooden blocks about 1 1/2 inches high by 4 inches long and covered the edge with adhesive backed felt.



Place a piece of masking tape to the blocks and stick to the front panel. Place the cabinet with the blocks facing down. This keeps any weight off the bottom of the trim rings and greatly reduces any chance of scratching the bottom of the trim ring. 



In this issue...

Collins Radios At Work	1
S-Line Cabinet Removal	1
Net News Fall 2003	2
On The Workbench	2
At The Mic	3
In The Shack	3
New 75S-3 Receiver	3
Call for Articles	4
It's Busted	4



Fred WTSKU Net Manager - Peter VE3KWM & Dean KA6BGW Asst. Net Managers

Hello to all. First I would like to introduce myself as the New Net Manager for the CCA. My name is Fred, my call is W1SKU and I have lived in Oakland, Michigan for the past 11 years. The "1" call is from being licensed in Boston, MA; and I lived for 44 years in or near the town of Chelmsford before moving to Michigan 11 years ago. I live with my wife, Pamela, also a ham (N8YVT), and daughters Phoebe (6) and Jaclyn (2). I also have a 27 yr old married daughter that lives in Massachusetts.

I started collecting Collins gear in the early 80's after being convinced by a good friend, Gus, W1OG, that I should. Over the years, I have collected, repaired and refurbished many pieces of Collins gear. Mostly the "S" Line and KWM series, but a while back, I bought a 32V-3 and a 75A-4 to refurbish for AM use. They are now completely finished and are on-the-air.

75 Meter Nets: Well, Fall is upon us, and we had normal summer conditions on the 75 meter nets. There was a good number of check-ins on every CCA net considering the band conditions. When necessary, we are using more than one station to do relays back to net control. As we head into fall, conditions are improving, people are back from vacations and the 75 meter nets should get back to normal.

10 Meter AM Net: The number of individual station check-ins to the 29.050 Mc. Sunday net is now at 633 or better. The number of 10 on 10 certificates is now at 75. Not bad considering the poor band conditions at this time. Thanks go to Pete, K5PZ, Bill, N6PY and Abe, W3DA for all their efforts on the 10 meter net. Please don't give-up on 10 meters, there is usually at least one station that you can hear, and that station can relay you into the NCO station. Listen to 29.050 Mc. and see who you can hear. Now that Fall is upon us, conditions on 10 should improve.

First Wednesday AM Net: The 1st Wednesday AM net continues to be a popular one with new stations and equipment showing up all the time. Even under heavy QRN, the NCO stations do a great job coordinating the net. Many thanks to Larry, WA9VRH, our AM Net co-ordinator, Bill, K2LNU, Jim, WA0LSB, Bill, N6PY and the others who assist them. It's really great to hear all those Collins rigs on AM.

"Theme Weeks" is now "Technical Discussion Weeks". The new "Technical Discussion Weeks" is not for check-ins with

specific equipment and serial number recording. It is for a technical discussion of various Collins Radio equipment and its repair and restoration. We encourage everyone to check-in and talk about problems they have had with their Collins equipment and what was done to correct those problems. Bring your technical questions, Collins Radio technical experts will be on hand to answer your questions. Come join the fun!

The following will be the "Technical Discussion Weeks" for 2003-2004:

Nov. 2,4,6, & 7: Connecting accessories to "S" Lines and connecting the "S" Lines up to transceive. Aligning the "S" line for transceive operation. Any other problems or questions pertaining to "S" Lines.


Dec. 7,9,11 & 12: Using and connecting the KWM-2/2A to the 312B-5 Remote VFO and proper operation. Aligning the KWM-2/2A's. Any other problems or questions pertaining to the KWM-2/2A's. KWM-1s, operation and troubleshooting.

Jan. 4,6,8 & 9: Using and tuning the 30S-1 and 30L-1 linear amplifiers. This includes connecting them to Collins and other exciters. (AIC problems, keying voltage problems). Using 572Bs in the 30L-1 instead of the 811As. Using the 4CX1500B instead of the 4CX1000A in the 30S-1. Increasing the air flow in the 30S-1. Troubleshooting the linears.

Feb. 8,10,12 & 13: 75A-x, 32V-x and KWS-1s. General troubleshooting, operation, (Zero Beating the 75A-x to the KWS-1), modifications (removing the B+ from the filters), Cap replacement, (Black Beautys), and other non-Collins mods.

March 7,9,11 & 12: Using the KWM/HF-380. Using linears other than the Collins 30L-1 with the KWM/HF-380's. (Keying and ALC considerations). Mic compatibility (Hi-Z/Low-Z), PIN Diode mod (and other non-Collins mods). Other questions and problems with the 380's.

April 4,6,8 & 9: Question about the operation or troubleshooting of the Collins military gear. Including R-390As, 51S-1s, R-388s, (and other 51Js), ART-13s, 30Ks, etc. Using the general coverage receivers for receive in conjunction with a KWM-2/2A.

The net weeks start with the Sunday Afternoon 20 meter net and continue through the week to the Friday West Coast Net on the 75 meter nets. Thanks to all the hard working NCOs who make the nets possible. 

On the Workbench

by Dutch Maurer, WB7DYW

wb7dyw@mail.ev1.net

"Troubleshooting Tips"

It's a nice day. The kids are off for the day with their friends, the wife has gone shopping, and all the "honey-dew" projects are done or well hidden. You then decide to spend a little quality time with your favorite Collins rig. You turn it on, and a horrible AC hum blares from the speaker, or suddenly you have no grid drive, or the receiver is dead. What do you do??

How about a few basic troubleshooting tips? To start with, NEVER start adjusting things. Look for the failure first. Let's start with the usual problem—TUBES. Check all tubes on a good tube tester. One of my favorites is the TV-7/B, or maybe a Hickok. Any tester that is a mutual conductance tester and one that will show shorts should do quite nicely. The first to check will be the 6U8's & 12AT7's, as they are usually the first to short or lose a filament and stop the rig dead in its tracks.


When you are sure you have a good set of tubes (NEVER REPLACE ALL THE TUBES AT ONCE), start with looking at what the rig is doing. Next visually inspect the underside of the chassis for burned components; sometimes they are very obvious.

Let's use as an example low grid drive, and in this case we will use a KWM-2A/32S-3. The history of the rig and knowing what's been done to it are very important. Let's look at a few of the usual failures.

In the back of the rig on pin 3 of the 6146's there is a 820 Ohm 2 watt resistor (red gray brown). This feeds the screen voltage to the finals. CHECK IT. You may find it has gone up in value to maybe 1500 or 2000 Ohms. Obviously, this will lower the screen voltage and thus the grid drive, and ultimately the output power. Replace it. While you are at it, replace the screen resistor on the 6CL6 driver. Be sure to check the idling current after this change, as it will change with the higher screen voltage. Still not back to its usual output? Next change the driver and then retest the finals. These can be tested on a good tube tester, but the real test is live on the air.

There are other things that will cause this problem. I hope to cover them in future articles, but maybe this will give you a starting point.

The CCA has a number of great resources for information on servicing your Collins rig. Check the web-page for service bulletins (www.collinsradio.org). If you have any questions or need further help please let me know. You can reach me at wb7dyw@ev1.net.

I would like to thank John Bess, WA5VVT for his help over the years. He has proven to be a great resource and a wealth of technical knowledge on Collins radios, and a great asset to the CCA. 

At The Mic

by Floyd Soo, W8RO - President CCA
floyd@hi-rescom.com

Lots of things have been happening since the great get-together we had at Dayton and since the end of our Summer activities.

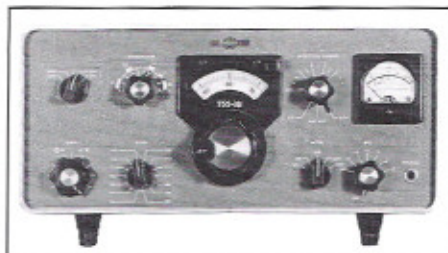
I would like to officially welcome Gail Schieber, K2RED, to her position as Editor of our CCA "Signal." We are very excited to have someone with her expertise on our staff. Gail promises to get on the air with her KWM-380 and join us on some of our HF nets. Let's all encourage her to do that and be sure to give her a warm welcome when you hear her on the air!

In this issue of "The Signal," you will see the inaugural article of a new column entitled "Collins Radios at Work." This column is reserved for articles from our membership about Collins radios in services other than Amateur Radio. Gail will be looking for articles from those of you who have had the opportunity to use this great equipment during your work with military, commercial, or space assignments. Please don't be bashful! If you are not comfortable with writing an article, please contact Gail, as she will be glad to assist you in putting together a nice article that many other members will be interested in reading. Please email Gail at her new email address: k2redcca@aol.com We would very much like to hear from any of you who have an interesting story to tell!

A few of us have twisted the arm of our founding father and have convinced him to throw his hat into the ring! I am very excited to report that Bill Wheeler, KODEW, has accepted his nomination for this election of board members. It was Bill's vision in 1988 that led to this great organization! Bill watched as his Collins Users Net grew from a little over a dozen check-ins to hundreds of check-ins on the original 20M net on Sundays. He guided us along the way to include a newsletter, then several other HF nets on other bands to meet the demand for information exchange that many of us Collins users crave. Now look at where we are! We have a world-class web site, email reflector, and newsletter. The CCA has sponsored gatherings in Dayton, Cedar Rapids, Dallas, and other places around the country. There are even contingents in other countries that participate in and support the CCA. With approximately a thousand members worldwide, we have become one of the largest (if not THE largest) amateur radio clubs in the world! Bill has spent some time on the board of the QCWA for the past few years and has now set his sights again on spending some quality time with the CCA. For those of you who do not know Bill, please listen for him on our CCA nets. He is truly a gentleman and a scholar, and would surely be an asset to our organization! Until next time, see you on the air! ... 73 de W8RO

New 75S-3 Receiver

Early 1960's Promo Ad For Collins Dealers



"Collins' announcement of the 75S-3 Receiver, which will be available in quantity this month, has evoked the same enthusiastic response that always greets new Collins equipment. Advance orders for this sparkling addition to the S-Line far exceed advance estimates. This also was the case when the 30L-1 Linear Amplifier was announced six months ago. This enthusiastic response is resulting in greater profits for Collins distributors.

In your promotion of the 75S-3, keep in mind the key selling points: This receiver was developed to provide superior performance on CW and RTTY, as well as on SSB. The Q Multiplier (the same as the one used in Collins' recently announced 51S-1 commercial receiver) is so stable that no notch depth control is required and therefore it operates with only one control. The variable BFO, added for convenience of CW and RTTY operators, has a push-pull switch for ON-OFF. When in the OFF position, the normal crystal BFO is used in the conventional manner. When in the ON position, the crystal is turned off and the variable BFO goes into operation. CW operators may then vary copying pitch as well.

The AGC Control has been incorporated to allow selection of slow AGC for SSB, fast AGC for CW, or AGC off. A 200 cps crystal filter is incorporated for CW operation. These features combined with Collins's traditional engineering know-how and quality manufacture make the 75S-3 the finest CW, SSB, and RTTY receiver available today. Provisions are also made for AM operation. If desired, a sharper AM passband may be obtained by the installation of a Mechanical Filter as optional equipment. Other 75S-3 features are a Spinner Tuning Knob and Concentric AF-RF Gain Control for operating convenience and conservation of panel space. The 75S-3 is the receiver for hams who feel they have been unable to find a replacement for the 75A-4.

The 75S-3 incorporates all the features of the 75A-4, and at the same time is more sensitive and can be operated transceive when coupled with the 32S-1 Transmitter. It is the finest receiver buy an amateur can make at the amateur net price of \$620. If you are not already convinced, operate the 75S-3 and review its features. We know you'll agree."

Join Us on the Air!



- Sunday 14.263 MHz at 2000Z
- Tuesday 3805 kHz at 8pm CST
- Thursday 3875 kHz at 8pm CST
- Friday (West Coast) 3895 kHz at 10pm CST
- Sunday 10m AM 29.050 MHz at Noon CST
- 1st Wednesday AM 3885 kHz at 8pm CST

Sunday for Technical, Buy, Sell & Swap
Tues., Thurs., Fri., & Sunday for Ragchew

In the Shack



Jerry Webster K7ENP - First licensed in 1954. Notice 7" cooling fans (60 cfm each)...no drift here. Jerry loves his S-Line and 30L-1. Besides Collins, Jerry also collects items from the Wizard of Oz and is also a private pilot.

Subscribe to the Collins Reflector...a FREE e-mail mailing list of over 1300 Collins users and collectors! Visit the CCA web site for complete information!

Visit the CCA web site at:
www.collinsradio.org

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Call For Articles!

by Gail Schieber, K2RED

As those of you who have received and read the Third Quarter 2003 copy of "The Signal" already know, I have signed on to be the new Editor of the Collins Collectors Association newsletter. I bring to the task 24 years of experience as the Managing Editor of "CQ" magazine, and in addition am the Managing Editor of "CQ VHF" magazine. I am also the proud owner of a KWM-380, although I am not on the air with that rig . . . yet.

With the guidance of Floyd, W8RO, President of the CCA; Sandy, KW6KW, Vice President of the association and Production Director of "The Signal"; the CCA's Board of Directors; and you, the members of the CCA, I plan on continuing to bring to print the quality material that this publication presents each quarter.


To continue in this tradition, we need material to publish! Technical articles, "hints 'n kinks," on-the-air experiences with Collins equipment, articles of historical nature, and items for the new column, "Collins Radios at Work," are just some of the things we are interested in publishing. "Collins at Work" includes experiences of CCA members who used Collins gear in the military, commercial, aviation, and space services. It is an exciting, new venue in which you can present your own personal stories.

We also would like to hear from those of you who were around in the early days of the Collins era. It is important to document and archive the knowledge and experiences of those who either worked for Collins in the early days, knew the people who were associated with Collins Radio at that time, or used the equipment on the air in that period. This material is priceless, and we want to be able to preserve it for generations to come.

Remember, you don't necessarily have to write a full-length article (although we certainly appreciate that as well!). A few paragraphs or even just a photo with an explanatory caption are welcome. You do not have to be an experienced writer either. We would be most willing to work with you to make your material into something of which you and the CCA can be proud.

I may be contacted via e-mail at K2REDCCA@aol.com or via snail-mail at P.O. Box 1396, Port Washington, NY 11050.

"The Signal" is a very important part of the voice of the membership of the CCA. I look forward to hearing from many of you and to meeting you in the future as well.

We are also looking for shack photos for "In The Shack". Please send us a high resolution photo of yourself sitting at your Collins station and include a brief description of your equipment. Email them to Sandy KW6KW at kw6kw@comcast.net. 

It's Busted!

by Gene Duprey, K1GD

A lot of the questions that pop up come from Hams who are new to the ranks of Collins ownership. I thought, why not a column on some of the lessons we all have learned and experienced trying to get our Collins radios working? I threw out a feeler on the Collins Reflector and got quite a few replies. I asked our readers what they had run into in setting up their radios and what they had found to be the solution. Some of these tips may seem very basic, but we all have been there and they bear repeating, as even those of us who have been using the radios for years occasionally forget these simple items when cleaning or restoring our radios. So Here Goes!

My radio works fine, but every once in a while it drops out. I've checked all of the tubes and cannot see anything wrong - Help!

Jim, W0JLL writes: "One thing many hams new to Collins KWM-2's and S-Line equipment do not realize, and it is a very simple solution, is the need to exercise the band switches periodically (especially those which get little use). After long periods of time, the silver contacts tend to oxidize, especially when one leaves the rig on the same band, as I do for the CCA Sunday Net. Every so often the grid drive tends to "go away" and the power out drops off. By running the switches back and forth through the various positions from time to time, your problems will be lessened significantly."

I've just purchased and installed a mint KWM-2A with a 312B-5. The KWM-2A works fine, but I can't get the 312B-5 to work with the radio. What's wrong?


Art, WA8VSJ writes: "A friend of mine had this same problem. I was just about to call and tell him that the VFO didn't appear to be working, when I decided to re-read the manual and found the error of our ways: Working through the setup process, we found that he had not plugged in the VFO cable! That extra cable not hooked up can really confuse the newcomer, especially if he is not familiar with the function of the connection. (How many of us have been in this boat?)

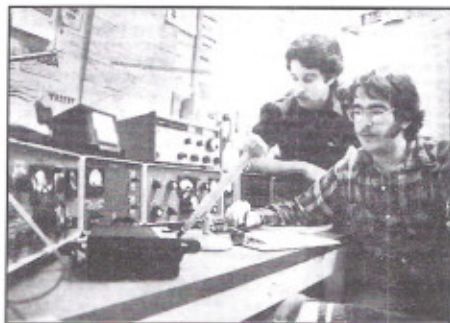
Arnie, W7BIA writes: "The biggest, most stupid error I have made is not hooking up all of the numerous interconnecting cables between the station console, transmitter, receiver, amplifier, etc. Things don't work too well when you miss the ALC cable or any of the other cables."

Second on my list, I often make the mistake after re-tuning (when changing frequencies) of not returning the Emission switch on the transmitter to the correct Sideband and wonder why no one will come back to me. (That's one of my favorite screw-ups)

Don, N9OO provides the following tip: "Here is a maintenance issue: Many of us try to clean our new S-Lines by using car wax or polish to shine the bezel, meter cases, and

front panels. They shine up very nicely. Unfortunately, the S-Line equipment comes standard with a matte finish on those items. The best way I have found is to use plain old soap and water to clean the external surfaces of our precious radios."

That's all for this issue. How about sending in your tips and experiences? There are lots of new hams joining our ranks, and this column can be a good source of helpful information for them. Send your tips and ideas to our Editor Gail K2RED at: K2REDCCA@aol.com 



John, W2VTV (standing), and Russ, WA2PRX, at the ham station of Montclair State College in 1977

The Montclair State College (in New Jersey, and now Montclair State University) ham station, WB2NVA, circa 1977. John Wyatt, W2VTV, sent along this photo, taken in his senior year of college. When not studying chemistry, his major, John spent time hanging out at this station. He got his Novice license in 1974, and this was the first real station he worked (as WN2VTV).

Not pictured is the 30S-1, which was to the left. As John says, "This setup really got me hooked on Collins gear, kinda like a first love-Hi." The station was feeding a TA-33 at 70 feet on a small mountain. The other operator in the photo is Russ, WA2PRX. After they graduated, the college turned the shack into a copy room, and what became of the Collins equipment is not known. John now is the owner of an S-1 Line and a KWM-2.

Technical Disclaimer

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