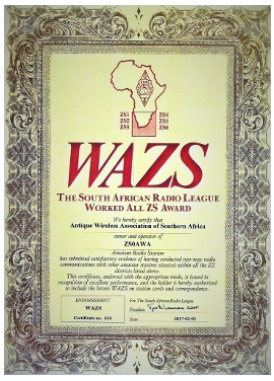
Newsletter

The Antique Wireless Association of Southern Africa

 # 176 **March 2021**



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* Acting VicePresident—John ZS1WJ
* Technical Advisor—Rad ZS6RAD
* Secretary/PRO—Andy ZS6ADY
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Reflections:

Where have all the sunspots gone, long time passing…..

I think we are all wondering what has happened to the cycle that started and stopped, according to the pundits, or maybe never started, or never stopped.

It all became very confusing when there was all the speculation about what was happening.

And then they started. In all earnestness. Things started to improve slowly, the bands started to change, there was quite a bit of activity taking place, and then, it stopped.

Slowly things degraded to where they have been again for the past few months.

Anyway, we all live in great expectation of what is going to happen in the coming months. People seem to think that its all going to burst into life pretty soon. Well I hope they are right.

I remember in the early eighties when I first started playing with radio, all be it CB, the bands were awesome. I made myself an 11m two element beam and mounted it at about 4m off the ground.

I spoke to the world. When I passed my ARE, the bands were still great and my first attempts at CW on HF were met with many pleasant results and QSO's from all around the world too. It was amazing.

Then came my first low. I had no idea what was going on until I heard some guys talking about the sunspots and the low that was happening.

Only then did I make an attempt to find out what it was all about. Not that I really understood much about it, but it still kind of made sense.

Now after so many years of being involved in amateur radio and having been through a few cycles, I still don't really understand it, but it makes a bit more sense now.

One thing I never did was allow the minimums to stop me from playing radio. Even through this last one, which I believe has been a doozie, I have never given up on radio.

I have found ways around making QSO's and my log book actually has more contacts over the last few years than it did in previous good years.

What it is that makes us believe that the bands are useless in times of low sunspot activity, I don't know. But it certainly has worked out fine for so many people who refuse to give up.

Of course it can be frustrating when in the middle of a QSO, you find that your contact has disappeared, but that all adds to the fun of it.

See you on the flip side and look forward to putting your call in my log book.

Best 73

DE Andy ZS6ADY

Wikipedia

Radio Propagation:

A **radio propagation model**, also known as the **radio wave propagation model** or the **radio frequency propagation model**, is an empirical mathematical formulation for the characterization of radio wave propagation as a function of frequency, distance and other conditions. A single model is usually developed to predict the behaviour of propagation for all similar links under similar constraints. Created with the goal of formalizing the way radio waves are propagated from one place to another, such models typically predict the path loss along a link or the effective coverage area of a transmitter.

As the path loss encountered along any radio link serves as the dominant factor for characterization of propagation for the link, radio propagation models typically focus on realization of the path loss with the auxiliary task of predicting the area of coverage for a transmitter or modelling the distribution of signals over different regions

Because each individual telecommunication link has to encounter different terrain, path, obstructions, atmospheric conditions and other phenomena, it is intractable to formulate the exact loss for all telecommunication systems in a single mathematical equation. As a result, different models exist for different types of radio links under different conditions. The models rely on computing the median path loss for a link under a certain probability that the considered conditions will occur.

Radio propagation models are empirical in nature, which means, they are developed based on large collections of data collected for the specific scenario. For any model, the collection of data has to be sufficiently large to provide enough likeliness (or enough scope) to all kind of situations that can happen in that specific scenario. Like all empirical models, radio propagation models do not point out the exact behaviour of a link, rather, they predict the most likely behaviour the link may exhibit under the specified conditions.

Different models have been developed to meet the needs of realizing the propagation behaviour in different conditions.

HF Happenings:

The South African Radio League YL Sprint :

The South African Radio League YL Sprint is a fun activity to celebrate Women's Day between radio amateurs in South Africa. The first leg takes place from 12:00 to 13:00 UTC (14:00 to 15:00 CAT) on Saturday 6 March 2021 celebrating International Women's Day, which is held on 8 March each year. It is a CW and phone sprint on the 40-metre band, the exchange is a RS(T) report and YL or OM. The QSY rules for Sprints apply, refer paragraph 5 on page 22 of the 2021 Blue Book and then page 70 for the rules. The Sprint is hosted by the Bo-Karoo ARC.

SARL HAMNET 40 m Simulated Emergency Contest

The SARL HAMNET 40 m Simulated Emergency Contest is open to all Radio Amateurs in South Africa, Namibia, Botswana, Zimbabwe, eSwatini, Lesotho, Mozambique, Marion Island and South African Antarctica. Only contacts with these areas will count.
The Contest takes place from 12:00 to 14:00 UTC (14:00 to 16:00 CAT) on
Sunday 7 March 2021 with phone activity in the band segments 7 063 to 7 100 kHz and 7 130 to 7 200 kHz.
There are four classes of participation. Turn to page 93 of the 2021 Blue Book for the information. The Sprint is hosted by the Port Elizabeth Amateur Radio Society.

Calendar:

March

6 - SARL YL Sprint
Durban ARC meeting
6 and **7** - ARRL DX SSB contest
7 - SARL HAMNET 40 m contest
8 - International Women's Day; WestRand meeting
13 and **14** – the RSGB Commonwealth Contest; the SARL National Field Day; the SARL VHF/UHF Analogue contest; QSO Today Virtual Expo
16 - PEARS and Border ARC meetings
17 - St Patrick's Day; SARL 80 m Club Sprint (and ZS4BS wedding anniversary)
20 - Autumn Equinox (11:37 CAT); Magalies and Highway ARCs meeting
21 - Human Rights Day; Namibian Independence Day
22 - Public Holiday in ZS and V5; World Water Day
23 - World Meteorological Day
27 - Passover; SARL Technology Symposium; CTARC and Boland ARC meeting
27 and **28** – Passover; CQ WPX SSB contest
28 – Full Moon – no howling please!

The South African 60 meter Allocation

The South African 60 m allocation can be found on page 7 and 8 of the February 2021 Radio ZS (and from page 9 a listing of the world-wide 60 metre allocations) as well as at the bottom of page 57 and the top of page 58 of the 2021 SARL Diary of Events and Contest Manual.

A Busy Weekend on 13 and 14 March

During this weekend you can attend the QSO Today Virtual Expo www.qsotodayhamexpo.com and participate in the 84th RSGB Commonwealth contest – CW only. The Commonwealth contest starts at 10:00 UTC (12:00 CAT) on Saturday 13 March with activity on 80, 40, 20, 15 and 10 metres and ends at 10:00 UTC (12:00 CAT) on Sunday 14 March.

Then there is the SARL VHF/UHF Analogue contest starting at 05:00 UTC (07:00 CAT) with 6 m activity in the first 2 hours, then from 07:00 UTC it is 2 m activity and from 09:00 UTC it is 70 cm until 11:00 UTC. This is repeated on Sunday 14 March.

The first leg of the SARL National Field Day has a new date and times! The first leg takes place in March and not in February anymore. The aim of the SARL National Field Day is to work as many stations in Southern Africa as possible on all the HF amateur bands (excluding the 2 200, 630, 60, 30, 17 and 12 m bands). In doing so, to learn to operate in abnormal situations in less than optimal conditions. A premium is placed on developing skills to meet the challenges of emergency preparedness as well as to acquaint the public with the capabilities of Amateur Radio.
The contest starts at 08:00 UTC (10:00 CAT) on Saturday 13 March and ends at 06:00 UTC (08:00 CAT) on Sunday 14 March 2021. You can participate as a
Class A – Field Station, Multi operator or

Class B – Field Station, Multi operator, QRP or Class
C – Field Station, Single Operator or Class D – Field Station, Single Operator, QRP or
Class E – Ultra Light Portable or
[THE NEW CLASS] Class F - Backyard Stations. Such stations must be located in the garden and must comply with the requirements of a field station as defined in the general section of rules. All equipment (including antennas) must lie within a circle whose diameter does not exceed 100 metres. All contacts must be made with transmitter and receiver operating independent of commercial mains power or
Class G -General Stations.
The exchange is the number of transmitters, the Field Day operating class and your Provincial abbreviation. The sending of a RS or RST is optional – it has nothing to do with the scoring. The rules are on page 88 of the 2021 Blue Book and the Bloemfontein ARC are the hosts of this contest.
Now why not combine the VHF/UHF and the Field Day – get outdoors and run a VHF/UHF station and a HF station during the weekend.

DX from Africa

Mozambique, C9. Look out for Bruno, CS7AMN, who is now active as C91B-VA from Maputo. The length
of his stay is unknown, activity will be on 80, 40, 20, 15 and 10 metres using SSB and the Digital modes
with an IC-7400 into End-Fed antenna. QSL via LoTW, by the Bureau (via CS7AMN), ClubLog or eQSL.

Ascension Island, ZD8. Tevfik, TA1HZ, who is currently active as ZD8HZ on Ascension Island (AF-003), plans to be in the ARRL DX SSB Contest on 6 and 7 March and the CQ WW WPX SSB Contest on 27 and 28 March as a Single-Op/Single-Band (??m) entry. QSL via LoTW, eQSL or direct to TA1HZ. Tevfik is on the island working on a project but will be active until mid-April.

Benin, TY. Ian, ZS6JSI, has been active recently as ZS6JSI/TY from Parakou about 400 km north from capital city. He has been there since late January and is expected to be there for 6 months. Activity recently has been mainly on 20 metres FT8 around 16:30 to 17:00 UTC and 21:30 to 22:00 UTC. However, Ian has said that he operates mobile and can be on 80, 40 and 20 metres using SSB and FT8. Equipment is an ICOM IC-718 transceiver with 100 watts into a ZS6BKW directional antenna pointed towards Europe and Africa and a Trap dipole directional towards the Americas. Ian states when time allows to look for him between 18:00 and 20:00 local time. He mentions, "I will confirm on (https://logbook.qrz.com/), (http://qrzcq.com/) and I have applied for LoTW await the certificate." Ian states that he operates from the Trans World Radio [TWR] (https://www.twr.org) gospel broadcast station in Parakou on 1 476 and 1 566 kHz.

South Sudan, Z8. Massimo, IZ0EGB, is once again active as Z81B and working in Juba, South Sudan. The length of his stay is unknown. Most of his activity has been on 20 metres SSB. QSL via IZ0EGA, ClubLog, eQSL and LoTW.
Guinea and Sierra Leone, 3X and 9L. Jean-Phillipe, F1TMY, currently active as J28PJ from Djibouti, has announced via Twitter (https://twitter.com/J28Pj) that he will be active from Guinea (3X) and Sierra Leone (9L) sometime in September 2021. He also plans (possibly) to do some IOTA side trips to AF-037 (in the Northern/Western Province Group) and AF-051 (in the Guinee- Maritime Province South Group). Look for more details to be forthcoming.
Zanzibar, 5H. Gabor "Gab", HA3JB, will be active as 5H1IP from Unguja Island, Zanzibar (AF-032) between 20 and 30 September. Activity is usually on 80 to 10 meters using CW, SSB, RTTY and FT8. He also plans to participate in the CQ WW DX RTTY Contest on 26 and 27 September. QSL via HA3JB or ClubLog's OQRS. For possibly more details and updates, see http://ha3jb.com/index.html

Mauritius, 3B8. Olof, G0CKV, Denny, KX7M and others will activate 3B8M from Mauritius (AF-049) during the next CQ WW DX CW Contest on 27 and 28 November as a Multi-? entry. QSL via M0OXO.
The QTH is booked, but the team and entry will be determined.

AWA CW Activity day

The AWA CW activity day was held on Sunday 07 Feb 2021.
What a disappointment.
There was only 1 log received and that was from Eddie ZS6BNE.

Well done Eddie, you take all the prizes. We'll send you special certificate of recognition.

An Appeal for Information

I write with an appeal for information from a small group of fellow vintage radio restorers and hope you can help. Specifically, we are looking for collectors worldwide who own or have access to a US Model 100 Emor Globe radio. This US model is listed on the Radiomuseum.org site (https://www.radiomuseum.org/r/emor_100.html) and we are looking for another one. These Emor radios were manufactured in various forms in the late 1940's in both the UK and in Canada, but this US Model 100 so far is unique. We hope to find another.

The most relevant detail of the US model is the dial with the green and red bands with the Emor logo and US patent number. I have attached photos of the US Model 100 and the dial.

By way of background, Emor Radio Ltd. in the UK produced variants of this radio in the UK for domestic sale and for export, and also licenced the Faust Radio Company in Montreal to manufacture a redesigned variant. Emor maintained an office in New York but so far we have not been able to verify which model was sold from that location or if any assembly work on this radio type was done anywhere in the US.

The appeal is therefore whether any of your organization's members own an Emor Globe, or specifically, are familiar with the US Model 100. If so, are they able to shed any light on whether this US Model 100 was ever manufactured in the US?

Perhaps you could reproduce this email in your Newsletter and note to contact Gary Albach directly via his email, albach@direct.ca.

Many thanks

Gerry O'Hara. Editor, Canadian Vintage Radios

Hallicrafters Model SX-28
Communications Receiver (1941)

Electronic Restoration

The SX-28 is a difficult radio to restore. Its electronics are cramped and there are many small components to replace and check. Aligning the receiver is a complex, highly exacting process. If you are novice repairman, it's better to cut your teeth on a simpler set such as a Hallicrafters S-38 or S-20R, or even a five-tube "All-American Five" tabletop radio.

When I bought my SX-28, it was in nominally working condition. It received signals on all bands; and other circuits such as the BFO, ANL, and crystal filter, seemed to be in basic working order.

The only obvious problem was an unresponsive S-meter. On a working meter, the needle rests all the way to the left when there is no signal (for instance, if you disconnect the antenna). As you tune in a station, the needle moves to the right. On my set, the S-meter needle rested barely to the left of the rightmost point at no signal, and barely twitched when tuned to a strong station.

Since the S-meter is potentially affected by many different parts of the radio, I decided not to worry about it until I had finished all of the basic service and knew that sections such as the RF, IF, and AVC, were in good working order.
As with all radios, I began by cleaning off all the dirt, checking the tubes, and cleaning and lubricating all controls and other moving parts. A few tubes tested weak, so I replaced them at once.

Lucky for me, the seller had included a big box of replacement tubes, which he inherited from a previous owner. I hadn't paid much attention to the contents of the box at the time, since I already own several hundred tubes. I was pleasantly surprised when I checked it out at home, however. The box contained over fifty tubes—enough to keep the SX-28 running happily for decades to come.

When you clean up an SX-28, use caution around the dials. The dial material is brittle and it's easy to scrape off the lettering if you clean too enthusiastically.

Another weak spot is the complicated mechanism for moving shadowed pointers up and down behind the dials, to show which band you are receiving. Strings coming off the bandswitch shaft drive these pointers. To reduce pressure on the fragile bandswitch knob, and the rest of this Rube Goldberg-ish contraption, you should carefully clean and lubricate all of the little pulleys and wear points, as well as the bandswitch itself.

Another basic step is to replace the old line cord with a new three-wire grounded cord. While you're at it, that's a good time to replace the two bypass capacitors on the AC line (C51, C52). Following the preliminaries, I began the long process of replacing old paper and electrolytic capacitors. On a radio this old, you can be certain that many capacitors will be leaking or shorted. Even those that test OK at the moment are likely to fail before long, so it's not worth the risk of keeping them in the receiver. For more details on recapping, see Replacing Capacitors in Old Radios.

I started by replacing all of the easily reachable capacitors. As I replaced each one, I checked it off on the parts list and marked it with a colored highlighter on a copy of the schematic. I don't always document my restorations, but this radio is complex. If you keep track of what you're doing, it's easier to backtrack if you make a mistake. It's also easier to troubleshoot remaining problems when you can verify which circuits have already been checked out.

Minor disassembly is required to reach some capacitors. To replace the capacitors around the audio output tubes, you'll need to loosen a small choke and move it to one side. The choke is bolted to the side of the chassis with two screws. The next photo shows the choke hanging to one side, exposing the area underneath. (The choke looks like a small black transformer.)
A tone control capacitor is slightly buried behind the BFO control. The next photo shows how the BFO has been loosened from the front panel to permit access to this capacitor.

Most radios of this age have been serviced over the years, and it's amazing what you find inside some of them. The next photo shows a .25 mfd capacitor installed in a place where the schematic calls for .02 mfd. The wrong replacement was ten times the required value.

In another place, someone had installed a 27-ohm resistor in a place where there should be a 27,000-ohm resistor. The wrong replacement was only 1/1000th of the required value! Some times these little goofs are comparatively harmless, since the value of the component was not critical in the first place. In other cases, the mistake can seriously mess up your radio. As it happened, the 27-ohm resistor was installed in a real trouble spot, but we'll get to that later.

The next photo shows the radio after all of the "easy" capacitors had been replaced. Incidentally, you may notice that I used two different types of new capacitors: small yellow ones and somewhat larger "orange drops." There's nothing mysterious going on here. The two types are equivalent and I simply used what I happened to have on hand. The little yellow ones are easier to fit into small spaces, of course.

At this stage, the radio still played as well as before, although it sounded rather harsh and "too loud" except at the lowest volume levels. The AVC circuit seemed to be working in a gross sense, but perhaps there was still some tweaking left to do there.
I made a note to check the AVC levels farther down the road. First, however, I had to roll up my sleeves and delve into the dreaded RF box. In the previous view, the RF box is the squarish metal enclosure occupying the center right of the chassis.

Replacing Capacitors in the RF Box

The following section is based on a procedure documented by A.B. Bonds, a veteran boatanchor restorer who has contributed advice on a number of occasions. I have added illustrative photos and some additional notes from my own experience. Mr. Bonds' comments will appear in **boldface**.

There are 11 wax capacitors in the RF deck of a Hallicrafters SX-28. While it is possible to replace a few of them with hemostats and a long thin soldering iron, some are so buried that they are not even visible. There follows a description of how to open up this deck. It is not for the faint of heart. I am limiting the description to access to the RF amplifiers, since they are the most difficult to get to otherwise. The theme may be continued on to the oscillator, etc. at your own pleasure. It's a good idea to check the tuning stability of the set *before* you open the RF box. Any instability, especially at higher frequencies, may suggest replacing the mica oscillator capacitors while you are there.

Step 1. Remove the top of the RF/variable cap box and pull the four tubes.
As shown earlier, the RF box is the big square enclosure in the center of the upper chassis. There are a couple of styles of cover. One style, shown here, has vents. The other style has holes for ventilation. Both are held on with a few screws. Before you go any farther, get a Ziploc bag or little glass jar to hold the various screws and other small parts that you'll be removing. I tagged and labeled each set of screws with tape, to keep them separate, since there are various sizes, which are not interchangeable.

Step 2. Tag and then desolder the wires connected to the last gang of both the main tuning cap (two wires, one terminal) and the bandspread cap (3 wires, two terminals). I found the solder in this boatanchor to be very high melting point, so you will need a hot iron.

The following photo shows the upper RF deck with the tubes removed and the wires unsoldered and tagged as described above. I used small bits of labeled tape to tag the wires, which will need to be drawn down through holes in the chassis when you remove the first panel from the RF box in the under chassis.

Step 3. Turn the receiver over and rest it on its top with the rear apron facing you. All descriptions of position will be with respect to this orientation. Go to your chiropractor for an adjustment.

The next photo shows the receiver on its back. Before turning it over, you may want to remove the rectifier tube, which sticks up pretty high and is easy to smash if you lie the receiver down without supports. To prevent damage, I rested the receiver on three layers of stiff styrofoam board. The transformer and RF box at the rear of the chassis are strong enough to support the receiver's weight comfortably. Be careful when turning over this heavy set. I found it easiest to first tip the receiver onto the side of its front panel, then swivel it into position to place upside down on the bench.

Step 5. Use a 1/4" nut driver to remove all of the screws on the upper edges of the RF side shields. These screws hold the internal shields in place.

Step 6. Turn the bandswitch to band #2 (this is for access in the next step). Remove the bandswitch knob. If the shaft has any burrs from the knob setscrews, use a fine file to smooth them down. Remove the two screws holding the back of the bandswitch to the rear panel.

Step 7. Loosen the setscrews on the two small drums located on the bandswitch shaft within the RF box. The drums are located against the two rear separating walls within the RF box. Each of these drums has a tension spring, which looks like a bent washer, which you will need to catch with a needle nose pliers when the bandswitch shaft is drawn out.

Step 8. Loosen the setscrews on the dial indicator drum. This is the brass cylinder that is on the bandswitch shaft, located in the gearbox.
Note that there are *two* screws on the brass indicator drum, placed next to each other. One holds the dial string to the drum and the other is the setscrew holding the drum to the bandswitch shaft. On my set, frayed bits of dial string concealed the setscrew, making it hard to spot at first.

Step 9. Gently pull the bandswitch shaft out about an inch. Do *not* lose the little tension spring (looks like a bent washer) that is between the dial indicator drum and the front panel of the gearbox. Let the indicator drum hang on its string.
After loosening the indicator drum and moving it slightly away from the front panel, I grasped the tension spring with a needle nose pliers and held it while drawing the bandswitch shaft out far enough to free the dial indicator drum. Now you can pull the bandswitch shaft completely out from the rear, as shown below.

While the bandswitch shaft is out of the radio, be careful not to move the bandswitch wafers unnecessarily. If you accidentally twirl one of them far enough to get it back on the shaft the

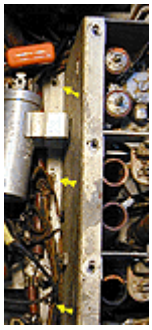
wrong way, you could create some truly awful misconnections!

Step 10. Loosen the setscrews on the antenna tuning shaft (at the coupler to the variable capacitor) and pull the plastic tuning shaft all the way out.

Step 11. Remove the nut that secures the grounding lug for the filament circuit from the left shield.

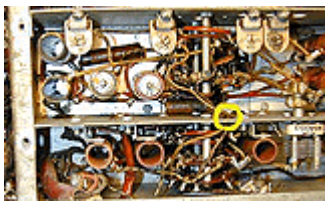
Step 12. Find a *good* Philips screwdriver. Torn-up Philips screws are impossible to remove, and the ones you have to hit next are in impossible places. Remove the four Philips screws that attach each side-shield to the chassis. The right side is easy. To remove the ones on the left side, you must unclip the filter capacitor attached to that shield and unscrew (with a 3/8" nut driver) the attachments of the shielded pair that are grounded through the two inner mounting lugs of the power transformer. By lifting the shielded pair, which is covered by brownish tubing, you can (barely) get to the Philips screw heads.
Most of these screws are concealed under strapped wire bundles that run along the bottoms of the side shields. By gently pushing the wires aside, I was able to remove all of these screws without removing any other parts. The next photo shows how I unscrewed one of the screws on the right side while a pliers held the wire bundle aside.

A long tweezers or hemostat will be very useful for retrieving screws and other small parts from tight places.

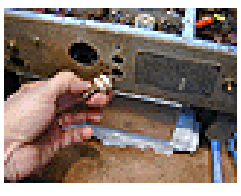


Next are two views of the left side and right side respectively, with some colored arrows pointing out most of the screws. The blue arrow in the second photo marks the wire mentioned in the next step.

Step 13. Desolder the wire going through the right shield to the rightmost coil in the rearmost compartment.
Step 14. Tag and desolder the pair of wires that go to a switch wafer and run through the top middle of the divider ("front") for the rearmost compartment.



In the next photo, these two wires are marked with a yellow circle at the point where they pass through the divider into the rearmost compartment.



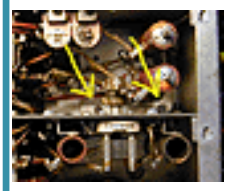
Step 15. Unscrew the nuts holding the antenna input posts, thereby freeing the antenna leads internally.

You may as well remove the ground post, as well as the antenna posts, while you're at it. The ceramic insulators on the antenna posts may be broken if the mounting screws have been over tightened. One of my insulators had been cracked long ago, judging by all the dirt in the cracks, but it still was held in place by screw tension. After removal, I cleaned off the pieces and super-glued them back together. During later reassembly, I

swapped the inside and outside insulators on that post, putting the never-broken insulator on the outside for better appearance.

Step 15. Remove the screw and nut holding the braid connection that runs to the rear chassis wall.

Although it wasn't evident at this stage in my restoration, this might also be a good time to loosen the nut securing the phono jack to the rear apron. This allowed me to swivel the jack to the side later on, providing just enough clearance to winkle the first divider panel out of the RF box. The phono jack is just to the left of the nut driver in the previous photo.



Step 16. Remove the Philips screws holding the dividers down. There are four for each divider. A long grabber (tweezers or hemostat) is essential to get these suckers out.
In the next photo, two of the four divider hold-down screws for the second compartment are marked with yellow arrows.

Removing a hold-down screw from the next compartment. Believe me, you're going to appreciate a good set of tweezers!

Step 17. Gently pry the sides of the RF compartment apart. Then, pull the rearmost divider toward the rear to unhook it from underneath the base plate in the next forward compartment.
On my SX-28, the sides of the RF compartment were immovable. Perhaps the rear of the chassis had been dropped during service, or that rear apron lip had simply been compressed by the weight of the receiver over several decades. Whatever the cause, I couldn't budge either side panel a bit using my hands. Gentle tapping with a thick wooden dowel and a hammer allowed me to free the side panels and slowly move them apart, far enough to release the rearmost divider.

Step 18. At this point the rearmost divider can be swivelled up to the left. There are some more wires holding it in on the left side, but they do not have to be removed to get reasonable access to the first tube socket.
The next photo shows the set at this stage. With the divider swiveled upward, you can easily reach the socket of the first RF tube (V1, 6AB7). The bandswitch hole makes access a lot easier.

To reach the next compartment, however, I needed to unsolder the remaining wires holding the first divider panel. These come in through a hole in the panel. Two of them go to a bandswitch wafer and a third goes to a coil. I tagged each wire with a label and also made a little sketch to ensure correct replacement.

With those wires removed, you can gently draw them through the hole in the first divider and then remove the divider from the chassis. The next photo shows the first divider. At this stage, I had already replaced the old capacitor under the coils with a new orange drop unit. Unless you remove the divider from the chassis, you won't be able to see that capacitor, much less replace it!

Step 19. Replace all the caps and most of the resistors while you're there. I found that all three caps in the rear compartment were marginally leaky, causing the eye on my Heath cap checker to close about halfway at 150 volts. I also found about half of the resistors to be out of spec (e.g., 135k for 100k).
I agree that it's crucial to replace *all* of the paper capacitors in the RF box. Several of them are AVC bypass capacitors, which can affect the entire AVC system (and thus, the S-meter). Fortunately, with the first divider removed, the worst part of the job is over.
With the first divider out of the way, it didn't take long to replace the capacitors in the second compartment. The next photo shows the receiver at this stage.

There are two paper capacitors which lie smack against the dividers in the second and third compartments. Be careful to position the replacements down as far as possible, to avoid hitting the bandswitch components.

In the previous photo, look at the rightmost yellow capacitor. I left this one disconnected on one end until the divider was reinstalled, to make it easier to slip the divider back into place. Near the middle of the photo you'll see an orange drop capacitor installed right against the second divider. When I reinstalled the bandswitch, I discovered that this capacitor was too fat! When I tried to turn the bandswitch to the highest band, the setscrew for the little tension drum hit the back of the capacitor. When I replaced it with a smaller yellow cap, there was enough clearance to get the bandswitch into the highest band.

Step 20. Reassemble, then go find a cold 807. The whole process takes four or five hours if carefully done.

I didn't keep careful track of the time, but I suspect it took me more than four or five hours to do this job. It will depend on how fast you work, and whether you encounter any unexpected problems (broken wires, etc.). You will need a long, thin soldering pen to replace all the capacitors without removing the other dividers from the RF box. My trusty old Weller was too fat to reach into some of those crannies. At a local hobby store, I found an X-acto pen that fit the bill. The X-acto's quality is inferior to the Weller's, but I couldn't have finished this phase without it. If you don't remove the other dividers, you won't be able to reach a number of resistors around the tube sockets. It's your call whether to do the extra unsoldering to remove those dividers. The basic procedure is as described above. Unsolder wires leading from the tuning caps down through the chassis into the RF box. Unsolder any other wires holding the divider to the chassis, then remove the divider. I was pretty tired of the RF box at this stage, so I decided to button things up and see how the radio worked.

To my delight, it worked nicely, indeed. It was a tremendous confidence builder to get all those parts and pieces back in place, after having had the radio's guts out on the workbench for a few days!

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

Another Appeal for Information

I bought this radio, which works, from a lady who got hold of John ZS1WJ via the AWA.
It is a retro looking AC/DC MW only Model MUS561 on the label at the back.
I cannot find anything about that model on the internet,

Do you know of anyone wh may be able to assist with information ?

It has the valve bases and components on a brown phenolic pc board.
Grey Bakelite cabinet with a red mesh in front and a large tuning knob in Metres and K/C's.
A small volume control/on/off switch.

Valves are UCH81, UCL82, UY42 and one I can't totally read.

Should you have any information about this radio, please contact Paul ZS1S on 0825550872 or email zs1paul@gmailcom

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Get your backdated issues at
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Visit our Website:
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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:
Rod ZS6RHZ as a whole lot of radios for disposal in different states of repair. Some are complete, others not.
Should you be interested in any of them, contact him @0823982660.

RCA AR 88 x3
National NC109
EICO MOD 324 RF
ECIA RX x2
Zenith Trans Oceanic
HP MOD 4340A Q meter
Eddystone RX
Hammerlund HQ170
National NC57
Trio 9R 59D
Phillips GM 6012
YAESU FT 75B
AVO x2
SWAN 350 + P/S
MARCONI TF 1065A
SWEEP GEN MOD 185

PHILLIPS PM 5320
MARCONI TF 2700
SWEMAR LSG 532 x2
SUNWA STR 307
HUNTS TYPE CRB-3 BRIDGE
TAYLOR MOD 110B
AVO QLC TEST UNIT
AVO UNIVERSAL BRIDGE
YAESU FT DX 100
TRIO JR 500S
TECH TE 22 x2
YAESU FRG -7
TECH TE 20
PRECISION SIG GEN E200
BC 221 M
BC 221 AH

HRO RX x2
COIL PACKS + BOX
x8 FOR HRO
TECH TO2
MARCONI TF102 A
YAESU FT 720R
YAESU FR 50B
YAESU FL 50B
PHILLIPS PM 6612
VIZ WR50

HEATHKIT
UT1 P/S
HR 10 x2
SB500
SB10
DX40U
DX60
VFO

SB10
COMANCHE MR1
CHEYENNE MT1
SB650
IM38
FM01
GDO
AG8
SB101
SB301
SB401
HP23
IB5281
IG5282
IT5283
SPEAKER BOXES x2

HALLICRAFTERS
SX62B
SX96
R42
TABLE SPEAKER
SX110 x2
SX28
S40
HT44
S38
R44
HT32
SX43
P/S 120-150
SKYRIDER DEFIANT