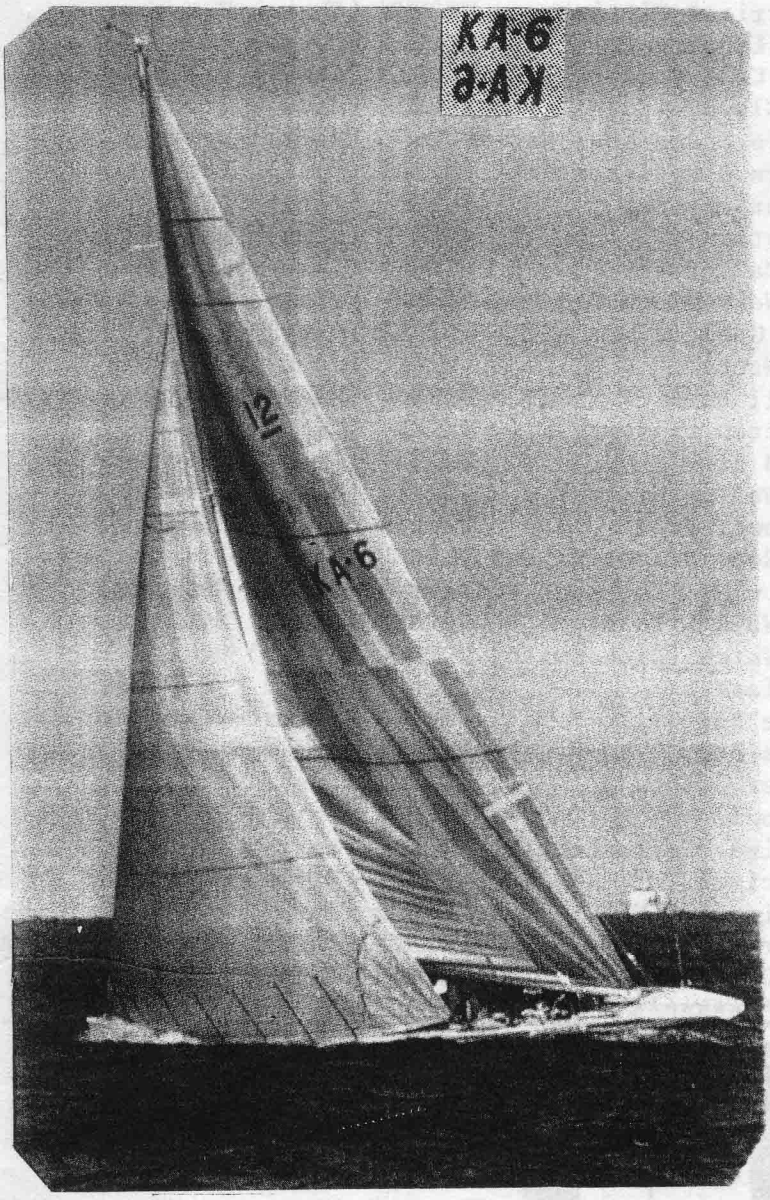
1983

OXTALES

Oxley Region Amateur Radio Club

P.O. BOX 712 PORT MACQUARIE. 2444. NSW.

VOLUME: 1 NO: 8 PRICE - LESS



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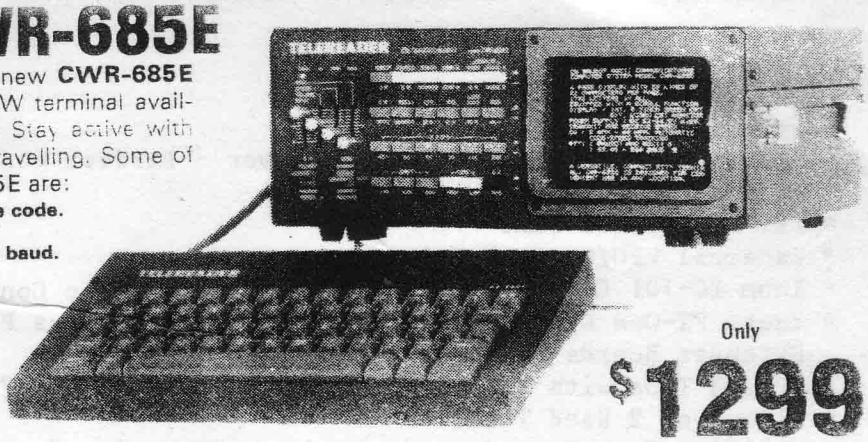

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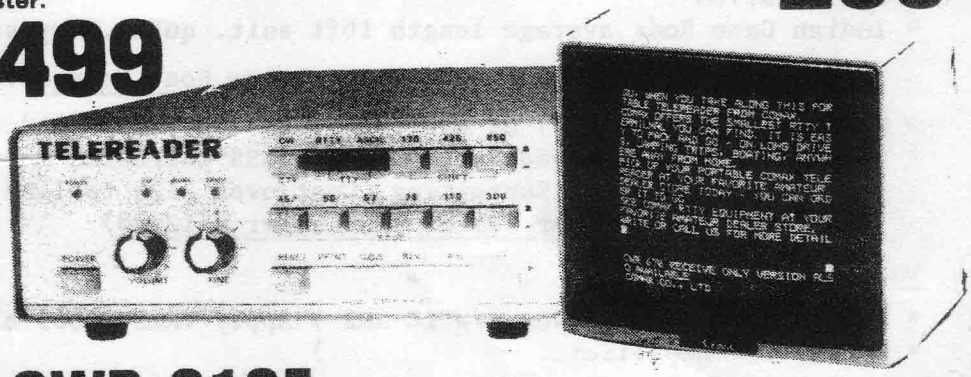

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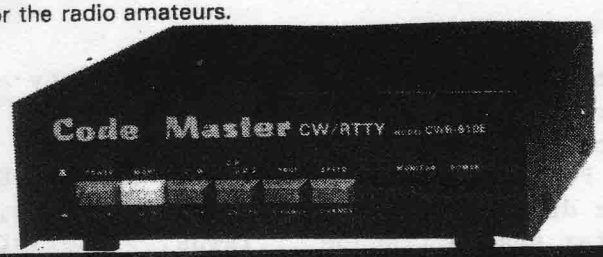

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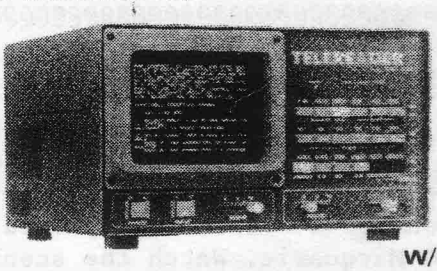

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1983 FIELD DAYS.

VK2 DLM (BRIAN) - VK2 AKO (LEN)

"A TROPHY FOR VK2 YME-DAVE"

ess Release

93 of 83 Date: 15 September 1983

1983
COMMUNICATIONS YEAR

DEPARTMENT AMENDS RADIO LOG-KEEPING REQUIREMENTS

The Department of Communications announced today that following consultations with the Wireless Institute of Australia it had agreed to amend requirements for log-keeping by amateur radio operators.

A spokesman said that in future log-keeping would be optional with these exceptions:

- every amateur station is required to have a log-book available in which to record distress and emergency traffic. In the case of a network carrying emergency traffic a log is to be kept by the control station;

- a log is to be kept by an amateur if requested to do so by an officer of the Department of Communications.

Club stations still were required to maintain a log of all transmissions in accordance with the format detailed in paragraph 6.11 and Appendix 15 of the Amateur Operator's Handbook.

The spokesman said: "With the increasingly mobile nature of many amateur stations the Department recognises it is impracticable to insist that all traffic be logged.

"However, it is still vital that any distress or emergency signals be logged, as this monitoring can be important in assisting the distressed party."

The changes had been made under the provisions of Wireless Telegraphy Regulation 31(1).

15 September 1983

A WORD OF WARNING: Remember that keeping your log is still strongly adviseable:

(a) What if you find you need evidence of transmission times in the event of a T.V.I. complaint and subsequent investigation?

(b) And what about keeping track of QSL cards .... contests etc. etc..?

THE 66% QUAD

VK2SV

WHY 66% ? - because it is 66% of full size on 20m; however, it is full size on 15m..

Being a dedicated QUAD man, I have used 1, 2 and 3 band Quads for years with great success and I am really impressed with their wide band, high gain qualities.

However, since moving to a new QTH situated on top of a high hill, I have experienced some difficulty in keeping big Quads UP in the high winds which prevail in this location.

Therefore, a low profile Quad with greatly reduced wind loading was designed and I am pleased to say that it has now withstood some very strong gale force winds indeed; for several months.

This low profile Quad employs TWO elements designed for use on 15 and 20 metres. It is only 12 feet (3.6m) square with the parasitic element acting as a director, giving slightly more gain than in a reflector configuration. See Fig.#1.

Fig #2 and #3 shows that a tuning network is used on both 15m and 20m (not loading coils) on both the driven element and director and that the loop is fed via a 1:1 balun, coupled to 2 turn links on the 15 and 20m tuned network.

The capacitors are formed from lengths of RG58U (29 Pf per foot) and are coiled up in the plastic boxes which house the tuned network.

The 1:1 balun can be eliminated, if desired, by using a R.F choke comprised of 8 turns by 8" diameter of the coax transmission line at the point of feed to the tuned network; the purpose in either case is to keep R.F currents off the outside of the transmission line.

Fig.#1

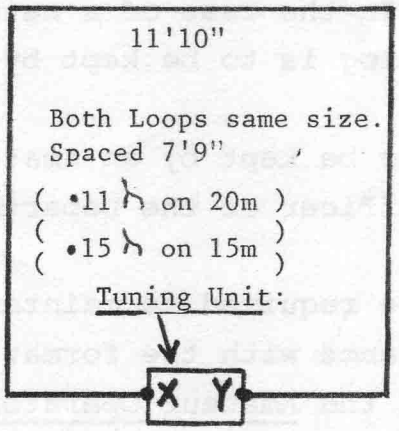
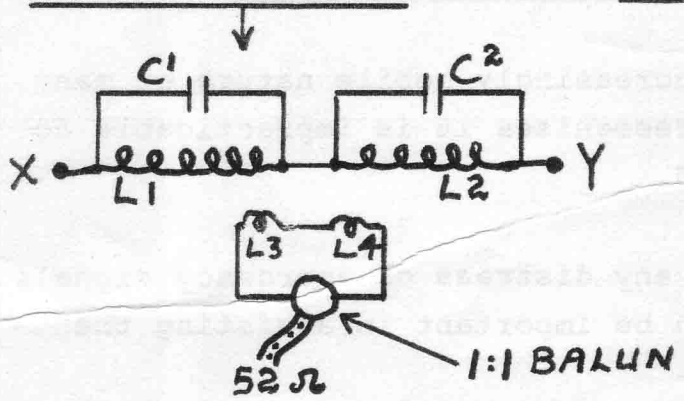


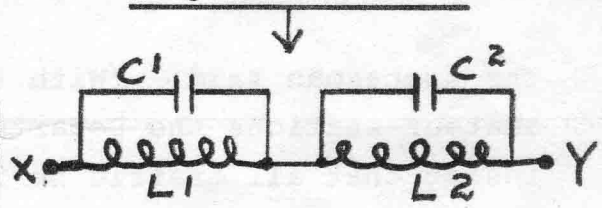
Fig.#2 (DRIVEN ELEMENT)



L1 = 9T over 3/4" Lnth.) 1" Diameter.
L2 = 5T over 3/4" Lnth.) L1 L2 Spaced 1¼"
C1)
C2) Approx. 50Pf.(See adjustment below.)
L3 = 2T at cold end L1
L4 = 2T at cold end L2

Adjust L1C1 to resonate at 21.0 Mhz.
Adjust L2C2 to resonate at 14.0 Mhz.
WITHOUT LOOP ATTACHED.

Fig. #3 DIRECTOR:



L1)
L2) Same as Driven Element.
C1)
C2) Aprx. 40 Pf (Adj to Freq)

L1C1 Tune to 22.6 Mhz.
L2C2 Tune to 14.7 Mhz.
WITHOUT LOOP ATTACHED.

Mechanical details have been omitted as every HAM will have his own method of construction. However, inspection of this instalation at my QTH would be worth while. Acknowledgements go to VK2AOU who did the original work on multi band single loop elements. VK2SV.

VK2LS (Lew) and his wife,May.
Thanks for your help,May!

VK2PA accepts his QSL card prize.
Pete conducted the CW this year.

VK2XU (Ian) presents the Kenwood
mike to VK2WC (Bill)

VK2DQU (Margaret) won the C.W
contest. And, with no errors!

Joan Harwood of Gunnedah is all
smiles as she takes her prize.

VK2BYY (Jeff Pages) in the prize
winning circle.

ot ME! says VK2EPE (Peter)
rom Nelson's Bay.

Our youngest member, VK2EFM (Alan)
will win more prizes, for sure!

KENWOOD

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TR-9130
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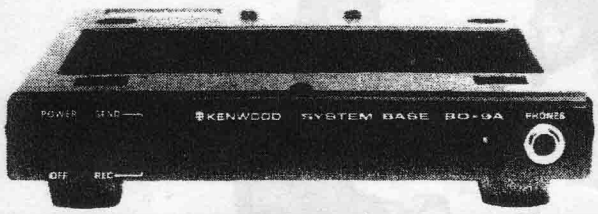

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Obituaries

PERCY SARA VK2QV

On Tuesday, 21st June, 1983 "VK2 QUEEN VICTOR" left his earthly life and became a silent key.

Percy Sara was born in Sydney in 1920 and was educated at Sydney Grammar School. During the war he volunteered for service and was sent to England where he later joined 460 Squadron. (Lancaster Bombers). Whilst training at Church Broughton he met Betty, a WAF who was destined to become his wife.

Unfortunately, on a misson over Germany as tail-gunner in a Lancaster, Percy's aircraft was shot down and he, and the rest of the crew parachuted to "safety" (thus also qualifying for membership in the exclusive "caterpillar" club). A few days of freedom followed. However he was finally captured and handed over to the Gestapo for interrogation and ultimate processing to Stalag Luft 3. Two years as a POW did little for the health of any of the prisoners and eventually was responsible for Perce becoming TPI.

Perce and Betty were married after his release in 1945. They returned to Australia and had their first child Geoffrey in 1946. As an ambulance Super-intendant, Percy transferred from Coolah to Bellingen as it was here in 1950 that the famous Sara Quads were born. Subsequently Percy, who by now had the callsign VK2QV, was one of the few amateurs able to decorate his QSL card with quads of a different kind.

The family left Bellingen in 1954 and returned to Sydney but it was Perce's wish to retire to the North Coast and they settled in Urunga in October 1980.

Percy immediately involved himself in community activities and took an active part in the running of the Coffs Harbour and District Amateur Radio Club where he was Treasurer until his passing.

Retirement did not see him vegetate — indeed his interests in amateur radio expanded to include RTTY and computers. It is an example to us all that he had returned to "school" to study computer programming to "find out what it was all about". He attended "class" on the Monday night where he used the knowledge he had already acquired to help others who were having difficulty. Percy passed away quietly in his sleep on Tuesday morning.

Our sympathy is extended to Betty and their family at the passing of "nature's gentleman" — he will be sadly missed by all his amateur mates.

Rick Fletcher, VK2BKV

AR

Percy Sara and his charming wife Betty, paid us a visit during our Field Days and our photo shows them enjoying a chat with a friend of long standing, VK2PA (Peter Alexander). It was indeed a sad blow to learn of Percy's passing just a few days later and we join with Rick in expressing our profound sorrow and heartfelt sympathy to Betty and family.

VALE: VK2AHZ (Bob) - "Tex Morton".

Few Australian artists have become legends in their own time. One who can claim the honour is Tex Morton, perhaps the most famous of the many Country and Western singers who have come to fame on Australian records during the last 30 years.

Tex Morton was born in New Zealand and came to Australia early in his career and began playing his guitar and singing in Sydney streets during the depression of the early 30's. He made his first record in February 1936 on the Regal Zonophone label and from that date until April 1943 recorded just on 100 sides for that label.

It was not long after his arrival in Australia that Tex began to create a large following for himself and eventually went on the road with his own show. Tex Morton's Show, as it was called, was a star-studded entertainment that included Philip Wirth as Ringmaster, The Ashtons, Lance Skuthorpe Senior and Junior, and the Gill Brothers. He travelled all over Australia with this and other shows with the result that his name became a household word with country audiences.

At the end of the war Tex proceeded overseas and being the versatile artist that he is, became famous in the United States as a hypnotist, under the name of Doctor Robert Morton. Recently (1960) he returned to Australia and was featured with the American Roy Acuff Western Show which toured this country in that year.

Tex Morton was the first Australian Artist to take the American Country and Western style and adapt it to this country.

The late Tex Morton was another great personal friend of VK2PA having both shared the hard days of Sydney life in their early days. Tex held ZL - VE - VK3 calls in his many travels. His passing is deeply felt by all Australians and also comes as another void in the ranks of amateur radio. Our sincere sympathy is extended to his wife Kath and family.

REPEATER: As most of us are aware, moves are under way to locate our repeater in one of its previous successfully tested sites. However, this move requires that we make all necessary applications and in the proper manner, so as to comply with all aspects of department licencing requirements.

It will take some time of course; well into early next year at least. We do ask for your patience and understanding whilst all this application work is being undertaken by your repeater committee.

THE GREAT PRETENDER???

I guess one of the most important persons involved with any Field Day is the man who prepares the "FOXES". In our club's case this V.I.P is VK2ZCV (Bill). Weeks and Weeks before the Field Day, Bill goes into action preparing these intricate devices and it was pleasing,this year, to hear that he did get some assistance from VK2DPE (Geoff) VK2XU (Ian) VK2EJK (Bob) VK2ELN (Laurie) VK2VQT (Col) from time to time. Not only does Bill make up the devices but his agile mind never stops thinking of sneaky places to hide them over the Field Day week-end. PLUS, he also controls the actual Fox Hunt Events each day. Therefore, when this one man army suddenly gets "stoned" (and Bill is a non-drinker) just a day or so before our big week-end, the panic buttons really popped out. Bill had to be rushed off to hospital so as to care for his collection of stones. Boy; I can sure tell you we had one of the quickest lessons in how to conduct a Fox Hunt event that you could ever imagine. Thanks Geoff, Col, Laurie, Bob and company. A fine job well done fellows.

The great Pretender?? No fear! Bill took his share of the pain which goes with such an occasion - gave me one of his QSL cards with his apology there-on - THEN practically signed himself out of hospital and made it to both of the days, moving quite slowly of course. Tnx Mr. Ironsides!

DONORS: Once again, we must acknowledge the excellent support given our Club. Wendy & Arthur Monck's prizes etc., Kenwood Australia for the mike donation, Hall of Electronics for prizes, Thornton Marine for the use of their Special Occasions Caravan, Emtronics for their donation, Todd Holden's prize, Port Flying Machines for the display of Crane and Ultraflight light aircraft, that lovely lady Margaret Gerrity for prize and W.I.A for great book prizes. Thank you sound a bit old fashioned, but I cannot find a newer or better way to say it. And I almost overlooked thanking Terry Clarke for his prize, donated.

TRADE DISPLAYS:

These days of high overheads and sales harder to make does not give very much encouragement to trade houses to attend Field Days in the country. So, you can imagine our gratitude when Hall of Electronics, the boys from Andrews Communications and then Timbertown Computers all arrived and set up shop! Lee Andrews also had the bad luck of "doing" an alternator on the way up from Sydney. It was pleasing to see all of these boys being kept busy..

On top of that, Sue Brown of W.I.A., responded to our call for a bigger range of W.I.A publications and a really top range of books brought a roaring trade over both days. Thanks go to especially VK2ZIH (Allan) for the sterling job in manning the table and also to VK2EJK (Bob) and VK2PKC (Doug) for giving a helping hand.

THE W.I.A FILM.

I guess we may well have been the first club to receive and run the Official Opening of Radio House video film. What a great job by President Sue (VK2BSB) and what a great presentation for all of us to see and enjoy. Compliments came at a brisk rate after the viewing and our Club joins with all other amateurs in congratulating all of the W.I.A crew for a presentation which made us all feel openly proud.

Thanks go to VK2KDL (Keith) and his wife Gwen for providing the video gear, plus the entertainment given from their library of well prepared collection of films.

NOW THE "OXLEY" FILM.

Little did we realise that we had a film producer in our midst during the Field Day week-end. I guess we all noticed what appeared to be a small T.V film crew wandering about, so no wonder many of the girls smiled or went coy . To our amazement, we found that the film man was VK2BFM (Arthur) from Coffs Harbour and he had in fact produced an excellent coverage of our Field Days on video. Congratulations, Arthur and thank you for the trouble you went to. The film is now in our Club Library and also, I believe, W.I.A has a copy. It is well worth viewing the "stars" of the day, plus plenty of action and a good laugh or two. Great stuff!!! The is some truth in the rumour that big offers have been made for some command performances..

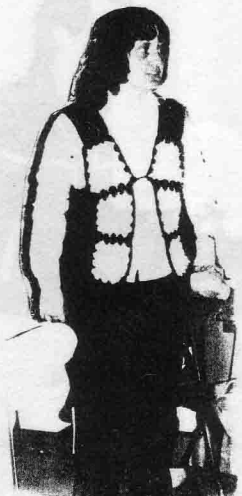
THE TOUCH OF A MASTER'S HAND. By: Myra Brooks Welch

'Twas battered and scarred and the auctioneer
Thought it scarcely worth his while,
To waste much time on the old violin
But held it up with a smile.
"What am I bidden good folks," he cried,
"Who'll start the bidding for me?
A guinea, a guinea, then two, only two?
Two guineas and who'll make it three?
Three guineas once,
Three guineas twice,
Going for three?"
But NO!
From the room far back, a grey haired man
Came forward and picked up the bow,
Then wiping the dust from the old violin
And tightening the loose strings,
He played a melody pure and sweet,
As a carolling angel sings.

****

The music ceased and the auctioneer
In a voice that was quiet and low,
Said "What am I bid for the old violin?"
And he held it up with the bow.
"A thousand guineas, and who'll make it two,
Two thousand and who'll make it three?
Three thousand once,
Three thousand twice,
And going and gone," said he.
The people cheered but some of them cried,
"We do not quite understand
What changed it's worth?"
Swift came the reply
"The touch of a Master's hand."

And many a man with life out of tune,
And battered and scarred with sin,
Is auctioned cheap to a thoughtless crowd,
Much like the old violin.
A "mess of pottage,"
A glass of wine.
A game, and he travels on.
He is "going once," He's "going twice,"
He's "going" and almost "gone;"
But the Master comes and the foolish crowd,
Can never quite understand,
The worth of a soul and the change that's wrought,
By the touch of the Master's hand.



The touch of a master's hand must also go into the task of being a president. Here we have two "masters"..... VK2BSB (Sue) President of WIA (NSW)... Tnx for your kind words, Sue and also being at our Field Days of 1983. Congratulations to our new President, VK2EJK (Bob) .. a great effort for your initiation; thanks from us all..

"MY FEEDLINE TUNES MY ANTENNA."

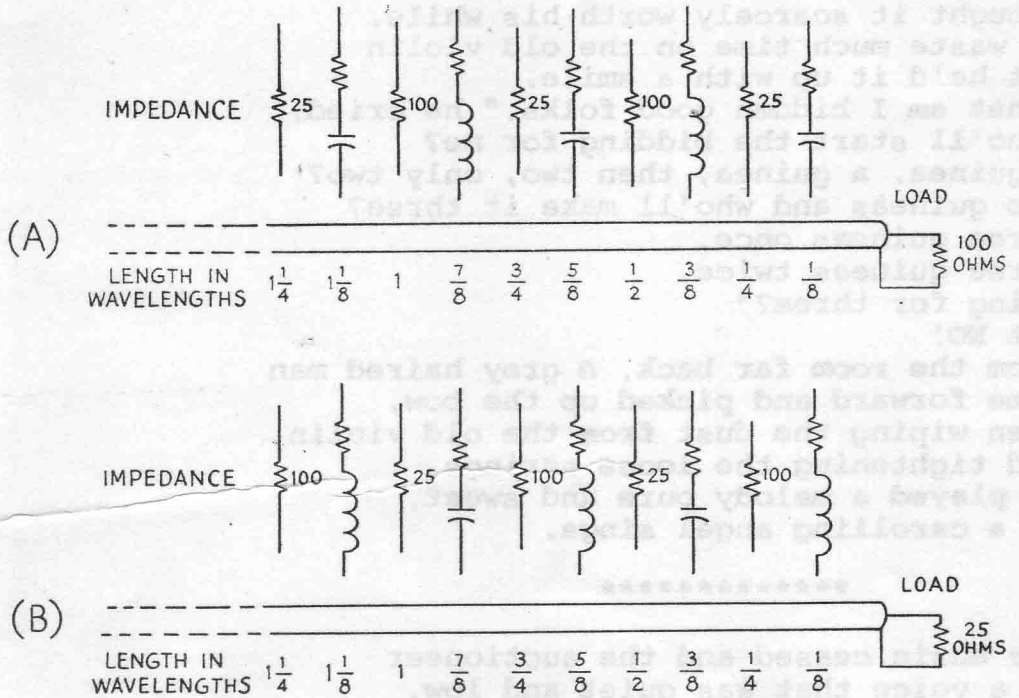


Fig. 4 — **These two examples show how the input impedance of a line varies with the length of the line when the line is terminated in something other than the characteristic impedance of the line. It should be realized that the impedance is continually changing along the line, repeating every half wavelength. The impedance is purely resistive only at the quarter-wave (and multiples) point, and it becomes reactive either side of this point, reaching a maximum reactive condition at the odd multiples of ⅛ wavelength.**

When the load includes reactance as well as resistance, the impedance along the line varies in the same manner as shown here, but the purely resistive points do not occur at multiples of ¼ wavelength from the load.

Other Considerations

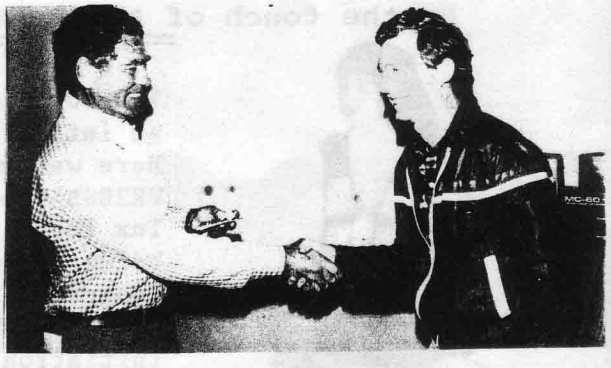
To keep this discussion simple, we have of necessity left out a number of points that often must be considered. For example, a piece of open-wire transmission line and a piece of Twin-Lead (or coaxial line) of the same physical length do not have the same electrical length. The reason for this is that the radio waves travel slower through the solid dielectric of the Twin-Lead than they do through the air dielectric of the open line, so a wavelength in air (for a given frequency) is longer than a wavelength in solid dielectric. The "velocity of propagation" in air is considered to be 1.0, and the "V.P." in a solid dielectric will be something less, depending upon the material. V.P. values for various lines are given in any good antenna book, and they must be considered when you compute the electrical length of a line.

Another aspect that was not considered was the loss in a transmission line. If the line itself had no loss, then the s.w.r. would make no difference where losses are concerned. However, any practical line does have some loss, and this loss increases with the s.w.r. and the inherent loss of the line. This is a consideration in any antenna system requiring a long run of line, and is the reason that one shoots for a low s.w.r. with coax or Twin-Lead but doesn't worry too much about it (from a loss standpoint) with open-wire line, where the inherent loss is much lower than in solid-dielectric line.

Our sincere thanks to VK2SV (Tom) for drawing our attention to this truly excellent article.. with full acknowledgement to that great magazine - QST - and to the author, W1DX (Frank) for his first class "readable" presentation.

Published 1956.. Ed.....

VK2SV (Tom) left and VK2BEK (Eric) enjoying the action.
1983 Field Day.



VK2EJK (Bob) presents prize winner VK2BME (Mark) with his trophy..

input as a 40-ohm resistance in series with a capacitor, and a ⅜ wavelength line would be measured as 40 ohms resistance in series with an inductance! These effects repeat every half wavelength along the line, as shown in Fig. 4A.

The example we just discussed used a load for the transmission line that was higher than the characteristic impedance of the line. When the termination is lower than the characteristic impedance of the line, the impedance varies along the line in the manner shown in Fig. 4B.

Now let's get back to that "characteristic impedance" thing again. Here's what it is: *The characteristic impedance of a transmission line is the value of resistance that, when used as a termination for the line, makes the input impedance of the line independent of the electrical length of the line.*[1]

Measuring Antenna Impedance

By now you may begin to see where the cardsender of the opening paragraph went astray. He connected an antenna to a length of "300-ohm line" and expected that the line was acting as a direct connection between antenna center and the shack, adding no effects of its own. It wasn't, of course. The antenna was probably resonant at 7 Mc., and a half-wave antenna looks like 70 ohms at its center. Hence this was the same as connecting a 70-ohm resistor to the end of the 300-ohm line, for measurements made at 7 Mc. At other frequencies the antenna becomes a complex termination, involving both resistance and reactance. From the previous discussion you know that the 300-ohm line terminated in something other than 300 ohms is going to show various values of resistance and reactance at the input end, depending upon the electrical length of the line. Consequently, the resonant frequencies checked with the grid-dip meter (these would be the frequencies where pure resistance showed at the input end of the line) have no bearing whatsoever on the resonant frequency of the antenna proper. By changing the physical length of the line our friend was able to get a length that showed "resonance" at the frequency for which he cut the antenna, but all this means is that his electrical line length at 7 Mc. is now a multiple of a quarter wavelength, since it takes that length to show pure resistance at the input end when the load is a pure resistance (we're assuming it is).

[1] This is strictly true only for a lossless line, where the input impedance will be equal to the characteristic impedance for any length of line. Lines with appreciable loss will show a gradual variation in input impedance, depending upon the length, as a result of the cumulative effects of series resistance and shunt conductance. In most amateur applications, however, this aspect of the effects of the losses can be neglected. — Ed.

OK, how do you measure the resonant frequency of the antenna? Well, it isn't too easy, but fortunately, it isn't too important.

(WHAT?!!! It isn't important that the antenna be resonant? What kind of sacrilege is this?)

Our friend of the postcard is using what is known as a "tuned antenna system." He is terminating a 300-ohm line with a load other than the characteristic impedance, and consequently, what the impedance looks like at the input end of the line depends upon the electrical length of the line (see Fig. 4). To put power into the antenna, the line is connected to the transmitter through a network that compensates for any reactance showing at the input end of the line, and a resistive load is presented to the transmitter. In plain language, the "network" is the output stage plate tank or, to handle a wider range of conditions, the plate tank plus an antenna coupler.

Perhaps we should mention at this point that only resistance can use up power, reactance can't. You know this from practical work; you can pass a.c. through a capacitor but the capacitor never gets hot (if it's a pure capacitor) or uses power in any other way. The same is true of a pure inductance, but they are harder to come by because the conductor of the coil has some resistance. When a coil heats up, it is the resistance of the coil that causes it, not the reactance.

Since only resistance can use up power, what difference does it make if the antenna is resonant or not? When the antenna is resonant it appears as a pure resistance (made up of the conductor resistance plus the "radiation" resistance), but when it isn't resonant it looks like a resistance and a reactance. Only the resistive part can use up power, so we don't throw anything away. We do want the antenna to be resonant and look like a resistance if we are planning to use it as a load for an "untuned" transmission line, but to do this we have to use a line with a characteristic impedance equal or close to the value of resistance the resonant antenna shows. We can't feed a 70-ohm antenna with a 300-ohm line and expect it to be anything but a "tuned antenna system," exhibiting the variations shown in Fig. 4. We can feed a 70-ohm antenna with 70-ohm line, and then no matter how long we make the line, it will always look like 70 ohms at the input end, and we won't have to use an antenna coupler if 70 ohms will load the transmitter satisfactorily. But the antenna *has* to be a 70-ohm antenna, resonant at the frequency we're interested in.

Standing-Wave Ratio

By this time it may or may not have occurred to you that all this talk about the way the input impedance varies with a mismatched line may have something to do with that old conversation piece the "standing-wave ratio." It does. Since the power at any point along the line must be constant, you can see that as the resistance and reactance vary along the line, so must the voltage and current. Take the line of Fig. 4A. Let's say we're putting 100 watts into that 100-ohm load. The current at that point is 1 ampere and the voltage is 100. ($W = I^2R = E^2 \div R$). quarter wavelength from the load, the line looks like 25 ohms, and 100 watts at this resistance level is a current of 2 amperes and a voltage of 50. At the half-wave point from the load we're back to 1 ampere and 100 volts. Thus you can see that the current and voltage vary along the line, and of course they can be measured and that will give us something called the "standing-wave ratio." This s.w.r. is the ratio of a current maximum to a current minimum, or the ratio of the voltage maximum to the voltage minimum, and in this case it is equal to 2.0. We say, "The s.w.r. of the line is 2.0." Note that this ratio of 2.0 is also the ratio of the resistive load to the characteristic impedance of the line (100 ÷ 50 = 2). It always works out this way; the s.w.r. of the line is equal to the ratio of mismatch between load and line, for resistive loads. (When the load is smaller than the characteristic impedance, you divide by the load, because the s.w.r. is normally stated as a ratio larger than 1.0.) The solution is more complicated with some reactance in the load.

And now you can see why those "brains" who change the s.w.r. on the line by changing the line length just don't know what they're talking about. What they are doing is adjusting the length of the line so that at the input end it looks like a resistance and hence becomes a little easier to couple to. But *the s.w.r. is determined by the load*, and don't you forget it.

Feedline

That's about it. If you've learned that the s.w.r. is determined by the load and not by the line length, and if you've learned that the antenna resonant frequency isn't important when you're using a tuned line, you've come a long way. Of course, the latter doesn't mean you can use a very short (less than ⅛ wavelength) antenna and get out just as well as with a full-sized one. In this latter case the ohmic resistance of the antenna and loading devices may be greater than the radiation resistance of the antenna, and most of your power goes into heating the loading devices and the feedline.

→

"My Feedline Tunes My Antenna!"

Plain Talk About a Fancy Subject

BY BYRON GOODMAN, W1DX

YOU DON'T have to be in ham radio very long before you hear some self-styled antenna expert talking about "cutting the line to reduce the standing-wave ratio." An allied problem — and misconception — is exemplified by the card that came in the mail some time ago:

"I carefully cut an antenna for 7 Mc. according to formula in the *Handbook* and fed it in the center with 300-ohm Twin-Lead. Using a grid-dip meter I found the frequency was 5 Mc. instead of 7 Mc. It had dips at 10 Mc., 20 Mc. and 25 Mc. Adding more 300-ohm Twin-Lead brought the frequency in to 7 Mc., but what I don't understand is why the feeders affect the flattop frequency in untuned feeders. If they are supposed to, then how can I check the flattop for its resonant frequency?"

This is a good subject. If you know the correct answers to all of the questions in the quote above, you aren't likely to have trouble understanding most of the common feedline problems. Let's see what it's all about.

• Over a period of time one hears some weird and wonderful discussions and explanations of what takes place in transmission lines. The cumulative effect of all this loose talk is to propagate some misconceptions. It is the purpose of this article to clear away some of the clouds that surround the subject.

Transmission Lines

Ask any amateur if he knows all about coaxial cables and he will probably say, "Sure. RG-8/U is 50-ohm line and RG-11/U is 75-ohm line. What else is there to know?" The answer to that one is "Everything."

In the first place, RG-8/U is *not* 50-ohm line. It has a "characteristic impedance" of 50 ohms. This fancy language can best be illustrated by Fig. 1. Here we show a long length of RG-8/U with a 50-ohm resistor connected at one end (we'll call that end the "load" end). If we measure the impedance at the input end (by using an impedance bridge), it will measure 50 ohms. This, of course, is just what you expect, and you're probably wondering what we're driving at. Patience, please.

Now suppose we take this same piece of RG-8/U and connect a 100-ohm resistor at the load end, as shown in Fig. 2. Measuring the impedance at the input end, what should we get for an answer? 50 ohms? 100 ohms? 200 ohms?

If you came up with an answer, any answer, you had better continue reading this article, because there isn't any answer to the question in the preceding paragraph! There isn't any answer because the problem isn't definite enough to be capable of solution. In order to know what the input end of the 50-ohm line looks like when a 100-ohm resistor is connected at the load end, you must also know the *electrical length* of the line. This is another way of saying that you have to know the frequency and the physical length, from which you can compute the electrical length. (Electrical length is measured in wavelengths, so any given length of line has an electrical length that varies with the frequency. A line one wavelength long at a given frequency is two wavelengths long at twice that frequency, etc.)

Actually, with the "50-ohm" line terminated in 100 ohms, some interesting things happen along the line. Take the lines shown in Fig. 3. If the line is a quarter wavelength long, we find that the impedance bridge would measure the input impedance as 25 ohms. If the line is a half wavelength long, the bridge would come up with an answer of 100 ohms. If the line is ⅛ wavelength long, the bridge would measure the

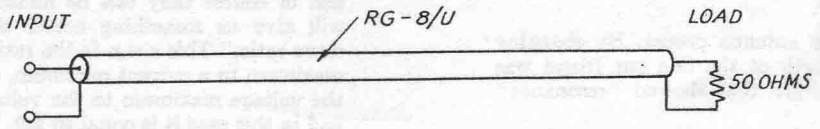


Fig. 1 — A length of RG-8/U with 50 ohms connected across one end will look like 50 ohms at the input end of the line.

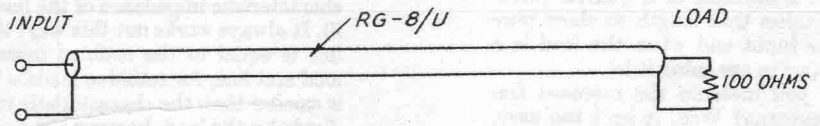


Fig. 2 — With 100 ohms connected at the load end of a length of RG-8/U, the problem is to determine what the line looks like at the input end.

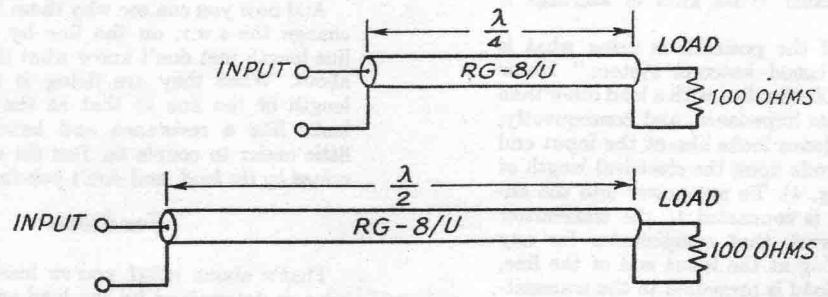


Fig. 3 — Part of the answer to the problem posed in Fig. 2. When the line is a quarter wavelength long, it looks like 25 ohms at the input end when the load is 100 ohms. When the line is a half wavelength long, the input end shows an impedance equal to that connected at the load end.

(Continued over)

1983 FIELD DAY RESULTS:

Blessed with super weather - magnificient support from visiting amateurs and first class team work from our club members made our 1983 Annual Field Days rank with the best conducted. A great display by the trade boys, our biggest ever Surplus Gear sale and our best ever W.I.A presentation of selected publications added a great deal of pleasure to the two big days. A sincere thanks to all of our visitors and club members alike, for rolling up and making our show such a pleasureable success.

RESULTS:

EVENT:	PRIZE:	WINNER:
2 MTR. FOX HUNT:	Large Cassette Cabinet	VK2YMW (Chris) Hornsby.
Runner Up	Multi Power Board	VK2BAD (Athol) Villawood.
40 MTR. FOX HUNT	A punch on the nose.	Murphy (He always turns up)
10 MTR. FOX HUNT	Desk Lamp	VK2BAD (Athol) Villawood.
2 MTR. TALK-In	Set of Meters & Resistors	VK2EPE (Peter) Nelsons Bay.
7 MHZ. FOX HUNT	Giant Photo Albun	VK2BME (Mark) Newcastle.
146 MHZ. FOX HUNT	Electric Can Opener	VK2BYY (Geoff) Sydney.
Runner Up	Bag Electrical Fittings	VK2YMW (Chris) Hornsby.
40 MTR. PEDESTRIAN	Electric Lantern	VK2EPE (Peter) Nelsons Bay.
10 MTR FOX HUNT	American Call Book	VK2BAD (Athol) Villawood.
144 MHZ FOX HUNT	Digital Clock	VK2YME (Dave) Hornsby.
Runner Up	Set Meters & Resistor Pak	VK2BME (Mark) Newcastle.
HOME BREW CONTEST	Set Meters & Resistor Pak	VK2ZCV (Bill) Port Macquarie.
QSL CARD DISPLAY	24 Pce Cutlery Set	VK2PA (Pete) Port Macquarie.
OLD GEAR DISPLAY	Panel Meter	VK2EFM (Alan) Kempsey.
HANDY KINK DISPLAY	Foreign Call Book	VK2BFP (Lester)Port Macquarie.
BEST FOX HUNT VEHICLE	Kitchen Wall Clock	VK2BKV (Rick) Coffs Harbour.
CROSS WORD (Saturday)	Set Wine Goblets	VK2ADT (Jack) Port Macquarie.
CROSS WORD (Sunday)	Digital Watch	VK2OK (John) Macksville.
C.W CONTEST	World Call Book	VK2DQU (Margaret) Coffs Harbour.
Runner Up	Set of Screw Drivers	VK2KT (Lester) Taree.
C.W CONTEST (Novice)	ARRL Hand Book	VK2??? (Ross) Comboyne.
Runner UP	"Understanding Micros"	VK2YME (Dave) Hornsby.
LADIES RADIO THROW	Large Flower Bowl	Gloria Savins - Kempsey.
GENTS RADIO THROW	Car Tow Rope & Jumper Lead	VK2BRG (Ray) Coffs Harbour.
LADIES 80 MTR.SPRINT	Flower Bowl	Kerry Savins - Kempsey.
GENTS 160 MTR. SPRINT.	Battery Wall Lite Etc	VK2ANS (Steve) Sydney.
LUCKY REGISTRATION (Gent)	Digital Watch (Dick Smith)	VK2DYQ (Terry) Bexley North.
LUCKY REGIST. (Lady)	Vacuum Flask	Joan Harwood - Gunnedah.
GENERAL QUIZZ	Over-Nite Bag	Gloria Savins - Kempsey.
AMATEURS QUIZZ	Over-Nite Bag	VK2BXY (Jeff) Sydney.
Guessing Comp.(Shake Me)	Set Silver Dishes	VK2PSX (Des) Taree.
Guessing Comp.(Time Bomb)	Flower Bowl	VK2DLM (Brian) Urunga.
Raff. Contest	First Prize (Refreshments)	VK2KAY (Barry) - Gunnedah.
Raff. Contest	Second Prize(")	VK2DLM (Brian) - Urunga.
Raff. Contest	Third Prize (")	VK2BSB (Sue) - Macquarie Fields.
Raff. Contest	Fourth Prize(")	VK2BFP (Lester) - Port Macquarie.
Raff. Contest	Kenwood Desk Mike	VK2WC (Bill) - Wauchope.

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"A happy Joan Harwood with daughter, all the way from Gunnedah"

"Tnx President Bob, says smiling Gloria Savins from Kempsey"

FOR SALE - EXCHANGE - WANTED:

* Kenwood TS 900 300w SSB Transceiver - Perfect Condition......$395.00
* AC PSU/L Speaker for same. (TS900) $100.00
* 12v DC PSU for same $100.00
* External VFO/Control Unit $100.00
* Icom IC-701 C/W AC PSU/LS. Mic & IC-RM2 Remote Controller $850.00
* Yaesu FT-One C/W FM Memory and AM Filter Options Plus Extender Boards and service manual Offers Invited.
*4CX250B Tube with socket & Chimney suitable for UHF Amp.New. $.75.00
* Also 1 or 2 Used Tubes $ 15.00 ea.
* Phillips Tape Recorder c/w loud speaker, mic, foot switch, phones & carry case (Needs new belt) $.40.00
* Collins RE Loudspeaker type 312-B3 New $.50.00

(All of above.. apply VK2SV...phone 065 83 4414)

* Pair brand new Xtals (Yaesu) for FT-2FB Ch.2 Trans 146.100 rec. 146.700 $ 12.00 ea
* Indian Cane Rods average length 16ft suit. quads.Very straight $ 4.00 ea

(Apply F.S.Reid (VK2DLW RMB 9 South Arm Road.Urunga.)

* Kenwood A.T.U (AT180) as near to brand new possible.Scarce. $145.00
* Vertical Antenna. Brand New in Box. CE5SS Chirnside make. 10-15-20-40-80. Self Supporting. Cost over $120 to land $100.00
(apply VK2BFP Lester 065 83 1100 after 4/12/83)

WANTED:

* Icom IC-211 Transceiver c/w IC-RM2) Apply VK2SV 065 83 4414
* H.F Linear Amplifier.)

OTHER ITEMS:

* Vk2SV 065 83 4414 has numerous other goods and components for sale...call & inspect or phone with your requirements.

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CHRISTMAS BREAK UP PARTY:

Yes, it's on again. This time at a central position of great beauty and a top spot to relax and do all sorts of things....walk...fish..surf... bird watch ....snooze....sun bake etc. etc. BAR-B-Q (Bring your Own) will be taken at 12 noon sharp, please. Fox hunts also. Where??? At SHELLEY BEACH in Port Macquarie. Watch the scenic drive as you come off Pacific Drive, it can be a little narrow in places...tar sealed...shade....lawns.... toilet block.. BBQ areas etc. etc... a top spot and central. See you there... WHEN???? Sunday 11th December 1983.. Listen on repeater or 80mtr club net for more details.

OUTSTANDING SUBS: Please remember you were all reminded about the $5 sub... if you have not remembered there will be a RED X on the front of this copy of Oxtales. Remember, your $5 helps keep the Repeater in order and helps to defray cost of this humble journal.

HAPPY CHRISTMAS & NEW YEAR:

The committee extends its sincere best wishes for a happy and holy Christmas to you and family and trust the new year will bring good health and happiness.

Cheers for now,; we had a hard time with the photos this time, but have a bit of a chuckle and pray for better results next time.

Yours in Amateur Radio

Lester O'Donnell

VK2BFP (Lester) Secretary & Ed.