



HANK'S SWAP SHOP

Hank Davis, W6DTV 7822 Washington Avenue
Phone 823-7885 Sebastopol, CA 95472
(Noncommercial ham ads are printed for free)

HEATH IO-21, scope, general purpose \$40.
K6UKB 526-7731.

NEED B&W 40TVL Coil and 12V 20A power
supply. Tracy WB6TMY 527-8124.

ICOM 271H 2 mtr all mode transceiver, built-
in AG-20 preamp and 20A power supply \$850.
HP200CD audio signal generator \$20.00.
HP4108 VTVM \$15.00 D-104 microphone \$7.00
DSI-3550 frequency counter \$35.00.
TAPR TNC-1 w/WA8DED software mod \$50.00.
AT&T 3B speakerphone \$15. Jim KI6KE 538-2857

Sonoma County Radio Amateurs, Inc.
PO Box 116
Santa Rosa, CA 95402

KENWOOD TM401A 450 MHz FM transceiver \$150.
MFJ deluxe keyer with BENCHER paddle \$75.
MFJ 1270 packet radio TNC-2 clone \$75.
SCANNER, 8 channel VHF/UHF, crystals \$25.
HEATH battery opr RLC bridge #IB-5281 \$20.
AUTEK 1C active filter \$20. Hank Davis
W6DTV, 823-7885.

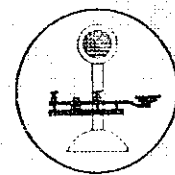
YAESU 901PT speaker/phone patch \$30.00.
UNIQUE antenna tuner for longwire \$40.00.
CUSHCRAFT ARX-2 2 meter vertical antenna.
AZDEN 3000 25 Watt 2 meter FM xcvr \$150.00.
HEATH HM-2140 2-meter SWR/Watt meter 160-10M
\$50.00 HEATH HM-2102 single-meter SWR/Watt
meter 50-160 MHz \$25.00. W6CCY 823-1357.

COMPLETE PACKET STATION: Commodore 64, 1702
monitor, 1514 disc, 802 printer, AEA PK-64
w/HFM TNC + software \$300. W6TLK 833-1873.

93-OHM COAX. Brand new RG-62A/U, copperweld
center cond., 95% braid coverage. \$.05/ft.
This is RG-58/59-size coax good for phasing
lines or use a 1/2-wave multiple to preserve
antenna SWR as seen at the transmitter. Use
2 in parallel for 47 Ohms or in "push-pull"
for 186-Ohm shielded twinlead. Make check
to "SCRA". Al N1AL 538-7115 (577-3981 eves)

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Address Correction Requested



SHORT SKIP



Sonoma County Radio Amateurs, Inc.

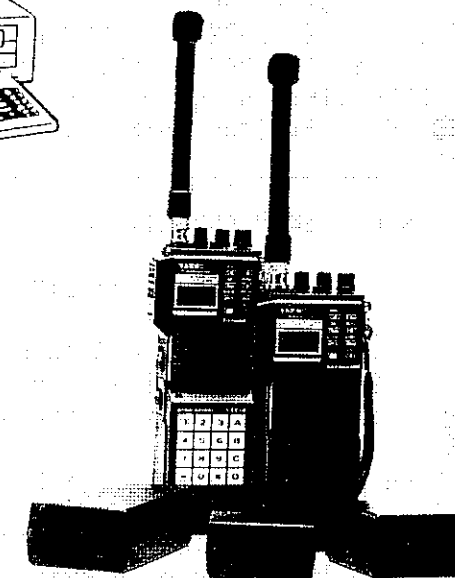
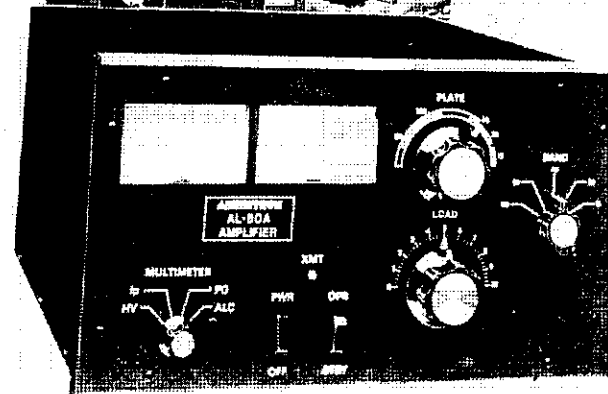
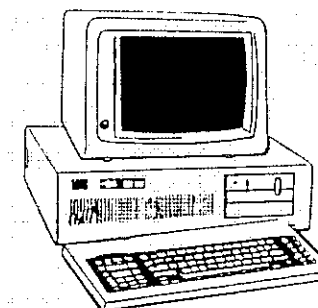
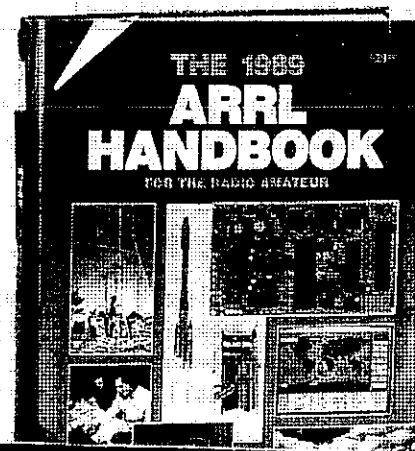
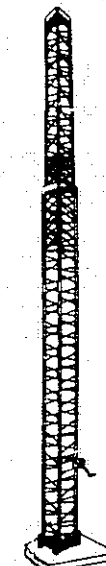
Club Station
DECEMBER 1988 W6ITJ

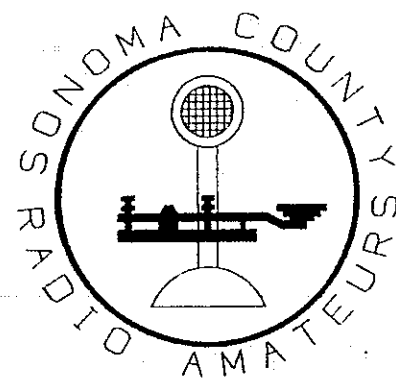
P.O. Box 116
Santa Rosa, CA 95402

Repeater Station
WB6PVS

VOL 13 # 12

GET THAT "WISH LIST" READY FOR SANTA!





OFFICERS FOR 1989

PRESIDENT:	Glen Crownover	N6DNB	938-5986
VICE PRESIDENT:	John Wallack	W6TLK	833-1873
SECRETARY:	Alan Bloom	N1AL	538-7115
TREASURER:	Jim Pelmulder	N6PTM	823-7947
MEMBERS-AT-LARGE:	Chuck Sabin	N6DDK	795-2371
	Bob Olsten	WD6DPE	546-5593
REPEATER CHAIR:	Hoppy Bravin*	WD6CKP	542-6750
ACTIVITIES CHAIR:	Steve Schaffer*	KD6GC	546-8860
----- SHORT SKIP STAFF: -----			
EDITOR:	Alan Bloom	N1AL (e)	538-7115
1578 Los Alamos Rd, Santa Rosa, CA	95405	(d)	577-3981
CIRCULATION MGR:	Tracy Reese	WB6TMY	
SWAP SHOP:	Hank Davis	W6DTV	823-7885

* Pending new appt's

ARRL LIASON: Alan Bloom N1AL 538-7115
 ASST. DIRECTOR: Chuck Sabin N6DDK 795-2371
 BADGES CHAIR.: Hank Davis W6DTV 823-7885
 CLUB HISTORIAN: Connie Freitas N6FYV

ACTIVITIES COMMITTEE:

PUBLIC SERVICE: Bob Sones WB6EKV 546-3873
 PROGRAM CHAIR.: Bob Olsten WD6DPE 546-5593
 REFRESHMENTS @ MEETINGS: Bob Olsten WD6DPE
 GREETER AT MEETINGS: Jane Vanderslice N6NTB
 MEMBERSHIP LOTTERY: Warren Klinger WB6RHP
 QSL MANAGER: Doug Bender WW6D
 VEC EXAMS: Steve Lund WA8LLY 823-4544
 WA6ACX N1AL K6ANP AG6C WD6CKP WN6D WW6D
 W6DTV WW6F WB6FRZ KF6FX W6RIA WB6UDR WU6W
 EDUCATION: Steve Lund WA8LLY 823-4544
 WA6ACX, WW6D, WB6PDP, W6TLK, KF6WV
 AWARDS CHAIRMAN: Steve Lund WA8LLY 823-4544
 XMAS PARTY: Steve Schaffer KD6GC 546-8860
 INTERFERENCE CHR: John Lynch W6CCY 823-1357

REPEATER CONTROL OP'S:

WD6CKP Hoppy 542-6750 W6DTV Hank 823-7885
 WB6PER Jim 526-2972 N6KMJ Russ 823-9691
 WB6UAZ Kathi 544-7943 WN6D Jim 544-7943
 PACKET COMMITTEE: Al Bloom N1AL, Jim Boyett
 WN6D, Rich Freitas KA6SSL

SHORT SKIP ADVERTISING RATES:

Business cards: \$10

\$11 First 1/4 Column
 \$3 Additional 1/4 Columns
 (\$32 Full Page, 1 side)

Pre-printed inserts: \$32/sheet

Guaranteed circulation: 200/month
 AD DEADLINE: 15th of previous month

ARE YOU NOT AN SCRA MEMBER?

IF SO, then this is a complimentary copy. Our club is involved with almost every area of Amateur Radio: Repeaters (13/73), Field Day, license classes (Novice through Extra), volunteer exams, RACES, DX programs, packet (145.03), hidden xmtr hunts -- you name it.

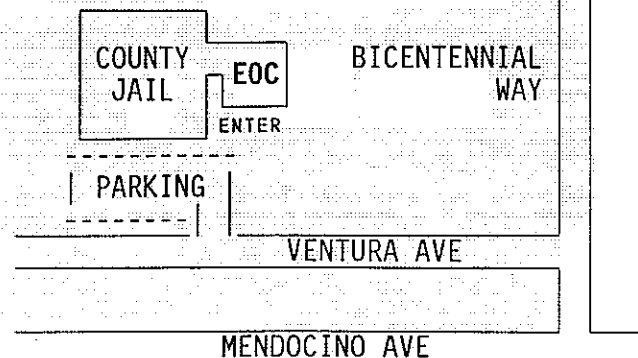
We invite you to attend our next monthly meeting (see below) or check into the Tuesday night SCARS net on the 146.13/73 repeater at 7:00 PM. You will hear the latest Westlink Amateur Radio News broadcast, announcements of SCRA activities, and a Swap Shop. If you would like to join SCRA, please refer to the dues listed below. Hope to have an "eyeball" QSO with you at the next meeting! 73 ...

CLUB MEETINGS:

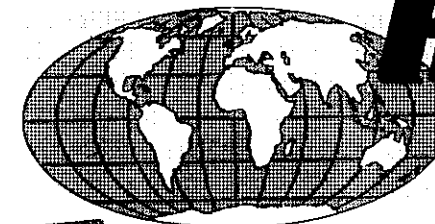
7:30 PM, 1st Wednesday each month at the EOC (Emergency Operations Center, see map below) All are welcome to attend.
 NEXT MEETING: NO MEETING IN DECEMBER!
 CHRISTMAS PARTY: DEC 17, SEE PAGE 3.

DUES: \$12 per year, plus a one-time \$4.00 initiation fee. Dues are pro-rated \$1/month for new members. With membership, comes an SCRA call/name badge. Family membership: \$18

S <---- HIGHWAY 101 ----> N



WORLDWIDE DISTRIBUTION

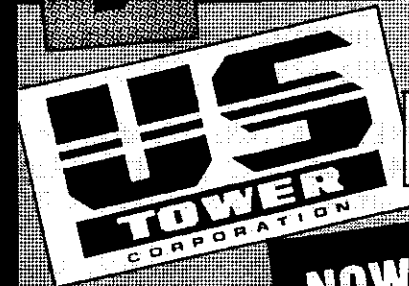


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HRO FULL LINE ACCESSORIES

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 President
 Jim Rafferty N6RJ
 VP So. Calif Div.
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 Between Disneyland & Knott's Berry Farm

ATLANTA, GA 30340
 6071 Buford Hwy.
 (404) 263-0700
 Larry, Mgr. W04AGW
 Doraville, 1 mi. north of I-285

BURLINGAME, CA 94010
 999 Howard Ave.
 (415) 342-5757
 George, Mgr. WB6DSV
 5 miles south on 101 from SFO

OAKLAND, CA 94606
 2210 Livingston St.
 (415) 534-5757
 Al, Mgr. WA6SYK
 17N-5th Ave / 17S-16th Ave.

PHOENIX, AZ 85015
 1702 W. Camelback Rd.
 (602) 242-3515
 Bob, Mgr. K7RDH
 East of Hwy 17

SAN DIEGO, CA 92123
 5375 Kearny Villa Rd.
 (619) 560-4900
 Tom, Mgr. KM6K
 Hwy 163 & Claremont Mesa Blvd

VAN NUYS, CA 91411
 6265 Sepulveda Blvd
 (818) 988-2212
 Al, Mgr. K6YRA
 San Diego Fwy at Victory Blvd

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SCRA MINUTES

NOVEMBER 2, 1988



The meeting was called to order by President Russ O'Neill N6KMJ at 7:33 PM. Other Officers present were Vice President Glen Crownover N6DNB, Treasurer Jim Pelmulder N6PTM, Secretary Al Bloom N1AL, Repeater Chairman Hoppy Bravin WD6CKP, and Members at Large Chuck Sabin N6DDK & Bob Sones WB6EKV.

GUESTS: It really was Jane N6NTB who introduced the visitor, Kathy Hall.

PROGRAM: Bob WD6DPE presented Bart Holmes KA6HGW who gave a short talk on the Calif. insurance initiatives on the ballot.

ELECTIONS: For each position, Bob WB6EKV presented the Nominating Committee's choice, then a motion was passed to close the nominations and elect the nominee:

Moved/Sec'd
PRESIDENT: Glen Crownover N6DNB WB6RHP/K6GEV
VICE PRES: John Wallack W6TLK WB6TMY/WD6CKP
SECRETARY: Al Bloom N1AL K6GEV/WB6RHP
TREASURER: Jim Pelmulder N6PTM KB6PTA/N1AL
MEMBERS- Bob Olsten WD6DPE WD6CKP/N6NTB
AT-LARGE: Chuck Sabin N6DDK "

The **MINUTES** were approved as printed in *Short Skip*. m/s WB6RHP/W6TLK

TREASURER'S REPORT: General Fund: \$1410.11, Rptr Fund: \$1943.67 on Oct 31, according to Jim N6PTM. Several ARRL renewals are going in today: Renew through SCRA and the club gets \$2. Report accepted. m/s N6ONZ/WB6RHP

RACES: Jim WB6PER announced a County-wide drill Nov 12. Just listen to 146.73 at 9 AM and follow instructions.

EDUCATION: Steve WA8LLY's Novice class has run for about 4 wks with 10 students. Tracy WB6TMY will teach about 15 prospective hams from Red Cross. WE STILL NEED MORE TEACHERS! The next exam session is aiming for January.

AWARDS: After carefully checking the cards, Steve announced that Father Frank N6DIP has earned his WAS on 10 meters.

REPEATER: Hoppy WD6CKP talked about the timer problems which were worked out by WB6PER and others. Garry N6ONZ asked about the S-meter readback circuit. WB6PER explained it was built long ago by Jim WN6D, but was not installed at that time because of the proliferation of "bells & whistles."

PUBLIC SERVICE: Bob WB6EKV described the Snoopy Heart-to-Heart run we did on Oct 23. The Windsor Whale Run is this Sunday. This should be the last event in 1988.

PACKET: N1AL reports not much use of the WB6PVS-1 digipeater on 145.03. You can work into Sacramento (PINE) VIA N1AL. Al noted that there is no law prohibiting uploading of Short Skip articles to N1AL on 145.03.

ACTIVITIES: See the reservation form for the Christmas Party on p. 5 of Nov. *Short Skip*. WA8LLY inquired about a different price for kids. N6KMJ suggested asking Steve KD6GC.

CORRESPONDENCE: N1AL has received a note from Helen "Mrs. W6CYM" thanking the club for the "gorgeous plant." We also have flyers from Kantronics and coupons for cut-rate Callbooks.

HAM OF THE YEAR: Hoppy WD6CKP is the committee Chairman. Nominations must be received right away.

XMAS FOOD DRIVE: Ted KB6PTA tried to light a fire under the club on this. It was voted to donate \$100 to the Salvation Army. m/s N6FYV/K6GEV. Ted also feels we should get some P/R out of this. He respectfully declined N1AL's nomination for Public Relations Chairman.

WESTLINK: WD6CKP passed along another plea from Westlink for \$\$\$. They produce the ham radio news program that is heard on the 146.73 net every Tuesday night. The club voted to donate \$50. m/s WA8LLY/WD6CKP

KB6PTA needs an instruction book for a Kenwood 941D Antenna Tuner.

RAFFLE: Warren WB6RHP carefully shook W6CCY's ticket to the bottom before drawing N6FYV's. Connie is now richer by \$41.50.

Adjourned at 8:50 PM. m/s WB6RHP/K6GEV
Respectfully submitted by Al Bloom N1AL. ■

CLUB QSL CARDS

We have 1 order on file for 250 club QSL cards. This means that if you order 250 now, we can send it in to the printer right away. (We wait for at least two same-quantity orders before taking them to the printer unless you order "Express" service.)

Payment must accompany your order. If you want the cards mailed to you, so indicate and add \$3.00 postage/handling. Bring your order to a club meeting or send to: SCRA QSL, PO Box 116, Santa Rosa, CA 95402.

PERSONALIZED CARDS:

# CARDS	NORMAL SERVICE	EXPRESS SERVICE
250	\$19.00	\$28.00
500	\$29.00	\$40.00
1000	\$49.00	\$60.00
2000	\$89.00	\$100.00

BLANK CARDS: (No Call/Name/Address)

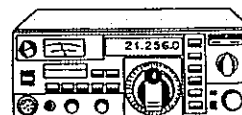
\$4.00 per hundred cards.
(Available at club meetings)

Supply information EXACTLY as it should appear on the card:

***** SCRA MEMBERS ONLY *****

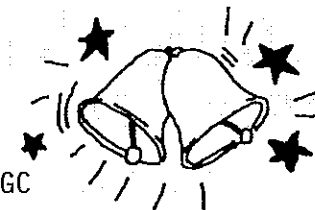
ADD ARRL CALLSIGN: _____
DIAMOND? _____
YES ☐ NAME: _____
NO ☐ ADDR: _____

Nr CARDS _____
\$ _____ (Include payment w/order)



CHRISTMAS PARTY

By Steve Schaffer KD6GC



A last reminder that our Christmas party will be on December 17th. Attitude adjustment begins at 6 PM. We will eat around 7-7:30 PM.

RESERVATIONS NOT REQUIRED: Just bring your money and your body to the Windsor mobile home park.

FOR A PALTRY \$8.00 YOU WILL GET:

PRIZES

CATERED DINNER (No cleanup of food!)

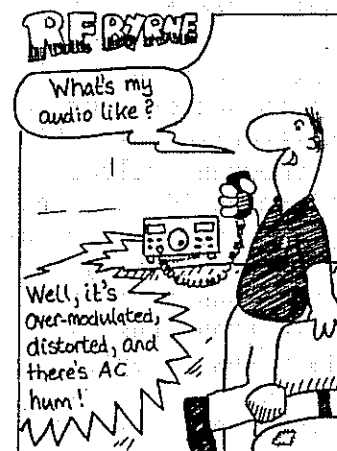
LIVE MUSIC (Compliments of N6OH et al)

SOCIALIZATION WITH THE MOST INTERESTING PEOPLE IN THE WORLD

[EDITOR'S NOTE: I see via the North Hills Radio Club's newsletter that their Christmas Party costs \$12.95 each.]

PLEASE BRING AN EXCHANGE GIFT (not to exceed \$5). Males bring a male's gift. Females bring a female's gift. Children bring a child's gift.

DON'T FORGET TO BRING CANNED GOODS DONATIONS for the needy! There will be a box to put them in. **SEE YOU ALL THERE!**
Questions? Call Steve KD6GC at 546-8860.



RADIO COMMUNICATION



© 1988 Garry (for cartoon) and GARY

BOOK REVIEW: 1989 ARRL HANDBOOK

by Al Bloom N1AL

If you have not seen a recent edition of the *ARRL Handbook*, you're in for a big surprise! It is hard-bound now, and runs to nearly 1200 pages in a large (QST-size) format. The index alone is 15 pages of small print.

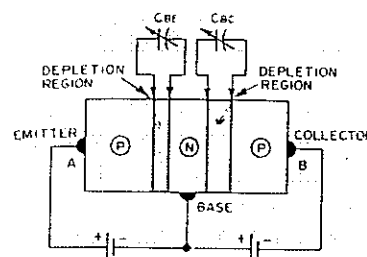
Compared to my 1985 edition, almost every chapter is bigger. The ones on Digital Communications and Equipment went from 55 to 83 pages, with new material covering packet radio theory and Morse code keyer projects. The Image Communications chapter added 10 pages on FM ATV and weather FAX. Space Communications now has data on all Amateur satellites through Oscar 13 and RS-10/11 plus 14 new pages on antennas and equipment.

If you prefer more down-to-earth projects, Power Supply Projects have expanded from 28 to 40 pages. The "RF-Proof" 30-Amp supply looks interesting. There are lots more radio construction projects, too: The HF, VHF and UHF sections have increased from a total of 130 pages to 196 pages.

It's impossible to cover a book this large in a short review. I will just hit on a few of the high points that interested me.

By the way, I wouldn't recommend this book for learning a subject that is new to you. Although the *Handbook* is an excellent reference work, it does not attempt the detailed explanations needed for easy understanding. It is not a "textbook."

The Electronics Fundamentals chapter includes a set of tables to design your own "Modern" (Chebyshev, Butterworth, elliptic) filters using standard component values. For each type of filter, up to 106 designs are presented, covering the frequency range 1 to 10 MHz. For other frequencies, just multiply or divide all coil and capacitor values by a multiple of 10 (move the decimal point). They also explain how to design for other than 50 Ohms impedance. I do wish they would reveal the amount of passband ripple for the Chebyshev filters, rather than just calling it "negligible".



The basics of Solid-state Electronics are well-covered (48 pages). Tubes get only 10 pages. (Tubes? You remember -- kind of like an FET with a light bulb inside...)

The explanation of phase noise in the Oscillators and Synthesizers chapter is the best introduction to the subject I've seen.

The Digital Communications chapter has extensive tables for converting between International Morse, ASCII, Baudot, AMTOR, EBCDIC, Selectric, and ITA codes 1 thru 4. It also includes Morse codes for the Japanese, Korean, Arabic, Hebrew, Russian and Greek alphabets, which is interesting, if not particularly useful.

Among the Special Modulation Techniques discussed is spread-spectrum. They give a pretty good argument for its usefulness.

The chapter on Direction Finding could use some updating. Although there is some good info on directional antennas (loops, Adcock antennas, electronic antenna rotation), there is no mention of Doppler units or even Happy-Flyer-type switched-pattern designs. DF operating techniques and error sources are well-covered, however.

Some construction projects that caught my eye: 160 meter transceiving converter w/full break-in QSK. 1500W 160 m amp. GaAsFET preamps for 28, 50, 144, 220, 420, and 1296 MHz. 2 kW amps for 50, 144 and 220 MHz. How to modify trap verticals for the WARC bands. 100W PIN-diode T/R switch. 1 kW dummy load good to 1296 MHz made from a Heath Cantenna and other parts. Etc. Etc.

Camera-ready printed-circuit artwork for all applicable projects is printed in the back of the book.

Overall, I would say that this is a heck of a lot of good information for \$21.

HSC ELECTRONIC SUPPLY

6819 REDWOOD DRIVE, COTATI, CA 94931

792-2277

Monday thru Friday 9:00 am-6:00 pm

Saturday 9:00 am-5:00 pm

FACTORY REFURB SPECIALS

** TURBO XT MOTHERBOARD

640K Dram, 0 Ram Included

Turbo Bios \$ 69.95

** XT POWER SUPPLY

150 Watt \$ 39.95

WHILE SUPPLIES LAST !!

TURBO XT SYSTEM

Great for Packet Radio

4.77/10 Mhz Switchable Mother Board

256K DRAM (expandable to 640K)

360K Disk Drive

Monographics Display Card

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AT Style Keyboard

Parallel Printer Port

Monochrome Monitor

FCC Class B Approved

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VHF/HF Packet, RTTY, ASCII, CW,
and WeFAX

32K Ram with Battery Backup

1200 or 300 Internal Modem

RS-232C, TTL, and Printer Ports

Hardware HDLC for Full Duplex

AUTOBAUD Rate Select

Dual Radio Ports

Tuning Indicator

Power Supply Included

\$ 249.99



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STANDARD ACCESSORIES INCLUDE:

Flexible Antenna

500 MAh Battery Pack

Wall Charger

Belt Clip

One Year Warranty

VHF AMATEUR with TT Pad \$ 199.00

140-150 MHz, Thumbwheels

VHF AMATEUR w/o TT PAD \$ 179.00

140-150 MHz, Thumbwheels

VHF 6 Channel Commercial \$ 299.00

Diode Matrix Programmable

VHF 12 Channel Marine \$ 299.00

Diode Matrix Programmable

VHF Airband Thumbwheel \$ 299.00

UHF 6 Channel Commercial \$ 299.00

Diode Matrix Programmable

ALL RADIOS FCC APPROVED

OPTIONAL ACCESSORIES INCLUDE:

Speaker-Microphone \$ 32.00

Dual Desktop Charger \$ 65.00

Desk Top Charger \$ 59.00

Extra Battery Packs \$ 32.00

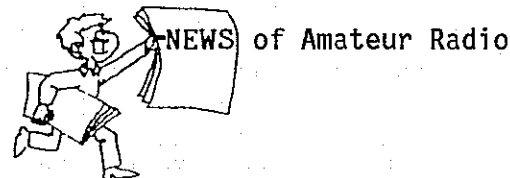
Superstick Antennas \$ 18.00

Extra Wall Charger \$ 5.00

Waterproof Case \$ 19.00

NEED HELP IN SELLING YOUR
HAM GEAR? TRY HSC's
CONSIGNMENT DEPARTMENT !!
YOUR EQUIPMENT WILL GET
LOTS OF EXPOSURE !!





REAGAN ADMINISTRATION FIGHTS FOR 220 MHZ!
The Sec. of Defense has requested that FCC reverse itself on Docket 87-14 and keep 220-222 MHz for Amateurs. Calling the Report and Order "inconsistent with the record of facts",DOD virtually demands FCC reconsider. Meanwhile, FCC's Office of Engineering and Technology, which pushed the reallocation, was caught off guard by over 600 Petitions for Reconsideration (an all-time record) and the intense pressure brought upon Congress and the Executive branch by Hams. (Westlink)

FCC PROPOSES MORE REPEATER FREQUENCIES ON 6M
Docket 88-527 would expand the 6M repeater subband by 1 MHz down to 51 MHz. (ARRL)

ARRL QSL BUREAU RATES GOING UP. As of Feb. 1, the outgoing bureau will charge \$2 per pound or \$1 for 10 cards or less. (ARRL)

WORK A COSMONAUT in the Soviet Space Station Mir. Two hams are on board signing UIMIR and U2MIR. They listen on 145.525 and 145.575 MHz and transmit on 145.550. (ARRL)

COORDINATION DISPUTE SETTLED. The long-time dispute between the Kansas City coordinator and state-wide councils in Kansas & Missouri was partly responsible for the infamous 1987 multiple-coordinator rules interpretation by FCC's Raymond Kowalski. ARRL Midwest Div. Dir. Paul Grauer WØFIR has finally managed to get the two sides talking long enough to hammer out a compromise. (Westlink)

RADIO AMATEURS IN U.S.: (tnx ARRL)			
	1988	1987	%Change
Extra Class	46,152	43,214	+6.8
Advanced Class	98,354	98,147	+0.2
General Class	112,989	114,428	-1.3
Technician Class	99,603	91,633	+8.7
Novice Class	79,730	82,779	-3.7
TOTAL	436,828	430,201	+1.5
ARRL MEMBERS:			
Pacific Division	9,926	9,416	+5.4
Total U.S.	155,287	147,774	+5.1

Thanks to the *Westlink Report* and *ARRL Letter* for the above info.

TREASURER'S REPORT

FOR MONTH ENDING OCTOBER 31, 1988



ACCOUNT	REVENUE	EXPENSE
Activities (Picnic)		100.00
Refreshments at meetings ..	7.35	7.92
Dues and Initiations	47.00	
Fund-Raisers	278.00	174.95
Misc	77.00	88.89
Short Skip Newsletter	32.00	87.14
Westlink Report		15.40
Membership Supplies.....	38.00	24.51
Officers' Expenses		5.00
	479.35	503.81

ASSETS:

General Fund Account	1304.13
Cash/checks on hand	105.98
Total General Fund	1410.11
Total Repeater Fund	1943.67

- de N6PTM

SCRAPS



SONOMA COUNTY
RADIO AMATEURS
PUBLIC SERVICE

Public Service Events In 1988:

Mucky Moodoo Biathalon	3/6/88
Coddington Lion's Club Biathalon	4/24/88
March of Dimes	4/24/88
Santa Rosa Wine Country Century 100	5/1/88
Special Olympics *	5/14/88
Rumpstomper	6/5/88
Terrible Two	6/18/88
Kiwi Kayaks Triathalon	7/10/88
Harvest Century Bike Tour	7/30/88
Stride for Life Race	8/13/88
Bodega Bay to Breakers	8/28/88
YMCA Harvest Fair Race *	10/2/88
Snoopy's Young at Heart Race	10/23/88
Windsor Whale Run	11/06/88

* (New events in 1988)

A total of 38 SCRAPS radio operators worked these 14 events. The service time is 660 hours.

- WD6EKV

SCRA BULLETIN BOARD

The SCRA bulletin Board has hundreds of programs and files free for the taking. Here's a list of the different file areas:

ARC	ARCHIVING UTILITIES
TEXT	COMPUTER-RELATED TEXT FILES
HAMTEXT	HAM RADIO/ELECTRONICS TEXT FILES
HAMFILES	HAM RADIO/ELECTRONICS PROGRAMS
DATA	DATABASE & SPREADSHEET SOFTWARE
WP	WORD PROCESSOR SOFTWARE
GRAPHICS	GRAPHICS PROGRAMS
GAMES	GAMES
UTIL	GENERAL UTILITIES
HARD_DIS	HARD DISK UTILITIES
COMM	COMMUNICATIONS PROGRAMS
UPLOAD	NEW FILES UPLOADED (UNTESTED)

To give you an idea of the type of stuff available, here's a recent listing of programs in the ham area:

HAM RADIO & ELECTRONICS PROGRAMS

CODEPRAC.ARC	Complete Morse Code Training
MORSCODE.ARC	3 Morse Code Practice Programs
SUPRDUFR.ARC	A Contest Duping program from QST Magazine.
EEPD3.ARC	Transistor analysis programs.
ELECTRON.ARC	Menu driven circuit analysis.
BSQ.ARC	Converts Bin to ASCII for sending on Packet.
EDIT.EXE	Sonoma Cnty RACES Packet message form prog.
EDIT.DOC	Documentation for Edit.exe.
MINIPROP.ARC	Propagation analysis for 3-30 mHz paths. Good.
CHIWRITE.ARC	Scientific W/P inc. Greek & math symbols.
CE-AMP.EXE	Common emitter xistor circuit analysis
CW312.ARC	Learn CW. EXCELLENT!!
CW209.ARC	Improve CW speed skills.
CB-AMP.EXE	Common-base xistor circuit analysis
CC-AMP.EXE	Common collector xistor circuit analysis
ATTEN.EXE	H,L or T - Pad attenuator calculator.
VSWR.EXE	Calculates VSWR from Fwd and Refl Power.
EC-MENU.EXE	Menu-driven Electronics Utilities.

UNARC.COM	UNARC util for CP/M 2.2 on Z80 system only
DXCHEK.EXE	Enter coordinates, returns distance apart.
DISTCALC.EXE	Line of sight distance VHF/UHF
PCLOG.ARC	LOGGING PROGRAM
CWSEND.ARC	SEND CW FROM PC & COMPATIBLES
PCRTTY.ARC	RTTY PROGRAM IN BASIC
CWRCV.ARC	RCV CW TO PC SCREEN
HAMLOG.IMG	LOGGING PROGRAM FOR THE C64
HAMLOG.TXT	DOCUMENTATION FOR HAMLOG.IMG FOR THE C64
CWTUTR.BAS	CW TUTOR FOR THE C64
C64ORB.BAS	CALCULATE ORBIT FOR 8 SATILLITES FOR C64
SAMFB8.ARC	SEND & RCV CW ON A PC OR COMPATIBLE
NET_PC.ARC	TCP/IP program for dos, by Phil Karn

SCRA BBS, 527-7734, 300/1200/2400 baud.

NEW AND RENEWED MEMBERS

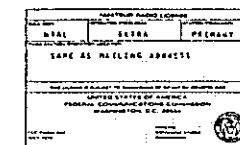


SINCE LAST MONTH:

Allan Chapman W6MEO	Jerome Beck N6MMH
5602 Raters Drive	1661 Hopper Ave
Santa Rosa, Ca 95409	Santa Rosa, CA 95403
538-4935	575-5489

We now have 182 members. ■

CHECK THAT LICENSE!

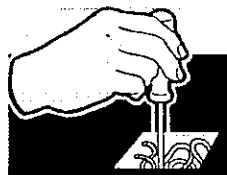


This is the last year any Amateur licenses will expire until about 1994 due to the institution of the 10-year license term 5 years ago. So check that expiration date!

If you have let it expire, the old 5-year licenses have a 1-year grace period on the callsign and a 2-year grace period on re-taking the exam.

- Tnx WA8LLY

HINTS & KINKS

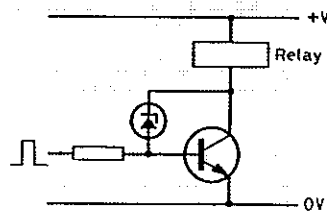
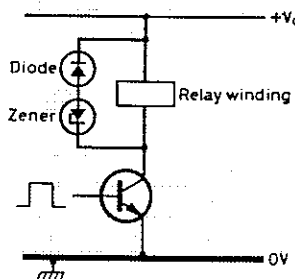


A short article appeared in the September 1988 issue of CQ-DL, journal of the German "ARRL", concerning switching of mechanical relays. If you try to suddenly stop the current through a relay coil, you get a large kickback voltage. (This is the same principle used in the spark coil in your car.) You have two choices: you can use a very high-voltage switching transistor or you can clamp the coil with a diode.

The diode method works fine if you don't care about switching speed. Since the diode shorts out the relay coil for as long as the inductive current flows (a time constant of L/R), the relay stays closed for this time period. For fastest switching, you want to leave some of that kickback voltage across the coil.

The traditional way to do this is with a Zener diode (Fig. 1). The non-Zener diode is to keep the Zener from shorting out the coil when the transistor is "on". You can eliminate this diode and use a lower-power Zener by using the circuit of Fig 2. Since the transistor has to be big enough to pass the relay current anyway, it usually will take the additional power without strain. The Zener voltage should be greater than the +V supply and less than the transistor breakdown voltage. ■

Fig. 1: Traditional Circuit. Fig. 2: Improved circuit.



CDF-VIP NEWS



30 VIP's attended the meeting on Nov 17.

EQUIPMENT NEWS: The Amateur station in the ECC will move to the new barracks "soon". A U.S. government surplus 1970 International bus has been ordered with delivery at the end of the month. Refurbishing by CDF will follow, with N6ONZ designated expeditor for deciding on radios & other equipment needed.

N6DDK asked about the repeater site on Mt. Jackson. It is still being "struggled" with.

W6DTV reports that we now have hard disc drives in both of the packet computers. The portable packet station now has 2 extra sets of handles to accommodate both QRO and QRP personnel. We are coordinating with our instructors to set up a training program in January to cover the new packet software.

FIRE REVIEW: VIP Coordinator Jerry Murphy reports that less than 12,000 acres burned this year in 230 fires. Unfortunately, we lost 9 homes and 16 other structures. The last structure lost before that was in 1985, and the last before that was in 1978.

KUDOS FOR US: Despite the structure losses, CDF received remarkably little bad press. Jerry feels the hams who worked as FIO (Fire Info Officer) can take much of the credit for getting the facts out to the media. **PROGRAM:** Tonight, we practiced "Audiograms" or sending fire maps by voice over the radio. Despite some HT problems, it went quite well.

- de N1AL

HF PACKET

By Lee Zalaznik KI60Y



If you have relegated packet to mundane VHF bulletin board access, maybe you should try packet on the low bands. I did and am having a great time.

My HF packet station is modest by most standards. I run 100 Watts into a long wire. The computer is an IBM clone, and the TNC is an AEA PK232. The modem in the PK232 is a Bell 103 running at 300 baud. Using this gear, I have contacted about 25 stations in the U.S. from Maine to Washington state in the last 6 months. The best DX is F05LQ in Tahiti and AH6V in Maui on 15 meters. Ten meter packet is also very active and includes Europeans and South Americans.

I should tell you about some problems that are unique to HF packet. I have found that the packet length (PACKLEN) and maximum number of outstanding unacknowledged packets (MAXFRAME) have to be shortened to 32 or less and 1 respectively. Sometimes PACKLEN can be lengthened to 80 if solid signals are present, but if the path has a lot of QSB, the packets can easily be lost, and the number of retries will increase.

Set FRACK to a sensibly long value, such as 10, to prevent premature disconnection if the retries get excessive. Also set USERS to 1 to disable multiple connections, and turn off the digipeating function. Both of these will reduce channel congestion and simplify your life. And kill those beacons! If you want to call CQ, send three or four unprotocolled CQ's at random intervals.

It doesn't take many stations using the same frequency to decrease throughput drastically -- Moving to a channel with no more than 4 other stations makes all the difference. If a BBS is on the frequency, go somewhere else since the throughput drops to almost zero because of the long and sometimes continuous packets. The carrier-detect collision system on packet assumes that all stations can hear one another. Since this is often not true on HF, packet collisions abound. The solution is to change to a clear frequency.

Since packet is a low-duty-cycle type of transmission, I can run my FT-757GX at full power without worrying about overheating the finals. Frequency stability is a critical factor. The transmitter and receiver must be within 50 Hz of each other for the tones to be properly detected. Most modern radios exceed this specification, and I have found that the drift on the FT-757GX during warm-up can be enough to slip out of the modem's passband. It helps to use a 500 Hz filter to keep the side splatter down.

Some frequencies on HF packet are very busy, and a low-powered station does not stand much chance of success. Common HF frequencies include: 14.103, 21.105 and 28.105 for calling and 14.097, 14.099, 14.105, 14.111, 14.113, 21.099, 21.103, 21.105, 28.099, 28.103, and 28.105 for working. An additional tip is to read the mail while connected, by turning on the MONITOR function. It lets you see what other stations are on frequency.

Given all the challenges with HF packet, I have had a blast! Although it is sometimes tough to get a packet through, you know that what does make it will be error-free. With Novices providing lots of 10 meter activity, and with the sunspot cycle on the way up, we can look forward to some great years for HF packet. So join the revolution and get connected. ■

Thanks, Livermore ARC LARK newsletter.

TIRED OF QRP? TRY 20,000 W!

According to Tracy WB6TMY, RCA is looking for a technician to work as Transmitter Engineer at their transmitting site in Bolinas. With responsibility for 15 transmitters up to 20 kW, the position requires a 2nd class Radiotelegraph license (20 wpm + written exam). Contact Jack Martini at 415-669-1003 or give Tracy a call.