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504 Lakemead Way  
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vol. 26  
FEBRUARY  
1981

# PAARA

## GRAPHS



palo alto  
AMATEUR  
RADIO ASSN.

MENLO PARK C.D. RADIO CLUB, K6YQT

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DAVID SHAVER  
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## More than a dream.

### The Santec HT-1200

4W SYNTHESIZER RADIO MODULE

- 4W Minimum / 1W Low (True low power, no resistor)
- 10 Memory Channels with Auto Memory Initialize Digital Display — Reliable Long-Life, Rugged LED's
- T14 Bit Microprocessor / Keyboard Control
- 16 Tone Touchtone Generator
- Single Button Memory Recall
- Heavy Leather Case (Optional)
- 800 Channels plus MARS (143.0 — 149.995)
- Keyboard Entry of All Frequencies, All Digits plus Autotone
- Up/Down Bandscan (Stops on signal, resumes scan on sq.)
- Up/Down Memory Scan (10 memories)
- Up/Down Bandsearch (Stops on signal, locks entry)
- Up/Down Memory Search (Locks on first used memory)
- Scan Steps in 5 kHz Increments, Keyboard Selected
- Preprogrammed - 600 kHz
- Any Split Programmable by the User
- Automatic Display or Continuous Readout

Sale subject to FCC Certification to Part 15.



When is a handheld a radio module? When it is designed from the start to be part of a complete 25 or 50W mobile system. Not only can the Santec HT-1200 operate on its own Ni-Cd battery, but also it can function respectably as the center of a modular synthesized high power mobile.

□ The HT-1200 produces at least 4 watts on all the ham frequencies, from 144.000 to 147.995, for the punch needed for repeater/handheld communications. The low power mode is true low current drain. □ A Texas Instruments TMS 1000 microprocessor powers the brain of the unit, providing keyboard entry of all digits down through the kHz digit. □ In addition to providing

10 programmable memories, the microprocessor programs 10 different popular frequencies into the memory on initial start-up. These may be overwritten by the user when programming his favorites. This added convenience is standard in the Santec.

Compare the features and functions that come with the competition's popular 25 watt mobile units and you will find the HT-1200 system has them all beat! This dream of a radio is more than a dream, it's a reality. See us at the Dayton Hamvention for a hands-on demonstration of all the capabilities of the Santec HT-1200.

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PAARagraphs is the official organ of

The Palo Alto Amateur Radio Association and the Menlo Park Civil Defense Radio Club

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		Gerry Wagstaffe	W6NIR
		Ed Fairbanks	W6AIN
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		Bob Wheeler	K6SEM

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PAARA POLICIES

Membership in PAARA is \$6.00 per calander year (payable in January) which membership includes a subscription to PAARagraphs. Freebe distribution to those who indicate an interest in the Club and as an inducement to their becoming members, and is subject to change with changing interests in the Club. Make payment to:

PAARA, P.O. Box 911, Menlo Park, CA 94025

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Written contributions to the P.O. Box above, or: c/o Editor, 1043 Del Norte Av., Menlo Park, CA 94025

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R E G U L A R M E E T I N G

Friday, February 6, 1981

7:30 p.m.

Rooms 15-17, Menlo Park Recreation Center, Civic Center, Alma at Mielke Drive,  
Menlo Park

NEW 5-MODE KEYBOARD including MORSE--BAUDOT--ASTI

by

Jack Curtis K6KU

Jack has presented his latest developments to PAARA with each new generation of auto-matic keyers. If you don't know the vocabulary, now is a good time to become acquainted. There is always a fine demonstration accompanying Jacks' talks. Don't miss it. Circle the date: February 6.

Future meetings: March 6, April 3, May 1, June 5. Field Day: June 26 and 27.

PAST CORNER: The January meeting started with a patient call from Gerry, WA6LNV, our new president, for the meeting to come to order shortly after 7:30 p.m.

Visitors were introduced and made welcome.

Post 599 announced their upcoming Flea Market on the day following the meeting. They reported the ATLAS, a recent acquisition, had been sent back to the factory for reconditioning.

Net supervision for PAARA's 2-meter Monday night effort was discussed and Gerry, LNV, indicated he would try to rearrange his schedule so he could take over as the prestigious master of ceremonies.

LNV announced that 68 attended the Christmas party, a record number for a PAARA single or joint effort affair.

Fred, K6YT, held up a handfull of pictures from the party and indicated they would be collaged one of the tables during the coffee break. While Fred, and a crew which included all of PAARA, up-front or not, accepted the plaque for Field Day at the party, it appeared not to be present at the meeting.

Deadline for PAARAgaphs was set as the night of the Board of Directors meeting.

Cam, W6RU, gave a report on the California Contact Contest grand winners: Fred, K6YT, Cam, and Bob, K6SEM, in a joint effort with "lotsa points", and another plaque.

Gerry, W6NIR, reported on a confusing but satisfactory 5-way phone patch—and Gerry has a push-to talk unsophisticated "Yellow Parking Meter" patch. Also reported was the PAARA phone patch had made an Anchorage (KL7) ham news letter and that requests for transformers has boomed.

Ed, W6KJI, gave a report on a lost vessel off Baja California. One that he had handled traffic for before the thing broke up on a beach. Inadvertently, he demonstrated his talking clock.

The business part of the program was followed by coffee, cookies, hot chocolate, (or anything that could be found to eat) and lots of rag-chews and raffle ticket sales. After about 20 minutes:

Warren, W6CB, described how a combination of engineering and amateur know-how solved a communication problem in the SLAC tunnels, answering the question of what "underground radio" really is. For 30 minutes he described SLAC operations and especially his single frequency daisy chain tunnel communication system for use in the new Positron-Electron Storage Ring. (If we'd printed that in the January issue we'd have had more than the 56 attendees at the meeting! ed.) The development of the system was described in SLAC-PUB-2567 which was made available to all.

The meeting ended with a raffle of prizes selected by Ed, W6AIN, who also made coffee, bought cookies, and cleaned up after everyone left.

A very fine meeting.

BOARD CORNER: The Board of Directors, Club Officers and one guest repaired to the Club trailer at 7:30 pm January 14 and took off like the new year was just beginning.

Arrangements were made to accomodate speakers to Club meetings and discussed sending a Club representative to the ARRL Pacific Division Directorate in Concord on January 31. There were no volunteers but President Gerry, WA6LNV, said he would find someone to represent the Club.

Considerable time was spent discussing possible speakers for monthly meetings.

George, GI3OEN, suggested placing Club "rainy day" funds in a higher yeild investment program with pro and con discussion. George was asked to look into types of investments that would fit PAARA's personality and pocket-book.

John, KA6CUG, reported the Post 599 Flea Market was a success but could give no firm accounting of its results. He was sure it netted them a great deal of good will and a modest financial gain.

The meeting broke up at 8:30 after selecting "the first Wednesday after the first Friday in February" for their next meeting. All are welcome to attend.

\* \* \*

PUBLIC SERVICE CORNERS: Seven come eleven in some games. In the First Response Team reported last month one line was left out in the typing process. Add Ed, W6AIN, Pres, K6/D, Alan, WA6AZP and Bill, W6DVB to those listed as the First Response Team of Bob, W6BFH, Frank, WB6QVP, Bill, WD9ADG, Dave, KB6WP, Tiff, W6GNX, Gerry, W6NIR, and Steve, K6FS.

A nice letter of appreciation was received by Steve, K6FS, thanking him and the efforts of Alan, WA6AZP, Ed, W6AIN, Bill, W6DVB, Frank, WB6QVP, Dave, KD6ID, and Bill, WB6LML, for their communications support at the Vet-A-Run. The letter was more timely than this acknowledgement.

Steve, K6FS, attended a meeting with those responsible for Civil Preparedness at the Menlo Park Civic Center on January 19, and, among other things, received permission to put up a permanent 2-meter antenna on the previously forbidden grounds.

Swede, N6CHL, has been working with the Atherton equivalents and has almost all-band capability at the police station with an elaborate plan prepared by Tiff, W6GNX, Hal, WB6000, and Robert, WA6MSA. The plan has been submitted to the City Council.

And rumor has it that Portola Valley has all-band capability and is working hard to putting it all together.

Civil Preparedness is part of the name of the game. Get ready. It's more fun (if that's the word for it) to be among the first to be of service than to drag in a few days after everything has simmered down.

CUT AND PASTE CORNER: Please add the following to your December Roster and get to know them at the February meeting:

Clif Keeley	KA6JWA	766 Canyon Road	Redwood City, CA	94062	364 4968
William Murphy	W1YC	2005 Colony St., Apt 11	Mountain View, CA	94043	969 5910
Robert W. McClearn	WA6CFV	6291 Rubicon Avenue	Newark, CA	94560	794 0985
L. W. (Les) Olson	W6CBI	2125 Jardin Drive	Mountain View, CA	94040	948 3621

NEW MEMBER CORNER:

L. W. Olson, Les, W6CBI, is another of our growing family of ex-UAL employees. Retired last September, he was Director of Engineering. He holds an Advanced Class license and a First Class Commercial ticket. He has been around. Previous calls include W9UNN, W2PDZ and W7KTX. First licensed in 1932, he can be found on 20 meters using his Kenwood 180S.

Robert W. McClearn, Bob, WA6CFV, works for the USGS, and so has an interest in emergency communications. He holds an Extra Class license and can be found on 2, 10, 15 and 40 meters, with enough battery power to keep himself going. Bob was first licensed in 1967 and is interested in moving traffic during long lulls between emergencies. He manages a widespread interest in amateur radio through EMARC, SPARKS and SPECS. We're glad he has included us.

Clif Keely, KA6JWA, first licensed last May is still trying to get a Wednesday off from GTE Lenkurt to go to the City to upgrade. His main interest (for now) is CW and Field Day. His TS 120 does him a good job.

William Murphy, Bill, W1YC, joins us from GTE Fiber Optics Division and has been licensed since 1949. You might have worked him under the calls of W3PWN, WA1JFF, WA2HHP or WA2HRQ. His Drake equipment keeps him busy on 80, 40 and 20 meter CW working DX, contests and Field Day. Bill is a lifetime member of ARRL.

Welcome this crew of testers to the February meeting. They can't be expected to get to know all the rest of us as quickly as we should get to know them.

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VISITORS' CORNER: Visitors at the January 9 meeting included: Bob Vaughan (NC), Palo Alto; Michael J. Doherty, KA6ICU, Sunnyvale; Robert McClearn, WA6CFV, Newark (see above), and Bill Murphy, W1YC, Mountain View (see above). We are glad to have visitors, and even more glad when half of them become members.

Welcome to the group.

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MEMBERSHIP CORNER: Members are reminded that dues are payable any time. BUT...they are due in January! Starting next month those who have paid their dues will receive plain labels on PAARAgaphs. Others will have a red dot displayed as a reminder. Printing and postage don't cost any less this year than last and PAARAgaphs pays its way partly through dues. A roster in April or May will carry all members in good standing.

Join or renew your ARRL membership through the Club. It nets a little something, helps maintain at least 50% Club membership in ARRL, and helps keep you well informed on happenings in amateur radio.

/6 CORNER:

Dear PAARA and PAARAgaphs:

Enclosed is \$6 for another year's membership in PAARA and for 12 more issues of PAARAgaphs, by far the nicest bit of ham literature I receive.

Responding rather tardily to your request some months ago to have far-flung members of PAARA drop you a note, I'd like to congratulate the group for another stunning success at Field Day — you even made it into QST, albiet with that blasted wind generator which almost succeeded in making Bob a silent key. I was very fortunate to have been part of the operations last June, even though Gerry, W6NIR, somehow signed me up for the midnight to 4 am shift! Much better than fighting the mosquitos and humidity out here at the Newton Club FD effort.

I also noted another success for the Club with the Auction/Flea Market (seems that the flea market tables always do better every year — must be the higher quality of junk brought in by members). And your membership roster and meeting attendance are booming...the quality of the programs must be responsible, I'm sure (as well as the PR work of PAARAgaphs).

I had a bit of an academic switch over the past few months, with my acceptance into the Electrical Engineering and Computer Science Department at MIT....for a few years of study in the more esoteric (and basic!) aspects of engineering. Before this I was working more or less full time at an NMR lab there (remember mu talk to PAARA a year ago?). Perhaps we can get the club station at MIT (W1MX) to fix their beam for 15 meters and we can set up a sked via W6NIR or whatever in the near future. I'll probably be spending most of my time there staring at equations or a computer CRT in the meantime.

Lucy (NC)(XYL) is enjoying her new position as medical manuscript editor for a publishing company in Boston. We often commute into the city together on the "rapid" transit system, which seems to get less and less swift and more expensive.

My station here in Newton is at a standstill: the poor FT-101B is hooked to the radiator for a listening antenna, and not much else gets to transmit around here except for some 2-meter equipment, notable an IC2AT which is a nice little rig.

Was happy to see N6RY's article in, 73 Magazine a couple months ago — the antenna he describes sounds quite intriguing. Wonder if he's put up another at his new QTH since you printed his letter in the last issue of PAARAgaphs?

de Rick, WA6NCX/1

**REPEATER CORNER:** Welcome to the Southern Peninsula Emergency Communications System (SPECS) Amateur Radio open repeater. The repeater operates on 145.27/144.67 MHz. The SPECS net meets on the air Monday evenings at 8:00 P.M. The purpose of SPECS is to serve local agencies in time of emergency. We furnish free back-up communications to police, fire departments, Red Cross, Civil Defense, hospitals, Forest Service or any other agency which requests our services. Frequent simulated disaster drills prepare us for real emergencies. We provide communication for community affairs such as parades, foot and bicycle races, tennis matches, March of Dimes and car rallies. In addition we provide communications related to highway accidents, travelers in distress, road hazards, etc.

In short, we are dedicated to handling emergencies and serving our communities in time of need, but the remainder of the time we are incurable ragchewers. SPECS has been serving the communities of the Southern Peninsula since 1957.

Our operating suggestions emphasize courtesy and friendliness, PLEASE;

1. Be Courteous. The repeater is not the place for harsh words.
2. Share the system! Allow breaking stations to take a transmission as soon as they are heard. Make visitors and newcomers welcome.
3. Except when breaking, leave a pause of three or four seconds after the courtesy beep. This allows breaking station to enter.
4. Enter emergency communications only if asked. All stations not involved in traffic handling should stand by while emergency traffic is in progress.
5. FCC regulations regarding nature of communications should be strictly obeyed. Proper identification is required.
6. Do not discuss operating technical details on the repeater or play with any touch tone pad on the system controls.
7. Ignore unauthorized users or jammers. Do not attempt to hassle or discuss their operation with them. SPECS members who carry on any type of conversation with a jammer can expect a phone call or personal visit by a control operator.

ENJNY THE SYSTEM!!! WE HOPE IT'S THE BEST IN THE BAY AREA

The repeater is located on El Camino Hospital, 2500 Grant Road, Mountain View.

Output power to the antenna is approximately 25 watts. We share this frequency allocation with a station in Auburn, CA. The repeater was conceived and made operational through donations of equipment, time and money from the City of Mountain View, El Camino Hospital, electronics firms and numerous amateurs. There are no dues for either SPECS members or users of the repeater. Original contributions paid for the duplexer and primitive control system.

We are now in phase II of the development program which will provide members with many important bene-

fits. Through loans of money from the originating board members we have purchased a microprocessor control which will be one of the most advanced in the Bay Area. Some of the more important features are: Autopatch/reverse patch; flexible timeout limits; diagnostic pad tests; courtesy tone; kerchunker suppression; emergency power recognition; resettable timer; access code muting; 3 digit access codes; autodial; digital tone decoding; 14 morse messages.

Since our repeater is dedicated to proving emergency communications within the South Peninsula the most obvious feature of our new control system will be the use of the AUTODIAL function. If you are a member, you will be given a list of emergency phone numbers which can be dialed through the repeater by unique 3 digit touch tone codes. Also with your membership application we will send you a format for testing your touch tone pad on either your home rig or HT.

Since we are about \$800.00 in the hole because of the purchase of the microprocessor controller we would appreciate a donation. Please make your check payable to SPECS and enclose it with your application. Original donors which number about 25 are also encouraged to help out. We will have some on-going costs such as telephone line rental and installation costs so dig deep and help us get started.

The Emergency Coordinator and Trustee of the SPECS repeater is Walt Read, W6ASH, Chairman of the SPECS Association is Ted Harris, W8RPA, the Secretary is Bill Robinson, WB6OML and the Treasurer is Fred Barry, K6RTU.

Hams have always played a major role in disaster communications. We need your participation in emergency preparedness. We are proud of our reputation and look forward to serving our communities. If there is a major emergency on the Southern Peninsula LOOK FOR US - SPECS WILL BE THERE.

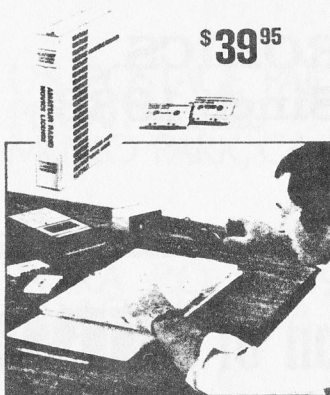
UNCLASSIFIED CORNER: \* \* \* This space is allocated to PAARA members and others, as space permits, hopefully as a public service.

FOR SALE: HA-201A 2-meter amplifier. Heath's answer to the handi-talkie's need for a boost. HT-power in, ten-watts out. Mini size and brand new. Tested as excellent on the air but no time now for 2-meter operation. It's yours for only \$30. Call Leon, W6KTP, at 494 2613.

WANTED: World War II Radio Gear. Am looking for anything related to WWII radio equipment: manuals, radio mast mounts, mikes, keys, etc. Please call Paul, WA6IJP, at 367 0873, evenings.

FLEA MARKET FLEA MARKET FLEA MARKET FLEA MARKET  
 The Peninsulas Largest Electronic Flea Market will be held at the Electronic Museum in Parking Lot "M" at Foothill College, Highway 280 at El Monte Avenue in Los Altos Hills. 9 a.m. to 2 p.m. Saturday March 21. Buyers: Free. Sellers: \$5.00 per exhibit space (2 parking stalls). DONATIONS WELCOME AT SPACES 1, 2, and 3. Sponsored by The Southern Peninsula Emergency Communications System. Call in frequency 145.27/144.67.

## Get your ticket and get on the air — faster and easier — with the Heathkit Novice License Course



**\$39.95**

Here's a self-instruction course that's guaranteed to help you get your Novice ticket and talk to the world! This deluxe learning program prepares you for the new Amateur Radio Novice FCC exam, and provides you with helpful guidelines for setting up and operating your own station once you pass the exam. When you have completed the Novice License Course, you will be able to send and receive the Morse code accurately at the rate of five words per minute, and to pass a 20-question, multiple-choice written test from the FCC.

**Note:** This Course prepares you for the latest FCC examinations. We guarantee it.

At the end of each module, a multiple choice exam checks your understanding and retention of the material. After Module 9, two practice exams and a final exam styled after the actual FCC exam give you test-taking experience to make the actual thing a breeze. And, by successfully passing the optional final exam with a grade of 75% or better, you will earn 1.0 CEU and a Certificate of Achievement.

The Novice License Course includes two audio cassette tapes to aid you. The first contains an introduction to Amateur Radio, an explanation of RST

signal reporting, a review of circuit components, and a review of practical circuits. The second tape teaches you the Morse code in letter groups and then helps you bring your code speed up to five words per minute.

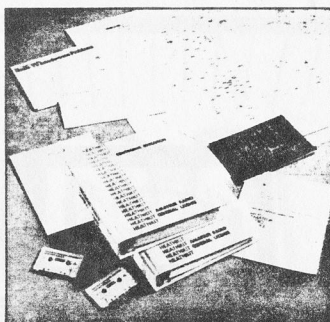
In addition, you will receive a set of Operating Aids, plus an attractive 31" x 22" Frequency Spectrum Chart and matching U.S. Call Area Map for display on the walls of your Ham "shack." All materials in this Course are packaged in an attractive vinyl binder for convenient reference.

**This Course is guaranteed to help you get your license.** If you fail to pass your FCC Novice exam after completing the course, we will REFUND your money. Simply return the course materials, along with your receipt and a copy of your rejection notice from the FCC.

So... if you have been putting off getting your Novice ticket because of fear of the code test or the written exam, the Heathkit Novice License Course is the answer. It contains everything you need.

ER-3701, Shpg. wt. 7 lbs. .... **39.95**  
Kit HD-1416, CW Oscillator (see below)  
Wt. 2 lbs. .... **15.95**

## The Heathkit General Class Amateur Radio Course helps you move up to the thrill of voice communications



**\$49.95**

- Open new doors to the full range of Amateur Radio experiences. Leave the crowded Novice or CB bands behind. Earn your Technician or General Class License with the Heathkit ER-3702 General Class Amateur Radio Course.

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**This Course provides extra code practice** to bring your code speed up to 15 words per minute. Since the FCC requires only 13 wpm to pass the General exam, the extra "two-word edge" gives you the confidence to pass the exam with flying colors.

**An informative text** takes you through the subjects covered on the new FCC written test. It concentrates on the information needed to pass the exam, so you don't get bogged down learning information that won't be covered by the FCC.

A simulated FCC written test gives you test-taking

experience, and allows you to review problem areas so you'll be more prepared for the actual exam. Once you pass your General exam, send us a copy of your new license or FCC notification of passing to receive 5.0 CEU's and a Certificate of Completion.

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- Two vinyl binders
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- Two code tapes
- World Call Map
- FCC exam schedule
- FCC rules and regulations

The Course is arranged in 10 units:

- |                        |                    |
|------------------------|--------------------|
| 1. Ham Radio Operation | 6. Measurements    |
| 2. Direct Current      | 7. Transmitters    |
| 3. Alternating Current | 8. Receivers       |
| 4. Active Devices      | 9. Antennas        |
| 5. Electronic Circuits | 10. Practice Exams |

The General Class License Course carries the same guarantee as the ER-3701 Novice Course above.

ER-3702, Shpg. wt. 24 lbs. .... **49.95**

### Build up your code speed with this handy CW Oscillator



**\$15.95**

Get your speed up and pass your FCC exam with this handy Practice CW Oscillator. It features a telegraph key, phone jack and built-in speaker, plus volume and tone controls. And once you get your license, the HD-1416 can serve as a side tone oscillator for any transmitter using grid block keying. The cabinet measures 2 3/4" H x 4 1/4" W x 4 3/4" D. It operates on a single 9 V transistor battery (not included). This easy-to-build, first-time kit even includes solder, as do all Heathkit electronic kits.

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ERS-3701, Shpg. wt. 9 lbs. .... **44.95**



Now use your Visa or MasterCard credit cards or Heathkit Revolving Charge to purchase your kit!

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