



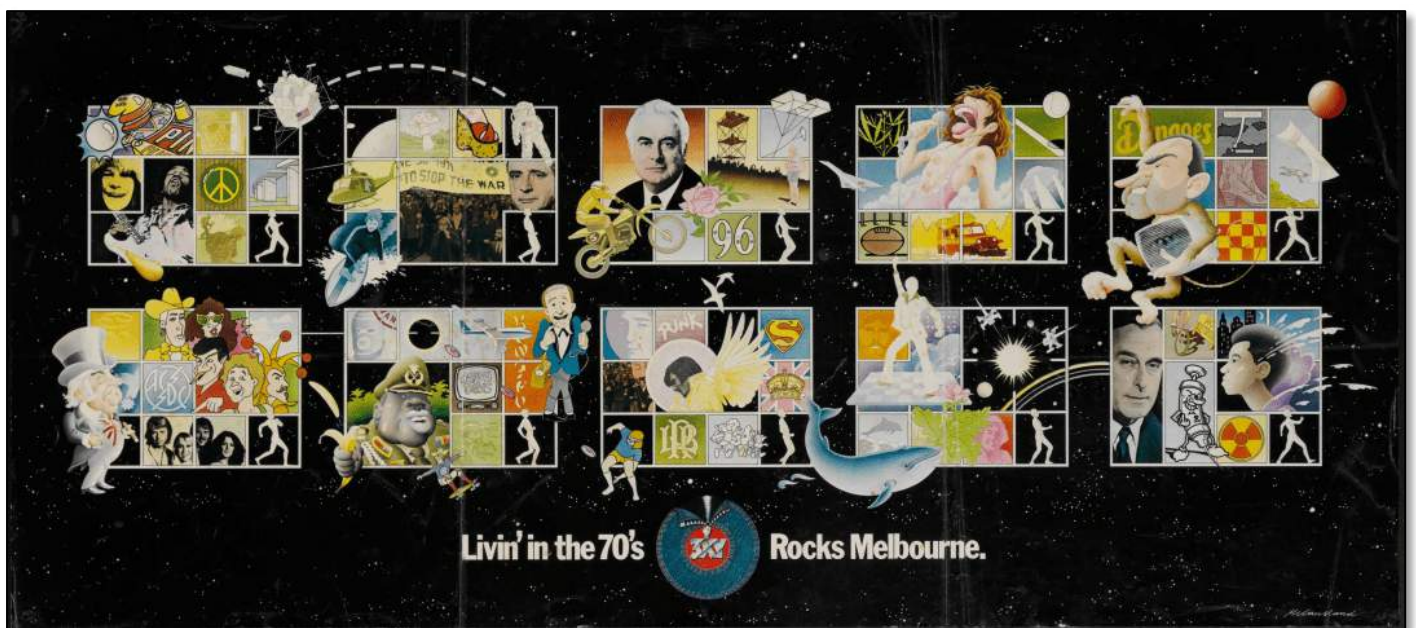
Volume 33 No. 5

April 2024

S.A. Group Newsletter

Inside Story:

The National Film and Sound Archive is celebrating 100 years of radio broadcasting in Australia with a series of pages entitled, not surprisingly, [100 YEARS IN 100 DAYS](#).



Who Listens to the Radio? - An NFSA podcast

Marking the [centenary of radio in Australia](#), the National Film and Sound Archive presents *Who Listens to the Radio?*, a podcast about technology and culture.

Who Listens to the Radio? is part of our [Radio 100 celebrations](#).

There is a wealth of radio history on the site, including old radio shows, interviews, photographs, and memorabilia.

Historical Radio Society of Australia Inc. – S.A. Group

Web Site: www.hrsasa.asn.au

All correspondence should be addressed to the Secretary, HRSASA Group, 2-13 Chester Street, Glenelg South, S.A. 5045.

Committee for 2023-24

President:	Graham Dicker	0414 323 099	pres@hrsasa.asn.au
Vice President:	Keith Ellison	0407 304 028	vicepres@hrsasa.asn.au
Secretary:	Ian Smyth	0488 488 776	sec@hrsasa.asn.au
Treasurer:	John Crawford	8344 4978	treas@hrsasa.asn.au
Public Relations:	Alan Taylor	0417 859 074	alantaylor47@bigpond.com
Committee Member:	Warren Lane	0400 272 556	warren@hrsasa.asn.au
Committee Member:	Peter Howard	0424 563 732	peter@hrsasa.asn.au
Committee Member:	Tony Bell	8269-4095	antony.k.bell@gmail.com

Co-Opted Additional Members/Responsibilities:

Shop Keeper:	Alan Taylor	0417 859 074	shop@hrsasa.asn.au
Valve Bank Manager:	John Crawford	8344 4978	vbm@hrsasa.asn.au
Newsletter Editor:	Ian Smyth	0488 488 776	sec@hrsasa.asn.au
Website Editor:	Ian Smyth	0488 488 776	sec@hrsasa.asn.au

Planned meetings for the next few months:

Sunday 28 April

1:00pm to 4:00pm (Confirmed)

Visit to South Australian Aviation Museum

Several HRSASA members have connections with SAAM. We have a lot in common, hence this visit, and possibly, the start on an ongoing relationship between our two groups!

To be held at:

SA Aviation Museum

(New entrance & car park) **16 Bedford Street, Port Adelaide, SA, 5015**

Wednesday 8 May

12 noon for a 12:30pm start

MEMBERS LUNCHEON

Formerly known as the "Retirees Luncheon" it is open to all members, partners, and guests.

To be held at:

The Reepham Hotel

273 Churchill Rd, Prospect, SA, 5082

Sunday 26 May

1:00pm to 4:00pm

AUCTION

Please contact the Secretary ASAP to book your table. Remember, you MUST be a current financial member to buy & sell at our Auction.

To be held at:

St. Cyprian's Church Hall

70, Melbourne Street, North Adelaide, SA, 5045

Sunday 30 June

12noon to 5:00pm (NOTE: Including BBQ Lunch)

BUS TRIP & HOME VISIT to "Old Tailem Town"

Possible ongoing relationship with them re "Radio Room" collection. This event is confirmed but we will keep you informed as we progress, especially with Bus and BBQ details. Families welcome to join us.

To be held at:

Old Tailem Town,

Princes Highway, Tailem Bend, SA.

Wednesday 10 July

12 noon for a 12:30pm start

MEMBERS LUNCHEON

Formerly known as the "Retirees Luncheon" it is open to all members, partners, and guests.

This will be our first “regular” auction for the year. Members can book a table and sell up to 20 items each.

Sunday 28 July
1:00pm to 4:00pm
AGM and AUCTION

As in previous years, we will be holding the AGM of the Association, including the election of Office Bearers for 2024-25. This will be followed by our second Auction for this year. Members can book a table and sell up to 20 items each. Please contact the Secretary ASAP to book your table. Remember, you MUST be a current financial member to buy & sell at our Auction.

To be held at:

St. Cyprian’s Church Hall
70, Melbourne Street, North Adelaide, SA, 5007

To be held at:

The Reepham Hotel
273 Churchill Rd, Prospect, SA, 5082

Sunday 25 August
1:00pm to 3:30pm

Philips Radio & TV “Show & Tell” Day

Members bring restorations, as per the Eddystone, Astor & AWA days we conducted in 2022-23. Will also include any products made by Philips (eg/Mullard.)

Also including TV sets and Test equipment

To be held at:

St. Cyprian’s Church Hall
70, Melbourne Street, North Adelaide, SA, 5007

Component Corner

Many new members are probably wondering where to obtain components and valves. The following is a list in order of preference:

HRSA-SA Group Shop: We now have a new arrangement for our store. Please contact our Liaison Officer, Alan Taylor on 0417-859-074 to enquire, or place an order. Alan’s email address is: shop@hrsasa.asn.au
AZTRONICS, 170 Sturt Street, Adelaide. Houses the HRSA-SA Group valve bank and modern components. They will source components for members. Great supporters of the HRSASA.

HRSA Melbourne (see *Radio Waves*) Houses the Victorian HRSA valve bank and odd passive components and kits, plus resource books written especially for members.

WES Components, Sydney. The catalogue is viewable on-line, and orders can be placed through the Shop Keeper/Secretary, as the SA Group has an account, through which we get “trade discount”. Go to: <https://www.wes.com.au> to see all their products.

ITEMS STILL WANTED BY FELLOW MEMBERS:

1. **WANTED:** Mobile H.F. + V.H.F. + U.H.F. Transceiver

Contact: Barry Chammen on 0409-061-560

2. **WANTED:** Philips Transistor Radio – Model No. 198

Contact: Tony Bell on (Home) 8268-4095

3. **GIVE AWAY:** Our Treasurer and Valve-Bank Manager, John Crawford has some “Radio Waves” copies that are surplus to requirements. There are two sets of books to give away. However, you will be required to take the whole set being offered. No “cherry-picking” of individual issues will be allowed. (John will be happy for you to bring back any duplicates you find when you combine these with your own collection.)

SET 1: “Radio Waves” Issue 1, (July 1982) – plus:

Issues 40 to 157. (April 1992 to July 2021).

SET 2: “Radio Waves” Issues 41 to 148, (July 1992 to April 2019) but missing the following:

Issues 62, 65, 81, 85, 87, 92, 97, 101, 102, 103, 104, 111, 112, 113, 118, 123, 135, 147.

In addition, there is a box containing a couple of dozen random spare copies of "Radio Waves" that will be available, free, at the Auction on Sunday May 26th at St Cyprian's Church Hall. These may be taken individually and not as a set.

4. **WANTED TO BORROW:** A 12-volt power supply for National Panasonic Reel-To-Reel Video Tape Recorder, Model NV-3085A – Has a 4-pin din plug with a groove (see photos below) – Contact: Ian Smyth on 0488-488-776

This unit belongs to a local Primary School, we only need to borrow a power-supply to dub some old tapes.



Socket for 12volt push-in power lead.

I showed my 12 year old grandchild an old floppy disc.....

....They said "Wow! - That's so awesome! You 3-D printed the "Save" Icon!"

Re-Wiring an old Chassis?

Safely???

How???

Are there any rules, or protocols???



Above: An old 5 valve Scharnberg Strauss chassis undergoing re-capping, and some re-wiring.

At the March HRSASA Meeting, we were presented with “Tips, Hints, and Suggestions” from 4 or 5 members who are actively engaged with restoration of old broadcast radio receivers. We heard from both experts and beginners, so we heard suggestions from the highly technical to the elementary.....it was interesting to get an idea of the range of experience of our members.

One topic that raised a bit of active conversation was wiring protocols for radio chassis, especially regarding the colour-coding of wires. Do such protocols exist?? Are they part of the Australian Standards?? The question was raised considering our previous topic of electrical safety.

Ian Smyth agreed to follow up on this topic, and over the past few days, several highly experienced members were approached to give their views on this as there appears to be no clear answers!!

From these conversations, it appears that the **Australian Standards** clearly define electrical generation, distribution, and (to a lesser extent) consumption, but at the micro-level of individual appliances, for example colour coding of internal wiring, there is no formal standard. It seems that the Standards end at the point where the mains-cable enters, and is anchored, inside an appliance.

However, three of the five people Ian spoke to said they ALWAYS re-wire a chassis as follows:

- RED – High Tension (usually directly connected to the secondary winding of the mains transformer.)
- YELLOW or BROWN – Heater or filament circuit, sometimes repeated for dial lights (ie/ 6.3 volts AC)
- ORANGE – Lower, or lesser HT
- BLUE – AGC line

Where did this practice come from? All three respondents said it was something they had “learned years ago” and couldn’t remember if it was company practice, or “something they’d learned on the job”. None of the five respondents could produce anything written. There were a couple of slight differences such as yellow or brown for heater circuits, but it was very telling that overall, this was believed to be widely practiced.

In summary, when refurbishing any radio, a critical inspection should be made of the state of the point-to-point wiring. If it’s outer covering is cracked, badly discoloured, missing in patches, or frayed, it should be replaced. Why not then use the colour-coding above when you do so? Even though it is not mandatory, or part of the Standards, it will help you, and possibly others in the future to quickly identify the major parts of the circuit. Also, not all members do it, but it is also desirable to fit a fuse to the Active (Brown) mains input to your radio, and securely anchor the mains cable to the chassis.



Are you looking for a hard-to-get part? A strange knob, or a replacement IF coil? Have an item that you'd like to sell? Why not place a free, classified advertisement on our website? Go to the TRADING POST page at: <https://hrsasa.asn.au/page-16/> and have a look at what's on offer right now and help a fellow member. It changes frequently. Why not make use of this free resource yourself? Contact Ian Smyth on 0488-488-776 or by email at ian.smyth@me.com to place your request.

You could also place a free classified advertisement in the "yellow pages" section of our National Magazine "Radio Waves" and reach an Australia-wide audience.

Just contact the Radio Waves editor, Ian Batty on 0402-736-527 or send it by email to: ianbatty311@gmail.com



HRSA MEMBERSHIP RENEWAL 2024-25

Membership fees are due by 30 June 2024. Please note that your new Membership Card will be sent out automatically from Melbourne with the July issue of "Radio Waves". However, it is not valid until payment has been made. Renewal enquiries should be made to the Membership Secretary in Melbourne, or by email to Jim Greig at: jgreig@bigpond.com, or phone: (03) 5441 3072. If you are unsure of your payment status, please contact the Membership Secretary before paying for 2024-25.

**From our President,
Graham Dicker.**



President's "Banter"!

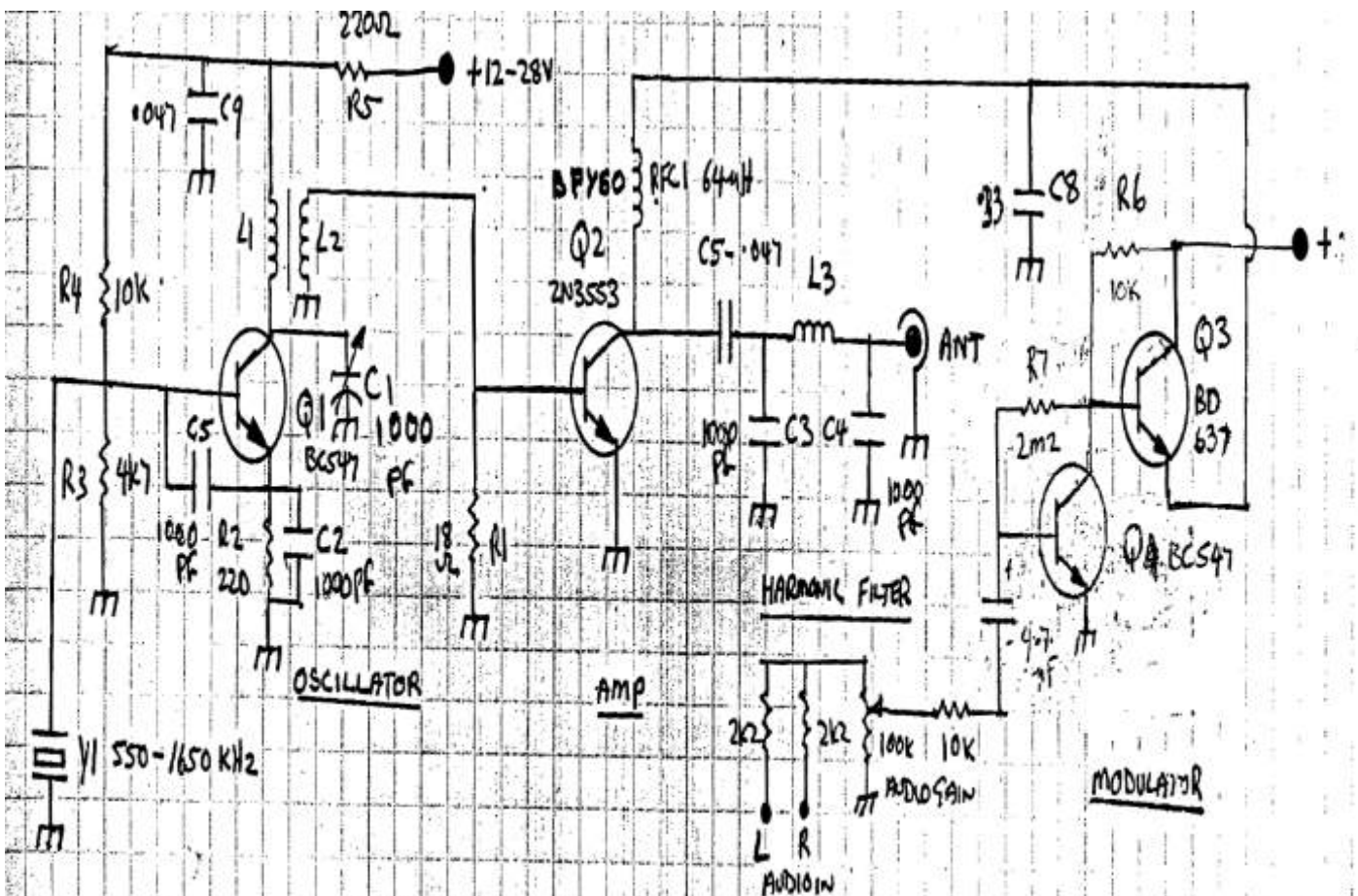
President's monthly stories from the past (and other ramblings)

This month's story is somewhat short, but I have added significant content with the plans for an AM transmitter that I designed back in 1988, plus an article that I wrote that same year about Local Area Broadcasting Techniques.

Oddly enough, what I had said some 36 years ago has come to pass in 2024. (The article from 1998 appears below the AM Transmitter details.)

Why have I done this?

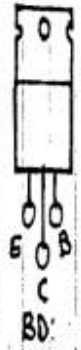
Many members will remember that earlier this year, I reported back when I returned from the USA about the poor state of free to air broadcasting in that country. It made me wonder if the same downward spiral is happening here in Australia as well?? It would seem that I had a Nostradamus moment back in 1988.... However, the AM transmitter I designed and kitted up back then will no doubt be very useful to HRSA members looking forward as a program source for use with the receivers that we restore. AM radio transmission may remain or disappear... Certainly, it is a lot more interesting to be able to play some favourite tunes via this AM transmitter, than listening to a 400hz tone from a signal generator as your only source of a signal!



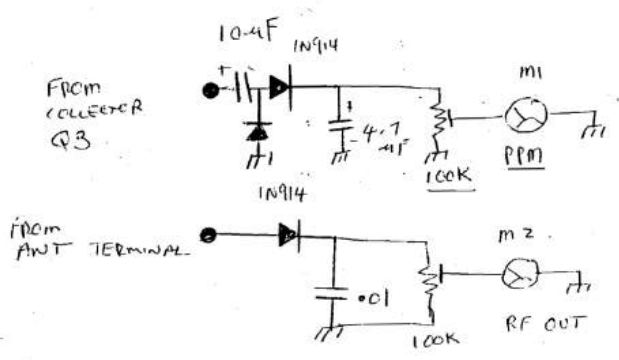
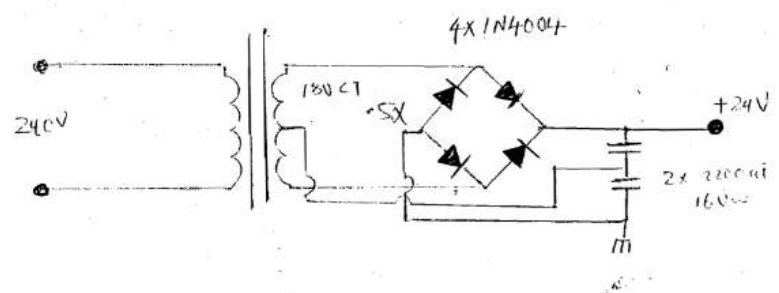
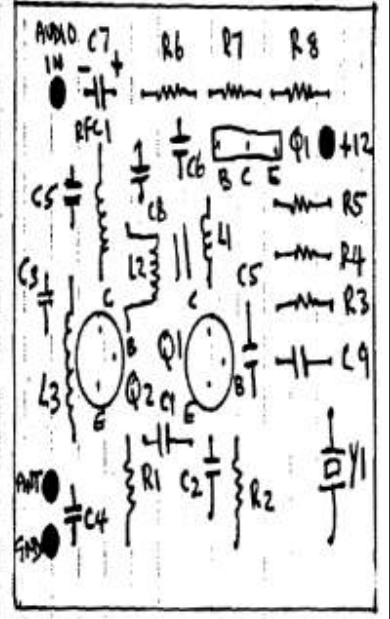
(c)1988 AUSSIE-KITS A.M. 1.5W MONO EXCITER / TRANSMITTER

PARTS LIST

- Q1 - Q4 BCS47 (PHILLIPS)
- Q2 - 2N3553 (MOTOROLA) BFY80
- Q3 - BD637 (PHILLIPS)
- R1 - 180Ω 1/4W
- R2 - R5 220Ω 1/4W
- R3 - 4KΩ 1/4W
- R4 - R6 10K 1/4W
- R7 - 20K 1/4W
- Y1 - 550-1650 KHz XTAL
- L3 - 30 TURNS #26 ON AMIDON T50-2 TORROID
- L1 - 73 TURNS #28 L2 8 TURNS #28 ON T50-2 TORROID
- C1 - 1000 pF TRIMMER
- C2 - C3 - C4 1000 pF
- C5 - .001 / 100.0 pF
- C6 - 10 nF TANT
- C7 - 4.7 nF TANT
- C8 - .03 nF CERAMIC
- C9 - .047 CERAMIC OR .12 CHIP
- RF C1 - 64 nH



PARTS LAYOUT

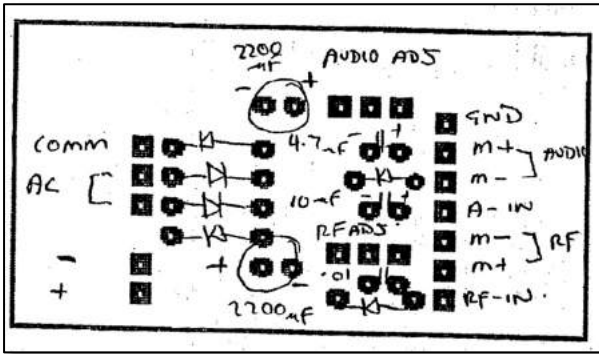


Power supply + MONITOR

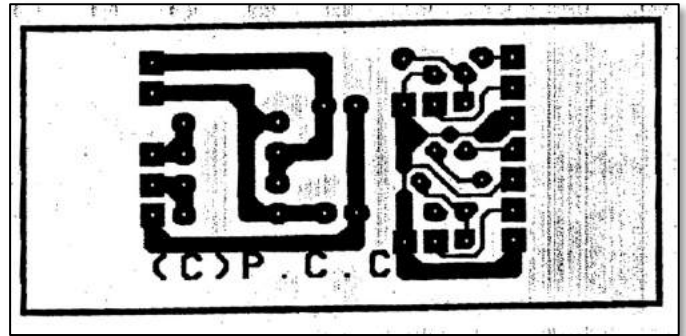
P.C. COMPUTERS
 36 REGENT STREET KENSINGTON
 COMPUTER BROADCAST & DIGITAL AUDIO
 DESIGN SALES & SUPPORT ENGINEERS

DOCUMENT 1-50 PARTS DATE 8/1/85

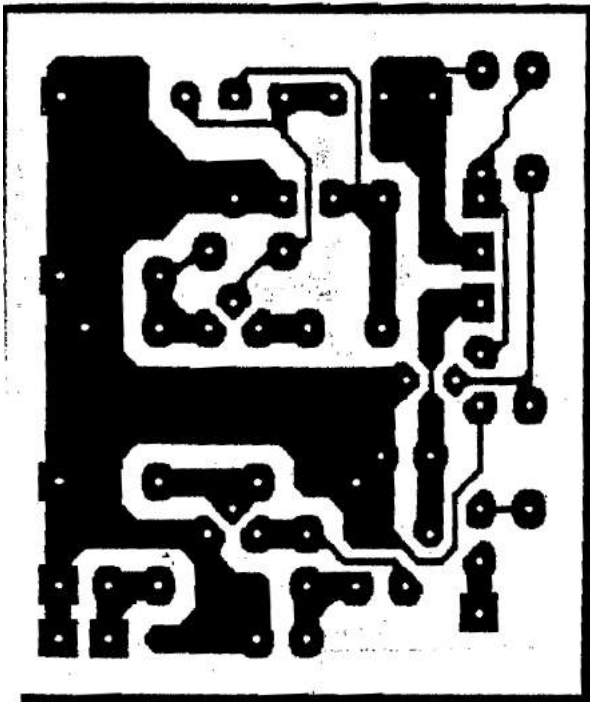
DRAWN *[Signature]* REV 1.0 PAGE 1



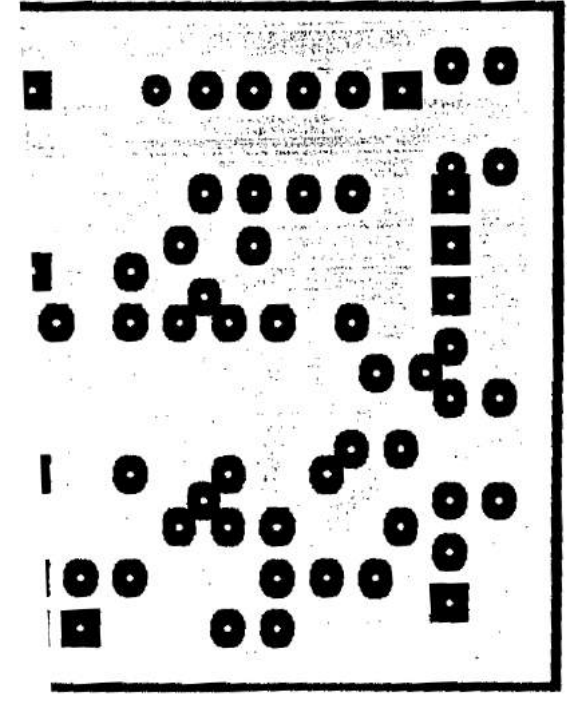
Above: Circuit Board – Component Side



Above: Circuit Board – Solder Side



Above: Board size is approx. 1.15 inches x 1 inch



Above: Board showing hole pattern for soldering

NOTE: These drawings were made in 1988 and we apologise for the poor quality of the reproduction. However, if any members are interested in obtaining one of these circuit boards, and building this transmitter, please contact Graham Dicker, or Ian Smyth. Both of us have had success getting small circuit boards, such as this made in China at very reasonable cost. The more that are printed, the cheaper it costs!

Alternatively, if you are interested in building your own AM transmitter, there is a kit available (including printed circuit board) available from the HRSA Head Office in Melbourne. See the centre Yellow Pages of any recent copy of "Radio Waves" for details.



LOCAL AREA BROADCASTING TECHNIQUES

THE AUSTRALIAN SYSTEM

Over the years very little has been written about local area broadcasting, probably because no legislation has been introduced in Australia, regardless of whether or not such broadcasting has been common place in Europe and the USA since 1936. 1989 should be an interesting year in Australian broadcasting with the open auction of the spectrum to raise an estimated 1,000 million dollars, from existing and new AM broadcasters, much to the detriment of those currently holding monopolies. As electronics enthusiasts we should all be lobbying for additional spectrum deregulation to incorporate cable TV an FM broadcasting satellite broadcasting, and an equivalent of the USA part 15 regs for low power broadcasting. I fully believe that the Australian spectrum is bordering on anarchy with the use of un-licensed FM bugs, FM transmitters, radic mics, FM intercoms, video senders (rabbits) and a new generation of car CD players that transmit directly on the FM band. The Australian government should introduce legislation to licence these and other devices to retain standards and the spectrum or if for nothing else as an additional fund raiser.

LAB SYSTEMS

Basically, 2 systems are used world wide:

1. Local area AM current carrier broadcasting
2. Cable FM broadcasting.

In Australian, a third option could also be investigated - that of satellite broadcasting.

The main aim of all local area broadcasters is that they service a specific community need, some are non commercial, others commercial. Amongst current applications used are:

1. background music
2. commercial FM stations
3. public service announcements
4. all news and weather stations
5. boating information
6. tourist information services
7. local sporting events
8. specialist music stations
9. educational stations (school)
10. ethnic broadcasting
11. religious broadcasting
12. local council information inc. council meetings
13. computer and information services
14. sales and promotional
15. real estate stations
16. community groups
17. local business run co-ops
18. crowd and traffic control
19. shopping centres
20. public gatherings.

In the USA 30 million homes are serviced by cable systems reaching 127 million people or approximately 1/3 of the US population. In California alone, there are 380,000 subscribers.

CURRENT CARRIER BROADCASTING

The name originally comes from the technique used by Bell telephone whereby it was derived that a broad-band communications channel was broken up into many smaller limited bandwidth voice channels - each with its own separate carrier frequency. Electrical authorities have been frequent users by introducing control signals on their own power lines to control and receive status to substations. In some circumstances, the tones and control signals used were in the audio spectrum and carried hundreds of miles. Today many "wireless" intercoms are sold in Australia of the FM variety using a carrier frequency of approximately 10mHz which may carry for up to 6-7 homes on the same mains phase, or approximately 1 block. A 25 watt transmitter on the AM broadcast band coupled to the mains wiring can travel up to 10 miles in country areas or 1-2 miles in a city. These transmissions can be received from a distance of up to 300ft from the power lines, and may be received with a standard AM receiver. Drive-in theatres use leaky coaxial transmission systems to radiate their signal and a good quality receiver will pick up transmissions outside of most drive-in boundaries.

The main disadvantage of CCB (carrier current broad) on the AM band is limited range with limited power (note most commercial AM stations have 2-5kw transmitters), and noise from man made devices.

IMPLEMENTATION IN THE USA

In the USA the FCC (Federal Communication Commission) has implemented part 15 regulations covering low power transmitting systems, and we will show how systems are implemented using these restrictions. Part 15 regs cover 3 types of broadcasting:

1. AM
2. FM
3. Cable TV/FM.

This section deals with the AM applications.

The part 15 regs allow low power broadcasting on the AM broadcast band by 3 methods:

1. via coupling to the mains
2. direct radiation
3. leaky coax radiation.

RADIO FIELD STRENGTH

The intensity of the radiated wave (field strength) is measured in volts/metre, millivolts/metre or microvolts/metre. 1 volt/metre would be induced in a wire 1 metre long, held above the ground measuring 1 volt PP of RF energy. A normal AM BC station will have a coverage of 2-10mv/metre, whereas a part 15 station is limited to 15mv/metre or 1000 times less. This level is similar in magnitude to random electrical noise radiated by fluorescent lights, microwave ovens and most computers.

The maximum distance this 15mv/metre signal can be radiated = $157,000 / \text{freq (in kHz)}$ eg for a 1mHz carrier the distance = 157 feet, from any radiating element. Because of this limitation it is best to use the lowest frequency possible. The offset is that spectral noise is usually greater at the low end of the BCB. Additionally, if mains wiring is used the maximum voltage shall not exceed 200mV. If direct radiation via an

antenna is used the maximum antenna length including coax shall not exceed 10 feet and the DC input power to the final shall not exceed 100mw. Additionally, the equipment shall meet specific broadcast performance specs.

HOW TO CHOOSE A FREQUENCY

Because of the limitations, the best results are a compromised choice dependent on:

1. range and field strength
2. electrical noise
3. interference from stations outside of BCB
4. interference from BCB stations
5. transmitted band width (fidelity)
6. station spacing.

In Australia BCB stations are spaced 9kHz apart from 540-1600kHz - with each station broadcasting a maximum audio band width of 9kHz, this will produce an upper and lower wideband resulting in a total spectral band width of 18kHz.

The part 15 regs do not limit bandwidth but the average AM receiver will not benefit from hi-fi 15kHz transmissions. As any carrier frequency can be used it is recommended to stick to standard channel spacings to avoid beats (birdies) with other stations. Due to the radiation distance limits a freq of 500kHz is approximately 300 feet while 1600 kHz is 100 feet, but due to the longer wavelength of lower frequencies a length of cable may leak more RF at higher frequencies than at higher frequencies.

On the plus side low frequency performance of an AM radio receiver with regards to gain and SN ratio is better, plus night-time skywave radiation and interference is minimised. For frequencies below 800kHz should the transmitter generate harmonics, they will fall within the BCB and may require an extensive filter to remove the second harmonics. As power wiring may have non linear devices, ie diodes, dimmers, fluoro lights, motors etc. it may be difficult to remove harmonics generated by external devices. As man made noise tends to group in areas of the spectrum, a survey should be made prior to final selection.

THE SURVEY

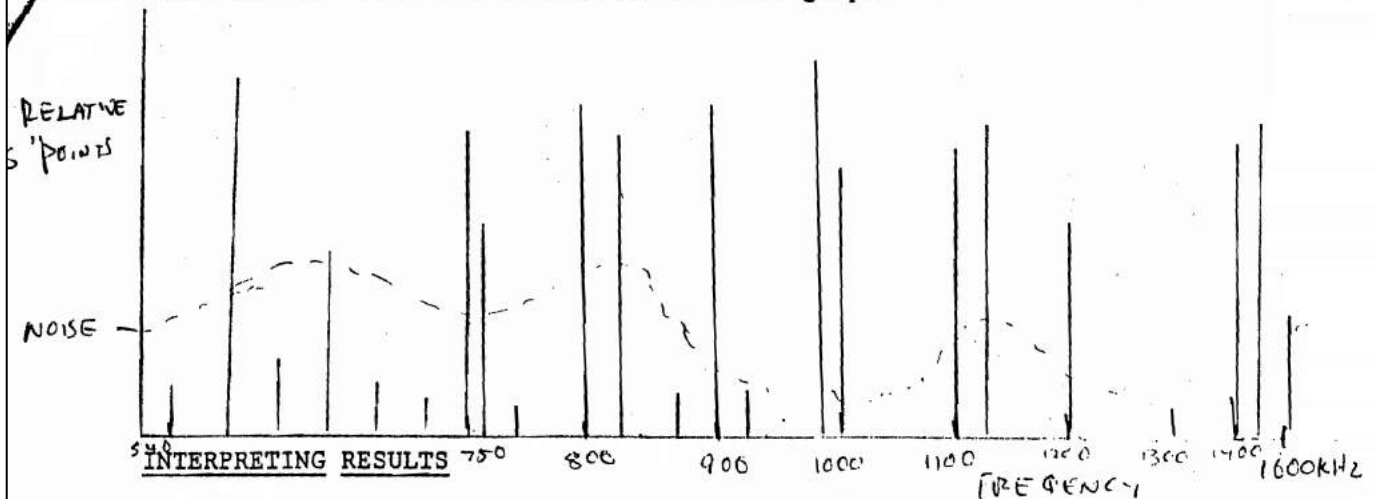
Two things need to be determined in the spectrum survey:

1. to find an empty channel in day and night
2. to plot the residual band noise.

To do this you will require either a communications grade receiver with an S (field strength) meter, or modify a BCB receiver. To modify the BCB receiver you must follow the AM detector back to the AGC (automatic gain control) line and disable it, then hook up a multimeter (preferably Fet Vom or VT VM) to the detector to monitor the detector voltage, this voltage is proportionate to field strength.

Next, sweep the BCB and plot the relative field strength vs frequency for the band, it is advisable to turn the radio continuously to plot the maximum level for each carrier. Three plots should be made, one after dusk, one prior to dawn, the third at midday. The evening and morning plots are necessary to ascertain the strength of stations skywaves. At the same time as plotting the station strengths, tune in between stations and record the residual background noise, if a mains current carrier system is envisaged

then wrap 6 turns of a power cord around the receiver to take into account mains noise. Plot the results on the same graph.



On the sample graph, it can be seen that the minimum background noise is at 1mHz but due to the cramped spectrum, and two strong carriers at 980kHz and 1mHz which would cause selectivity problems in receivers it does not provide a good choice. At the low end of the band the noise is the greatest but at 850kHz, 1050kHz, 1300kHz and 1550kHz the noise is reasonable. At 850kHz a skywave is received which could beat with the carrier leaving 1050, 1300, 1550 as the next choices - 1050 has a larger background noise than 1300 or 1550, and as the receiver gain falls off at the HF end of the spectrum, 1300kHz would probably be the best choice.

RF DISTRIBUTION

Now a choice of frequency has been made, we need to know:

1. the area to be covered
2. physical installation locations
3. RF power requirements
4. method(s) of distribution.

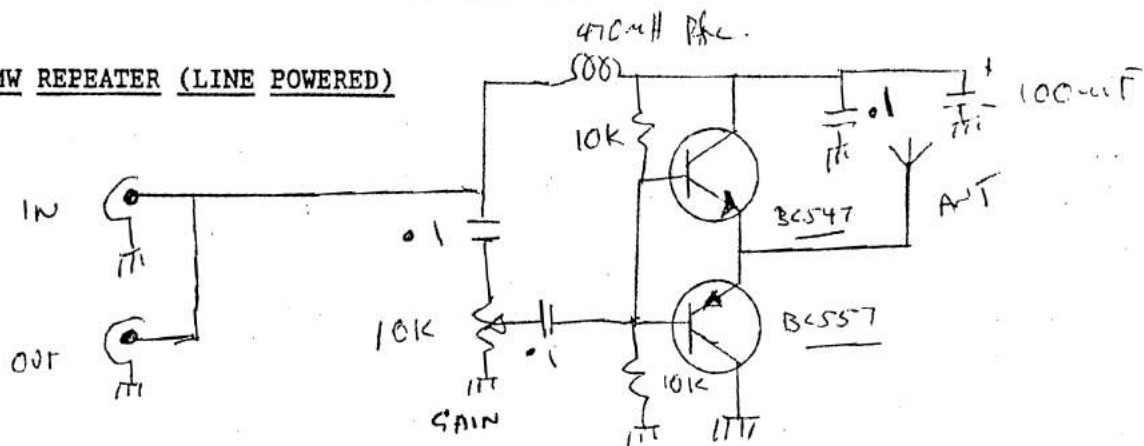
To deliver the RF to the audience 3 basic methods may be used:

1. carrier current: RF is coupled into mains wiring, and generally all three phases are recommended
2. direct radiation: antennas are placed at intervals to radiate a signal from 200-300 feet
3. induction: the use of leaky coax will radiate the signal directly.

Firstly obtain a map of the area to be covered (street directory maps are ideal) and mark out the area for coverage. With a highlighter shade the area that can be covered by carrier current and from the figures earlier estimate the power required (18w/km). It may be necessary in some cases to use multiple transmitters each tied back to a studio source using phone lines. Where hi-rise or concrete and steel buildings are located a leaky coax will need to be run within the building with another transmitter or a repeater installed. There are usually risers available which service all floors and should a floor exceed 300 feet additional repeaters with leaky coax installed in a suspended ceiling will provide excellent results. Always ensure your installation is ok'd by the owners. In shopping centres or if it is required to broadcast in open areas ie car parks or streets, then 10 feet antennas can be placed 400-600 feet apart, each with a repeater amplifier, and linked by coax cable. To work out coverage a

template can be made from mylar sheeting with a cutout to scale, the template can then be moved over the map, the areas shaded, with the highlighter and the number of feeders added up.

100 MW REPEATER (LINE POWERED)



Repeaters are powered by the coax feed and are looped through with the last repeater terminated by a 50 or 75 resistor depending on the coax impedance used. The input is AC coupled and the DC isolated and decoupled from the RF.

LANDLINES

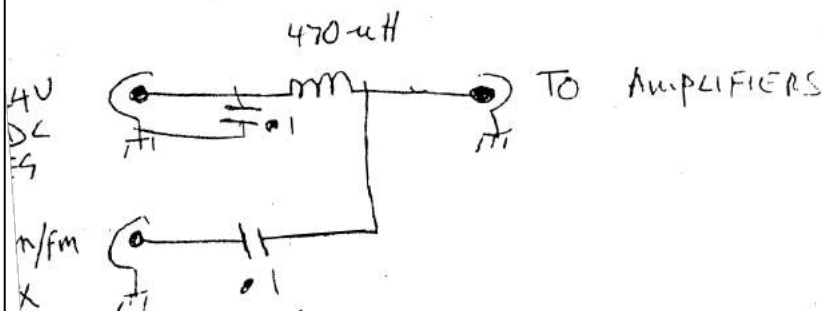
Most standard phone lines have a frequency response from 150Hz to 3.5kHz when sourced from 600 ohms. If you provide a 50 ohms source impedance and some passive equalisation at the receive end you can extend the frequency response from about 80Hz up to 6kHz, adequate for local area broadcasting, and the best part is there is no additional cost at the moment for the length of time that the dial up line is used.

CATV

Cable TV/FM broadcasting utilises the fact that a coaxial cable has very wide band width and a standard coax will support 15 VHF channels of TV, 40 UHF channels of TV and up to 300 FM channels all down one coax. Standard TV distribution amplifiers are used to buffer signals and some systems use encoders/decoders to protect rights and ensure collection of subscriptions. All that is needed for an FM station is a 10mw FM stereo exciter, and a resistive combiner to add all of the modulators together, followed by a distribution amp to buffer the output.

The TV coax at the receiver is extended across to the local FM receiver.

CATV/LAB FEEDER



CENTENARY OF BROADCASTING IN SOUTH AUSTRALIA

HRSASA & AHARS Celebrate with a Valve Amplifier Building Competition

The 3 aims of this competition are (a) to foster community interest in the 100th Anniversary of Broadcasting in South Australia, (b) promote home construction of valve Hi-Fi amplifiers, and (c) raise awareness of the Historical Radio Society of Australia, South Australian Branch, and its activities.

The competition is open to any South Australian resident who has constructed his, or her own amplifier, or one made by a relative who is, or was, a South Australian resident.

There are several different categories each of which will have several rounds to find both the **judging panel award winners** and the **listener panel award winners**. The judging panel awards will be based on technical as well as sonic character to find the winners. The listener awards are purely based on the preference of sonics. Pre-printed scorecards will be made available to all registered listeners/voters and the judging panel.

Depending on the number of entries there may be more than one round for each category eventually ending up with the top three amplifiers for placement as first second and third place in each category and grand overall winners. The HRSASA reserves the right to publish all findings and entrants' circuit diagrams over the 12 months following the competition.

Each entry will be by way of the prescribed entry form (see below.) General members of the public and HRSASA members who would like to join the *listener audience and judging panel* will be required to make an online booking for audience seats on the testing days.

Adelaide radio station involvement, both commercial and non-commercial, to promote and be involved with these activities will be most welcome.

The judging panel will arrange for 5 x 2-minute "test grabs" of music as a standard reference point. The same set of speakers and programme source will be used for every amplifier under test. The nominal speaker impedance will be 8 ohms. The programme source will be + 8 dbm, balanced line 600 ohms. Adapters and attenuators will be provided to accommodate 500 mv p-p input and unbalanced amplifiers.

Judged panel prizes will be awarded for each category as follows:

First, second and third place winners (ie/ 3 awards x 6 categories =18 awards)

There will be a judge's award to the **Best Overall Amplifier** (one award) plus the judge's **Best Technical Achievement** (one award)

The **listener award** will be for first place in each category (6 awards) plus an overall **Best Amplifier** (one award.)

Categories:

1. Single Ended
2. Less than 17 watts (push-pull)
3. OTL Amplifier (Output transformerless)
4. Hybrid amplifier
5. More than 17 watts push-pull
6. Open section (including solid state)

Prizes donated by Rola Australia:

1. **Best overall amplifier based on sonics**

One pair of ROLA OPT-50 Ultra linear push-pull output transformers valued at \$800.00

2. **Best Technical Achievement based on construction and circuit diagram**

One pair of Rola OPT-15 Ultra linear push-pull output transformers valued at \$400.00

3. **Listener Award – Best overall amplifier based on sonics**

One pair of Rola OPT-10SE Single-ended output transformers valued at \$140.00

All other awards – A Certificate of Achievement.

Cost of entry is free to all HRSASA members and the public. Closing date for judging to be announced.

COMPETITION RULES:

1. All entries may be either mono or stereo. Those with an internal pre-amp with equalisation will need to be tested in the flat EQ position.
2. All amplifiers must be entirely valve designs (solid-state rectifiers permitted.) There will be two additional categories: Hybrid and fully solid-state (Open category) to accommodate other designs.
3. All entries must be the applicants own work, or that of a DIRECT relative and must be an SA resident. (Deceased direct relative who contributed is permitted.)
4. Modified or commercially built equipment is not permitted.
5. Each submitted amplifier should include a schematic diagram (hand-drawn is O.K.) and should include a paragraph highlighting “clever” or “novel” aspects to its design or construction.
6. Credit will be given to other information supplied, such as photographs taken during construction, test results, notes on what worked and what didn’t during construction process.



HRSASA VALVE AMPLIFIER BUILDING COMPETITION 2024

ENTRY FORM

Please email all entries to: pres@hrsasa.asn.au

<u>ENTRANT DETAILS:</u>	
Name:	
Address:	
Phone number:	
Email address:	
HRSASA Member No:	
Amplifier Description:	
<u>CATEGORIES: (Circle one)</u>	
<ol style="list-style-type: none"> 1. Single Ended 2. Less than 17 watts (push-pull) 3. OTL Amplifier (Output transformerless) 4. Hybrid amplifier 5. More than 17 watts push-pull 6. Open section (including solid state) 	

HRSASA VALVE AMPLIFIER BUILDING COMPETITION 2024

ENTRY FORM

Please email all entries to: pres@hrsasa.asn.au

<u>ENTRANT DETAILS:</u>	
Name:	
Address:	
Phone number:	
Email address:	
HRSA Member No:	
Amplifier Description:	
<u>CATEGORIES: (Circle one)</u>	
<ul style="list-style-type: none"> 7. Single Ended 8. Less than 17 watts (push-pull) 9. OTL Amplifier (Output transformerless) 10. Hybrid amplifier 11. More than 17 watts push-pull 12. Open section (including solid state) 	



AZTRONICS – RELOCATED AND NOW OPEN

HRSA-SA Group Valve Bank:

The SA Group Valve Bank, containing our stock of over 20,000 valves has been relocated from the old AZTRONICS Store where it has been since February/March 2015.



Entry to the new shop is via Frederick Street.

The new AZTRONICS Store, is located right next door in the red brick building. However, there is not enough room to house the whole collection nor provide us with a room where we can sort and test the valves we sell.

AZTRONICS will continue to be our “retail outlet” (and point of collection) for valve sales to members and the public. The stock held at the shop will be topped up from the reserve stock that is now being sorted and collated at a couple of different locations.