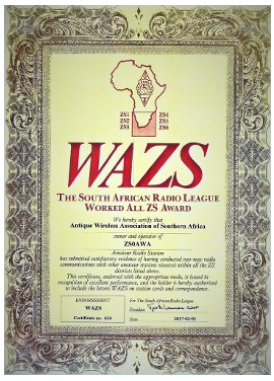
Newsletter
The Antique Wireless Association of Southern Africa
18th Anniversary

177 April 2021



Inside this issue:

AWA Committee:

* President—Renato ZS6REN
* Acting VicePresident—John ZS1WJ
* Technical Advisor—Rad ZS6RAD
* Secretary/PRO—Andy ZS6ADY
* KZN—Don ZS5DR
* WC—John ZS1WJ
* Historian—Oliver ZS6OG

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www.awasa.org.za

Reflections:

On the 22nd March, the AWA celebrated it's 18th Birthday. Well it wasn't much of a celebration, because it just slipped by quietly.

Kind of the way I guess many of us would like our birthdays to just slip past without being noticed, as we get older.

But it was, in my mind, a momentous occasion for a group of like minded people who had it in mind to draw a bunch of enthusiasts together through love of valve radio's.

What started out with a group of six has now grown to a group of 382, and the largest club on the listing of SARL. If it were not for the fact that we have lost a few along the way going SK and a good few who have not changed email addresses, we would be into the 400's by now. But I guess that is the process of natural attrition.

One must also remember that we have members across the globe, I think that makes it even more significant.

I was fortunate enough to be one of the founding members that called in on that first day, when Cliff ZS6BOX was elected our founding President.

Many have come and gone since then, but that was the start of it all.

You can read the whole story on our web page, the link is at the bottom left of this page. Once on the web page go to "About".

I have on many occasions lauded those who started the AWA here in SA, and I will continue to do so, because of what we have become. I really don't think they ever had in mind how important it was what they were doing, and what the result would be.

It is always a shame to bid farewell to members who go SK and this month we had to do the same when Dave ZS6AVM went SK on the 16th March 2021. He was a long time member of the AWA.

Dave was not always active on the AWA nets but often called in using his FT101, just to brag that he had one. Dave was also in to collecting commercial radios which he would restore and put on display in his house. He was also heard on many an occasion on the AM nets, was keen on homebrew and loved to ragchew. His station was fondly referred to by himself as the BBC (Boksburg Broadcasting Centre).

This Newsletter was only started a few years later in January of 2006, so is a few years behind the inauguration of the AWA. Long may they both last.

Let me also at this stage thank all of you who send me emails to thank me for the Newsletter, it is greatly appreciated and does at least help when I have to sit down and compile the next one. Articles would also be greatly appreciated.

Here's to a long and happy existence of the AWA of Southern Africa.

Best 73

DE Andy ZS6ADY

Wikipedia

Sunspots are temporary phenomena on the Sun's photosphere that appear as spots darker than the surrounding areas. They are regions of reduced surface temperature caused by concentrations of magnetic field flux that inhibit convection. Sunspots usually appear in pairs of opposite magnetic polarity. Their number varies according to the approximately 11-year solar cycle.

Individual sunspots or groups of sunspots may last anywhere from a few days to a few months, but eventually decay. Sunspots expand and contract as they move across the surface of the Sun, with diameters ranging from 16 km (10 mi) to 160,000 km (100,000 mi). Larger sunspots can be visible from Earth without the aid of a telescope. They may travel at relative speeds, or proper motions, of a few hundred meters per second when they first emerge.

Indicating intense magnetic activity, sunspots accompany secondary phenomena such as coronal loops, prominences, and reconnection events. Most solar flares and coronal mass ejections originate in magnetically active regions around visible sunspot groupings. Similar phenomena indirectly observed on stars other than the Sun are commonly called starspots, and both light and dark spots have been measured.

HF Happenings:

Word to the Wise

Splatter - Interference caused by a signal with spectral components outside of normal and/or accepted boundaries for an emission type. It can be caused by distortion when an amplifier is driven outside of its linear range, when the input signal to an amplifier is itself is overly broad, or when one stage of the signal chain is overloaded. It is poor operating practice, and against the rules for most contests, for stations to purposefully use splatter as a means to keep adjacent frequencies clear during contests.

Plans to Retrieve Titanic's Marconi Wireless Radio Face Sinking Trajectory

In May 2020, Federal Judge Rebecca Beach Smith ruled against the National Oceanic and Atmospheric Administration (NOAA) allowing salvage firm RMS Titanic, Inc., (RMST) the rights to retrieve the Titanic's Marconi wireless telegraph from the underwater site many claim is a mass gravesite best left undisturbed https://www.nbcnews.com/id/wbna47046053. However, plans have recently hit a snag and, surprisingly, it is not objectors to the project who have sunk the excursion plan but the coronavirus pandemic - responsible, of course, for a far greater loss of life than the iconic ship.

On 29 January, RMS Titanic, Inc., filed to indefinitely postpone radio equipment retrieval due to "increasing difficulty associated with international travel and logistics and the associated health risks to the expedition team," according to their public court filing. While this may indeed have played a part, it is also likely the negative economic impact of virus-related restrictions on the RMS Titanic exhibit that serves as RMST's primary source of revenue has also played a part in delaying the costly excursion.

The Marconi wireless radio at the hub of the controversy is the device Marconi Men in the Titanic's radio room used in 1912 to signal for help after the Titanic struck an iceberg off the coast of Newfoundland http://www.dx-qsl.com/titanic-radio-room.html. While more than 1 500 lives were lost in the incident, use of the Marconi radio to notify nearby ships of the plight of passengers in lifeboats is credited with saving nearly 700 lives. Lives most surely otherwise lost in the frigid conditions without immediate aid.

Once virus conditions improve, RMST will attempt to retrieve the Marconi device using an already-open skylight on the Titanic. If successful, it will be the first time an artifact has been removed from within the confines of the ship. A manned submarine will be used to reach the wreck more than two and a half miles beneath the surface, and a remote-controlled submarine will finish the task of entering the ship and retrieving the device.

RMST is adamant that the expedition remains a top-priority and will "take place as soon as reasonably practicable."

Calendar:

April

Until 4 April – Passover
4 – Easter Sunday
5 – Family Day
7 - World Health Day
10 Autumn QRP contest
12 - New Moon; Start of Ramadan; West Rand meeting
17 - SARL Virtual AGM; ZS4SRK Balloon contest; Magalies and Highway ARCs meetings
18 – World Amateur Radio Day; ZS4 Sprint
20 - PEARS and Border ARC meetings
22 - Earth Day; Lyrids MS
23 - Lyrids MS; Registration for the May RAE closes; Provincial Schools close
24 - CTARC meeting
25 - Marconi Day
27 - Freedom Day; SARL 40 m Grid Square Sprint; Secunda ARC meeting; Full Moon and Supermoon

DX from Africa

Reunion Island, FR. Phil, F5TRO and XYL Ann, F5BSB will be new arrivals and permanent residents on the island in May. Their call signs will be FR8UA and FR8TZ, respectively. Phil states he will be active on 80 - 2 metres (and 70 cm) at first, using CW, SSB and some Digital modes. QSL via direct or LoTW.

Operating Tip

Inspection and Preventative Maintenance – Do not forget to make time for your annual station inspection, including your outdoor equipment. Before you get to the antenna and cable part, take some time to review Frank's, W3LPL "Contest Antennas and Coaxial Cables" presentation http://www.youtube.com/watch?v=gbwyQC099oM from Contest University https://www.contestuniversity.com/videos/. There are so many details, it is easy to forget some simple things that can cause problems, like using an inappropriate type of cable for burial, or not preventing energy-discharge-created pinholes in the cable running up the tower.

Hallicrafters Model SX-28 Communications Receiver (1941)

(Part III)

Reviving the S-Meter

With a fresh set of capacitors in place, I was ready to revisit the unresponsive S-meter. If anything, it was less responsive than before. Where before it had twitched slightly on a strong signal, now it lay on the right pin, barely moving at all.

In the course of fixing the meter, I learned a lot about the radio's AVC, ANL, and S-meter circuitry. Checking the voltages on the S-meter amplifier tube (V7, type 6B8), I quickly discovered that the plate voltage was lower than normal—only about 2 volts, rather than the 17 volts specified in the SX-28 manual or the 50 volts specified in the military SX-28A manual.

The meter circuit itself is not very complicated. One end of the meter is connected to the plate of tube V7. In parallel with the meter's terminals is a 100-ohm resistor. The other end of the meter is connected to the S-meter adjustment potentiometer, a 500-ohm unit. The adjust pot is connected to a 27K-ohm dropping resistor which in turn connects to the radio's 280-volt B+ line.
When I bought the radio, someone had installed a 27-ohm resistor where there should be a 27K resistor. Installing a resistor of the correct type did not correct the problem, however.

As an experiment, I tried substituting resistors of lower values for the dropping resistor. This attempted fudge didn't work. With a lower-value resistor in place, the voltage at the plate of V7 did not rise as expected. When I put in resistors of lower and lower values, they tended to overheat and burn up. Clearly, there was something else at fault besides this resistor—perhaps a resistance leak somewhere along the line.

Since the meter is dependent on the AVC working correctly, I spent considerable time checking the dual AVC system, testing components and replacing marginal resistors as well as a few mica capacitors.

AVC is also dependent on the receiver being correctly aligned, so I hauled out my signal generator, frequency counter, and multimeter, and went through the complex alignment process.
The SX-28 alignment procedure includes steps for aligning the ANL (automatic noise limiter) and AVC. During the AVC step, I was unable to find a peak anywhere in the adjustment range for transformer T6. This transformer feeds signal from the plate to the diodes of tube V8 (type 6B8), the AVC amplifier.

Since I had already replaced almost every other component in the neighborhood of tube V8, it made sense to test that transformer. With an ohmmeter, I confirmed that the transformer windings had continuity, which is always good news. That left the two mica capacitors inside the housing as the only remaining suspects.
Before pulling the transformer, however, I did a static test on it using a signal generator and oscilloscope. Fellow SX-28 owner John (W3JN), who incidentally supplied lots of other good advice to help diagnose this problem, suggested this test:

*Phil - yes, there *is* a way. Connect your signal generator to the primary with the hot lead thru a 10K or so resistor so that the low impedance of the sig gen doesn't wreck the Q of the transformer.*
Crank up the sig gen as high as it'll go. Then connect a scope to the secondary (this is all with the power off, BTW), set it for max sensitivity.
Rock the sig gen thru the freq range (say 400 to 500 KHz) and observe the scope to see where the peak or dip is. This will give the resonant frequency of the transformer. If it's way off 455 KHz then the cap(s) have changed value and
need to be replaced. BTW this should be in situ with the tube in its socket, etc., just power off. The resonant freq wil change a tad with the power on most likely but if the caps have drifted way off this is one way to tell.

73 John

The oscilloscope test also indicated that the transformer wasn't peaking anywhere in its range, so I unsoldered the transformer connections and removed it. The next photo shows T6, ready for service.

Sure enough, one of the capacitors (C112) was far off its specified value. The other capacitor was still within about 5% of spec, so I left it in place. After reinstalling the transformer, I got a nice peak during the AVC alignment.
It was satisfying to fix a bum transformer so easily, but the meter behaved no better than before. To eliminate the meter itself from the equation, I tried two tests. The simplest test was to disconnect the Hallicrafters meter and temporarily substitute a similar DC milliammeter in its place. The other meter, a new one that I happened to have lying around, behaved exactly like the old one.
That suggested that the problem was not only in the meter, but it didn't necessarily prove that the meter was good. More than once, I have found *two* problems at play where I initially suspected only one. Walt Heskes, another long-

suffering and generous technical adviser, suggested the following test for the meter.
You most certainly can test your S-meter. Here's one way to do it safely: The meter is measuring small amounts of current in the AVC circuit. Therefore, the max deflection shouldn't take more than a few milliamperes. So, if you disconnect the leads of the meter from the circuit and connect it in series with a resistor and a DC supply, such as a battery, you should simulate the same sort of deflection you should get at runtime.

Now, here are some values you can try:

If E = i*r, then if E = 6 VDC and we want a 1 mil deflection, R should be E/i or 6/.001 = 6000 ohms.
So, a 6000 ohm resistor in series with the meter and a 6 volt supply should gently move the meter.

As a double check, I first tried this test on a new meter, which I had earlier used as a substitute. Then I tried it on the Hallicrafters meter. Both meters behaved identically, and exactly as Walt had predicted.

I knew that the meter was good. I knew that transformer T6 and countless other components on related circuits were good (since I had replaced and double-checked them). I knew that the relevant tubes were good because I had not only tested them but also tried substituting other known-good tubes in their places. I knew that the voltage at the plate of tube V7 (and hence at the S-meter) was too low to make the meter function. But I didn't know why!
While working on this set using the "civilian" SX-28 manual, I had ordered a copy of the military SX-28A service manual, and it finally arrived just in time for this phase of the investigation. The civilian SX-28 documentation runs to 30-odd pages, but the military version is vastly more detailed.

If you need to overhaul an SX-28 or SX-28A, I strongly recommend that you get the military manual. It includes an extensive theory section describing the operation all circuits, and invaluable reference info such as a chart of resistance values for every pin of every tube. (To align the RF and oscillator sections, however, you *must* have the correct manual for your radio—SX-28 or SX-28A—since the location of the various trimmers and coils differs between the models.)

A resistance chart can be invaluable to pinpoint specific problems. The process is tedious. You pull all the tubes out of the radio, fire up your ohmmeter, lay out your notebook, and test the resistance found at every pin of every tube in the radio. The SX-28 has fourteen octal tubes and one four-pin rectifier, so a full resistance check amounts to 116 measurements. For this kind of work, I make a second copy of the manual page containing the resistance chart. The original page serves as my reference, and on the copy I write in the actual measurements for the radio under service.

Not surprisingly, most resistances in the radio were within normal (i.e., plus-or-minus 20%) specifications. The glaring exception was found on tube V7. That day I got the following email from John.

You have a short somewhere between the meter and the plate of V7. Check resistance from the meter terminals to ground. Try disconnecting the wires to the pot, see if the short goes away. Maybe the problem is in the pot.

Keep your chin up, you've almost got it licked!

73 John

Within a few hours, I got a similar response from adviser Walt Heskes.

There's simply got to be something awry in the AVC.
When you run through all of the modes, you get the same S-meter response? What kind of response do you get when you fidget with R29, the zero adjustment?
Suppose you bypass R29? What happens on strong signals?

Is that pot doing its job?

Walt

The votes were unanimous, so I pulled the S-meter adjustment potentiometer and quickly found that its center terminal was leaking to the case. Not a dead short, but certainly sufficient to leak enough voltage to prevent the plate of V7 from receiving its share. I temporarily connected a replacement potentiometer and was thrilled to see the S-meter come back to life. Problem solved!

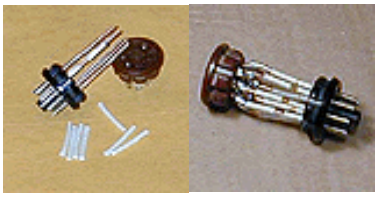
That weekend happened to be the occasion of the NWVRS swap meet in Portland. I found a number of useful parts at that meet, including a good potentiometer to replace the bad old one. The new pot's shaft was longer than needed, but a few strokes of the hacksaw cured that. After rounding off the end a bit, you could hardly tell the new unit from the old. The next photo shows old and new pots together.

With the S-meter working and the AVC voltage strong on both lines, all that remained was to do the alignment one last time. If you have never aligned an SX-28 before, I have just one piece of advice: take your time and follow the instructions **exactly!**

Here's a little trick that can help in the alignment. To align the IF section, you need to connect the hot lead of the signal generator to pin 8 of the mixer tube (V3, type 6SA7). The underside of this tube is buried deep within the RF box under the chassis, almost impossible to reach. To reach it from above, simply pull tube V3, bend a little piece of wire around pin 8, with enough extra length to stick up at an angle when you replace the tube. You can clip your signal generator lead to the little wire during the alignment. The next photo shows what I'm talking about.

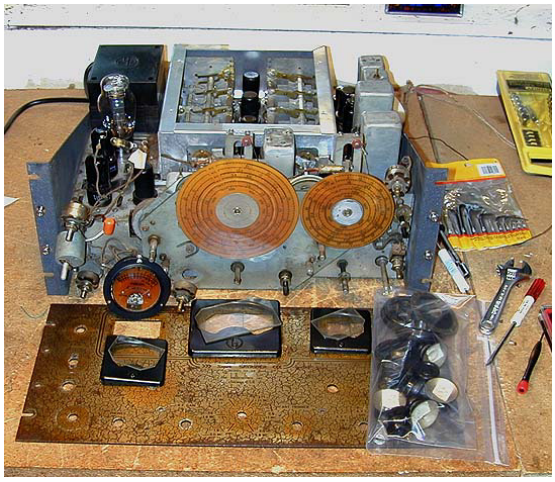
After thinking about it for a while, I came up with a better solution—a tube extender that gives easy access to any of the pins. I built it from a standard eight-pin socket and base, connecting the two parts with 14-gauge solid copper wire. The next photo shows the extender under construction and finished.

The 14-gauge wire is exactly the right diameter to fit snugly inside each pin of the base. This wire is heavy enough to make the whole assembly strong and rigid. I put two pieces of insulation on each leg of the extender, cutting the insulators short enough to leave a little bare space on each connector. The idea is that to connect a test lead to any pin, you slide up the upper piece of insulation. The insulation on adjoining connectors remains down, preventing short circuits. The next photo shows the extender in action.



The extender is plugged into the tube socket, and then you plug the tube into the extender. An extender like this would also be very useful for testing voltages without removing the chassis from the cabinet. For tubes with different numbers of pins, you will need to substitute the correct sockets and bases, of course. A couple of years after writing this article, I found a set of factory tube extenders, which you can view in my Philco Predicta article.

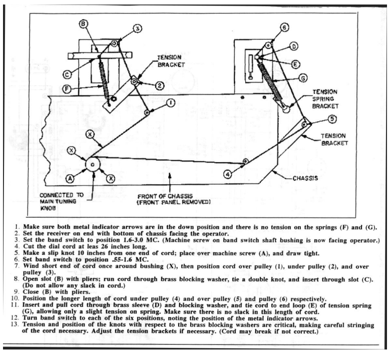
Cosmetic Restoration



With the electronics in good working trim, it was time to turn to cosmetics. The front panel looked like it had been stripped to bare metal and covered with dark varnish. The only cure there would be to repaint it in the original color and restore the white and red lettering using lacquer sticks. Since the lettering, pinstripes, and leather-like texture on the front panel is stamped into the metal, it's comparatively easy to redo.

The paint on my cabinet was quite good, so after removing the extra handles and filling those holes, it would be a small job to touch up the hole repair and shine up the aluminum on the side trim panels.

The next photo shows the front panel removed from the receiver. This involves removing all the knobs, unscrewing the mounting nuts from the phone jack and toggle switches, disconnecting and removing the S-meter, and carefully taking off the dial covers and their glasses. To prevent loss, most of the mounting nuts and assorted screws have been reattached to the places they came from. The knobs are carefully squirreled away in a big Ziploc bag for later cleaning.


TENSION BRACKET
TENSION SPRING BRACKET
TENSION BRACKET
CHASSIS
CONNECTED TO MAIN TUNING KNOB
FRONT OF CHASSIS (FRONT PANEL REMOVED)
1. Make sure both metal indicator arrows are in the down position and there is no tension on the springs (F) and (G).
2. Set the receiver on end with bottom of chassis facing the operator.
3. Set the band switch to position 1.6-3.0 MC. (Machine screw on band switch shaft bushing is now facing operator.)
4. Cut the dial cord at leas 26 inches long.
5. Make a slip knot 10 inches from one end of cord; place over machine screw (A), and draw tight.
6. Set band switch to position .55-1.6 MC.
7. Wind short end of cord once around bushing (X), then position cord over pulley (1), under pulley (2), and over pulley (3).
8. Open slot (B) with pliers; run cord through brass blocking washer, tie a double knot, and insert through slot (C). (Do not allow any slack in cord.)
9. Close (B) with pliers.
10. Position the longer length of cord under pulley (4) and over pulley (5) and pulley (6) respectively.
11. Insert and pull cord through brass sleeve (D) and blocking washer, and tie cord to end loop (E) of tension spring (G), allowing only a slight tension on spring. Make sure there is no slack in this length of cord.
12. Turn band switch to each of the six positions, noting the position of the metal indicator arrows.
13. Tension and position of the knots with respect to the brass blocking washers are critical, making careful stringing of the cord necessary. Adjust the tension brackets if necessary. (Cord may break if not correct.)

With the front panel off, I had great access for cleaning and lubricating all of the tuning gears and bandswitch pointer machinery. Before reinstalling the panel, I would also restring the dial cords, which were functional but frayed.
The SX-28 has a complicated dial stringing arrangement, which not only turns the tuning dials but also moves the band pointers up and down behind the main tuning dial and bandspread dial. Below is a diagram from the military SX-28A manual.

Doug Moore has written an extraordinary article detailing the SX-28's tuning gearbox and stringing mechanism. Check out Secrets of the SX-28 Gearbox for his authoritative discussion.

Repainting the Front Panel

The next step was to strip the old dark gunk from the panel. When I removed the dial covers, the gunk underneath looked suspiciously orange, almost like old shellac. I ran a sink full of hot soapy water and let the panel soak for a while, then started gently scrubbing. Sure enough, the finish was shellac, and it came off easily.
Lots of old paint remained in the stamped lettering and wrinkle texture, however. After drying the panel, I lay it down on a thick pad of newspapers and applied a thick coating of Citri-Strip stripper. A couple of hours later, the paint had loosened sufficiently to come off easily with a small brass brush.
Here is our patient at this stage of the proceedings. Looks messy, but things will get better soon!

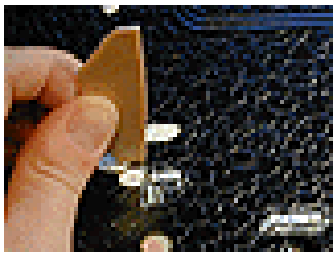
All of the SX-28 panels that I've seen are coloured a very dark grey. They are not quite black, but not as light as the dark bluish grey used on the S-20R cabinet. The closest match that I could find at any local paint store was plain old black enamel. To judge what it would look like, I applied a coat of primer to the back of the panel, followed by a coat of the black enamel.

The result was too dark, in my opinion. To double check, I buffed off a spot on the back of the panel to expose the original colour. Sure enough, the original was not pure black. I took the panel to an auto body supply store and had them do a colour match on that spot and make me a spray can of that colour. Then I applied primer to the front of the panel, followed by three coats of the coloured enamel.

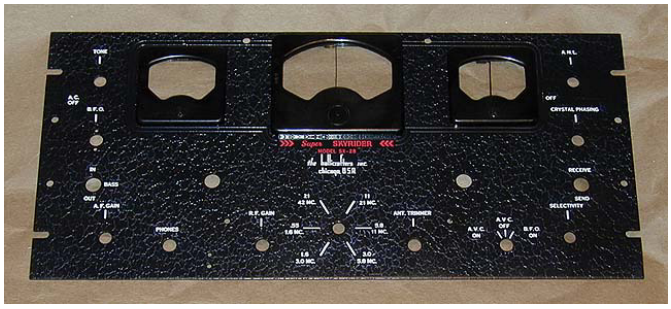
To restore the lettering, I used red and white lacquer sticks from Antique Electronic Supply. Using these is simple in theory. You rub the paint into the recessed lettering, and then wipe the excess away from the surrounding area.
Easier said than done! It took several tries to get this right. At first, I rubbed paint into the lettering and then immediately tried to remove the excess. A common technique, I had heard, was to drag a paper towel moistened with paint thinner gently across the letters. I also tried using a cloth wrapped around a small, flat object. No matter what I tried, the paint tended to come back up out of the letters. It was also difficult to avoid getting a lot of colour into the "wrinkles" surrounding the letters.

I asked for advice from the rec.antiques.radio+phono newsgroup and got a lot of information about different kinds of lacquer sticks (hard, medium, soft) and how to use them. The harder lacquer sticks need to be melted over a flame or softened by kneading. It may help to heat the panel, and so on. I did some calling around the area and was not able to locate any different kinds of lacquer stick in the colors that I needed, so I was faced with learning how to use what I had. The answer finally came from Walt Novinger:
If you bought the lacquer sticks from Antique Electronics Supply (we have used them on several SX-28 panels), go to an autobody store and get a small hard-plastic squeegee that's used with Bondo. Rub the lacquer stick across the letters, wait a few minutes, and strike it off level with the surface using the squeegee. Works like a charm!

As more than one person had suggested, letting the lacquer dry was essential. Impatient, and worried about not being able to remove excess from the wrinkles, I had been nervous about letting the lacquer sit too long. Following Walt's advice, I bought a plastic bondo scraper at an auto parts store and cut it to a convenient size using a jackknife. When I let the lacquer set up for about 10 minutes, the excess came off and the letters were nicely formed. The next photo shows this process.



After scraping most of the excess from every set of letters, I went back with Q-tips moistened in turpentine and carefully cleaned up as well as possible, without getting solvent into the letters themselves. This painstaking process took much longer than getting the paint into the letters.
At this stage, I had letters that looked very nice but which were surrounded by small hazy areas of white residue. I put the panel away to dry overnight, putting it under a little bit of heat from a lamp to make sure the lettering dried well. If you are doing this in a cool or humid place, you may need to allow more drying time for the lettering.



The next day I gently polished away the haze, using Novus Plastic Polish #2 (my favorite all-purpose polish). The Novus removed the haze and gave a little extra protection to the entire panel. The next photo shows the restored panel with the dial covers back in place.

(2003 Update: Some time after finishing the panel, I noticed that I had made a minor mistake. The phrase "Model SX-28" in the center of the dial should be colored white, not red. The only red portion is the phrase "Super SKYRIDER" with its flanking chevrons.)
A note about the "hairline" markers in the tuning dials. They are thin pieces of springy steel, which are friction fit into slots at the top and bottom of the dial openings. I had removed them while restoring the panel, cleaned and repainted them, and reinstalled them after the panel was ready for prime time. Use care when removing and installing these thin markers. If they are rusted in place, it can be tough to break them loose. Mine slipped out to the right, as you are facing the panel.

Putting It All Together
At long last, I was ready to put the SX-28 back together. During the panel phase of the project, I had carefully cleaned all of the knobs, using a warm-water soak to remove the orange shellac that had been sprayed on them.
Note that the numbers and markings on the knobs are painted on. Don't scrub them too hard, or you'll remove the markings.

Digging into the Ziploc bags, I laid out all the knobs and mounting hardware needed to put the panel back on.
The SX-28 panel is secured to the chassis with six screws. Two on each side hold it to the chassis side panels. There are two additional, smaller, screws near the center, between the tuning knobs. These screws go into metal spacers projecting from the front of the chassis.

The previous owner had used sheet-metal screws to hold the panel onto the chassis, damaging the screw threads. I was told that 10/24 was the correct screw size, so I bought several of that size with hex key heads. If you need to exert extra force, a hex head is much less likely to strip than a slotted or Philips head. None of the screws would go in from the front without further damaging the threads. I put a drop of oil on each screw and carefully backed it in from the rear of the chassis hole. Running the screw in and out a couple of times repaired the threads.
To reinstall the front panel, slide the chassis so that its front sticks out slightly over your workbench. Holding the bottom of the front panel with one hand, insert the controls and switches with your other hand, working from the bottom up. Note that three of the controls—ANL, antenna trimmer, and the AVC/BFO switch—use little metal collars which are secured with nuts from the back of the panel. Slip these three nuts over the control shafts before inserting them in the panel.

With everything loosely in place, I lightly installed a couple of panel mounting screws to support the panel. Then I was able to secure all of the mounting hardware, using two hands.
Before you tighten everything down, check the clearance between the tuning dials and the mounting screws for the dial covers. A previous owner had used the wrong kind of screws to mount the covers; the screw heads stuck out far enough to scratch the dials when the panel was fully tightened. I didn't notice this until I had put everything in place, which meant that I had to disassemble everything, replace the round-head screws with flat-head screws, and then repeat the assembly process.
The "gothic" cabinet only required a little hole patching, after I removed the chrome kitchen cabinet handles from the top, and touch-up painting.

Then it was time to install the chassis. The easiest way to do this is on a deep workbench. Put the chassis on the front edge of the bench, sticking out slightly over the edge. Put the cabinet behind it. Slip the power cord through the cabinet, tilt up the back of the receiver, and gently slide it back in.

(This article is reproduced with permission from Phillip I Nelson from Website Phil's Old Radios : https://antiqueradio.org)

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Antique Wireless Association of Southern Africa

Mission Statement

Our aim is to facilitate, generate and maintain an interest in the location, acquisition, repair and use of yesterdays radio's and associated equipment. To encourage all like minded amateurs to do the same thus ensuring the maintenance and preservation of our amateur heritage.

Membership of this group is free and by association. Join by logging in to our website.

Notices:

Net Times and Frequencies (SAST):
Saturday 06:00 (04:00 UTC) —AM Net—3615
Saturday 07:00 (05:00 UTC) —Western Cape SSB Net— 3640
Saturday 08:30 (06:30 UTC)— National SSB Net— 7140; Sandton repeater 145.700
Echolink—ZS0AWA-L; ZS6STN-R
Relay on 14.135 beaming to WC
Saturday 14:00 (12:00 UTC)— CW Net—7020

AWASA Telegram group:
Note that we are no longer active on WhatsApp, but have migrated to Telegram.
Should you want to get on the AWA Telegram group where a lot of technical discussion takes place, send a message to Andy ZS6ADY asking to be placed on the group. This is a no-Nonsense group, only for AWA business.
+27824484368

For Disposal:

Tony Voorveld has this fully restored Phillips receiver for disposal.
You can contact him on 011 679 3207.