FEEDBACK

THE OFFICIAL NEWSLETTER OF THE

GEORGIAN BAY AMATEUR RADIO CLUB

Sponsoring

VE3OSR FM REPEATER 146.940- Mhz WOODFORD

VE3OST FM REPEATER 145.290- Mhz OWEN SOUND

VE3GBT FM REPEATER 146.895- Mhz BARROW BAY

SEPT 1993

GBARC 20th ANNIVERSARY

GBARC

The Georgian Bay Amateur Radio Club ,founded in 1973, is based in Grey and Bruce counties. The club meets at 7:30 P.M. sharp on the second Tuesday of each month, except July and August, at the Billy Bishop Airport.

NET SCHEDULE

Sunday 09:30 hrs 3.783 Mhz SSB

WEDNESDAY 20:30 HRS 3.670 Mhz CW

CLUB OFFICERS

President_____VE3XOX Bob Vary

Vice-President_____VE3IJD Gene McDonald

Treasurer_____VE3HIP Ian Trenholm

Secretary_____VE3MWU Nick Klassens

Technical-Director_____VE3HIO Rick Slack

Program-Director_____VE3UWW Jerrine Verkaik

Bulletin Editor_____VE3TSA Tom St.Amand

FEEDBACK

The official bulletin of the Georgian Bay Amateur radio club, published monthly, except July and August. Contributions of articles/letters are encouraged and should be sent to

Tom St.Amand, VE3TSA,

1232 3rd Ave. East, Owen Sound, Ont.

N4K2L5

DUES

$25.00 per year

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FOR SALES / WANTS

UPCOMING EVENTS

NEXT GBARC MEETING

OCTOBER 12th 1993

BREAKFAST MEETINGS:

SEPT 25th 1993

OCT 9th & 30th 1993

MEMBERSHIP

VE3AEO TED	VE3MVS MERV
VE3AUB JACK	VE3MWU NICK
VE3BFV JIM	VE3NEM TOM
VE3BIS DICK	VE3RHJ BRAD
VE3BZC ROSS	VE3RLW ROB
VE3CC CY	VE3RVG GERRY
VE3CAH CAROL	VE3TDF PAT
VE3CRV JIM	VE3TDV DOUG
VE3CUV ROSS	VE3TFQ JIM
VE3DIQ BILL	VE3TFV KEN
VE3DKF JIM	VE3TSA TOM
VE3DQC DAN	VE3TTV HENRY
VE3DTS JACK	VE3TUK RUSS
VE3DXO DAVE	VE3TUM RICK
VE3EBM ROY	VE3TUP KLAAS
VE3FFN WALTER	VE3TUQ AUBREY
VE3GDH DEREK	VE3TUS BARRIE
VE3HGL HAROLD	VE3TWI OKKE
VE3HIO RICK	VE3TWJ DAVE
VE3HIP IAN	VE3TWK JACK
VE3HMZ BILL	VE3TWL CATHY
VE3HXX IAN	VE3TXB JOHN
VE3IJD GENE	VE3TYL JIM
VE3IEV JOHN	VE3UIC JASON
VE3ILO BERT	VE3UUL JOHN
VE3INP JOHN	VE3UWD HENRY
VE3IOD GARY	VE3UWW JERRINE
VE3IXG DOUG	VE3UWX MORRIS
VE3IXR MURRAY	VE3VTO DON
VE3JLZ JACK	VE3WNW BILL
VE3LKD BOB	VE3WWS VIHLO
VE3LPD LAVERNE	VE3XOX BOB
VE3LPT MOE	SWL STAN
VE3MTG LARRY	N5ZIK JACK
VE3MTV NORM	

MINUTES OF THE LAST GBARC MEETING

MINUTES OF GBARC INCORPORATED ....JUNE 8,1993

Meeting opened at 7:33 p.m.at the Owen Sound Billy Bishop Regional Airport, with 37 members and one visitor, Ve3XKM,Steve present. As minutes of May meeting were published in June Feedback, which most members have read, it was moved by Gene,IJD ,seconded by Dan, DQC that minutes be adopted as published. Carried.

Treasurers Report : $ 835.04 in National Trust club account and $ 357.27 in Student account. Funds to stay in student account until we find out if there will be a class this fall. Report moved by Bill, HMZ ; seconded by Bob, LKD....Carried. No outstanding invoices at this time.

Old Business: Correspondence read from lawyer re papers received on club incorporation. Club registered as Incorporated May 18th,1993. Corporate seal is at the lawyers office and can be obtained from them at any time it is needed. To finalize, Ted Stevens is preparing necessary by-laws and resolutions, which will be sent to us in near future.

Flea Market : Total income from door,table rental and pop sales - $ 133.00 .Expenses were $ 45.76. Net proceeds for the club - $ 87.24. Our deposit of $ 100.00 for the room has been returned in full from the Agricultural Society, and they reported that the room was left in cleaner condition than when we took it. A letter will be sent to the Society showing our appreciation for use of the room without charge. Our club communication facilities will be available to assist the Society with any of their projects if needed. All reports indicate the flea market was a great success and should be a regular annual club event. Secretary thanked those members who helped with arrangements,set-up ,coffee, clean-up ,etc.

Repeaters: Tom,TSA and Rick,HIO demonstrated the repeater VE3OST ,which they brought to the meeting. It will be installed at Rick's business location directly after this meeting. This will be linked with VE3GBT , so that tripping one will activate the other as well. GBT at the moment is at Rick's home qth and will be moved up to Barrows Bay antenna site very soon. If needed key C79 to turn off and C78 to turn back on. Tom, TSA will explain in more detail the actual operation of these two repeaters in next issue of "Feedback ".

Changes are planned soon for VE3OSR. New Radio will be installed at CRV's antenna site , just east of present OSR location. Bob, XOX will supply the 4 bay antenna at the top of the tower. Suggested that a bill of sale for $ 1.00 be drawn up each time any equipment is donated to the club to avoid any future disputes of who owns what. Tom,TSA is in process of drawing up an inventory list, which will become part of the clubs official records. Bob,XOX plans to install a phone patch on his own repeater in Paisley, 146.730.

New Business: Field Day: Plans are well under way for field day , June 26 & 27 at Gene,IJD's qth. Rules and dup sheets were given to Gene, however looks like stations will use computers for the logging. Moved by Gene,IJD ;Seconded by Brad, RHJ that up to $ 500.00 of club funds be used for fd expenses. Carried. A 20 x 40 tent and portable toilet has been rented. Beef,chicken,pop,chips and fish will be purchased. Members are asked to bring salads,desserts, etc. to complete our pot luck dinner Saturday. Three stations are planned...80,40 and 20 M. Once a station is set up it will stay on that band. Changing bands caused problem last year. Henry TTV will bring his station for cw set up.Gene,IJD will set up his packet station in the tent. Field day call VE3CC,thanks to Cy.....

As voted in a previous meeting, Henry TTV, and Ian HIP will select an award to be presented annually to the GBARC Incorp. member of the year. Selection will be by closed ballot of the membership,and include a "keeper" award to be kept by the nominee, as well as a larger award to be voted in each year to a new 'Amateur of the Year".

Reported that the Family YM/YWCA in Owen Sound have decided not to follow through with a road rally , of which our club offered communications at check points and base set-up.

Only two members so far have shown interest in the boat ride offered by Jim,CRV.

Ted, AEO arranged for some of the members to talk on some of their pet projects as follows: Jim,BFV illustrated a capacitance meter he built. Plans will be in Sept. feedback. Ian, HIP talked a bit on his Alinco handheld dualbander. Gene,IJD talked about using 2 m. in his aircraft; and also working aurora propagation. Ross, BZC illustrated a 2 m. rig he built years ago. 2 watts, A.M. Club members in Elmira used these to assist the police with problem pranks on Halloween night. Ted,AEO showed a dual plug he made for 2 people to listen to same audio,using phones.

Ted, AEO asked for suggestions for future meetings.

Meeting closed at 9:40 P.M. on motion by Henry TTV, 2nd by Aubrey TUQ.

Short Bits

At approx. 11:21am EDT, Friday June 25, Monique Landry was sworn in as the new Minister of Communications. She replaces the Hon. Perrin Beatty.

HOMEMADE BALUNS

EVEN WITHOUT THE TOROIDAL FERRITE CORE, WE CAN MAKE GOOD COIL-BALUNS, THAT WORK WELL ON HF.

PROCEED AS FOLLOWS:

MAKE ABOUT 15 TO 20 TRIFILAR WINDINGS OF AWG-19 ENAMELLED COPPER WIRE (1MM DIA.) ON A 32MM DIAMETER PVC PIPE (ANY OTHER DIA WILL DO ALSO). IN OTHER WORDS: TAKE 3 WIRES OF ABT 1.5M LENGTH AND WIND THEM ONE NEXT TO THE OTHER (NO GAPS) ON THE PVC PIPE. TO IDENTIFY THE THREE WINDINGS, WE NAME THE BEGINNING OF EACH WIRE A1,B1,C1 AND THE END A2,B2,C2.

MAKE THE FOLLOWING CONNECTIONS: A1 - LEFT TERMINAL OF SYMMETRICAL SIDE (ANTENNA TERMINAL 1) B1 - CONNECT TO A2 AND BOTH TO GROUND (SHIELD OF COAX INPUT) C1 - RIGHT TERMINAL OF SYMMETRICAL SIDE (ANTENNA TERMINAL 2)

A2 - SEE B1 B2 - CONNECT TO C1 (ANTENNA TERMINAL 2) C2 - CENTER CONDUCTOR OF COAX INPUT)

MAKE A QUICK PERFORMANCE CHECK WITH THE AID OF A SIMPLE RF-PROBE. WHILE HAVING THE BALUN TERMINATED WITH A CARBON-TYPE 47OHM RESISTOR, CHECK THE VOLTAGES AT THE RESISTOR TERMINALS FOR SYMMETRY AGAINST GROUND. YOU DONT EVEN NEED TO CONNECT THE PROBE TO GROUND FOR MAKING THIS TEST. USE LESS THAN 1 WATT OF POWER, UNLESS YOUR RESISTOR CAN HANDLE MORE.

GOOD LUCK ES PSE RPRT TO

DIETER, VU2DPG AT VU2DPG.DEL.IND.AS

The man who built it didnt need it.

The man who bought it didnt use it

The man who used it didnt know it.

What is it?

A COFFIN

Typical Electrostatic Voltages

MEANS OF STATIC GENERATION	Electrostatic Voltages 10 to 20 PERCENT RELATIVE HUMIDITY	65 TO 90 PERCENT RELATIVE HUMIDITY
Walking across carpet	35,000	1,500
Walking over vinyl floor	12,000	250
Worker at bench	6,000	100
Vinyl envelopes for work instructions	7,000	600
Common poly bag picked up from bench	20,000	1,200
Work chair padded with polyurethane foam	18,000	1,500

Static Susceptiblity of Semiconductor Divices

Range of ESD Threshold Susceptibility DEVICE TYPE]	[VOLTS]
VMOS	30 - 1,800
MOSFET	100 - 200
GaAsFET	100 - 300
EPROM	100
JFET	140 - 7,000
SAW	150 - 500
OP-AMP	190 - 2,500
CMOS (input protected)	250 - 3,000
SCHOTTKY DIODES	300 - 2,500
FILM RESISTORS	300 - 3,000
BIPOLAR TRANSISTORS	380 - 7,000
ECL (P.C.board level)	500
SCR	680 - 1,000
SCHOTTKY TTL	1,000 - 2,500

FIELD DAY 1993

THIS IS THE SUMMARY OF THE TOTAL CONTACTS MADE ON THE 1993 FIELD DAY FOR THE GEORGIAN BAY AMATEUR RADIO CLUB (GBARC)

BAND TOTAL

15-CW 47

15-SSB 55

20-CW 02

20-SSB 271

40-CW 10

40-SSB 130

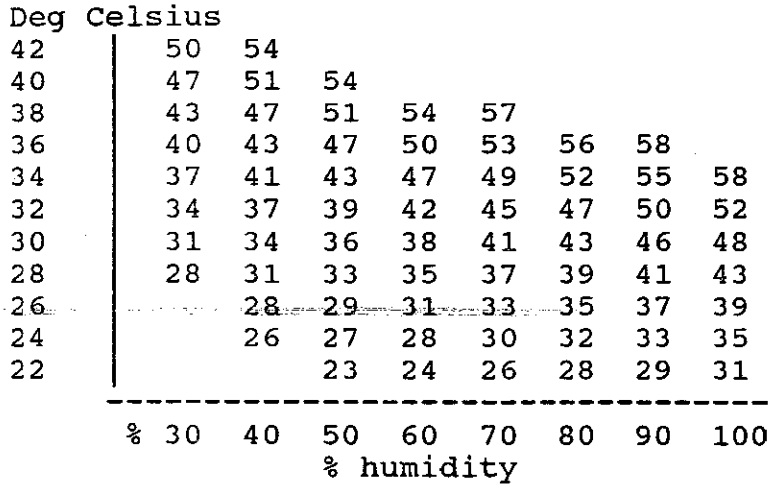
80-SSB 211

TOTAL 726

CALCULATED ON THE MOST MODERN, FASTEST CHIP EVER (8088)XT,BUT IT DOES MAKE A DIFFERENCE !!!!!! 73'GENE

HUMIDEX

With the onslaught of hot, hazy and humid weather, the humidex value comes into effect... the humidex value is the temperature the weather feels like as a result of high humidity and high temperature.



Keep cool.... 73 Russ VE3TUK

ELECTRICITY

A SHEET OF PAPER CROSSED MY DESK THE OTHER DAY AND AS I READ IT, REALIZATION OF A BASIC TRUTH CAME TO ME. SO SIMPLE! SO OBVIOUS WE COULDN'T SEE IT. LEO MARTIN OF HIAWATHA DIVISION HAD DISCOVERED HOW POWER CIRCUITS WORK. HE SAYS THAT SMOKE IS THE REAL THING THAT MAKES POWER CIRCUITS WORK BECAUSE EVERY TIME YOU LET THE SMOKE OUT OF SOMETHING ELECTRICAL, IT QUITS WORKING. HE CLAMS TO HAVE VERIFIED THIS WITH THOROUGH TESTING.

I WAS FLABBERGASTED, OF COURSE. SMOKE MAKES ALL THINGS THAT ARE ELECTRICAL WORK. REMEMBER THE LAST TIME SMOKE ESCAPED FROM A TRANSFORMER? DIDN'T IT QUIT WORKING? I SAT AND SMILED LIKE AN IDIOT AS MORE OF THE TRUTH DAWNED. I REMEMBER WHEN I HAD WITNESSED THE AWFUL DESTRUCTION OF A 69KV BREAKER AND BUS AT SUNNYDALE. THE BREAKER AND BUS LEAKED OUT SO MUCH SMOKE THAT THE BREAKER AND BUS ACTUALLY MELTED AND QUIT WORKING.

YES, I NOW KNOW THAT LEO'S THEORY IS IN FACT TRUTH. IT'S THE CONDUCTOR THAT CARRIES THE SMOKE FROM ONE DEVICE TO ANOTHER. IT STARTS AT OUR POWER PLANTS WHERE STUFF IS BURNED TO PRODUCE SMOKE. THE SMOKE WE SEE COMING FROM THE STACKS IS THE EXCESS SOMKE THAT THE SYSTEM DOESN'T NEED. THE SMOKE IS THEN SENT DOWN THE CONDUCTORS TO TRANSFORMERS AROUND THE SYSTEM. TRANSFORMERS A BIG AND REQUIRE LOTS OF SMOKE TO WORK PROPERLY. THAT'S WHY CONDUCTORS ARE SO BIG. IF THESE CONDUCTORS SPRING A LEAK, IT LETS THE SMOKE OUT OF EVERYTHING AND THEN NOTHING WORKS. THAT ALSO ANSWERS THE QUESTION WHY THERE IS THAT DARK SPOT IN BURNT LIGHT BULBS.

UPGRADING YOUR LICENSE?

THE FOLLOWING IS THE TEXT OF A LETTER SENT TO THE EDITOR OF "THE CANADIAN AMATEUR" BY MYSELF, VE1UK AND BOB, VE1YX. "THE CANADIAN AMATEUR" IS THE MAGAZINE THAT WILL BE THE OFFICIAL PUBLICATION OF OUR NEW ORGANIZATION, THE RADIO AMATEURS OF CANADA. WE HAVE DISCUSSED THE ISSUE DESCRIBED IN THE LETTER WITH A NUMBER OF VE1s AND HAVE FOUND MANY WHO ARE IN AGREEMENT. WE WOULD BE INTERTESTED IN HEARING THE VIEWS OF OUR FELLOW AMATEURS ACROSS CANADA. PLEASE DIRECT ANY RESPONSES TO:

VE1UK @ VE1VCK

Editor The Canadian Amateur Radio Magazine The Radio Amateurs of Canada, Inc. Box 356 Kingston, Ontario K7L 4W2

Re: Incentive to upgrade to a HF license

Dear Sir:

As we all know, in October, 1990, the Department of Communications restructured amateur licensing in Canada. One reason for this was to make it easier to enter the hobby by removing the CW requirement for operation above 30 MHz. This has been extremely successful. We have seen the number of Canadian amateurs increase dramatically since the new regulations came into effect. These new HAMs are good operators and our hobby can only improve because of them.

We note, however, that few of these amateurs are progressing beyond the Basic License. This has caused us concern because our niche in amateur radio is HF DXing. We see the number of HF operators in Canada decreasing and it follows the number of DXers are as well. Before restructuring, entry level HAMs had to pass a 10 WPM test to get access to the HF bands. Now they only require 5 WPM. Why then, are so many not upgrading? We feel there are two reasons.

First, we have to look at how much the basic license has to offer. Technology is such that VHF/UHF operation provides an almost endless variety of new things to do. A person with the basic license can participate in packet, satellite, EME, microwave communications, etc. The leading edge of communications technology lies in these areas. It's exciting to re-transmit signals via satellite, bounce them off the moon or have your computer send packet mail to another computer. All of these VHF/UHF modes and bands are available to the basic licensee with few restrictions. (You're limited to 250 watts and you can't build a transmitter . . . neither is a big deal above 30 MHz.)

Second, look how little 5 WPM CW endorsement offers. It allows only 160 and 80 meter operation. The use of the higher frequencies has been removed. 160 and 80 meter antennas are difficult to maintain in urban areas because of their size. Many new HAMs are apartment dwellers and the traditional way of getting on the air was a simple indoor dipole. Even where these antennas are practical, the maximum DC input power level of 250 watts limits the distance at which one can be heard. High static levels from May to October make these bands unpleasant to use except in the winter. They are night time only bands. Given these restrictions, there isn't a lot the operator can do here that they couldn't do better on VHF packet or linked FM repeaters. If we accept this argument, the practical entry level for HF operation has been raised to 12 WPM, not lowered to 5 WPM.

So, the side effect we are seeing is the "why bother to upgrade" philosophy. The basic license offers a wide array of VHF/UHF opportunities. How can we convince new operators that HF operation is exciting if we only offer them 160 and 80 meters? These are great bands for experienced HAMs with phased verticals, 1000 foot beverages and legal limit linears, but what do they tell the new kid on the block about HF? That it's noisy, requires large cumbersome antennas, and with a little luck a VE3 can work a V01 on a good evening!

What is the alternative? One suggestion would be to revert to something similar to what was done before restructuring. The 5 WPM endorsement could be enhanced to allow CW on all the amateur bands. Phone

privileges could be again allowed on 10 meters . . . however we do want to encourage the use of CW so maybe this should be given some more thought. The 12 WPM endorsement would remain as it is, giving access to all modes. This would allow the person who wants to try HF to get a feel for the entire spectrum, while still retaining the CW requirement. The thrill of DXing, the one thing that captures DXers, is the 3B9 or the ZL4 coming back to our CQ call! The "pain" of learning CW is forgotten and we are off tuning the bands looking for more! Even for the non-DXers who like to rag-chew, it's certainly a lot more fun to tap away at the key when the other station is 599 and not buried in static crashes.

We write this letter from a polarized view, of course. If restructuring was intended to increase the number of operators who participate in state-of-the-art electronic communications, it has been a phenomenal success. We feel, however, that it has had the unanticipated side effect of substantially reducing the percentage of HF operators, particularly DXers. It would be a shame to see this percentage continue to decrease through attrition. We have discussed this with Carl, VE1UU (Director, RAC, Atlantic Region) and he is in agreement in principle. Carl suggested we write to you, proposing that members of RAC be polled on the topic. If the majority of RAC members feel the 160/80 meter endorsement is insufficient incentive, he felt RAC could convince DOC to change the regulation. We are not implying our suggestion is the best solution. We offer it as one possible alternative to convince amateurs to upgrade to the HF level.

We would like to hear the opinions of other members of the Radio Amateurs of Canada on this topic. Perhaps a first step would be to print all or part of this letter in The Canadian Amateur and ask the opinion of the readers. It is not our intent to suggest anything be changed if it is not the will of the majority of Canadian amateurs. Now that we have one national organization that speaks for us, there is probably no better sounding board for the feelings of our fellow HAMs than The Canadian Amateur.

Thank you for your time and we look forward to the responses of our fellow amateurs.

73, Paul M. Dunphy, VE1UK Bob W. Billings, VE1YX

cc. Carl Anderson, VE1UU Director, RAC, Atlantic Region

ANOTHER PERSPECTIVE OF RFI

From: WA2PUQ@N2LKA.#ENY.NY.USA.NA

I lifted the following from the "RF Letters" section of the Feb'93 issue of the RF Design Magazine. I make no judgement, just thought that you'd all like to see how some others see us.

"Turn Down the Power Before Turning Up the Price" Editor: While I support your idea ("An EMC Wish List", RFD, Aug'92) that consumer equipment should be more resistant to EMI than most of it presently is, my jaw dropped when I read that the FCC measured a 9 V/meter field induced in a hap-less neighbor's home by a ham running a 1 kW transmitter. This is a HUGE, absurd amount of RF for a piece of consumer equipment to reject! EMI suppression is not free. If a $300 (retail) VCR can have no more than about $40 in actual component cost, the cost of adding sufficient EMI suppres-sion to reject a 9 V/m field can significantly affect the selling price of such equipment. I would ask you why tens of millions of consumers should be so taxed to permit a few amateurs to indulge their hobby. In the 1930's, it did not seem unreasonable to let people fire 1 kW rigs in residential neighborhoods. In the 90's, it seems absurd to permit this. Reducing power to 10 W would reduce the electric field 20 dB (to 0.9 V/m). While this is still a lot of RF, the power level now becomes comparable to other services, like cellular phones and the like. It is time for the FCC to act to reduce the permissible RF fields that amateurs can blast into their neighbor's homes.

"Letters should be addressed to: Editor, RF Design, 6300 S. Syracuse Way, Suite 650, Englewood Co. 80111."

SCOUTS TO CALGARY
BY GENE VE3IJD

SCOUTS TO CALGARY WELL, THE TIME HAD FINALLY ARRIVED, JULY 9/93.WE HAD PACKED A COUPLE OF DAYS EARLIER IN THE WEEK,JUST IN CASE LAST MINUTE THINGS NEEDED TO BE PURCHASED,LIKE TYLENOL*EXTRA STRENGTH*. A COUPLE OF THE SCOUTS HAD NEVER EVEN BEEN IN AN AIRPLANE BEFORE.SOME HAD NOT BEEN AWAY FROM HOME FOR ANY GREAT LENGTH BEFORE. THE MORNING WAS VERY WARM AND THE FEEL OF RAIN EVER PRESENT.VIDEO CAMERAS HUMMED AWAY AND FLASH BULBS LIT UP THE EARLY MORNING. PARENTS SAYING GOODBYE TO THEIR YOUNG.SOON THEY WERE UNDERWAY, GOING IN STYLE, A LONG BLACK LIMO, DRIVER AND ALL. BOY ,HAVE THINGS CHANGED SINCE I WAS 14..AFTER A SHORT STOP IN ORANGEVILLE, FOR OUR MORNING CUP OF JAVA, WE WERE READY TO DEPART TORONTO FOR WINNIPEG, THEN ON TO CALGARY. FOUR HOURS IN THE AIR AND AN HOUR AND A HALF DRIVE INTO KANANASKIS COUNTRY, 1ST KILSYTH TROOP HAD ARRIVED. SOMEONE MUST HAVE DONE THEIR CEREMONIAL RAIN DANCE BECAUSE IT POURED, AND POURED. AROUND 6PM THE RAIN LET UP ENOUGH FOR US TO START SETTING UP THE TARPS THAT WOULD BE OUR DINING SHELTER FOR THE WEEK.SOON OTHER SCOUT GROUPS STARTED ARRIVING TO THE 8TH CANADIAN SCOUT JAMBOREE. AFTER THREE DAYS OF NON-STOP RAIN WE HAD TO MAKE A BIG CHANGE OF PLANS . THE SCOUTS WERE WILLING SO OFF WE WENT TO WARMER CLIMATES. TO THOSE WHO HAVE NEVER VISITED THE WEST EDMONTON MALL, YOU DON'T KNOW WHAT YOUR MISSING. OVER 800 STORES, 19 MOVIE THEATERS, REGULATION SIZE ICE RINK, WAVE POOL TO HOLD 500, CAR DEALERSHIPS, LARGE MINI GOLF COURSE,AND 11 MAJOR PLAYERS LIKE HUDSONS BAY,SEARS ETC.ALL UNDER ONE ROOF...AN XYL'S DREAM COME TRUE!!! AFTER THE EDMONTON SIDE TRIP, IT WAS 3 HOURS SOUTH TO CALGARY WHERE WE WOULD SPEND A NIGHT IN THE SOUTHERN ALBRTAS INSTITUTE OF TECHNO-LOGY.THEN A FULL DAY AT THE CALGARY STAMPEDE, COMPLETE WITH BULL RIDING,ROP-ING,BUCKING HORSES,CLOWNS, AND CHUCK WAGON RACES. THE NIGHT TIME GRANDSTAND SHOW WAS SECOND TO NONE, COMPLETED BY A FLY OVER OF A 40 BY 20 FLAG HUNG FROM A HELICOPTER IN PITCH DARK, FLANKED BY A HUGE FIREWORKS FINALE'.THE SECOND DAY IN CALGARY TOOK US TO THE FORMER SITE OF THE 1988 WINTER OLYMPICS. IT WAS FUN WATCHING THEM SKII DOWN WATER COVERED SLOPES THEN FLY THROUGH THE AIR AT OVER 50 MILES PER HOUR.FROM HIGH ATOP THE CALGARY TOWER WE COULD SEE THE RAIN CLOUDS 30 MILES TO THE WEST,,RIGHT OVER OUR CAMPSITES. OUR LAST NIGHT AWAY FROM CAMP WOULD BE IN GRIZZLY COUNTRY. TWO BLACK BEARS AND A GRIZZLY MADE CASTLE MEADOWS A REAL INTERESTING PLACE TO STAY OVER.EVEN OUR ARMY TENTS WERE PRONE TO LEAKAGE. BANFF OFFERED US A REAL PLACE TO SEEK PEACE AND QUIET. FROM ATOP SULPHER MOUNTAIN ONE COULD SEE FOR MILES IN ALL DIRECTIONS, EVEN DOWN INTO THE CITY OF BANFF ITSELF. THE TRIP WOULD NOT BE COMPLETE WITH OUT A SWIM IN THE HOT SPRINGS POOL..AH..REAL WARM WATER.. FOUR THIRTY CAME EARLY,NOT EVEN LIGHT YET, BUT WE BETTER GET UP AND GET PACKING,PLANE LEAVES IN 5 HOURS AND WE ARE ONE AND A HALF HOURS FROM THE AIRPORT AND IT WILL BE BUSY.WOW THE DAY IS DEVELOPING INTO THE BEAST ONE YET,,I TAKE THAT BACK ITS THE BEST ONE YET,,ALL THE OTHERS WERE BEASTS.. IT WAS A SMOOTH LANDING INTO WARM AIR AT TORONTO..FORECAST WAS RAIN FOR THE NEXT COUPLE OF DAYS...WHERE IS THAT TROLL THAT MY FELLOW LEADER TOOK WITH HIM FOR GOOD LUCK AND GOOD WEATHER!!! WELL,THATS ABOUT IT.A WET TIME TURNED OUT GOOD.SOME VERY GOOD TIMES AND GOOD FRIENDSHIPS WITH OUR TWINS FROM VANCOUVER. LOTS OF NEW SCOUT BADGES TRADED,AND A TWO HOUR VIDEO TO PROVE THAT WE REALLY WERE THERE. THANKS TO THE HAMS IN THE AREA WHO EXCHANGED PACKET MESSAGES WITH ME AND KEPT MY WIFE RANDY UPDATED.HAD WE SPENT MORE TIME AT THE CAMP I COULD HAVE DONE SOME HF WORK AS WELL.DON'T FORGET WHAT I MENTIONED AT THE START, PLAN A TRIP OUT WEST.....ITS WORTH EVERY PENNY

GENE VE3IJD JASON VE3UIC

1st KILSYTH

Why Be An Emergency Coordinator? (Reprinted from November 1966 QST)

Some years ago we got up a form which received the label "Form 34" and was entitled "Application for Emergency Coordinator Appointment." One of the questions asked applicants was "Why do you want to become Emergency Coordinator?"

We have often wondered how applicants for EC appointment answered this question. Since the completed applications go to the SCM for his consideration, we at headquarters never see them.

Consequently, we were intrigued with a bit in a recent Wester Penna. AREC bulletin put out by SEC K3KMO commenting specifically on some of the answers he received. They are quite revealing of the type of amateur applying for this appointment.

"We want an emergency program in our county." "I believe that I should do all that is possible to help my community in time of need." "To enable our county's amateurs to provide a useful service." "So that my services through amateurs may be used to the best advantage." "To help make amateur radio a more useful function." "I feel that in this way I will be able to fulfil my obligation as a radio amateur to both the League and the public." "I believe this to be a worthwhile service for the community."

"But," says K3KMO, "the fellow whose answer really warmed my heart was the one who sad simply, ' S O M E B O D Y should be EC.' Obviously a little reluctant, perhaps not sure that he's the best man for the job, maybe not having enough time to do the job to the best of his ability. But somebody should be Emergency Coordinator . Amen!"

Amen is right. In every group of amateurs, even a small one, there is always at least one who has the requisite leadership abilities, or at least some of them. But it appears that all too often the amateurs with the ability to do the job are too tied up in other pursuits to take it on. Everybody in the county nods solemnly when the question of the desirability of a public service program is brought up. Of course! But when it comes to setting it up, most of them are inclined to run and hide.

So we appreciate the amateur who says "S O M E O N E has to be EC" and sends in his application. He knows it's not an easy job, he doesn't really have time for it any more than you do, and Joe down the street would make a better EC. But if no else will do it . . .

****

This article was submitted by Jim Coverley VE3OVV EC for Bruce County If there is anyone interested in taking on EC for Grey County I would be glad to help.

Home address:

Jim Coverley
697 Andrew Malcolm Dr.
Kincardine, Ont.
N2Z-1P4

Packet Address

VE3OVV@VE3OVV.#SWON.ON.CAN.NA

SATGEN 220 METEORS AND STUFF

Our September/December 92 visitor Comet Swift-Tuttle has now receeded far enough from the Sun for its surface to re freeze. This means that its orbit is unlikely to change because it is no longer "jet propelling " itself via gas jets from its melting surface. So given that its orbit will not now change it looks clear that when it next returns in 2116 AD, it will not hit the earth as some alarmists suggested.

But we have not seen the last of the particles that Swift- Tuttle released from its surface, and we cross the path of the Swift-Tuttle particle stream = Meteor stream on 12th August 93 at about 0100 ut. This is of course the well known Perseids Meteor shower . So Meteor Scatter communications enthusiasts will hopefully get lots of good meteor pings as this debris burns up in the Earth's atmosphere, several hours either side of the shower peak.

Let us hope the Perseids is a good shower again this year , to compensate us for missing what could well be the Astronomical Comet Hit of this and several other centuries. Comet Shoemaker-Levy passed very close to the big planet Jupiter in July 1992. So close in fact that Jupiter's gravity seems to have pulled it apart. With the result that it is now a string of 20 or more bright pieces of ice and dust, each one perhaps several Kms in size, and all caught in a Jupiter orbit.

They will not last long in that orbit. Some or all of the group are scheduled to hit Jupiter on about July 20th 1994, in what could be a multi million megaton explosion as big as the the one that hit the Earth (in Yucatan Mexico), 65 million years ago. That one wiped out everything on the land surface of the Earth including the Dinosaurs. Sparing only our small mammalian ancestors sheltering in their underground burrows.

The Jupiter -Shoemaker - Levy crash should be quite spectacular, but it looks as if it will occur on the Jupiter night side out of sight of Earth watchers. Doubtless Astronomers will be tracking the Shoe-maker- Levy bits carefully from now on, and we should get a clearer prediction of whether collision is inevitable and where it will occur some time before the actual event. But what ever happens we will eventually get an enormous amount of data about this type of massive rare collision, and Jupiters own meteor scatter communications ops (if they exist a la Arthur Clarke) look likely to get more and bigger meteors than they would wish for.

The excellent Russian HF satellite RS12 has been operational on Mode K (21.21 to 21.25 MHz up and, 29.41 to 29.45 MHz down) since 1991. But listening to qso's on it and discussions about it, suggest that few users understand it well enough , to make full use of its potential.. Operation is simple. 25 to 100 watts to a quarter wave vertical antenna gets you a good signal into the transponder whenever the satellite is above your horizon, as it can be every 100 minutes approx, up to 10 times a day, with passes lasting about 16 minutes, to go from one horizon to the other. The satellite downlink is received on any simple antenna connected to a 29 MHz receiver, tuned roughly 8.2 MHz above the uplink. There is no sideband inversion, so USB up gets you USB down. All Eastern USA is in view of passes well to the west of UK and, Russian Asia and the Persian Gulf are in range of passes going east of UK.

In addition to the above "Line of sight = Satellite above horizon operation ", the 21 Mhz up to the satellite and the 29MHz down from it can often reach the satellite when it is well below the UK horizon. This sub horizon operation uses ionospheric propagation to bring the satellite signal above your horizon from places as far away as Alaska or the Russian Far East. The point to notice about this is, that when over Alaska the satellite can see most of Western Canada above its horizon and provide communication to that region provided the ionospheric link to UK is present. Similarly when RS12 is over Siberia it can often see Japan and has recently allowed sub horizon communication to Japan from UK, via RS.

In a typical recent example. RS12 far below the UK horizon at 1555 ut , was in range of Japan whilst sending signals to and from UK via the ionosphere. Please note that if you ask your computer to table orbits of this sort it may not do so. It may tell you " RS out of range". So you need to check that your computer will give you tracking information even when RS12 is well below your station horizon.

This week 11th to 18th June 93 has featured 5 days out of 8 when RS12 orbits around 1800 u: approx were first heard in UK when near Japan , and were still being heard in UK 14 or 15 minutes later when RS12 was over Canada, giving excellent communica-tions opportunities in Eastern Canada and Northern USA from New York to North Dakota.

So why not give RS12 a try. 73 DE GM4IHJ @ GB7SAN

Broadcast-band RF amplifier

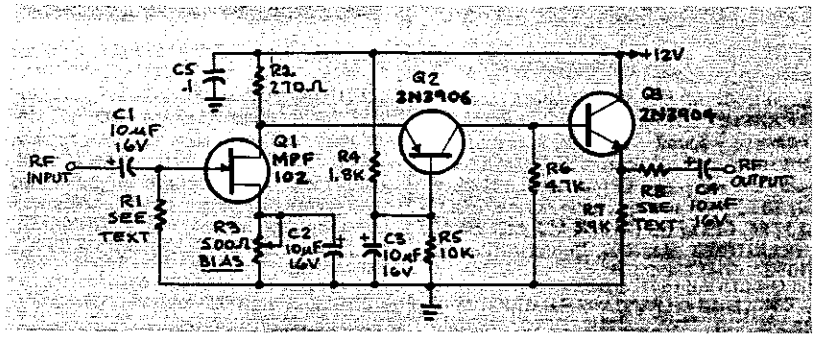


FIG. 1

UNLESS YOU OWN A TOP-OF-THE-LINE receiver or car radio, your AM reception may not be as good as it should be. The reason is that few low- to mid-price receivers and radios include RF amplifiers. By adding one yourself, however, you can improve reception at minimal cost. The RF amp shown here uses readily available parts, has wide bandwidth, and is very stable. In addition, by varying the values of several resistors, you can match the amplifier's input impedance to your antenna, and its output impedance to your radio.

How it works

The complete schematic is shown in Fig. 1. The circuit has a frequency response ranging from 100 Hz to 3 MHz; gain is about 30 dB.

Field-effect transistor Q1 is configured in the common-source self-biased mode; optional resistor R1 allows you to set the input impedance to any desired value. Commonly, it will be 50 ohms.

The signal is then direct-coupled to Q2, a common-base circuit that isolates the input and output stages and provides the amplifier's exceptional stability.

Last, Q3 functions as an emitter-follower, to provide low output impedance (about 50 ohms). If you need higher output impedance, include resistor R8. It will affect impedance according to this formula: $R8 \approx R_{OUT} - 50$. Otherwise, connect output capacitor C4 directly to the emitter of Q3.

Construction

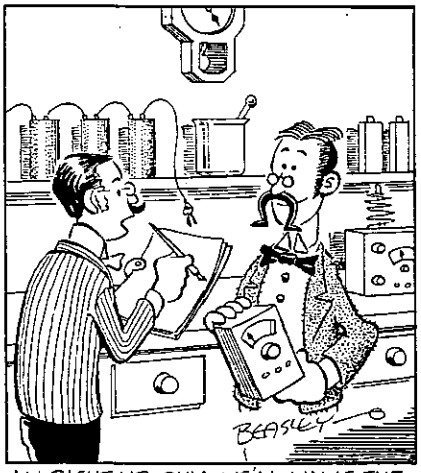
The circuit can be wired up on a piece of perfboard; a PC board is not necessary, although one can be used. However you build the circuit, keep lead lengths short and direct, and separate the input and output stages. You may have space to install the amplifier in your receiver. Otherwise, installing it in a metal case will reduce stray-signal pickup. You'll have to provide appropriate connectors on the case. Connect the amplifier to the antenna and radio using short lengths of coax.

The circuit has only one adjustment. Connect a source of 12-volt DC power to the circuit, and adjust R3 so that there is a 1.6-volt drop across R2.

If you're not sure of the impedance of your antenna, connect a 500-ohm potentiometer for R1, and adjust it for best reception. Then substitute a fixed-value resistor for the potentiometer.

You may want to follow the same procedure with the output circuit (R8), if you're not sure of your receiver's input impedance. Common impedances are 50, 75, and 300 ohms, so the same 500-ohm potentiometer can be used.

You can connect an external antenna through the amplifier to a receiver that has only a ferrite rod antenna. Connect the amplifier's output to a coil composed of 10–15 turns of #30 hookup wire wound around the existing ferrite core, near the existing winding. To obtain best reception, experiment with the number of turns and their placement. You may need to reverse the connections to the coil if output is weak.—*D. J. Housley*



ALLRIGHT, MR. OHM, WE'LL NAME THE UNIT OF ELECTRICAL RESISTANCE AFTER YOU---NOW WHAT SHALL WE USE FOR A SYMBOL?

NOT MY JOB

I'm not allowed to run the train

The whistle I can't blow

I'm not allowed to say how fast

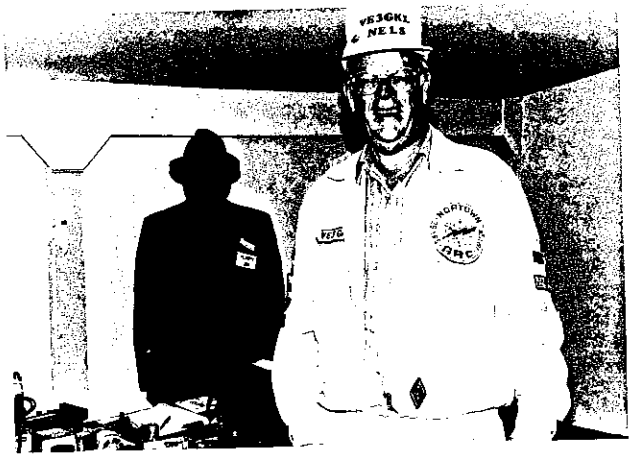
The railroad train can go

I'm not allowed to shoot off steam

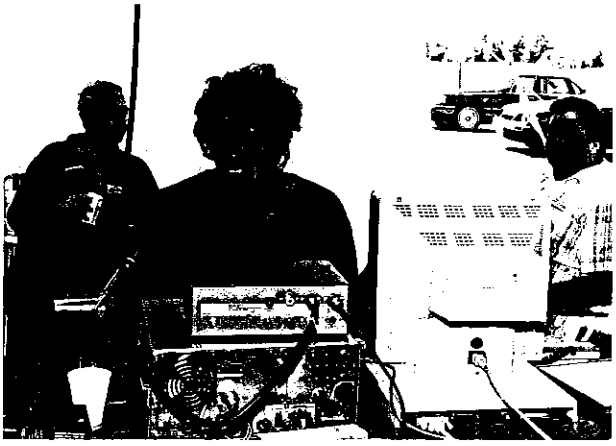
Nor even clang the bell

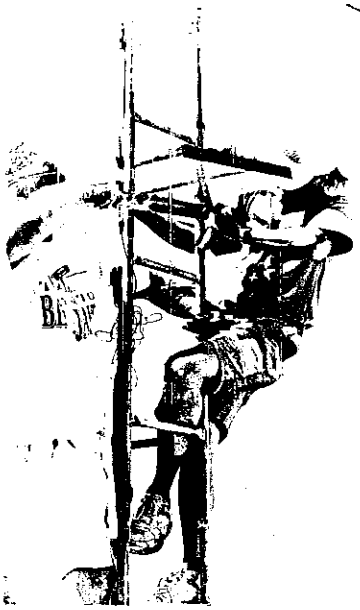
But let the damned train jump the track

and see who catches hell!!


VE3GKL
NEIL


REQUIRED





Build this

Simple Capacitance Meter

By Stan Heaps VE1AVT

A meter for direct measurement of capacitance is extremely useful. It allows you to identify those capacitors that you bought in bargain packages or removed from surplus circuit boards but which are labelled by unfamiliar codes.

Use of a bridge circuit or dip meter is not as convenient as use of a direct measurement meter. The meter circuit shown in the Figure is about the simplest possible, is very easy to use, and covers a range from a few picofarads up to 5 microfarads in ranges of 0 to 50pF, 500pF, 0.005, 0.05, 0.5 and 5 microfarads. The lowest range allows you to measure the capacitance of a few inches of coaxial cable or twisted wires.

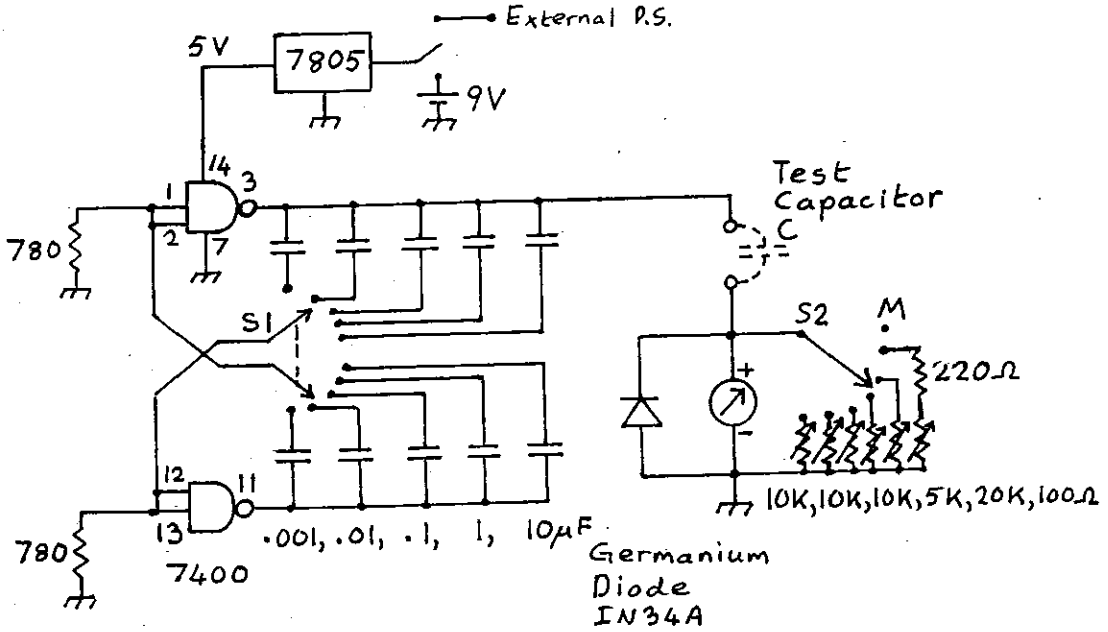
A single chip is used to provide two inverter gates. I used a 7400 NAND gate. A 7402 NOR or 7404 inverter would be equally good but would require different pin connections from those shown in the figure. The 2-pole switch S1 allows different pairs of capacitors to be connected to the chip in order to generate a square wave of frequency approximately 500kHz, 50kHz, 5kHz, 500Hz or 50Hz.

The square wave is applied to the test capacitor C. Each pulse charges the capacitor with a charge proportional to the capacitance. The average charging current, also proportional to the capacitance, is measured by the (Radio Shack) 0-50 microammeter. During the time between successive pulses the capacitor discharges mainly through the diode. The variable resistors are PC-board potentiometers. Each is adjusted initially so that the meter reads correctly when various known capacitors are used for C. Since high accuracy is not usually required when measuring capacitance, it is sufficient to use standard capacitors for the calibration.

Switches S1 and S2 do not need to be ganged but must be switched to the same range. That is, S1 must switch in 0.001 microfarad when S2 switches in the 10k, etc. Note that S1 is used to switch in 10 microfarads when S2 switches in either 20k or 100 ohms.

The 5V for the 7400 chip is supplied either by a 9V cell or an external power supply and is regulated to 5V by a 7805 voltage regulator. An alternative form of regulation would be through use of a 5.1V Zener diode.

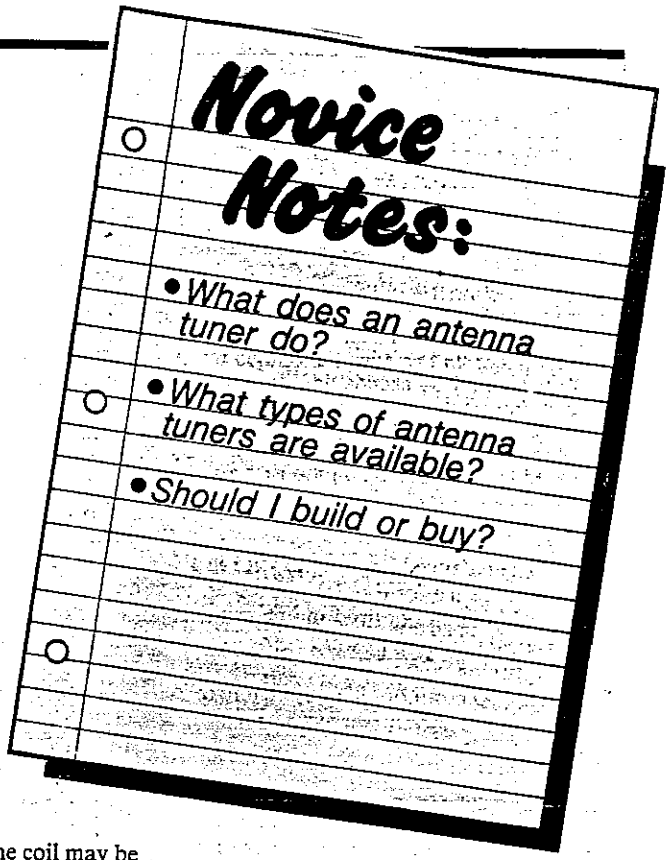
I have used this meter for several years and have been very satisfied with it. I housed it in a Radio Shack experimenter box measuring 6"x 3"x 2" and connected the components 'floating' on the leads to the switches. An external lead is connected to contact M of the S2 switch so that the microammeter may also be used as a meter without reference to the rest of the circuit. The circuit may also be used as a source of square waves of frequencies approximately 50Hz, etc., although each pulse rise and fall contains a noticeable overshoot spike.



Capacitance measurement circuit.

Antenna Tuners: Are They Necessary?

The short answer, as you may have guessed, is "sometimes." The longer—and more enlightening—answer follows.



By Doug DeMaw, W1FB
ARRL Contributing Editor
PO Box 250
Luther, MI 49656

Antenna-matching networks are known by several names, but they all perform essentially the same kind of work: They enable you to match your feed line to your transmitter. For example, suppose your feed line presents a 100-Ω *impedance* to your 50-Ω transceiver.[1] In order to ensure maximum transfer of RF energy, you must match the unlike impedances. In some situations a matching network may be used to do this.

Another consideration is that the correct impedance be presented to the transmitter, because modern solid-state rigs have a built-in *SWR*-protection circuit. The higher the SWR (standing-wave ratio) the lower the transmitter output power. This circuit prevents the final-amplifier transistors from being destroyed (vacuum tubes are more tolerant of high SWR values).

When a tuner is used to match the transmitter output to a feed line, ARRL literature refers to the network as a *Transmatch,* for "transmitter match." It is important to note that a Transmatch does not correct a mismatch that may be present between the feed line and the antenna feed point.

What Does a Transmatch Do?

A high SWR is caused by a significant mismatch between the antenna and its feed line. Depending on the electrical length of the line, this mismatch may be reflected as a pure resistance, or as a resistance plus *reactance* at the line input. A Transmatch can cancel the reactance and make the antenna system appear resistive (ideal) at the rated impedance of the transmitter, normally 50 Ω.

Transmatches contain variable capacitors and coils (inductors). The coil may be tapped to permit band changing, or it may be a roller inductor with a counter dial. Roller inductors are most useful; they ensure continuously variable inductance. A tapped-coil inductor has only coarse-adjustment capability, so it may be impossible to match some impedances.

Fig 1A shows the circuit of a T-network Transmatch. This circuit (The Ultimate Transmatch) was popularized by Lew McCoy, W1ICP, in *QST*,[2] although that version uses a two-section variable capacitor at the input side of the network. Fig 1B shows a parallel-tuned Transmatch suitable for matching an unbalanced source to a load that has balanced feeders (50 Ω to 300 Ω, for example).

Most commercial tuners contain a version of the T network shown in Fig 1A. Some manufacturers include a *balun* (balanced to unbalanced) *transformer*—a broadband toroidal transformer that allows you to connect unbalanced coaxial cable to balanced feed line, such as 300-Ω ribbon or 450-Ω ladder line. The balun transformer can be useful under ideal matching condi-

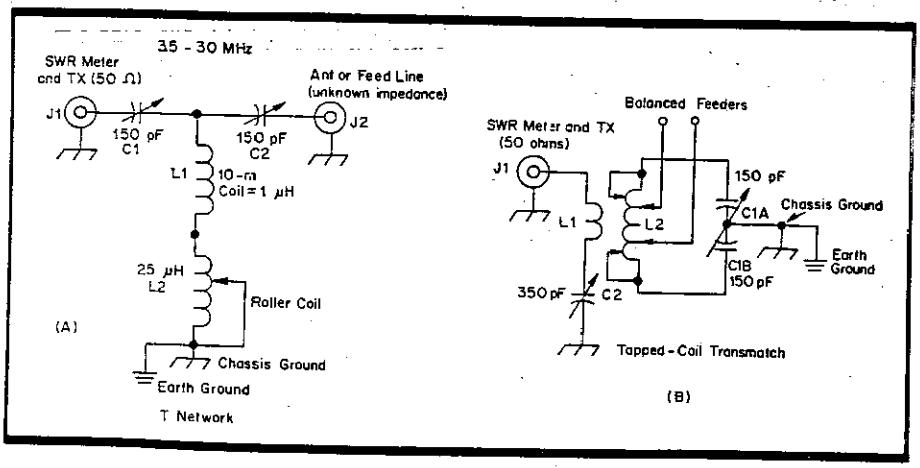


Fig 1—Circuit examples for Transmatches. The popular version at A is used by most manufacturers of commercial tuners. L1 is usually included to improve the circuit Q at 10 and 15 meters, because some roller inductors do not have a tapered coil pitch at one end of the inductor. Increasing the capacitance at C1 and C2 to 300 pF will enable the circuit to work at 1.8 MHz as well. Circuit B has a tapped coil. The outer taps are adjusted to change the coil inductance. The inner taps are moved equally from the ends of L2 to obtain a matched condition for balanced feed lines. C2 is adjusted along with C1 to obtain an SWR of 1:1. L1 is a small link over the center of L2. A single-wire antenna may also be tuned with this circuit by connecting it to one of the inner coil taps.

[1]Notes appear on page 44.

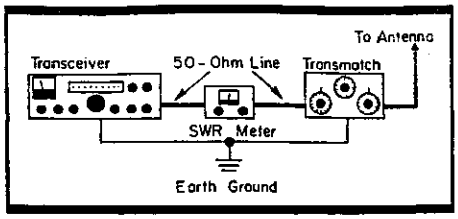


Fig 2—The correct way to connect a transceiver to an SWR indicator and Transmatch. Some Transmatches contain a built-in SWR meter. In this case the outboard SWR meter may be eliminated. Most commercial Transmatches are equipped with a built-in balun transformer to allow the use of balanced feed lines. Terminals for a balanced line are located on the rear apron of the tuner.

tions. The balanced Transmatch in Fig 1B is a better device for this job, however, as it can provide the desired match without a significant loss of power.

Any tuning network has an *insertion loss,* however minor. The addition of a balun transformer increases this loss.

Seeing SWR

An SWR meter enables us to observe the power reflected from the Transmatch back to the transmitter as we tune out the reactance in the antenna system. The lower the reactance, the lower the reflected-power reading. (Remember: The SWR in the line between the Transmatch and the antenna does not change.)

The SWR meter should have the same characteristic impedance as the coaxial feed line and transmitter output circuit. Typically, this is 50 Ω for RG-58, RG-8 and other 50- or 52-Ω cable. Don't use a 75-Ω SWR indicator in a 50-Ω line, or vice versa; it will provide inaccurate readings. Always locate the SWR meter between the transmitter output port and the input port of your Transmatch. Use 50-Ω coaxial cable to connect the unit to the transmitter and tuner.

How to Hook Up and Adjust Your Transmatch

A proper hookup for the SWR meter and Transmatch is shown in Fig 2. An effective earth ground should be attached to your transmitter and Transmatch. A short, heavy conductor (such as the shield braid from RG-8 coaxial cable) may be connected to a cold-water pipe—only if you have copper or galvanized steel plumbing.

If your plumbing uses PVC pipe (which is nonconductive), connect your station (again, using a short heavy conductor) to an 8-foot ground rod driven into the soil near your shack. If the cable between your equipment and the ground is more than a quarter-wavelength long or longer at your operating frequency, your ground may not function effectively, or may even be worse than no ground at all! (See December 1988 *QST*, page 57, and the sidebar, "What is a Counterpoise," on page 44 of November 1988 *QST*.)

Most commercial Transmatches have instructions, but for those who need them, generic instructions follow.

- Set the SWR meter function switch to REFLECTED or REF.
- Activate your transceiver and choose an operating frequency.
- Adjust the Transmatch controls while listening to your receiver. You will find settings that yield maximum background noise or signal response; these represent a coarse starting point for your Transmatch adjustments.
- Make sure the frequency for testing is not in use. Turn on the transmitter and allow a small amount of power (about 20 watts is okay) to pass to the Transmatch.
- Adjust the Transmatch controls until the SWR is 1:1 (zero reflected power).
- Adjust your transceiver for full power output and quickly readjust the Transmatch controls to correct for any residual SWR that may be indicated. Be sure to identify your station.

You are now ready to operate! Log the Transmatch dial settings so you can return to this frequency another time without needing to go through the tuning process.

When to Use a Transmatch

Many antennas are fed with 50-Ω coaxial line, and the SWR is low—less than, say, 2:1—across most of a given amateur band. There is no point in using a Transmatch in this situation. Most transmitters can handle an SWR that is 2:1 or lower. Dipole antennas, trap verticals and triband Yagis should not require a Transmatch if they are adjusted to the usual operating frequency and the feeder is matched correctly to the antenna feed point.

There are situations where a Transmatch is useful with a dipole, vertical or beam antenna. If the antenna has a low SWR at one end of a band (such as a tribander adjusted for the high end of a band), it may have a high SWR at the other end of that band. Your Transmatch may then be used to provide the desired 50-Ω interface to the antenna system. But this does not correct the mismatch at the antenna end of the line. It merely allows your transmitter to deliver its full power to the feed line.

End-fed wire antennas normally require a Transmatch, especially if you plan to use the wire for multiband operation. With this type of antenna, the feed impedance varies greatly from one amateur band to another.

Although they are simple to install, end-fed wires can cause problems, at least on some frequencies. Radio-frequency voltage is often brought into the ham shack because one end of the the antenna is connected to the Transmatch. This RF energy finds its way into keyers, antenna rotator control boxes and the audio (microphone) circuitry of our transceivers. This causes audio squeals and howls and can make a keyer send gibberish. You may also experience a tingling sensation when you touch your rig, microphone or key, caused by RF voltage on these items! The best way to avoid these problems is to use a coax-fed antenna, such as a dipole.

Glossary

Antenna tuner—A device that matches the output of a transmitter to its feed line.

Balun transformer—A device that matches a *bal*anced load to an *un*balanced line, or vice versa. Used when coaxial cable (unbalanced) is fed to a dipole antenna (balanced), for example.

Impedance—Total opposition to current flow, including reactance as well as resistance.

Insertion loss—The amount of power lost due to the addition of a network or circuit.

Reactance—Similar to resistance, and also measured in ohms. May be inductive (abbreviated X_L) or capacitive (X_C).

SWR—Standing-wave ratio: A measure of the power reflected back to the transmitter. The higher the SWR, the less power reaches the antenna.

Transmatch—Another name for antenna tuner.

Store Bought or Homemade?

Many amateurs build their Transmatches to save money and provide some workshop fun. Certainly a Transmatch is one of the least complicated home projects you can build! Be on the lookout for surplus variable capacitors and roller coils at flea markets and in parts catalogs. New parts for tuners may be purchased from RADIOKIT and Barry Electronics.[3,4] Transmatch circuits are published in *The ARRL Handbook* and *Antenna Book*.

Choose variable capacitors that have a wide spacing between the plates (1/16 inch or greater for 100-watt transmitters). This will help prevent arcing between the capacitor plates. The 200-pF preset variable capacitors from WW-II Command transmitters are excellent for Transmatch use at power levels below 200 watts.

In Summary

Operating with a 1:1 SWR is not a sacred mandate. No one will notice a difference in your signal strength if the SWR is 1:1 or 2:1, assuming your transmitter has some output-matching capability. The main consideration is that you keep your transmitter "happy" by providing it something near a 50-Ω load. There's no need to buy or build a Transmatch if you don't need one!

Notes

[1]Words that appear in italics are defined in the Glossary.

[2]"The Ultimate Transmatch," *QST*, July 1970, pp 24-27, 58.

[3]RADIOKIT, PO Box 973, Pelham, NH 03076, tel 603-437-2722.

[4]Barry Electronics, 512 Broadway, New York, NY 10012, tel 212-925-7000.

VE3OST/VE3GBT

WELL, BY THE TIME YOU READ THIS, YOU MAY HAVE ALREADY TRIED OUT THE NEW REPEATER INSTALLED AT BARROW BAY ON THE CKCO TOWER. THE SIGNAL REPORTS HAVE BEEN IMPRESSIVE WITH STATIONS CHECKING IN FROM ELLIOT LAKE, NORTH BAY, HALIBURTON, LONDON AND MINDEN TO NAME A FEW. THE EFFORTS OF RICK HIO, HAVE MADE THIS POSSIBLE, WITH A CONSIDERABLE AMOUNT OF TIME SPENT BUILDING THE REPEATER AND MAKING IT WORK AND MORE TIME YET, SPENT GETTING THE BUGS OUT OF THINGS AFTER IT WAS PUT UP AT BARROW BAY. THE LINK ANTENNA WAS PURCHASED AND INSTALLED THERE ALSO, SO, INCASE YOU DIDN'T KNOW IT, WHEN YOU OPERATE ONE REPEATER YOU WILL AUTOMATICALLY BE USING THE OTHER ONE. SO, JUST TO REFRESH EVERYONES MEMORY THE REPEATER FREQUENCIES ARE AS FOLLOWS: VE3OST 145.290- VE3GBT 146.895-

VE3OST IS LOCATED IN THE INDUSTRIAL PARK IN OWEN SOUND WITH AN OUTPUT POWER OF ABOUT 100 WATTS, WITH THE ANTENNA AT ABOUT 100 FEET, WHILE VE3GBT HAS AN OUTPUT POWER OF ABOUT 10 WATTS. THE VE3GBT REPEATER HAS MUCH BETTER COVERAGE BECAUSE THE ANTENNA IS AT THE 645 FOOT POINT ON THE CKCO TOWER.

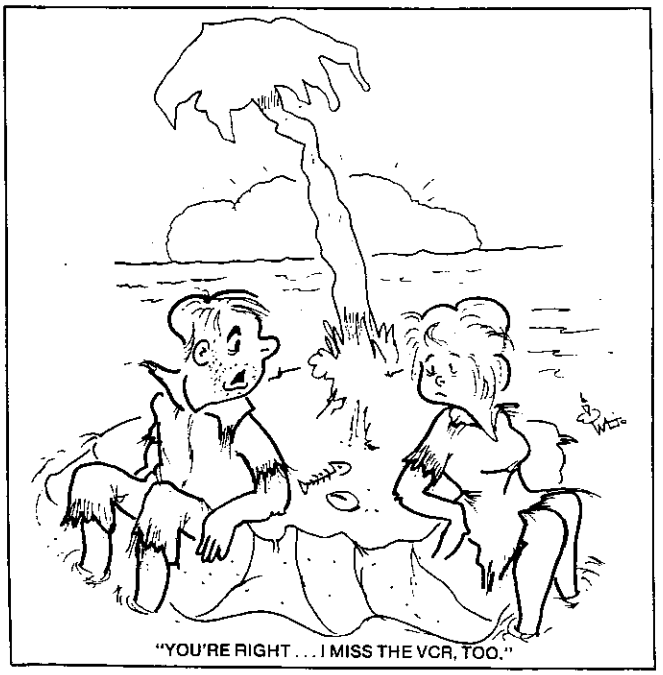
THE LONG TERM PLAN IS TO UPGRADE VE3OSR AND LINK TO VE3OST ALSO. IN THE MEANTIME, WE ARE WORKING ON THE PHONE PATCH CONTROLLER AND RADIO'S ETC TO MAKE THAT WORK PROPERLY. THE PHONE PATCH WILL PHYSICALLY BE LOCATED AT MY QTH WITH A UHF RADIO LINK BETWEEN THERE AND OST. THIS WILL BE TRANSPARENT TO THE USER AND YOU WON'T HAVE TO USE ANY SPECIAL CODES TO USE IT, OTHER THAN THE USUAL * TO TURN THE PATCH ON AND THE # TO TURN IT OFF.

IT IS IMPORTANT TO NOTE THAT ALL OF THIS NEW GEAR IS THE PROPERTY OF THE GEORGIAN BAY AMATEUR RADIO CLUB AND IS NOT THE POSSESIONS OF ONE OR A FEW. THE CLUB INVENTORY IS BEING UPDATED AND WILL BE PUBLISHED IN FEEDBACK FOR THOSE WHO ARE INTERESTED IN SUCH THINGS.

SO IT IS OUR HOPE THAT CLUB MEMBERS MAKE USE OF THE NEW EQUIPMENT, AND FIND IT OF USE. AS ALWAYS, YOUR COMMENTS/SUGGESTIONS ARE WELCOME.....EDITOR

DUES

WELL ITS THAT TIME OF YEAR AGAIN ! JUST A REMINDER THAT YOUR CLUB DUES CAN BE PAID ANYTIME BEFORE THE END OF DECEMBER FOR A PALTRY $20.00.....$25.00 IF YOU WANT TO WAIT TILL JANUARY...73 EDITOR



"YOU'RE RIGHT . . . I MISS THE VCR, TOO."

WANTED

VE3TSA TOM 371-9805

CARTOONS / ARTICLES FOR FEEDBACK..... I NEED SUITABLE CARTOONS AND/OR ARTICLES FOR USE IN FEEDBACK

VE3IOD GARY 376-4525

SCHEMATIC NEEDED FOR SW/LW RECEIVER...NORMANDE, BUILT IN EARLY 50'S...ANY INFO WOULD BE APPRECIATED

"What high-pitched tone? Your signal sounds fine to me!"