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PAARA

vol. 24
SEPTEMBER
1980

GRAPHS



**palo alto
AMATEUR
Radio ASSN.**

MENLO PARK C.D. RADIO CLUB, K6YQT

SHAVER RADIO, INC.

DAVID SHAVER
K6DTX

1378 S. BASCOM AVE
SAN JOSE, CALIF
408 998-1103

SALES
SERVICE
INSTALLATION

AZDEN
REVOLUTIONIZES THE STATE OF THE ART
AWE AND AZDEN INTRODUCE THE BRILLIANT NEW PCS-2000
MICROCOMPUTER CONTROLLED
2 METER FM TRANSCEIVER

NOT \$550.00
**INTRODUCTORY
PRICE**

SPRING
SALE

\$299⁰⁰

REG. \$369.00



COMPARE THESE FEATURES WITH ANY UNIT AT ANY PRICE

- **FREQUENCY RANGE:** Receive and transmit: 144.00 to 147.995 MHz, 5Khz steps + MARS-CAP® and MULTIPLE OFFSET BUILT IN.
- **ALL SOLID STATE-CMOS PL DIGITAL SYNTHESIZED.**
- **SIZE: UNBELIEVABLE! ONLY 6 1/4" x 2 1/2" x 9 1/4". COMPARE!**
- **MICROCOMPUTER CONTROLLED:** All scanning and frequency-control functions are performed by microcomputer.
- **DETACHABLE HEAD:** The control head may be separated from the radio for use in limited spaces and for security purposes.
- **SIX-CHANNEL MEMORY:** Each memory is re-programmable. Memory is retained even when the unit is turned off.
- **MEMORY SCAN:** The six channels may be scanned in either the "busy" or "vacant" modes for quick, easy location of an occupied or unoccupied frequency.
- **FULL-BAND SCAN:** All channels may be scanned in either "busy" or "vacant" mode. This is especially useful for locating repeater frequencies in an unfamiliar area.
- **INSTANT MEMORY-1 RECALL:** By pressing a button on the microphone or front panel, memory channel 1 may be recalled for immediate use.
- **MIC-CONTROLLED VOLUME AND SQUELCH:** Volume and squelch can be adjusted from the microphone for convenience in mobile operation.
- **ACCESSORY OFFSET:** With one optional crystal, three non-standard offsets become available.
- **25 WATTS OUTPUT:** Also 5 watts low power for short-distance communication.
- **DIGITAL S/R F METER:** LEDS indicate signal strength and power output. No more mechanical meter movements to fall apart!
- **LARGE 1/2-INCH LED DISPLAY:** Easy-to-read frequency display minimizes "eyes-off-the-road" time.
- **PUSHBUTTON FREQUENCY CONTROL FROM MIC OR FRONT PANEL:** Any frequency may be selected by pressing a microphone or front-panel switch.
- **SUPERIOR RECEIVER SENSITIVITY:** 0.28 uV for 20-dB quieting. The squelch sensitivity is superb, requiring less than 0.1 uV to open. The receiver audio circuits are designed and built to exacting specifications, resulting in unsurpassed received-signal intelligibility.
- **TRUE FM, NOT PHASE MODULATION:** Transmitted audio quality is optimized by the same high standard of design and construction as is found in the receiver. The microphone amplifier and compression circuits offer intelligibility second to none.
- **OTHER FEATURES:** Dynamic Microphone, built in speaker, mobile mounting bracket, external remote speaker jack (head and radio) and much, much more. All cords, plugs, fuses, microphone hanger, etc. included. Weight-6 lbs.
- **ACCESSORIES:** 15' REMOTE CABLE... \$29.95. *MARS-CAP KIT... TBA. PCS-6R A/C POWER SUPPLY... \$49.95.

VOLUME 24 NUMBER 9

SEPTEMBER 1980

PAARAGraphs is the official organ of
The Palo Alto Amateur Radio Association and the Menlo Park Civil Defense Radio Club

1980 CLUB OFFICERS

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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. Interested others may subscribe to PAARAGraphs for \$6.00. Make payment to:

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

Written contributions to P. O. Box above, or, 1043 Del Norte Av., Menlo Park, CA 94025

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Cover	:	Sue Lindner	L6VLY

7:30 P.M.

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

FRIDAY SEPTEMBER 5

Rooms 15 & 17, Menlo Park Recreation Center,

Alma at Mielke Drive

Menlo Park

AS A GUEST OF CHINA

Stanley F. Kaisel, K6UD

Stan will talk on his recent trip to mainland China where, as an invited guest, he inspected a large electronic tube factory. He will have slides of China for his "show and tell". Question: Was it a large factory where they make little tubes; a small factory where they make large tubes; or a little of both? You wont know unless someone tells you and you might as well get it first-hand.

FUTURE MEETINGS: October 3, Auction/Flea Market October 11, November 7, December 5. Next Board of Directors meeting September 10.

PAST CORNER: Bob, K6SEM, hammered the meeting to order about 7:30. The Secretary, Gerry, WA6LNV, made his report but Irene, WB6RAF, with illness in the family, came to the meeting directly from the hospital without her records.

Jim, K7UDG, reported the Post 599 repeater was in operation but still without a multiplexer. Contributions to help defray repeater expense will be welcomed by John, KA6CUG.

Fred, K6YT, gave what he promised was the last 1980 Field Day report. He and Bob, SEM, acknowledged everyone's efforts and are already thinking of next year.

Cam, W6RU, tabulated the Field Day results comparing PAARA efforts with those of Foothill. They are:

	Phone		CW	
Band	K6YA	K6YT	K6YA	K6YT
80/75	66	111	38	79
40	151	208	272	266
20	1349	1252	665	672
15	1055	1077	562	687
10	89	276	77	73
2	18	10	-	-
OSCAR	6	6	0	7
NOVICE	-	-	215	139
TOTALS	2734	2940	1829	1923
BONUS	900	900		

TOTAL QSOS: K6YA: 4563

K6YT: 4861

FINAL SCORES: K6YA: 13,664 points
K6YT: 14,472 points.

A break enabled all to digest the F.D. results. It was announced that Fred, K6YT, had that day become a(n) Sexagenarian and a birthday cake frosted with a flying boat was cut by Fred. Ed, W6AIN, had coffee ready and ragchewing continued until the speaker arrived.

Tom VanStavern, from the Livermore FCC Field Office spoke of the radio spectrum monitoring responsibility and practices of the FCC. His talk was illustrated with slides of monitoring stations, sites, equipment, antenna arrays and mobile equipment.

He indicated the primary concern of the FCC was to the marine and aviation industries and that interfering stations could be found in as short a time as two or three minutes or as much as two to three hours after equipment got near the offending radiation source. Amateur concern is low on the FCC priority scale.

The meeting broke up a few minutes before 10:00 with a raffle, thence to the parking lot to examine one of the FCC vans.

* * *

BOARD CORNER: The Board of Directors met Wednesday evening, August 6, from 0225 to 0340UTC. Gerry, WA6LNV, Shannon, K6TNY, Bob, K6SEM, Ed, W6AIN, Eric, W6DU, Irene, WB6RAF, Gerry, W6NIR, Dave, KB6WP, Mac, N6YV, and his Dad, Ken, a long suffering supporter of ham radio in the MacKaig household, from Camarillo. Missing was Swede, N6CHL, who was off to the Scandinavian Countries acquainting himself with some of the Swensons he'd never met.

Assignment of Auction/Flea Market responsibility was made after a reevaluation of suggestions made after the Auction last year.

The Board commended Eric, for the qualith of meeting programs for the past Quarter and Eric responded that the September meeting should be interesting—an overview of the China Westerners haven't seen for 35 years.

Ed suggested it might be time to start planning a Christmas party and Gerry, LNV, indicated it was taken care of—for December 15. More later.

It still being light, there was only a little enthusiasm shown for the group's wending their way to the local suds parlour in spite of the donation of a coupon worth something on something else.

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1952 ANNUAL 1980

PALO ALTO AMATEUR RADIO ASSOCIATION

AUCTION & FLEA MARKET

SATURDAY OCTOBER 11 10:00 a.m.

AMPEX Cafeteria, Next to Bldg. 1 Bay Road
REDWOOD CITY, CA

+ + +

VISITOR'S CORNER: From north to south, visitors at the August meeting included Georgia Grant and Paul Atkins, NGDAJ (a new call sign) from Foster City, Mary Ann McAdams, Palo Alto, and Stan Kuhl, W7VK, from Sunnyvale. It was good to see Georgia, Paul and Mary Ann again and we look for a return visit from you and Stan again September 5.

o o o

K60TR/R CORNER: Usually, I occupy this space in PAARAGraphs by writing "THE CORNER OF EXPLORATION", but since the Post has been doing little else, a word or two on our "machine" would be fitting.

K60TR/R operates on the frequency of 145.17 with a transmit offset of - 600kHz. It is primarily a "low level machine", located in the City of Palo Alto. The heart of K60TR/R is two General Electric Progress Lines and a six cavity duplexer. The repeater's solid-state control circuitry was constructed mainly by John Buenocore, KA6CUG. The "machine" uses an 8db gain omnidirectional antenna at the 75 foot level (thanks to the tree-climbing ability of Steve Schellenberg).

"The reason for the Post having its own repeater is two-fold," says Jim, K7UDG, one of the Post advisors. "One reason is that the kids will learn something about VHF and repeaters, and the other reason is so we don't tie up a 'high-level machine'." Jim went on to say that since most Post members have

hand held rigs, it is almost impossible to communicate without the use of a repeater.

One of the builders of the repeater said that cavities, for additional isolation, and an automatic identifier are in the "machine's" future. With the improvements, however, K6OTR/R is expected to remain "low-level".

K6OTR/R, as well as the other equipment contained in "the shack" is now protected by a sophisticated ultrasonic security system installed by Russell "Ramjet" Rockett, KA6IZZ.

As a final bit of news, tow Post members, Bob Gallagher, KA6IRT, and yours truly, recently "stood before the devil" and received our just reward; the General Class license. Until later . . .
73, Jim O'Neil, KA6IKX

FCC CORNER: Despite the FCC claims malicious interference with amateur radio is low on their priority list, someone is always surprised. The August CCRC Circle contains the following:

"In response to the CCRC's appeal to the San Francisco Field Office of the Commission, in regard to the malicious interference to local repeaters, the following response was received on July 18:

"On May 22, 1980, an Engineer and a Technician from the FCC's San Francisco Field Office were investigating complaints of improper operation by users of the "Grizzly Peak" Amateur Radio Service repeater station WB6AAE/R. At approximately 12:30 a.m. they were monitoring the transmissions of a female radio operator who identified herself as "SHAWNA," and using a factitious call sign. Through the use of mobile direction finding equipment it was determined that the location of the transmitting station was Sebastopol, California. The Amateur Radio station at the located address was inspected immediately. The operator of the station is the holder of a Novice Class license. She has been issued an Official Notice of Violation alleging that she violated the following FCC Rules - Section 97.7, Section 97.84, and Section 97.121.

"On May 28, 1980, an Engineer and a Technician from the FCC's San Francisco Field Office were investigating complaints of improper operation by users of the "Grizzly Peak" Amateur Radio repeater station WB6AAE/R. At approximately 9:06 p.m. a signal was observed on the input frequency of that repeater (146.22MHz) which was not being identified by transmissions of an assigned call sign. The unidentified station was transmitting Morse Code. Through use of mobile direction finding equipment the source of the transmissions was found to be in Stockton, California. The Amateur Radio station at the located address is licensed to an Amateur Extra Class licensee.

"He has been issued an Official Notice of Violation alleging that he violated the following FCC Rules - Section 97.84 (a), Section 97.123, and Section 97.125.

The Regional Director of the FCC states that one of the above operators lost his license and the other operator's case is pending."

CCRC CORNER:

"YE ED'S NEWS AND NOTES FOR AUGUST

Ye Ed is non omnia possumus omnes. He and cats don't seem to get along well these days. While trying to remove tabby from the roof of his home, Fred, K6RTU, fell and broke his arm (the humerus - but that's not funny)! Therefore there will be no News and Notes from the Editor this month"

= = =

COMING EVENTS CORNER:

Sept. 5 - 7	ARRL Southwestern Division Convention, Los Angeles
Sept. 13	FARS Flea Market
Sept. 13-14	ARRL VHF Contest
Oct. 4 - 5	California QSO Party
Oct. 11	PAARA Auction/Flea Market
Oct. 18-19	Santa Clara Valley Section CD Party
Nov. 1 - 2	ARRL Sweepstakes - CW

+ + +

PAARA SET CORNER: Steve, K6FS, announced that PAARA will partake in the Simulated Emergency Test this fall with the ARRL Santa Clara Valley Section on October 18 and 19. Steve will fill in the details at the September meeting.

+ + +

UNCLASSIFIED CORNER:

STOLEN Yaesu FT-101, Serial Nr. 129 366.

Yaesu FT-202R, Serial Nr. 8J011 918, with leather-like case, speaker mike and 4 NI-CD's. Bearcat 210 Scanner, Serial Nr. 266 247. 15-meter resonator for mobile antenna.

ANYONE coming across any of this gear should notify the Mountain View police department, 966 6363, or Gerry, W6CCM, 967 1650.

(ed. note: Look carefully at ham gear sold without manuals)

WANTED: Foreign stamps from envelopes used to mail QSL cards to you. See Dave, KB6WP, 325 3347, or hang onto them and give them to him on a continuing basis at the meetings.

WANTED: 35 - 40 foot tower. Call Dan, WB6STW, at work 987 2560, or at home, 946 2885.

FOR SALE: Realistic Model #33-1028 sound-level meter with manual. Like new. \$15. Call Leon, W6KTP, at 494-2613.

FOR SALE: RTTY MODEM PMA MODEL #PLL-1. Adjustable shift 0.1-1.0KHz. Center frequency adjustable 1.0 to 3.0 KHz. With schematic and instructions. Like new. Asking \$95. Call Leon, W6KTP, at 494-2613.

WANTED: A speedy recovery for Jerry, WA6LIJ, scheduled for surgery August 18 or 19, a few days after printing date.

* * *

EDITOR'S CORNER: This editor has seen many cats on many roofs but has yet to see a cat skeleton there.



CUT AND PASTE CORNER: Please add the following new members to your April Roster:

Alan A. Brubaker, K6XO 34456 Colville Place
Ronald F. Chiappari, N6AUW 113 Foxwood Road

Fremont, CA 94536 792 5736
Portola Valley, CA 94025 851 1688

and change:

Hal Moore, W6DEF, to: 286 Terrace Street

Auburn, CA 95603 823 2600

NEW MEMBER CORNER:

Alan, K6XO, was first licensed as a novice in 1956 and became interested in contesting in 1960. He has participated in Field Day since first licensed and for the past few years with PAARA.

He has operated from all ten of the U.S. call areas and lived in Hawaii in the early '60s. He moved to Fremont in 1978 and early-on joined NCCC. He has been busy: 5BWAS, WAC, and a member of the Contest Advisory Committee.

Alan claims to enjoy PAARA Field Day activity, and we are happy to claim Alan.

Ron, N6AUW, is active on 80 through 10 meters plus 2-meter mobile on which he keeps in touch with many Club members to and from work. First licensed in 1978, he became Advanced Class in 1979.

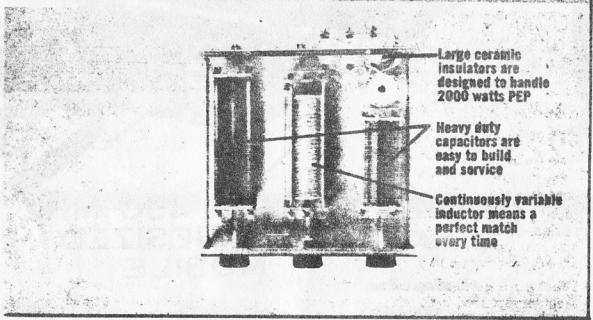
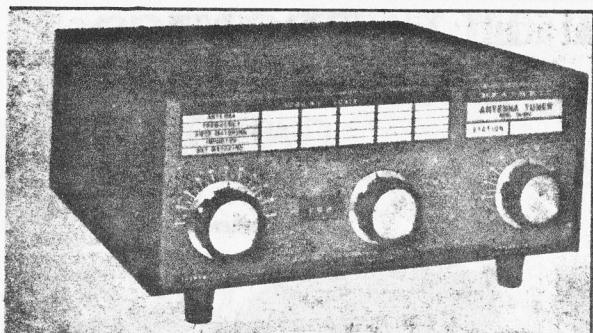
Ron is a contester and has helped PAARA with its Field Day activity for the past three years. He is also active in the Portola Valley Emergency Communication network that has recently acquired both HF and VHF equipment.

We are glad to welcome Ron and will look for him at our meetings and events.

From the MDRA "CARRIER"

NETS INDEX

Index	Days	Times	Freq. (in-out)	Mode	Special
SIRARC	Wed	9:00 AM	7275 K	SSB	
	Thurs	9:00 AM	3725 K	CW	
	Thurs	10:30 AM	146.25-146.85	FM	
	Fri	8:30 AM	7125 K	CW	
	Fri	8:15 AM	3770 K	CW	
	Fri	10:00 AM	3925 K	SSB	
SCCARA	Mon	7:30 PM	146.985-146.385	FM	
	Wed	7:30 PM	28.120 M	CW	Novice
	Wed	7:30 PM	28.620 M	SSB	
NorCal	Daily	7 & 8:30 PM	3630 K	CW	Slow speed at 8:30 pm
	Daily	7 & 8:30 PM	144.81-145.41	FM-CW (Tone CW) WR6ADC	
	Daily	11AM & 12:30 PM	7275		Region 6 Day Net
	Wed	8:00 PM	146.49 (Simplex)	FM	Simplex
CW Net	Wed	7:30 PM	3550 K		
	Wed	7:30 PM	443.10-448.10 M		
Pioneer RC	Tues	7:30 PM			
ARRL Bulletins	1st & 3rd	7:00 PM	3590 K	CW	
	W6ZRJ	7:30 PM	3810 K	SSB	
	Tues	8:00 PM	3615 K	RTTY	
Bulletins W6ZF Napa	1st & 3rd	8:00 PM	3540 K	CW	22 WPM
	Mon				
MDARC	Daily	9:00 PM	3895 K		Parky Net
FTO Telephoners	Daily	12:00 Noon	7240		
	(Except Tues)				
SPARK-WR6AIS	Tues	8:00 PM	144.63-145.23	FM	RUG (Reptr Users Group)
Mission Trail	Daily	7:00 PM	3928 K		
Golden Bear	Daily	0300 UTC	3975 K		
W6QIE Code Practice	Tu thru Su	8:00 PM	3590 K & 146.58 M	CW	5 to 30 WPM - 10min each
W6QIE Bulletins	Mon	8:00 PM	146.58	RTTY	170 Shift 60 WPM
SPECS	Mon	8:00 PM	144.63-145.23	WR6AIS Net Cont	W6ASH
PAARA	Mon	8:30 PM	147.45 M	FM	
	Sat	9:00 AM	14.24 M or 21.39 M		
EMARC	Tues	8:00 PM	147.45 M	FM	Informal
SFRC	Mon	8:00 PM	28.650 M		
	Wed	8:00 PM	146.49 M		
	Thurs	8:00 PM			Emergency Net W6PW/R
ARES TRAFFIC	Daily	5:15 PM	3993.5 K		
WEIRDO	Daily	11:00 PM	146.19-146.79	FM	WR6ACI
LOCAL YOKEL	Mon	9:00 PM	14.3 M		
Calif. Novice	Cat	9:30 AM	3730 K	CW	Traffic - NC WA6Y WS
Knights of the Megacycles	Sun	7:00 AM	146.22-146.82	FM	Bible study prayer net. WR6AAE/R
Richmond ARC	Wed	8:00 PM	21.115 M	CW	
	Wed	9:00 PM	21.355	SSB	
NPEC	Sat	12:00 Noon	1960 K	AM	
	Mon	8:00 PM	21.4 M	SSB	



Tied to one band? Use dipole or long wire 80 through 10 meters with the Heathkit 2 kW Antenna Tuner

\$159.95

- Accepts both balanced and unbalanced feed lines
- Continuously variable inductor gives you exact matching
- Even write-in band settings on the erasable front panel

You'll like the way the Heathkit SA-2040 2 kW Antenna Tuner helps you radiate more of your signal by maximizing power transfer from your transmitter to your antenna. It helps you reduce TVI, too. This Tuner gives you the versatility of using a built-in 4:1 balun for balanced feedlines, or unbalanced feedlines, or long wires.

A continuously variable inductor — from 3.5 MHz to 30 MHz — gives you an infinite number of impedance settings, assuring precise antenna matching, and makes the SA-2040 ideal for MARS operation or the recently approved new band allocations. A convenient counter on the front panel indicates inductor settings. The Heathkit manual includes a chart giving you high-, mid- and low-band settings on each HF band, plus a full page logging scale for recording intermediate settings. Write your most frequently used settings on the SA-2040's erasable front panel.

Silver-plated straps and roller contact assembly minimize RF loss at high frequencies. And large ceramic feed-through insulators withstand high voltage RF. This Tuner can handle up to 2000 watts PEP on SSB, and 1000 watts on CW. SO-239 connectors allow incorporation into your 50 Ω system.

This easy-to-build kit is a two-evening project. And when you've tightened the cover, personalize your Tuner with stick-on numerals and letters that let you add your own call sign to the front panel. The rugged black metal cabinet measures 5 5/8" H x 14 1/8" W x 13 1/8" D. Compare this Tuner with the competition — match power handling capabilities, features and price. You'll see why the SA-2040 is your best buy.

Kit SA-2040, Shpg. wt. 15 lbs. 159.95
HDP-3622, 3-ft. RG8U jumper with PL259 connectors, Wt. 1 lb. 4.85

SA-2040 SPECIFICATIONS: Frequency Coverage: 3.5-30 MHz. Power Input Capability: Full legal limit. Input Impedance: 50 ohm at match. Impedance Transformation: 4:1 (balance-to-unbalanced) balun. Output Impedance: Wide Range. Cabinet Dimensions: 5 5/8" H x 14 1/8" W x 13 1/8" D (36.8 x 14.6 x 35.2 cm).



AC Power Supplies for your Heathkit or other make Amateur Radio gear

① AC Supply for most 2-meter transceivers

- Power mobile transceiver plus amplifier to add VHF capability at your home QTH

The Heathkit PS-1175 supplies the necessary voltage and current to power the new VF-7401 2-meter transceiver/HA-202A amplifier combination (or most other makes of VHF mobile equipment) from a standard 120 or 240 VAC outlet for base station operation. Output voltage of the PS-1175 is internally adjustable between approximately 12 and 14.5 volts DC. A Darlington circuit provides exceptionally high gain for excellent regulation. The supply is fused for overload protection, and comes complete with cables and 3-wire line cord. The easy-to-assemble kit even includes a generous supply of solder. Order now and start getting double duty from your mobile transceiver.

Kit PS-1175, Shpg. wt. 15 lbs. 74.95

PS-1175 SPECIFICATIONS: Output Voltage: 13.8 VDC regulated (internally adjustable from approx. 12 to 14.5 VDC). Output Current: 10 amperes intermittent, 10 minutes max. (5 amperes continuous). Load Regulation: less than 1% at 10 amperes. Ripples less than 0.5% at 10 amperes. Power Requirement: 120 VAC, 50/60 Hz at 4 amperes; 240 VAC, 50/60 Hz at 2 amperes. Dimensions: 5 1/8" H x 6 1/8" W x 11" D.

② Here's the Supply to power HF equipment

- Here's the ideal power supply for your HW-101 or older Heathkit transceiver

The Heathkit PS-23 Power Supply will provide the operating voltages for the popular HW-101 Transceiver, as well as those necessary for the operation of many older Heathkit transceiver models and other types of Amateur Radio equipment. It has high voltage and two internally selectable low B+ taps. It also provides fixed bias and 12.6 filament voltage. The PS-23 features excellent bias supply filtering, plus extremely low ripple content. A circuit breaker in the primary circuit provides overload and short circuit protection. Instructions are included for either 120 or 240 VAC wiring. This easy-to-assemble kit will have you on the air in no time. And will give you many years of service.

Kit PS-23, Shpg. wt. 17 lbs. 69.95

PS-23 SPECIFICATIONS: High voltage output: 820 VDC no load; 700 VDC @ 250 mA ±10%. AC ripple, less than 1% @ 250 mA. Low voltage outputs: (High tap) 350 VDC, no load; 300 VDC @ 150 mA ±10%; (Low tap) 275 VDC, no load; 250 VDC @ 100 mA; ±10% less than 0.05% AC ripple @ 150 mA. Continuous duty to 175 mA. Fixed bias: -130 VDC ±10%, no load; -100 VDC @ 20 mA. Power requirement: 120/240 VAC, 60/50 Hz, 350 watts maximum. Dimensions: 6 3/4" H x 4 3/4" W x 9" L.

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

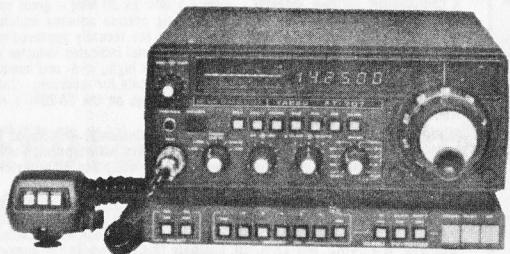
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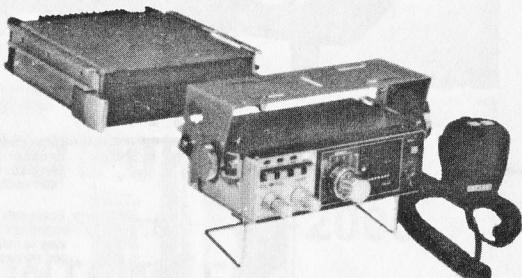


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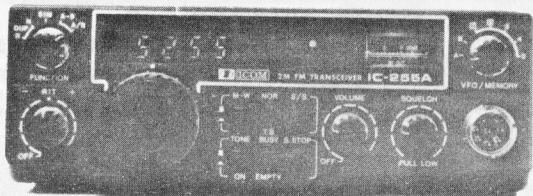
YAESU MUSEN USA INC.

**FT-707 DIGITAL
SCANNING HF
MOBILE
TRANSCEIVER**



YAESU MUSEN USA INC.

**FT-720R 450 MHZ
SYNTHESIZED
MOBILE**



**IC-255A 2 METER
SYNTHESIZED
25 WATT**



**IC-260A
2 METER, ALL MODE
MOBILE**

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40,000 SQ. FT. OF ELECTRONIC PARTS,
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