

Bulletin issued by the Northern
Branches of the Wireless Institute
of Australia, Tasmanian Division.

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Launceston
Tas. 7250

May 1976
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MEETINGS

- May 11th North West Branch, Lakins Hall, Ulverstone. 8 p.m.
May 14th Northern Branch, S.E.S. rooms Charles St. 8 p.m.

Y.R.C.S. MEETINGS

- May 8th Kings Meadows High School. 10 a.m.
May 22nd
May 1st
May 15th Lakins Hall, Ulverstone. 2 p.m.
May 29th

A.O.C.P. Classes

- May 3rd
May 10th Kings Meadows High School, block B, room 35
May 17th CW, 7.30 p.m.
May 24th Radio theory, 8 p.m.
May 31st

CONTESTS

- May 1st & 2nd Helvetia 22 contest
May 8th & 9th Bermuda, CW
May 22nd & 23rd USSR DX contest

The rambling of an old timer.

by Max VK7MX

Being incapacitated for a couple of weeks, due no doubt to the physical exertion at the Port Sorell hamfest, I decided to put to paper a few thoughts, to fill, firstly what would be otherwise wasted time and secondly some of QRM's valuable space.

Sometimes we look backwards at our various efforts to decide whether some of our achievements have been worthwhile. So you kind readers are privileged to share in my reminiscences.

Around 1957 I was dubbed in as Secretary of the North West Zone and since that time have occupied practically every office in this Branch. So I feel that I have qualified to make some observations on our Institute from personalities to administration.

The amateurs are a great bunch of fellows (including the opposite sex) and I have always found them ready to help when a personal problem came up. This applies to other areas as well as locally. This was very apparent when I visited New Zealand a few years ago. I was feted, fed, accomodated and carted around the country without even asking. Long and lasting friendships have resulted. So much for the credit side.

Now the main objective in writing this article is not to blow my own trumpet but rather to establish a reference level (db and all that) along with many others who have tried to do their bit. How does your performance measure up with ours ?

It is my considered opinion that the majority of amateurs lose a great deal by non-participation in Institute affairs. After all someone has to do it and I know from experience that as time passes, one enjoys a great deal of satisfaction. You can not get the full enjoyment out of a swimming pool by walking round the edge, neither does one get full satisfaction out of an organisation by standing on the outside looking in.

SO HOW ABOUT BECOMING INVOLVED.

Each and every one of us can contribute something no matter how small. So for a start, how about attending meetings. When you get used to that, try taking on a job. The more volunteers we have the less the load for everyone and a greater co-operative spirit will be evident.

The easiest things to find in this world are excuses and half the time they are not convincing anyway.

If you want something done go to a busy man is an old saying. How busy are you ?

At the present time I have the following positions in our Branch, Secretary, Treasurer, Bulletin Correspondent, Intruder Watch co-ordinator and Observer Amateur Advisory Committee. I am popularly referred to around here as "The Old Fellow". This is probably true, but not too old to hand all the jobs to that could well be handled by young fellows. It wont last forever. The wheel of the wagon is nearly broken.

Most A.G.Meetings seem to be the same with the perennial question, where are we going to get our office bearers ? And when only 5 full members turn up, the position is pretty desperate and one tends to "Brown off"

I question where we are going. I have read considerable references lately to future frequency allocations on a world wide basis and the picture does not inspire confidence. It will require a concerted effort, supported by every amateur around the world

Northern Notes

The April meeting of the Northern Branch, whilst attracting 31 members and 3 visitors, was relatively quiet and orderly and lasted only 55 minutes.

Quite a bit of information was distributed, following the meeting an auction of gear belonging to Roger Greenwood was conducted by John VK7JV, who with his some what rorty tongue managed to extract some \$108.00 from certain unsuspecting types. But some items were really worth having, in fact had your scribe been more financial he would have endeavoured to bid for the VHF valve and socket that went to Malcolm VK7ZMM, anyway his efforts added \$10.40 to the clubroom account.

Two new members were welcomed, L.R.Binns and L.B.Hillard, welcome, and we hope you make a full call eventually.

Gordon VK7GW made mention of W.I.C.E.N. and S.E.S.. He stated that both organisations were voluntary and it was up to the individual members to decide if they wanted to belong to either and they should decide without any coercion.

Ed VK7HE gave \$865.00 as the approximate trading figure for the last month, Brian VK7ZBY stated that 20 persons attended the A.O.C.P. class at Kings Meadows.

Joe VK7ZGJ has received permission to put the 6 metre beacon into service at 7EX Hill St. Leonards on 52.4 MHz, with the call sign of VK7RNT. Hope the commercials on the same site don't get Q.R.M.'d.

Peter VK7PF reports that "The Department" is looking at means to hold the Novice exams at other venues outside the Capital cities. Mention was made of a VK7 - W call area contest. As the QRM editor is involved in this I'll leave it to him to elaborate else where in this or a future QRM.

Some discussion took place regarding what members want in the way of clubrooms, that is, if they want clubrooms. This months QRM contains a questionnaire, which basically asks for your comments. One of the hardest things to do is to guess what your thoughts are on this subject. So please fill it in and return it, whether you're for or agin it - please - your comments would be appreciated. This is not a witch hunt, but an honest attempt to plan the future of this Branch, based on WHAT YOU WANT. So support your executive and put pen to paper, so that the least that can be done is to ensure a regular meeting place without any strings attached.

Finally, Mike VK7ZWW is attempting to correlate a list of gear that can be used for WICEN purpose either by its owner or any other member. WICEN has been needed in the past and is going to be needed in the future. When or where is only known by the great "LICENSE ISSUER". So lets be ready so we are not caught with our antennas down.

73 see you May 14th
at the S.E.S. rooms
Norman VK7NR

cont. from page 2

to preserve our frequencies, the alternative is that our gear will become useless. The world of commercial radio cares little for our lot and would like what we have. We will need all the support that we can get and this must start at BRANCH LEVEL, perhaps you are interested -- perhaps not. Future events will show.

Max Ives VK7MX

Notes from the North West Branch.

The Divisional Annual General meeting was held at the QTH of Jim Davies, 55 James St., Latrobe on April the third with a very good attendance of some 40 odd members from all over the State.

During the meeting a vote of thanks was extended to Jim for the use of his theateret in which he has a very fine collection of old time and modern radio equipment and all in first class working order. Jim will soon be another voice on air as he has sat or is in the process of sitting for his Novice license. He is being very ably assisted by his old friend Max VK7MX. We would all like to wish Jim all the best with the exams and hope to hear you on air soon.

Following the meeting sixty two members and their partners gathered at the Elimatta Hotel for the annual dinner which was a roaring success. Included in the party were, the president Reg Emmett VK7KK from Launceston and his XYL Annette, the president of the North West Branch, Ian Ellings VK7ZIE and his XYL Lyn, who were both busy welcoming guests to the coast, and the president of the Southern Branch Tom Allen VK7AL and his XYL Evelyn. Others included Brian Lord VK7ZBL and XYL Betty from Wynyard, Norm Richardson VK7NR and XYL Ann and daughter Judy from Launceston.

The success of the dinner can be judged by the on air comments for days afterwards, from those who attended, expressing their opinions of the good time they had and already looking forward to the next one.

A vote of thanks must go to the organisers to whom it must be very pleasing to see it go off with such success. One Wynyard member had such a good night he had to stay in Devonport all night, he said he was just too tired to drive back to Wynyard, but we have since heard the real reason.

Lindsay Johnson

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Notes of the North West Branch meeting held April 13th.

This was also very well attended with 20 members and associates present, the president, Ian VK7ZIE, and the secretary treasurer, Max VK7MX, were in the chairs, the meeting was a fairly lengthy one, with some spirited discussions and several worthwhile motions moved and passed, the decisions were very close, with the good attendance and lively discussions it shows that the interest in the North West Branch is very keen. The meeting closed at 9.45 p.m.

After the meeting a junk auction was held with Bob VK7ZJS very ably being the auctioneer, I guess we all agree that Bob is a natural at this job. Some very useful bits and pieces were sold and the proceeds going to boost Branch funds. Following the auction there was to have been a slide show by Max VK7MX on New Zealand scenes, but time did not permit, so supper was taken and the evening closed at 11 p.m..

Out of town members were heard on two metres, on the way home from the meeting, discussing next months meeting and the proposed display by Graeme VK7ZAQ who will hold a mobile clinic with a frequency counter, so if your set is a bit off frequency bring it along and Graeme will tune it up for you.

At the June meeting Winston VK7EM/T will give a talk after the meeting, but as yet we don't know what the subject will be.

Lindsay Johnson



LADIES PAGE

COOKERY AND METRIC CONVERSION

CUP AND LIQUID MEASURES

If recipes are given in terms of cup measures, conversion is greatly simplified. The standard 250 ml metric cup (and 1/2 cup, 1/3 cup, 1/4 cup) are used in place of the standard 8 fl. oz. cup.

CONVERSION OF LIQUID MEASURES, LIQUID & DRY INGREDIENT CUP MEASURES

Liq. meas.	Cup meas.	is replaced by	Cup meas.	Liq. meas.
1 fl. oz.				30 ml
2 fl. oz.	1/4 cup		1/4 cup	
	1/3 cup		1/3 cup	
3 fl. oz.				100 ml
4 fl. oz.	1/2 cup		1/2 cup	
5 fl. oz.				
1/4 pint				150 ml
1 gill				
	2/3 cup		2/3 cup	
6 fl. oz.	3/4 cup		3/4 cup	
8 fl. oz.	1 cup		1 cup	250 ml
10 fl. oz.				
1/2 pint	1 1/4 cup		1 1/4 cup	
12 fl. oz.	1 1/2 cup		1 1/2 cup	
14 fl. oz.	1 3/4 cup		1 3/4 cup	
16 fl. oz.	2 cups		2 cups	500 ml
20 fl. oz.				
1 pint	2 1/2 cups		2 1/2 cups	

Example of the conversion of recipes. (original version)

Lemon Souffle

2 teaspoons finely grated lemon rind
 3/4 cup strained lemon juice
 4 eggs (separated)
 3/4 cup castor sugar
 1 tablespoon gelatine soaked in a 1/2 cup of water
 1 cup of cream semi whipped
 1/2 cup finely chopped nuts
 whipped cream and lemon segments for decoration

Place grated rind, eggs yolks and sugar in the top of a double saucepan, stir over boiling water until thick and creamy.

Cool. Dissolve gelatine soaked in water over hot water, then fold it with the cream into the cooled custard mixture. Last add the stiffly beaten egg whites fold in until evenly combined. Fasten a slip of greaseproof paper around a 7" souffle dish to form a collar about 1" above the edge. Pour the mixture into the prepared dish and chill until set. Remove the collar and cover the sides with nuts. Decorate with cream and if desired, segments of lemon. A standard 8 fl oz cup and 20 ml tablespoon are used.

Metric Version

2 teaspoons finely grated lemon rind
 $\frac{3}{4}$ metric cup strained lemon juice
4 eggs (seperated)
 $\frac{3}{4}$ metric cup castor sugar
1 tablespoon gelatine soaked in $\frac{1}{2}$ metric cup of water
 $\frac{1}{2}$ metric cup of cream semi whipped
 $\frac{1}{2}$ metric cup finely chopped nuts
whipped cream and lemon segments for decoration

Place grated rind, egg yolks and sugar in the top of a double saucepan, stir over boiling water until thick and creamy. Cool. Dissolve gelatine soaked in water over hot water, then fold it with the cream into the cooled custard mixture. Last add the stiffly beaten egg whites fold in until evenly combined. Fasten a slip of greaseproof paper around a 18 cm souffle dish to form a collar about 2 to 3 cm above the edge. Pour the mixture into the prepared dish and chill until set. Remove the collar and cover the sides with nuts. Decorate with cream and if desired, segments of lemon.

A standard 250 ml cup and 20 ml tablespoon are used.

Although most cooks are unlikely to change the practice of a lifetime those learning cookery will be taught how to use the standard metric measuring cups and spoons. Recipes published in periodicals, magazines and newspapers are now in metric. Even the old "Central Cookery Book" which I should imagine is familiar to a lot of people is now in the process of being reprinted METRIC.

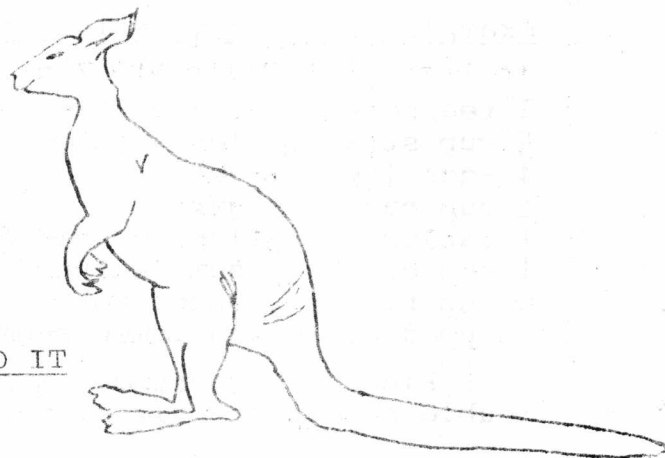
Annette, XYL VK7KK

Ref. Cookery and Metric Conversion

Metric conversion board, cookery section committee.

we need
Ladies Page
Articles

HOP TO IT



HF NOTES by Frank VK7BC

The recipe as before, that just about covers band conditions for the past month. The interesting occurrence was the aurora borealis earlier in the month which, though nice to witness, was the signal for Bill VK7AK to join the switched on set. He had a ball, picture Bill trying to convince a rather sceptical Russian novice station that he was in contact with Tasmania on 10 metres.

Whilst around Ten, reminds me of an article in last months B'cast Eng. News regarding those CB users in the USA, apparently the FCC is know to them as the Federal Candy Company, it's officers as the Candymen and corrective notices are written off (mentally that is) as Candypaper, some of the other jargon is not worth printing. Perhaps the PAØ administration had the right idea after all.

160 metres is receiving a bit of attention these days and some good DX is available most days as Col VK7LZ indicated with info in a recent broadcast. I have now a 300 ft long wire raised and as soon as a tuner unit has been built, will join the fun with some CW through a new 6146B TX. John VK7JV thought the smoke signals from Legana where it being stoked up but it was really only the PSY hi.

Den VK7DK has a really FB RF indicator, it's quite portable but only works once, purchased in bulk they should be available for less than a dollar each, Col wanted to have the first but Den was reluctant to let go hi.

80 metres after sunset has produced very good DX as noise level drops and in the early mornings openings into Europe have not been unusual.

40 metres has been very similar this month to 80, with one good opening into the N.E. Americas on the 13th at 1100Z.

20, 15 and 10 metres have been interesting with some very good DX openings and paths changing rapidly especially on 20, but on 15 and 10 the paths have appeared mostly to the North.

The DX is about, if you happen to be listening at the right time and when conditions settle into the next cycle just around the corner hi, with the increasing number of SSB stations around it will be rather chaotic using phone, but then there is always CW.

===== 73 de VK7BC

In last months issue of QRM we mentioned how good it was to hear that Ellis VK7WA is back on air again. In this issue I would like to mention Ken VK7KH. I think he would be one of the most active on air members here in the North West Branch at the moment. He is one of the Vice Presidents, activities officers and also takes his turn doing the 80 metre Sunday morning broadcast. He can be heard most evenings on HF talking to amateurs world wide. But he would be most active mobile on 2 metres FM, using his little Ken KP202 with a 10 Watt amplifier. Going off hitting little white balls about, from Seabrook to Greens Beach, then off fishing in a dam at Beaconsfield or somewhere at Cressy and calling Max VK7MX to guide him in to where the big ones are. Anyway Ken good luck with your varied activities and you know where my QTH is when you have too many of those big ones.

Lindsay Johnson

VHF notes by Joe VK7ZGJ

The only sign of activity on 6 metres occurred late last month when we experienced some auroral activity for approximately 15 minutes. Although no stations were worked, TV from most parts of VK and ZL was observed on channels 1, 2 and 0.

At last the 6 metre beacon has been licensed, it will be installed and operating by the time you read this report. Operating frequency is 52.4 MHz, continuous carrier with 850 Hz FSK, power output is 25 Watts to a half wave dipole. Any reports will be appreciated.

A 432.475 MHz beacon has also been approved for the North West coast, this will be in operation shortly.

On Easter Monday a party of amateurs namely VK7's, JV and XYL Joy, KW and XYL Doreen and sons Steve and Mark, ZGJ, PD, and ZDA, proceeded to make their way to the summit of St. Valentines Peak located about 40 Km south of Burnie. One hour and thirty weary minutes later we were operational on 2 metres FM, antennas used were $\frac{1}{4}$ wave whip and a 5 el yagi hand held. A large number of stations were worked on Ch B and the repeater. Notable contacts direct on ChB took place with VK7ZAH in Launceston, VK7ZBE/M in Perth, we also worked Ian VK7ZIF portable in St. Helens.

In all we spent 3 hours on top of the mountain braving the elements, a special thanks must go to the XYL's for providing hot soup and coffee to help stay away the cold. We arrived back in Launceston around 7.30 p.m. and we all agreed that it had been a most enjoyable day.

73 till next month Joe

=====

That station may already be obsolete.

Underwater communications for submarines.

Marconi communications is to provide the Royal Navy with revolutionary underwater telephone and telegraph systems for ships and submarines. When these systems enter service the R.N. will boast, in terms of range and performance a vastly improved communications capability in this difficult but vital environment. Moreover, when used in conjunction with the latest integrated radio communications system, a complete communication facility from satellite to sonar is provided.

The underwater telephone was developed by Marconi in co-operation with the Admiralty underwater weapons establishment. It provides much improved performance and range of acoustic speech transmission between surface ship and submarine.

The underwater telegraph was developed at the same time, this equipment provides an optional facility for use with the underwater telephone, it offers low error rate telegraph transmission under poor propagation conditions and under dynamic operational conditions where doppler shift presents real problems in data transmission.

The equipment employs telegraph error detecting techniques adapted for sonar propagation conditions.

Used with the recently advertised IZBOX and PASSATEST calculators we can expect the next generation of amateurs to be signing /UW (underwater mobile)

de VK7BC

As mentioned at the April meeting the question of clubrooms requires your urgent consideration as to its future.

Therefore it is requested by your Executive that you indicate your feelings on this matter so that they can act in accordance with your wishes, keeping in mind that we already have over \$2000 in the Clubroom account.

Please indicate below, your preference on this matter by marking the appropriate square and returning it to any member of the executive by the May meeting or bring it along to the meeting.

My feelings toward clubrooms are:

- 1) To establish permanent clubrooms for the Branch
- 2) To establish a permanent meeting place for the Branch.
- 3) Any other suggestions.

4) Remarks.

Northern Branch Executive

FOR SALEFOR SALEFOR SALEFOR SALE

1674, not converted, low band and without xtals \$25.00

Weston A.M. low band tranceiver, transistor power supply, not converted \$5.00

Star 500 communication receiver 160 metres through to 6 metres, amateur bands only, A.M., SSB and C.W. \$80.00

UHF amplifier, 4CX250B, complete unit including, power supply, blower, antenna coaxial relays and completely enclosed. suitable for 432 MHz \$300.00

One only 60ft crank up tower \$45.00

Contact Ross Broomhall, 27 Suncrest pl, Ravenswood

WANTED TO BUYWANTED TO BUYWANTED TO BUY

A command transmitter not necessarily operational state price and condition.

Ross Broomhall, 27 Suncrest pl. Ravenswood Phone 391515

WHEN USING A REPEATER ALWAYS LEAVE
A 3 SECOND PAUSE
FOR POSSIBLE PRIORITY TRAFFIC
OR OTHER USERS

TUIT

You always said you would write an article
for Q.R.M. when you got a ROUND TUIT.
Well here it is, so how about you get TUIT.

If you haven't paid your subscription to the Northern Branch
you can rest easy, this is your LAST ISSUE.

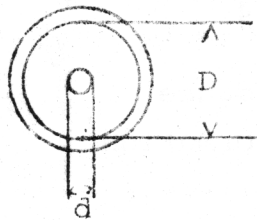
Transmission lines and Impedance matching. by Trevor VK7TB

How did you like our April article last month on, the subject of overcoming the mismatch between Z_0 (transmission line) and the termination impedance of an aerial, using a series resistor in conjunction with the termination Z of the aerial?

This would look something like a very high loss transmission line with most of the radiation occurring at the termination and not in the radiating aerial.

Line propagation can only be practically transferred along two or more cables which have a characteristic impedance Z_0 . (single line propagation tends to act as an radiator - aerial ?)

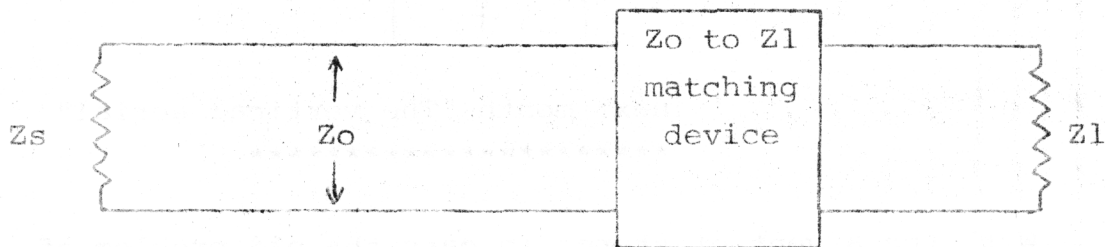
Z_0 is a function of cable sizes, diameters and permittivity (dielectric constant) of the dielectric separating the conductors e.g. coaxial cable $Z_0 = 138 \log_{10} \left(\frac{D}{d} \right) \times \sqrt{\epsilon}$ of the permittivity of the cable.



For optimum power transfer under a mismatch condition we need a device that will transform Z under wave propagation from one point to another.

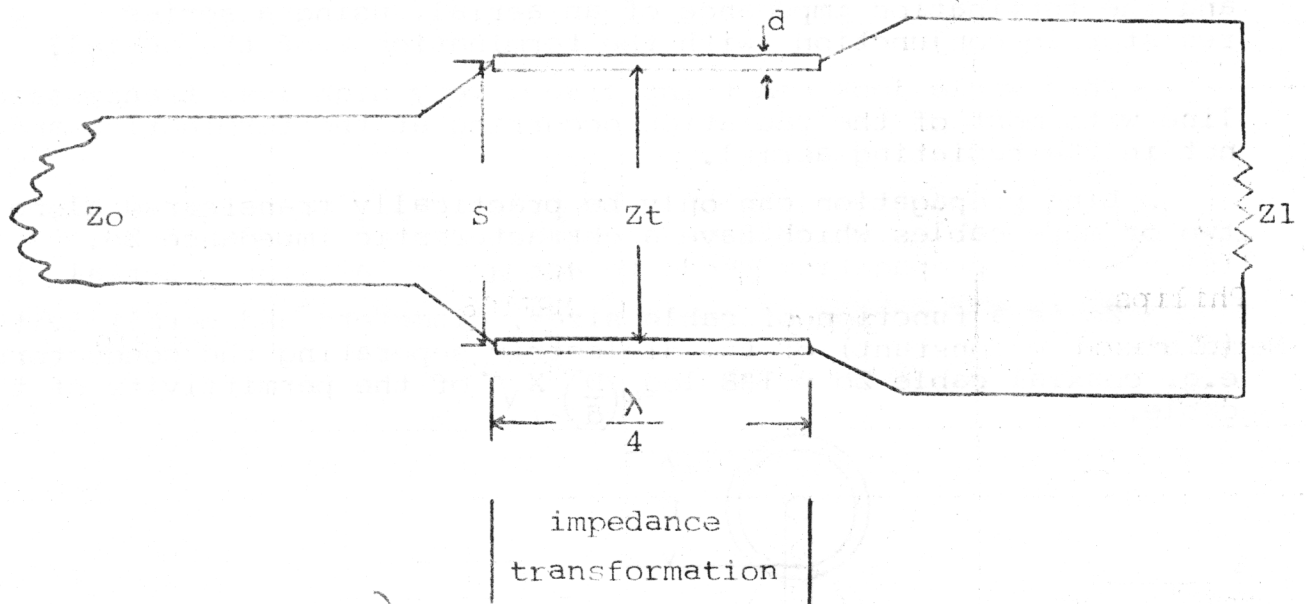
We are not matching Z_0 to a D.C. resistance, remember that an aerial termination resistance at resonance is a fictitious resistance known as radiation resistance, and maximum power will be dissipated in that resistance, (radiation resistance is the effective termination resistance of a resonant aerial). IT MUST NOT BE CONSIDERED AS D.C. RESISTANCE but its resultant behaviour is the same, Aerial Power = $I^2 R$ (R the radiation resistance) THE RADIATION RESISTANCE CAN ONLY EXIST AS AN AERIAL WHOLE, SO YOUR $I^2 R$ IS BEING EFFECTIVLY DISSIPATED IN THE AERIAL.

Minimum loss impedance matching can be achieved in many ways, discussed below are two methods.



Maximum power is transferred when $Z_s = Z_0$ and transformed to Z_1 .

1) The quarter wave transformer.



$$\left. \begin{aligned} Z_t &= 276 \log_{10} \frac{2S}{d} \\ Z_t &= \sqrt{Z_o Z_l} \end{aligned} \right\}$$

Note

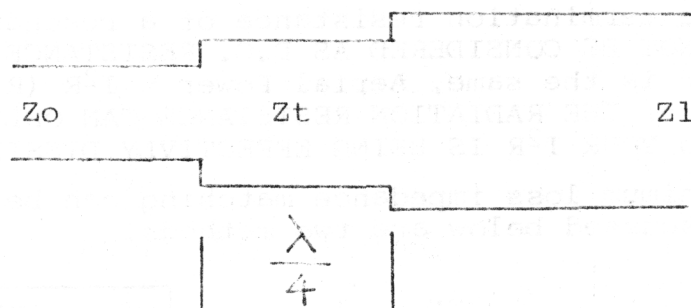
The permittivity of the dielectric must be taken into consideration when a medium other than air is used. (e.g. solid dielectric as in coaxial cable)

Example

$$Z_o = 80 \, \Omega$$

$$Z_l = 600 \, \Omega$$

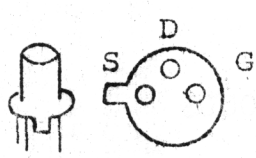
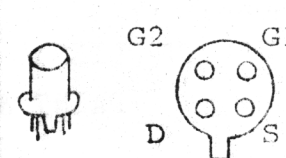
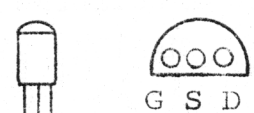
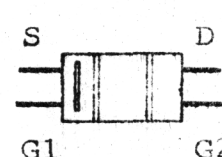
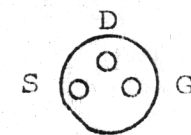
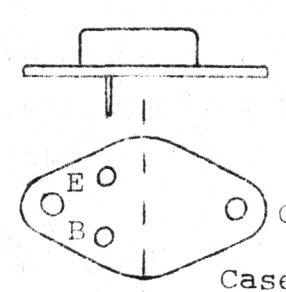
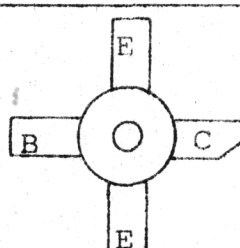
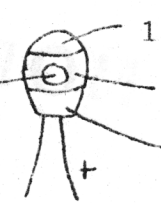
$$Z_t = 251 \, \Omega$$



next month "The vertical aerial"

With the advent of stereo in cars the old problem of ignition interference rears its ugly head again, carbon leads do help but they should be replaced as frequently as spark plugs and as people fail so do the carbon leads. Now it looks like the people in the land of Nippon have taken an interest in the problem and are marketing a spark plug with a built in suppressor. The one we came across was manufactured by NGK and the series resistance appears to be about 6K.

SEMICONDUCTOR CONNECTIONS

F.E.T. TO-18/1	F.E.T. TO-72/4	F.E.T. TO-92	F.E.T. TO92																																																												
 Philips Metal cased FET	 3N140 Metal Case	Plastic  MPF102 MPF106 MPF107 MPF109	Plastic  2N3819																																																												
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 B3-12 B12-12 2N5589 2N5590 2N5591 MRF603 MRF6083		 1st Digit 2nd Digit Multiplier Working Voltage <u>TANTALUM CAPACITORS</u> <table><tr><th>Colour</th><th>1st Digit</th><th>2nd Digit</th><th>Multiplier</th><th>Working Voltage</th></tr><tr><td>Black</td><td>-</td><td>0</td><td>X 1</td><td>10</td></tr><tr><td>Brown</td><td>1</td><td>1</td><td>X 10</td><td>-</td></tr><tr><td>Red</td><td>2</td><td>2</td><td>X 100</td><td>-</td></tr><tr><td>Orange</td><td>3</td><td>3</td><td>-</td><td>-</td></tr><tr><td>Yellow</td><td>4</td><td>4</td><td>-</td><td>6.3</td></tr><tr><td>Green</td><td>5</td><td>5</td><td>-</td><td>16</td></tr><tr><td>Blue</td><td>6</td><td>6</td><td>-</td><td>20</td></tr><tr><td>Violet</td><td>7</td><td>7</td><td>-</td><td>-</td></tr><tr><td>Grey</td><td>8</td><td>8</td><td>X0.01</td><td>25</td></tr><tr><td>White</td><td>9</td><td>9</td><td>X 0.1</td><td>3</td></tr><tr><td>Pink</td><td>-</td><td>-</td><td>-</td><td>35</td></tr></table>		Colour	1st Digit	2nd Digit	Multiplier	Working Voltage	Black	-	0	X 1	10	Brown	1	1	X 10	-	Red	2	2	X 100	-	Orange	3	3	-	-	Yellow	4	4	-	6.3	Green	5	5	-	16	Blue	6	6	-	20	Violet	7	7	-	-	Grey	8	8	X0.01	25	White	9	9	X 0.1	3	Pink	-	-	-	35
Colour	1st Digit	2nd Digit	Multiplier	Working Voltage																																																											
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Violet	7	7	-	-																																																											
Grey	8	8	X0.01	25																																																											
White	9	9	X 0.1	3																																																											
Pink	-	-	-	35																																																											

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