

ZERO BEAT

1-84

JAN
84

HAMPDEN COUNTY RADIO ASSOCIATION, INC

W1-QSL BUREAU

SPRINGFIELD, MASS

ARRL AFFILIATED, 36th YEAR

JANUARY 6TH MEETING

ACIT WILL PRESENT
A SLIDE SHOW TOUR OF

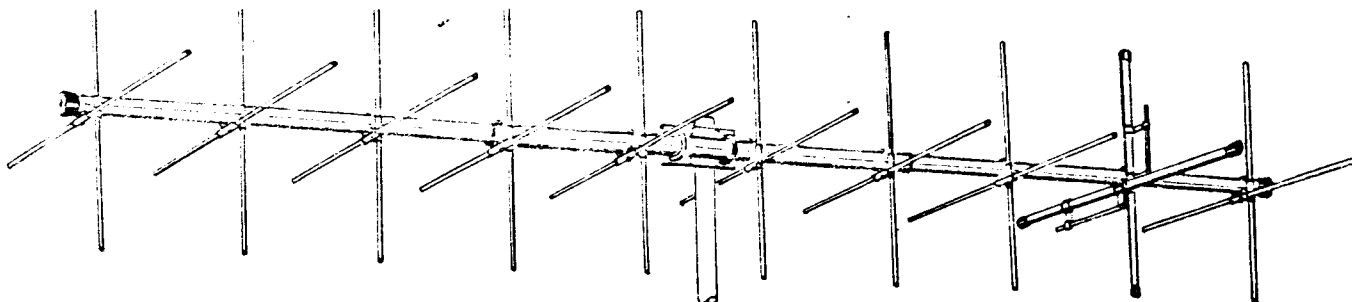
VHF STATIONS IN NEW ENGLAND!

If you've always wanted to know what they do to put out such a signal, look behind the scenery! Don't miss this chance to find hints to improve your station's performance.

This is also HOME BREW NIGHT! Bring in those projects, large and small, to show what you've been building!

EXTRA SETS OF VHF SWEEPSTAKES LOGS WILL BE AVAILABLE.

FEEDING HILLS CONGREGATIONAL CHURCH, INTERSECTION OF ROUTES 57 AND 187, FEEDING HILLS, MASS. DOORS OPEN AT 7:30 PM AND MEETING STARTS PROMPTLY AT 8. ALL ARE WELCOME!



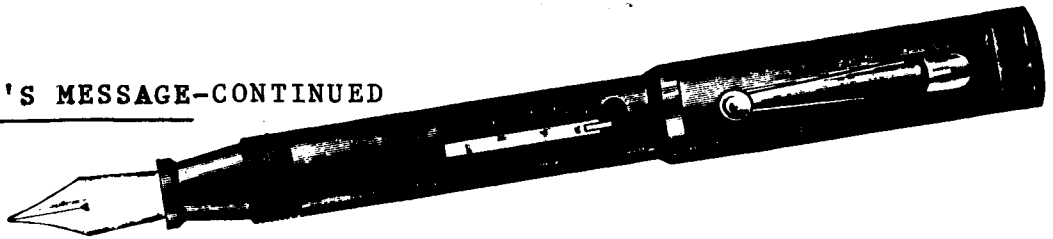
PRESIDENT'S MESSAGE

Christmas Party-

At the November board meeting your directors voted not to support a joint 1984 Christmas party and designated an individual to handle the details of the 1983 party. Since the December 2nd Christmas party, some members have indicated their dissatisfaction with the way things were handled. Their concerns and my comments follow:

1. Why don't we participate in 1984? - It is the opinion of the Board that there is little interest. During the November auction I announced at least three times that Christmas party tickets were available from me. There were over 150 people in attendance and not one requested tickets. Also we announced in Zero Beat how to get tickets. Only eight were sold.

PRESIDENT'S MESSAGE-CONTINUED



2. Why didn't the officers and Board members attend the Christmas party? - At least two members of the Board did. Many of the rest, including myself, had prior commitments for that evening.

3. Why didn't the club offer free memberships as door prizes? - This requires the approval of the Board in advance. The individual running the party made the request to the HCRA coordinator the Tuesday before the party. I informed the coordinator that the request should be made directly to me under the circumstances. No request was made - an unfortunate misunderstanding.

4. Why didn't the HCRA donate door prizes? - In the past, individuals or companies donated door prizes, not clubs. We were not aware nor were we requested to donate door prizes as a club. It has always been the responsibility of the person running the party to obtain door prizes, which the HCRA did when we ran the party.

W1 QSL Bureau-

For the past two years many of the HCRA members have been aware that the club sponsored W1 QSL bureau has come under fire. Some members of the Board felt that it was time to pass the Bureau along to another club since it seems difficult to obtain sorters in the area. In 1982, we voted to continue the Bureau for another year to see if we could straighten some of the problems out. At this point many of the problems have been corrected but the difficulty getting sorters still exists. A case in point: Eleanor's husband has been doing the preliminary sort of all cards coming into the Bureau. He has asked that someone else be found to do this. At present we have not found anyone to take his place, which emphasizes the problems we are having getting sorters. Did you know we now have a large group of sorters out past Worcester?

During the January Board meeting we will re-consider the support of the W1 QSL Bureau. Specifically, the Board will vote on whether or not the HCRA will continue as the W1 QSL Bureau.

If you have any comments on the above issues or would like to help sort for the QSL Bureau, please contact me. Remember the Board of Directors functions to carry out the wishes of the club members. If those wishes aren't conveyed, then the Directors must interpret those wishes.

Any current member may attend any Board meeting. We only ask that you contact me in advance so that I can add your topic (if any) to the agenda, and assure that there will be plenty of room for all to attend the meeting.

Steve Nelson, WALEYF

1 Marilyn Drive, Wilbraham, MA 01095

I think this is a better review than I'd have written, so here it is.
I can highly recommend this radio! K1BE

PRODUCT FILE

The Yaesu FT-726R Transceiver

By Al Brinckerhoff, WB5PMR

Just about the time you think you have your station arranged the way you had planned, those crafty fellows from Japan foul everything up by introducing new, irresistible equipment to stimulate the salivary glands...and pry open your wallet. Enter the Yaesu FT-726R — exit my savings account.

I was first introduced to the FT-726R on May 28, 1983. I had no sooner cleared the front door at my local ham store, when Don (the sales manager) grabbed and pulled me over to the store's demo area. He had just taken the first one they had out of the box. My eyes rolled to the back of my head and Don politely placed a towel under my chin to prevent the rig from getting wet. What had been intended to be a 5 minute visit to the store to purchase some connectors, ended up being a 1 hour 45 minute play session. While driving home (yes, I forgot the @\$#&*#@ connectors) my mind was racing to figure out how much of my present station I needed to sell in order to make my dream purchase. On July, 2, 1983, I carried my FT-726R home with a grin that almost ripped my ear lobes off. I guess by now you are probably tired of my enthusiasm, so let's get down to brass tacks.

The FT-726R is an all mode tri-band transceiver capable of operating on 21 MHz, 24.5 MHz, 28 MHz, 50 MHz, 144 MHz, 430MHz, and 1.2 GHz depending on user configuration. The unit comes from the factory with the 44 MHz module installed. By using interchangeable rf modules the operator may select any one of the three bands installed (not all of the bands are available as of this writing). Each module provides 10 watts of power, and is easily installed in the main unit using five screws and three plug-in connectors. The brains of this radio is an 8-bit microprocessor chip that controls the ten channel memory capability (frequency and mode), allows instant transfer of memory to either VFO, and scanning of the entire band, selected parts of the band, or the memory channels. Additional features include audio speech processor, i-f shift and width controls, separate channel step tuning knob for fm, discriminator meter, priority channel, programmable repeater shift, clarifier offset, lithium battery for memory retention, and provision for optional narrow cw filter.

As the rig comes from the factory it is not capable of full duplex operation required for satisfactory satellite operation. In order to set the unit up to operate full duplex, two options must be purchased: 1) the Satellite Unit (which in essence is another i-f board) and 2) the 430-440 MHz or 28 MHz depending on whether you want Mode B or Mode A operation. Both of these units are easily installed

requiring only a Phillips head screwdriver and the patience to read the instructions. After installing the Satellite Unit and the 70 cm rf module I was ready for OSCAR 10 Mode B. The front end on the 2M receiver has very good sensitivity and selectivity. In addition, the separate i-f shift and width controls have proven very effective and handy in tight situations on Mode B. One thing I noticed immediately in working OSCAR 10 Mode B was the stingy S-meter readings. I was receiving the general beacon stronger and with greater clarity than I had on my Icom IC-211, but the S-meter would barely make S-1 to S-2 when the satellite was at apogee.

As of this writing, I have discovered only two drawbacks to the radio. One is the lack of VOX. The other is that there is no send/receive switch (very handy when you're net control for the local AMSAT net on two meters). The second problem is easily solved. There is a RCA phone jack on the rear of the radio for plugging in a foot switch (which I have done) I simply paralleled that line and installed my own send/receive switch. The first drawback of no VOX was addressed by me in writing to Chip Margelli, Vice-President Amateur Products Div., Yaesu Electronic Corp. Chip responded to my inquiry very promptly (I like that!!!). In his letter he gave the following reason as to why no VOX:

"VOX is something that had certainly been considered. However, when operating in the full duplex mode, we ascertained that a battle would emerge between the VOX and its own anti-VOX feature; the VOX is not supposed to respond to speaker output, yet the operator using a speaker could well have the volume turned up so high that the VOX

would refuse to operate! This was an interesting effect to see!"

Personally, I disagree with Chip, since most satellite operators use headphones and therefore there would be no battle between the VOX and anti-VOX features. Even if an operator does not use headphones, most of us have been turning down the receive gain so as not to confuse ourselves by listening to the downlink delay. I hope the people at Yaesu change their minds about VOX.

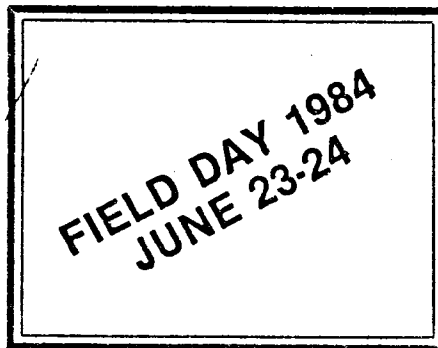
In the same letter I asked Chip about plans for a 1.2 GHz module and this was his response:

"Plans for 1.2 GHz are in a state of flux at the moment. We have completed a fair portion of the design work, but the packaging is still to be finalized. Needless to say, we will have application notes available soon outlining the simple interconnections between the FT-726R and the various 1.2 GHz modules already on the market. We frankly would be surprised to see a Yaesu module out before Christmas, but it is our intention to market such a device in the foreseeable future."

In conclusion, I would like to share with you some of the features and capabilities of the FT-726R that are important to me:

- 1) The unit will provide 2M, 70 cm, and 23 cm full duplex capability in one package.
- 2) Continuously adjustable power output on 2M and 70 cm.
- 3) Full squelch on fm, ssb, and cw.
- 4) I-F shift and width.
- 5) RF gain control.
- 6) Programmable memory channels - especially helpful in fm operation.
- 7) Priority channel scan - also nice in fm mode.
- 8) Expandability to 21, 24.5, and 28 MHz in the near future.
- 9) 16 button Touch-Tone mike supplied (real nice when your a control operator for an autopatch repeater).

In my estimation this radio is one of the finest pieces of equipment that has come out of any amateur equipment manufacturer in years. I especially want to compliment the people at Yaesu for having the foresight and daring to produce this rig prior to the launch of OSCAR-10. They got a major jump on the remainder of the market which I feel will pay off for them. Yaesu has donated an FT-726R that is being presented by AMSAT as a first place prize in our July-December membership drive. Your time and effort in recruiting new members for AMSAT may well be rewarded in winning the most advanced "state-of-the-art" transceiver designed for satellite work.



Many thanks AMSAT
"Orbit" magazine,
Oct '83.

ACTIVE AMATEUR RADIO SATELLITES

Using this information and an OSCAR locator or software which is readily available, you can pinpoint the path of the satellite.

Satellite	Uplink	Dwlink	Beacons	Period	Increment	Inclin.	Alt(km)
AO8	145.9- 146.0 145.85- 145.95	435.2- 435.1 29.4- 29.5	435.110 (Mode J) (Mode A)	103.164	25.7935	98.796	739
UOSAT AO9	None	None	145.825 435.025 2401.000	94.643	23.659	97.475	535
RS-3	--	--	29.321 29.401	118.5195	29.7565	82.9606	1632.7
RS-4	--	--	29.360 29.403	119.3955	29.9757	82.9566	1666.0
RS-5 (Robot)	145.91- 145.95 145.826	29.41- 29.45 29.331	29.452 29.331	119.5544	30.0155	82.9590	1671.5
RS-6	145.91- 145-95	29.41- 29.45	29.411 29.453	118.7167	29.8060	82.9592	1641.5
RS-7 (Robot)	145.96- 146.00 145.035	29.46- 29.50 29.341	29.501 29.341	119.1962	29.9258	82.9568	1661.5
RS-8	145.96- 146.00	29.46- 29.50	29.461 29.502	119.7625	30.0678	82.9568	1675.3

Note: Format for accessing RS robots: "RS-5 DE W6CG AR". A typical answer will be: "W6CG de RS-5 QSO NO. 107 W6CG DE RS-5 QSO NO. 107 CP ROBOT T U FR QSO 73 SK".

Note: All Uplink and Downlink frequencies are Upper sideband with one exception: the OSCAR 8 Downlink is LOWER sideband.

OSCAR (AO8) OPERATING FORMAT:

- Monday - Mode A
- Tuesday - Mode A and Mode J
- Wednesday - Experimental Day
- Thursday - Mode A
- Friday - Mode A and Mode J
- Saturday - Mode J
- Sunday - Mode J

File uploaded by Scott Loftesness, W3VS.
Thanks to Bernie Galssmeyer,
W9KDP, OSCAR Program Manager, ARRL,
for supplying this information.

HERE IS A LIST OF THE CURRENT
AMSAT NETS:

DAY	GMT	FREQ	AREA
WED	0100	3.850	EAST USA
	0200	3.850	CENTRAL US
	0300	3.850	WEST USA
SAT	1000	14.282	EUROPE
	2200	28.878	PACIFIC
SUN	1200	7.280	MIDWEST
	1800	14.282	USA
	1900	21.280	INTERNT'L

The following review of the Kenwood TS-930S is courtesy of "The CARASCOPE" published by the Columbus (Ohio) Amateur Radio Assoc. The review is by Dr. John Sheller, KN8Z.

The problem facing any reviewer of Amateur Radio equipment is to eliminate personal bias and establish parameters which apply to all facets of the hobby. Before I get into the more technical aspects of the TS-930S, I will lay out the guidelines by which I judge a radio and its performance and capabilities. Since 1967, I have either owned or have had the opportunity to use almost all of the commercially available Amateur receivers, transmitters and transceivers. Because the majority of my operating over the past 15 years has been in the area of DXing and Multi-Multi contesting, both phone and CW, I have developed a love for radios with good sensitivity, extremely good selectivity and good flexibility in the split operations mode. The Kenwood TS-930S has all these, PLUS it is really a fun radio to operate - especially on CW. If you want the ultimate in selectivity with layers of cascaded filters, then read no further, just go out and buy an R4C and then spend an additional \$500 to install all the Sherwood mods. If however, you want a radio that comes very close to a highly modified R4C, and is fun and easy to operate with some really neat "bells and whistles"...then read on... the TS-930S is for you.

The TS930S is an all solid state radio, with a self contained power supply, capable of operating from 100 khz to 30 mhz. The factory rates the power output at 100 watts all bands, however, measured output with a Bird 43 shows about 118 watts on all bands except 10M where the power drops off to 105 watts. As the radio comes from the manufacturer, it will transmit ONLY on 160, 80, 40, 20, 15 and 10 meters. It is a very simple matter (10 minutes) to enable the transmit function on all frequencies from 1.5 mhz to 30 mhz.

Band changing is accomplished by "pushing a button" for the desired "Ham Band" or using the 1 mhz step switch. Notice that there are no rotary wafer switches to get dirty or wear out. Another method of "band changing" is to use the 8 memory functions on the radio. You can program these 8 memories to any frequency between 100 khz and 30 mhz for instant recall and band change. You could, for instance, program some of these memories for the phone and CW portions of the same band (see, no knob twisting) or for WWV or your favorite net or RTTY frequency.

Split frequency operation is one area where the TS930S really shines. No external VFO is needed...it's all there in one box. The feature that really makes the internal 2nd VFO a pleasure to use is what Kenwood calls the "T-F" button. By pushing this button you can not only listen to what is happening on your transmit frequency, you can by holding it down, shift your transmit frequency and the digital readout will tell you exactly where you are. After years of building exotic relay switching devices to accomplish this, it is nice to see all these functions controlled by one small pushbutton.

In the CW mode, the 930 is at its best. It has TRUE QSK (break-in CW) that really works. This feature is front panel selected, so if your amplifier is not QSK compatible or you want to use the old fashioned VOX keying...you can. The optional CW filters are excellent and combine with the VET- (variable bandwidth tuning) to make a super combination for those crowded CW bands. Also available in the CW mode are a very good notch filter, plus an IF shift control (labelled Pitch). If you can't dig 'em out of the pile with all this, then they probably were not there in the first place. One other feature that could apply to both CW and phone is the front end attenuator. This feature allows you to pad your front end with 10, 20 or 30 db for improved selectivity on crowded bands or digging out that weak one on 80 or 160 M.

The TS930S on SSB is fun to use, but lacks some of the flexibility of its "older brother" the TS830S. The audio quality is very good, but because of filter width (2.4 khz) it does lack some selectivity. Optional filters available from the Fox Tango Co. will cure this. For all but the most hardened phone contester, the factory filters are more than adequate. One feature in the SSB mode does take a little getting used to...the Slope Control. Instead of one control like IF Shift or PBT (Passband Tuning), you have a dual concentric control which allows you to change the skirts of the filters independently. Since you have two variables to deal with it does take a little experimentation to achieve maximum benefit from this feature.

The speech processor in the TS930S is good but not outstanding. It seems to work best when set according to factory specifications using the Kenwood MC60 mike. Most on the air reports favor the use of the processor when set-up within the limits defined by the manual. This is a good place to note that the MC60 mike, in addition to working quite well with the 930, also gives the operator the option of leaning back in his chair and tuning the radio remotely. This feature is especially nice when involved in a ragchew or tuning the SW broadcast bands for fun.

Now for some more technical aspects of the 930. The sensitivity was measured at 0.14 microvolt on 20 M. The drift after one hour was less than 10 hz. The construction of the radio is excellent with the exception of the "signal board." This is the "master board" which covers the entire bottom of the radio. This board is very hard to remove and would be an absolute nightmare to service. The service manual is available for the 930 (\$15) and is very complete and easy to use. Anyone who "opens their own box" should buy one.

One option which I have yet to mention is the built-in Antenna Tuner. In my opinion, this is one of the real reasons to buy the radio. This unit will automatically match any load under about 4 to 1. Having the tuner unit not only gives you a better match, but it also protects your final transistors. In addition, it gives a perfect match to your amplifier on every band and offers an extra tuned circuit to keep your signal clean. Last, but not least, it will save you money. You can now operate on the new WARC bands without another antenna so this unit will allow you to use your existing antennas safely. I have used both my Hy-Gain HyTower and an 80M dipole on the new 10 mhz band with excellent results.

Have there been any problems with the 930's? Yes, but they have been minor. Some units had a parasitic problem on 10 mhz which fried a couple of resistors in the final unit, but this problem has been corrected. If your radio is left on quite a bit your fan will also get noisy, but a couple of drops of machine oil will cure this.

In summary, I think that the TS930S is the best all round radio for the money on the market. It is fun to use, reliable, and contains features that weren't even thought of 5 years ago!

"Quick As A Wink" Printing & Sales Co.



PRINTING & COPYING

573 Union Street West Springfield, Ma. 01089

TELEPHONE (413) 738-8184

In the Next ZERO BEAT:

- W1KK's Circular Polarization article. (Much work!)
- AZ-EL Rotor for under \$10.
- ARRL DX Contest logs
- How to build a crystal radio
- and much more.....

TIDBITS FROM PAST ZERO BEATS-1961

W1BVR was guest speaker about his many years as an ARRL official and Ham...Lou McCoy, W1ICP, another ARRL person, is a frequent guest at the club...Eleven inches of snow postpones a meeting...W1NY and W1IC demonstrated antique ham gear from the spark days...W1ZPB looking to buy a Vibroplex bug...W1JWV working to get a call-letter license plate in Mass...W1MDM selling a pair of 100TH's, a crystal Mike...W1WLE in charge of the VHF committee...W1QXV had a beam raising party after spending all the wife's pin money...W1RED back on the air...K1MAL bought a new tri-band beam, is selling his old 10 meter beam...W1UPF's 80 meter long wire downed by a snowstorm...K1IJU/K1IJV putting up a new tower...

WHAT KIND ARE YOU?

Are you an active member.
The kind that would be missed
Or are you just contented
That your name is on the list?

Do you attend the meetings,
Mingle with the flock
Or do you stay at home,
And criticize and knock?

Do you take an active part,
To help the work along
Or are you satisfied to be,
The kind that just belong?

Do you ever voluntarily,
Help at the guiding stick
Or leave the work to just a few,
And talk about the clique?

Come often to the meetings
And help with hand and heart
Don't be just a member,
But take an active part!

Think this over, member,
You know right from wrong,
Are you an active member,
Or do you just belong?

Author Unknown
Zero Beat—April, 1958

ARTICLES, WANT ADS,
TIDBITS, ETC ARE NEEDED.

NEWS FLASH:

The FCC has voted unanimously not to allow a no-code amateur radio license!
Many thanks to the ARRL for their hard work in defeating this.....

*Who worked the STS-9?
Seems everyone that tried
heard Owen Garriot loud
and clear from the Space Shuttle!*

FOR SALE:

13.8 volt, 20 amp, DC power supply, fully metered, \$90.00
300 watt antenna tuner, \$25.00
Regulated 5volt, 2.5 amp DC power supply, \$5.00
WA1CQF, Gent Lam 413-783-8537

YOUR ZERO BEAT EDITOR IS UNHAPPY IF NO ONE WRITES.



Why not do something about it?

SAVE THIS TWO AND THE SIX METER
BAND PLANS FOR FUTURE REFERENCE!

ARRL TWO METER BAND PLAN

144.00-144.05	EME (CW)
144.05-144.06	Propagation Beacons
144.06-144.10	General CW and weak signals
144.10-144.20	EME and weak signal SSB
144.200	National Calling Frequency
144.20-144.30	General SSB operation
144.30-144.50	New OSCAR sub-band
144.50-144.60	Linear translator inputs
144.60-144.90	FM Repeater inputs
144.90-145.10	Weak signal and FM simplex
145.10-145.20	Linear translator outputs
145.20-145.50	FM Repeater outputs
145.50-145.80	Miscellaneous and experimental modes
145.80-146.00	OSCAR sub-band
146.01-146.37	Repeater inputs
146.40-146.58	Simplex
146.61-146.97	Repeater outputs
147.00-147.39	Repeater outputs
147.42-147.57	Simplex
147.60-147.99	Repeater inputs

REPEATER FREQUENCY PAIRS (Input/Output)

144.61/145.21	144.83/145.43	146.22/146.82	147.75/147.15
144.63/145.23	144.85/145.45	146.25/146.85	147.78/147.18
144.65/145.25	144.87/145.47	146.28/146.88	147.81/147.21
144.67/145.27	144.89/145.49	146.31/146.91	147.84/147.24
144.69/145.29	146.01/146.61	146.34/146.94	147.87/147.27
144.71/145.31	146.04/146.64	146.37/146.97	147.90/147.30
144.73/145.33	146.07/146.67	146.40 or 147.60/147.00	147.93/147.33
144.75/145.35	146.10/146.70	146.43 or 147.63/147.03	147.96/147.36
144.77/145.37	146.13/146.73	146.46 or 147.66/147.06	147.99/147.39
177.79/145.39	146.16/146.76	147.69/147.09	
144.81/145.41	146.19/146.79	147.72/147.12	

In most heavily populated areas, the following list of "splinter" frequency pairs are being used for repeater operation. Please note that these pairs may be either low input and high output or high input and low output depending upon local agreement. For example, in one area 146.025 MHz may be a repeater input with an output at 146.615 MHz, while in another area, 146.625 MHz may be the input with an output at 146.025 MHz. Also, in many parts of the country many repeaters use 1 MHz spacing in conjunction with the frequencies 146.415, 146.43, 146.445, 146.46, 146.475, and 146.49 MHz.

146.025/146.625	146.295/146.895	147.735/147.135
146.055/146.655	146.325/146.925	147.765/147.165
146.085/146.685	146.355/146.955	147.825/147.225
146.115/146.715	146.385/146.985	147.855/147.255
146.145/146.745	147.615/147.015	147.885/147.285
146.175/146.775	147.645/147.045	147.915/147.315
146.205/146.805	147.675/147.075	147.945/147.345
146.235/146.835	147.705/147.105	147.975/147.375
146.265/146.865		

SIMPLEX FREQUENCIES

146.40*	147.42
146.43*	147.45
146.46*	147.48
146.49	147.51
146.52+	147.54
146.55	147.57
146.58	

+ = National Simplex Frequency

* = Local option (also used as repeater inputs)

Several regions of the Pacific Northwest have chosen to re-align the 146-148 MHz, using 20 kHz spacing between channels. This choice was made to gain additional repeater pairs.

The transition from 30 to 20 kHz spacing is taking place on a case by case basis as the need for additional pairs occurs. Typically the repeater on an odd numbered pair will shift 10 kHz, up or down, creating a net set on an even numbered channel. For example, the pair of 146.13/.73 would change to 146.12/.72 or 146.14/.74, while the pairs of 146.10/.70 and 146.16/.76 would be left status quo.

EDITCR'S CORNER

Well, gang, in the last issue we asked for input from you on several things. I know you'll all find it hard to believe that I didn't have to rent extra post office space. One phone call came in, no letters. A generous member offered to help underwrite the cost of the "Best of Zero Beat" magazine, so with luck, that will be for sale at the June banquet. No one expressed any interest in the Board minutes being published, so I won't write them up again. We are still looking for someone to go to Rhode Island during the VHF SS weekend.

If you have any interest in questions raised here, make your opinions known to any Board member. For example, the bus to New York!



"HE DIDN'T MAIL IN HIS
VHF SS LOGS TO THE ARRL"



Do not write above this line.

Call Used _____

VHF Sweepstakes

ARRL SECTION _____
or COUNTRY _____

CLAIMED SCORE _____

Band	Contacts	Points	Mults.
50 Mhz.	X 2 =		
144 Mhz.	X 2 =		
220 Mhz.	X 4 =		
432 Mhz.	X 4 =		
1296 Mhz.	X 8 =		
Mhz.	X 16 =		
Mhz.	X 16 =		
TOTALS	QSOs		

SCORING: _____ QSO POINTS
 X _____ MULT. (sections + 10)
 = _____ CLAIMED SCORE

- Single Operator Station
- Multioperator Station (show calls of ALL operators, loggers)

Club participation? Yes
 If yes, print the name of your ARRL Affiliated Club: HAMPDEN COUNTY RADIO ASSOCIATION

Equipment Description:

Transmitter Receiver

Antennas

"I have observed all competition rules as well as all regulations established for amateur radio in my country. My report is correct and true to the best of my knowledge. I agree to be bound by the decisions of the ARRL Awards Committee."
 I am a member in good standing of the Hampden County Radio Association.

Date Signature Call

Note your soapbox and other comments. Enclose your photos, as well as your SS logs and check sheets, and mail promptly to: ARRL Communications Department, 225 Main Street, Newington, Connecticut 06111.

MULTIPLIER CHECK-OFF LIST

1	2	3	4	5	6	7	8	9	0	VE	
Conn	ENY	EPa	Ala	Ark	EBay	Ariz	Mich	Ill	Colo	Mar-Nfld	
EMass	NLI	Del	Ga	La	LA	Ida	Ohio	Ind	Iowa	Que	(CROSS OFF
Me	NNJ	MDC	Ky	Miss	Org	Mont	WVa	Wisc	Kans	Ont	EACH NEW
NH	SNJ	WPa	NC	NMex	SBar	Nev			Minn	Man	SECTION AS
RI	WNY		NFla	NTex	SCV	Oreg			Mo	Sask	WORKED.)
Vt			SC	Okla	SDgo	Utah			Nebr	Alta	
WMass			SFla	STex	SF	Wash			NDak	BC	
			Tenn	C.Z.	SJV	Wyo			SDak	VE8	
			Va		SV	KL7					
			W.I.		Pac.						

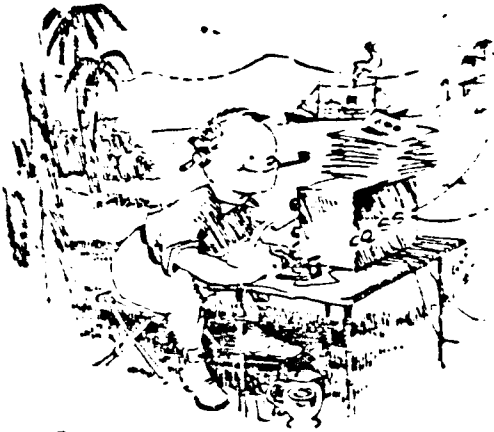
Print or type:

NAME: _____ CALL: _____

ADDRESS: _____

Mail promptly with comments and photos to:
 ARRL - Communications Dept.
 225 Main Street
 Newington, Connecticut 06111

VHF SWEEPSTAKES



TNX
QST

It's that time of year again! VHF Sweepstakes are upon us! Hams all over the U.S. will be competing for awards on the VHF and higher bands. The HCRA has taken first place for the past two years. To do it this year we need everybody's help. There is NO SCORE too small, we need YOU!

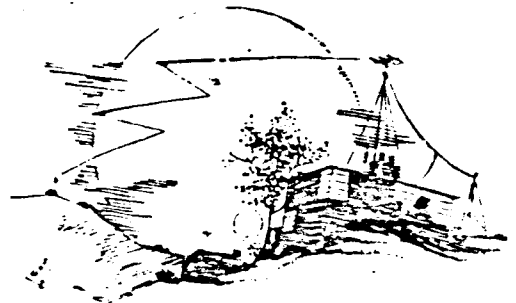
High scores are very possible because almost everyone now has a synthesized radio. Members limited to FM and low power will be amazed at

how far they can get on direct. The use of 146.52 simplex is not allowed, but all other simplex frequencies are ok. Other radio clubs in the area will be in this contest, so there should be a lot of people to talk to. If you don't have much time to get into the contest, try to get on during these times:

1 to 2 pm 6:30 to 7:30 pm 9 to 10 pm (all local times)

All that is needed for an exchange is a signal report and the section you're in. i.e. Your first contact might go like this: "WA1RWU, you're 59, Western Mass."

A log sheet and entry form are provided in this issue of Zero Beat. If you can't figure out the scoring, we'll be glad to do it for you. (You're not alone!) Just mail it with all the other info filled in, c/o Zero Beat.



TNX-
QST

We'll be glad to mail non-club members log sheets so that they can get into the contest. The more the merrier. We do not want logs submitted by non-members in the club name. That's why we print two types, one with and one without the club logo. Extra log sheets will be available at the January meeting. SEE YOU ON THE AIR!!

%%%

1984 VHF SWEEPSTAKES

Contest Starts: 1900 utc Saturday, January 14th

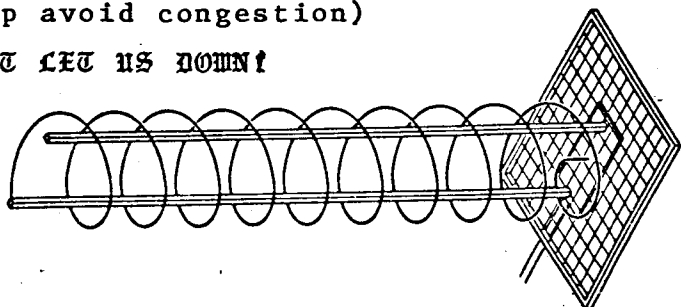
Contest ends: 0400 utc Monday, January 16th

Exchange: Send an RS(T), and the Section you're in.

(Optional) If your call begins with "W" or "A", use 146.58

(Optional) If your call begins with "K" or "N", use 146.55
(Just to help avoid congestion)

WE NEED YOUR HELP, DON'T LET US DOWN!



FIRST CLASS

JANUARY ISSUE

ZERO BEAT
 C/O JEFFREY J. DUQUETTE
 P.O. BOX 346
 SOUTHWICK, MASS 01077
 Return Requested

TO:

[REDACTED]
 1077
 1077A



ARRL Six-Meter Band Plan - Approved 4/83

- 50.000 to 50.100 - CW and FSK Only (FCC Rule) with automatically controlled beacons permitted between 50.060 and 50.080.
- 50.100 to 50.600 - CW, SSB, and AM
 - 50.110 - DX Calling Frequency
 - 50.200 - Domestic Calling Frequency (Suggest QSYing up for local QSOs and down for longer haul).
- 50.600 to 51.000 - Experimental and Special Modes.
 - 50.700 - RTTY calling and working frequency.
 - 50.800 to 50.980 - Radio Control (R/C) 10 channels w/20 Khz spacing.
- 51.000 to 51.100 - Pacific DX Window (ZL)
- 51.100 to 52.000 - FM Simplex - accomodates 45 channels with 20 Mhz spacing.
- 52.000 to 52.050 - Pacific DX Window (VK)
- 52.000 to 54.000 - FM Repeaters and Simplex

REPEATER PAIRS (Input/Output):

52.010/53.010	52.330/53.330	52.690/53.690
52.030/53.030	52.350/53.350	52.710/53.710
52.050/53.050	52.370/53.370	52.730/53.730
52.070/53.070	52.390/53.390	52.750/53.750
52.090/53.090	52.410/53.410	52.770/53.770
52.110/53.110	52.430/53.410	52.790/53.790
52.130/53.130	52.450/53.450	52.810/53.810
52.150/53.150	52.470/53.470	52.830/53.830
52.170/53.170	52.550/53.550	52.850/53.850
52.190/53.190	52.570/53.570	52.870/53.870
52.210/53.210	52.590/53.590	52.890/53.890
52.230/53.230	52.610/53.610	52.910/53.910
52.250/53.250	52.630/53.630	52.930/53.930
52.270/53.270	52.650/53.650	52.950/53.950
52.290/53.290	52.670/53.670	52.970/53.970
52.310/53.310		52.990/53.990

SIMPLEX CHANNELS:

- 52.890
 - 52.910
 - 52.925 (National Simplex Frequency)
 - 53.490
 - 53.510
 - 53.530
-