

OFFICIAL NEWSLETTER FOR THE WEST AUSTRALIAN VHF GROUP(INC)
P.O. BOX 189, APPLECROSS WA 6153.

MEETINGS ON THE FOURTH MONDAY OF EACH MONTH AT WIRELESS HILL
TELECOMMUNICATIONS MUSEUM, ALMONDBURY RD, ARDROSS

VK6WH

VK6WH

PATRON MR. F.W. DAWSON

PRESIDENT	BOB BLINCO	VK6KRC H277 7049	SECRETARY	BOB PINE	VK6ZFY H 339 3273
VICE PRES	PETER TAIT	VK6ZPT	TREASURER	BERT MEUWISSEN	VK6ME H 457 3892
COUNCILLOR	TERRY LEITCH	VK6ZLT H332 7008	BULLETIN ED.	JACK BORTHEN	VK6KDX H 447 5933
COUNCILLOR	BRUCE DOUGLAS	VK6BMD	MUSEUM REP.	BOB PINE	VK6ZFY
COUNCILLOR	FRITZ BERRER	VK6UZ	MUSEUM REP.	TOM BERG	VK6ZAF
ACTIVITIES	TERRY LEITCH	VK6ZLT	PUBLICITY	JACK BORTHEN	VK6KDX
MATERIALS	COLIN MURRAY	VK6ZCR	LIBRARIAN	ILMAR BELTS	VK6AIB

CALENDAR

Jul	19	COMMITTEE MEETING	Aug	16	COMMITTEE MEETING
	24	FOXHUNT		21	FOXHUNT
	26	GENERAL MEETING		23	GENERAL MEETING
Sep	20	COMMITTEE MEETING	Oct	18	COMMITTEE MEETING
	25	FOXHUNT		23	FOXHUNT
	27	GENERAL MEETING		25	GENERAL MEETING

JULY 93

March	Two Way Radio Testing
April	Gigahertz Focus on Equipment and Operation
May	Annual Junk Sale
June	Antennas for All Reasons & Dinner
July	Construction Techniques
August	Printed Circuits in Microwave Design
September	To be announced
October	Annual General Meeting
November	The Hunt for the Elusive VHF and SHF DX
December	XMAS Function

From the Bulletin Boards

Subject : LEGALITY OF 'SCANNERS'

Since the release of the Radiocommunications Act 1992, and editorial comment in a popular radio hobby magazine, we have received numerous calls seeking clarification of the new law with respect to possession of a scanning receiver.

The Government's spectrum management reforms are intended to provide for easier and more flexible access to the spectrum and minimise regulation for responsible users. The Radiocommunications Act 1992 has been designed to provide for this.

In general the magazine article correctly pointed out the current distinction between transmission and reception (under which very few receivers require licences). It then, mistakenly and with emphasis, stated that "this Act now sets out to include reception in the same mould as transmission". In fact, the new Act (in section 7) maintain the current distinction between transmitters and receivers whereby transmitters must be licensed unless they are exempted, and receivers do not need to be licensed unless this is specifically required by the Regulations.

The new regime is actually more flexible than the current Act, allowing the Spectrum Management Agency (SMA) to apply strict regulation to high risk devices and lighter regulation to other devices.

The new Act and associated spectrum management arrangements have been developed through a testing process of public and

parliamentary scrutiny. The Department of Transport and Communications is now developing the operational and administrative arrangements necessary to give effect to the Government's new spectrum management regime. With the change in legislation and the commencement of the SMA on 1 July 1993, additional information will progressively become available to all users of the radio frequency spectrum.

IMPORTANT. While the possession and use of a scanning receiver is not currently an offence against the Radiocommunications Act 1992, the use of such a receiver to intercept a communication passing over a telecommunications system (I.e. mobile and cordless phones, radiotelephone links, etc) is an offence under the Telecommunications (Interception) Act 1979.

Bulletin Editor Vacancy

An opportunity exists for a budding technical writer to gain valuable experience as bulletin editor for the group bulletin. Unfortunately, due to changed work circumstances I will not be continuing as editor after the October AGM.

Probably the most valuable attribute for the position would be experience as a dentist. This could help in extracting articles from the membership.

On a more serious note the continuance of the bulletin is vital to the well being and survival of the group. So why not give it a go.

Jack VK6KDX.

PL-259 to 9913 Coax

1. Drill the PL-259 connector braid soldering holes out as large as possible between the adjacent flanges..VERY HELPFUL!!!

2. Strip the outer insulation back enough so that with the connector screwed on the cable about 1/4 inch would extend beyond the tip. (eyeballed dimensions good enough)

3. Apply solder to the braid from the outer insulation up about 1/2 inch.

4. Cut the soldered braid with a tubing cutter so that about 3/8 inch of soldered braid remains.

5. Cut the center conductor insulation so that about 1/8 inch sticks out beyond the braid.

6. Solder tin the center conductor a bit toward the tip.

7. Ready to go...use two pliers to twist the connector onto the coax until the braid is easily assessable through the solder holes and about 1/4 inch of center conductor extends out through the connector tip.

8. Cut off the excess center conductor, get out a 100 watt or larger soldering iron or gun, and go to it.

This is the technique I use and seems to work well without being unduly complicated. Drilling out the braid holes first is a big help in applying these connectors to any type of coax.

Wayne Strahl -
W9IIwstrahl@cbnewsg.att.com

How to get the most out of six metres - by Lionel VK3NM

Six metres is a fascinating band where you can have both HF and VHF propagation and the challenge is there for you. With 50 Mhz now available to us working long distance dx is a lot easier to the other side of the world. Some dx stations obtaining DXCC and a few VKs nudging 100 countries. During the good times a lot of information of happenings around the world can be obtained by monitoring 28.885 Mhz which is the international liaison frequency for 6 metres. Unlike HF, you must sometimes listen for hours carefully tuning for that new country, don't expect 6m to be full of dx like 20 metres when first switch on. It is a good idea to keep a list of beacons and monitor distance tv carriers. A scanner covering 40-60 Mhz is a very useful item to have, it can be used for early warning indication of possible band openings.

TYPE OF PROPAGATION

Sporadic-E This happens when signals reflect off sporadic E clouds to provide good signals to about 3000-4000km good opens to VK4, ZL, P29 and nearby Pacific islands it can also provide short range openings a few hundred kilometres but less often.

Backscatter Signals reflect back off the ionosphere meaning sometimes to work Adelaide from Melbourne you may have to point the beam north east instead of west, the signals can be very weak via backscatter if the other station is running low power.

T.E.P. This stands for trans equatorial propagation when there

is sporadic E clouds equal distance either side of the equator, this can result with very good openings into Japan etc. signals refracting of the first cloud then across the equator to the second cloud refracting back to Earth.

F2 More like HF propagation with signals reflecting of the F2 layer resulting world wide communications.

Temperature A layer of warm air in the stratosphere causing signals to be inversion ducted along with steady strengths up to 2000km this usually happens on hot summers nights.

Cordal Hop Signals hopping between layers of the ionosphere before returning to earth resulting with world wide contacts:

That is a summary of the type of propagation on six metres and the type of gear and antennas you use will determine your success on the band, a ground plane with 1 watt you will work a lot of stations with Sporadic-E but will hard pushed with F2 unless it is a real strong opening, I would recommend at least 100 watts and a good beam, 400 watts is better still.

A good receiver with a pre amp is an advantage since commercial ham rigs lacks sensitive for really serious work and preferably a quiet location.

When you call a dx station keep the QSO brief just exchange reports and call- signs since the openings may only last a few seconds especially F2 type this will give others a chance to work the station.

I have observed on 6 with F2 the dx station can get very strong as the M.U.F is coming down meaning you don't have much time to work him and when the M.U.F has gone below 50 Mhz that station will have faded out.

Don't rely on good conditions on HF to be good on 6 because while the M.U.F can be above 50 Mhz the A.L.F. can be higher than 14 Mhz, I can remember a very good opening to U.S.A on 6 and at the same time 20 metres was dead.

Lastly remember 50.110 is the calling frequency please don't hog it with local QSOs if must have a local QSO move up above 50.180 or better still conduct across town contacts on 52 Mhz.

Have fun on best band 73 Lionel
VK3NM SMIRK MEMBER 3067.

PC ARTWORK

I have attached a letter from one of our members, Richard VK6FKB which is self explanatory. The artwork he enclosed appears ok to me. However I must point out that I have no knowledge or qualification which entitles me to give such an opinion. So if you are interested why not contact Richard.

LATE NEWS

The group is able to offer two great purchasing opportunities this month.

1) CO-AXIAL CABLE.

10.5 metre lengths of foam filled heliax type cable equivalent to LDF450 terminated at each end by N type connectors.

Brand new.

Members price \$20.00 per length.

Non-members price \$25.00 per length.

2) NEC 1022 Demodulators.

See attached specs.

This unit is similar to one used for the recent TVRO demonstration at Wireless Hill. To get satellite TV use one of these with a LNB (see following), a dish and a TV and you are in business.

There is a catch, you will need to insert a sound board and the units are as is. However at \$80.00 per unit they could be useful. If a enough orders are received by July 27 1993 a better price may be negotiated.

3) LNBs

A number of "as is" LNBs are also available at \$2.00 each.

Enquiries regarding these items should be directed to the Secretary.

Note for items 2 and 3 orders with payment should reach the secretary by July 27 (the day after the general meeting).

More information will be available at the general meeting

System Description

Your NEC Satellite TV Receiver System consists of three main elements:

- ① The antenna
- ② The LNC (Low Noise converter)
- ③ The IDU (Demodulator)

The antenna ① is located outside and must have a view of Southern sky. The LNC ② is mounted at the antenna's focal point and attached to the feed horn of the antenna. A cable connects the LNC to the IDU ③ which is located inside your home, near the television set. A properly installed TVRO is an unobstrusive, safe piece of equipment that will provide many years of reliable operation.

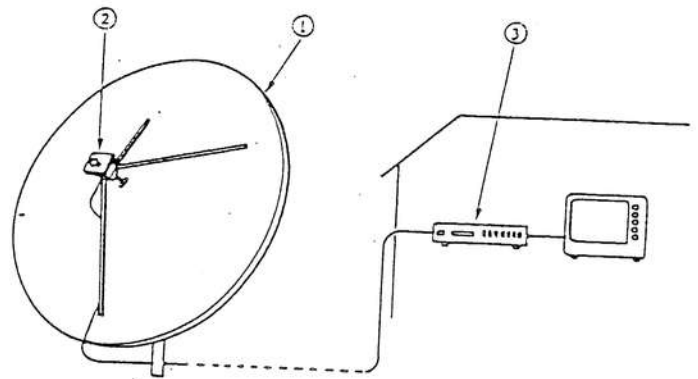


Figure 1 TVRO

Specification

Typical Input Characteristics

Frequency	700 to 1700 MHz
Level	-60 to -30 dBm
Impedance	50 ohm
AC Power	220 V \pm 10%, 50/60 Hz

Typical Output Characteristics

Clamped Video Level	1 Vp-p/75 ohm unbalanced with 5 MHz LPF
Baseband Video Level	1 Vp-p/75 ohm unbalanced without 5 MHz LPF
Sound level	143 mV r.m.s./4.7 kOHM unbalanced
UHF Output	PAL-I or B/G switchable
Frequency	CH30 to CH39 adjustable
Level	75 dBuV
Impedance	75 OHM
AGC Output Voltage	2 to 6 V

Typical Electrical Performance

Number of Channels	8 selectable
IF Bandwidth	31 MHz
LINC Available Power	+15 V DC 500 mA max. (Total)
Video De-emphasis	CCIR Rec. 405-1
Sound De-emphasis	50 μ s/75 μ s/J-17 switchable
Video Level	Deviation 16/20/25 MHz switchable
Baseband Video	Includes sound subcarrier
Sound Level	Sound subcarrier deviation \pm 50 kHz
Sound Bandwidth	280 kHz
Sound Tuning Range	6.0 to 3.0 MHz
FM Threshold	Less than 3 dB (C/N at 36 MHz BW)
Operating Temperature	0 $^{\circ}$ to -40 $^{\circ}$ C
Fuse	Time-Lag 250 V, 315 mA and 100 mA.

Mechanical

Input Connectors	
IF Signal	Type N female
TV Antenna Input	AERIAL (PAL) socket
Output Connectors	
UHF	AERIAL (PAL) plug
Video	BNC female
Sound	Phono-pin jack
AGC Voltage	Terminals
Dimension (approx)	340(W) x 260(D) x 60(H) mm
Weight (approx)	4.7 kg

Accessory

Fuse 2 pieces

The specifications are subject to change without notice.

Richard Burden
5 Tarata Close
Halls Head
Mandurah
WA 6210

Jack Borthen
108 Lynn Street
Trigg 6020

Dear Jack,

I am writing to you with details of artwork I can generate for fellow members of the VHF Group. I am hoping you can examine the enclosed artwork, form an opinion to its quality, and advise members via the newsletter of what you have seen and my contact details.

The enclosed artwork is a negative image. Positive images of the same quality for those who use positive resist board are also possible.

To help everyone I have adopted the industry standard laserjet printer control language as a common medium. The actual device used to produce the artwork is not a laserjet, but the near universal provision of laserjet printer drivers with software means an image intended for a laserjet but stored to disk can be converted with a utility I have written to work with the facilities at my disposal.

This has two major advantages: I do not have to own a copy of every drafting package, and before people send me a disk they can print their artwork off on a laserjet to ensure it is what they wanted.

The cost for this service is \$20 for a full A4 sized image, or \$15 for images occupying one half of an A4 sheet.

Should anyone need assistance or have any queries then I can be reached:

- at the above address
- By Packet VK6FKB @ VK6BBS
- Phone: Home 581 3711 Work 531 6244

I enjoy receiving the VHF newsletter and thank you for the effort you go to in the production and distribution.

Yours sincerely



Richard Burden VK6FKB
21/6/93

THE WEST AUSTRALIAN V.H.F. GROUP BULLETIN

JULY 1993



The West Australian V.H.F Group (INC)
P.O. BOX 189 APPLECROSS W.A. 6163

SUBS DUE NOW.