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AFFILIATED CLUB



AMATEUR RADIO
STATION W60TX

VOL. 20

1976

PAARA GRAPHS

PALO ALTO AMATEUR RADIO ASSOCIATION, INC.

MENLO PARK CIVIL DEFENSE RADIO CLUB, K6YQT

Apr. 76

OUR NEXT MEETING: is in the Menlo Park Recreation Center: in (of all places) Menlo Park over there by the Police Dept. and the Public Library. Time for commencement is at 7:30 PM sharp, pointy, etc., and so forth.

AND THE PROGRAMME: is our own good old Mike Eccles, G3PPE, who will speak about the Project Starquest organization in the Bay Area. This project, headed by Nick Marshall W6OLO, is a group of amateurs and professionals who are seeking extraterrestrial life through radio astronomy. Come hear about this search, and find out if there is even intelligent life on the terrestrial level! Some of the fancy equipment will be discussed, as well as signal processing methods and some speculation on what we might find and where to look. Anyone hear anything good on 21 cm lately?

Coffee Raffle Eyeball QSO's Good stuff Tea Gonk
Bring a friend and impress him!

AND later on, of course, there will be a Board of Directors MEETING, on the usual Wednesday following the meeting (which you undoubtedly noticed always falls on the first Friday of the month), on April 7, 1976, at 7:30 PM in the SRI parking lot, 333 Ravenswood, Menlo Park. If you look about long enough, you may find Fred buried in 35 sheets of rusty trailer panelling--that's where the meeting is. Good luck.

YOU ARE READING this issue of PAARAGRAPHS while at this very moment Ye Noble Editor is flying back from beautiful downtown Columbia, Missouri. In fact, this rag was typed there, and airmailed back so as to be printed in time. Are you flabbergasted? This special Missouri Edition of PAARAGRAPHS just another wonderful benefit of being a PAARA member and/or a cheap measely subscriber.

FINALLY, PAARA has a NET every Monday night on TWO freqs. 145.24 AM and 147.45 FM, at around 8:07 PM. We need check-ins and more rag-chewers---especially on FM. (Y.N. Editor has trouble checking in from Columbia). But YOU got no excuse!!! BE there and have fun on our nets.

PAARAGRAHS is the official organ of the Paol Alto Amateur Radio Assn., and the Menlo Park CD Radio Club.

*****SPECIAL MISSOURI EDITION*****

Volume 20

Number 4

April 1976

---PAARA and Menlo Park Radio Club Officers:

President: Fred Canham, K6YT

Vice President: Andy Korsak VE3FZK/W6

Secretary: Terry Conboy WB6GRZ

Treasurer: Paul Churchill W6QBY

Trustee of W6OTX: Fred Canham K6YT

Trustee of K6YQT and M.P. Radio Club Officer: Bob Allen W6WQD

Property Custodian: Ed Fairbanks W6AIN

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Paul Thekan WN6IJP

Terry Conboy WB6GRZ

Ed Fairbanks W6AIN

Jerry Tucker WA6LNV

John Gomperts WN6ATL

OUR POLICIES and assorted Gonk:

1. Membership includes PAARAGRAHS subscription
2. Dues are only \$4.00 per annum, quick send money.
3. Cheap subscribers get by with \$1.00 per year.
4. Pay up on a calendar year basis, ok?

SEND all you money, bonds, loot, negotiables, coins, good stuff; etc. to: PAARA Box 911 Menlo Park 94025

PAARAGRAHS STAFF and other Useless People

Editor-in-Chief: Richard Ferranti WA6NCX

Cover Designers: Bruce Rapp and Sue Lindner

Labels and mailing: Ed Fairbanks, Fred Canham, Paul Thekan.

Main FM'er and Mobileer (with new car?) Dave WA6AWZ

Shy but Stalwart Radio Compatriot: Gary WB6WNI

Editorial Location: University of Missouri, Columbia, Mo.

SEND CONTRIBUTIONS, ARTICLES, NEWS, ETC., TO: Rick Ferranti

WA6NCX, 1234 Santa Cruz Avenue, Menlo Park, Ca. 94025

415-324-1539 on Weekends

STUFF FOR SALE AND OTHER ADVERTISEMENTS

Heathkit HW32 20 meter SSB transceiver, with CW added, Crystal Calibrator, microphone. Also complete with HP 10 and HP 20 AC and DC supplies, Hustler 20 mtr mobile antenna with bumper mount, all in good conx and recently aligned. \$125.00

Call Jim Barnum, K6LJN, at 964-5857.

FOR Sale: But not really since no one wants to buy it ... Yeah, you guessed it--Ye Stubborn Editor is trying to sell his Model 19 RTTY rig again. Hey--this thing is in really fine shape and works flawlessly. I will consider all offers as far East as Kansas City, all others Get Lost. Best but cheap buy at \$85.00

Rick Ferranti WA6NCX 246-1400 rm 1001 or 324-1539 OK?

----*----

FOR SALE: Heath SB401/SB300 Combo with double VFO switching all filters, Heath desk microphone, all mint for \$450.00 the lot. W6TC, 341 La Mesa Drive, Menlo Park, Ca. 415-854-4649.

FOR SALE: TCK-7 500 Watt Transmitter, in rack. Works fine, for \$100.00. Also have a Heath SB-303 rcvr for \$225.00. Call 366-9672 after 1800 PDT, Dave Harper, WB6JFH.

*****-----*****

FOR SALE: Paul, W6QBY, writes: "This list of equipment belonged to Silent Key W6TTS, Gene Darlington. He was a long time friend of mine--we worked together at General Electric Co. in Schenectady in 1926.

Anyone interested should contact Elwyn Lambert w6CJC

22 San Mateo Rd., Berkeley, Calif. 524-0688 (area 415)."

Heath SB301 Receiver with non-Heath speaker \$200.00

Heath SB 401 xmtr with spare tubes, 2 xtals 210.00

Heath HD 15 Hybrid phone patch 25.00

Heath IT 17 Tube Checker 60.00

Raytrack Solid State Volume Compressor 40.00

Knight R100 Comm. Rcvr, with S mtr and Cal. 60.00

Midland Portable VHF Weather Monitor 5.00

Tri-Ex Model W-36 Tower, CDE Ham II rotator, and approx 90 feet of rotor cable all together for \$330.00 complete.

PAARA PICKIN'S ----- ANNOUNCEMENTS AND ETC.

Congratulations to Paul Churchill W6QBY for becoming the new President of the Sons in Retirement Amateur Radio Club, which has over 100 members. The club gets together on Fridays at 10:00 AM on 3925 kHz. Join 'em,

A Novice net, to practice handling traffic, meets on Tuesdays and Saturdays at 8PM PST on 3735 KHz. The manager is Ken, Wb6BDL. It's the "CSN" or California Slow Net, and all are welcome. In fact, Ken needs a lot more check-ins as his previous group progressed to their General class tickets! (See, the code practice helps.) You don't have to have traffic to send to check in. You can just say you are listening and are standing by. ---de the MDARC Carrier.

A NEW MEMBER: is Ricardo Bernesconi, Box 9937, Menlo School and College, Menlo Park, 94025. Ricardo has applied for his General ticket. Let us know your call!

ON April 17, the Antique Wireless Association has its annual meeting at the Electronics Museum of Foothill college. This is a grand old affair with plenty of Old Timers, technical papers, and Swap Tables. Starts at 9AM for those who get up that early.

****-----****

HERE'S a nice note from Fred Wickman, a good PAARA member: "Enclosed is my check for the 1976 dues and I am including this note to inform you that I now hold novice licens WN6BCH or if you use the bi-centennial call AK6BCH.

I have a transmitter on 40 and 80 meters novice bands and have had contacts from Washington to Arizona on about 45 watts PEP. In fact, I seem to have better luck with Southern California and Oregon contacts than with the locals.

I have also enjoyed a number of letters with Hal Moore (W6DEF/6) who gave me my novice test but haven't as yet worked him on CW.

A Note on the FCC: I passed by novice test in June and finally received my license through another novice in Idaho who said it was with his license. Ticket dated August 12!"

MORE PAARA NOTES AND MEETING MINUTES

PAARA heartily thanks Ray W6JOV for his fine talk on high-voltage power transmission -- 500 KV! The slides and presentation were excellent. Thanks, Ray.

Terry Conboy, WB6GRZ, PAARA Secretary and member of the Menlo Park Bicycle Club has asked us to provide radio communication for their upcoming event May 23rd. Check points at Saratoga Gap and Crystal Springs Reservoir and the start/finish point at Gunn High School in Palo Alto are to be provided with radio communications. Some preliminary canvassing of the membership has provided at least the minimum of ops. However, more are always welcome--contact K6YT. That's on May 23, from 7AM to 7PM, with mobile gear on 2 meter AM and FM as well as 80 or 40 mtr SSB.

A REPORT OF THE PAARA BORED DIRECTORS, March 11.
Present were: Fred Canham, Jack Parkhouse, Gerry Wagstaffe, Paul Thekan, Bob Baym, Jerry Tucker.

Jack Parkhouse from the Menlo Park Bicentennial Committee was given the floor to present his proposal to the Menlo Park Civil Defense Radio Club. "Could we provide radio communication with the Menlo Park Sister City? It's Lawrence Township, New Jersey." The purpose of course is to celebrate the bicentennial year. Much discussion followed and a tentative plan evolved. Our club would set up a station in a Menlo Park School and contact by prearranged schedule a similar station located in a school in Lawrence Township. Children under the direction of their teacher could converse with their counterparts and hopefully the mayors could be present and pass congratulatory greetings. All this sound far out? Well, let's try it--it's good PR!

The rest of the meeting was about trying to get more people involved in club activities. Officers will contact more members, and all members are of course encouraged to let the Board know of their interests and availability. Let's get going!

--Fred, K6YT

SOME GENERAL POINTS TO CONSIDER ON FM--ripped off from Fam Hum, Feb 76.

1. Signal strength is proportional to audio in an FM receiver. Not True. A common misconception; audio volume is solely a function of deviation (modulation) in an FM receiver. In addition, bandwidth is solely a function of audio levels and has nothing to do with audio frequencies.
 2. Signal strength is measured in "S" units on FM. Not true. As a signal increases in strength in an FM receiver, it causes a reduction of the noise in the IF and at about the point of limiting the noise level drops about 20 db from its no-signal level. Hence, the strength is referred to as the amount of quieting produced at the audio and after the 20 db point, any further increase will produce no (or little) decrease in noise; this point is considered as full quieting.
 3. On VHF (especially 2 Mtrs) which will increase the range the most? Assume the transmitter is one watt into a quarter wave antenna on the roof. (a) Raise the power to 100 watts; (b) change the antenna to a 5/8 wave, (c) Raise the antenna to a height 50 feet above the roof of the house, (d) go to a beam antenna 50 feet above the house.
- In the case of VHF, the primary factor in determining point to point communications is the antenna and its location, especially its height above average terrain. Second in importance are transmitter power and equally important, receiver sensitivity.
4. Occasionally one hears a newcomer to VHF FM talking on the repeater and the common line is, "You sure have a good signal out here in North Omaha for only a watt in La Vista." He has not taken the time to realize that he's not hearing the 1 watt in LaVista but the 60 watt repeater, and it's the repeater who is hearing the one watt from LaVista. (Not near Columbia, Mo.)
 5. Most amplifiers for FM are not linear. They are Class C and non-linear as can be. Since FM has a constant amplitude, it follows the same transmitter techniques as CW. Even though it uses low level modulation, the repeated over on to the next pg....

GENERAL POINTS ON FM CON'T....

sidebands produced are due to a change in carrier frequency rather than amplitude so the amplifier's non-linearities don't hurt a thing; the efficiency is much higher and no audio distortion results.

6. The four most common causes of distortion on FM are: too much modulation, carrier off frequency (usually at least 2 kHz), malfunction in the transmitter audio section, or malfunction in the receiver (in which case everyone sounds bad)

Most repeaters are old commercial equipment designed for plus or minus 5 kHz deviation and many are not tolerant of much more. If your transmitter is adjusted higher than 5 KHz deviation, it will usually cause the squelch circuit to close on audio peaks resulting in a chopping out, especially if the signal is weak.

(Ye Noble Missouri-stationed Editor notes that there can be considerable path-distortion when using FM simplex, especially when one or both stations use beam antennas. Moving the beam heading or switching to an omnidirectional antenna often helps. Must have something to do with the Santa Clara Valley's mountains, like "ghosts" on TV, except it only occurs occasionally. I haven't noticed it at all in this 'rolling hill' landscape around Columbia, but then again my whole 10-day visit here will probably result in two contacts with my IC-22. Missouri hams have yet to discover what a transistor is, let alone FM!!).

*****_*****

HERE'S Another rip-off from a local club (hint, hint, PAARA gang -- where's YOUR articles???)

SIX BASIC STEPS TO TROUBLESHOOTING, WB6U00, WR6ADE's rag.

1. Approach the ailing unit with confidence. This will give the idea that you know something. This will also impress anyone who happens to be looking, and if the unit should suddenly start working, you will be credited with its repair. If this step fails, proceed to step two.
2. Wave the instruction book at the unit. This will make (troubleshoot on to the next pg...)

TROUBLESHOOTING, con't.....

the unit assume that you are at least familiar with the sources of knowledge. If this doesn't work, go on to step three.

3. In a forcible manner, recite Ohm's law to the equipment. This will prove to the thing that beyond a shadow of a doubt you do know something. This is a drastic step and should only be attempted after the first two fail.
4. Jar the unit slightly. This may require anything from a three to six foot drop, preferably on a concrete floor. However, you must be careful with this because, while jarring is an approved method of repair, you should not mar the floor.
5. Add a transistor. This will prove to the unit that you are familiar with its design. Also, this will give the equipment an added load to carry and increase your advantage over the little bugger. Should these five steps fail to work, you must proceed to the most drastic step of all. This step is seldom needed and must be used only as a final resort.
6. T H I N K.

****-----****

TRAGEDY AT PALO ALTO YACHT HARBOR

Bob Wheeler, K6SEM, lost his ICOM IC-22A and PAARA's FM net was reduced by 25% on Saturday March 6 when a thief broke into Bob's VW, neatly unscrewed the coax, and made off with the IC-22A. All this while Bob worked around the harbor, never more than 100 feet from his car, between 11AM and 2 PM broad daylight.

Here's a description of the stolen equipment: Serial no. 3405559 with modified Lafayette Battery pack (new nicads), extra 7 pin socket on rear apron, and "556" tone burst. Crystalled in this order: 94/94, 34/94, 22/82, 28/88, 52/52, 16/76, 10/70, 25/85, 04/64, and 45/45.

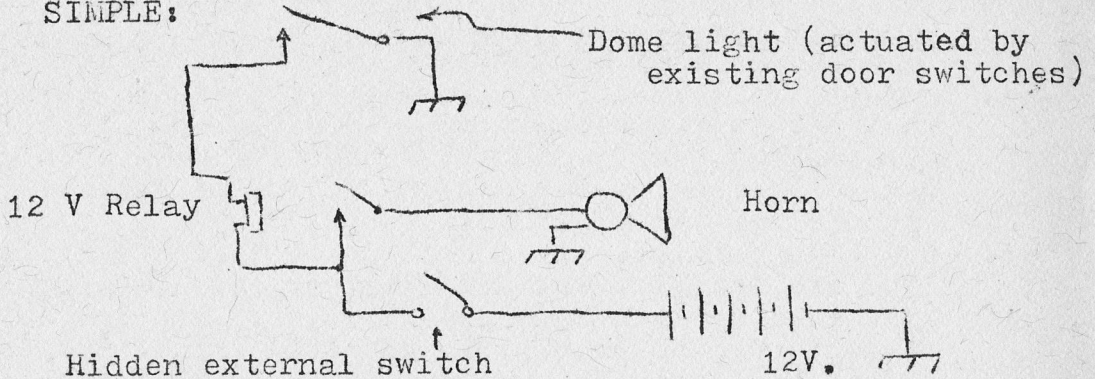
IF you see this equipment, do any and all of the following: Notify Bob (494-6549); call the police, buy it back, paying with (a) counterfeit bills or (b) a check on which you stop payment immediately.

Bob is not vengeful about his loss, but if the thief is caught, he will insist that the review of his trial be (stolen on to the next pg....)

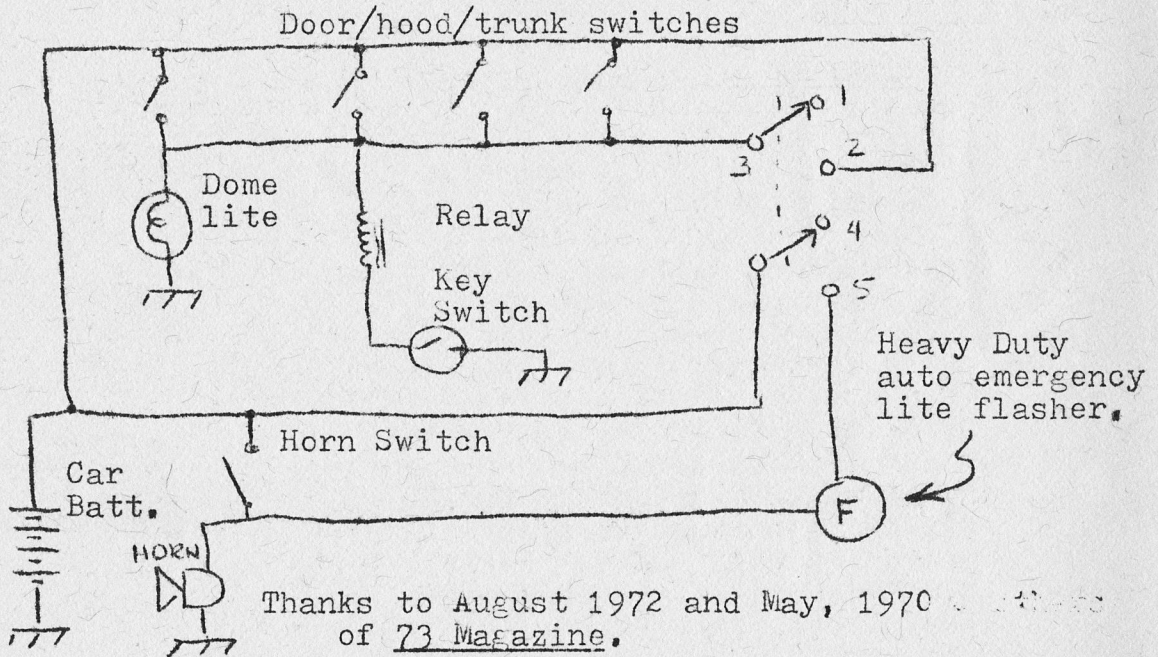
PAARA RIP*OFF CON'T.....

Abysinia (where the penalty for theft, which is mighty rare over there, is the loss of the right hand). Which makes timely these circuits for auto burglar alarms:

SIMPLE:



MORE SOPHISTICATED:



Thanks to August 1972 and May, 1970 editions of 73 Magazine.

Another anonymous letter addressed to Editor, PARAGRAPHS:
 WA6LIJ, Jerry, is of course one of our most esteemed members. Some issues ago, he started a column of practical hints for the club. I keep those issues posted in the shack: They were very practical.

But perhaps hurt by lack of expressed appreciation, Jerry has been silent of late and his hints and kinks column, moribund.

To try to get going an entertaining and utilitarian feature, I culled these items from QST (honest--date of issue on request,)

To cope with these emergencies:

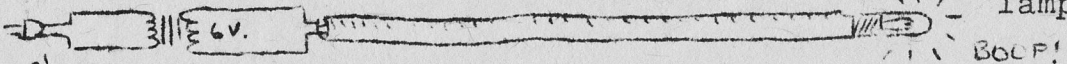
1. No control shaft knobs? Use electrical solderless fixture connectors.
2. Need cheap power for field days? Get a Heath MF-10 Power Converter--run it off a car generator (e.g. 1955 Chevvie) hooked up to a 1 hp Briggs and Stratton. This gives you 200 watts AC.
3. Emergency co-ax fittings: to substitute for a male SO-239, solder a piece of thin rod to the center of an Amphenol 75 PCI M mike connector.
4. No Allen wrench? Try a square point wire nail.
5. Emergency lighting probe:

110 VAC

flexible plastic shaft

#51 dial

lamp



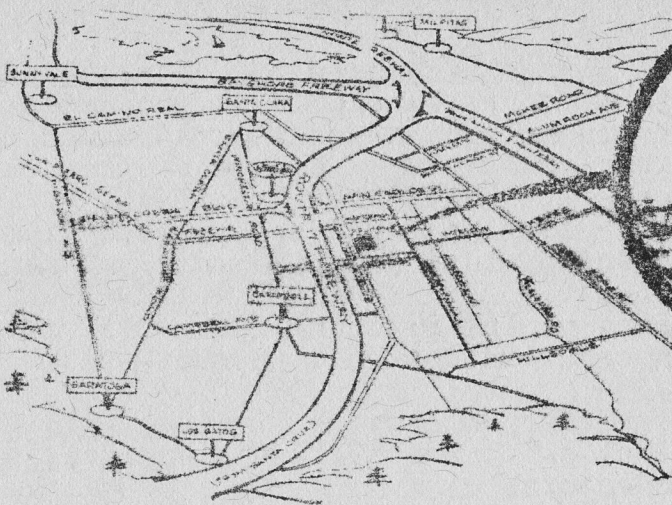
ZIP!

This little gem can be used to probe transceiver inwards or even your own, if you make the tube long enough and grease it generously.

MORE weird gonk next issue..... Where are you Jerry Starkey?
 We Need you.....

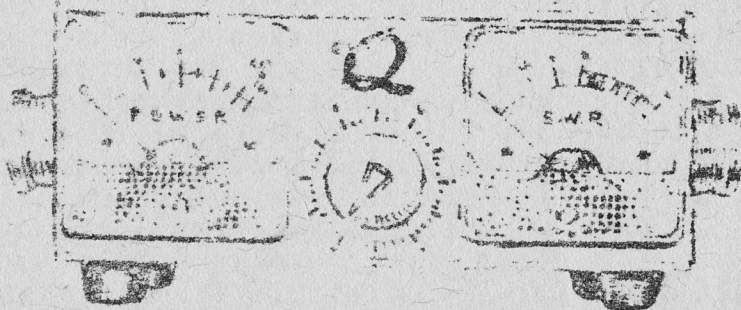
****-*****

AS FAR as the Show Me state is concerned, this issue was typed with NO decent music -- all they have is opera (yecch) and (even more emphatically yecch) country western "music" on the radio. I did meet Mel Cruts, WBØUMH, a PAARA member, in the St. Louis Airport at 5:30 AM!!! Small world. Will have a report on the University's Club station, KØLZU, next issue.



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