

The Signal

OFFICIAL MAGAZINE OF THE COLLINS COLLECTORS
ASSOCIATION * Q4 2015 Issue *

ARTHUR COLLINS



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From the President's Desk...

The Holidays are upon us and the CCA Board of Directors wishes you a Merry Christmas and Happy New Year! Hopefully, you woke Christmas morning and found that Santa left you something under the Christmas tree with a Collins Logo on it! The big problem is that 'Santa' usually could not tell a Winged Emblem from a Round Emblem so we end up with shirts and ties instead! Either that, or you swore to your spouse that the last piece of Collins that followed you home was the last one you needed to complete your collection and you are being held to your promise!

As you know, the board nominations were uncontested so the two nominees, Dennis Kidder W6DQ and Jim Stitzinger WA3CEX are elected to two year board terms. As per our Charter, the board held officer elections and Dennis returns as our Secretary and Jim Stitzinger is now Vice President (along with being Dayton Chairman). Jim Hollabaugh remains our 20 meter net admin and Jim Green is Treasurer. This is a great group of guys to work with and collectively they have an enormous amount of knowledge about the history, repair and restoration of Collins Radios! Each of these guys give a tremendous amount of their time to keep the CCA running smoothly and I look forward to a fun year working with each one of them.

There are going to be two changes to the CCA this year. We have had a lot of fun with some regional events, other than Dayton, the last three years. These have included Orlando, Dallas, San Francisco, Lebanon, and the AWA convention. This year we will, of course, have our annual Dayton gathering and then have one other large event either at the AWA Museum or a trip to Cedar Rapids in the fall of 2016. We will have an announcement before Dayton so that you will have plenty of time to block out a long weekend in the fall.

The other huge change in the CCA is that Bill Carns, after many years of amazing service to this organization, is stepping down as Editor of the *Signal*. I have worked closely with him for many years, and I do not think that any of you know how much of Bill's heart and soul has been put into the creation of the last eight years of *Signal* magazines. Hours upon hours of exhaustive work on both the content and layout have made these issues works of art and something that I am sure will be collected and treasured as time goes by. Bill, as many of you know, is one of my best friends and I can say that he has made a great sacrifice for many years and we owe him a standing ovation for the work that he has done.

The board of the CCA certainly plans to continue with a quality magazine starting in 2016 – see the From the Editors column - but we need your help. We need new people to step up, volunteer to write articles, help with events or become a net control. This is a great organization and its continued growth and success is only limited by the investment of time and knowledge that the members are willing to contribute.

Think about how you can help and shoot me a note at:
email: president@collinsradio.org.

73,
Scott Kerr – KE1RR
President



Scan to see more about the CCA

The Signal Magazine

OFFICIAL JOURNAL OF THE COLLINS COLLECTORS ASSOCIATION ©

Issue Number Eighty - 4th Quarter 2015

Join Us on the Air!



- Sunday 14.263 mHz at 2000Z
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- Thursday 3805 kHz at 8pm CST
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- Sunday 10m AM 29.050 mHz at Noon CST
- 1st Wednesday AM 3880 kHz at 8pm CST

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

The Signal Magazine

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You can renew your membership or join the CCA on our website using the "JOIN US" link.

Greetings & Best Holiday Wishes (Albeit late). My travel schedule didn't bring me back to the U.S. until the second week of December.

This issue will see a change in management here at the *Signal*. It has been 8 years here for me, and it has flown by. Fun things happen that way. Much of the staff will remain the same, and some very competent folks will be picking up the reins, so the result should get even better. I know that Scott will continue the same fine support that I have gotten.

For this issue, we will honor the founder of Collins and also deal with one of his favorite receivers. Art Collins was, in spite of his reputation for occasional assertiveness and precise guidance, a humble and essentially quiet man. There are almost no recordings of him since he did not like to speak in public. He was rarely photographed in spite of his success and notoriety.

I have been tempted many times to do some kind of biographical writing about him, but I must admit that I was, and still am, intimidated. Also, much has already been well written. I hope the cover is not misleading. This issue does not feature Art, but rather serves to close out a phase of the *Signal* and pay tribute to the man who has brought this country so much technology and paved a path of excellence that we all enjoy to this day. This cover is my favorite photo of him - and it stands alone.

I thought it fitting for this issue to be a thank you to him, and to all of you for giving me the opportunity to work with you and to pay recognize what Collins Radio means to us as a hobby - and continues to mean to this country as one of its leading technology businesses.

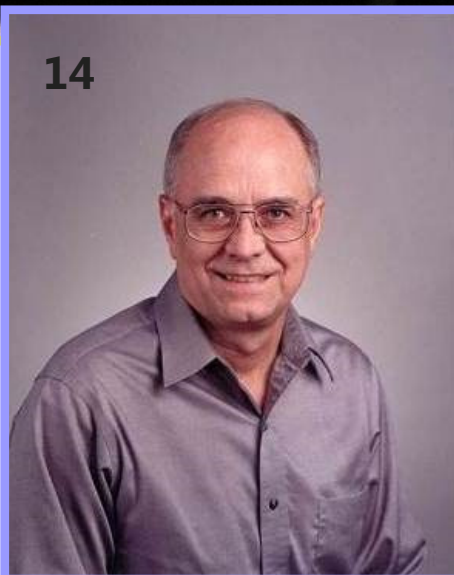
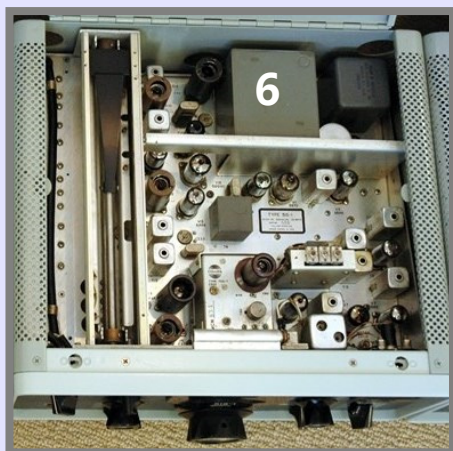
This issue will feature the venerable 51S-1 receiver. Not what it seems (a part of the S-Line family), it is actually the last in the series of the 51J-1 through 51J-6 (no - I meant 51S-1).

Now that it is time for a change here at the *Signal Magazine*, I want to thank all of the people who have served on the staff here and been such an important part of making this magazine what it is. I also want to thank **all** of the many folks who have written for the *Signal* and those who have helped with research for the work here. At the risk of offending others, I want to single out some very good friends - Jim Stitzinger, Rod Blocksome, Lawrence Robinson, Loney Duncan, Dennis Day, Don Jackson, Gary Halverson, John Dilks and our friends at Rockwell Collins. I hope I did not drive you nuts, and I know I forgot some folks - - Very Sorry. Thank You & Best 73s, Bill

A Quick Look in This Issue

- Feature - Venerable 51S-1 Receiver
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14 Thanks Rod

This editor and the staff and CCA Board of Directors extend a hearty greeting to a good friend.

15 CCA - Q4 2015 & Board Elections

The 2015 CCA election process is behind us. The new officers have been installed and board elections held. You have a new Vice President - and WELCOME he is.

* See Q3, 2013 *Signal* for description of 51J-5

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What seems like a simple idea or service item, is one that is often missed. Failure to make this update can lead to real damage. Our thanks to Dick Weber.

18 IN THE SHACK

This issue's shack tour is a real treat as we visit Jim's “Lair”. The contents are intriguing. The presentation impeccable, and the capabilities obvious. Enjoy!

20 PRESERVING HISTORY

We get a glance at a rare bird indeed. The 55G-1 has a fascinating history. Some of it is discussed in this issue.

FROM THE STAFF

Edited by Bill Carns, N7OTQ & Don Jackson, W5QN

From the Desk of N7OTQ - Production

I remember well the first one of these that I wrote 8 years ago in 2007. It was with great anticipation, and a little bit of fear, that I accepted the position of Editor and Producer of the *Signal*. I got that job, in part, because I had been voicing my opinion (and it was shared by others) that we should be doing a better job of putting out our *Signal Magazine*. At that time it was a four page, mostly black and white (almost) newsletter. In that first issue, I shared our vision here that we could improve the magazine, both from an appearance and a content standpoint, as well as include a broader range of historical and anecdotal stories if we could get our readers help. I am pleased to say that I think we are getting there. Many of you have stepped up.

I know that the current management of the CCA still shares these same objectives today and that the *Signal* will continue to evolve and grow as it deals with the challenges of printing a quality magazine in this age of e-publishing. Things are not getting any easier or any cheaper when dealing with paper.

As I said in the opening page of this issue, it has been a pleasure. I have so many people to thank. I will still be lurking around, and after my "stand-down" Board of Directors term has expired, I am considering running again for the board. I enjoy this hobby, my Collins, the CCA and all of you so much.

de Bill, N7OTQ

email: wcarns@austin.rr.com

From Dani's Desk - Graphics Production

Hi. My name is Dani and I am going to be working with you and the *Signal* staff producing the upcoming *Signals*. While I am not a "Collins" collector exactly, hanging around my Dad (your President) has rubbed off on me, and I do have many years background in electronics and production. What I also have is a background in graphic arts and layout and I have worked with Bill in the past supporting production of the magazine. I am looking forward to the opportunity of producing a quality product that you all will enjoy.

email: dtoynette@yahoo.com

From the Desk of Zhang Rui Lin - Photography

我想说的是, 在2016年《信号》杂志编辑工作将替换, BILL将退休《信号》杂志的编辑工作, 能够有更多的时间与他的新婚妻子。与此同时, 我知道他会怀念《信号》杂志的编辑工作。你们应该知道, 我们仍然会在这里, 去代顿, 以及帮助-这我期待着采取更多的图片, 发布在这里。

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From the Desk of Jim Stitzinger, WA3CEX - Content

First I want to say that it is a joy to be back on the CCA board and involved again formally with the management of our group. You all know my passion for Collins and particularly the history, literature, memorabilia, and the effort to accurately tell the story of Art Collins and the Collins Radio Company. In recent days I have been focusing on Pre-war Collins and the collection of these precious treasures. As your new Vice President, my first assignment will be to help produce the *Signal*. We have a great responsibility to continue the tradition of producing the high quality magazine which Bill Carns has so masterfully lead over these last years. As we move forward, I am sure that this work will continue to evolve so that we can all be proud to be part of the CCA. de Jim, WA3CEX

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From the Desk of Don Jackson, W5QN - Assistant & Technical Editor

As time moves on, things inevitably change, and *The Signal* is about to undergo a major change with Bill Carns relinquishing his role as Editor. He has been one of the major driving forces behind the magazine. We can all see the incredible job he has done in ratcheting up the look and content of the magazine, using his wide range of artistic, technical, networking and organizational skills. Continuing to produce the magazine at the current professional level may be a challenge, but it is up to the staff and the CCA to attempt to maintain Bill's legacy as best as we can. As for myself, I thoroughly enjoy the role of Technical Editor, and plan to remain in that capacity as long as I am able. Please continue to submit your potential articles to me as they are important components of the magazine. As well, I am also on the lookout for material for our "In the Shack" feature. Everyone enjoys seeing what other folks have in their Collins collections. Your shack doesn't have to be spectacular, so don't be bashful.

73s - Don, W5QN

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51S-1 & 51S-1A/F



51S-1/1A/1F/1AF/1B RECEIVER - An Overview

The 51S-1/1A/1F/1AF/1B receiver is designed for USB, LSB, AM, and CW signals in the range of 0.2 to 30.0 MHz. Coverage is continuous in thirty 1 megahertz bands. The more common models of the 51S-1 are mounted in a perforated wrap-around cabinet and equipped with an AC power supply capable of 115 or 230 volt, single-phase, 50 to 400 Hz operation. The 51S-1A is similar, except that it is fitted with a 28-volt DC transistorized power supply. The rack-mounted AC version is model 51S-1F, while the rack-mounted DC version is model 51S-1AF. The 51S-1B is similar to the 51S-1, but has a rear-mounted junction box that provides military-type connectors for power, control, audio, and antenna lines. The -1B is a rare bird – indeed.

For a [Detailed Physical & Operational Description](http://www.collinsradio.org/cca-collins-historical-archives/the-equipment-of-collins-radio/the-grey-boxes/51s-1/) – <http://www.collinsradio.org/cca-collins-historical-archives/the-equipment-of-collins-radio/the-grey-boxes/51s-1/> or click on the Equipment of Collins Radio on our Home Page and follow the Grey Box trail.

This receiver, while appearing to be a member of the notable "S-Line Family", is not really an S-Line receiver at all. It is better thought of as the next model following the A-Line era 51J-4 (and never introduced 51J-5, see Q3 2013 *Signal*). From an architectural perspective, and from a construction and fundamental mechanical design standpoint, it is also very different from an S-Line receiver. It does share many features, including the styling of the cabinet and the PTO size and style, but the 51S-1 PTO is a 70K-7 as opposed to the 70K-2 used in the S-Line family. The 51S-1 variants are all continuous coverage (with up to triple conversion in some frequency ranges), while the various members of the S-Line family of receivers are double conversion and ham band oriented. Yes, of course, they too can function anywhere from 3.4 to 30 MHz when re-crystaled.

The 51S-1 was not part of the original package of defined S-Line products. At the time that these products were developed, and for many years, the same engineering group had responsibility for the HF commercial as well as amateur radio communications products. This group was headed by one Gene Senti, W0ROW, of - among other things - KWM-1 and 30L-1 fame. He also had a very strong personal love for receiver conversion scheme development and "Birdie" analysis.

Well into the period when the S-Line initial offerings (based around the 75S-1, 32S-1, 516F-2, KWM-2, and 312B-4) were being developed and readied for production in 1959 – the 51S-1 concept came into being. You will remember that the entire S-Line was defined in late 1956 and early 1957, and then developed throughout 1957 and 1958. The S-Line was then introduced in production late in 1958 and early '59. The KWM-2 went into production in November of '59, and finally the 30S-1 amp in the July 1960. Ed Andrade, a key engineer responsible for much of the KWM-2 and 30S-1 transfer work (and working for Gene Senti at the time) was multitasking the 51S-1 development with the 30S-1.

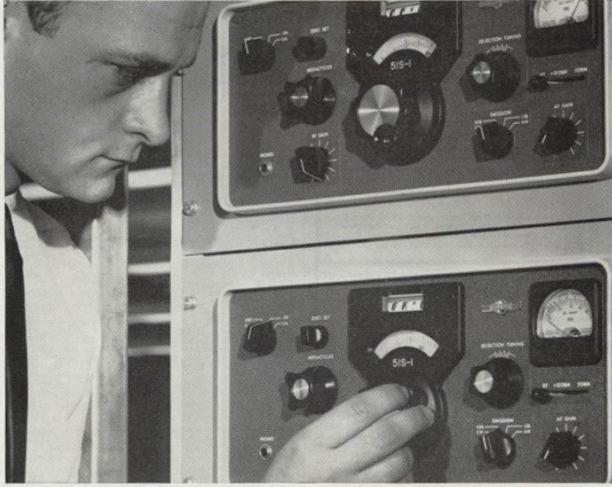
We know how the 51S-1 concept was born. It all started well into the development work on the S-Line, and the story goes like this: Chuck Carney, W0GDJ (now SK – and then the manager of the marketing organization responsible for the commercial and amateur radio HF products), was walking down the hall in the engineering building with Gene Senti, W0ROW and Ed Andrade, W0DAN. Ed Andrade made the comment that the 51J-4 was getting a little long in the tooth and that he thought they could now "Do Better". Both Gene and Chuck agreed, and the 51S-1 seed was planted. Gene and Ed went back to their offices and started discussing what such a receiver would look like. Remember they were in the middle of the S-Line development – hot and heavy. Gene, as he loved to do, worked out a conversion scheme and the associated birdie chart, and Ed worked on the tube lineup and the stage and total receiver gains. A block diagram soon emerged along with the associated stage gain distribution and the birdie analysis. The basics were in place. Excitement grew internal to the engineering group, but the little receiver never got a formal engineering project authorization – a fact that almost killed it about a year later.

Dennis Day, W0ECK (then an engineer under Gene and one day to become his replacement), returned to Collins Radio in May of 1960 after getting married and finishing graduate school. He relates that soon after he returned to his job with Gene's group, Joe Jekerle, W0OEU (one of the key lab technicians), completed building up several lab models of the 51S-1. They were very close to turning them on and to seeing how they worked when Bob Cox, Gene Senti's boss, came through one day and discovered the work for the first time. There was no authorization for the project, and it got immediately shut down.....or so Bob thought. Gene, taking some risk to be sure, continued to build out these lab models until they were ready to function.....and function they did. Everyone was so impressed with the performance and "the sound" of the little rig that they jacked up their nerve and summoned Bob Cox to show him the new receiver. At that time, things could have gone either way and the team

kept their fingers crossed. Fortunately, Bob Cox was also very impressed and commenced the process of "selling it upstairs". Art was so very impressed when he saw the new receiver that it became a "must have" and the 51S-1 became a reality. It was a serendipitous accident that the S-Line and its new "Industrial Design Influenced Styling" was in process at the time. The "could have been 51J-6 (sic)" became the 51S-1.

Jerry Vonderheide, WONGL, took over as the "collateral" production engineer when the 51S-1 was transferred to production. The 51S-1 was announced and began appearing in price lists in 1962. The Rev 0 manual is dated 1961. The first build of volume was in the Anamosa, Iowa factory in 1962. It is also interesting to note that, between the introduction in 1962 and 1975 when production was slowing down, Collins only promoted the 51S-1 twice in their top amateur radio advertising venue, QST Magazine. The receiver was expensive, and while the new little radio carried an "S-Line" number, it was not promoted actively as a part of the S-Line amateur radio offering. It was far too expensive for all but the wealthiest amateurs.


now get
SSB with optimum performance
over the entire HF spectrum



Continuous tuning with extreme accuracy—that's what you get with Collins' 51S-1 HF receiver.

Most advanced in a famous series of general coverage receivers, this SSB/CW/AM unit delivers: visual dial setting *within* 1 kc throughout the range • *high frequency stability*, nominally 100 cps per week under normal conditions, ideal for pre-assigned frequencies • *sharpest selectivity*, from Collins Mechanical Filters • *highest sensitivity* for difficult monitoring assignments.

Features like these, packaged into a compact unit specifically designed for commercial application, make this receiver highly desirable for the amateur who demands professional equipment. Contact Collins today for complete information. COLLINS RADIO COMPANY • Cedar Rapids • Dallas • Los Angeles • New York • International Division, Dallas



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Figure 1. May, 1963 First QST ad since intro

The 51S-1 went on to become very successful. It was, indeed, adopted by many wealthy hams as their choice for a top notch general coverage receiver. It also became the receiver of choice for embassies, the intelligence community, and U.S. and foreign government agencies in general - including many applications in the Army and Air Force. The Mil versions were given new model numbers - the R-1122 (AC Supply and in a

Stand by for the latest word on Collins' 51S-1 receiver.



The word for Collins' 51S-1 is the same today as it's been for every one of its 12 years: outstanding.

Amateurs say it's an ideal addition to their stations as a primary or backup receiver. It's stable, sensitive and extremely accurate, assuring optimum reception of USB, LSB, AM, CW, and RTTY signals in the 2.0- to 30.0-MHz frequency range. With an accessory available that permits operation between 200 kHz and 2.0 MHz. There's a choice of either 800-Hz or 300-Hz CW filters and of either 2.4- or 2.75-kHz mechanical filters for SSB. For AM, there's a standard 5-kHz bandwidth or optional 6-kHz mechanical filter.

Commercial communicators and shortwave listeners alike appreciate the 51S-1 for its quality reception of signals from anywhere in the world. International news broadcasts, amateur and military nets, air-to-ground monitoring and ships at sea.

The 51S-1 is available now, at a price that makes it very appealing for this class of receiver. See your Collins distributor, or contact Amateur Radio Marketing, Collins Radio Group, Rockwell International, Cedar Rapids, Iowa 52406. Telephone 319/395-4507.



Rockwell International
...where science gets down to business

2

Figure 2. July, 1975 Next QST 51S-1 Ad

Cabinet), R-1156 & 56A (DC Supply, Rack Mount), and the R-1483 (51S-1A DC Supply and Cabinet). There were also Air Force contract versions that had military style connectors in place of the commercial standard versions. These were not assigned a MIL number but done under a special contract.

LTV G133F-1 Intelligence Modification

The 51S-1 was bought and modified by Ling Temco Vaught (LTV) under a military contract to provide an intel intercept and monitoring receiver. The modifications added airborne mounting and interface capability and another layer of noise filtering on all I/O lines. In addition, this modification by LTV jazzed up the user interface to make its functionality more clear in reduced lighting and airborne applications. In application, the G133F-1 was part of the ARDF QRC-346 System.



Figure 3. LTV G133F-1 Modified 51S-1
(Photo by K6JCA)

Rod Blocksme has provided us with a wonderful article (See p 10 in this issue) that gives us a significant amount of historical data including where the receiver was manufactured, the different variations and serial number ranges involved as well

as the military designations and details for the military 51S-1s. This article also gives considerable insight into the prototyping and development phase of the birth of the little receiver as well as detailing the manual revisions, to which date range they belong, and the Service Bulletin history.



Figure 4. 51S-1B Airborne/Mil Model with 350D-5 Shock Mount Accessory

Please see the CCA website at collinsradio.org under manuals [51S-1 Manual](#) and the included schematics and block diagram. The website manual listing has a complete selection of Manuals, Service Letters and Service Bulletins for the 51S-1.



Figure 5. Discovered in New Zealand in 2012, this may be an example of the "Grey" panel

Over 12,360 units total were produced between the introduction in 1961 and close of production in 1982. This is a very long production run for any radio and the highest production quantity of any of the 51J-x series – even if you combine the total production of the 51J-3 and the R-388 series (which totaled just over 10,000).

Model	Top Level CPN	No. of CPN	Package	P.S.	Notes
51S-1	522-2245-xxx	18	cabinet	AC	R1122/GR
51S-1A	522-2546-xxx	17	cabinet	DC	R1433/UR
51S-1B	522-3857-xxx	2	cabinet	DC	Mil Connectors; USAF - no mil nomenclature
51S-1F	522-2498-xxx	18	Rack mount	AC	R1156/GR (522-2498-00) R1156A/GR (522-2498-030)
51S-1AF	522-3156-xxx	17	Rack mount	DC	
51S-1BF	522-3850-xxx	1	Rack mount	DC	Mil Connectors

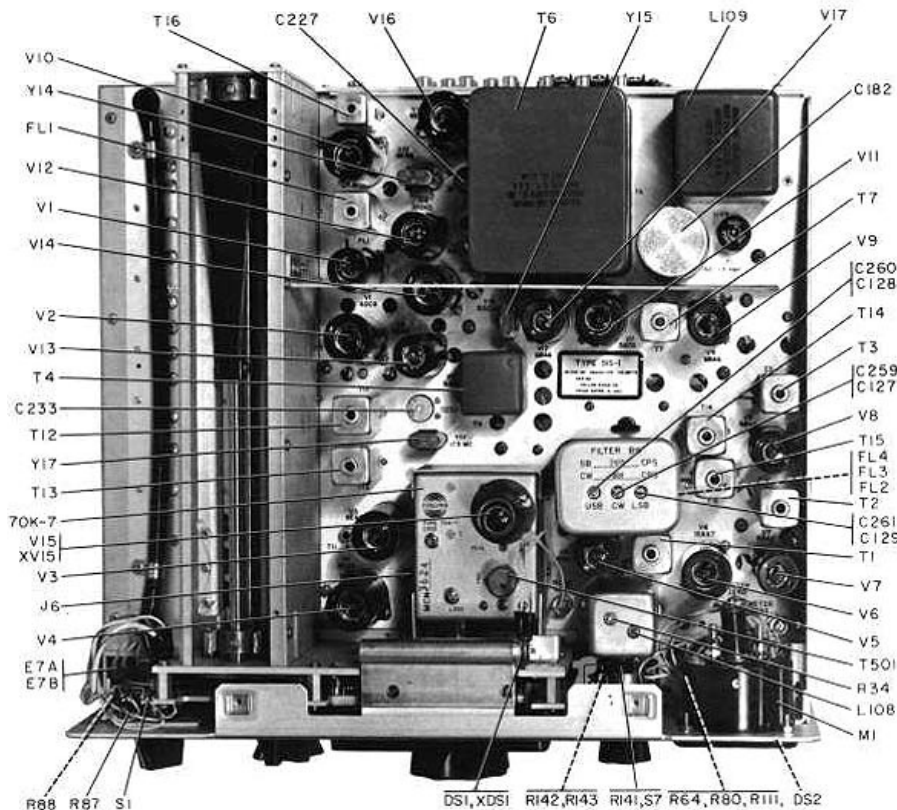
Figure 6. 51S-1 Receiver Models and Variations

The very early receivers had variations in the number of knob flutes (5 in place of 4 on the Megacycle knob) and also some panel marking width variations around the Rejection Tuning. These same early receivers also used the 70K-4 2 tube PTO - while the bulk of production used the 70K-7. The serial numbers ran sequentially throughout production including across top level CPN build changes until 1975. This is true with the exception of one block of 124 serial numbers which, for some reason, was either not used early on, or was used on a non-standard model like the F. This block of lower numbers was then used later for the standard 51S-1 - around 1975. After 1975, serial numbers were assigned by build. Over 10,000 51S-1s were built as the rather standard 51S-1, 51S-1A and 51S-1AF. There were even some 51S-1s built with Spanish labeling on the panels.

The winged to round logo transition occurred in the fall of 1969 and there were 5 different logo badges attached to the 51S-1 models over its production span. Early units carried the winged emblem until 1969. The subsequent units carried a

Accessories associated with the 51S-1 Series

55G-1	Introduced mid-60s
351E-4	Table Mount
350D-5	Shock Mount
351R-1	Rack Mount
351R-2	312B-3 Speaker Rack Mount
312B-3	Speaker – Standard S-Line
312C-1/2/3	Rack Mount Speaker options (1, 2 or 3)
Special Filters	CW, SSB & AM (from 300 Hz to 6 kHz)



smaller round emblem and then the larger round emblem until 1976. Then, following Rockwell's acquisition of Collins, the emblem changed to the well-known Terra Cotta with White lettering Rockwell Collins emblem followed by one with Blue Lettering.

Figure 7. (Left) Under the Hood You will notice as you work on this receiver, that even compared to the high quality of the S-Line in general, this guy is a "cut above". Particularly when you open the band change compartment (the Megacycle switching) you will find gold plating on the switching pads and the highest quality G10 board disks. The military market was at the top of the target list.



Figure 8. 55G-1 LF Presselector



(Front - Left & Rear to the Right)

Special Thanks to Rod Blocksme, K0DAS, Larry Sal-etzki, WA9VRH and Charlie Talbot, K3ICH for their contributions. Edited by Bill Carns, N7OTQ/K0CXX

For comparison of the production records, Rod Blocksme's table of 51J-X production quantities is shown here.

Figure 9. 51J-X) Receiver Production Survey Results
(Thanks to Rod Blocksme)

	51J-1	51J-2	51J-3	R-388	51J-4	R-388A
Introduced	1949	1950	1951	1951	1954	1957
Discontinued	1950	1951	1954	1957	1963	unk
Total Made	120	1000	1800	10,400	9,000	unk
Lowest sn	1	133	1999	- - -	113	18
Highest sn	90	811T	2046	- - -	7646	7994

----- CCA -----

Grand Total = 22,320

The 51S-1 Receiver

by Rod Blocksome, K0DAS

A number of years ago I conducted surveys of Collins ham equipment that were published on the CCA reflector. The work was designed to shed light on the many questions collectors had about production quantities, anomalies, scarcity, etc. In the years since, I have continued to gather additional data from other sources. Here, I update my 51S-1 findings and provide some additional information and added insight.

I would like to acknowledge the project engineer who led the design of the 51S-1 receiver. It was none other than Ed Andrade, W0DAN - The same fellow who earlier brought forth the Collins 51J-4 and the KWM-2! All three equipments were in production far longer than the average Collins HF equipment - a testimony to the solid design and outstanding performance achieved by Ed and his engineering team. Jerry Vonderheide, W0NGL, later created the 51S-1A - a version powered from 28 Vdc for aircraft operation.



Figure 1 – 51S-1 Receiver Prototype

Several years back, an engineer from Ed's 51S-1 team retired and asked me if I would be interested in the prototype 51S-1 receiver. I accepted of course and spent some time examining the unit, taking photographs, and even contemplated restoring it to operating condition. But after further thought, I decided it was really a historical artifact and shouldn't be tampered with. So I did some minor cleaning and then put it on display in the Rockwell Collins Museum. Figure 1 shows the front of the radio.

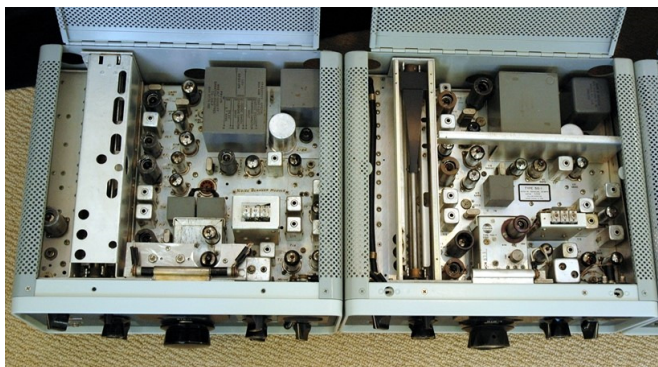


Figure 2 – 51S-1 Receivers – Prototype on the Left

One can see several items that are much different than the production versions we are used to seeing. For example it has a noise blanker - although the module was missing from the chassis. The main tuning knob is machined from solid brass and painted black. Arlo Meyer, W0LBK, told me they wanted the feel of a weighted knob for tuning but it was going to turn an extensive gear train.

In addition to the main tuning knob, a list of other changes includes:

- The "Zero Set" knob is round like the S/Line instead of the small "bar" type used in 51S-1 production.
- The Collins logo is located above the phones jack.
- The noise blanker knob is located where the production logo was later placed.
- The "Rejection Tuning" scale has expanded tick marks.
- The meter switch is labeled "RF, Line 1, Line 2" (The prototype had two line audio outputs).
- Under the hood things are similar but different in a few areas as shown in Figure 2 where the prototype on the left is placed beside a 1963 winged emblem production model for comparison.
- The prototype cabinet is a modified KWM-2 cabinet (obvious from the rear).
- The rear panel connections are different.
- It has a five fluted Megacycle knob (Early production 51S-1 were the same and then changed to four flutes).
- There is a tuner shield with holes for alignment and a tube stage on the left.
- There are two lamps on the PTO dial.

The first production of the 51S-1 occurred in August 1961 when only three units were completed just before the end of fiscal year 1961. But things started to roll in 1962 and continued for 20 years. By the time production ended, some 12,136 51S-1 receivers came forth from the Collins factories by my count & estimates. Tables 1 and 2 provide details resulting from my research into the production history of this fine radio.

In general the serial numbers were not purposely scrambled on the 51S-1. However, there are strong indications in the data that around 1975 some 124 51S-1s were assigned early serial numbers that were likely used for other types (e.g. 51S-1F). The reason is unknown. Other than this instance, the serial numbers are sequential without regard for specific type number until 1975 when different serial number blocks were used for unique 51S-1 types. Production ran to about 1982, but no data has been found for units produced after 1979, so I'm estimating 500 units for 1980 and beyond.

On most receivers you will see an "MCN" followed by several digits. This is the Manufacturing Control Number and is used for configuration and revision control as the equipment

Table 1 – Production Quantities of 51S-1 Receivers

Fiscal Year 1	Production Location	51S-1	51S-1A	51S-1B/BF	51S-1F/AF	Total
1961	CR/Anamosa	3	0	0	0	3
1962	CR/Anamosa	262	0	0	86	348
1963	CR/Anamosa	410	9	0	192	611
1964	CR/Anamosa	486	14	1	283	784
1965	CR/Anamosa	306	39	90	350	785
1966	CR/Anamosa	430	133	90	289	942
1967	CR/Anamosa	758	38	177	378	1351
1968	CR/Anamosa	535	4	148	324	1011
1969	CR/Anamosa	515	0	103	260	878
1970	CR/Anamosa	557	13	9	132	711
1971	CR/Anamosa	543	12	12	196	763
1972	CR/Anamosa	569	0	21	137	727
1973	CR/Anamosa	315	3	4	115	437
1974	CR/Anamosa	621	7	0	237	865
1975	CR/Anamosa					350
1976	Richardson, TX					550
1977	Toronto, ON					100
1978	Toronto, ON					170
1979	El Paso, TX					250
1980	Salt Lake City, UT					200 ²
1981	Salt Lake City, UT					200 ²
1982	Toronto, ON					100 ²
TOTAL						12,136

Note 1 – The Collins fiscal year ran from 1 Sep. to 31 Aug. until 1974 when it was changed to run from 1 Oct to 30 Sep. Therefore FY1974 was 13 months long (1 Sep. 1973 to 31 Sep 1974).

Note 2 – Very little data has been found for FY80 – 82. These are best estimates.

Table 2 – Serial Number Model for Production History

Fiscal Year	Logo Emblem	Serial No. Range	Production Location
1961	Winged	1 – 3	CR/Anamosa
1962	Winged	4 - 352	CR/Anamosa
1963	Winged	353 – 964	CR/Anamosa
1964	Winged	965 - 1749	CR/Anamosa
1965	Winged	1750 – 2535	CR/Anamosa
1966	Winged	2536 – 3478	CR/Anamosa
1967	Winged	3479 – 4830	CR/Anamosa
1968	Winged	4831 – 5842	CR/Anamosa
1969	Winged RE-transition	5843 – 6721	CR/Anamosa
1970	RE Large & Small	6722 – 7433	CR/Anamosa
1971	RE Large & Small	7434 – 8197	CR/Anamosa
1972	RE Large & Small	8198 – 8925	CR/Anamosa
1973	RE Large & Small	8926 – 9363	CR/Anamosa
1974	RE Large & Small	9364 – 10229	CR/Anamosa
1975	RE Large & Small	MCN12000 – MCN12224 (note 1)	CR/Anamosa
1976	RC & variations	13000D – 13985D (note 2)	Richardson, TX
1977	RC & variations	C30,000 – C30,099 (note 3)	Toronto, ON
1978	RC & variations	C30,100 – C30,269 (note 3)	Toronto, ON
1979	RC & variations	T5001 – T5250	El Paso, TX
1980	RC & variations	?	Salt Lake City, UT
1981	RC & variations	?	Salt Lake City, UT
1982	RC & variations	?	Toronto, ON

Note 1 – There is evidence that some 124 random unused serial numbers were used in FY1975 in addition to the series shown.

Note 2 – It is unlikely Richardson produced nearly 1,000 radios, therefore assume some numbers were skipped.

Note 3 – There is evidence of the same serial number in this range being assigned to different receiver type numbers e.g. 51S-1 and 51S-1F.

progressed through the manufacturing process. Only after a manufactured unit has passed final test and quality control inspection is a serial number affixed to the radio. The system of assigning and even marking MCN numbers on the unit changed over time. There is not a lot of MCN data available to draw firm conclusions but it appears as though the MCN numbers were only unique for a given top level part number. Then, starting in 1975, someone decided to simply use the MCN number as the serial number. At that point the MCN was probably unique for all flavors of 51S-1 receivers.

A caution is in order about using the MCN to analyze serial number and production quantities. It was common practice to do "Spec Builds". In other words - produce radios that did not have an immediate customer order. These units would go into finished goods inventory until sold. Frequently a customer order later would come in for a few radios of a certain "flavor" but finished goods contained only radios of a different "flavor". Often the solution was to pull the finished goods radios and run them back through the factory to be reworked into the flavor ordered by the customer. In this situation the radio would receive a new serial number when inspected at outgoing, new top level part number, and perhaps a new model type, but the original MCN would remain.

The 70K-7 PTO also carried the Collins Logo and an MCN. It is interesting to note that the PTO changed to the Collins Round Emblem (or "meatball" as it was affectionately called) in 1961 when all the other Collins Products (except for the amateur equipment and the 51S-1 receivers) made the change. The amateur products and 51S-1 continued using the winged emblem up until the fall of 1969. A lot of equipment was in process on the factory floor when the edict came down that "nothing goes out the door with the old logo". To avoid scrapping a lot of front panels, the engineers came up with the idea of placing two tiny grey screws on either side of the meatball to plug the holes used for the former winged emblem. Thus the so-called "RE-Transition" was born.

The MCN on the PTO is another analysis guide to determine receiver quantities. But remember spare PTO's were built and shipped to customers with their own maintenance shops. Also an early serial number receiver will occasionally have a PTO with a late MCN – usually the result of PTO replacement somewhere along the line.

The 51S-1 series receivers consist of several different types and within each type there are minor variations denoted by a difference in the last three digits of the Top Level Collins Part Number. Some also have military nomenclature as shown in Table 3.

Table 3 – 51S-1 Receiver Models and Variations

Model	Top CPN	Level	No. of CPN	Package	PS	Notes
51S-1	522-2245-xxx		18	cabinet	AC	R1122/GR
51S-1A	522-2546-xxx		17	cabinet	DC	R1433/UR
51S-1B	522-3857-xxx		2	cabinet	DC	Mil Connectors; USAF - no mil nomenclature
51S-1F	522-2498-xxx		18	Rack mount	AC	R1156/GR (522-2498-00) R1156A/GR (522-2498-030)
51S-1AF	522-3156-xxx		17	Rack mount	DC	
51S-1BF	522-3850-xxx		1	Rack mount	DC	Mil Connectors

Very early units (about the first 130) sported a 5-fluted Megacycle knob and wide spaced lines around the Rejection Tuning knob. These radios also used the 70K-4 two-tube PTO. After that, all receivers used the 70K-7 single-tube PTO. It is fairly common now to see a serial numbered receiver less than 130 with a newer PTO due to maintenance replacement.

There were a variety of meter faces scattered throughout the production history. In general they follow this pattern:

Early WE – White Meter Face, then late WE – Yellow/Amber Meter Face and then late RE and RC – Red or Orange Meter Face

The Collins Logo emblems run the gamut - Winged Emblem from 1961 to the fall of 1969; Round Emblem Transition fall of 1969, Small RE (about size of a dime) from fall 1969 to about 1975, Large RE (about size of a nickel) through FY 1976, Rockwell Collins with terra cotta "Collins" & white "Rockwell" to the end except for a few with blue "Rockwell" from about 1980. A third Rockwell-Collins emblem has recently surfaced. It is square with all terra cotta color and the only word is "Rockwell". It carries a serial number indicating it was manufactured in Richardson, Texas - probably in 1976. So there you have it - a grand total of seven different emblems to collect!

Front panel variations also abound: Green front panels; Panels labeled in Spanish, and (hold onto your hats) the G-133F receiver from Ling-Temco-Vaught (LTV) began life in the Collins factory as a 51S-1. It is unknown if these units carried serial numbers in the 51S-1 sequence or even how many were produced.

How many front panel colors can a 51S-1 come dressed in? Believe it or not - there were a total of six colors per the list below.

Dark Gray: Per Collins PN 580-0182-00 (The most common color)

ICF Gray: Color #26440

FAA Gray-Green: Per Collins PN 580-0342-00

Gray: Per Collins PN 580-0255-00

Green: Color #24325

Gray Enamel: Per Collins PN 580-0236-00

Only a few units probably used these variations. But if it looks strange, don't repaint it - it just might be original and really rare!



Fig. 3 – Winged Emblem - Above

Fig. 5 - Rockwell Collins Emblem - Below



Fig. 4 – Large Round Emblem 51S-1 Receiver



Tables 4 and 5 on the following page provide a list of publications on the 51S-1 receivers. Now that you can place your receiver in the production time frame, you can find the appropriate publications for it.

See <http://www.collinsradio.org> for copies of this article under "Equipment of Collins Radio" and there you will find links to Rod's article and the general overview. All of these figures and photos are very high resolution and great for looking up the smallest detail.

The following tables list the correct revisions and available information for the various models of the Collins 51S-1 receivers. With the previously discussed variations and dating info in the previous articles, you should be able to find the manual or service publications that match your receiver.

Table 4 – 51S-1 Instruction Manuals

Models in Title	Edition	Date	Comments
51S-1/1A/1F	1 st Edition	1 Apr 1961	70K-4 PTO
	Addendum to 1 st Ed.	28 Mar 1961	AF Gain Control Change
	2 nd Edition	1 Aug 1961	
	2 nd Edition, Rev 1	15 Oct 1961	
	3 rd Edition	15 Dec 1961	70K-7 PTO
51S-1/1A/1F/1AF	Addendum to 3 rd Ed.	15 Feb 1962	
	4 th Edition	15 July 1962	
	Addendum to 4 th Ed.	1 Jan 1963	Alternate assemblies L108
	5 th Edition	15 Aug 1963	
	Supplement to 5 th Ed.	15 Feb 1965	
	6 th Edition	1 Mar 1965	
	Supplement to 6 th Ed.	15 Feb 1965	Identifies differences in 51S-1B & 51S-1
	7 th Edition	1 Nov 1965	
	8 th Edition	1 June 1967	
	9 th Edition	1 July 1969	
51S-1/1A/1F/1AF/1B	Supplement 1	15 Mar 1970	
	19 th Edition	15 Jan 1974	
	11 th Edition	15 Sep 1975	

Table 5 – 51S-1 Service Bulletins and Service Information Letters

Pub	Date	Applies To:	Subject
SB 1	02/22/63	51S-1	Suppression of Unwanted Oscillations in Low-Level Audio Output Lines and Allow Use of Wiring Configuration Shown in Figure 1.2.a of Instruction Book
SIL 7-63	05/14/63	51S-1	Reduced Hum in Audio Output With Use of 28-Volt DC Power Supply
SB 2	06/22/64 Revised 06/15/73	51S-1/1A/1AF/1B/1F	Replace Transformers T14 and T15 With Mechanical Filter
SB 3	08/11/64 Revised 08/31/64	51S-1/1A/1AF/1F	Improve Sensitivity of Lower Bands
SB 4	08/09/65	51S-1/1A/1AF/1F	Addition of Dial Lock Assembly
SB 5	04/01/70	51S-1/1A/1AF/1F	A: Converts 51S-1A/1AF to 51S-1/1F B: Converts 51S-1/1F to 51S-1A/1AF
SB 6	09/01/71	51S-1//1F	Provision for High-Speed Receiver Muting and Recovery
SB 7	01/01/72	51S-1/1A/1AF/1B/1F	Reduce 500-kHz Spurious Response



Figure 6 – WE, RE, and RC 51S-1 Receivers Lined up for Inspection

Please note that all figures and block diagrams can be found on the CCA website at collinsradio.org in larger format.

Rod Blocksome, K0DAS



This writing would usually be labeled Author Information. This time it will be a little different. This is more, by way, of a *Thank You*.

Rod Blocksome has supported the effort to preserve and present the history of Collins Radio and Rockwell Collins in so many ways. Starting with his efforts at Collins Radio and Rockwell Collins and his support of their museum, he eventually became the curator of their internal museum and served in that capacity for 15 years from 1995 to 2010 - when he retired from Collins.

Rod has also been one of the driving forces in the concept development that led to the formation of the Arthur A. Collins Legacy Association (The AACLA) which has now become a federal 501(C) 3 nonprofit that primarily serves to document the legacy of Art Collins and the people who made the history of Collins Radio come to life. Rod currently serves as President of the AACLA.

He is also still very active in supporting the Rockwell Collins Museum in an unofficial capacity and helping the current curator Lawrence Robinson in many ways.

Rod's research, and his constant readiness to support the CCA's preservation and presentation objectives is well known. He has proven to always be willing to help with the production of the *Signal Magazine* and other writings. He writes here on the 51S-1 receiver, but he has contributed many other articles and spent countless hours helping us - particularly during our efforts in 2013 when we produced the four issues of the *Signal* honoring the four

eras of the Collins history over the past 80 years. That effort would not have happened without Rod's (and Lawrence's) help and their constant pursuit of "factoids" as Rod calls them.

Rod is also very active in one of the significant hunts for Amelia Earhart and her aircraft. He has been involved in that hunt for over 15 years now including lots of engineering work and two expeditions to the Howland Island area in the Pacific. Rod is an obvious history and factoid "junkie" and we love it.

He worked for Rockwell Collins and Collins Radio for over 42 years - joining Collins in January of 1968 as an intern, and then retiring in 2010. He did take a couple of timeouts for school - receiving his BSEE degree in 1968, and then a MSEE in 1973 from Kansas State University.

He has been a licensed ham for 48 years, getting the Novice call KN0DAS in 1960 and upgrading to (conditional) General (now K0DAS) about 6 months later. He has since earned his Extra Class license. In the course of his travels, he has also held K0DAS/KH6, K0DAS/KH2, VK2IHY, and T30CXX.

His major design engineering project responsibilities at Collins, and then Rockwell Collins, have included the HF power amplifiers (the HF-8021 3kW, HF-8022 10 kW, and HF-8023 1kW solid state) for the HF-80 family. He was also lead development engineer for the HF-8151A (AN/FRT-96) 10 kW transmitter, the MF-8022 (a 16 kW auto-tune medium frequency PA) and the TV-8022 (a 45 kW PEP manual tuned television transmitter).

In his role as a significant contributor to the CCA, Rod is particularly interested in "the production history of the Collins equipment, the anecdotal stories of how certain things happened - and the Collins engineers who made them happen." The CCA is fortunate to have Rod as an active and long-time member.

As you know, the CCA and the AWA, in alliance as the Collins Radio Heritage Group (and assisted by several Rockwell Collins retirees) plotted, proposed, and then rescued the Collins Model 821A-1 250 KW AM Shortwave transmitter from the "to be demolished" VOA site in Delano, California. Rod not only provided huge assistance during the planning, proposal and negotiation process, but he was right there on the extraction team in Delano providing his valuable expertise and labor. It is not easy to take apart and move a 20 ton transmitter.

So, back to the purpose of this short summary of Rod's activities.... Thank You Rod for everything that you have done and still do. You have made much of what we have done possible while at the same time making the magazine and all of us richer in historical fact. It's been a privilege working with you and I look forward to many more conversations and efforts, albeit in a different capacity.

de Bill & the CCA gang

Your CCA - 2015 - Fourth Quarter Report

Update Q4 & 2015

Here at the CCA, the 4th quarter of any year is always a little different than the other three. There are few events to plan and staff, and a lot more going on internally from an administrative standpoint. This year was no different and it was, as you know, an election year so that had to be completed and then the new officers elected by the new board.

We still have a membership period distribution that, for the most part, runs December to December. It is starting to spread out now that we have the new web based membership database and as we randomly get new members and late renewals. But...December particularly is a busy month as we support the "customer Service" issues involved, and this year, Scott – our IT guru – did some work and finally made progress on making our renewal process on-line more user friendly. The "purchased" externally imported software is difficult for us to modify. But, kudos to Scott, he got it done.

Election Results

After the election of our new board members in Q3, the CCA board met in November and officers were elected by the board as required by our charter. The new officers were installed the first week of November. Scott Kerr, KE1RR and the incumbent, remains President as his term runs until next year. Jim Stitzinger, WA3CEX and newly elected CCA BoD member was elected Vice President. It is really great to have Jim back on the board and in the VP position. He is, and always has been, a major contributor to the CCA. Dennis Kidder, W6DQ (reelected to the board for a new term this election) was again voted in as Secretary and keeper of the records. Jim Green, an appointed board member related to his position was retained as Treasurer. Jim Hollabaugh, W6TMU (and a mid-term board member) was retained as the 20 meter Net Control and our Net Management Consultant. So, there is your "new" management team for the next year.

Signal Magazine Changes

At the same time that elections were going on, there was another change here. Bill Carns, N7OTQ has decided that he is retiring this year as of December 31, 2015 as Editor and Producer of the *Signal Magazine*. Bill had served 8 years in that position, during which time we are pleased to say that significant progress was made on making the magazine one that we can truly be proud of. Not to worry, good plans are in place to continue this progress – not the least of which involve most of the staff staying on. Bill and Jim Stitzinger will be consulting in the background, and a new layout "Creative Director" who also does this sort of thing for her real job will be major assets. You will be seeing more from Dani Toynette as time goes on, but look forward to the same quality magazine you have come to expect - and even better.

Looking Back

The year flew by and 2015 was a great one. Events at Orlando, Dayton, Dallas and New York (AWA partnership Dinner) all came off on schedule and the usual dinners and talks and comradery abounded. This is not to mention all of the swap and associated fun.

The AWA convention in mid-August was not only great from a friendship and Collins collecting standpoint, but made really memorable by the fact that the new AWA Museum VOA/Collins Model 821A-1 display was unveiled on schedule capping a 1 1/2 year effort to rescue about 15 tons of transmitter and charming old VOA analog mix & monitoring board from the abandoned (and to be demolished) Delano, California VOA site. Mission accomplished for the Collins Radio Heritage group (The AWA and the CCA in alliance) and assisted by some truly fun and competent Collins Radio retirees. If you get a chance, drop-in in at the Bloomfield, New York museum and see that beauty. The AWA reassembly troops did a great job and that was no trivial task – especially in the winter time.



Wonderful recreation of the VOA Monitor & Mix Board - backed up by the Collins Radio Model 821A-1 250 KW AM Carrier shortwave transmitter all rescued from the VOA site in Delano California. Located - AWA Museum, Bloomfield, NY

Our Collins Associates

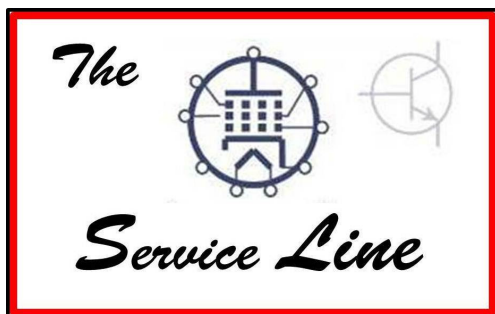
2015 also saw some major progress by some of our good friends at Collins Radio/Rockwell Collins in Cedar Rapids. The ACLA (Arthur A. Collins Legacy Association) completed and released their first "A Culture of Innovation" CD featuring 24 minutes of anecdotal history from the older generation folks at Collins Radio. This historic work documenting the legacy of Art Collins is a major achievement done by the ACLA in consort with the AWA and deserves your attention. It can be purchased for \$15 at the AWA store at:

<http://www.antiquewireless.org/museum-store1.html>.

You should have also received a notice on the CCA reflector. Stay tuned there and on our website for the latest news.

Finally, there was a nifty "happening" in Cedar Rapids this fall. FIFI visited Cedar Rapids during their annual swap and Collins shindig and it was a great opportunity for our members to visit home ground and also take in a tour of this great flying piece of history that includes her restored (by Collins Radio retirees) radio room. Always watch our website for FIFI's schedule.

That's it for this quarter. Watch the CCA website for the coming 2016 Events Calendar. There is a surprise coming. Oh, and do not forget to renew (most of you are still hanging out around December or January). You do not want to miss a single issue. ----- CCA -----



Implementing Fuse F1 in Older 32S-3 Transmitters

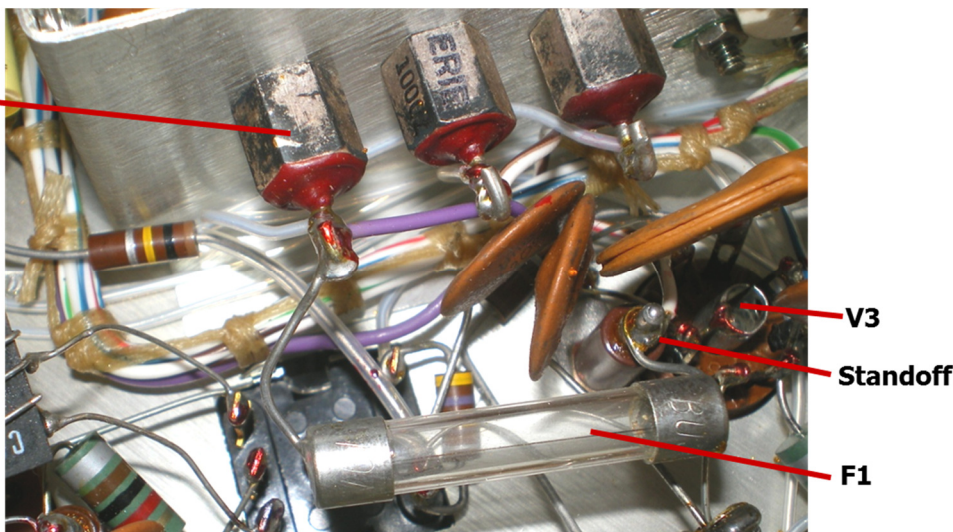
by Dick Weber, K5IU

On the rear of 32S-3 transmitters there are several RCA jacks including J20. This jack supplies 6.3 VAC for the meter light in the 312B-4 station control. In latter 32S-3 models there is a hardwired, 2 Amp fuse (F1) to protect the rig in case there is excessive current drawn from J20. This could be caused by a short in the patch cord hooked to J20 or if the cord pulled loose from a 312B-4 and the tip of the RCA plug contacted ground. In earlier 32S-3s F1 wasn't used leaving the 6.3 VAC supplied by J20 unprotected. After looking at several 32S-3 manuals, it appears Collins implemented F1 sometime be-

tween 1964 and 1966 - no service bulletin was issued. In view of this, it's not a surprise the 6.3 VAC supplied by J20 in a 32S-1 isn't fuse protected either.

Figure 1 (Right) shows a late model 32S-3 with F1 hooked between C167 and a standoff secured to one of V3's socket mounting screws.

A wire then carries the 6.3 VAC from the standoff to J20. In models of the 32S-3 without F1, there is no standoff at V3 and there are three wires hooked to C167 one of which goes directly to J20.



Recently I refurbished two older 32S-3s, which included adding F1. In both cases, I didn't use the mounting scheme shown in Figure 1. Instead, I tried two different approaches that are easy to implement without having to dig into the area where the standoff is mounted in latter models. The first mounting scheme I used is shown in Figure 2 along with a size comparison of the fuse that was used and the fuse shown in Figure 1.

Standoff Lead to J20 Fuse C167 Cut Lacing

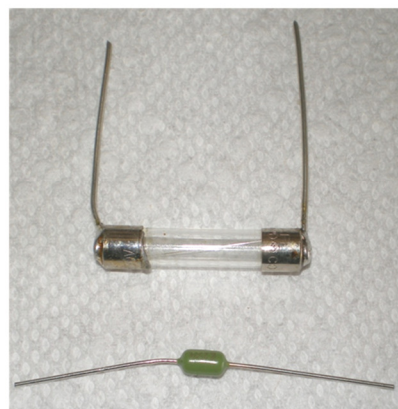
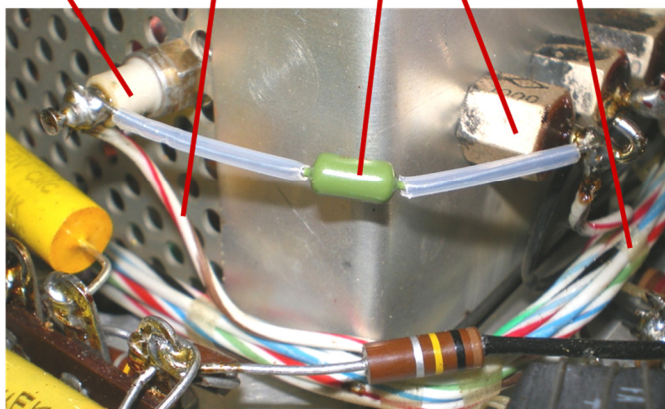


Figure 2 – Installation of F1 in an Older 32S-3 and Size Comparison of Fuses

Adding the new fuse: To add a fuse in the line going to J20, I needed to figure out which one of the wires hooked to C167 went to J20. Since two of the wires going to C167 had the same color code as the wire going to J20, I had to unsolder them and use an Ohmmeter to figure out which one went to J20. Once the wire to J20 was found, I used an X-Acto knife to cut the lacing on the wire bundle beneath C167 so the lead going to J20 could be pulled back a couple of inches. It was then routed back to the standoff mounted to the wall of the shielding enclosure as shown in Figure 2. The last step was to install a fuse between C167 and the standoff – then solder the connections.

The fuse I used is a 2A solder-in fast blow axial wire fuse made by Littlefuse. I bought several of these from Mouser – their part number 576-0263002. They're small and have small diameter leads, which makes their installation relatively easy. In Figure 2 you can see the standoff mounts using an existing hole in the perforated metal. No hole had to be drilled.

An alternative scheme suggested by Don Jackson, W5QN was implemented in the second of the two 32S-3s I recently refurbished. It uses a miniature fuse holder and miniature glass fuse as shown in Figure 3. This figure also shows the final installation including a plastic puller snapped to the fuse's body permitting easy insertion and extraction of the fuse.

Details are shown in Figure 4. Here too, the wire from J20 going to C167 had to be found to cut the lacing below C167. Lacing cut, the lead to J20 was routed back and soldered to one of the terminals of the miniature fuse holder. To complete the fuse circuit, a lead was soldered to the other fuse holder terminal and routed to C167. As installed, I routed the wire as part of the existing bundle including lacing the resulting bundle beneath C167 – picking up the original bundle and the new lead.

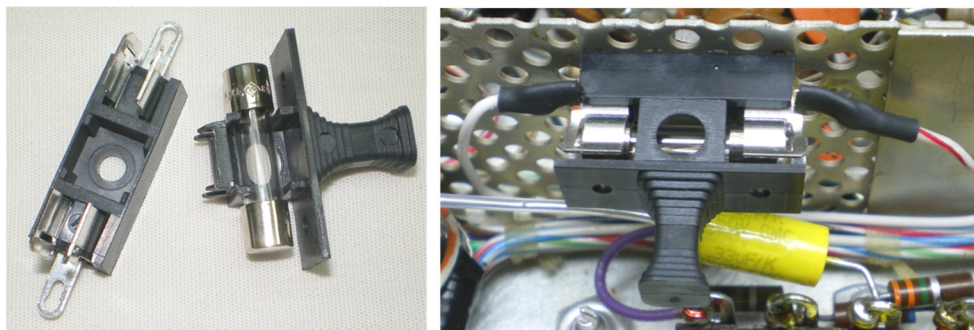
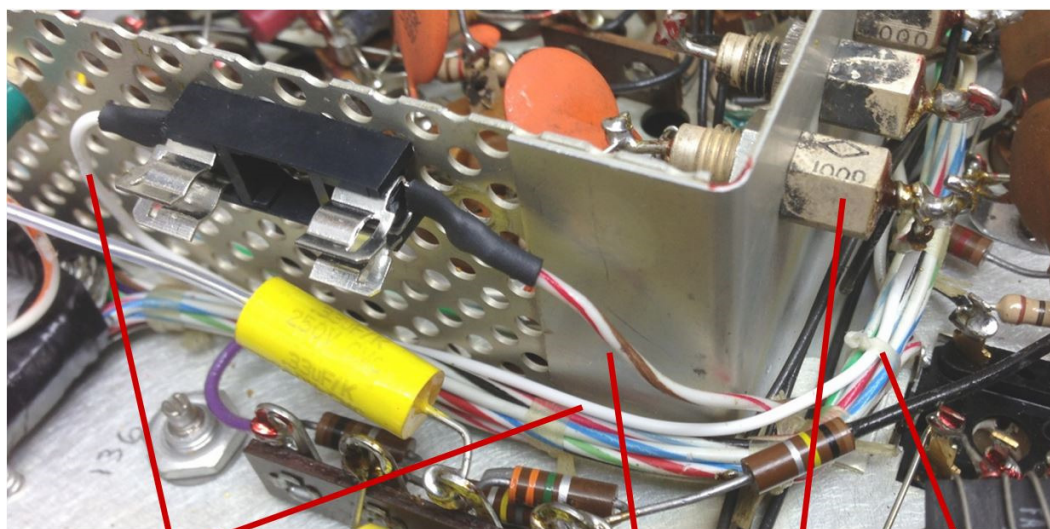


Figure 3 – F1 Install w/ Miniature Fuse Holder (L) & Fuse With Puller (R)

Mounting the fuse holder was relatively straightforward using one of the holes in the perforated shielding enclosure. You should bend the holder's terminals up a bit to make them easier to solder to. The miniature fuse holder I used came from Mouser their part number 576-64700001003. The puller also came from Mouser their part number 576-64000001003. Lastly you can also buy miniature 2A, fast acting fuses from Mouser their part number 576-0217002.MXP.



Lead to C167

Lead to J20

C167

New Lacing

Figure 4 – Miniature Fuse Holder Mounting and Wiring

If you have an older 32S-3 without F1, you can install one with little trouble and provide an additional measure of protection for your rig. You have a choice of three ways to do this. First, you can mount it the way the factory did as shown in Figure 1. But this is problematic due to access to V3 to install a standoff and routing the lead from J20 to the standoff. Second, you can use the scheme shown in Figure 2. This approach is easy to do and provides over current protection with a fast blowing fuse. If it ever did blow, a new one would have to be soldered in place of the blown fuse. Third, you can use the scheme shown in Figure 3. This approach is easy to do and provides over current protection with a fast blowing fuse. If it ever does blow, a new one can be installed by using the fuse puller to extract the blown fuse and then use the puller to insert a new one.

Regardless of which method you prefer, I suggest you install F1 to provide an additional measure of protection for your 32S-3 (or 32S-1/2). I also suggest that when these rigs are recapped or aligned, they should be checked to see if it has F1. If not, one should be installed. -----CCA-----

In the Collins Shack

Enter the Lair of Jim Garland, W8ZR

Many of you may already be familiar with Jim Garland, W8ZR, through his excellent QST/QEX articles on station controllers, tuners and high voltage power supplies. However, he also maintains an excellent collection of Collins gear, as well as gear manufactured by other companies. In particular, he has a special interest in receivers, and his collection includes a number of high-end commercial designs not familiar to many of us.

First licensed in 1955, Jim started his ham experience with a Heathkit AR-2 and AT-1. His first Collins rig was a used KWM-1 acquired in 1962 while a college student. It was not until 1981 that he purchased his second piece, a KWM-380. Since that time, Jim has acquired many more pieces for his collection. He has a special place in his heart for the KWM-1 and the 75A-4, both Collins classics, and terrific innovations for their time.



Currently, Jim has 3 Collins setups that are used regularly: the Gold Dust Twins, an S-Line, and the KWM-380. He also has many other setups using other manufacturer's equipment.

Jim chases DX, restores ham gear, and enjoys contesting, but his main ham interest is home brewing rigs. Photos of his impressive machine shop show why his homebrew results can have such a professional appearance. Jim also enjoys writing fiction and is currently working on a novel.

Jim's professional career started in 1970 as an assistant professor of physics at Ohio State University. Jim was also a Post-doctoral Fellow at Cambridge University.

From that start, he became chairman of the OSU Physics Department, Dean of the College of Mathematical and Physical Sciences, and Dean of Arts and Sciences. He also ran a research group for Ph.D. students. In 1996 he was appointed president of Miami University in Oxford, Ohio. He held this position for 10 years prior to moving to his current location in Santa Fe, New Mexico. We say "Wow" to Jim's professional background!

Jim and his XYL (Carole) have two kids, five grandkids, and spend lots of time taking care of their three dogs, a horse, ten chickens and a canary. Drinking lots of margaritas is right up there on his list as well!





I highly recommend that you check out Jim's website at www.W8ZR.com. You will find many more photos and descriptions of some of the more exotic receivers you may never have heard of. There is some more nice Collins there too.

Don, W5QN



**Home Brew
The Right Way**



Collins 51S-1

General Coverage Receiver

(with 55G-1 Preselector)

July, 1967 Sales Brochure Cover - Collins Radio
~ from the archives of Jim Stitzinger ~

