SQUELCH TALES

SQUELCH TALES IS PUBLISHED BY THE SAN DIEGO AMATEUR FM RADIO RELAY ASSOCIATION-WB6WLV-P.O. BOX 5815 SAN DIEGO CALIFORNIA 92105. EXECUTIVE BOARD MEMBERS: WA6UHB, President and Public Service Committee; K6GAO, Treasurer; WA6LBV, Secretary; WB6EAX, Engineering Committee; K6QKG, Membership Committee; WB6TFC, Editor in Chief and Director of Publications: BOARD MEMBERS- K6DYD; K6GSG; WA6LAG; WA6OSB. Editor and Production Manager, WB6SQZ.

VOLUME ONE NUMBER ONE , JUNE 1972

Dear Fellow FM'ers:

This is the first issue of what we hope will become a regular series of newsletters published by the San Diego Amateur FM Radio Relay Association (whew!) for its members. The members of the Board of Directors are enthusiastic about this newsletter, and they hope you will enjoy receiving it and will find it of value.

In the future, the newsletter will serve a variety of purposes. Repeater business will be conducted through the newsletter from time to time. This is the case today, as you will find enclosed with this issue a questionaire covering several current hotly debated points regarding the WB6WLV repeaters. You can expect to find announcements from the Board of Directors. There will also be announcements of upcoming events which are of interest to the San Diego FM'ers. I hope that we can get a "Heard on the Channels" column going, and I invite you to submit info either to me or to WB6SQZ, associate editor, for inclusion in this column. We plan to publish the minutes of each Board of Directors meeting in the newsletter, so that they will reach the membership before each general monthly meeting. We will be distributing copies of new rosters from time to time within the newsletter. We hope also to develop some other special columns, such as "Department of Occasionally Useful Information" found in this issue. Please let us know how you like the newsletter, and don't hesitate to include suggestions for things you would like to see in it.

WB6TFC, Editor Squelch Tales

From the President:

I want to remind all of you who are members of the Humane Society Rescue Reserve to keep your cars, radios and identification in good order, and ready to roll. Remember, we are just entering what looks to be one of the most potentially dangerous fire seasons in recent history. We have already performed well in the past, and we want to do better in the future. As you may already be aware, quite a few people in San Diego governmental agencies are starting to take notice of what we have to offer, and we have a unique opportunity to promote amateur radio by doing what we can do best: providing public service.

For those of you who are interested in participating in the Humane Society Reserve, let me urge you to complete the application forms Now. They take only a few minutes to fill out, and when they are completed, you will be issued your emergency identification tags. From what I have been told, the tags are really effective for access to the back country during emergencies. We are usually too busy during an actual emergency to handle applications, and people who try to volunteer at these times cannot be processed and issued identification. Remember, we cannot send you into the back country unless you are a registered member, and the free insurance which is provided through Civil Defense will not cover your activities. So, for everyone's sake, please enroll now

At the May Board meeting, the Directors voted to hold all future Board Meetings the first thursday of each month, at 8PM at the San Diego Paper Box Company plant. As has been stated previously, paid-up members of the Association are always welcome to attend the Board Meetings, However, because of

the small size of the meeting room, we are going to have to limit the number of observers to about 4 or 5. Therefore, would any of the members who are planning to attend a Board Meeting please notify me several days in advance in order that we not exceed the room capacity.

WA6UHB President

From the Treasurer:

Glancing at my ledger, I notice that quite a few people have become several months delinquent on their association dues. This will probably become apparent to them, since only members who are current in their dues will be receiving this newsletter and the questionaire. Because it's both expensive and time consuming to mail out individual reminders, I hope that this first issue of the newsletter will serve as a gentle reminder to them that their dues have fallen behind. When dues renewal time does come around, would you either mail your check to my home directly (see current roster), or else corner me before or after a monthly meeting at the recreation center. Remember, it costs over \$100 per year to run the WB6WLV repeaters, and we need your help to keep the repeaters on the air.

K6GAO Treasurer

From the Secretary:

As mentioned during the last general meeting, the association now has a permanent mailing address:

San Diego Amateur FM Radio Relay Association P.O. Box 5815 San Diego California 92105

Please use this address for all correspondence with the Association, with the exception of dues payments to the treasurer. A new roster will be published shortly (hopefully for mailing with the next month's newsletter). If you have moved, or if I have you listed incorrectly on the last roster, would you drop me a note with the correct info and I'll change it pronto.

WA6LBV Secretary

Minutes of the June 1972 Board of Directors Meeting:

- 1. The meeting began at 8PM, June 1, 1972, in the San Diego Paper Box Company executive conference room. Board members attending were WB6EAX, K6GAO K6QKG, WA6LAG, K6GSG, K6DYD, K6KTP, WA6UHB, WA6LBV.
 - 2. The treasurer reported a \$519 cash balance.
- 3. K6DYD reported that a portable repeater translator package with a gasoline powered electric generator is nearly completed. This package consists of a 146.34 MHz receiver, a 445.25 MHz transmitter, a 110 volt ac power supply, and necessary interconnections. It will be transported to the back country for use as an emergency remote receiver during fire emergencies.

4. The Board voted to spend an additional \$16 for materials to complete the installation of the roof ventilator fan on the Mt. Otay transmitter bldg.

5. The Board was informed that the week of June 18-24 has been proclaimed "Amateur Radio Week in San Diego" by the city government.

6. The Board was informed that the San Diego Council of Amateur Radio Clubs has been re-organized. K6QKG and WA6LAG will attend their next meeting.

7. K6DYD reported that the American Freeway Patrol has donated to the Humane Society a 2 meter Prog-Line mobile radio. Jerry has finished converting it into a base station, and has obtained a low distortion microphone for it. He will install it as a permanent base station at the Humane Society HQ.

The Board voted to buy repeater crystals for it.

8, The Board discussed courses of action for dealing with stations who attempt to jam the repeater.

9. WA6LBV reported that the first issue of the new monthly newsletter,

"Squelch Tales" was ready to go to press.

10. WA6UHB announced that he will shortly mail to members of the Humane Society Reserve a fact sheet about emergency operations. Tom is developing an organizational plan to "tighten up" operating procedures during emergencies.

11. A proposal was offered that the association initiate a group purchase or name tag badges for members who are interested in obtaining them.

- 12. WB6TYR spoke about a survey which he has conducted of repeater coverage in the San Diego area. He offered a proposal concerning a long range plan of development of remote receivers for the repeater. Discussion followed concerned with the best methods of obtaining sites, obtaining equipment, and interconnecting the multiple receive sites with the Otay Transmitter.
- 13. The next monthly meeting will be devoted primarily to discussing the results of the questionaires sent to the members with the first issue of "Squelch Tales", and catching up with old business.

14. The next hidden transmitter hunt will be Saturday June 17, at

8PM starting from the Del Cerro site.

WA6LBV Secretary

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DEPARTMENT OF OCCASIONALLY USEFUL INFORMATION (?-Editor's Note)

Amaze your friends! Be part of the IN CROWD! Actually understand WB6EAX! Here is the secret to personal happiness and a rewarding life:

The Motorola Radio Equipment Model Number Code

Almost all Motorola (hereafter designated as "The Big Red M") FM equipment which is likely to be in current Ham Service is completely described by their unique model numner code. With the following information, you can identify almost any radio as to its frequency range, power output and type of receiver, transmitter, powersupply and housing--just from its model number.

All model numbers consist of the following sequence of letters and numbers:

Letter, Number, Number, Letter, Letter, Letter

Thus: T53GAD, J44AAB, U51HHT, etc

The first letter hasically describes the type of cabinet which houses the radio, as follows:

radio, as rorrows.	20 CA
H	Handy-Talkie (walkie-talkie, also known as HT)
P	Hand-Help portable (larger that HT)
L	Table top base station
T	Trunk mounted Mobile
U	Universal (dash or trunk) mount mobile (this
	includes all Motracs)
J	Outdoor upright cabinet base station
В	Indoor upright cabinet base station
Y	Repeater (in J or B cabinet)
(Note: Indoor upright c	abinets by themselves are sometimes identified
as BR, table top cabine	

The First number basically describes maximum transmitter output power:

1	less than 1 watt
3	from 5 to 15 watts
4	from 15 to 40 watts
5	from 40 to 70 watts
6	from 70 to 100 watts
7	from 100 to 140 watts

(Note: exceptions to these rules exist and these figures are approximate The Second number describes the frequency range of the equipment:

1 low band (30-50 MHz) 3 high band (150 MHz) 4 UHF (450 MHz)

The Second letter describes the model of the transmit strip. The Third letter describes the model of the receive strip.

For these two there are no hard and fast descriptions. Generally The Big Red M started with the letter A for the earliest models in these series, and used subsiquent letters from the alphabet for each major new model. However, a given letter in one frequency range or type of equipment does not indicate the same type of transmitter or receiver strip in another frequency range or type of equipment. Thus an A receiver in a High Band radio is somewhat different in design from an A receiver in a UHF radio, and completely different in design from an A receiver in a P series (hand held portable) radio. In actual practice, the ambiguity is not as confusing as one might expect.

The Last letter describes the type of power supply for the radio:

Base station (115 volt ac)

Mobile with transistorized power converter

(commonly known as "T-Powered")

Mobile with vibrator power supply

Mobile with dynamotor power supply

Nortable with Nickel-cadmium batteries (Ni-cads)

Mortable with dry cell batteries

For example, the T53GAD is a trunk mount mobile, with 60 watts of power output on 2 meters, and a G transmitter, an A receiver and a dynamotor power supply. The J44AAB is a 450 MHz, 115 volt ac powersupply base station, in an upright outdoor cabinet, with an A Transmitter and an A Receiver. The U51HHT is a universal mount (in this case actually a Motrac) low band radio, with 60 watts output, an H Transmitter, an H receiver (all solid state), and a transistorized power converter.

...and there you are. Its easy! .Watch out WB6EAX, we're ready for you now!! In months to come, other equally astounding but little known facts will flow forth from

THE DEPARTMENT OF OCCASIONALLY USEFUL INFORMATION

Explination of the 1972 SDAFMRRA Membership Questionaire
The FM scene in Southern California changes rapidly, and the WB6WLV
repeaters, being a part of that scene, must necessarily change with the
times. This has become readily apparent to anyone who has listened directly
on 146.34 MHz recently.

The San Diego Amateur FM Radio Relay Association, which operates the repeaters, is a democratic organization. All members contribute equally to the cost of running the repeaters, and all derive the same benefits. Necessarily, the legal(license), financial and technical responsibilities for the operation of the repeaters are assumed by the members of the Board of Directors, whose job it is to carry out the wishes of the membership. Because certain changes appear necessary, both in the repeaters and in the Association, the Board of Directors has prepared the enclosed questionaire for the purposes of determining the wishes of the majority of the membership.

Let me take this opportunity to assure you that your voice does count and your opinions are most earnestly solicited. It is important that you tell us what you want for the repeaters. Please indicate your choices directly on the questionaire itself, by circling the answer which you feel

is most appropriate. It would be helpful if you would include your call letters with your questionaire. However, if you feel that it would be easier for you to express your opinions anonomously, please feel free to do so. Please mail the questionaire back to the association Post Office address. If we receive back the majority of the questionaires promptly, we will be able to announce and discuss the results at the June general meeting.

In addition, please take this opportunity to express your opinions on other issues which concern the association and the repeaters, or to discuss further your replies to one or more of the questions. Either write on the

questionaire itself (the back side) or include your own letter.

The following section is concerned with background information on the questions.

WA6LBV Secretary

QUESTIONS

1. This concerns retaining the 146.34 MHz input. As many of you know, 34 is becoming a crowded channel, with many other repeaters in Southern California also using this frequency as their input. Thus, some mutual interference is almost inevitable. The Board wants to know if the members

wish to continue using this frequency.

- 2. This is a very important consideration. If we retain the 34 input, many people feel that some sort of protection of the input is required. Regardless of what frequency input is utilized, however, there are three possible ways for a signal on the input frequency to cause the repeater transmitter on Mt. Otay to operate. The simplest way is "Carrier Squelch." In this system the mere presence of a carrier on the input frequency causes the transmitter to come on the air. However, the system is the most susceptible to interference, since any carrier on the input frequency will bring up the repeater transmitter, whether the trensmitting station indended to do so or not. The next system is "Tone-Burst." Here, each station who wants to use the repeater must include a short (second) audio tone of the correct frequency on the beginning of each transmission in order to cause the repeater transmitter to come on the air. This system provides some protection against out of town stations unknowingly bringing up the repeater, but does allow such stations to do so if they are on the air at the instant when a tone-burst equipped station stops transmitting (i.e. piggybacking or tail-ending). The third system is a continuous tone sub-audible squelch system (generally called "Private Line or PL"). Here a station who wants to use the repeater must continuously transmit on his carrier a low frequency (generally sub-audible) tone. If, for some reason, his tone stops, or if his signal at the repeater receiver is superseded by a stronger signal not containing the tone, the repeater transmitter willgo off the air. This system offers maximum protection against unintentional keying up of the repeater transmitter, and is the one utilized currently by commercial radio systems.
- 3. Prior to the summer of 1971, the 2 meter and 450 MHz repeaters were interconnected in a permanent manner so the input through either the 2 meter or the 450 MHz Mt. Otay receivers was repeated back through both transmitters After last summer, the system was changed so that the 450 MHz transmitter repeats back everything which a separate 2 meter receiver hears on 146.85 MHz Of course this includes the output of the 2 meter repeater, since this signal by far the strongest 146.85 MHz signal heard on Mt. Otay. This is known as a remote base system, since people on 450 MHz listen to and talk out on the same 2 meter frequency. An additional series of modifications made it possible for the 450 MHz users to disengage that repeater from the 2 meter system completely by means of a short tone sent in on the 450 MHz input (using the "single tone"). Finally, this system was recently changed so that the 450 MHz

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system is permanently tied to the 2 meter system, but the single tone command enables the 450 MHz user to change from listening to all 146.85 MHz signals to listening to only those which contain PL. Of course, the 146.85 MHz repeat—

er transmitter transmits such PL and can always be heard.

4. The current 2 meter repeater equipment consists of a tube type
Motorola base station, of a type no longer used in commercial radio systems.
It is fairly reliable, but does consume relatively large amounts of electrical power and requires periodic tube replacements. The Board of Directors has proposed trying to obtain a more modern solid-state 2 meter base station, of the type still used in commercial radio systems. In addition to remedying the conditions specified above, such equipment would contain a more powerful transmitter and a more sensitive receiver than the present Motorola equipment. The possibility of obtaining new equipment however depends upon the amount of money which the association members will contribute.

5. Generally the same comments as question 4 above.

6. We have experimented with a remote receiver on Mt. Palomar, in order to provide additional North County input coverage for mobiles, who often can hear the Mt. Otay transmitter fairly well, but for technical reasons, cannot get into the Otay receiver. Through our association with the Humane Society we may be able to gain access to additional mountain-top sites elsewhere in the county for additional remote receivers. If we proceed with these remote receiver sites, it will require some additional money for new equipment and additional site fees.

7. Self explanatory.

8. The Association has been approached by the AREC concerning joining their county-wide communications organization. We are currently trying to obtain more information about the proposal. The Board wants to know what the members think about joining the AREC as a group.

9. In 1971 it cost over \$1000 to run the repeaters. The present Board of Directors has plans for expanding WB6WLV repeater service, but they depend

upon available money.

10. See explination of question 4 above.

11. There are a small but persistent number of station which constantly use the repeaters, but vigorously refuse all invitations to join the Association. Some have, at times, used WB6WLV to critize both the repeaters themselves and the Association. The Board wants to know how the members of the Association feel about these non-paying users (who, of course, will not participate in this questionaire).

12. The Board wants to know what sort of status the members want the

Association to acquire.

13. Your choice -- what do you enjoy most?

14, 15, 16, 17. Self- Explanatory.

18. Often a Radio Club will make a group purchase, at substantial savings, of parts so that the members can build small accessories for their radios. Would you be interested in the Association moving in this direction? THE QUESTIONAIRE IS ATTACHED. PLEASE MAIL IN THE ORIGINAL ONLY.

Editors Note: Some people have nothing better to do than to hunt for errors. For them, some have been included in this issue. Happy Hunting.

WB6SQZ Associate Editor THE SAN DIEGO AMATEUR RM RADIO RELAY ASSOCIATION MEMBERSHIP QUESTIONAIRE

FIGHNICAL

I. Should we retain the 146.34 MHz Input

a. Definitely, we've already used it for 4 years

b. Frebably ought to stay on 34

d. Makes no difference to me one way or the other d. Too much garbage on 34--let's move somewhere else

e. I've already flushed my 34 crystals and am waiting for the new channel to be announced

2. Please indicate your first, second, and third choices for the type of 2 meter input you would like to see WBSWLV adopt

a. 146.34 MHz input, carrier operated (no tones or PL); no other inputs

b. 146.34 MHz input with both tone burst and PL; no other inputs

whenever a control station is present, both tone burst and PL at other times, PL only suring periods of severe interference); no other inputs

1. 146.34 MHz. PL anly; no other inputs

e. 146.34 MHz with PL and tone burst, plus another 2 meter input which is carrier operated

7. 145.34 MHz input with PL and tone burst, plus another 2 meter input

with FL and tone burst

g. Discentinue 146.34 MHz input and use another input with PL and tone burst

h. Discentinue 146,34 MHz and use another input which is carrier operated

3. How should the two repeaters (2 meters and 450 MHz) be interconnected

a. Permanently seperated

b. Generally seperated but recombined with a single tone on 450 MHz only c. Generally seperated but recombined with a single tone on either channe!

d. Keep the present system (450 MHz operating as a remote base on 146.85 and user selecting PL reception on 146.85 by means of a single tone on 450 MHz input

e. Present system but with 450 listening permanently to PL signals only

on 140,65

f. Present system but with 450 listening permanently to all signals on

46.05

- g. Remove remote base function on 450 MHz repeater and operate both as combined repeaters (1.e., 450 repeats what is heard on 146.34 rather than 146.85 MHz).
- 4. What should the association do regarding upgrading of the 2 meter repeater equipment

a. The current repeater system is more than adaquate in terms of coverage

and reliability

b. The current system is adaquate for the present, but lets start thinking about upgrading it (i.e. purchasing solid state commercial equipment).

c. Let's make modernization a high priority item

5. What should the association do regarding upgrading of the 450 MHz repeater equipment

The current remeater system is more than adaquate in terms of coverage

and reliability

b. The current system is adaquate for the present, but let's start thinking about upgrading it

c. Let's make modernization a high priority item

The do you feel about remote receiver sites on mountains other than Otay

1. They do/will provide additional coverage which I want

They are nice, but not absolutely necessary

to They probably are not worth the additional expense and complexity for the benefits they park provide

ORGANIZATIONAL

7. What position should the association take regarding public service committments (such as the Humane Society communications)

This is what ham radio is all about -- let's go out beating the bushes

Seems OK to me, we might even take on more if the right assignments came alona

c. Doesn't make any difference to me one way or the other

- I don't care much for that sort of thing, or don't have the time, so don't call on me
- You idiots turn into a bunch of maniac fire engine chasers at the drop of a match and you give all of ham radio a bad name
- How do you feel about the association joining the San Diego section of the Amateur Radio Emergency Corps

a. Can't stand anything with an ARRL tag on it

Probably won't get back from them enough to justify the effort involved

c. Makes no difference to me one way or the other

- d. It's not clear to me what the benefits are, but the various ham groups providing emergency service ought to stick together under the AREC banner
- e. Let's do it--prento
- How do you feel about the current dues structure (initiation fee to help defray repeater capital costs. 312 per year to help pay Otay site fee plus

2. Let's keep it -- the fun I get out of the repeater is cheap at twice the

- I'm not wild about it, but someone has to pay the bills
- co Let's try to reduce the dues and scrimp on through
- 10. If a one time special assessment were called for, on order to purchase usgraded equipment for the rescaters (see questions 4 & 5), approximately how much money would you be willing to contribute

2 . 312

- \$6 100
- \$ 0
- I'm picking up my marbles and going home
- 110 How do you feel that the association should deal with stations which use the repeaters extensively over a period of months, and which refuse to join the association

a. Have control stations shut off the repeater whenever such a station tries to use it

b. Have the association publish a list on each roster of prominent nonpaying users

Ignore the situation and hope the non-paying users will go away d. Make the stated policy of the association that all are welcome to use the remeaters, whether they wish to contribute or not

it is the legal status should the association acopt Print hebby association status ini that Revenue Service non-arofit association status Non-erofit corporation status What type of monthly meetings would you most like to have informal get-together, with a minimum of reseater business and no planned program Informal get-together, with a majority of discussion centered around repeater business and future planning Regular menthly meeting with guest speakers emphasizing topics concerned with FM radio and repeaters Regular monthly meeting with quest speakers talking on all aspects of communications and electronice The often would you like to see an association newsletter published Montaly Bimmathly c. Quarterly Why don't you guys retire now, undefeated has often would you like to have a roster of association rembers published an Quarterly

. Thewid we continue the Sunday night net

. Yes

c. Yearly

. Don't care

Semi-ennually

d. No-! always watch Ed Sullivan on TV Sunday nights

. On you want to see the Sunday night swap net

I afready got youse guys whome numbers

Englished

e. Gentinues

But the

purly at quantity absorber to construction of uneful actions, bush a religious receiver, bush a religious manifest receivers, etc.)

T A715

. He particular opinion

a. Not interested in building ham gear

Thank you for your time and interest. Please mail the questionaire as soon as possible to

W86WLV P. O. Box 5815 San Diego 92105

The Board of Directors, SDAFMRRA