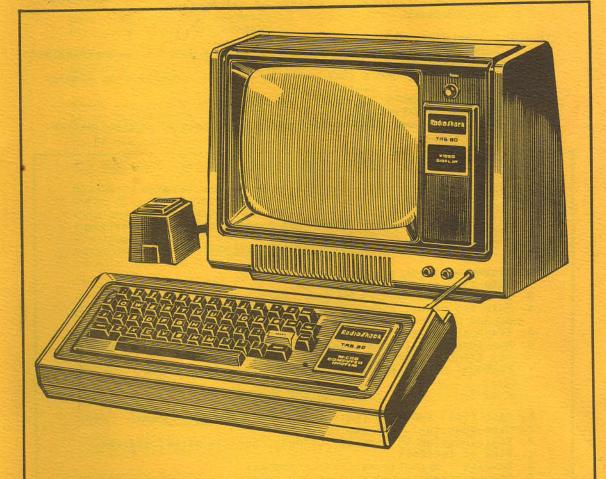


SAN DIEGO REPEATER ASSOCIATION

VOLUME VI

APRIL, 1978

NUMBER 4



The program for the April meeting will be Glenn Hood from Radio Shack demonstrating the TRS-80 computer system. There is a lot of talk about "home computers of the future". The TRS-80 is one of the least expensive systems and is expandable to 56K bytes of memory. Come see it....

# SANDRA, INC.

The PURPOSE of our REPEATER SYSTEMS is to FACILITATE 2-WAY RADIO COMMUNICATIONS WHERE EXTENDED RANGE IS REQUIRED OR WHERE NATURAL OR MAN-MADE LIMITATIONS TO SIMPLEX COMMUNICATIONS EXIST.

# MANDATORY REPEATER OPERATING PROCEDURES

# VALID COMMUNICATIONS:

- 1. Emergency communications (IMMEDIATELY acknowledging breaks).
  - a) YOUR CALL REGULAR OR TIME FACTOR TRAFFIC.
  - b) BREAK BREAK (2 breaks) EMERGENCY.
  - c) BREAK BREAK BREAK (3 breaks) LIFE OR DEATH.
- 2. Public Service and demonstrations of Amateur Radio.
- 3. Short transmissions or exchange of information.
- 4. Announcements.

# IN-VALID COMMUNICATIONS:

- 1. JAMMING in any form and ACKNOWLEDGMENT OF JAMMING OR INTERFERENCE.
- 2. LONG TRANSMISSIONS (except emergencies)
- 3. RAG-CHEWING QSO's that could be handled adequately on simplex or another band.
- 4. BUSINESS COMMUNICATIONS.
- 5. TESTING ON REPEATERS.
- 6. ABUSIVE language of an offensive or distasteful subject matter.

## INTERFERENCE REPORTING PROCEDURE

The first DO's are really DON'T's !! Don't acknowledge.

Don't discuss.

Don't antagonize,

Make the Jammer think his transmitter is not working.

# OBSERVATION PROCEDURES

- 1. Listen on input note frequency.
- 2. Note time and date of incident.
- 3. If you have a beam or DF gear, take a bearing (magnetic).
- Note the signal strength and antenna you used (mobile, inside, ground plane, beam, etc.)
- 5. Transmission content; ie: music, carrier, talking, etc.
- 6. Any identifiable characteristics such as hum, background noise, off frequency or discriminator reading.
- 7. Personal observations and opinions as to the source.

## FILING THE REPORT

- 1. CALL (714) 286-8550 (unlisted) YOU HAVE 60 seconds.
- 2. Give your full NAME and Call.
- 3. Your location at time of incident, such as street address.
- 4. TIME of incident.
- 5. Bearing magnetic as read on compass.
- 6. Signal strength and antenna you used.
- 7. Transmission content.
- 8. Identifiable characteristics.
- 9. Personal observations and suspicions.

# **Minutes**

MEETING OF THE BOARD OF DIRECTORS SANDRA, INC.

The meeting of the Board of Directors was called to order by President Bob Brunette, WA6SND, at the Hamburger House at 7:35 PM.

Board Members Present: WA6SND, W6PDA, WA6NEH, WB6LXG, WA6LAG, WA6ATI, WB6AMT, W6QR, XE2IO.

# Announcements:

Dave Olson, WA6KAQ, regretfully resigned from the Board of Directors due to bad health.

President Bob Brunette appointed Tony Lizardi, WB6AMT as the Member at large to replace Dave. The board approved the appointment unanimously.

There was no quorum at the March General Membership meeting, so no business was acted upon. There must be 10% of the membership present for any business or votes taken to be a valid club action.

# Old Business:

Emergency Power
W6PDA discussed the steps being taken to supply our repeaters
with emergency power. In the recent blackout all repeaters
except Laguna were off the air. The autopatch at Sharp
Hospital should not have been off as it is on emergency power
supplied by the hospital. This will be investigated to try
to determine the cause of this failure.

Otay is being handled as the priority system to equip with emergency power at this time. It needs a longer power line run, and will take between \$100 and \$300 to finish.

The Laguna repeater is also being evaluated for an appropriate emergency system. W6PDA has received manuals from Motorola to detail the necessary steps to change the power supply for emergency power. The retail cost for these changes from Motorola would be approximately \$700. Other methods are also being evaluated, but at this time the cost factor being looked at remains \$600 to \$700 for an appropriate system, that is reliable and maintenance free.

Dwight, WA6SIG and Alex XE2IO are working with the trustees to complete the systems with this necessary emergency power.

Treasurers Report
The Treasurers report was given by Jack WB6LXG, and is seen elsewhere in this issue.

DIODES/ZENERS   1N914   100v   10mA   1N4005   600v   1A   1N4007   1000v   1A   1N4148   75v   10mA   1N753A   6.2v   z   1N758A   10v   z   1N759A   12v   z   1N4733   5.1v   z   1N5243   13v   z   1N5244B   14v   z   1N5245B   15v   z   z	.08 .15	SOCKET  8-pin pcb 14-pin pcb 18-pin pcb 22-pin pcb 24-pin pcb 24-pin pcb 40-pin pcb Molex pins .01 2 Amp Bridge	100-prv 1.20 200-prv 1.95	TRANSISTORS, 2N2222A NPN (2N2222 2N2907A PNP 2N3906 PNP (Plastic) 2N3905 NPN 15A 119125 PNP Darlin LED Green, Red, Clear, Ye D.L.747 7 seg 55%' Hi XAN72 7 seg com-ant MAN71 7 seg com-ant MAN82A 7 seg com-ant MAN82A 7 seg com-ant MAN84A 7 seg com-ant FND359 7 seg com-cat	2 Plastic .10) .15 .15 .10 .10 .35 .60v .50 .9ton .35 .9tllow .15 .9d com-anode .1.95 .0de (Red) 1.25 .0de (Orange) 1.25 .0de (Vellow) 1.25 .15 .15 .15 .15 .15 .15 .15 .15 .15 .15
C MOS  4000	.15 .15 .20 .20 .15 .25 .35 .55 .55 .25 .10 .25 .30 .35 .110 .25 .40 .15 .30 .35 .15 .40 .30 .35 .45 .45 .45 .45 .45 .45 .45 .45 .45 .4	7473 .25 7474 .30 7476 .40 7480 .55 7481 .75 7483 .95 7486 .25 7489 1.35 7490 .55 7491 .95 7492 .95 7492 .95 7493 .35 7496 .80 7496 .80 74100 1.15 74107 .35 74122 .55 74123 .55 74124 .35 74125 .45 74125 .45 74126 .35 74126 .35 74127 .35 74128 .35 74129 .35 74129 .35 74121 .35 74121 .35 74121 .35 74122 .55 74123 .35 74125 .45 74126 .35 74132 1.35 74151 .95 74151 .95 74151 .95 74153 .75 74154 .95 74166 .95 74167 .85 74163 .85 74163 .85 74164 .80 74166 1.38	74H30 .20 74H40 .25 74H50 .25 74H51 .25 74H52 .15 74H53 .25 74H55 .20	74H72 .45 74H101 .75 74H103 .75 74H106 .95  74L00 .25 74L02 .25 74L03 .30 74L04 .30 74L10 .30 74L10 .35 74L30 .45 74L47 1.95 74L51 .45 74L55 .65 74L72 .45 74L73 .40 74L74 .45 74L73 .85 74L123 .85  74S00 .35 74S02 .35 74S02 .35 74S04 .30 74S04 .30 74S05 .35 74S04 .30 74S05 .35 74S04 .30 74S04 .30 74S05 .35 74S04 .30 74S05 .35 74S04 .30 74S06 .35 74S07 .35 74S11 .35 74S20 .35 74S40 .20 74S50 .20 74S51 .25 74S64 .20 74S74 .35 74S112 .66	745133 .40 745140 .55 745151 .30 745153 .35 745158 .30 745158 .30 745159 1.05 745257 (8123) 1.05 74LS00 .25 74LS01 .35 74LS02 .35 74LS04 .30 74LS05 .45 74LS08 .25 74LS10 .35 74LS164 .190 74LS368 .75 74LS368 .75 74C04 .25 74C151 .225
4069 .40 4071 .35 4081 .70 4082 .45 MC14409 14.50 MC 14419 4.85  9301 .85 95H031.10 9309 .35 9601 .45 9322 .75 9602 .45  MICRO'S, RAMS, CPU'S, ETC. 745188 3.00 1702A 4.50 MM5314 3.00 MM5314 3.00	LM310 LM311D LM318 (I LM320K LM320K	.65 (340K-5)85 1.15 (Mini) .75 (Mini) .95 5(7905)1.65 12 1.65	LINEARS, REGUL  LM320T5 1.65  LM320T12 1.65  LM320T15 1.65  LM324N .95  LM339 .95  S805 (340T5) .95  LM340T12 1.00  LM340T15 1.00  LM340T18 1.00  LM340T18 1.00  LM340T24 .95  LM340K12 1.65  CIRCUITS	LM340K15 1.25 LM340K18 1.25 LM340K24 .95 78L05 .75 78L12 .75 78L15 .75 78M05 .75 LM373 2.95 LM380 (8-14 PIN).95 LM709 (8,14 PIN).25 LM711 .45	LM723 .50 LM725N 2.50 LM739 1.50 LM731 1.50 LM741 (8-14).25 LM747 1.10 LM1307 1.25 LM1458 .95 LM3900 .50 LM75451 .65 NE555 .50 NE555 .50 NE556 .95 NE566 1.75 NE567 1.35
MM5316 3.50 2102-1 1.45 2102L-1 1.75 TR1602B 4.50 TMS 4044-45NL 14.50 8080AD 12.00 8T13 1.50 8T23 1.50 8T24 2.00 8T97 1.00 2107B-4, A 4.00 2708 11.50	Discount A	(714 All orders ship Open accounts	invited  Quantities California Reteed. All orders shipped states	os.)  No minimum  COD orders accepted  esidents add 6% Sales Tax	SPECIAL DISCOUNTS Total Order Ded \$355 - \$99 5 \$100 - \$300 10 \$301 - \$1000 15 \$1000 - Up 20 rd / Visa / MasterCharge

Insurance Rates WAGIAG modified the board of the new insurance rates we are paying. We are remaining with Hartford, but are claiming only 20 members to cover board members on club business and technical assistants on trips to repeater sites. The rest of the membership are in the catagory of subscribers for insurance coverage only. With this change our rate once again becomes reasonable at \$379.00.

Gary Radio
Gary Radio sent a letter requesting we accept 80% on the dollar
as payment for their advertising bill, as they are going out
of business. It was moved by Tony WB6AMT that we consider
this bill paid in full, and notify Gary Radio by letter of
this decision, and thank them for their support of SANDRA
during our association with them. WA6ATI seconded the motion.
The motion carried with W6PDA, K6QR, and WA6LAG dissenting.

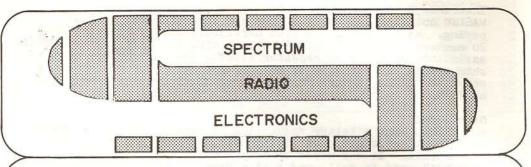
Hill trip compensation
W6PDA brought up the need for documentation of the cost of
trips to the repeater sites on Otay and Laguna. He suggested
a flat flee of \$5 per person and \$10 per behicle be paid. Discusmion ffollowed. WA6SND suggested we refrain from setting
up a set system, but take action on the bills as presented.
When a trustee has pre-knowledge of a trip, information can
be presented before the trip so compensation can be determined
prior to the work. On the bill presented for the trip to
Laguna ffor the antenna installation WA6LAG moved to pay a bill
of \$33.96 ffor the trip and parts. W6QR seconded. The motion
passed unamimously.

WA6SND reported that WA6SIG put a hole in the gas tank on his Honda on a recent Otay trip. It had been damaged on several trips on Sandra business to the hill, and the continued abuse fimally caused a hole. W6QR moved Sandra reimburse WA6SIG \$20 thoward the replacement cost for the tank. WA6LAG seconded the motion. It was passed unanimously.

220 Repeater
W6FDA reported the repeater should be available next week.
At that time the remainder of the cost, \$400 plus tax will be due. Troday all the cables and equipment ordered from Phelps Dodge arrived. An out door Motorola cabinet was donated by WB6ANT.

Dues
A system was discussed to take in money for dues that will eliminate the difficulties of notifying necessary personnel of changes. All monies must be given to WA6LAG, and he will make the necessary lists for Treasurer, Squelch Tales, Membership, and Secretary. Also WA6LAG will deal with the mail and get all items out to the necessary individuals.

Control
A permanent control system is being worked on for Otay by WA6SIG and WA6YVX.



Steve Schimack WA6HFM

Victor Tiscareno WA6PNZ

STARTING ABOUT MAY FIRST, WE WILL OFFER COMPLETE REPAIR SERVICE FOR ALL MAKES OF AMATEUR EQUIPMENT.

Remember us when your rig develops a problem. WE'LL GIVE FAST. ECONOMICAL SERVICE TO GET YOU BACK ON THE AIR.

OUR TECHNICIANS HOLD F.C.C. COMMERCIAL LICENSES AND ARE EXPERIENCED IN COMMERCIAL, CONSUMER AND INDUSTRIAL AS WELL AS AMATEUR REPAIR. STOP BY AND HAVE A CUP OF COFFEE AND LOOK OVER OUR USED EQUIPMENT SHELF.

> 7881 UNIVERSITY AVENUE · LA MESA · CA · 92041 PHONE 460-0270

Amateur

· CB

Marine

Commercial · Service

# NEW BUSINESS

Programs
Dennis, WA6ATI, Meeting Chairman announced the programs for
the April and May general membership meetings. In April
Glenn Hood will demonstrate and explain the new Radio Shack
computer. The May meeting will bring Brant Tyler from Swan
Electronics to discuss VHF antennas and new low band gear they
are putting on the market.

Interference W6QR notified the board an individual called with information regarding a person possibly causing interference. He is a young man living on Mt Carrel. Members should be alert to any inappropriate activities. Also a call was noted on our repeaters that has not been issued (The FCC has not reached those letters yet, and will not in the future due to a change in assigning calls). Members, please be alert and utilize our interference number.

W6QR also notified the board of a commendation for the 1978 Board of Directors, received from Bob Thacker WB6RHL. The vote of confidence was appreciated by all members.

Membership Applications
Sybil W6GIC presented the board with a copy of the new membership application and rules of operation. They have the new dues rate, Board of Directors listing, and necessary updated information. These applications will be available in the near future.

Letterhead Envelopes Wayne, W6PDA, moved to purchase 500 letterhead envelopes to match the stationery, for \$54 to \$57. WA6LAG seconded. Discussion followed. It was noted 500 envelopes were purchased recently and the board agreed at the last meeting the letterhead envelopes were not essential at this time. The motion was not carried with WA6NEH, WB6AMT, WA6LXG, WA6ATI voting against the purchase. XE2IO abstained.

Del Mar Fair WA6NEH moved that Sandra support the radio booth at the Del Mar Fair by providing personnel to man the booth for 1 day to be specified later. XE2IO seconded the motion. It passed unanimously.

Home Show Anyone who wants to work at the Amateur radio booth at the Home Show please contact Sybil, WA6GIC as she is scheduling the workers. The show starts May 4 and continues through May 7.

Dues Due W6PDA reminded the board that the SCRA dues are currently due. Also, the Council dues are due and shall be paid.

Squelch Tales W6PDA opened discussion about checking the cost of outside help to do the collating and stapling of Squelch Tales. WA6NEH

# DC POWER SUPPLIES



**GET RUGGED** HIGH QUALITY DC POWER

Westcom's heavy-duty line of reliable DC power supplies offer dependable DC power for all applications.

### Special Features

- · Solid state electronically regulated
- · Fold-back current limiting protects power supply from excessive current and continuous shorted output
- · Crowbar over voltage protection on models RS-7A, RS-12A, RS-20A, RS-35A and RS-50A
- · Three conductor power cord
- · One year warranty
- Made in U.S.A.
- · Maintain regulation and low ripple at low line input voltage
- · Heavy duty heat sink
- · Chassis mount fuse

### PERFORMANCE SPECIFICATIONS

Input voltage: 105 - 125 VAC

Output voltage: 13.8 VDC ± 0.05 volts

Ripple: less than 5 mV peak-to-peak worst

case (full load and low line)

Regulation: ± .05 volts no load to full load and low line to high line

Shipping Weights

RS-7A 8# RS-12A 14# RS-20A 20# RS-35A 30# RS-50A 42#

Technical data and specifications subject to change without notice.

# Five Powerful Models

5 A Continuous 7 A Intermittant Recommended for 50 W amp's or 30 watt transmitters.

RS-12A 9 A Continuous 12 A Intermittant Recommended for 80 W amp's.

16 A Continuous 20 A Intermittant Recommended for 120 W amp's.

25 A Continuous 35 A Intermittant Recommended for 250 W amp's

35A Continuous 50 A Intermittant Recommended for 400 W amp's.



1320 Grand Avenue California 92069 ENGINEERING

San Marcos (714) 744-0728 suggested the investigation of Sheltered Workships to see their rates. Sybil will do so. Also, the cost of label printing was discussed as another individual wanted to bid for the work. WA6SND will talk to the gentleman and get a bid.

Bingo

Jack WB6AXW has all the paperwork that needs to be completed for the Bingo Licensing. At this time he does not have the time for this project, but it is available if we want to move ahead. We will investigate this activity further as a future money-making project.

Thank you WB6SND requested the secretary WA6NEH to send a letter to the Normal Heights Methodist Church Board of Directors thanking them for the use of their church for our meetings in the past.

WA6LAG moved the meeting adjourn. W6QR seconded the motion and it passed unanimously. The meeting was closed at 9:30PM.

Respectfully submitted

Sthu Szardi

Esther Lizardi, WA6NEH Secretary

# President's Column

As your president, I am here to tell you that it is mighty difficult to run a club when not enough members show up to make a quorum at the General Membership meetings.

Since our By-Laws require a 10% presence of members to do business, that means that about 65-70 members are required for a quorum. We had 37 people at the last meeting.

If the low attendance continues, we may have to change our By-Laws to require 5% instead of 10% to do business.

Tell every member you see that we need him or her at our meetings. We have a good program this time, so maybe this will pull out more bodies from the woodwork. I hope so.

SANDRA is a fine organization with excellent members. Just one little problem: where are you on meeting nights?

de Bob, WA6SND

# AUTOP ATCH

We presently subscribe to "O.C.M.S." which allows dialing into POWAY and DEL MAR exchanges. The prefixes that are legal are: 484, 485, 486, 487, 481, 748, and 755. These calls are not "free" except when made before 8 AM and after 8 PM. The calls are metered between these hours and we pay a flat fee for 120 minutes usage per month. To call into these areas, you must dial a "1" before dialing the number.

Calls into other long distance areas are locked out and the patch will automatically dump on the fifth digit dialed.

Always ID properly  $\overline{\text{BEFORE}}$  you press the star access, and  $\overline{\text{AFTER}}$  you have pressed the # disconnect.

If you are calling an emergency, identify yourself as being on the patch and let them know that you will call back if disconnected.

Keep conversations by the amateur very SHORT and CLEAR, as the people not familiar with radio will be answering your every question or comment.

Calls must be of a personal nature or public service - no business calls whatsoever - if in doubt, don't make the call.

If you are in a fringe area, avoid making the call - chances are you won't be readable anyway - wait until you are solid copy.

Never make a call through the autopatch from your base station simply to avoid a long distance charge on your phone.

From an earlier article by Dave, K6QL, Trustee



# TREASURERS REPORT

# TREASURER'S REPORT FOR MARCH 1978

BEGINNING BALANCE MARCH 1, 1978

# INCOME

Dues and Initiation	\$1319.00	
Refreshments	6.06	
Badges	12.00	
Squelch Tales Ads	270.00	
Other	36.00	
	Total	\$1643.06

## EXPENSES

Administration & Supplies	\$	39.00		
Rent, Otay site, April		50.00		
Pacific Telephone, Auto-patch		29.72		
UTC, March Gen. Mtg.		10.00		
Squelch Tales, print March issue		131.55		
Refreshments, Feb. & Mar. Gen. Mtgs		13.88		
Badges		10.48		
Maintenance, Otay 2 Mtrs.		10.39		
2 Mtr. emergency antenna		137.90		
220 MHz. Antenna, duplexer & acces.	2000	505.26		
Shipping expense, 2 Mtr. Ant.		34.13		
onipping expense; a net; miss	Total		S	972.31

ENDING BALANCE MARCH 31, 1978

\$1112.08

# SAVINGS ACCOUNT

BEGINNING BALANCE MARCH 1, 1978	\$ 697.19
ENDING BALANCE MARCH 31, 1978	\$ 697.19

220 Repeater donations received to date \$ 61.68



HAM GEAR - DISCOUNT PRICES . SALES .

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10 A.M. to 6 P.M. CLOSED SUNDAYS

GLENN RATTMANN

K6NA/W6MAR

# ELECTRONIC SUPPLIES

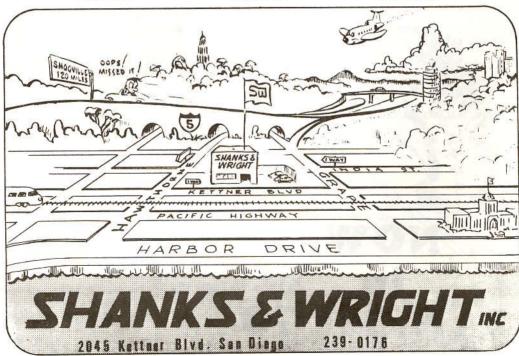
SINCE 1945



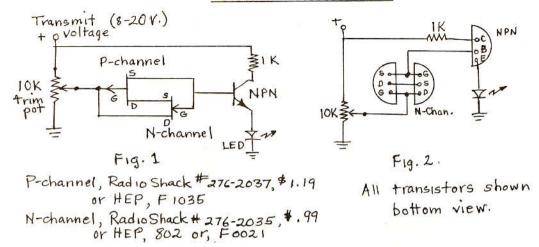
W6BZE

W60SD

W6DWA



# BATTERY VOLTAGE INDICATOR



If your HT or battery operated rig doesn't have a battery voltage indicator, you'll find this gadget handy. This circuit will turn on a light emitting diode (LED) when the voltage applied to it drops below a pre-set level. The heart of the unit is two junction field-effect transistors (J FET). One is a P-channel and the other is an N-channel hooked up in a configuration that simulates a device called a lambda diode. A lambda diode is like the reverse of a zener diode, in that it only conducts when the voltage across it goes below a certain level. In this circuit, the voltage at which the lambda diode conducts is set by the 10K trim pot, and when the diode conducts, the current is fed into the base of the NPN transistor which then turns on the LED.

The NPN transistor can be any small plastic transistor, and the LED can be any one you have that lights. The 1K resistor going to the transistor collector limits the current through the LED to about 9 mA with 10V. applied to the circuit. The choice of J FET's is not critical, practically any will do. If you have any in your junk box, they're most likely N-channel which is the more common type, and I have included in the parts list Radio Shack and HEP part numbers so that if you have to go out and buy them, you might find these available. The unit can be made quite small, and you don't even need a circuit board unless you want to use one. The 2 J FET's can be glued together and the leads bent over and soldered as shown in Fig. 2. If the pin out on the N-channel FET you have is not the same as in Fig. 2, don't worry about it for you can interchange the source and drain connections on the N-channel transistor without affecting the operation of the circuit. To make the whole thing smaller, the 10K pot can be replaced by two 1 wat resistors as long as the total resistance is about 10K.

The circuit should be wired into the HT so that the voltage is applied to it only during transmit. With the LED off, the circuit draws a little over 1 mA and about 10mA. with the LED on. The voltage difference between when the LED first begins to glow and the point at which it is fully lit is 0.5V. Nicad batteries are discharged when they reach approximately 1V. per cell. With a 10 battery radio, the pot should be set so that with 10.5V applied the LED just begins to glow, and then it will be fully lit at 10V. Then, when the LED starts to glow, it's time to go QRT.

Lew, W2CMA from the Brooklyn Squelch Tale

# LION electronics

Between G &H

# 457 BROADWAY CHULA VISTA

HOURS DAILY 9-6 427-6131 WB6LFW DICK WA6LWS DUTCH WB6QMM ROGER

# Introducing . . . Wilson's

# New 2 Meter Mark II and Mark IV

The new arrivals to the Wilson family of quality high performing hand-held radios are the small American-made MARK II and MARK IV. The ultimate hand-held for the amateur who demands quality, performance and value.

As the smallest size hand-helds ever marketed, the radios feature excellent adjacent channel selectivity, and innermod/image rejection. The attractive blue-gray Lexan® outer case is rugged and durable

# 2 METER SYNTHESIZED PORTABLE

Riding the crest of the new wave of multi-channel two-meter rigs is the Wilson WE-800. Designed as an all-purpose mobile or portable unit, the WE-800 is loaded with enough features to satisfy even the most discriminating amateur. The "800" is for channels, from 144 to 148 MHz in 5 KHz steps, up or down 500 KHz for your local repeater. There are even provisions for pre-programming five of your favorite frequencies or changing to two optional offsets, in case your area repeater is non-standard. Add to these features; internal rechargeable power pack optional (uses 10 AA NiCad cells, not included), detachable rubber flex antenna, built-in S-meter/output indicator, built-in high-low power option switch (1 or 12 watts, when used mobile or base), built-in connectors for external antenna, speaker and power. Whether you're just getting your feet wet on two-meters, or a seasoned amateur, you'll find the WE-800 to be the most light-weight, versatile base/mobile/portable rig on the market today.

The WE-800 comes complete with plug-in speaker-microphone, mobile mounting bracket/handle, rubber flex antenna, 12V DC Charger Cord, instruction booklet and 90 day limited warranty. Rechargeable internal battery pack optional.



AN OLD TIMER SPEAKS . . .

In a recent issue of the <u>Sentinel</u>, (the newsletter of the West Coast Amateur Radio Service - WESCARS) appeared an excellent feature article prepared by Hart Postlethwaite of HAPPY FLYERS.

Hart starts out by noting that an estimated 300,000 ham units are in the hands of many CBers and 1000 HFers and VHFers, most of whom are not licensed to use the gear. He makes a case for the use of DF equipment and the cooperative effort of a local group of amateurs when intentional jamming occurs. Speaking on net operations, (e.g., WESCARS), Hart says that those on the net feel they have made more spectrum available by the concentration of net members on a single frequency. Others feel that no one group has a right to a specific frequency. Hence, a conflict between the 'Netters' and the self-appointed 'Protectors' (of 'Ham Frequency Rights") often leads to intentional jamming by members of both groups against the other.

One paragraph in the Sentinel feature article applies particularly to 2 meters. Quoting Hart, "Then came the repeaters! The crowning threat to freedom. A remote device, CRYSTAL CONTROLLED, catering to specific interest groups (so they feel). Forgotten was the fact that, like nets, many Hams with like interests, hobbies, personalities, and goals were now congregating on single frequencies and waiting their turn to "share the machine". Forgotten also was the expanded usefulness of the little used UHF/VHF bands by the increased range available through high elevation repeaters. The clarity and reliability afforded and the opportunity to provide excellent back-up emergency and public service communications. That any Ham may use a repeater (realizing of course the values of common courtesies and the legal aspect of interrupting an ongoing QSO without intent of joining the conversation in progress). One might also note that the number of 2 meter rigs on the market - we could easily have the sound of 27 Megacycles, if all the listeners to repeaters suddenly started individual conversations all over the 2 meter band".

Hart concludes his article with an expressed concern for the effect of intentional jamming on the public service aspect of amateur radio. He points out that all of us (as well as the HAPPY FLYERS with ongoing installations of downed-aircraft alerting and remote DFing) have the opportunity for providing tremendous public and humanitarian services through our repeaters. What better way can we serve our fellow man and at the same time substantiate our existence as Hams?

T.O.T



# WESTERN RADIO electronics

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Swan









Johnson

Turner







# NEW EQUIPMENT SPECIALS

MIDLAND	13-509	\$239.00
ICOM	DV21	283.00
ICOM	IC3PA	65.00
ICOM	IC3PS	79.00
ICOM	IC21MM	13.00
ICOM	2MSSB	216.00
TCOM	IC502	210.00

SWAN	600RC	\$	449	.00
SWAN	35-40SL	40M	25	.75
SWAN	35-75SL	75M	28	.35

USED EQUIPMENT SPECIALS \$53.00 239.00 CLEGG FM27B 169.00 ML-2 DRAKE 265.00 230

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# WORKER OVER A BARREL

The following gem, from the Victoria (B.C.) Daily Colonial, purports to be a workman's compensation report submitted by a construction worker who ended up in a hospital after one hour on a new job.

The worder's job was simple. He was merely required to move bricks from the top of a two-story building to the ground. But it proved to be more hazardous than it sounded. His full report follows:

"Thinking I could save time, I rigged a beam with a pulley at the top of the house and rope leading to the ground. I tied an empty barrel on one end of the rope, pulled it to the top of the house, and fastened the other end of the rope to a tree. Going up to the top of the house, I filled the barrel with bricks.

Then I went back down and unfastened the rope to let the barrel down. Unfortunately the barrel of bricks was now heavier than I, and before I knew what was happening the barrel jerked me up in the air.

I hung onto the rope and halfway up I met the barrel coming down, receiving a severe blow on the left shoulder. I then continued on up to the top, banging my head on the beam and jamming my fingers in the pulley.

When the barrel hit the ground, the bottom burst, spilling the bricks. As I was now heavier than the barrel, I started down at high speed. Halfway down, I met the barrel coming up, receiving severe lacerations to my shins. When I hit the ground, I landed on the bricks.

At this point, I must have become confused because I let go of the rope. The barrel came down, striking me on the head, and I woke up in the hospital.

I respectfully request sick leave.

### ACCEPTED PROCEDURES

There are ten guidelines that the membership and the Board feel are necessary, and they are listed in the order of priority. Following this listing is a brief explanation of each.

- IMMEDIATELY ACKNOWLEDGE A BREAKING STATION AND YIELD THE CHANNEL. (Breakers should return the repeater to the existing QSO.)
- II. NEVER ACKNOWLEDGE JAMMERS OR INTERFERENCE, TALK ABOUT IT OR TO THE JAMMER.
- III. NEVER CONDUCT BUSINESS ON THE AIR.
- IV. DO NOT MAKE UNIDENTIFIED INTERJECTIONS AND DO NOT RESPOND TO THEM.
- V. DO NOT USE DISTASTEFUL SUBJECT MATTER AND LANGUAGE.
- VI. DO NOT TALK TO OBVIOUSLY INTOXICATED PEOPLE.
- VII. YIELD TO HIGHER PRIORITY TRAFFIC AS OUTLINED HEREIN.
- VIII. USE SIMPLEX WHENEVER POSSIBLE SO AS TO RELEASE THE REPEATER.
- IX. DO NOT MONOPOLIZE THE REPEATER.
- X. TESTING ON THE REPEATER IS DISCOURAGED.



FCC'S AMATEUR CALLSIGN structure has been completely overhauled and a new policy, effective today (March 24), has just been released. No special callsigns or special events callsigns will be issued, and licenses for personal secondary stations will no longer be renewed. Call areas will remain and will determine the prefix of a callsign issued to an address in that area, but an individual can retain his callsign indefinitely if he wishes even if his permanent station location changes call area.

2x1 And Nx3 Callsigns will soon be heard under the new policy, which divides callsigns into four "groups." Group A includes 1x2, 2x1, and 2x2 (AA-AL prefixes), available to Extras only. includes 2x2s other than AA-AL, and will be available to Advanced Class license holders. Group C is 1x3 callsigns, available to Generals and Technicians, while Group D is 2x3s for Novices. In Group A 2xls will be the first calls issued, while Nx3s will be the initial Group C issue. Also changed will be callsigns for

many U.S. islands - see page 4 for details.

The New Callsign Assignment Plan will go into effect in steps, the first - Phase 1 - beginning today. Under Phase 1 any newly licensed Amateur will receive a callsign determined by the new system, and any present licensee who upgrades may, if he wishes, receive a new callsign appropriate to his new status. For example, a newly licensed Amateur who starts out as a General will receive an Nx3 callsign, while a Novice with a 2x3 who upgrades to Advanced can trade it in for a 2x2 if he wishes. Requests are made by specifying on line 13A of Form 610, "Please assign a Group \_ callsign" when filing the application. Extras are also eligible in Phase 1, of course, and those who've received 2x2 callsigns can request a change to a 2x1 before October 1.

Future Phases will permit Advanced and later General and Technician licensees to change their callsigns as well. HR REPORT



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# REPEATER - TEXAS STYLE

We tend to forget that not all parts of the country have those beautiful tall mountains to locate their repeaters. But hams always seem to find a way to get those booming repeater signals from the best possible sites. Take the Ft. Worth chapter of the Texas VHF-FM society, operators of the 16/76 local system and a wide coverage 34/94 repeater. They managed to locate a 1000' tower on the east side of flat old Ft. Worth. But-"after climbing a few hundred feet up the ladder (you heard right, the tower has NO elevator!), and pricing coax that is usable on two meters, it was unanimously decided that there had to be a better way to make use of that tower! After scanning all the possibilities, a two meter converter was placed on the top of the tower, converting the 146 MHz signals to 28 MHz. Economical RG59U then runs to ground level where presently several standard commercial low band receivers hear 146.94, 146.34, and 146.16 MHz (the 94 signal is fed to a 443.8 MHz monitoring downlink transmitter -KØOST). The 12 Volt DC is fed to the coax center conductor and provides power for the transistor converter on the top of the tower. The first converter did not have a single failure for all its years spent in service."

> Walt, W5YUO (from Texas VHF-FM Society News, Winter 1978 taken from QRZ, Denver

# KERCHUNK NITE

From the ARRL's Radio Club News: "The University of Minnesota Repeater Club proudly announces its first annual WRØAQU derchunk night. Extensive monitoring of 2-meters has shown the need for such an event. Kerchunking will commence at 7 PM on Sept. 7. Announce your call at the beginning and end of each series of kerchunks and every 10 minutes in between. Get your frustrations out now, enter the Kerchunkathon." Originally from St. Paul (MN) ARC's The Ground Wave.

Taken from QRZ, Denver

# Notice!!

SANDRA will have to change the meeting night in June; July, and August in order to get an even better meeting place in about Sept. For those three months our meeting will be on the third Wednesday instead of the third Thursday. It will be at our present meeting place. In Sept. we are first on the list to get the new bank auditorium now being built. Then we go back to our regular Thursday night meeting.

APOLOGIES to Cliff, whose call appeared incorrectly in our letter to the Editor. Cliff's call is W6MMV ("Make Mine Vodka"). Our 'mill' doesn't follow instructions very well - Must have been scared by one of Jim's (W6VCE) lizards.

N6LY

# hr report ...

20-KHZ CHANNEL SPACING for the 2-meter FM band has been adopted by the Western Washington Amateur Relay Association and by the Oregon Region Relay Council. The far-reaching proposal is also being considered by British Columbia and northern California. As worked out by the Washington group, present even-numbered frequencies such as 146.76 and 146.82 would remain unchanged, while odd-numbered channels such as 146.73 and 146.79 would move down 10 kHz to open 146.74, 146.80, and so on.

20 kHz Spacing Avoids much of the adjacent channel difficulty that increased use of 15-kHz splits has brought on, the proponents suggest, and though such a revolutionary change would cause a good deal of short term inconvenience they believe the long term benefits would amply justify it. They've even worked out modifications for several popular radios such as the IC-230 and IC-22S to accom-

modate the new band plan.

WR7ACS On 147.81-21, one of Seattle's busiest repeaters, will be making the shift momentarily. Thanks K7CR.







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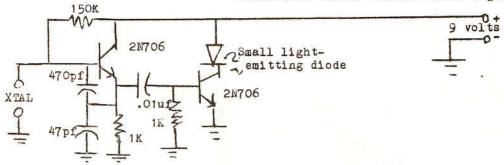






# A SIMPLE CRYSTAL CHECKER

by WA4DRM, Ed- in The Printed Circuit of Lincoln Trail ARC, Elezabethtown KY lifted from Yellow Thunder Smoke Signals



The crystal checker was designed to weed out the good from the bad. The circuit uses as few components as possible. Parts values are not critical and are easily available.

Operation of the crystal checker is simplicity itself. Just connect the crystal across the terminals marked "XTAL" and if the LED lights, the crystal is active. If the LED does not light, throw the rock away.

Lower voltages may be used but 9 volts insures that higher frequency crystals will oscillate.

One note: The crystal checker will not determine if the crystal is on or off frequency. It will check only for crystal activity.

(Editor's note YTARC: with the circuit as shown, there is no current limiting resistor in series with the LED. It might be wise to insert a 150 ohm watt resistor in series with the LED. De K9ZZ.)

RICHARD COOPER HAS BEEN CHARGED with misrepresentation by the California State Attorney General's Office. In a suit filed Monday in Los Angeles Superior Court, the state asked that Cooper and his Communications Attorney Service be ordered to stop disseminating false information about himself and his service.

Among Cooper's Claims Challenged in the suit were his statements that he and his partners were licensed to practice law, that he holds MS and PhD degrees, that Communications Attorney Service has associate attorneys in Atlanta, New York and Chicago, and that his office has "one of the most extensive libraries of FCC reports in the country." Also branded as misleading or false in the suit were claims about the number of subscribers, size of his attorney staff, and the money that CBers could save by being a subscriber.

A Fine Of \$2500 for each of the false claims was asked by the

suit, as reported in area newspapers. Thanks WA6ITF.

CHARLES HIGGINBOTHAM ANNOUNCED HIS RETIREMENT from the FCC Wednesday, to become effective in late April. Charley, WB3DLT, is completing 36 years of government service, 30 of them with the FCC, and has been Chief of the Safety and Special Services Bureau since July, 1973.

HR REPORT

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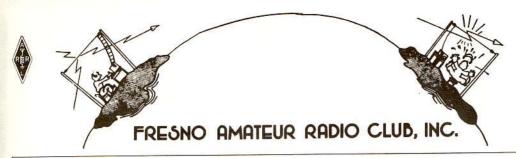
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# **36TH ANNUAL FRESNO HAMFEST** MAY 5 - MAY 7, 1978

at the

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- TECHNICAL SESSIONS
- \*LADIES LUNCHEON PROGRAM & PRIZES
- TALK-IN STATION (146.34/94)
- WINE TASTING—F.A.R.C. HOST
- SWAP MEET
- LEFT FOOT CW CONTEST—PRIZES

- GOLF TOURNAMENT (Friday afternoon)
- TRANSMITTER HUNT 146.52 SIMPLEX
- BANQUET
- PRIZES GALORE!
- FREE SOUVENIR TO ALL REGISTERED
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(1)		REGISTRATION PACKAGE	14.00	15.00
	20 00 ft AT AT	BANQUET REGISTRATION	10.00	12.00
(2)		PARTIAL REGISTRATION	4.00	5.00
PLEASE PRINT		STUDENT REGISTRATION	1.50	1.50
		LADIES LUNCHEON	5.00	None
ADDRESS		_		
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CITY		*PLEASE SIGN ME UP FOR:		
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REQUESTS FOR CAN	CELLATION MUST BE			



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# FRESNO HAMFEST - MAY 5 to MAY 7

### -PROGRAM-

FRIDAY-

MAY 5 GOLF MEET (THE "NEY LANDRY OPEN") - AIRWAYS GOLF COURSE - 1:00 PM

REGISTRATION - 5:00-7:30

. CLUB HOSTED WINE TASTING PARTY - 7:00

(For Registered Hamfest Guests)

SATURDAY - MAY 6

REGISTRATION - 8:00 AM-3:00 PM

EXHIBITS - ALL DAY

SWAP TABLES - 9:00 AM-5:00 PM

LADIES LUNCHEON - 11:30 AM-2:00 PM (Followed by

"An Introduction to Fine Wines", Berge Bulbulian W6XC)

TRANSMITTER HUNT — 12:00 NOON (146.52 SIMPLEX)

LEFT FOOT CW CONTEST - 1:00 PM

**TECH TALKS** 

DX'ing CAN BE EASY - From modest beginnings 10:00 AM

Stan Ostrom, W6XP (310 Countries confirmed)

DEDICATED MICROPROCESSORS for HAM RADIO 11:00 AM Paul A. Tift, WA605A.

MICROCOMPUTERS COMPONENTS & SOFTWARE

and: Mike Sannes, Programmer, Analyst & Consultant

EFFICIENT SPECTRUM USE IN AMATEUR BANDS 2:00 PM "THE HARRIS SYSTEM - FREQUENCY COMPANDER"

(See Dec. 77 QST)

Dr. R.W. Harris, Prof. of Engineering, Univ. of Pacific

ARRL/FCC FORUM - 3:30-5:00 PM COCKTAIL HOUR (No Host) - 6:00 PM

BANQUET & PROGRAM - 7:00 PM

Speaker: Lenore Jensen WGNAZ

AMATEUR RADIO - WHAT'S THE SECRET?

SUNDAY -MAY7

BREAKFAST MEETINGS FOR NETS

(Each group wishing to schedule a breakfast meeting should make

its own arrangements well in advance with Hotel).

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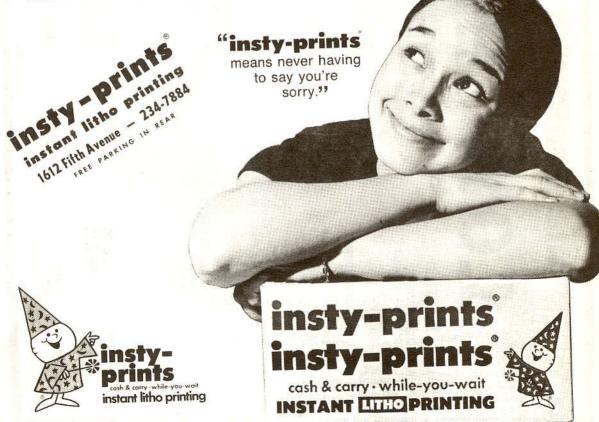
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EDITOR: Sybil Allbright, W6GIC · 278-4284

Interference & Info: 286-8550

\* FREE \*

E P

APRIL

MEETING

EXCHANGE AT DOOR

# **SANDRA OPERATES TWO NETS:**

Sunday Evening at 8:00 p.m. on 04/64 Wednesday Eve. at 7:30 p.m. on 75/15

SANDRA, Inc. operates the following repeaters for service to the San Diego area and environs. The policy of the organization is that the repeaters are available for all licensed Amateurs to use, so long as applicable rules and regulations are observed, whether members of SANDRA, Inc. or not. Further, the following priorities must be observed: (1) Emergency traffic, concerning the safety of life or property take priority over all other traffic. Failure to yield to any station indicating the need for such traffic is prohibited, and may render the offender subject to legal action. Indication of the need for such traffic may be "Break Emergency," "Break-Break," or any other clearly indicated statement. (2) Call-ups should be permitted. If an operator "breaks" into a conversation, he should be permitted to make such a callup. He should not, however, "take over" the repeater and exclude those who were already using it. "Rag-chewing" is not prohibited, but care must be exercised to assure that the repeater is not tied up for extended periods. Remember, there are almost 400 members, and several hundred non-members, who have as much right to use the facilities as you do. It is extremely discourteous to monopolize them to the exclusion of these other users. Long QSO's should be limited to simplex frequencies or the lower bands. OUT

		10000	
WR6ACF	Otav	222.60	224.20
WR6ACF	Otay	146.040	146.640
WREACF	Otay	*444.50	
		*1-BPL	
WR6AJL	Laguna	147.750	
WR6ASM .	San Diego (Sharp Hospital)	147.285	147.885



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SANDRA, Inc. San Diego Repeater San Diego, CA P.O. Box 82958 92138 Association



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Editor - W6GIC-Sybil Allbright (714) 278-4284

Coming Events...

APR. 20: General Membership Meeting Icerink Building, University Towne Center, 7:30 PM.

MPR. 22: Transmitter Hunt starting from Del Cerro Heights- 7:30 PM.

27: SANDARC Meeting at 3650 Fifth Ave., Red Cross Bldg. 7:30 PM.

EVERY SATURDAY: BREAKFAST AT THE HOUSE. 9-11 AM, Everyone welcome. CLAIREMONT MESA BLVD. HAMBURGER

MAY 4 SANDRA BOARD OF DIRECTORS MEETING mont Mesa Blvd. 7:30. Open to at the Hamburger House, Claire-SANDRA Members.

ARRL, QCWA National Conventions San Diego, September 22-24, '78

1-78