


# Orbit

The Journal of the Radio Amateur Space Program

**No. 6**

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*Commemorating the Third  
Anniversary of the Launch  
of AMSAT-OSCAR 8*

Published by AMSAT — The Radio Amateur Satellite Corporation

# OSCAR AND IC451A (The Perfect Couple)

ICOM presents a multifunction multimode base station transceiver for use either as part of an OSCAR satellite link on mode B or J, or for use with your favorite 440MHz FM repeater. The IC451A incorporates features customers ask for most:

- ☐ 3 Memories with Memory Scan
- ☐ Programmable Band Scan
- ☐ Squelch on SSB! Silent Receive when no signal is present.

- ☐ Variable Repeater Split

Imagine programming 2 of your favorite SSB QSO frequencies as well as the OSCAR 8 mode J downlink beacon into memory, and silently scanning these frequencies while working other bands in your shack.

The IC451A may be ordered from your authorized ICOM Dealer in either 430-439.9999MHz or 440-449.9999MHz models.



HF/VHF/UHF AMATEUR AND MARINE COMMUNICATION



## ICOM

2112 Wilson Hill, Beltsville, VA 20704  
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**The right design — for all the right reasons.** In setting forth design parameters for ARGOSY, Ten-Tec engineers pursued the goal of giving amateurs a rig with the right features at a price that stops the amateur radio price spiral.

The result is a unique new transceiver with selectable power levels (convertible from 10 watts to 100 watts at the flick of a switch), a rig with the right bands (80 through 10 meters including the new 30 meter band), a rig with the right operational features plus the right options, and the right price for today's economy—just \$549.

**Low power or high power.**

ARGOSY has the answer. Now you can enjoy the sport and challenge of QRPP operating, and, when you need it, the power to stand up to the crowds in QRM and poor band conditions. Just flip a switch to move from true QRPP power with the correct bias voltages to a full 100 watt input.

**New analog readout design.**

Fast, easy, reliable, and efficient. The modern new readout on the ARGOSY is a mechanical design that instantly gives you all significant figures of any frequency. Right down to five figures ( $\pm 2$  kHz). The band switch indicates the first two figures (MHz), the linear scale with lighted red bar-pointer indicates the third figure (hundreds) and the tuning knob skirt gives you the fourth and fifth figures (tens and units). Easy. And efficient—so battery operation is easily achieved.

**The right receiver features. Sensitivity** of 0.3  $\mu$ V for 10 dB S+N/N. **Selectivity:** the standard 4-pole crystal filter has 2.5 kHz bandwidth and a 1.7:1 shape factor at 6/50 dB.

Other cw and ssb filters are available as options, see below. I-f frequency is 9 MHz, i-f rejection 60 dB. **Offset tuning** is  $\pm 3$  kHz with a detent "off" position in the center. **Built-in notch filter** has a better than 50 dB rejection notch, tunable from 200 Hz to 3.5 kHz. An optional noise blanker of

utes on all bands. **3-function meter** shows forward or reverse peak power on transmit, SWR, and received signal strength. **PTT** on ssb, **full break-in** on cw. PIN diode antenna switch. **Built-in cw sidetone** with variable pitch and volume. **ALC control** on "high" power only where needed, with LED indicator.

**Automatic** normal sideband selection plus reverse. **Normal 12-14V dc** operation plus ac operation with optional power supply.

**The right styling, the right size.** Easy-to-use controls, fast-action push buttons, all located on raised front panel sections. New meter with lighted, easy-to-read

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**The right accessories—**

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500 Hz cw filter \$55; Model 219 250 Hz cw filter \$55; Model 224 Audio cw filter \$34; Model 223 Noise blanker \$34; Model 226 internal Calibrator \$39; Model 1125 Dc circuit breaker \$10; Model 225 117/230V ac power supply \$129.

**Model 525 ARGOSY — \$549.**

Make the right choice, ARGOSY—for the right reasons **and** low price. See your TEN-TEC dealer or write for full details.

# Here's a Concept You Haven't Seen In Amateur Radio For A Long Time— Low Price.



## New TEN-TEC Argosy \$549

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**TEN-TEC, INC.**  
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## Henry Radio's New World Headquarters

After more than 30 years in the same location, Henry Radio in Los Angeles has moved to a beautiful new "World Headquarters" to better serve our amateur, commercial and industrial customers in Southern California, all over the United States and indeed the world.

Our new headquarters are just a few blocks from the Olympic Boulevard location where we have been meeting and assisting our good friends for these many years. All the famous Henry services are still available...only more so. The world's broadest line of amateur communication equipment plus the Henry line of high power HF linear amplifiers, solid state VHF and UHF amplifiers, our own Tempo line of synthesized hand helds for amateur use at 144, 220 and 440 MHz as well as commercial channelized

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Please let us know how we can assist you.

# Henry Radio

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**Our Cover:** The cover for this issue was commissioned by the Japanese Amateur Radio League (JARL) for use as a poster to advertise an "Amateur Radio Festival" held in August. Thanks go to Mr. Kaeida (JH1HNN), the JARL, and JR1SWB for arranging permission to use the artwork as our cover.

The festival drew large crowds. JAMSAT set up an OSCAR booth, manned by JA2PKI, JR1FIG and JR1SWB containing an automatic satellite tracking system, consisting of a PC-8001 (a Japanese made microcomputer that looks like a TRS-80 but is more powerful and a lot faster) and an interface unit for azimuth and elevation rotators. The hardware was developed by JA2PKI, the software by JR1FIG and JR1SWB. The system ran all day long. JAMSAT also showed photos of the satellites, had mock-ups of AMSAT-OSCAR 8 and Phase III, sold pre-amp and Mode-J converter kits and distributed a lot of information about satellites in general.

Among the visitors to the stand was a delegation from the People's Republic of China, probably the first official appearance by a group of BY radio amateurs. The delegation consisted of the Secretary General, the Chief Engineer and the official translator for the Chinese Amateur Radio organization.

# With the Yaesu FT-480R . . .

## TWO METERS COMES ALIVE!



*SSB activity is flourishing, repeater activity is at an all-time high, and OSCAR users are breaking records every day. Let the FT-480R step you up to space-age performance on SSB, CW, and FM.*

### Features

- Coverage of 143.5 - 148.5 MHz (good news for you MARS operators)
- USB, LSB, CW and FM operation are all built-in
- Four channels of memory, with priority channel
- Two VFOs for unusual repeater splits
- Convenient synthesizer steps: 10 Hz, 100 Hz, or 1 kHz per step on SSB/CW, 1 kHz, 20 kHz, or 100 kHz per step on FM
- Scanning control from microphone
- Highly effective noise blanker
- Receiver offset tuning for following Doppler-shifted signals
- SAT switch allows shifting of transmit frequency during OSCAR operation (many rigs cannot QSY on TX)
- 30 watts DC input on FM/CW, 30 watts PEP input on SSB, HI/LOW power selection on FM and CW
- Built-in tone burst generator
- Bright LED signal strength/relative power output level meter
- Easy-to-read fluorescent display of operating frequency and memory channel
- Front panel switch for zeroing synthesizer to convenient step when changing modes from SSB/CW to FM
- Requires 13.8 VDC, negative ground

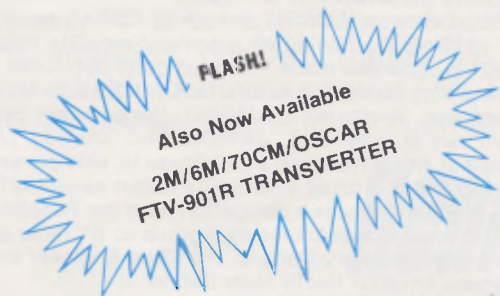
### Available Options:

FP-80 AC Power Supply  
FTS-64E Synthesized CTCSS/Burst Encoder

*Price and specifications subject to change without notice or obligation*

### Did You Know . . .

Yaesu now has a synthesized  
430 MHz all-mode rig —  
The FT-780R



**YAESU**  
*The radio.*



1080

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