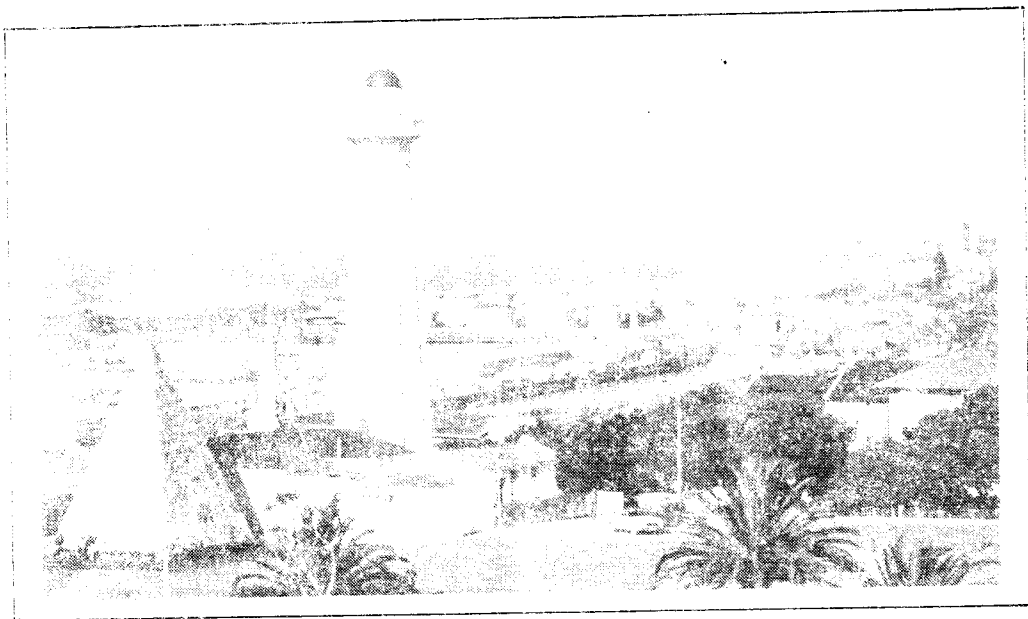




Q S X
P E



THIS NEWSLETTER IS PUBLISHED BY THE
PORT ELIZABETH BRANCH OF THE SOUTH
AFRICAN RADIO LEAGUE.

P.O. BOX 10402
LINTON GRANGE
6015



Port Elizabeth Branch NOTICE OF MONTHLY MEETING

MEMBERS ARE REMINDED THAT THE GENERAL MEETING OF THE BRANCH WILL
BE HELD ON FRIDAY 19TH FEBRUARY, 1988 AT ST. MARTIN'S CHURCH HALL,
KABEGA PARK, PORT ELIZABETH AT 8.15 P.M.
THE GUEST SPEAKER FOR THE EVENING WILL BE MR. THEUNIS REYNEKE
WHO WILL SPEAK ON "M-NET", THE SUBSCRIPTION- TV SERVICE.

COMMITTEE

CHAIRMAN	BRIAN WELLER ZS2AB	30-3498
VICE CHAIRMAN	LIONEL COOMEY-DAVIS ZS2DD	32-3770
SECRETARY	MARGE WELLER ZS2OB	30-3498
TREASURER	LYNNE CROTHALL ZS2MM	35-4671
SPECIAL/SOCIAL EVENTS	BEAVAN GWILT ZS2RL	30-6968
AWARDS	BILL HODGES ZR2AAN	51-2580
EDITOR QSN-PE	MARGE WELLER ZS2OB	30-3498
MEMBERS	DICK SCHONBORN ZS2RS	32-2111
LIBRARIAN	COLIN ASHWELL ZS2AO	31-3471
(NON-COMMITTEE POST)		

BULLETIN ROSTER.

DATE	COMPILER	40M NET	2M NET
21 FEB..	LIONEL ZS2DD	ZS2DD	ZR2AAN
28 FEB.	MARGE ZS2OB	ZS2AB	ZS2DD
6 MARCH	LYNNE ZS2MM	ZS2MM	ZS2RS
13 MARCH	BEAVAN ZS2RL	ZS2RL	ZR2RAN

Sunday Bulletin Information

PRIMARY FREQUENCIES FOR BULLETINS AT APPROXIMATELY 08:40
H.F. 7098 KHz IN 40 METRE BAND
V.H.F. 145.650 MHz VIA TOWN REPEATER

BRANCH V.H.F. SERVICES PROVIDED

TOWN REPEATER (P.E. CENTRAL)	145,050 / 145,650 MHz
GRAHAMSTOWN REPEATER	145,150 / 145,750 MHz
MADY'S SLIPPER REPEATER	145,100 / 145,700 MHz
LOCKSCOMB REPEATER	145,000 / 145,600 MHz
G.T.T.Y. BULLETIN BOARD	145,150 / 145,750 MHz
EACON (C.W. ID ZS2PE)	144,910 MHz

WE LIKE BEING YOUR BRANCH

THIS AND THAT

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WELCOME

ON BEHALF OF THE COMMITTEE AND MEMBERS OF THE BRANCH, WE WISH TO EXTEND A HEARTY WELCOME TO THEUNS REYNEKE WHO HAS JUST RECENTLY SETTLED IN PORT ELIZABETH AND WE HOPE YOU HAVE A LONG AND HAPPY AND FRUITFUL ASSOCIATION WITH THE BRANCH. WE LOOK FORWARD TO SEEING YOU AT OUR MEETINGS, THEUNS.

CONGRATULATIONS

TO TREVOR ZS2AE AND XYL JULIE SCARR ON THE ARRIVAL OF THEIR FIRST GRAND-CHILD. MAY HE BRING YOU BOTH MUCH JOY.

ALSO TO NOEL STAPLES ZR2AAJ WHO RECENTLY PASSED THE CW TEST AND IS WAITING ANXIOUSLY FOR HIS ZS CALL.

ANNUAL PARTY

THIS WILL TAKE PLACE ON SATURDAY 27TH FEBRUARY AT ALFIE'S RESTAURANT, 4TH AVENUE, NEWTON PARK STARTING AT 7.30P.M. THE COST IS R12.50 PER HEAD, EXCLUSIVE OF TAX. A VERY GOOD MEAL IS BEING PROVIDED, BUT AS THE RESTAURANT IS UNLICENSED, PLEASE BRING YOUR OWN LIQUID REFRESHMENTS. COFFEE WILL BE TO ORDER. THE RESTAURANT IS BEING OPENED SPECIALLY FOR OUR FUNCTION AND ONLY OUR PARTY WILL BE CATERED FOR THAT EVENING. PLEASE LET MARGE KNOW AS SOON AS POSSIBLE IF YOU WILL BE COMING ALONG SO FINAL BOOKINGS CAN BE MADE. PHONE 303498.

MOTOR RALLY COMMUNICATIONS

ACCORDING TO BEAVAN ZS2RL WHO IS THE BRANCH'S CO-ORDINATOR FOR THIS EVENT, ALL ARRANGEMENTS ARE RUNNING ACCORDING TO PLAN, SO THOSE WHO HAVE VOLUNTEERED THEIR HELP, PLEASE REMEMBER THE DATE - 12TH MARCH.

SICK LIST

WE WERE VERY SORRY TO HEAR THAT GROBBIE ZS2JD IS LAID UP IN HOSPITAL AFTER HAVING A STROKE. OUR VERY BEST WISHES TO YOU GROBBIE FOR A SPEEDY RECOVERY AND HEAR YOU BACK ON THE AIR SOON.

BULLETIN BOARD

AFTER A PERIOD OF BEING OFF THE AIR DUE TO RE-ORGANISATION OF INSTALLATION, THE BRANCH'S BULLETIN BOARD IS BACK ON THE AIR ON 145,150/145,750MHZ AND HOPEFULLY WILL HAVE A GATEWAY TO HF IN THE NOT-TOO-DISTANT FUTURE.

SYNTAX ERROR

Q5X DECEMBER, 1987:-

AZIMUTH BEARING AND DISTANCE.

PROGRAM LINE NO 330 HAS A SEMICOLON MISSING, IT SHOULD READ:-
330 PRINT n;" ";a;"";n\$.e;" ";b;"";e\$

DIFFICULTIES:-

NOTE THAT ACS STANDS FOR ARC COS

ATN STANDS FOR ARC TAN

LINE 10 IS USED TO CONVERT DEGREES TO RADIANS

LINES 340 AND 360 CONVERT THE MINUTES TO DECIMALS OF A DEGREE.

AT THE SAME TIME THE TOTAL DEGREES ARE CONVERTED TO RADIANS.

MINUTES OF GENERAL MEETING OF THE P.E. BRANCH OF THE S.A.R.L. HELD AT ST. MARTIN'S CHURCH, KABEGA, ON FRIDAY 15TH JANUARY, 1988.

PRESENT: 27 MEMBERS AND VISITORS.

APOLOGIES: ZS2SAO, MG, RU, MM, VM, MF AND AAN.

THE CHAIRMAN WELCOMED ALL TO THE MEETING AND WISHED THEM THE COMPLIMENTS OF THE SEASON AND A VERY PROSPEROUS AND HAPPY 1988. SPECIAL WELCOME TO TOFF ZR2EY, DONALD DYE AND KEITH, SON OF ZS2SZ.

MINUTES: THE MINUTES OF THE MEETING HELD 20TH NOVEMBER, 1987, HAVING BEEN PUBLISHED AND CIRCULATED IN QSX-FE WERE TAKEN AS READ, PROPOSED BY GUS ZS2MC AND SECONDED BY DICK ZS2RS.

ARISING: SEVERAL MEMBERS HAD DONATED PHOTOGRAPHS TO THE BRANCH ALBUMS AND THESE WOULD BE AVAILABLE FOR VIEWING AT THE NEXT MEETING.

CORRES: (1) LETTER OF THANKS FROM ZS2AE AND FAMILY.

(2) LETTER FROM ANTENNA LEGISLATION SUB-COMMITTEE, JOHANNESBURG.

ARISING: WE WOULD GET A COPY OF THE LATEST REGULATIONS PERTAINING TO THE MUNICIPALITY OF FORT ELIZABETH CONTROLLING THE ERECTION OF ANTENNAS. WHEN C.B. AND TELEVISION WAS INTRODUCED, BASIL ZS2FG AND DEL ZS2NS MANAGED TO SEE THAT WE GOT A FAIR DEAL AND WE WOULD NOT LIKE THESE REGULATIONS TO BE OVERRULED BY UNFAVOURABLE NATIONAL LEGISLATION.

FINANCE: IN THE ABSENCE OF THE TREASURER, BRIAN ZS2AB REPORTED THAT THE BRANCH FINANCES WERE SOUND. UNFORTUNATELY DUE TO AN INCREASE IN THE PRICE OF PLATES TO THE PRINTER, THE COST OF QSX-FE WOULD INCREASE BY R10 MONTHLY. HOWEVER, WE WERE ONLY BEING CHARGED HALF OF WHAT WE WOULD BE AT ANY OTHER CONCERN. QSX WAS COSTING IN THE REGION OF R900 PER YEAR, WHICH INCLUDED PRINTING, POSTAGE, ENVELOPES AND LABELS. IT WAS HOPED TO GET MORE ADVERTISING TO COVER THE INCREASED COSTS. OUR FIXED DEPOSITS AND OTHER INVESTMENTS SUCH AS EXPANDING RATE CERTIFICATE HELPED TO BUILD CAPITAL TO THE STAGE WHERE THE BRANCH COULD POSSIBLY RUN ON THE INTEREST GAINED.

GENERAL: (1) BRIAN MENTIONED THAT HE HAD WRITTEN TO THE POST OFFICE DURING THE WEEK EXPLAINING THAT THE LICENCE FOR THE ALGOA RALLY WAS FOR A SPECIAL EVENT STATION ONLY AND WOULD NOT BE NEEDED THIS YEAR. WITHIN TWO DAYS OF THIS WE WERE INFORMED THAT THAT RALLY WOULD BE HELD ON 12TH MARCH THIS YEAR SO HE HAD PHONED PRETORIA TO CANCEL THE LETTER. THE LICENCE WAS THEN RETURNED. THIS YEAR THE RALLY WOULD BEGIN AT GEORGE AND END IN PORT ELIZABETH.

(2) THE PROPOSED CARAVAN RALLY FOR 30/31 WAS POSTPONED UNTIL MORE MEMBERS COULD TAKE PART.

(3) ALTHOUGH SEVERAL MONTHS ADVERTISING OF COMPONENTS HAD BEEN SENT TO S.A. ELEKTRONIKA, A FLEA MARKET WOULD BE HELD LOCALLY TO DISPOSE OF SOME PARTS IN THE FAIRLY NEAR FUTURE. IT SEEMED THAT THE RESPONSE FROM HAMS WAS NOT GOOD, SO IT WAS PROPOSED TO TRY HOBBYISTS, AND THIS WOULD BE ADVERTISED IN LOCAL PAPERS.

(4) THE LIBRARY WOULD BE MOVED TOMORROW (DAY FOLLOWING MEETING) AND BILL ZS2BY WAS THANKED FOR THE USE OF HIS BAKKIE. ANDRE ZS2BK AND BILL ZR2AAN OFFERED THEIR HELP. IT WOULD BE HOUSED AT THE QTH OF COLIN ZS2AO AND WOULD MAKE IT MUCH EASIER TO MEMBERS TO MAKE USE OF THE FACILITY. MANY THANKS TO COLIN.

(5) A VOLUNTEER WAS NEEDED TO OVERHAUL THE BEAM BOUGHT BY THE BRANCH. THIS WAS A MOSLEY TA33 WHICH NEEDED CLEANING AND SOME MODIFICATION IN ORDER TO MAKE IT EASIER TO TRANSPORT FOR SPECIAL FUNCTIONS. THIS WOULD ENABLE DICK ZS2RS TO USE HIS OWN BEAM, AND THANKS WERE EXTENDED TO HIM FOR ALL THE OCCASIONS THE BRANCH HAD MADE USE OF IT. LIONEL ZS2DD AND TREVOR ZS2AE OFFERED THEIR HELP.

(6) WERE THERE ANY ARTISTIC TYPES IN THE BRANCH? THE BRANCH BADGE WHICH WAS USED AT MEETINGS AND SPECIAL EVENTS WAS GETTING A LITTLE DAMAGED AND IT WAS HOPED THAT A BADGE COULD BE PAINTED ON HARDBOARD WHICH WOULD BE MORE DURABLE. DICK ZS2RS HAD MADE THE PRESENT BADGE SINGLE HANDED AND IT HAD SEEN GOOD SERVICE. BILL ZS2BY SAID HE WOULD MAKE ENQUIRIES FROM A FRIEND OF HIS.

(7) VIC ZS2SZ ASKED ABOUT THE QUESTION FORM INCLUDED IN THE AMATEUR LICENCE. BRIAN SAID THIS APPLIED TO LAND MOBILE COMMERCIAL STATIONS.

(8) AT THIS STAGE BEAVAN TOOK THE FLOOR AND GAVE DETAILS OF THE

COMMUNICATIONS REQUIRED AT THE FORTHCOMING MOTOR RALLY. EXPENSES WOULD BE PAID AT THE RATE OF 20C PER KM AND A DONATION OF R200 WOULD BE GIVEN TO THE BRANCH. THE FOLLOWING VOLUNTEERED: ZS25DD, AO, G, RL, AB, OB, AE, RS, MC, BK, RT AND MM.

AT THIS STAGE, TEA WAS TAKEN AND BILL ZR2AAN WAS THANKED FOR THE EATS.

DISCUSSION ON RESTRUCTURING OF LEAGUE-PROPOSAL SUBMITTED BY DURBAN BRANCH FOR CONSIDERATION AT 1988 A.G.M.

BRIAN MENTIONED THAT THERE WERE ONLY 5 MOTIONS SUBMITTED FOR THE A.G.M. BUT NO DOUBT THE ABOVE PROPOSAL WOULD TAKE UP MUCH TIME. IT SEEMED THAT THE DISADVANTAGES FAR OUTWEIGHED ANY ADVANTAGES THAT MIGHT BE GAINED. WOULD IT NOT HAVE BEEN BETTER TO ASK COUNCIL IF THEY FELT OVERBURDENED WITH WORK? IF THE PROPOSAL HAD COME FROM COUNCIL IT MIGHT HOLD MORE WATER.

(A) QSL BUREAU - REGARDLESS OF HOW MANY REGIONS HAD QSL BUREAUX, THERE WOULD STILL HAVE TO BE A CENTRAL SORTING BUREAU.

(B) ATTENDANCE AT I.A.R.U. MEETINGS WAS VERY EXPENSIVE AND REPRESENTATION ON A REGIONAL BASIS WOULD BE PROHIBITIVE.

(C) IMPORTATION AND STOCKING OF BOOKS BY REGIONS WOULD BE TOO CUMBERSOME AND TOO EXPENSIVE TO CARRY THE STOCKS.

(D) THE COLLECTION OF SUBS WAS ALREADY DONE IN THE REGIONS, COLLECTION OF AFFILIATION FEES WOULD STILL BE DONE IN THE REGIONS AND FORWARDED TO HQ.

(E) HQ WOULD STILL NEED TO KEEP LISTS OF MEMBERS AND IT WAS VITAL THAT EACH REGION KEPT LISTS OF MEMBERS - HOW WOULD THEY FUNCTION OTHERWISE?

THE WHOLE PROPOSAL HAD BEEN PRINTED IN QSX AND CIRCULATED TO MEMBERS AND THOSE PRESENT AT THE MEETING WERE ASKED TO EXPRESS THEIR FEELINGS. OUT-OF-TOWN MEMBERS HAD BEEN ASKED TO EXPRESS THEIR FEELINGS IN WRITING WHICH WOULD BE DISCUSSED AT THE MARCH MEETING.

DICK ZS2RS SAID THAT IT WAS AN INDISPUTABLE FACT THAT HQ MUST BE MAINTAINED AND IF THEY WERE ONLY RECEIVING A PORTION OF FEES, THERE WAS NO GUARANTEE THAT THE LEAGUE WOULD CONTINUE TO EXIST AS THEY WERE HARD PUSHED TO RUN AT A PROFIT WITH 2 500 MEMBERS. IF GROUPS AND CLUBS WERE NOT IN FACT FORCED TO AFFILIATE, MANY MEMBERS WOULD BE LOST, SUBS WOULD HAVE TO BE INCREASED AND IN FACT MORE MEMBERS WOULD BE LOST.

BEAVAN ZS2RL SAID IT REMINDED ONE OF THE GOVERNMENT INTRODUCING THIRD TIER GOVERNMENT WHICH LEAD TO GREATER COST AND LESSER EFFICIENCY.

TREVOR ZS2AE SAID THAT IF THE PROBLEM WAS THAT COUNCIL WAS OVERLOADED WITH WORK, PERHAPS QSLING COULD BE ARRANGED BY BRANCHES.

BILL ZS2BY ASKED IF THE MOTION HAD BEEN SUBMITTED FIRST TO COUNCIL AND WHAT WERE THEIR THOUGHTS ON THE MATTER. THEY NEEDED TO SEND A LETTER STATING THEIR OPINIONS TO BRANCHES WHO COULD NOT TAKE A DECISION ON BEHALF OF COUNCIL. WE NEED MORE FACTS.

BRIAN SAID WE WOULD NOT TRY AND GET A DECISION TONIGHT, BUT THAT WHAT COUNCIL FELT NOW WAS IMMATERIAL AS THE LEAGUE HAD A MANDATE FROM A PREVIOUS A.G.M. TO RESTRUCTURE THE LEAGUE. THERE WAS NO TIME LIMIT BUT THAT WHEN AN ACCEPTABLE PROPOSAL WAS PRESENTED, THIS WOULD BE ACCEPTED.

LIONEL ZS2DD FELT THAT THE BULLETINS SHOULD ONLY BE READ FROM CAPE TOWN SO THAT THEY COULD BE UP TO DATE.

TREVOR ZS2AE ASKED IF THERE WERE ANY SUBS INCREASES ENVISAGED.

BRIAN SAID THAT THE LEAGUE TREASURER SHOULD NOT HAVE THE MONOPOLY ON DECIDING ON SUBS STRUCTURE, THIS SHOULD BE DONE BY THE WHOLE COUNCIL.

TREVOR ZS2AE SAID THAT IF IT WAS FELT NECESSARY, A PRODUCTIVITY STUDY COULD BE MADE OF THE WORK AT H.Q. BY A PROFESSIONAL ORGANISATION.

SUMMING UP, BRIAN SAID THAT THE PROPOSAL BY DURBAN BRANCH WOULD INEVITABLY LEAD TO FRAGMENTATION AND POSSIBLE ULTIMATE DISAPPEARANCE OF THE LEAGUE. HE WAS QUITE HAPPY WITH THE STATUS QUO AND WOULD CONTINUE HIS MEMBERSHIP.

A REPORT WAS GIVEN ON THE LINKING OF REPEATERS AND AT THE MOMENT THE BRANCH WOULD TAKE NO PART IN THE PROJECT.

THE MEETING WAS THEN CLOSED.

SGD: B.A. WELLER ZS2AB CHAIRMAN

M.T. WELLER ZS2OB SECRETARY

ANTENNA MATCHING.

MANY SOLID STATE TRANSMITTERS HAVE A PROBLEM LOADING INTO AN ANTENNA WITH A STANDING WAVE RATIO MUCH ABOVE 2:1. FOR THIS REASON A SIMPLE ANTENNA TUNING UNIT (ATU) IS ALMOST A NECESSITY.

THE SIMPLEST ATU IS A T-SECTION, WITH TWO CAPACITORS IN SERIES AND AN INDUCTOR IN SHUNT AT THE JUNCTION OF THE CAPACITORS. ALTHOUGH THIS TYPE OF ATU HAS THE CONFIGURATION OF A HIGHPASS FILTER IT NEVERTHELESS PROVIDES AN ATTENUATION OF 20dB AT THE SECOND AND THIRD HARMONICS IF THE Q OF THE INDUCTOR IS NOT LESS THAN 100. BECAUSE OF THE SELECTIVITY CHARACTERISTICS OF RESONANT ANTENNAS THIS WILL PROVIDE MORE THAN ENOUGH ATTENUATION OF HARMONICS FOR ALL PRACTICAL PURPOSES.

THE FOLLOWING PROGRAMME IS WRITTEN IN BASIC FOR THE IBM AND COMPATIBLE MACHINES AND MAY NEED SOME SMALL MODIFICATIONS TO MAKE IT RUN ON OTHER COMPUTERS. ON THE SPECTRUM ZX81, FOR INSTANCE, THE INPUT STATEMENT DOES NOT PERMIT THE USE OF A WRITTEN PROMPT, BUT THE WAY TO OVERCOME THIS IS TO USE THE FOLLOWING METHOD.

```
LINE XX PRINT "ENTER PARAMETER";
LINE XX+1 INPUT (VARIABLE)
LINE XX+2 PRINT (VARIABLE)
```

THE PROGRAMME ALLOWS FOR THE LOSS DUE TO THE RESISTANCE OF PRACTICAL INDUCTORS PROVIDED THE Q OF THE INDUCTOR IS KNOWN OR CAN BE REASONABLY ASSUMED. IF A Q OF 1E6 IS ENTERED, THE RESULT WILL BE VIRTUALLY THAT FOR A NO-LOSS INDUCTOR. PRACTICAL VALUES OF Q ARE IN THE RANGE OF 100 TO 300.

EXAMINATION OF THE PROGRAMME WILL SHOW THAT THE CALCULATIONS ARE CONTAINED IN LINES 120 TO 330. LINES 180 TO 250 CONTAIN AN ITERATIVE PROCEDURE, THE DECISION BEING TAKEN IN LINE 230. ALTHOUGH THIS COULD BE DECIDED WHEN S=A THE WAY IN WHICH THE COMPUTER ROUNDS OFF VERY SMALL NUMBERS MEANS THAT A RESULT WILL NOT ALWAYS BE OBTAINED. HENCE THE TERMINATION OF THE ITERATION WHEN THE ERROR IS LESS THAN TEN PARTS IN A MILLION, WHICH IS MORE THAN SUFFICIENTLY ACCURATE.

A LOT OF THE PROGRAMME CAN BE LEFT OUT IF IT IS ONLY TO BE USED ONCE OR TWICE, BUT I FIND THE ADDITIONAL PROMPTS INVALUABLE WHEN RUNNING THE PROGRAMME AFTER A LONG BREAK.

73, BILL BROWNE, ZS2BY.

HEREWITH THE RESULTS OF TWO SAMPLE CALCULATIONS.

INPUT RESISTANCE = 50.00	INPUT RESISTANCE = 50.00
OUTPUT RESISTANCE = 125.00	OUTPUT RESISTANCE = 34.00
FREQUENCY MHZ = 7.05	FREQUENCY MHZ = 3.65
CIRCUIT Q = 12.00	CIRCUIT Q = 9.50
COIL Q = 200.00	COIL Q = 145.00
INPUT CAPACITOR C1 PF = 37.63	INPUT CAPACITOR C1 PF = 91.80
OUTPUT CAPACITOR C2 PF = 25.11	OUTPUT CAPACITOR C2 PF = 119.28
INDUCTOR L UH = 8.22	INDUCTOR L UH = 9.10
LOSS DB = 0.38	LOSS DB = 0.53

PROGRAMME.

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```
10 CLS
20 KEY OFF
30 SCREEN 2
40 PRINT "PROGRAMME FOR THE DESIGN OF T-SECTION ATU'S"
50 PRINT
60 INPUT "INPUT RESISTANCE";R1
70 INPUT "OUTPUT RESISTANCE";R2
80 INPUT "FREQUENCY MHZ";F
90 INPUT "REQUIRED CIRCUIT Q";Q
100 INPUT "Q OF COIL";G
110 PRINT
120 PI = 3.141593
130 W = 2*PI*F
140 I = Q*Q+1
150 U = G*G+1
160 H = R1*I/Q
170 O = 1
180 S = SQR(R1*I*O*U/(R2*(R1*I+O*U))-1)
190 J = R2*(S*S+1)/S
200 K = J*H/(J+H)
210 Q = K/G
220 A = SQR(R1*I*O*U/(R2*(R1*I+O*U))-1)
230 IF ABS(S-A)<.00001 THEN 260
240 S=A
250 GOTO 180
260 X = R1*O
270 Z = R2*S
280 C1 = 1000000!/(W*X)
290 C2 = 1000000!/(W*Z)
300 L = K/W
310 E = R2*(S*S+1)
320 CR = E*O*U/(E+O*U)
330 LOSS = 10*LOG(E/CR)/LOG(10)
340 CLS
350 PRINT USING "          INPUT RESISTANCE = #####.##";R1
360 PRINT USING "          OUTPUT RESISTANCE = #####.##";R2
370 PRINT USING "          FREQUENCY MHZ = #####.##";F
380 PRINT USING "          CIRCUIT Q = #####.##";Q
390 PRINT USING "          COIL Q = #####.##";G
400 PRINT USING "          INPUT CAPACITOR C1 PF = #####.##";C1
410 PRINT USING "          OUTPUT CAPACITOR C2 PF = #####.##";C2
420 PRINT USING "          INDUCTOR L UH = #####.##";L
430 PRINT USING "          LOSS DB = #####.##";LOSS
440 PRINT
450 PRINT "DO YOU WANT ANOTHER CALCULATION Y/N"
460 Q$ = INKEY$
470 IF Q$ = "" GOTO 460
480 IF Q$ = "Y" OR Q$ = "y" THEN 10
490 PRINT
500 PRINT "SESSION ENDED"
510 END
```

Coming next month.

DIGITAL SPEECH PROCESSING.

ANTENNA ARTICLE FROM JIM ZS2LR.

ANOTHER AMATEUR COMPUTER PROGRAMME.

GOOD-BYE MORSE?DAYS OF MORSE CODE ARE NUMBERED.

THE VISION OF A RADIO OPERATOR FRANTICALLY TAPPING OUT AN S O S IN MORSE CODE FROM THE CABIN OF A SINKING SHIP IS FINALLY TO BE COMMITTED TO HISTORY, ACCORDING TO BRITAIN'S ONLY WORLD-WIDE MARITIME RADIO STATION. FORTISHEAD RADIO IS FORECASTING THAT THE 1990S WILL SIGNAL THE END OF COMMERCIAL USE OF THE CODE SYSTEM DEvised BY SAMUEL FINLAY BREEZE MORSE IN 1840.

ORIGINAL FORM.

THE STATION, RUN BY BRITISH TELECOM INTERNATIONAL, CURRENTLY HANDLES 1 000 MESSAGES A DAY IN MORSE, THE ORIGINAL FORM OF SHIP-TO-SHORE COMMUNICATION, COMPARED WITH MORE THAN TWO-AND-A-HALF TIMES THAT NUMBER IN 1980. DEMAND IS STILL DROPPING AT THE RATE OF 10 A YEAR, WITH A CORRESPONDING INCREASE IN THE USE OF THE FASTER RADIOTELEX SERVICE WHICH BECAME FULLY AUTOMATED THREE YEARS AGO.

"IT IS DIFFICULT TO MAKE PREDICTIONS," SAID MR. ERNIE CROSKELL, THE STATION MANAGER. "I WAS TOLD 24 YEARS AGO WHEN I STARTED HERE THAT MORSE WAS ON ITS WAY OUT. I WOULD SAY THAT OVER THE NEXT DECADE IT WILL GRADUALLY SINK INTO OBLIVION. IT IS A SLOW AND STEADY DECLINE, ALTHOUGH IT IS STILL A MARKET WORTH PURSUING BECAUSE IT IS SIMPLE, RELIABLE, ACCURATE AND IT WORKS," HE ADDED.

THE SYSTEM IS FAVOURED BY THE THIRD WORLD FLEET BECAUSE IT SAVES OUTLAY ON MORE EXPENSIVE COMMUNICATIONS EQUIPMENT. MORSE'S DEMISE, HOWEVER, IS BEING ACCELERATED BY PHASED IMPLEMENTATION OF THE GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM, WHICH WILL REQUIRE THE WORLDS ENTIRE 70 000 STRONG MERCHANT FLEET TO BE EQUIPPED WITH THE NEW TECHNOLOGY BY 1997. "THE MORSE DISTRESS WATCH WILL ENTIRELY CEASE AND BECOME VOICE ORIENTATED, MORSE KEYS BEING REPLACED BY SATELLITE AND HIGH FREQUENCY RADIOS," SAID MR. CROSKELL.

FORTISHEAD RADIO, WHICH WAS ESTABLISHED 64 YEARS AGO AND TAKES ITS NAME FROM ITS ORIGINAL TRANSMITTING STATION NEAR BRISTOL, EMPLOYS 130 RADIO OPERATORS AT ITS CONTROL CENTRE ON THE EDGE OF A HOUSING ESTATE AT HIGHBRIDGE NEAR BURNHAM-ON-SEA, SOMERSET. NINETY-EIGHT PER CENT OF THE STAFF ARE FORMER SEAFARING RADIO OFFICERS AND ON A NORMAL SHIFT 18 ARE ENGAGED ON HAND-KEYED MORSE CODE WITH FOUR EACH ON RADIOTELEX AND RADIOTELEPHONE LINKS TO AIRCRAFT AND SHIPPING.

MUCH CHEAPER.

MORSE IS TRANSMITTED AT BETWEEN 22 AND 23 WORDS A MINUTE, AT A COST TO THE CUSTOMER OF 46p A WORD, WHILE RADIOTELEX CAN TRANSMIT AT 60 WORDS A MINUTE ON HIGH FREQUENCY AT A COST OF ONE BRITISH POUND AND SEVENTY PENCE A MINUTE. LAST YEAR FORTISHEAD RADIO, ALTHOUGH RUN AS A COMMERCIAL VENTURE, HANDLED 25 DISTRESS CALLS FROM ALL OVER THE WORLD RUNNING INFORMATION SERVICES FOR SHIPPING AND AIRCRAFT.

IT IS RESPONSIBLE FOR BROADCASTING METEOROLOGICAL AND NAVIGATIONAL INFORMATION AND PROVIDES VITAL SUPPORT TO HER MAJESTY'S COASTGUARD AND OTHER SEARCH-AND-RESCUE ORGANISATIONS.

(MANY THANKS TO ROBBIE ZS2FB FOR THIS. NOTE FROM THE EDITOR. BEFORE TOO MANY OF YOU GET YOUR HOPES UP THAT YOU WILL NEVER HAVE TO DO C.W. AGAIN, WHAT APPLIES COMMERCIALY WILL PROBABLY NOT APPLY TO AMATEURS - ANYWAY, IT IS THE MORSE CODE WHICH MAKES AMATEUR RADIO THE VERY SPECIAL HOBBY THAT IT IS. KEEP IT UP. MANY OF THE BRASSPOUNDERS WILL NEVER LET IT DIE, ANYWAY.)

OPERATING GUIDE

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FOR THE BENEFIT OF SOME OF OUR NEW AMATEURS (AND THE OLD ONES TOO!).

SIGNAL REPORTING SYSTEMS. THE RST SYSTEM IS UNIVERSALLY ACCEPTED.

<u>READABILITY:</u>	<u>SIGNAL STRENGTH:</u>	<u>STONE:</u>
R1 UNREADABLE	S1 SIGNALS ONLY JUST PERCEPTIBLE	T1 EXTREMELY ROUGH NOTE
R2 ONLY JUST READABLE AND ONLY OCCASIONAL WORDS HEARD.	S2 VERY WEAK SIGNALS	T2 VERY ROUGH NOTE
R3 READABLE BUT WITH CONSIDERABLE DIFFICULTY	S3 WEAK SIGNALS	T3 ROUGH, LOW-PITCHED NOTE
R4 READABLE WITH ALMOST NO DIFFICULTY	S4 FAIR SIGNALS	T4 RATHER ROUGH NOTE
R5 PERFECTLY READABLE	S5 FAIRLY GOOD SIGNALS	T5 MUSICALLY MODULATED NOTE
	S6 GOOD SIGNALS	T6 MODULATED NOTE, SLIGHT WHISTLE
	S7 MODERATELY STRONG SIGNALS	T7 FAIRLY GOOD NOTE SMOOTH RIPPLE
	S8 STRONG SIGNALS	T8 GOOD NOTE WITH SLIGHT RIPPLE
	S9 EXTREMELY STRONG SIGNALS	T9 PURE DC NOTE

IF THE CW NOTE IS "CHIRPY" A "C" IS ADDED AFTER THE T-REPORT.

AMATEUR ABBREVIATIONS USUALLY USED IN CW WORKING:

ABT ABOUT	AGN AGAIN
ANT ANTENNA	BCI BROADCAST INTERFERENCE (BY AN AMATEUR TRANSMITTER)
BCNU BE SEEING YOU	CK CHECK
BK BREAK	CLG CALLING
CKT CIRCUIT	CONDX CONDITIONS
CQ GENERAL CALL	DE FROM
CUL SEE YOU LATER	DX LONG DISTANCE RECEPTION
DF DIRECTION-FINDING	ES AND
ERE HERE	FER FOR
FB FINE BUSINESS (EXCELLENT)	GB GOODBYE
GA GO AHEAD, GOOD AFTERNOON	GLD GLAD
GE GOOD EVENING	HI LAUGHTER OR HIGH
GUD GOOD	HR HEAR/HERE
HPE HOPE	HV HAVE
HRD HEARD	MNI MANY
LID BAD OPERATOR	NW NOW
ND NOTHING DOING	OM OLD MAN
OB OLD BOY	OT OLD TIMER
OP OPERATOR	PSE PLEASE
PA POWER AMPLIFIER	RCVD RECEIVED
R ALL RECEIVED CORRECTLY	RX RECEIVER
RPT REPORT	SED SAID
SA SAY	SWL SHORT-WAVE LISTENER
SIGS SIGNALS	TNX THANKS
TKS THANKS	TX TRANSMITTER
TVI TELEVISION INTERFERENCE	UR YOUR/ YOU ARE
U YOU	WX WEATHER
VY VERY	
WID WITH	

IT CAN BE SEEN THAT THERE ARE 4 MAIN WAYS IN WHICH THESE HAVE BEEN DERIVED.

- 1) BY OMITTING VOWELS e.g. HRD= HEARD, RPT=REPORT
- 2) BY PHONETICS e.g. SED=SAID, GUD=GOOD
- 3) BY USING INITIALS e.g. SWL=SHORT-WAVE LISTENER
- 4) BY USING FIRST AND LAST LETTERS OR BY ADDING AN X e.g. VY=VERY, TX=TRANSMITTER.

V.H.F. PORTABLE ANTENNA

THIS HORIZONTAL V.H.F. MONOBAND PORTABLE TV ANTENNA WAS MADE AT THE CAMP-SITE BECAUSE CARAVANNERS REQUIRE A LIGHT WEIGHT EASY-TO-STORE, LOW-COST AND EFFECTIVE OUTDOOR ANTENNA THAT REQUIRES THE MINIMUM AMOUNT OF LABOUR TO MAKE AND ERECT.

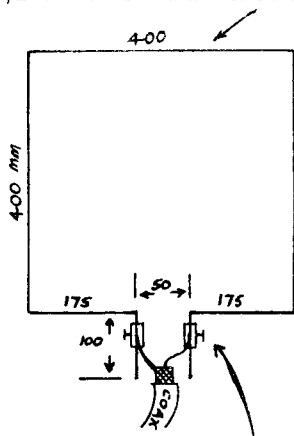
THE SKETCH BELOW SHOULD BE JUST THE RIGHT THING AS I HAVE HAD VERY GOOD FIELD RESULTS AND IS ALSO A MUST FOR 'M NET' VIEWERS AND FLAT DWELLERS. REGARDING PERFORMANCE, IT APPEARS TO OUTPERFORM THE AVERAGE BUNNY EAR TYPE. HOPING THIS WILL BE OF USE TO SOMEONE.

(MANY THANKS ALLAN)

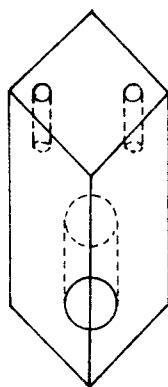
YOURS FAITHFULLY,
ALLAN BOWLES, 2R2BL.

POLE MOUNT - OR A FLAT BASE FOR INDOORS.

3,5 mm HARD DRAWN GALVANISED WIRE



METAL INSIDE OF A STRIP CONNECTOR FOR FINAL TUNING FOR MAXIMUM SIGNAL STRENGTH



FOR MOUNTING, USE A HARD WOOD OR SOME OTHER NON-CONDUCTIVE MATERIAL

FOR SALE

(1) WILSON TAMAPHONE WALKIE TALKIE. COMPLETE WITH SIX CRYSTAL CHANNELS:- 145,6: 145,050/145,65: 145,125/145,725: 145,150/145,750: 145,200/145,800 ALSO 10 WATT AMPLIFIER WITH MAINS POWER SUPPLY (CAN ALSO BE OPERATED OFF 12 VOLTS. WHEN WALKIE-TALKIE IS FITTED INTO THE AMPLIFIER/POWER SUPPLY ONE UNIT IS FORMED), DESK CHARGER, LEATHER CARRYING CASE, FLEXIBLE ANTENNA, ANTENNA ADAPTOR AND EXTENSION MICROPHONE/EARPHONE. NI-CADS SUSPECT. IDEAL FOR BEGINNER. R250 THE LOT.

(2) OHIO SUPERBOARD COMPUTER. BUILT INTO A CABINET. COMPLETE WITH ONE DISK DRIVE, TAPE RECORDER, 32K MEMORY, POWER SUPPLY, BUILT IN DIGITAL PANEL CLOCK (NOT RUN BY THE COMPUTER), AMATEUR RADIO PROGRAM FOR RTTY AND CW IN ROM AND PRINTER (110 BAUD TELETYPE PRINTER, TRACTOR FEED ONLY, CAPITAL LETTERS ONLY). NO MONITOR. REQUIRES VIDEO MONITOR. R500 THE LOT. CONTACT ZS2AI, NEIL HOLMES, P.O. BOX 1292, QUEENSTOWN, 5320.

(3) KENWOOD 221A 2 METRE FM RIG. 45W OUTPUT. 10 MEMORIES, ETC, ETC. THREE MONTHS OLD. R1250. PHONE MIKE FOULTER 2R2LM 713175 (HOME) OR 412981 (WORK).

(4) MM 28 MICROWAVE MODULES 10M PRE-AMP. UNUSED R50.00. CONTACT DICK ZS2RS 22107 (WORK)

SOFTWARE FROM THE UNDERWORLD.

A COLUMNIST IN A COMPUTER NEWS JOURNAL RECENTLY RECEIVED A SURPRIS SOFTWARE PACKAGE FROM THE UNITED STATES. IT CONTAINED SOME HAIR-RAISIN INSTRUCTIONS. HERE IS HIS ACCOUNT OF IT ALL.

"THE BOX LOOKED JUST LIKE SO MANY OF THE COMMON OR GARDEN-VARIETY UTILITY PRODUCTS. I WAS IMPRESSED BY THE PICTURE ON IT, WHICH RESEMBLED AN APPLE PIE AND IF THE SOFTWARE MATCHED THE BOX, NONE OF MY IBM-COMPATIBLES WOULD ACKNOWLEDGE THAT THE PROGRAMS EVEN EXISTED. LET ALONE RUN THEM.

ON OPENING THE BOX, I EXAMINED BOTH THE PACKAGE AS WELL AS THE INSTRUCTION MANUAL WHICH READ

PERSONAL SOFTWARE - BRIEF OPERATING INSTRUCTIONS.

CONGRATULATIONS, YOU ARE NOW THE OWNER OF HIGHCLAIR TECHNOLOGYS NE PERSONAL SOFTWARE PACKAGE. HIGHCLAIR TECHNOLOGYS PERSONAL SOFTWARE I COMPATIBLE AND INTERFACES WITH ANY OTHER SUBSYSTEMS. REMOVE FROM SHIPPING CARTON AND GENTLY SHAKE. IF NO LOOSE PARTS, PROCEED TO NEXT STEP.

IMPORTANT. BEFORE PROCEEDING ANY FURTHER, CAREFULLY EXAMINE THE CONTENTS OF THIS BOX.

THIS PACKAGE SHOULD CONTAIN ONE ADVANCED FOURTH GENERATION CYBERNETIC SUPPORT SYSTEM.

CHECK TO MAKE SURE THAT YOU HAVE SELECTED SOFTWARE THAT IS PROGRAMMED IN THE CORRECT FORMAT FOR YOUR MAINFRAME. CAUTION: THE USE OF SOFTWARE PROGRAMMED IN AN INCOMPATIBLE FORMAT MAY RESULT IN DAMAGE TO COMPONENT PARTS. CAREFULLY INSPECT SYSTEM TO ENSURE ADEQUATE CAPACITY FOR DATA STREAM OUTPUT.

CAUTION: DO NOT ATTEMPT TO REMOVE REAR PANEL. DO NOT ALLOW SERVICE PERSONNEL (WHETHER AUTHORISED OR NOT) TO REMOVE REAR PANEL.

SUDDEN OR SHARP IMPACT MAY CAUSE DAMAGE TO MODULES AND RESULT IN INABILITY TO DUPLICATE IN THE FUTURE.

DO NOT BE DISCOURAGED BY MORE ADVANCED PROGRAMMERS.

WARNING: THE FOLLOWING CAUTIONARY INSTRUCTIONS SHOULD BE STRICTLY OBEYED TO REDUCE THE CHANCE OF ANY DAMAGE TO EITHER PERSONAL SOFTWARE OR PURCHASER. DO NOT OPERATE IN OR NEAR WATER TO AVOID SHORT-CIRCUITING.

DO NOT ENGAGE IN RANDOM ACCESSING WITHOUT FIRST TAKING PROPER PRECAUTIONS. DEBUGGING MAY BE REQUIRED WHEN SOFTWARE IS USED UNDER LESS THAN IDEAL CONDITIONS.

DO NOT ENGAGE DISPLAY FUNCTION IN PUBLIC.

IT CONTAINED A PAIR OF UNDERPANTS!



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