



cross talk



WAC
WAS
DXCC
FD'71
FD'73
FD'75
FD'76

NEWS BULLETIN OF TRW AMATEUR RADIO CLUB



Sponsored by Systems Employee Association

TRW/ARC Saturday Morning Nets 10AM LT

Primary	7.280 MHz
Secondary	3.980 MHz
Novice	7.140 MHz
Simplex	147.510 MHz

NOVEMBER 1976

OH WELL . . .

Some people just can't do anything right. I have before me the May and June issues of the CROSS TALK. We have a quote from our Field Day manager: "...this year's Field Day plan will deémpHASize the competitive aspects of the event... and will have as its objective providing operating opportunities for all comers... Other activities planned include drinking, some eyeball QSO's, sunning and smiling". In the June issue we say, "leave your combat boots home and bring your smiles". In the detailed planning for the TRW/ARC Field Day exercise there was provision for an automatic OSCAR contact inhibitor, a sophisticated piece of equipment cleverly disguised as a coffee pot. The new site was selected so as to require celestial navigation to find it. Even the weather was arranged so that temperatures would reach 110 degrees both days of the Field Day weekend. (Do you know how hard it is to set that up?) We had a solid commitment to low placement in the scores. All of these plans were in vain. We regret to inform you that the TRW/ARC came in first in class 7A. This unfortunate occurrence has many serious consequences. First, it was necessary to squeeze "FD'76" into the CROSS TALK masthead. Second, we will have to explain how come we win if we try hard, and also win if we don't try hard. Third, the implications of winning in an even numbered year include a guarantee of fluctuations in the Dow Jones industrial average, according to a leading analyst (psycho, not investment)

In summary, we are all delighted--hearty congratulations to Jack Clarke, WB6TCR, our Field Day manager, to the members of the FD staff, and to all the folks who made it happen. WELL DONE !

THE NOVEMBER MEETING

The November meeting will be held in December. Not that we hold a grudge against November, but the Dinner Meeting Hamfeast and Thanksgiving have pretty well chewed up the month. Mark Wednesday, December 15th on your calendar. Program will include throwing out the 1976 officers and installing the 1977 officers. Speeches and everything. Door prizes (used 1976 officers). Noon, R2-1055, Wednesday, 15 December.

1977 BALLOT ISSUE

NOTES AND NOTICES

THE RED MENACE has struck at the ham bands... Aviation Week and Space Technology (November 8, 1976) reports that the FCC has sent several protests to the USSR over interference caused by powerful pulsed high frequency radio signals that may be coming from a Russian over-the-horizon radar located in the general vicinity of Minsk. The intruder signals have a pulse repetition rate of 10 per second, signal bandwidths from 30 to 300 KHz, have been heard all over the HF band from 3 to 30 MHz, and were first reported to the FCC by radio amateurs. (If you work them, QSL to Box 88 Moscow)

K 6 RUBY LIPS is a new call sign on the TRW/ARC roster. Doesnt represent a new member, though. It's our own Mac McGrew, formerly W6YCZ, who has applied for and received K6RL. FB, Mac.

THE FCC HAS MADE SOME NEW MOVES . . . As of 26 November, amateur stations will not be required to indicate their portable or mobile status when identifying (although they may do so if they wish). There will no longer be a requirement for prior notification to the FCC of extended portable operation.

THE CALL SIGN GAME. . . Effective 2 November, two-letter call signs with X as the first suffix letter will be issued to qualified Extras (presumably only those over 18 or accompanied by a parent). On the same date, the "N" prefix series of two letter call signs will become available for assignment to qualified Extra Class amateurs.

THE NEW OUTGOING QSL BUREAU OF THE ARRL went into operation on 1 November. You may make bulk mailings of cards to foreign amateurs via ARRL headquarters. Any volume of cards may be submitted once a month, accompanied by \$1.00 and the sender's QST mailing label. Cards must be sorted alphabetically by call district.

Treasurer's Report for October, 1976

Balance on hand October 1, 1976: \$ 439.98

RECEIPTS

Dues (renewals)	\$ 83.00
Dues (new member)	11.00
Raffle 10-27	14.50
November Hamfeast Preregr.	159.84
Credit Union Dividend (3rd Quarter 1976)	3.29
QSL Orders	63.25
Thrust bearing sale	5.00
	<u>\$ 339.88</u>

EXPENSES

Postage	\$ 2.99
Crosstalk Printing	45.58
November Hamfeast - Door Prizes & Awards	<u>95.83</u>
	\$ 144.40

Balance on hand October 31, 1976: \$ 635.46

PREZSEZ

by Frank Cartier, WA6RAY

As we complete the 1976 club activities, I would like to acknowledge the members who gave of their time and efforts for another successful TRW/ARC year. First of all to the executive committee members who provided me with tremendous support during a very busy year. Frank Halligan, W6RLN, our VP, for all the interesting noontime programs for our monthly meetings. This is one of the toughest jobs in the club, and Frank did a great job. Dave Carson, WB6BGO, the club treasurer, for keeping the club in the black during a year of drastic TRW Systems Employees Association financial support. Ed Thornley, W6RXD, a long time active club supporter, for filling in as secretary and making "heads and tails" out of all that QRM we call executive committee meetings, and Bill Dews, K6AWO, another long-time active club member who as activity chairman was the "sparkplug" for our activities during the year.

In addition to the executive committee members we owe thanks to Paul Weisz, K6YQ, for the other tough job, that of CROSSTALK editor; Paul Fisk, WB6UJX, for putting together the St. Patrick's Day beer bust, complete with green beer; Jim McWilliams, W6RTG, for our 2nd annual swap meet and equipment auction; Chuck Davis, WA6BDL, for leading the very important club training program; Ed and Judy Thornley, W6RXD and YL for organizing the annual November Hamfeast where we celebrated another W6TRW first place Field Day victory in class 7A which was organized by the very busy Jack Clarke, WB6TCR, with a new format(fun??) and a new more convenient location.

My thanks to these members for contributing their time to make these activities available to the local ham community and the ARC members.

This year Carl Rothrock, W6MYC, as W6TRW club station trustee. Most all of you know Rocky better than I, and know of all the innumerable contributions he has made to the TRW/ARC over the years. Rock and Evelyn have moved to Poway so that Rocky will be near the San Diego VA hospital where he receives dialysis treatments. We all wish Rocky well and thank him for everything he has done for the club.

In this issue of CROSSTALK you will find the nominees for the 1977 executive committee; please take time to make your preference known for each office.

I have enjoyed serving as the club president for the past 2 years and I look forward to continued participation in club activities in the future.

FCC GARAGE SALE

The FCC monitoring station has moved from its monitoring station on Edinger Avenue in Santa Ana. Most of their electronics were purchased by Bill Ivey, WA6QET, through GSA sealed bidding. You now have the chance to purchase some of these choice items, listed on the next page, in order that the XYL's car can be returned to the garage for Christmas!

<u>MANUFACTURER/MODEL</u>	<u>TYPE</u>	<u>RANGE</u>	<u>PRICE</u>
Collins 51J-4	Receiver	0.5 to 30 MHz	\$525
Hallcrafters S-37	Receiver	125 to 230MHz, AM/FM/UHF	125
Hammarlund HQ-200	Receiver	0.54 to 30 MHz, AM/SSB	175
Nems-Clarke 1301A	Receiver	55 to 260 Mhz AM/SSB	300
Nems-Clarke REU-300B	Tuner	260 to 900 MHz AM/FM	150
HP. TS-535A/U	Generator	7.0 to 160 KHz	50
FCC TO-1	Generator	160 to 15 MHz	50
General Radio 617C	Oscillator	0 to 10 KHz	20
RCA WR 59B	TV Sweep Gen.	0 to 216 MHz	25
Boonton 202G	AM/FM Gen	195 to 270 MHz	200
Krohn-Hite 330M	IF Bandpass Filter		20
Teletype TS 1060/GG	Mark-Space Error CRT		10
3M 107	Copier		Best Offer
Dietzgen 4317	Film Reader, Reel		Best Offer
Panel Meters	Various Types		2/ea
Resistors	High Wattage, Various		.10 ea
Electronic Enclosures	Qty 9, 7 ft, 19 in.		10 ea
Loop Antenna	Around ten meters		10
Lambda 25	Power Supply		15

ELECTION '76

At this time every year we elect new officers for the TRW/ARC. We present here brief biographies of candidates for office for 1977.

PRESIDENT

BILL DEWS, K6AWO, has been a club member for ten years, and has been treasurer, activity manager, and deputy Field Day manager. He has been an amateur for 23 years, holds an Advanced Class license, and is active on HF and VHF.

JOHN PETTINGELL, WB6JIZ, has been with the TRW/ARC for two years, and was membership chairman in 1976. He has been licensed for two years, holds an Advanced Class ticket, and is active on HF and VHF.

VICE PRESIDENT

DOUG HEYDON, WB6WDS, has been a club member for ten years, has been secretary and president (1968-69), as well as CROSSTALK editor. He has a General Class license, and is active on HF.

SECRETARY

JIM HILL, W6IVW, is a recently joined member, but has been a ham for 26 years. He is a past president of the McDonnell Douglas Huntington Beach ARC, and holds an Advanced Class ticket.

TREASURER

DAVE CARSON, WB6BGO, has been with TRW/ARC for three years, and was treasurer in 1976. He has been a ham for 12 years, holds an Extra Class license, and is active on HF and VHF (as is YF Jocelyn, WA6OAW).

PHIL PRESSER, WB6MXE, has been a club member for about a year, and has a Novice license. He is planning to build some QRP gear, and get active on HF.

ACTIVITY MANAGER

WAYNE HALE, W6IZK, has been with the club for four years. He holds a General Class license, and is very active on 2 meters and above.

GARY KOMATSU, K6HPD, has been with the TRW/ARC for six years. He holds an Advanced Class license, and is active on HF and VHF.

TRUSTEE

Carl Rothrock, W6MYC, has been TRW/ARC club station trustee (first for WB6WPO, then for W6TRW) since 1968, when the station was established. The club constitution provides that the trustee may run and be reelected an indefinite number of times, without the two year maximum term that limits the tenure of other officers. Carl has had to retire from TRW for health reasons, and has resigned from the trustee post. There are two candidates for this position on the executive committee.

FRANK CARTIER, WA6RAY, has been an active member of the TRW/ARC for four years, and was vice president and president (1975-76). He has been an amateur for 19 years, has a General Class ticket, and is active on HF and VHF.

PAUL WEISZ, K6YQ, has been with the club for six years, was vice president, president (1972-73), Field Day manager, and CROSSTALK editor. He has been licensed for 30 years, holds an Extra Class ticket, and is active on HF and VHF.

THE BALLOT IS ON THE NEXT PAGE. PLEASE SELECT YOUR CANDIDATES AND MAIL THE BALLOT TO ED THORNLEY, R6-2591, BY 10 DECEMBER, 1976.

WANTED

To borrow manuals for 51J1, 51J2, R388, R390, and R390A.

Jim Hill, S-365, X51095

FOR SALE

COMPLETE 2KW SSB/CW SIX METER STATION:

4-1000 2 KW Amplifier, complete with 6KV choke input regulated power supply-----	\$300.00
Heath SB-110A SSB/CW transceiver-----	300.00
AC power supply-----	10.00
Heath HP-13 DC power supply-----	50.00
Heath GH-12A PTT microphone-----	10.00
Heath HS-24 8 ohm speaker-----	12.00
Heath SB-100-1 mobile mounting bracket-----	15.00

Peter Von Hagen, WA6HXM, 377-0881

EXECUTIVE COMMITTEE REPORT

By Ed Thornley, W6RXD

The Executive Committee met at the home of Treasurer Dave Carson on the evening of November 2. Dave's YF Jocelyn served a delicious dinner - beef stroganoff with all the trimmings - to the assembled officers including Cartier, Dews, Halligan, Carson and Thornley. This was a great way to start the meeting - who can get controversial on a full stomach? (Cross-Talk Editor Weisz, although not an elected official, was also present and actively participated in the non-controversy(andfood).

1. November meeting: Due to the fact that the Annual Hamfeast is being held on November 6th, and the normal meeting week includes the Thanksgiving Holiday, it was decided that there will not be a regular noon hour meeting on November 24.
2. Annual Hamfeast: Final details for the November Hamfeast were reviewed. As of this date, paid reservations had been made for 26. In addition, the guest speaker, his wife, and special guests Carl and Eleanor Rothrock are expected. Cartier will preside, Carson will handle door prizes, Halligan will make awards and Thornley will introduce the guest speaker. The speaker had promised to show a film so Dews will pick up a TRW projector and screen. The Hamfeast is scheduled to be held at Phillipone's Restaurant in Torrance.
3. Club Magazine Subscriptions: Based on a report by Jack Koho, the club magazine subscriptions are not heavily used. The club spends nearly \$ 50 per year for QST, CQ, 73 and Ham Radio. After some discussion, it was decided by vote, that we would attempt to have these publications placed on the Club shelf in the TRW Technical Library where they might be more accessible to readers.
4. Membership Renewals: Carson reported that as of this date, 75 full members have re-upped by paying their dues. Total full membership as of 30 September 1976 was 136, so we have a ways to go to fill the roster.
5. Training: Discussion of a training program to start early next year was held. A volunteer to become training manager is the key to a successful program. Anyone interested, contact Cartier.
6. QSL Cards: Thornley reported that 7,500 Pioneer QSL cards are scheduled to be shipped from the printer during the week of November 1. This shipment will allow filling of orders now on hand for individual members cards.
7. AMSAT/OSCAR: Halligan reported that he had a call from Pete Hoover relaying a request from Jan King AMSAT Headquarters for availability of solar cells. Halligan was to contact Tom Hornbuckle, 777 solar cell expert to see what could be done.
8. Cross-Talk Editor '77: Editor Weisz indicated that he wishes to step down as his other activities are excessive. A volunteer is needed for this top job in the club.

9. Field Day '76: All members of the committee were still in a state of pleasant shock upon learning that W6TRW/6 had placed first in Class 7A in this year's Field Day. Taking honors in this fashion was completely unexpected as we had played down the competitive aspect this year.
10. Nominations for '77: The nominating committee selecting a slate of candidates for club offices next year will meet on 3 November. If all goes well, a suitable ballot will be found in the November Cross-Talk.

After the meeting adjourned, Dave and Jocelyn showed us their "his and hers" ham shack. For those of our readers who may have missed the recent Cross-Talk note, Jocelyn is now WN6OAW. She now is proudly showing QSL cards that she earned all by herself. Congrats, Jocelyn.

FOOT NOTE

We were all delighted that Carl and Eleanor Rothrock were able to be with us at the November Hamfeast. That have now settled in the San Diego area and we are pleased to pass on their new address:

Mr. & Mrs. Carl F. Rothrock
13738 Ahwahnee Way
Poway, California 92046

Rocky and Eleanor would be glad to hear from or be visited by any of their good friends in the club.

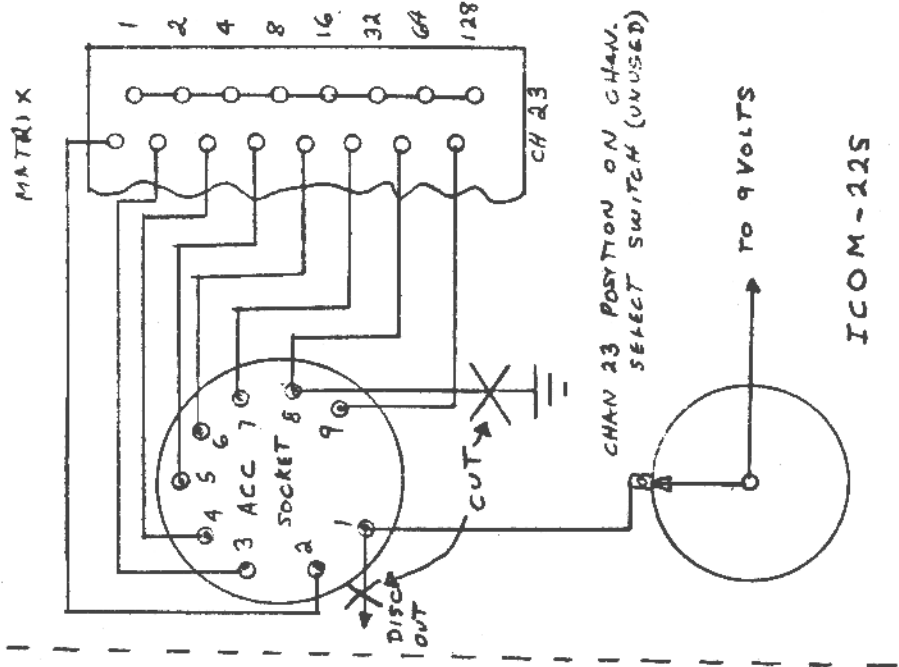
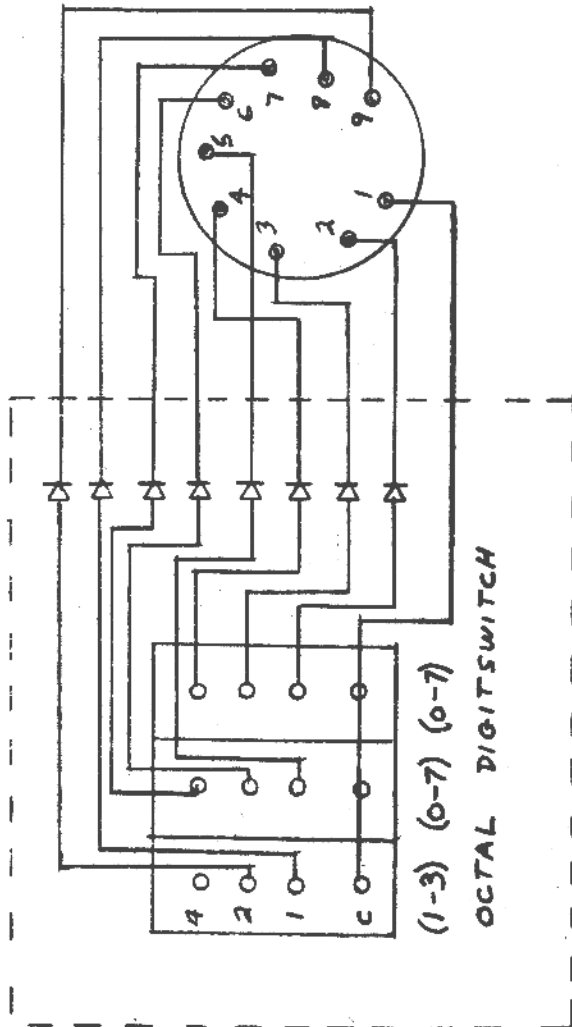
EXTERNAL FREQUENCY CONTROL FOR THE ICOM-22S by Dennis Goodno, K6AGU

The Icom 22S is a 22 channel synthesized 2-meter transceiver employing a user-programmable diode matrix board. The drawing on the nextpage shows a simple method of wiring in an external switch box which will allow selection of any of the possible 192 15 KHz channels within the range of the transceiver, and still permit use of the 22 preselected channels.

The IC-22S must be modified by disconnecting the ground and discriminator test point on the nine pin accessory socket, and installing eight wires from the unused channel 23 position on the diode matrix board and one wire from the unused channel 23 position on the channel selection switch (first dot past 22) to the accessory socket.

The control box uses a three-digit octal digitswitch and eight diodes. These can be any silicon switching diode such as the 1N914, 1N3062, etc. Since the digitswitch reads in octal, an octal-to-frequency conversion chart will probably be necessary. The chart could also contain information as to repeaters and the positions of the transceiver's DUP A DUP B switch.

Although ICOM specs the unit from 146 to 148 MHz, the writer has found little degradation in power output of receiver sensitivity at the extremes of the frequency range permitted by the synthesizer: 145.35 MHz (octal 100) and 148.215 MHz (octal 377). The PLL will not operate below octal 100.



EXTERNAL FREQ CONTROL FOR ICOM-22S