WANSARC NEWS

Incorporated in Victoria, 1985 Registration Number: A0007611S
The monthly magazine of the
Western & Northern Suburbs Amateur Radio Club Melbourne, Australia

www.wansarc.org.au

146.450 MHz FM VK3AWS 28.470 MHz USB

Volume No: 41 Issue 4 May 2010

Next Club Meeting, Friday 7th May at Ern Rose Memorial Pavilion, Seaver Grove, Reservoir @ 7.30pm

The WANSARC crew that took part in the John Moyle 2010 Field Day, from Left to Right;
Back row; Rod MRT, Dave DTS, Victor DKM, Mark PI, Johnno FMPB, Trevor FTDX, Yuri ATA, Bob EL
Front row; Frank ZO, Dan DWH, Don HDX, Jack VK3woof! and Jesse FJPM

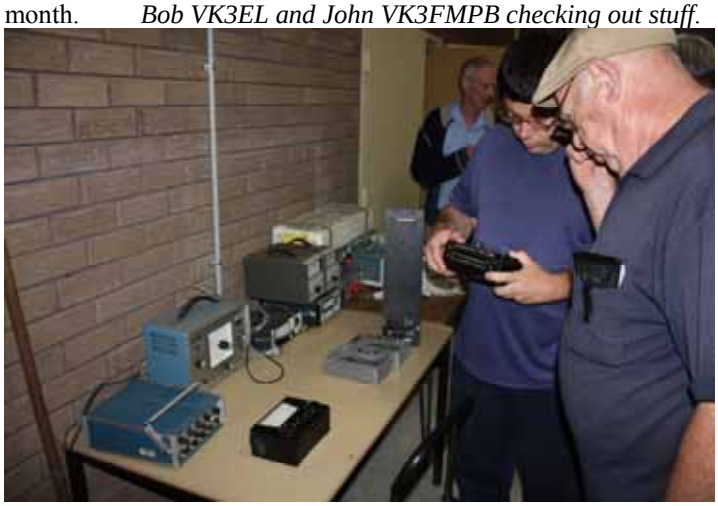
AMATEUR RADIO LICENSE FEE NOW $65

ACMA Amateur Radio License fee has increased to $65.00 as from the 5th April 2010. The license variation fee remains at $41.00.

~ ACMA

APRIL CLUB MEETING

Like many meetings there was gear to be had for a bargain price. Gordon VK3YOD brought a mix of very useful test equipment which was snapped up promptly – worth coming along each month. *Bob VK3EL and John VK3FMPB checking out stuff.*



Most of this sold for a mere $10 each, absolute bargains…

ROTARY RAFFLE 2010

Once again WANSARC is part of the Rotary Raffle, with a sizable part of each ticket sold returned back to the club.

Mark VK3PI will be posting books of tickets to club members who have not already collected them in person. If possible please return your book with money to Mark this May meeting.

~ Mark VK3PI

WANSARC NEWS TO GROW

At the last committee meeting, *during much eating of steak and seafood*, it was decided that posted copies of the newsletter be put in envelopes instead of stapled and also it was decided that 12 pages maximum was OK if news warranted it. To avoid problems with large emailed files sizes a compressed file (*under 600k*) will be emailed out with a link included if you want to download a high resolution copy. But if an issue has lots of photos increasing the file size, a link to download rather than an email attachment will be provided instead. Posted copy is highres ~ Mick VK3CH

Amateur Radio Victoria Foundation license Weekend courses

22-23 May, 24-25 July, 18-19 September and 4-5 December 2010
Courses are held at the Amateur Radio Victoria office,
40G Victory Blvd, Ashburton. The study and operational practice guide book for the Foundation Licence. Mail orders $26.00
Foundation license information Barry Robinson VK3PV 0428 516 001 or http://amateurradio.com.au/foundation

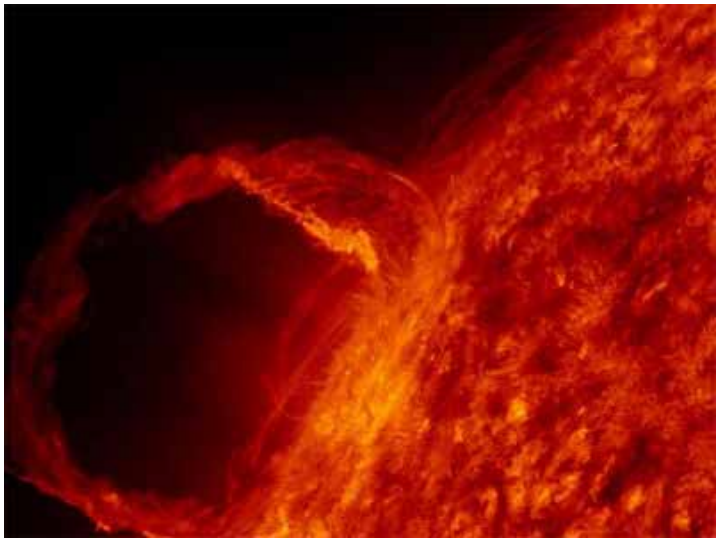
AMATEUR RADIO VICTORIA AGM

The AGM of the Wireless Institute of Australia Victorian Division (Amateur Radio Victoria) will be held on Wednesday 19 May at a new venue - the Ashburton Support Services, 296 High Street, Ashburton (corner of Warner Avenue) Melway 60 E10, at 8pm. - *Jim Linton VK3PC, Chairman*

MOORABBIN & DISTRICT RADIO CLUB HAMFEST 2010

Saturday 8th May 2010, doors open 10am, tickets on sale prior to opening. All Inside and Undercover.
BRENTWOOD SECONDARY COLLEGE, Watsons Rd,
Glen Waverley. Melway Map 71 D7 (Enter via Heath St.)
Major and minor prize draws during the day. Every entry ticket goes into the door prize draw, with separate raffle for a Major Prize.
Suppliers of new amateur equipment & accessories, and preloved ham gear & accessories, PC's & bits & pieces. Demonstrations of ATV and packet radio. Snacks and hot food will be available. Talk in via VK3REC 2M repeater on 147.175MHz and on 439.900 70cm VK3RSE. Webpage - www.mdrc.org.au

NASA NEW SOLAR OBSERVATORY SATELLITE



NASA has published some of the first pictures from its new solar observatory satellite. The Solar Dynamics Observatory was launched earlier this year to monitor solar storms. Researchers presented images from the technology during a webcast, showing brightly colored images and short movie clips. They say they are already learning new things.
Some flares were seen on the surface of the sun during the film.
~ Trevor VK3FTDX

Uncle Don's VK3HDX ~ Southern Style BBQ Baby Back Ribs

These ribs will have the smoky flavor without all the grilling time. It takes just 20 minutes on the BBQ to give the ribs that smoky flavor you expect. You can use this recipe for spare ribs too, just bake for 15 minutes longer.

INGREDIENTS

2kg baby back pork ribs
160 ml water
80 ml red wine vinegar
235 ml Tomato Sauce (White Crow)
235 ml water
120 ml cider vinegar
80 ml Worcestershire sauce
60 ml prepared mustard
55 g butter
110 g packed brown sugar
20 ml Maple Syrup
5 ml hot pepper sauce
3 ml liquid smoke
0.8 g salt

Jack at Masterchef House

DIRECTIONS

1. Preheat oven to 130 degrees. Place ribs in two 10x15 inch roasting pans. Pour water and red wine vinegar into a bowl, and stir. Pour diluted vinegar over ribs and cover with foil. Bake in the preheated oven for 3 hours. Baste the ribs with their juices 3 to 4 times through cooking.
2. In a medium saucepan, mix together ketchup, water, vinegar, Worcestershire sauce, mustard, butter, brown sugar, maple syrup, hot pepper sauce, liquid smoke, and salt; bring to a boil. Reduce heat to low, cover, and simmer barbeque sauce for 1 hour.
3. Preheat BBQ or grill pan to medium heat.
4. Lightly oil preheated bbq or grill pan. Transfer ribs from the oven to the grill, discarding cooking liquid. Grill over medium heat for 7 to 10 minutes, turning ribs once. Baste ribs generously with barbeque sauce, and grill 5 minutes. Turn ribs, baste again with barbeque sauce, and grill 5 minutes.

NOTES

Make sure you wash the ribs in cold water and dry them with absorbent paper, carefully lift the edge of the membrane on the back of the ribs with a sharp knife, peel the membrane off the back of the ribs, this will make sure all the flavors of the marinade & bbq penetrate the ribs. The oven cooking can be done the day before to save time, keep in the fridge and cook on the BBQ the next day. Enjoy!

~ Don VK3HDX

Don's ribs on the BBQ

THE AMATEUR'S CODE

THE RADIO AMATEUR IS:

CONSIDERATE

Never knowingly operates in such a way as to lessen the pleasure of others.

LOYAL

Offers loyalty, encouragement and support to other amateurs, loyal clubs and the WIA through which amateur radio is represented nationally and internationally.

PROGRESSIVE

With knowledge abreast of science, a well built and efficient station above reproach.

FRIENDLY

Slow and patient operating when requested; friendly advice and counsel to the beginner; kindly assistance, cooperation and consideration for the interest of others. These are the hall marks of the amateur spirit.

BALANCED

Radio is an avocation, never interfering with the duties owed to family, job, school or community.

PATRIOTIC

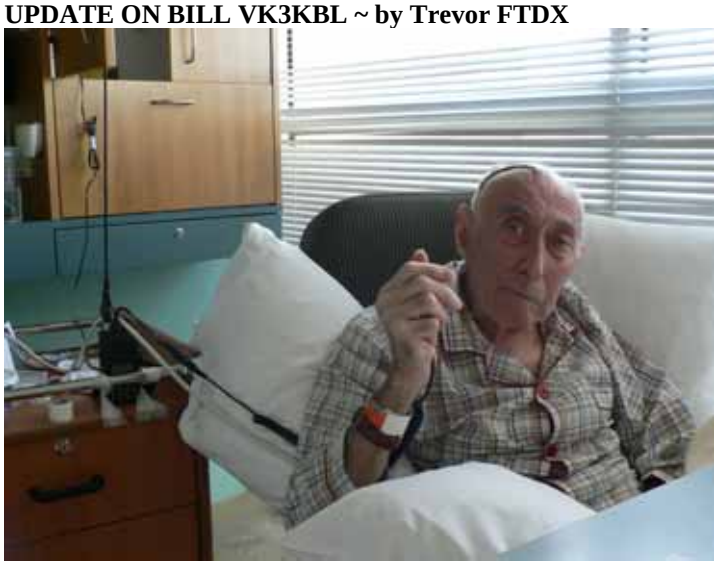
Station and skill always ready to serve country and community.

~ Adapted from Paul M. Segal W9EEA - 1928

BRISBANE DIGITAL ATV CLUB

ATV repeater VK4RKC at Ocean View is now transmitting Digital ATV on 428.5MHz. Input is both 1250 FM and DATV. It's in a beacon mode while the system is being completed, however 1250 FM and DATV can pass through on a valid input signal. No DTMF tones are required. *~Alan VK4N, WIANews*

UPDATE ON BILL VK3KBL ~ by Trevor FTDX



Bill on air 146.450 chatting to club members with a handheld

Most club members would know that Bill had been in Royal Melbourne Private hospital undergoing treatment, Bill had been on air using a handheld from the Eighth floor of the Royal Melbourne Private.

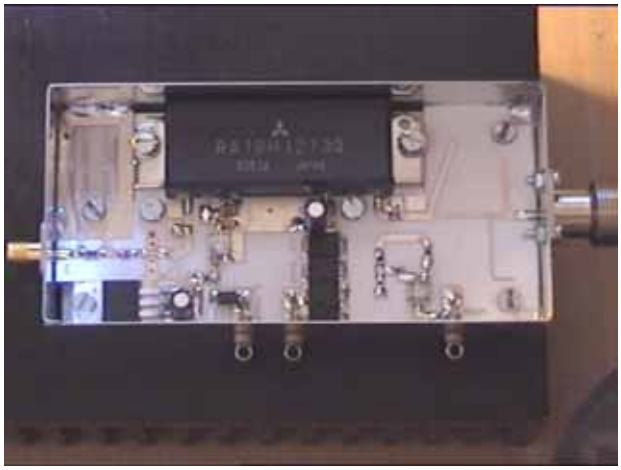
Before the operation there was a 20% chance of a stroke and again Bill was unlucky and has 85% paralyzed down the left side of the body. The size of the tumor was that of an acorn, shaped more like an octopus, where the Doctors could only remove the main body. A second operation was required as there was a bled from the brain which caused a brain clot, which was removed successfully by the doctors. There are about 170 different brain tumors with 40 of them being caused by cancer. Unfortunately Bill has the worst aggressive one of the lot – GBM, which will more than likely grow back again in the next 6 months - unfortunately they cannot treat Bill with Radio therapy which would be the best way to attack GBM, due to his health. Life is about comfort and spending quality time with Jan and his friends from the airwaves. Bill & Jan thank everyone for their best wishes and prayers in this trying time. *~ Trevor VK3FTDX*

VK3CH - High Power DVB-S Amateur Television Transmitter

You don't have to be crazy, but it seems to help. Having already successfully built three of the Minikits Analogue ATV transmitters and two DVB-S ATV transmitters, was a third really necessary? Maybe not, but to have the ATV transmitter installed in the shack with all the cables attached does not endear itself to going portable. But by the time it's removed and put back it's a hassle.

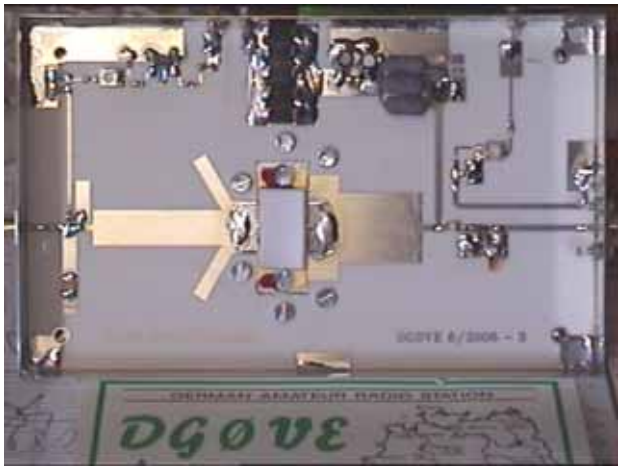
After the success of the Family Day ATV setup at Bundoora Park, a dedicated spare portable unit seemed in order.
The previous two DVB-S systems use SR-Systems boards feeding modified PA's by Alan Devlin VK3XPD who has supplied many of these PA's to hams around Melbourne. But while checking the website of SR-Systems, a related site stocks Linear PA's suited for DVB applications of all manner of frequencies, power and prices. The one that got my attention was the 150 watt PA. Of course 150 watts is the CW or FM rating, with multiple carriers involved in DVB-S the power will be less. But the transistor involved has a power rating three times higher than the current PA I was using. These are at DG0VE ATV Website in Germany.
Construction was really a case of build it and adapt as you go along. I made some (*over*) assumptions about power and current and heatsink requirements and planned accordingly. One thing I found out is costs increase nearly in line with power gains!
The end designs used SR-Systems MiniMod boards feeding via a 1dB attenuator, into a modified bias Class "A" 20 watt PA that fed into the modified bias Class "A" 150 watt final PA.

Construction was done very much like the other two units, but with the MiniMod and 20 watt PA on 12 volts and Final PA on 24 volts, some regulation would be needed. I had no hard idea how much current the driver PA would want so I planned on 10 amps, in the end only 5 amps was necessary, so three voltage regulators were used to share the load, but two would have done the job.
Both PA's are ready built and tested so all I had to do was cut a big hole for each of them to bond them to a heatsink each. Sounds easy, but with no workshop, vice or drill stand, it was all done at 'work' just drilled on the floor held in place with my foot with cardboard underneath to save the floor! Other filing was done by hand in my lap (with filing dust on my jeans) – at least its exercise!



← 20Watt PA
12 volts

150Watt PA→
24 volts



Like all things imported, you take a risk with websites you use, but both used by hams in Melbourne a few times so they are OK.
You are up for 10%GST and a processing fee of $50 on top of what you order depending on the Euro exchange rate at the time.
Most delivery times are three weeks but I have had quicker on occasion.
Once everything from Germany arrived construction started, taking a few months in between interruptions, *like making a living to pay for it all (hi)*.
When the four 24 volt computer fans were installed, once the glue was dry, power was applied to see if they made much noise.
They roared away far too loudly so a voltage controller, a Jaycar kit, was added with voltage control pot on the front panel.
Once the two PA's were installed, the rest of the electronics was placed in around them, hoping that it would all fit.
Initially the MiniMod board fed directly into the Driver PA but later remounted with a gap to allow some lossy coax to connect between them. I managed to blow up the Final PA transistor by overdriving it during testing at my place – an expensive trick!

Testing was firstly done at Alan Devlin's place with his Spectrum Analyzer and wattmeter and dummy load. Everything is calibrated and accurate; Alan is a very methodical person carefully testing each of the 15 power levels and bias levels of the driver and final PA.
The voltage regulators were way too hot, so voltage dropping resistors were added to take some stress off them.
With accurate measurement of the spectrum the bias on both linears was adjusted so that on the highest power level the signal was still clean. The heatsink sizes were enough, but at higher power the fans do need to spin faster, but the unit was upside down on the table during testing so that did not help airflow.

The photo shows the underneath with; from left to right; veroboard for voltage regulation for driver PA; top PCB with wires to pot is fan speed control; next to that are SR-Systems MiniMod boards; filter capacitors; underneath them is Driver PA with larger 150watt PA underneath that. On the right side are the three voltage regulators with volt dropping resistors quite visible. Hardline connects the two PA's, looks like thin copper tube. Bits of fingernail polish can be seen on screws and trimpots to keep things tight.

Later that week I took it to Peter Cossins VK3BFG and he confirmed the clean spectrum output saying it was one of the cleanest he had seen. I guess with the Class "A" PA's biased at about 75% of their maximum ability keeps things in order.
You do not get 150 watts from the system because of the requirements to keep Intermodulation distortion and resultant bandwidth within reasonable limits. (The max output is about 50+ watts) This is quite normal for linear amplifiers running amateur DVB.
Maximum output with Alan's modified PA's is 31 watts.

The Final PA uses a PTF14150, which is made to deal with DVB applications. This device alone is 130 Euro. It can tolerate a VSWR of 10:1 at full power indefinitely. Average power output 50 watts; DAB Efficiency 28%; Spectral Regrowth -30dBc; Maximum voltage 32 volts, 28 volts recommended, so at my 24 volts it's not stressed. A 24 volt supply was easier to get than a 28 volt one, I lose about 0.5 dB but I will live with that!
Looking at the specifications the Driver PA indicated 8 amps full power with the Final PA 11 amps, but these must have been extreme ratings as at 90 watts, the highest it can go, total current draw is 11.5 amps. But 2 amps of that would be used by the MiniMod boards and the fans alone. Add another 1.5 amp each for quiescent bias in the two Class "A" amplifiers as they are biased constantly on and you can see with the current left it's doing a very good job. But to keep spectrum output clean I stay under 70 watts.
Once testing was complete covers were placed over the two PA's and the bottom cover installed to the rack. Peter Cossins warned that I was getting into serious power levels of RF at 23cm and that personal safety was important, especially if I valued my eyesight!

This unit is definitely more efficient for the current it uses, being about 5 to 6 dB improved on the other two DVB-S previously constructed. But with 15 power levels selected by serial interface with a PC, if lower power can do the job depending on the location, then longer battery life can be had for field days, demonstrations and DX simplex work.

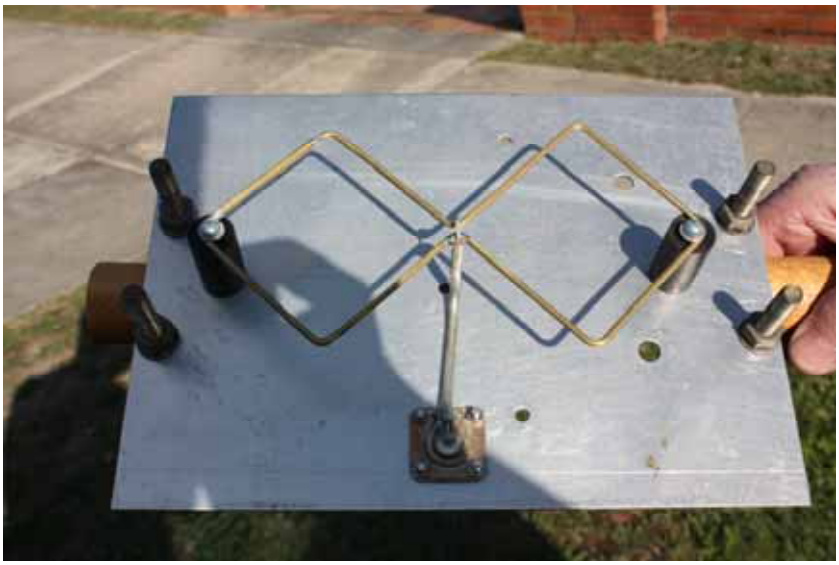
On the test sheet the "Do Not Use" at 1276MHz from 80 watts and above is where the bandwidth is less than -30dB down, but at 23cm you can probably get away with it, but of course if I can establish a reliable picture back from VK3RTV, then the power levels would be dropped accordingly. Higher power is good for lower locations, or moist weather or DX work.
I may yet retune the PA so they are similar gain at both 1255MHz and 1276MHz one day…

VK3CH - HIGH POWER ATV TRANSMITTER TESTING RESULTS - APRIL 2010

MiniMod	MiniMod	MiniMod	1255MHz	1255MHz	1255MHz	1276MHz	1276MHz	1276MHz
LEVEL	dBm	mW	CURRENT	RF Watts	Spectrum	CURRENT	RF Watts	Spectrum
1	-12	0.06	4.1	0.4	Clean	4	0.8	Clean
2	-8	0.15	4.25	1	Clean	4.25	2	Clean
3	-5.3	0.3	4.5	2	Clean	4.8	4.25	Clean
4	-3	0.5	4.8	3.3	Clean	5	7.5	Clean
5	-1	0.8	5	5.1	Clean	5.75	11	Clean
6	0	1	5.5	7.3	Clean	6.3	16	Clean
7	+2	1.5	5.8	10	Clean	7	22	Clean
8	+3	1.8	6.1	13	Clean	7.5	30	Clean
9	+4	2.4	6.5	16	Clean	8	40	Clean
10	+4.8	3	7	21	Clean	8.8	50	Clean
11	+5.8	3.75	7.25	25	Clean	9.3	60	Clean
12	+6.5	4.5	7.75	30	Clean	10	70	Borderline
13	+7.3	5.4	8	35	Clean	10.5	80	Do Not Use
14	+8	6.2	8.5	41	Clean	11	85	Do Not Use
15	+8.6	7.2	9	48	Clean	11.5	90	Do Not Use

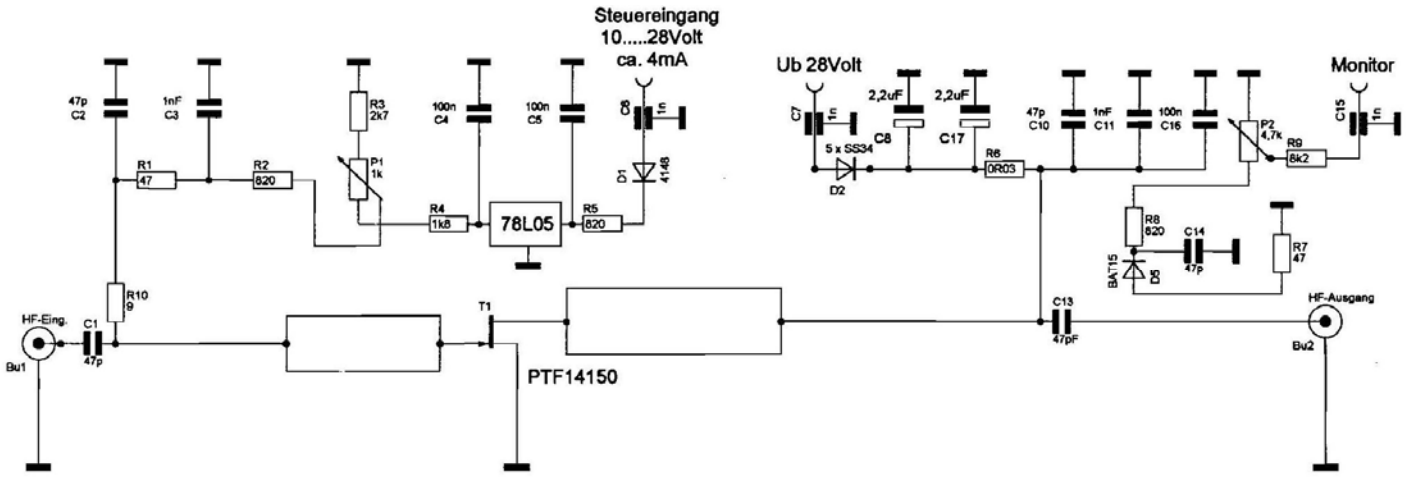
From home VK3RTV1 works fine with 8 watts, VK3RTV2, normally 20 watts enough, but got VK3RTV1 with 150 milliwatts once.

The best way to test it is to go portable which I did at Doncaster for a few hours. The unit does not need much to get into VK3RTV, but operation at full power proved that the heatsink and fans were adequate. Peter Cossins reports VK3RTV antenna for 1255MHz will be improved in a few months.



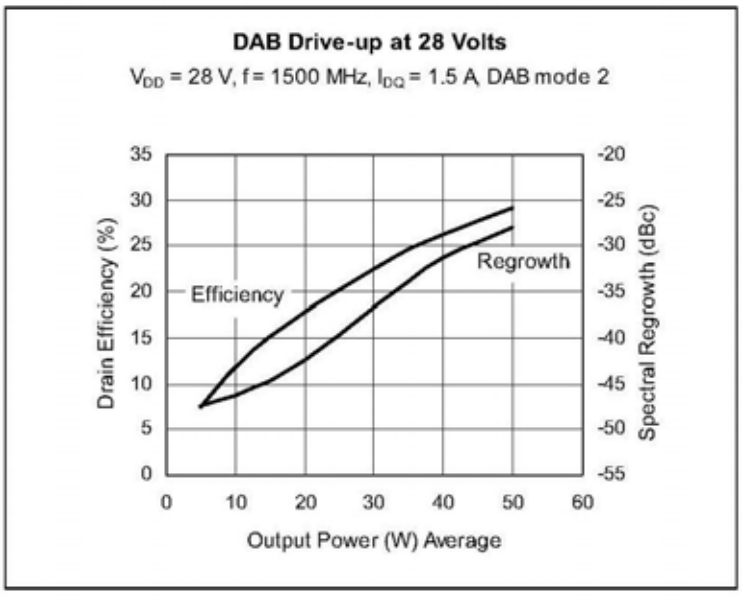
Photos show Peter with portable wide angle 23cm antenna, one of these the exact same size is what everyone in Melbourne using VK3RTV is being received with, one facing west and one facing east. Not a bay of them, JUST ONE like this! Also when you hear of stations in Melbourne getting into the Yarra Valley receiver on 1276MHz (channel 2) from the eastern suburbs, they are sending their signals into the back Aluminum plate and still getting a picture back, something that was never intended, but works. Peter says *"They have a reasonable back to front ratio and are not really designed to receive from behind the back plate. Melbourne operations into VK3RTV2 are really being received 'on the back of the beam' and hence the antenna efficiency is low. The new array will not have much more gain (if any), but it will have a greater beamwidth ... as in better coverage."* With hindsight I have certainly overdesigned some of the voltage regulation, heatsinking and cable thickness, but it won't hurt, just an additional expense. As Peter said *"... I wouldn't employ you as an engineer, you would send me broke!"*

DVB stuff is not cheap to build. Some of the costs for the items from Europe alone are; DVB-S MiniMod €350; MPEG-2 Encoder €200; Minikey Display €50; 23cm 20 Watt PA €226; 23cm 150 Watt PA €487. So we have a total of 1313 Euro plus about 200 Euro insured postage plus we get hit 10% GST and $50 Import Fees on arrival. By the time you convert all this to VK Dollars you looking at $2150 and this does not include all the other items bought locally, most from Jaycar. From Jaycar I got the case; heatsinks; Fans and fan speed controller; Voltage regulators; mounting hardware, screws, nuts, plugs, sockets, wire, coax and all the other bits and pieces seen in the photos, about a local spend of about $450. Hardline bought at a Hamfest. So all up it's about $2600 worth. But don't forget that all the DVB-S boards and two PA's from Europe come all ready professionally built and tested.

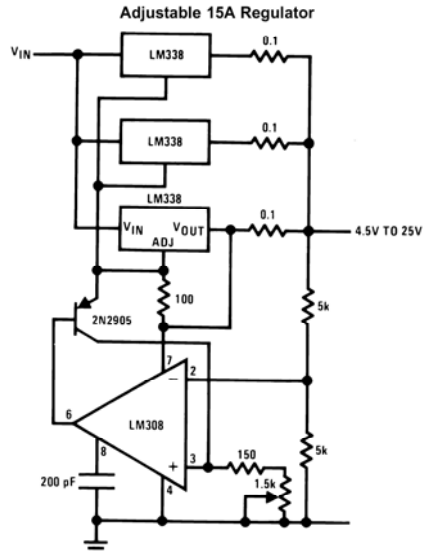


Circuit of 150 Watt DVB PA ↑
© Roberto Zech DG0VE

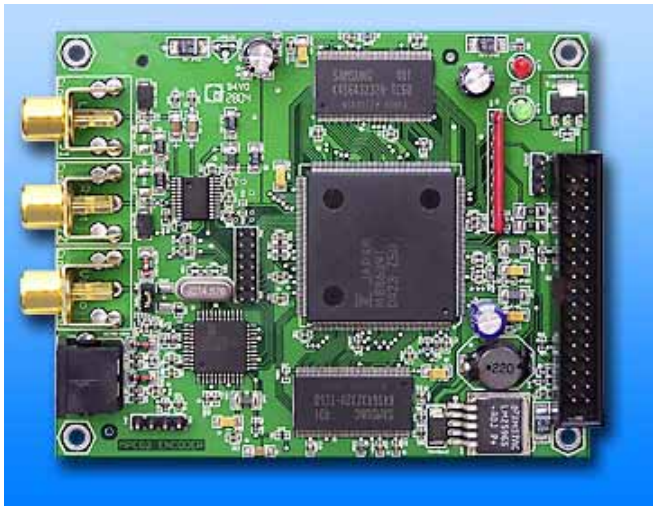
PTF141501E Specifications © Infineon ↓



15 amp voltage circuit
↓ © National Semiconductors



SR-Systems MPEG-2 Encoder Board



SR-Systems MiniMod Board

Rear view of the transmitter – Yellow RCA = Video Input, Red RCA = Right Sound Input, Black RCA = Left Sound Input

Drilling the case on the home BBQ

One important addition to the transmitter is relay polarity protection, which quite simply involves a polarity conscious relay that will only pick up with correct polarity and only then is the DC power allowed further on to the electronics via its relay contact. I also have DC plugs that only go in one way and if all else fail, five power diodes are placed the wrong way around over the filter capacitor 24 volt supply rails, which can take an instantaneous inrush of 200 amps each, enough to blow the fuse.

Like the other two DVB-S transmitters made MiniMod boards control everything, programmed via a serial terminal interface that set all parameters such as frequency, power level, bandwidth, error correction, bitrate, video resolution and many other settings, most of which don't ever require changing once it is setup.

Next time you see this going you might think twice before hanging around the antenna. Using the "Exclusion zone calculator for the ACMA E.M.R. license conditions" www.acma.gov.au/ExclusionZoneCalculator online; using a Yagi beam at 1276MHz running 50 watts, with a gain of 20dB (conservative estimate for a 45 element loop yagi) the program warns a safe distance from the front of the beam starts at 11.9 meters!

A field test was done on May 1st in fantastic sunny weather at a fund raising BBQ held at the Doncaster Lutheran Church. Arriving at 8.05am a signal to VK3RTV was on air at 9.15am with everything working perfectly first go. A power level of 8 seemed enough to lock VK3RTV2 perfectly but later in the day I had to up it to level 10, but as you can see the antenna used was a much lower gain than the 45 element loop yagi used at Bundoora Park. The pagers clobbered 2 meters a lot but of course ATV was not affected. Don VK3HDX and Trevor VK3FXDX came to visit and inspect the setup. Don used his GPS to get 101 meters ground level so adding 2.7 meters mast height gave antenna height of 103.7 meters ASL. The station worked perfectly without a hitch, packed up at 2.30pm. Bob VK3EL recorded some video to a flash memory drive and a DVD will be made of some of the day's events on ATV. Remember that as I was on VK3RTV2 my signals were going into the back plate of the Yarra Valley antenna. With VK3RTV1 I got in on the lowest power setting no problems. Russell VK3XC also came up to say he had good copy as did Peter VK3BFG and John VK3DQ and VK3LL. Add on site power, plenty of BBQ snags, many interested members of the public and you have a great day out. But with a 6am start to get snags and other food from Prahran Market before setting up portable, I was tired at the end of the day!

Explaining it all to Pastor Phil Haar

Don says "this is going in the boot of my car…"

Top beam is 23cm ATV TX mini beam, lower one 446.500MHz RX beam

Trevor checks out the ATV gear

The setup with FM voice radios at front, On-Screen Display front right; TV with laptop to program DVB-S & On-Screen Display box, two power supplies one 13.8 volts and 24 volts and the 150 watt ATV TX box at far rear right, with camera on the tripod stand. Running at full power the PA units did not get hot at all, even with the fans only spinning at half speed. During the day a VSWR meter was placed in line and the VSWR was found to be 4:1, no way an ideal match, being a loss of 36.0%.

The van supporting the antennas

While I did a lot of hard work and running around, without the testing skills of both Alan VK3XPD and Peter VK3BFG, I would either have a nice transmitter running under capacity or one that was high power splattering all over the place without me knowing, or worse, one overdriven, driving the PA's to destruction. Only with accurate calibrated test gear, operated by persons that can correctly interpret the data, is setting DVB-S up properly ever going to be assured. For me to go to some commercial place and tell them what I want and for them to do it I'm sure would be a hefty fee. I am in debt to both these guys, who delight in helping out, seeing a ham radio project to completion.

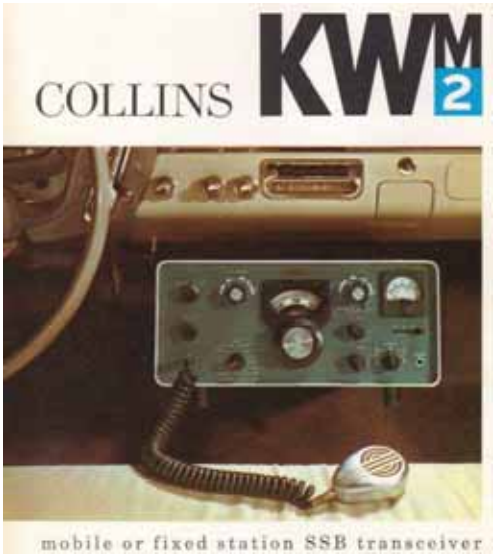
Most of all I am in debt to Bill Lyon VK3KBL, getting me to take the original Minikits kits from out of their plastic packets and getting me to build them. Its only due to Bill's encouragement and answering many questions with ATV and circuit design and "plumbing" at 23cm that my first analogue ATV stuff ever saw the light of day. Like most hams Bill was only too happy to sit down and go through his extensive notes and show how he built his transmitters. Bill has been doing ATV for years, one of the original black and white experimenters, back when hams were allowed 426MHz. No Minikits back then!!!

For the future a RF Power Meter, either an analogue or led bar graph type display may be added to the front panel, but is not strictly required as once the software setting is done, the power level is known. A VSWR meter is usually left in line when portable which indicates power, but the best guide is if your picture back from VK3RTV is "glass hard" and non pixilated then enough power is being used to suffice transmission. The ability to send DTMF tones to VK3RTV to get automated signal and quality reports could be added, but it might be easier to have a plug for a handheld landline telephone with a DTMF pad, placed across the 24 volt supply with a capacitor isolation feeding the tones to the left hand channel, which is the one used by VK3RTV to give various functions.

My biggest dilemma now will be finding some interesting video content to put up to VK3RTV. ~ *Mick VK3CH*

Interesting Websites – SR-Systems www.sr-systems.de DG0VE www.dg0ve.de VK3RTV Information www.vk3rtv.com

Sharing the Passion ~ Ian McLean, VK3JQ



"The rig this way is a Collins KWM-2…" or if you catch me on 40 or 80 meters, I'll be running the Collins S-line's. Why Collins I hear you ask? Well, it's a passion. Apart from their nostalgic value, they are aesthetically pleasing, they are a pleasure to use and like all things Collins they are engineered to last and bulletproof!
My passion for Collins grew from an early age, seeing an advertisement for a 75S-3 in an ARRL handbook of the 60's. I wanted one!
My first Collins was a 75S-1 purchased from VK3AQI in 1991. 10 years on and the collection has grown to include the 75S-3, 32S-1/3, 51S-1 and the infamous KWM-2/2A.
You just have to love this gear. They look like real radios and better yet, they set the standard of performance for many years. Heathkit heaped tons of flattery on the S-line by producing as close a copy as they could. The Japanese didn't do it until rigs like the TS-930S came along. By a strange coincidence the FT-101 is identical in size and colour to the Collins S-line.
And remember when you could lift the bonnet of the old Holden and actually *see* the engine, well Collins rigs are like that. Lift the lid and you can *see* the radio in all its valve powered glory.
Even after nearly 40 years, the Collins S-Line is perfectly capable of handling today's crowded bands. Though not digital, the PTO's (VFO's) have remained linear and on frequency. It's easy to set the frequency to within a hundred cycles or so. What makes a really nice rig to join in with the boat anchor crowd is a KWM-2 paired up with a 75S-3 receiver. The 75S-3 is much less expensive than the KWM-2's companion 312B-5 external PTO and station console and using separate receiver will give you some very useful features - like dual receive, transceive, transceive in different band segments, receiver with a notch filter and a 200 cycle CW filter, etc. And, if all this wasn't enough, the KWM-2 sounds really nice on the air and its receiver's audio is quite pleasant to my ears.
The Military seem to prefer this older equipment and they remain in service even today. The KWM-2A has seen service in both the Vietnam War and the Gulf war; it is equipment that has stood the test of time. It has proved robust, reliable and easy to operate.
It was the visions of Arthur Collins and the engineers of the Collins Radio Company that made it all possible.

The Collins Radio Company
Early amateur radio operators were mainly hobbyists, but there was a sense of discovery during the infancy of radio that provided something more. Radio was the new thing, comparable to what computers mean to technological whizzes in the 1980s. And like the computer hobbyists of today who are writing their own programs and building their own equipment, amateur radio operators in the 1920s were contributing to the knowledge of practical aspects of radio art.
One person caught up in the excitement of radio was Arthur Andrew Collins.
The Collins Radio Company was founded in 1933 by Arthur Collins. Collins, an electronics genius and pioneer, showed interest in radio communications at a very early age. In fact, he obtained his amateur radio operator's license in 1923 at the age of 14. He began experimenting with various radio frequencies constructing radios.
One year later, at the age of 15, Arthur Collins gained national attention when he was able to establish radio contact with the Macmillan expedition during its scientific expedition to Greenland. A U.S. Naval radio station was to have received daily reports from the expedition, but was unable to do so because of atmospheric conditions. Collins, using a radio he had built, got through to the expedition and was the only person to do so.

He talked by code with the people on the expedition, copied down the incoming messages and took them to the Cedar Rapids telegraph office, where the scientific finds that the team had uncovered each day were relayed to Washington.

When the depression hit with full force in 1931, 23-year-old Collins turned his hobby into a vocation. "I picked what I was interested in," he told Forbes magazine years later, "and looked for a way to make a living."

In 1931 Collins set up a manufacturing shop in the basement of his home to make amateur radios. It was the first time such radio transmitting apparatus, of any power output, was available for purchase as an assembled and working unit. In fact, components were hard to come by; they varied widely in characteristics, and there was little, if any, pattern to their construction. Most hams had their radio equipment scattered around a room, usually in a basement or attic where the sight of tubes and wires wouldn't clutter up living areas of a home. Their equipment was strictly functional, almost to the point of inefficiency.
Collins' ham gear was designed to eliminate the clutter by packaging the equipment in neat units. The concept proved that correctly engineered construction not only stabilized the circuitry but also made its behaviour predictable. Collins designed circuits, fabricated chassis, mounted and wired in components, tested, packed and shipped each unit. Because the gear was precisely engineered and well-built with the best parts available, it gave years of trouble-free service. A later article in the New York Times quoted a ham as saying, "Collins brought us up from the cellar and put us into the living room." The industrial philosophy of Collins products "quality" was established at the very start.

Catching the Collins bug
So where can you find more information on Collins equipment? You will find most of the information is available on the internet.
To get you started, you can visit my website at http://www.angelfire.com/de/vk3kcm and follow the numerous Collins links.
The two main sources of information that I can recommend are the Collins Collectors Association (CCA) and the Collins Radio Association (CRA). Both are American based and provide a wealth of data.
The CCA is a non-profit, all volunteer organization and are the largest collector's organization in Amateur Radio today. Their goals are to promote the care and use of Collins Amateur Radio equipment, preserve the history and lore of Collins and provide an information archive.

CCA membership is US$20 (USA and Canada), US$25 (All others). To renew or join, send payment to:
The Collins Collectors Association
PO Box 10459 Phoenix, AZ 85064-0459 http://www.collinsradio.org/

The CRA exists to preserve Collins Amateur Radio equipment by promoting and encouraging its restoration and on air use. The CRA publishes the Collins journal and sponsors the QTH.NET mail list: Collins@qth.net and the CRA website at www.collinsra.com. The Collins journal is published bi-monthly. Subscription rates by first class mailing is US$20 (USA), US$25 (Canada) and US$30 (overseas), payable to:
David Knepper or The Collins Journal, PO Box 34, Sidman, PA 15955

Books on Collins, *The pocket guide to Collins Amateur Radio Equipment 1946 to 1980* (The book is now Out-of-Print -- Over 3,000 copies sold! Limited copies may be available from:
Antique Electronics Supply, Surplus Sales of Nebraska or The Electric Radio Bookstore.)
and *A pictorial History of Collins Amateur Radio Equipment* by Jay Miller, KK5IM, send $39.95 (cheque or money order) plus $6.00 shipping and handling (via airmail), to Trinity Graphics Systems, 5402 ½ Morningside Avenue, Dallas, Texas, 75206
Visit Jays website at http://www.kk5im.com/index.html for more information.

In conclusion
I have noticed that there must be a fair number of Collins enthusiasts in Australia, judging by the times I have rung the number on a "For Sale" notice, only to find I am about the seventh caller and the seller wishes he had more Collins to sell. If you want it, you have to be quick, because it will be gone if you hesitate.
If you get the chance to use this gear, I am sure you will catch the bug too.

73 from Ian VK3JQ

What is this??? ~ Graeme VK3NE

Any idea what these photos are? It's an antenna system of course, but what for?
Tell Graeme the right answer next meeting and you might win a prize; then again you might just get a pat on the head.

WANSARC VK3AWS

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WANSARC CLUB PROFILE

History

The Western and Northern Suburbs Amateur Radio Club (WANSARC) was first formed in 1969 and since then has served the needs and interests of amateur radio operators, short wave listeners and those interested in hobby radio and electronics. The club is not gender specific, having both female and male members. Members come from all walks of life with a mix of experience, young and mature, novice and technical. The most important aspect of the club is the willingness of all members to share their knowledge for the benefit of others. Members mainly reside in the west and north of Melbourne; however membership is encouraged from all interested.

Meetings

Meetings held at the Ern Rose Memorial Pavilion, SEAVER GROVE, RESERVOIR (Melway Map 18 D5) on the 1st Friday of each month (excluding January) commencing at 7.30pm local time. Talk in on 146.450MHz FM—call club station VK3AWS.

Benefits

Free technology and related presentations, sponsored construction activities, discounted (and sometimes free) equipment, network of like minded radio and electronics enthusiasts, excellent club facilities and environment plus an informative monthly newsletter for members to post articles, news, classifieds for all radio, test equipment, etc, featuring Amateur Radio news from WANSARC, WIA, ACMA, Melbourne Clubs, VK and Worldwide.

Club Nets

146.450MHz FM each Tuesday evening commencing 7.30pm local time.

Website: www.wansarc.org.au **Postal:** WANSARC PO Box 336 RESERVOIR 3073

A proud tradition of supporting hobby radio and electronics enthusiasts since 1969