



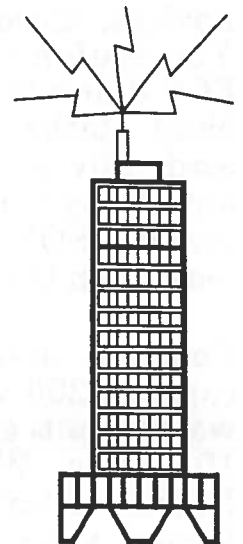
# XARC

## Monthly Newsletter

The Voice of the Xerox Amateur Radio Club

Xerox  
Amateur  
Radio Club

WB2SUN/R  
224.26/444.825  
KE2MK/R  
145.29



Bob Karz	K2OID	President
Shannon Wixsom	WV2J	Vice President
Mike Ishler	KE2LU	Secretary
Rick LaDonna	N2JI	Treasurer
Pete Secrist	WB2SUN	Repeater
John Wright	KE2MK	Trustees

April 19, 1990

**Next Club Meeting**  
**April 26th 1730 hrs**

**Joe Stephany will speak on**  
**"How Radio Amateurs**  
**developed Radio"**

### **JH1YHS Schedule**

While at Iwatsuki last week, I was able to meet briefly with Sugawara-san, JF1MIA. We agreed on a schedule to try to establish contact between Webster and Iwatsuki. At this month's club meeting, April 26th, 7 PM local, 2300 UTC, we will try to make contact with JH1YHS on 28.400 Mhz. The Iwatsuki radio club has a new QSL card. I will have a sample of it with me. If you'd like a confirmation for JA on one of these nice cards, attend the meeting this month.

See ya there, Barry N2EZS.

### **New Call Books Arrive!**

The new Call Books approved at last month's meeting have arrived and are now available in the TIC library.

### **New Calls**

Our newest hams are KB2JQK David Day, KB2JQL Denni Day, KB2JQM Joanne Facci, KB2JQN Becky Graves, KB2JQO Jim Graves, KB2JQP Bonni Kaplan, KB2JQQ Lisa Karz, KB2JQR Cris Lavery, KB2JQS Mo Sanford, KB2JQT Judy Stonehill, KB2JQU Carrol Turner and KB2JQV Joyce Turner. Congratulations to Judy Stonehill on passing her Technician test.

### **Karz's Korner-**

Well, the new novice tickets have arrived, and I'm the proud father of a new ham. Henceforth my daughter, Lisa (age 13), will be known as KB2JQQ, and I have a unique opportunity to reflect on how hamming has changed (and how it hasn't) since I received my novice in '58.

I was 12 when I was first licensed as KN2OID. Then, novices could only run 75 watts input and were restricted to

CW. The most silly restriction on novices, however, was crystal control. You couldn't use a VFO because the FCC didn't trust you to stay within the band. Rather, you'd call CQ and tune up and down looking for someone answering your call. I often wonder how many QSO's I missed because I was looking in the wrong part of the band!!

Contrast that to today where novices can run 200 watts output (at least 400 watts input) and have SSB privileges on 10 meters. Where I was happy to work Detroit, Lisa's first contacts (except for locals) were with Tahiti, Botswana, South Cook Island, and Norfolk Island. I have over 200 countries confirmed and I don't have Norfolk or Botswana!! To add insult to injury, I've discovered that "rare ones" even hang out in the novice portion of 10 meters to give the new licensees a "new one".

I must admit, though, that there are still many real "gentlemen" (and ladies) on the band these days in spite of a few "bad apples". The Norfolk Island station realized from Lisa's voice and demeanor that she was a new ham and made the pile up wait while he had a nice chat with her, asking her age, how she liked school, etc.

There are also hand helds and repeaters which weren't even available when I was a novice. On the other hand, I firmly believe that its tougher to get a novice ticket now than then. We had only 20 questions to answer, and none covered Packet, SSB, Amtor, or repeaters. Also, for all the fears that the new rules requiring answering 10 questions on the CW test made it easier, my experience is that many people pass the test the old fashioned way (by copying one minute solid) who cannot answer the 7 out of 10 questions, but I don't know of anyone who has answered enough questions without copying a minute solid.

The hobby is a lot different now than in '58 with digital transceivers, packet, amateur TV, and more hams outside the US than here. I'm sure it will change at least as much in the next 32 years. Its still the worlds greatest hobby, and I'm sure it will stay that way. As for this proud dad, I get just as much of a thrill listening to a guy half way around the world in VK9 land coming back to my daughter as I would if he were returning my call. Never mind the fact that in half an hour of calling him after my daughter's QSO, I couldn't raise him. There's always tomorrow. As the ARRL novice course video states, ham radio is like fishing. When you go on the air, you never know what you'll catch.

73 and happy hamming

Bob, K2OID

**CONTEST!! PRIZES!!  
HOURS OF FUN FOR THE WHOLE  
CLUB!!!**

*(Sick to your stomach yet? Read on)*

By proclamation of His Hamness, Bob Karz, K2OID (Have you been reading Karz's Korner lately? I *told* you there would be a quiz ), let it be known to all club members that starting immediately, there will be a **CONTEST FOR THE XARC QSL CARD!**

*What do I have to do to enter?*

Easy. Design a QSL card for the club. You may use your own artistic tools, or if you have an idea for a logo and layout that you would like scanned and printed, send your drafts to Shannon Wixsom (W129-37A for hardcopy, WIX:WBST129 for electronics/VP, Ventura or XPS/XPIW formats only). Send all entries, in whatever format, to aforementioned Shannon Wixsom.

*What's in it for me?*

I thought you might ask that. This is no cheapshot club (not to be confused with

cheapshot members). We have a *dazzling lineup of prizes* that would bring a gleam to the eye of Hiram Percy himself.

**FIRST PRIZE:** A copy of the 1990 ARRL Operating Manual (*every shack should have one*)

**SECOND PRIZE:** A night on the town with the vice president (hi).

**THIRD PRIZE:** Two nights out on the town with the vice president (hi, hi).

OK, ok, restrain your greed and keep reading:

*Exactly who will determine the winning entries?*

That internationally known panel of art experts, the club's Executive Committee, which consists of club officers and repeater trustees.

*Where can I get further information if I need it?*

Call yet again aforementioned Shannon Wixsom at X23190.

*Are you ever going to end this, article you babbling weirdo?*

Am I accomodating, or what? No sooner said than done.

73 For Now,

## NOW'S YOUR CHANCE TO

### HELP THE CLUB SPEND MONEY!

Due to the unparalleled generosity and hard work of club members who contributed donations and sales work to the repeater fund, XARC now has a comfortable capital in excess of that needed to get us operational in the 2-meter repeater world.

And what do we do with extra money?

As soon as that question came up, there were a variety of answers forthcoming from those expert in the art of spending

money (just about all of us). We would, however, like to know what all the club members feel about the dissemination of extra funds. Here are some of the suggestions received to date:

- Buy a 6 meter rig for the club station in 337
- Get the club started in packet radio
- Set aside 50% of excess funds for use in a public service project

But what we would like to know is what your ideas are. If you support one of the above suggestions, or have one of your own, contact one of the club officers with your opinion. Better yet, just contact Mike, KE2LU, since he was silly enough to get himself elected secretary in the first place.

## QSL Cards Available

Members wishing to have one of the QSL cards from the 50th anniversary station should contact Gene Parker x22245 there are a limited quantity available.

## Do you have QSL cards to send?

As a club we are entitled to combine ARRL members cards in one mailing. Just order your cards as always, include a current mailing label from QST and give them to one of the club officers.

## Is your ARRL membership up for renewal?

If so remember to renew through the club. See Mike Ishler(x24134) for details.

## Hamfests/Auctions

If anyone knows the dates of a hamfest not listed here please forward the information to Mike Ishler 114/22D

~~March 31, 7-4 DARC Hamfest  
Marbletown firehall- Newark NY  
talkin 146.745/145 or 146.685~~

**April 28, 8-4** Auburn Hamfest  
Fleming #1 Firehouse, 2 mi. S. on  
rt.38(W. Lake rd.) Talkin 147.00

**May 5, 8-4** STARC Hamfest  
Marvin Park Fairgrounds- Main St.  
Owego, NY  
Talkin 146.16/76 146.52/52

**May 18-20** Rochester hamfest

**June 3rd, 9-5** Rome hamfest. Stanwix  
Hts. fire dept. Bartlettroad, Rome NY.  
Talkin 28/88 repeater.

**June 16, 7-3** SARC Hamfest  
Courtland County Fairgrounds  
Cortland NY  
Talkin 147.825/225

**August 25** TCARC Hamfest  
Fingerlakes Hamfest  
New York State Armory  
1765 Hanshaw Rd.  
Ithaca, NY  
Talkin 146.97/37

**September 29, 6-4** Elmira Hamfest  
Chemung County Fairgrounds-  
Horsheads NY  
Talkin 147.36/96 444.42

**October 13th,** Syracuse at the state  
fairgrounds

The following list was supplied by  
Gary Bauer.

**Mar. 23 -25** Orlando Fla. Orlando  
convention ctr. Orlando, Fla.

**April 27-29** Dayton. Hara arena,  
Dayton, Ohio

**May 5** Owego, Marvin Park  
Fairgrounds, Owego, N.Y.

**June 3** Lancaster, NY

**June 9** Kitchner, Bingman park,  
Kitchner, Ont

**July 7** Ontario fest Burlington, Milton  
fairgrounds, Milton

**July 8** Batavia firemans field,  
Alexander, N.Y.

other fests - unknown dates

Welland, Ont. June (16 ??)  
Wilksbere. Pa. July ( 1 ?? )  
Milton, Ont. July ( 7 ?? )  
Gowanda, N.Y. July (28 ?? ) second  
annual  
Baltimore, Md. July (29 ??)  
Winchester, Va. Aug ( 5 ?? )  
Skaneateles, N.Y. Sept (15 ??)  
Kingston, Ont. Sept ( ?? )  
London, Ont. Oct. (14 ??)

**NOTE**  
I have extrapolated these dates from last year's  
list to  
this year's calendar. The dates may not be  
accurate, but  
there is a good possibility that these are  
accurate. Check  
ham pubs for further information.

### For Sale/Wanted

The following are items for sale.

-----  
Tektronix 310A scope  
w/manual \$85  
contact Fred Miller WO2P x29126  
-----  
Yaesu FT-707 8 band, solid state, digital  
xcvr, 240w dc input

Yaesu FV-707DM matching digital 12  
memory vfo

Yaesu FC-707 matching swr / pwr mtr,  
ant tuner, dummy load  
mic, mobile mounting bracket, relay box  
for amp, all books

contact Gary Bauer, KA2CKR x26715

## Minutes of the February Meeting of XARC

The meeting was called to order by President Bob Karz at 1933 hrs. on Thursday the 15th of March 1990. There were 20 members present. The reading of the minutes was waived as they are included in the newsletter. The treasurer's report is as follows:

### XARC TREASURERS REPORT 3-15-90

<b>Balance 2-22-90</b>	<b>\$ 946.46</b>
<b>Income:</b>	
Dues(2)	\$ 20.00
2 Meter Duplexer Fund	\$ 20.00
Power Supplies	<u>\$1140.00</u>
<b>Total Income</b>	<b>\$1180.00</b>
<b>Expenses:</b>	
Paul Dilorenzo(440 Xtal)	\$ 35.00
2 M Duplexer	<u>\$ 680.25</u>
<b>Total Expenses</b>	<b>\$ 715.25</b>
<b>Accounts:</b>	
Savings Account	\$ 160.68
Checking Account	\$1240.53
Cash on Hand	<u>\$ 10.00</u>
<b>Total Funds (3/15/90):</b>	<b>\$1411.21</b>
<b>Funds Allocated:</b>	
2 Meter Repeater Allocation	\$ 16.32
<b>Total Allocated</b>	<b>\$ 16.32</b>
<b>Total Funds Available (3/15/90)</b>	<b>\$1394.89</b>
<b>Misc Funds:</b>	

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2 Meter Duplexer Fund  
Power Supplies

\$ 485.00  
\$1140.00

Richard LaDonna Treasurer

An abbreviated business meeting was held before the talk by Dick Goslee. Gene parker reported that we sold 141 power supplies for an income of \$1300. Lou made a motion that we purchase new call books for the library. The motion was seconded and approved. A motion was made to purchase a subscription to the DX Bulletin (QSL manager list). John Facci said that he had just purchased a subscription to the list and would donate them to the club (after he looks at it of course). John Wright reported that the duplexors were ordered for the two meter repeater.

**Long range planning committee report:**

No report...

**HF Station report:**

No Report...

**Repeater Committee report:**

No Report

**Membership and Training:**

No Report

**Packet Report:**

No Report

**Special Events report:**

No Report

**Program Committee report:**

No Report...

**Long Range Planning Committee report:**

No report

**Old Business:**

**New Business:**

**Agenda for April**

Joe Stephany to speak on the contributions of amateurs to the advancement of radio.

**Meeting adjourned 1935.**

Attached is a summary of the tips given by Dick Goslee during his excellent talk/demonstration.



## Care and feeding of the 100 series radios from Heath

Before any trouble shooting be sure to perform the following two steps.

- o First and foremost tighten all screws and bolts, especially those bolts holding the circuit boards to the chassis as these are the major ground paths of the radio.
- o A word about cold solder joints. This is very common in these radios, the fact that a radio has performed solidly for many years does not preclude the possibility of a cold joint. A good safety measure is to reheat and inspect each joint. If in doubt clean and resolder.

To reduce dissipation(excess heat) in several tubes do the following-

- o Replace R409 in the screen of V10 with a 39K resistor. Replace R113 in V4 with a 10K resistor. If not already done replace R107 with a 1 watt 100K resistor. You can check the screen voltages in all tubes and alter the screen resistors to bring the voltages into the desired range as indicated in the schematic.

The following are known trouble spots-

- o Some people have replaced the #47 pilot lamps with #44s. This causes low filament voltage to several tubes.
- o Resistors R1 & R2 of V1A change value and cause low audio. Capacitors C2 & C12 tend to fail with age and cause hum in the audio.
- o Capacitor C304 fails and causes hum in the audio output.
- o Resistors R6 & R7 of V16 change value due to underrating, replace with 1 watt resistors, these cause low carrier output. Symptom, different receive/transmit levels depending on whether set to upper or lower sideband.
- o Screws that hold the meter assembly together loosen and cause intermittent meter failure.
- o In the power supply there are four large can style capacitors. Two of these are mounted on metal plates by the capacitors twist lugs. Over time these connections deteriorate and cause hum. Solder a heavy wire from each capacitors ground lug to the grounded terminal of the terminal strip that runs between them.  
**NOTE!!** do not perform this procedure on the two can capacitors mounted on the insulating sheets.
- o The cable between the power supply and the radio should be kept as short as possible to avoid excessive voltage drop. Some early models have a power cable that has undersize conductors. Symptom- low voltage on the tube filaments, replace with the correct cable.

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### Low output on 40 and or 10 meters-

- o There are several remedies to restore power. First remove the coil cover on the bottom of the radio. There were four sets of fingers on the under side of the cover. Remove the sets between the grid and plate coils.
- o Looking on either side of the coil boards you can see two brackets that secure these boards. These were originally aluminum. These "comb" brackets should be replaced with an equivalent copper or the plated bracket from Heathkit(#204-2096). Once installed, the circuit boards and shield plates must be soldered to the comb brackets.
- o Looking to the bottom of the coil boards, you will notice that they are "grounded" to the RF Driver board by #20 wire. Replace this wire with copper braid such as "Solder wick", this provides a better return path. You may now replace the cover.
- o Looking at the bases of the finals, it is important to keep all leads in this area as short as possible especially the bypass capacitors. To do a thorough job it may necessary to remove all the components and rebuild this area.
- o Some models have a 10k resistor (R202) located between L101 (point 27) on the IF board and the grid of V5A (point 3) on the bandpass board. This should be replaced with a wire.

### Transmitter tune up-

- o Transmitter tune up should be performed at about the 10 watt power level to avoid saturating the tubes. Readjust the drive to maintain this level while tuning. Always tune the transmitter in the following sequence 80,10, 15, 20 and 40 meters. With the band switch in the 3.5 mhz position and the dial set to 200 rotate the preselector one complete turn(to align the capacitors) stopping at the 12 o'clock position. Set the final control to the 3.5 mhz area. Tune the radio for about 10 watts output peaking the final and loading control. Adjust the grid and plate coils for maximum output while maintaining the 10 watt output. Adjust the 3.5 mhz oscillator coil just below the peak on the slow changing side of the oscillator peak. Back in the receive mode change the band to the 28.5mhz position and change the preselector four ticks to the right and repeat the above tuning procedure. Change the band to the 21mhz position and the preselector 1 tick to the left and repeat the tuning procedure. Change the band to 14 mhz and the preselector to the 12 o'clock position and repeat the tuning procedure. Change the band to the 7mhz position and move the preselector 1 tick to the left and repeat the tuning procedure. Adjust T1 for maximum output.

### Receiver tune up- .

- o Using the calibrator as a signal source and the S meter for an indicator, adjust T201 for maximum output . Adjust T103 for maximum output. **Note!!** T103 has 2 peaks tune for the top peak i.e. with the tuning slug in the uppermost position. Adjust 102 for maximum noting there are two slugs in this coil. A properly operating receivers calibrate signal should indicate at least S9 + 20 on 80 meters.

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### Transmitter neutralization-

- o This should be done on 10 meters. The neutralization wire should protrude 1/2 inch through the board and be bent flat against the underside of the board. If you have the pancake trimmer it should be 1 turn counter clockwise from the tightened position. If you have the air gap capacitor it should be in the half meshed position. Tune the radio for max power and plate dip and adjust the neutralizing capacitor a little bit at a time until the plate dip and maximum power occur at the same setting. **Note!!** this procedure may be more difficult with the 6146B finals.

### Useful tips-

- o Heath parts phone number: 616 - 982 - 3571
- o In the event of a 6146 tube failure, only the failed tube need be changed.
- o Finals can be 6146, 6146A, 6146B (do not use 6146W as they have 14v filaments and are designed for mobile use)
- o For faster AGC response(for CW work) insert a switch to remove C110. For fastest response and maximum gain(extremely weak signals) open AGC line.
- o Balanced modulator diodes can be replaced with hot carrier types.
- o If Loading adjustment range is insufficient on 40 meters remove C929.
- o If a 6HS6 fails it can be replaced with a 6AU6.
- o Keep a spare set of rubber O-ring tuning belts on hand for tuning shafts, Part #268-7.
- o Replace RCA RF output connector with a PL259. Make sure it's tight.
- o A fan blowing cool air on the finals, although not necessary, is a good idea.
- o To calibrate the crystal calibrator, tune to CHU 7.335 mhz USB, zero beat, tune to 7.200 mhz and zero beat the calibrator,

### Popular Modifications

- o Adding a sidetone volume control (HW101)
- o Adding an RIT circuit

10/10/00

The first part of the report is a general introduction to the project. It describes the objectives of the study and the methods used to collect and analyze the data. The second part of the report is a detailed description of the results of the study. It includes a discussion of the findings and their implications for the field of research.

10/10/00

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The second part of the report is a detailed description of the results of the study.

The third part of the report is a discussion of the findings and their implications for the field of research.

The fourth part of the report is a conclusion and a list of references.

The fifth part of the report is a list of appendices.

The sixth part of the report is a list of figures and tables.

The seventh part of the report is a list of abbreviations.

The eighth part of the report is a list of acknowledgments.

The ninth part of the report is a list of footnotes.

The tenth part of the report is a list of references.

The eleventh part of the report is a list of appendices.

The twelfth part of the report is a list of figures and tables.

The thirteenth part of the report is a list of abbreviations.

The fourteenth part of the report is a list of acknowledgments.

The fifteenth part of the report is a list of footnotes.