

TIPS AND TECHNIQUES FOR THE ADVANCED DXER

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compiled and edited by David Clark

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RECEIVER RELATED

● JAPAN RADIO NRD - 515 UPDATER - By: Jon Williams

After reading the review in Proceedings 1988, some may have discovered it is not necessary to adjust the mode switch between LSB and USB to change from one sideband to the other when using the PBT. This is very useful in avoiding hets or splatter from adjacent stations without having to change the mode setting.

When the mode is set for USB, the PBT will tune upper sideband between the 12:30 and 2:30 positions on the control. By tuning between the 3:00 o'clock and 5:30 positions, you will be covering the LSB.

The same is true when in LSB mode. Lower sideband is covered between 9:30 and 11:30 and USB falls between 7:30 and 9:00.

I have noted two PBT anomalies. First, my passband tuning range on USB (12:30 to 2:30) is greater than it is when the mode is set for LSB (9:30 to 11:30). Secondly, I must slightly tweek the RIT when tuning into the opposite sideband (without changing mode switch). I suspect that an alignment would overcome these minor problems.

I DX exclusively using ECSSB and I have been frustrated with the very critical tuning necessary to "zero-beat" a station with the RIT because the RIT pot tuning ratio is too coarse. To solve this problem, I had Universal Shortwave replace the RIT pot with a Bourne Pot. The original uses about eight-tenths of a turn to tune through its 2 kHz range, but while the Bourne Pot results in a broader 5.9 kHz tuning range, this requires a full ten rotations.

As a result, it is easier to zero-beat a station carrier. It can almost be done visually, as the tuning knob has a built-in dial on its face with the dial marked in 50 equal increments, with hands like a clock moving around the dial. Thus, one can divide 5.9 kHz into 500 separate and equal increments - visually, about 12 Hz each.

A second frustration is the choice of IF filters. The review in Proceedings 1988 mentioned the 1.8 kHz filter as a narrow ECSSB or normal SSB filter. As with the reviewers, I have found this filter to be excellent for DXing. But to solve the problem of a wider filter, I selected the Collins 2.9 (nominal 3.05) kHz mechanical filter which fills the gap quite well as a narrow AM or wide ECSSB filter. The skirts are steep (shape factor about 2 to 1) and the audio quality is very good with only a slight insertion loss which I do not find objectionable. I highly recommend this particular filter as a compromise between the 6 and 2.4 kHz stock filters for either narrow AM or wide ECSSB.

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● JAPAN RADIO NRD - 525: AN EFFECTIVE AGC UPGRADE - By: Guy Atkins

Manufacturers of modern communications receivers often design automatic gain control (AGC) circuits with reception of single sideband signals in mind, rather than AM signals. The Japan Radio NRD-525 is no exception.

The culprit here is the slow attack time and very slow release time of the AGC. The release time of the NRD-525's stock SLOW AGC is really dismal; audio can be blanked out for two to three seconds while the receiver gain recovers from a strong burst of static. The stock FAST AGC is better, but not by much.

Generally speaking, the modified AGC FAST value provides an improvement in speech intelligibility (particularly on weaker signals). All propagation anomalies are heard, such as flutter, etc., but more details within the signal are also noted. I prefer this setting when DXing, for capturing as much speech detail as possible while avoiding excessive audio "blinking" during noise bursts. I prefer the modified AGC SLOW when listening to music on stronger signals.

I am indebted to Craig Siegenthaler of Kiwa Electronics for designing the circuit changes. He drew upon his broadcast engineering background and NRD-525 listening tests to determine new component values that would improve AGC response for AM reception. Craig also tested the stock and modified circuit to verify the changes to the AGC attack and release.

During testing, the NRD-525 was pulsed with a 20 dB variation RF signal of 4.5 MHz. A separate, simulated NRD-525 AGC circuit was also built for analysis. The following stock and modified AGC responses were noted on an oscilloscope:

	<u>STOCK FAST</u>	<u>MOD. FAST</u>	<u>STOCK SLOW</u>	<u>MOD. SLOW</u>
(Attack)	8 ms	3 ms	- not	measured -
(Release)	400 ms	200 ms	2+ sec.	600 ms

This modification involves changing four capacitors that speed up AGC attack and release times by approximately 50%. The capacitors work in unison on both fast and slow AGC; it is not possible to change just the FAST or SLOW AGC.

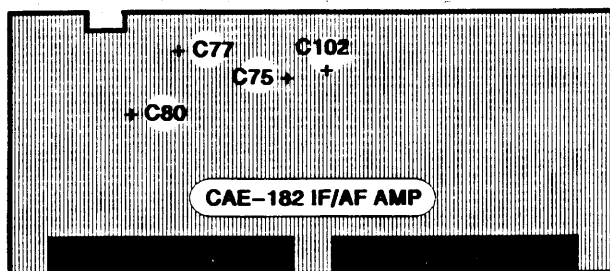
Of course, any warranty covering your receiver will be voided by this modification and you perform this work at your own risk. This change is not particularly difficult. However, it is assumed that you have electronics assembly experience and are able to solder and desolder components carefully. [check out Dallas Langford's article /dmc]

This modification is intended for stock receivers. Do not perform this modification if your receiver has the ESKAB PLAM board installed, or has other changes affecting the AGC circuit. The PLAM board changes the NRD-525's AGC in a different manner to work properly with ESKAB'S synchronous detector.

To make the modification, remove the receiver's cover and speaker jack J1, and pull the IF/AF AMP board (CAE-182). Awls or similar tools inserted into the small holes at the ends of the board assist in removal.

Using a low wattage soldering iron and solder wick, carefully remove capacitors C75, C77, C80 and C102 (see diagram for locations). Replace these four with the following new values: C75 1.0 uf; C77 0.1 uf; C80 .22 uf; C102 .22 uf (all polarized tantalum caps). Observe proper polarity during installation.

Replace the circuit board by pushing it firmly into its slot. Re-install speaker jack J1 and replace the NRD-525's cover. That's it! The AGC circuit can easily be returned to stock should you ever wish to do so.



* * *

● USING THE DRAKE R-7A AS A FREQUENCY COUNTER - By: Cedric J. Marshall

One of the interesting features of the Drake R7/R-7A is that this receiver can be used as an outboard digital frequency display up to 150 MHz. Drake included this feature to aid in alignment jobs and other test-bench projects. However, I have been using it to provide digital readout for my Hammarlund HQ-180A and RCA CR-91A.

The most important part of the hookup procedure is to install a frequency-sensitive output on the receiver to drive the counter. This is accomplished by installing a "pickup loop", a length of insulated wire wound around all of the oscillator coils. The wire should be reasonably thin and flexible, as it will have to be wound in close proximity to the receiver circuitry.

One end of the wire is secured where convenient inside the receiver, and the other is connected to the centre conductor of a piece of small gauge coax which is then fed out from the receiver. Note that there is no direct electrical contact between the hookup wire and the receiver circuitry; the signal is generated in the pickup loop by induction.

Ground the shield of the coax to the receiver chassis and feed the centre wire directly into the "Count" port on the Drake's rear panel via a phono plug.

If one has two or more tube receivers, the coax leads from each one can be fed to a rotary switch which selects the signal to be fed to the Drake.

When the "Count" switch on the Drake's front panel is depressed, the digital readout displays the frequency of the incoming frequency, which is the tube rig's tuned frequency plus its IF (735 kHz for the CR-91A and 455 or 3035 kHz for the HQ-180A, depending on the band selected. Subtract the IF and presto, you have digital readout!

Incidentally, this operation does not alter the frequency to which the Drake itself is tuned; it permits the display to be temporarily slaved to another signal. When the "Count" button is depressed again, the display is released back to the Drake's own frequency.

For those who are not in the mood for the mental gymnastics during DX sessions at five o'clock in the morning, you can make a table of IF compensating figures for quick reference.

* * *

● THE \$50.00 R-390A...OR RACAL...OR HARRIS! - By: Gerry Bishop

For the American DXer hunting for the ultimate bargain in receivers, look no further than the nearest Department of Defense (DoD) base, fort or office charged with disposing excess or obsolete DoD equipment.

Disposal is through auction or direct sale. Auctions happen in one of two ways: the items are offered for sealed bid, and the bidder need not be present at bid opening; or alternatively, at a floor auction sale. Direct sale, by comparison, means a set price, usually quite low.

My Collins R-390A came from a local auction for the princely sum of \$50. It needed a little work but nothing major. It was clean, free of any signs of abuse and complete.

There will be some Racal and Harris receivers coming on the market in the next couple of years, probably at bargain prices. It will pay to watch out for them.

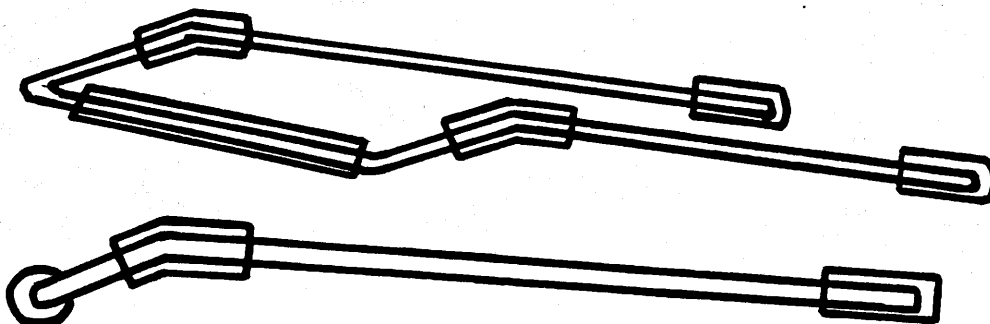
For more information, call your nearest DoD base operator and ask for the Defense Re-utilization and Management Office (DRMO). They'll have all the information on sales and when the public can inspect any items up for current sale.

* * *

● A SIMPLE ELEVATION BAR FOR RECEIVERS - By: Guy Atkins

If you're like me, you hate to operate a receiver that sits flat on the desk. It's gotta have TILT!

For a couple of dollars you can fashion an adjustable elevation bar that looks far better than stuffing a book under the receiver. The elevation bar is nothing more than a two foot length of 3/16" mild steel rod stock, covered with plastic tubing and bent into shape. The drawings below show a three-quarters view and a side view:



The lengths of the bent rod segments will depend on your radio's size, and the amount of tilt desired. Cover the rod with short pieces of tubing where shown (for table top and receiver protection) or cover the rod with a continuous length of tubing. Start your bends from the centre section (that lays on the table) and work outwards. The best bends are made by carefully bending the metal by hand with the rod/tube gripped in a bench vise. Cut the rod ends to equal lengths after bending, if needed.

This elevation bar is sufficient to lift the front of modern solid state receivers. To increase the tilt, just slide the bar to the rear of the receiver.

* * *

ANTENNA RELATED

● A SIMPLE EFFECTIVE ANTENNA SPLITTER - By: Nick Hall-Patch

Most of us have the occasion to use two receivers on the same antenna. Just hooking them both up to a common antenna sometimes seems to work, sometimes not. Most of the standard references discourage this practice altogether.

There are several problems which occur when receivers share the same antenna. The most common problem happens when harnessing together a late model tube receiver with a modern solid state rig. The narrow tuned circuit front end of the older receiver is 50 ohms impedance, as is the broad banded antenna input of the newer receiver. However, the receiver with the narrow front end is only 50 ohms impedance at the tuned frequency. At all other frequencies, its impedance is much lower. It enables the older receiver to literally suck the signal away from the newer one.

One could put a 50 ohm resistor in series between the older receiver and the antenna to provide a "more level playing field", but that would attenuate signals to that receiver by at least 6 dB. About five years ago, Sam Dellitt of DX Australia developed an antenna splitter based on a ferrite "balun core". The article was reprinted in the July 1984 issue of CIDX Messenger. I built this splitter and, although it worked reasonably well, it did produce noticeable signal attenuation, especially on the lower Tropical Bands and MW.

I rebuilt the splitter with redesigned windings on the core and am now very satisfied with it. The signal attenuation is around 3 dB at MW and Tropical Band frequencies. Three dB loss is not really noticeable by ear, but there may be DX situations where 3 dB loss will mean losing an ID while using a quiet Beverage antenna. The quick solution is to use just one receiver on those occasions, and not use the splitter. A really professional set-up would use a low-noise, broadbanded preamplifier between the antenna and the splitter to make up the loss.

Winding a balun core is not too difficult. In Figure B, for simplicity, only one turn is shown for the input winding, two turns are shown for the output winding, and the holes shown are wider than they really are in relation to the core. The core used is a BLN-73-202 from Amidon Associates, 12033 Otsego St., North Hollywood, CA 91607. The cost around \$.65 each with a minimum shipping charge of \$2. Write to Amidon for recent prices. The core specified in Dellitt's article hasn't been available, but this seems like a good substitute. The wire used was #30 or #32 varnished magnet wire, which requires a bit of a delicate touch, but larger sizes won't fit through the holes when more than a few turns are used.

Also note that the splitter DOES NOT make a transformation of impedance. A Beverage antenna's impedance is around 500 ohms and most wire antennas are in the 200 ohm range. For maximum signal strength, an impedance matching transformer should be used. Refer to Proceedings 1988, pp. A-3, 1-10.

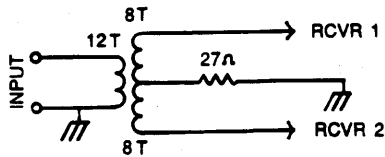


FIGURE A.

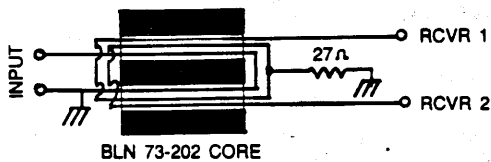


FIGURE B.

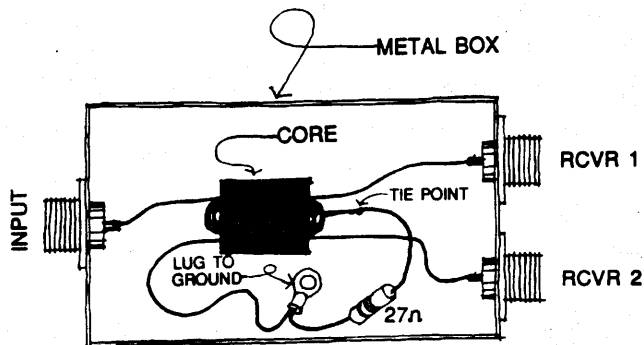


FIGURE C.

Finally, where you mount your splitter transformer depends on what you have available. For permanent use, a splitter transformer must be securely mounted, as the wire used is easily broken when flexed. I prefer metal boxes for such devices, as they are strong and provide shielding. A small aluminum mini-box should be fine, though I used a little "tin" box formerly containing mustard powder; no wonder it is such a hot performer! The core itself was set in a big glob of silicone seal, and the transformer leads were run to either solder lugs or BNC connectors (see Figure C). Mounting isn't critical but just make sure it is solid.

Good DX to both of you!

* * *

● ADD AN ANTENNA COUPLER...OR TWO...OR FOUR - By: David M. Clark

The ideal DX shack would allow you to use all of your receivers and antennas at the same time, instead of having to switch any antenna from one receiver to another. This can be done with an antenna coupler or "distribution amplifier" which feeds one antenna to several receivers without loss of signal.

An effective model is the Antenna Coupler CU-872A/U available from Fair Radio Sales in Lima, Ohio, for \$49.50 U.S. (A partial reproduction of the operating manual costs an additional \$8.50.) Apparently these couplers were made under contract for the navy around 1967. As one would expect, they are built like a battleship. Mine were made by Munston Electronics Mfg Corp.

Fair's catalog describes the unit:

"Handles up to eight receivers in the 2-32 MHz range. Gain: 0-3 db. Noise figure: 6 db or better. Has 0-50 microammeter test indicator and circuit selector switch on front. 70 ohms input; type N connections. With tubes 20/6922, OB2. Requires 115/230 VAC 50-60Hz. 7 X 19 X 16.5; 40 lbs shipping weight."

With a gray enamel front panel and glowing red power indicator, I think the units look very sharp, especially if you have other tube equipment.

The frequency coverage is determined by front-end high and low pass filters. The high pass filter inhibits breakthrough of BCB images, especially on 120 meters. It can be readily by-passed if you happen to be a BCB DXer, although I have not determined the low frequency cut-off where the unit ceases to maintain "unity gain".

An important feature is the high degree of isolation provided at each of the eight outputs. This prevents inter-action between receivers. Unused outputs do not have to be "shunted".

Tedious replacement of the N type connectors can be avoided by using short barrel PL-259 connectors which mate perfectly to the input/output jacks. The appropriate coaxial connector is #83-58FCP ('58' referring to the fact they are intended for use with RG-58 coaxial cable), also available from Fair Radio for .50 cents.

As for tubes, the '6922' RF amplifier is a common industrial tube (in a pinch you can substitute a '6DJ8'). The 'OB2' voltage regulator has no substitutes but is readily available too.

My experience with Fair Radio has been good; all units shipped to me were "clean" and the tubes all tested out well.

Each coupler allows you to connect an antenna to up to eight receivers. If you have several antennas, the ideal solution is to purchase one coupler for each antenna. Provide coaxial connections from each coupler to a multi-position rotary switch in front of each of your receivers. Consider using a switch with enough positions that allows for future expansion of your "antenna farm". Each receiver can be independently operated with any one of the switch-selectable antennas.

For an investment of \$200. you can employ up to eight receivers, and independently select any one of four different antennas! The "ultimate" in shack flexibility for the fanatic DXer!

* * *

● UP A TREE... THE EASY WAY? - By: John H. Bryant

I never really studied methods of antenna erection seriously until I began to combine travel to Washington State and British Columbia with serious DXpeditioning. I suddenly had reason to spend time and money to do things "the easy way".

THE TRIDENT III ANTENNA LAUNCHER

Frankly, the old bola approach using some #50 test fishing line and a 6 oz. lead spherical sinker just wasn't working well enough. Sometimes 8-10 throws were necessary. There were times when even the strongest arm couldn't throw it high or far enough. I began to remember that other DXers had written about using both bow and arrow and crossbow. ODXA's Cedric Marshall uses a rod and reel! None of those ideas seemed suitable for I did not need another hobby. I just wanted something that was small, accurate, portable, had a minimum of 100' range, and was CHEAP.

THE MARKSMAN SLING SHOT

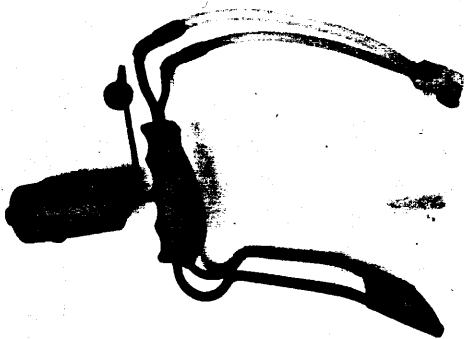


Photo 1

I also remembered someone writing years ago about using a sling shot. After several rather elaborate and expensive attempts to design and build my own heavy-duty sling shot. I stumbled across the Marksman line of sling shots at a local discount store. The Marksman is available in both fixed and folding models and sports a great sling (surgical tubing) and leather pouch. The folding model seemed perfect and cost less than \$6.00. See Photo 1.

The other major problem in developing the Trident III was discovering a method of playing out the line - whatever line it was - behind the lead weight so as not to slow or deflect the flight of the weight. A bow hunters' display at the store gave me THE answer. It is a little 4' X 1 1/2" cylinder containing a specially wound 2500' coil of 15 pound test "dental floss". The \$10. Game Tracker, Model 2500 (Game Tracker, Inc., 3476 Eastman Dr., Flushing MI) is intended to mount with a threaded stud (provided) to the front of a hunting bow. The dental floss is attached to the arrow and is played out behind the arrow in flight. Its primary use is to track wounded big game in the forest. The Tracker was my answer. I drilled a hole in the handle of the Marksman sling shot, let the threaded stud cut its own threads in the hole, and had THE TRIDENT III ANTENNA LAUNCHER. (Photo 2)

FULLY CONFIGURED TRIDENT III
SIGNAL LAUNCHER
Antenna

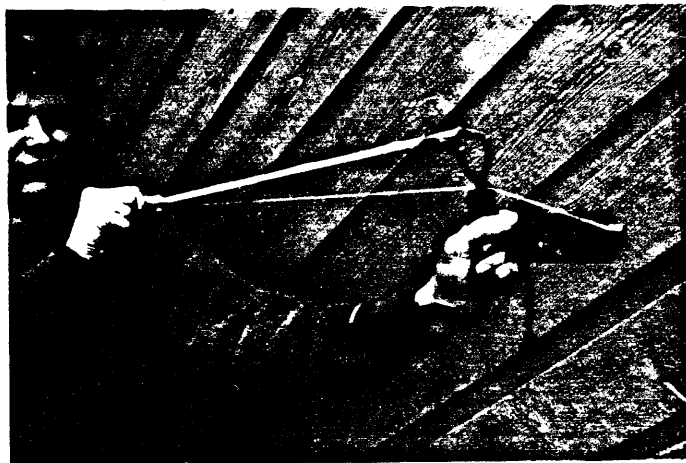


Photo 2

I've found that a 2 oz. lead fishing sinker is just about perfect to use as "ammunition". I practice with the sling shot a few times using small rocks before I launch the antenna. The Trident III is easy, fast and accurate. I can virtually pick out a specific limb 80' off the ground and put a line over it on the first try!

Some cautions:

1. The sling shot with the lead weight is a lethal weapon! Be careful! If you don't have the "dental floss" from the Tracker arranged perfectly, the weight can end up flying back AT YOU.
2. Be sure that you know where the thing is going to land. Again, I have found that painting the weight florescent orange is very helpful.

I have also found that the sling shot is almost useless when trying to put a line over a close range limb 10-20' away. Actually, I still use the bola approach for near-range limbs and the Trident III for long range work.

* * *

● A TRAVELLER'S PORTABLE OUTDOOR ANTENNA - By: William S. Sparks

Here's a solution which I have found to be useful in getting a portable antenna out the hotel window when on vacation with my Sony 2010.

I have used a method as old as radio itself that may not be known to some of the younger DXers. In the 1930's, all radios had to use an outdoor antenna. One of the common methods of bringing wire inside the house was the use of a window strip, available in all radio supply houses. It was a flat, insulated copper strip about ten inches in length and with a copper spring clip attached to each end. The strip was thin and flexible enough so that most windows could be closed over it. The antenna wire is attached to the clip protruding outside and a short lead to the receiver is attached to the inside clip.

I made good use of one of these strips when my wife and I spent a holiday at a motel in Carmel, California. I found that the motel window opened with a crank and there was a screen over the window on the inside. The screen was removable, so I was able to put the strip in place, crank the window shut and then replace the screen.

* * *

AUDIO ENHANCEMENT

● POOR MAN'S SIGNAL PROCESSING - By: Kevin Atkins

If your receiver has a Record-Out jack, consider this arrangement: Feed the signal from the jack into your tape recorder, from the tape recorder into a graphic equalizer with a gain control and from there, into an audio filter (such as the Autek QF-1A). Plug your headphones into the phones output jack on the audio filter.

Since the audio amplifier of the receiver has been bypassed, you avoid the unduly "bassy" voice response of most modern communications receivers.

Capturing the unprocessed audio on tape allows playback with various settings on the equalizer and audio filter. This is a particularly effective technique against the QRM of multiple ues. You can even copy the processed signal back to another tape deck for a clean library tape of your loggings.

* * *

● SATURATED SOLUTIONS - By: David Walcutt

In making recordings of DX stations, it often seems that the recording sounds better than the original heard through your headphones or speaker. It seems as if some kind of filtering is done in the process. Although there may be some shaping of the audio response by the recorder itself, the greater part of the improvement is probably due to "tape saturation" which limits QRN.

I recommend making recordings at as loud a volume as possible; just below the distortion level. Use thinner, 90 minute cassette tapes; they are more critical than 60 minute tapes. When a loud burst of static crashes through, the intensity of the recorded noise is limited to that of the "average" volume level. This does wonders for one's ears!

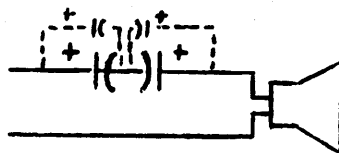
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● A SIMPLE (AND CHEAP) HI-PASS AF FILTER - By: Jerry Strawman

One of the handiest "gadgets" that I have employed in my listening shack is a simple, hi-pass AF filter. While purists might insist that headphones be used when DXing, I have never found them comfortable. Consequently, I use a speaker exclusively, with the sound tailored by the filter.

The schematic shows how deceptively simple this filter is:

Add capacitance in parallel if needed.



Start with two 47 microfarad, electrolytic capacitors. Don't stop there; experiment with other values. Greater capacitance adds bass response, while less capacitance reduces the bass response.

Excessive bass frequencies accentuate such unwanted interference as AC line noise, thunderstorm static and low frequency rumble encountered with multiple stations on the same channel. The filter reduces these types of interference. Your ears may be different than mine, so try different capacitance values in order to find your "perfect audio".

For those who prefer to listen with headphones, small voltage caps can be fitted inside many of the larger headphones. For smaller 'phones, you might be able to squeeze the caps inside a 1/4" phone jack, or install the filter in a small box with in & out jacks.

In my situation, I employ a SPDT switch to move the filter in and out of the circuit as desired.

* * *

HOW TO....

● SOLVING LIGHT DIMMER QRM - By: John H. Bryant

The sudden intrusion of my wife's dressing room light dimmers (S-8) on 90 meters during dawn enhancement had deafened me many a morning and caused heavy QRM at our breakfast table. I tried every published remedy using small capacitors across the switches and used coaxial leads to ground all antennas. No luck

Finally, I discovered the Nutone Model DC-35 dimmer switch sold as a "suppressed RF" switch for incandescent lights only. It works like a charm; not a whisper of RF, even on a portable near the switch. Unfortunately, each switch is priced around \$30 U.S. in 1989.

[If you are unable to locate this particular brand/model, ask for a "studio quality" dimmer. /dmc]

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● FIGHTING QRM... THE ULTIMATE SOLUTION! - By: George Zeller

In 1987, my DX situation was simply awful. My location forced me to use an AN-1 for an antenna. My R-70 got local MW intermodulation in frustrating places. Worst of all, I had horrible local RF pollution. The neighbours' TV's gave me oscillator buzz and a city fire alarm box often put out S-6 to 7 level hash. Things were grim.

All of these annoyances were solved in 1988 - I MOVED!!

* * *

● SOLDERING AND UNSOLDERING TECHNIQUES - By: Dallas Langford

If you don't know how to make correct solder joints, I suggest that you go to a hamfest, buy some inexpensive gear (something with tubes, lugs and other components, along with a PC board full of components like you will find in good receivers) and unsolder enough components and wires until you understand how they are put together.

A soldering iron with a 45 watt, 900 degree element and copper tip is best for working on most tube gear. A 27 watt element is about right for solid state gear. I use fine sandpaper, usually #400 and #600 wet-dry variety; also a small file to re-form and clean the copper tip on a regular basis.

I form my iron tips to the shape of a blunt pencil with rounded end, or like a blunt wedge. To prepare a tip for use, I file the end to the shape I desire, sand the entire tip until smooth and shiny, plug in the iron, and touch some solder to the tip until solder flows onto the tip and tins it (covering the tip with a shiny coating). The iron is now ready for use. I use a holder for the hot iron when it is not in use.

Some soldering and unsoldering jobs require more heat than a 45 watt iron provides. In that case I use a 100 watt soldering gun, but only as a last resort. If you are inclined to use a 100 watt soldering gun because it will save you a few seconds, you will never learn to solder well and you will almost certainly damage some of the equipment you work on.

A desoldering braid is essential for unsoldering wires and components in tube gear and PC boards. I use a Chem-Wick Lite 0.1" desoldering braid. It is the only kind that really works well. I know - I've tried them all. The current Radio Shack desoldering braid is satisfactory for emergencies but I would not use it on a regular basis.

There are two ways to desolder - destructive and non-destructive. If you are replacing a component, then it doesn't much matter how you remove it, as long as you don't destroy the lugs to which it is soldered or separate the PC board traces from the board itself. You can cut leads close to the solder joint, remove the solder, and pry or cut the leads with a diagonal cutter blade to remove the remaining wire on the lug. But if you must re-use the component or wire, you must unsolder the wire and remove it without damaging it. That requires a different approach.

Useful tools for non-destructive removal of wires and components from tube gear are a small curved tip hemostat and a dental probe which I filed and sanded to a thin, sharp blade on the end. If you're on friendly terms with your doctor and dentist you may be able to get them to order these for

you. But don't flinch when you're told the price: between \$20 and \$30 for the hemostat.

The dental probe is used to pry wires away from lugs, while the hemostat is used to unbend and remove wires after they have been pried from the lugs. The hemostat is also used to crimp wires to lugs. For larger wires, such as half-watt resistor leads, a large hemostat is better. Since the hemostats and probes are stainless steel, solder does not stick to them (well, almost never). This means that you can work on a solder joint with the soldering tip applied to the joint, which is often necessary when the desoldering braid does not remove all the solder residue.

Stranded wire is the most difficult to re-use because solder adheres to the strands. It is usually undesirable to cut off the end of a stranded wire and strip additional insulation to get clean strands because there is seldom much excess wire. The best approach is to use a wood tongue depressor as a support, place the bare wire end on the tongue depressor, place desoldering braid on top of the stranded wire, and apply the hot soldering iron tip to remove as much solder residue as possible. Hold the stranded wire in one hand and use the tip of the hot iron to separate the strands. The strands can then be straightened without breaking them, twisted together, and recrimped at the lug from which the wire was removed.

It is generally much easier to remove components from PC boards, but also but easier to damage a PC board trace. Use the desoldering braid to remove all solder from around the cut lead where it pokes through the PC board. Do not leave the hot iron tip applied to the braid (and hence the PC board) any longer than necessary. Excessive heat will cause a copper trace to separate from the board. With small needle nose pliers or a small screwdriver, straighten the lead. Do not pull down or push up or you may separate the trace from the board. Push and pull from side to side. Straightening the lead will usually break any small solder bridge with the PC board trace. If not, look closely to see where the remaining solder is, use more desoldering braid and then straighten the lead again.

To summarize, here is a list of don't's and do's:

Don't:

- * lay the end of a wire on an existing solder joint and dribble more solder onto the joint
- * heat an existing solder joint and stick the end of a wire into the melted solder
- * flow solder onto a joint by applying the solder directly to the hot soldering iron or gun tip
- * apply solder to a joint with mechanically unstable wires; if anything moves except flowing solder, it is not a good solder joint
- * cut leads at a lug and leave the cut ends crimped to the lug; if you must cut leads, then you must remove the cut ends
- * burn nearby insulation or components

Do:

- * crimp all wires firmly and securely to a lug before soldering them
- * apply a small amount of solder directly to the soldering iron or gun tip to help conduct heat to the joint when necessary, especially for joints with multiple wires
- * apply most or all of the solder to a joint without making direct contact with the soldering iron or gun tip
- * protect nearby insulation and components from your hot soldering iron or gun tip with pieces of wood or metal

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● MEDIA NOTEBOOK - By: Kevin Atkins

If you have a particular geographic area of interest such as Peru and Bolivia, you probably scan the media for items pertaining to that area. To make more effective use of such information, you can compose a "Media Notebook".

Clip the articles, tape or paste them onto 11 X 17" paper and photocopy the pages at 64% of original size onto 8 1/2 X 11" paper (just like FT!). Allow a wide margin on the left for easy binding. Then use a marker to highlight names of cities, government officials, companies, products and the like.

The result is a handy reference for identification clues and reception reports. It's important to highlight after photocopying, as certain colours like orange and red will reproduce black on the copier.

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● BINDING NEWSPAPERS, ARTICLES, ETC... - By: Don Moore

After a few year in this hobby, most of us end up with huge piles of papers that we want to keep. Those DX newsletters, technical articles and background information that stations usually wind up in manila folders but these soon become a nuisance. I tried storing mine in loose-leaf binders but the binders are hard to store and pages tend to rip out easily.

What I've ended up doing is taking papers to a copy place and having them comb-bound - just like Proceedings. It's cheaper than buying loose-leaves, flatter for storage and the pages don't rip out nearly as easily. If you're binding a lot of miscellaneous papers, it's a good idea to make an index to put in the front of the "book". On the fun side, you can even custom design your own covers!

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● FINDING THE "NEWS" WHILE IT'S STILL NEWS - By: Kirk Allen

Searching out the newsworthy DX, such as first-time loggings of new stations, reactivations and so on, is a special interest to me in my DXing hobby. By trial and error, I've found the best way to find the "news" is by becoming familiar with any given band.

It takes a fair amount of time, but frequent bandscans are a necessity. One can soon learn which stations deserve the most attention by making notes on the regular/usual stations that can be heard. On occasion, taking note of an unfamiliar carrier may eventually net an out-of-the-ordinary logging. Patience is another key to the uncovering of "news". It takes dedication to listen to an unknown station for hours on end to hear that clear ID!

Personally, I can't always DX in that "search" mode. However, switching into the "searching" mode has added enjoyment to my DXing.

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REALLY UNIQUE GEMS

● MOUNTING DECALS - By: Don Moore

If you collect QSL's and all the paraphenalia that comes with them, you may cringe a bit when a station sends a decal. A sticker is easy to display in an album, but what do you do with a decal? There is a cheap, easy way to display them and it may make you prefer decals over standard stickers.

Get some transparent non-adhesive vinyl. It is available by the yard at a fabric store. If there is more than one type, get one of medium thickness. Next, find transparent "contact paper" - decorative shelf-liner with an adhesive backing. Rubbermaid is the most common brand.

Cut out a piece of vinyl a bit bigger than the decal you wish to mount. Wipe off one side with a lint-free cloth to remove dust particles. Slowly attach the decal to the vinyl, being careful not to make any wrinkles. After it is secure, cut out a piece of contact paper, about the same size, and stick it on the back of the decal. Trim the edges and you should now have an attractive memento. Moreover, it's protected front and back.

I've been doing this for ten years now and people comment on how colourful and shiny the "stickers" are. I suspect the vinyl may eventually have some effect on the colours in the decal - but then, the ones I made up ten years ago still look as good as the day I put them together.

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● NEON TELEPHONE ALERT FOR NIGHT-OWL DXERS - By: Don Jensen

What if you and fellow DXers in your area want to exchange some real-time tips during a good Indonesian opening early in the morning? You're up and listening, of course. Your friends know that; but they'd like to alert you that special RPKD is coming through.

They would call you but they know that you've got your headphones on and would likely not hear the phone; or if they let it ring and ring, surely they will wake the rest of your household first.

A solution is to make a small modification to the phone near your listening location. By installing a small jack across the ringer you can disconnect the bell and pass the current through the jack to light up a small neon bulb.

Mount a neon bulb on a small metal or plastic box. Locate it near your receiver so you can see it while you DX. Connect it with zip chord and plug to the jack on the phone. When the phone rings, the bell is temporarily silenced and the current will cause the bulb to flicker, thereby attracting your attention. Be sure to disconnect or set the bell volume to minimum on other phones while you are DXing.

Because the neon does not give off a lot of light, your surroundings should be dimly lit. It will help to mount the bulb in a reflective housing (such as a boat running light or the cowl of an old flashlight) to intensify the light.

When noted DXer Ralph Perry lived nearby we both did a lot of early morning Indo/Peruvian hunting and often called each other at ungodly hours of the morning. We both made use of the light/ringing technique and both of our spouses were able to sleep without being disturbed. It worked really well for us!

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● A DIFFERENT APPROACH TO A DXER'S 'HIT LIST' - By: John H. Bryant

I have tried most of the common methods of keeping a DXer's "Hit List" of stations, frequencies and times of maximum DX interest. I've tried notebooks, a 3 X 5 file card system and in a fit of insanity, my PC with a sophisticated data base program.

Each system was either too difficult to update or too cumbersome to use. Instead, I put my notes on 3" X 3" Scotch brand 'Post-Its'. I stuck the Post-It notes on the wall above my receiver and things got a lot easier!

But then I looked four feet to the right of my radios where the white door stood, just waiting to be useful. Using a sharp pencil, I gridded off the back of the door (lightly) with rectangles measuring 4" high by 16" wide. I then purchased a sheet of one-inch-high pre-punched vinyl letters at the local hardware store and labeled the rectangles "00", "01", "02", etc., for each of the twenty-four hourly periods. I also bought a lifetime supply of the Post-It pads.

I note a new hit list station in large letters on a Post-It and stick it on the appropriate hourly rectangle on the door. There is space-enough for five notes per hourly period. Total cost: \$1.75. One glance at the clock, one glance at the door and I'm ready to DX. It's also a great feeling to eventually rip those suckers off the door and slam-dunk them in the round file!

The Photo Shows
The Perpetual
Hit List
Close At Hand
On The Door
Of My Shack

