

## SUDDENLY YOU'RE WORKING MORE STATIONS . . .

### **Pulling in the Weak Ones**

that demand the sensitivity of DAVCO'S exclusive Field-Effect front end . . .

### **Knifing Through the QRM**

by choosing the optimum selectivity for conditions—a razor-sharp CW filter, a near-perfect SSB Mechanical filter, or a fine AM filter . . .

### **Blanking Out Noise**

from power lines and ignition with the no-extra-cost noise-blanker that lets you extract a Q5 signal you couldn't know existed without it . . .

or nulling an offending carrier with the T-notch. The DR-30 communications receiver covers all the ham bands from 80 meters through 50.550 Mc in the 6-meter band. It has a built-in crystal calibrator, full AGC, Teflon wiring and plug-in modules for all active circuitry. It is the most versatile receiver ever produced, and it can be operated from an AC pack or from batteries in fixed, mobile, and portable operations.

**Frequency coverage:** 10 550 kc segments covering the entire 80, 40, 20, 15, 10 meter ham bands plus 50.0-50.55 in 6 meters and 9.5-10.05 WWV. Provision for two extra ranges.

**Sensitivity:** Better than .6 microvolts for 10db s/n.

**Selectivity:** SSB: 2.1 kc Collins mechanical filter  
AM: 5 kc ceramic/transformer filter  
CW: 200 cycle crystal filter

**Stability:** Negligible warm-up; less than 100 cps per hour; less than 25 cps for 20% power supply variation. Extreme resistance to shock and vibration.

**Detectors:** Separate AM and SSB/CW product detectors; crystal-controlled BFO.

**Noise Limiter:** True blanking action preceding selectivity; has separate ANL amplifiers and detector; front panel threshold control.

The DR-30 is fully compatible with any transmitter. At a cost equivalent to an accessory PTO, the DR-30 gives the transceiver-equipped station an unequalled receiving capability. It is the appropriate nucleus for any amateur station.

**RF Stage:** Low noise premium Field-Effect RF amplifier and first mixer; tuned circuits employ high-Q toroidal inductors.

#### **Semiconductor Complement:**

- 23 bi-polar transistors
- 2 Field-Effect transistors
- 10 signal diodes
- 1 power diode
- 2 zener diodes

**Size:** 4" high, 7 1/8" wide, 6" deep. Weight: 7 pounds  
**Power requirements:** 12 volts DC @ 300 ma. maximum.

**Price:** from factory .....\$389.50

**DR-30-s:** Complete regulated power supply for operation of DR-30 from 110/230 volts 50/60 cps, plus battery holder for 9 D-size cells for portable operation; speaker, earphone jack. (Illustrated above) .....\$39.50

Send us your card for an information package containing evaluations of the DR-30 by the staffs of **CQ** (December 1966), **QST** (January 1967) and **73** (May 1965); an 8 page technical brochure and a complete schematic. DAVCO products are available direct from the factory.

DAVCO receivers for telemetry, radio astronomy, WWV, SWL's and other special applications are available from stock or can be provided to your specifications. Your inquiry, detailing your requirements, is invited.

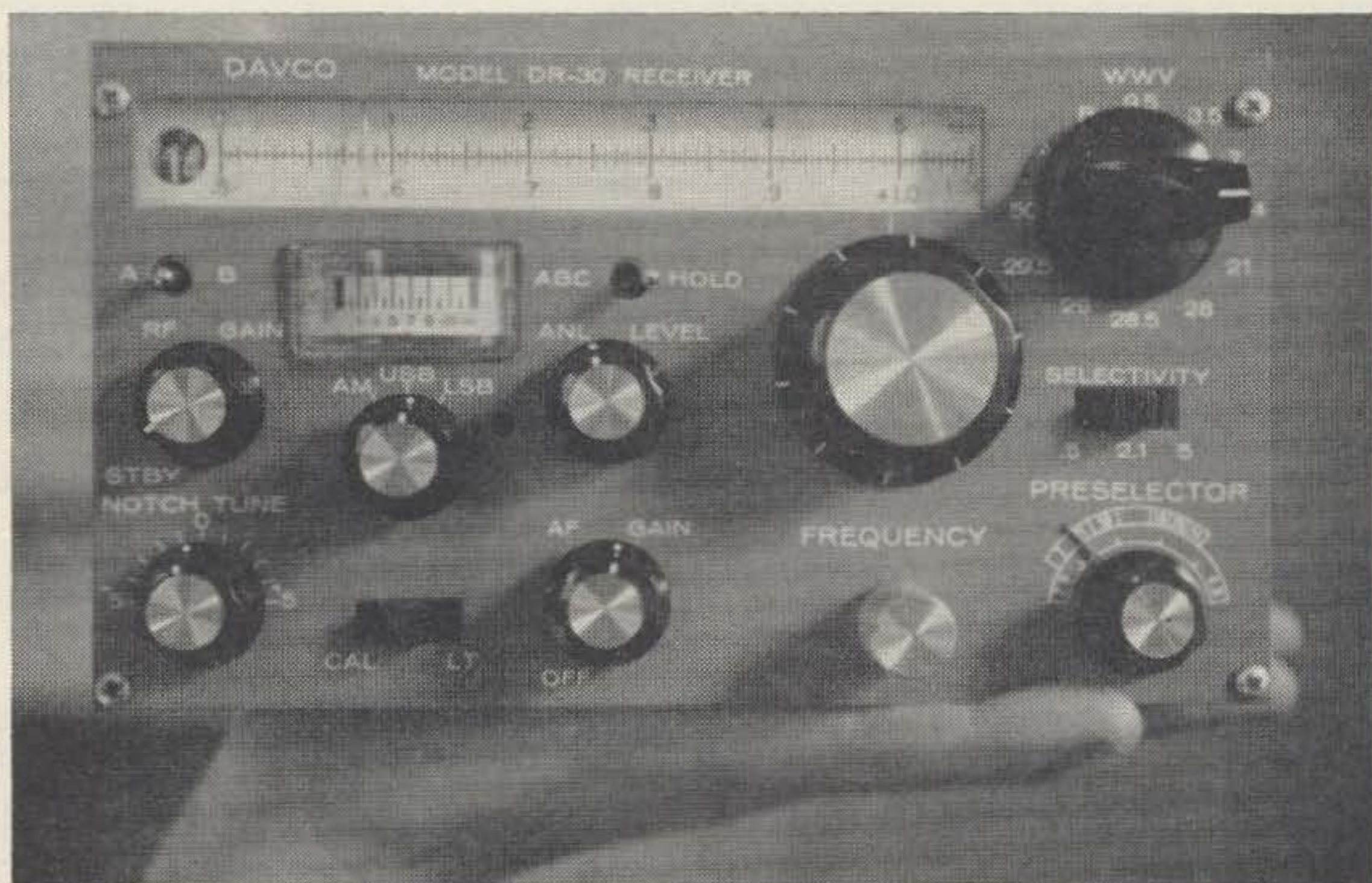
## **DAVCO** ELECTRONICS, INC.

P. O. Box 2677

2024 South Monroe Street  
Tallahassee, Florida 32304



Paul Franson WA1CCH



## Testing the Davco DR-30

I was skeptical when I read the first Davco ads. You've seen them. The Davco DR-30 is a ham band transistorized communications receiver. That's not much of a surprise. We've all been waiting for one for 10 years. But the DR-30 sounded like a 75A4 crammed into a file card box—and then some! How could they fit all that performance, versatility and reliability into 1/10 cubic foot?

When the Davco arrived, I found out. They threw away the book of old-fashioned conventions on this one. It's the first really up-to-date amateur equipment I've seen. Davco has used modern techniques that are long overdue in ham gear. The DR-30 isn't just an old receiver stuffed into a little box; it's completely new. The first thing you notice about the DR-30 after its small size (4 x 7 x 6) and good looks is how solid it is. It's a heavy handful of high quality parts and state-of-the-art techniques: The "chassis" is a solid extruded aluminum frame with 3/16 inch walls. You couldn't bend it without driving over it. The controls are mounted on cadmium plated steel attached to the extrusion. The circuits mount on eight miniature fiberglass modules that plug into mil spec connectors on the frame. High-Q toroids are used for the rf amplifier and VFO. The *if* transformers are

the size of pencil erasers. A Collins mechanical filter, Clevite transfilters and a crystal filter furnish selectivity. In all, 15 diodes, 14 crystals and 25 transistors are used. All parts are high quality and conservatively rated.

Here is a complete high performance communications receiver that is compact enough to use anywhere: mobile, home, portable. It draws less current than a flashlight bulb, so it's economical to use with small batteries as well as in the car or from the power line. Yet the DR-30 offers exceptional performance. It uses dual conversion with a crystal-controlled front end. It covers every kc of the amateur bands between 3.5 and 50.55 mc (as well as 9.5 to 10.05 mc for WWV and two other 550 kc bands of your choice). The RF amplifier in the DR-30 uses high-Q toroidal coils for excellent image rejection and a UHF premium low noise transistor (2N2495). The noise figure of less than three db—even on six meters—and AM sensitivity of better than  $\frac{1}{2} \mu\text{V}$  means that you can hear those real weak stations when no one else can. It also means that the DR-30 is exceptionally quiet with no signal. None of that annoying hiss. In spite of all the advantages, transistors have one drawback compared to tubes: crossmodulation. Davco avoids this completely with a very clever trick: The RF gain control is an at-



tenuator in the antenna circuit. There is no loss when it's switched out, but the control provides excellent control action and seems to completely eliminate crossmodulation.

The DR-30 has three selectivity positions for optimum performance under all conditions in all modes. For AM, the *if* cans and transfilters provide about five kc bandwidth. SSB uses a Collins mechanical filter for 2.1 kc. For the CW hounds, there is a very sharp (about 500 cycles) crystal filter used in addition to the mechanical filter. There is very little difference in audio level as you switch between the three positions if your signal is tuned in properly. The audio is properly restricted for communications, yet very clean.

The Davco doesn't seem to drift at all. I varied the input voltage from 11 to 15 volts, dropped the receiver on the desk, took it outside (brrr) and couldn't hear any change in the beat note with WWV. This is partly accomplished by the high stability toroidal oscillator coils, partly by the solid construction, partly by the zeners, and partly by very extensive development of the temperature compensating networks.

The tuning mechanism uses a flywheel with extensive spring loaded split gears for very smooth, slow, backlash-free action. The dial is calibrated to five kc, and the tuning knob to one. Tuning sideband is as easy as tuning WCKY.

The notch filter is very effective in taking out QRM and heterodynes. The 100 kc calibrator is included. One of the real bonuses of the DR-30 is the noise blanker. It's not just an audio noise limiter. It picks up the noise pulses before the selectivity of the receiver lengthens them and uses the pulses to turn off the receiver for the minute duration of the noise. It's very effective in getting rid of all types of pulse-type noise.

The case of the Davco is heavy steel with a hard, scuff and scratch proof textured finish. The panel is HP grey with white silk screened lettering. Knobs are professional black with chrome inserts. Very nice.

Davco has also announced the companion transmitter to the DR-30. It's called the DT-20 and has the same front panel size. The two plug together for complete transceive operation, yet each has a VFO, so the receiver and transmitter can be used on separate frequencies if desired. The DT-20 should be available this summer.

One thing that occurred to me before I used the DR-30 was that the small size might make operation difficult. It doesn't. In fact, I'm impressed with the ease of operation of the

receiver. All of the controls are there within easy reach. You don't have to reach all over a huge panel trying to grab the gain control or selectivity. All of the controls have the same solid feel that the receiver itself has. Using the DR-30 is a real pleasure. My first thought was that it would be useful primarily for portable and mobile operation. Well, it's invaluable for that, but it also is the best home station communications receiver I've ever used. It's more convenient, more versatile and works better than those huge old-fashioned heat generators. I compared it to other receivers and converters. It beat them all. On six, the tremendous sensitivity and low noise let me hear many stations I couldn't hear on the well-known converters. And the price! The introductory price of \$337.50 is incredible. I don't see how they can make and sell the DR-30 for that. You can even get two for the price of some other good receivers. One for your car and one for your shack. I bet that the Davco will be more convenient, more versatile and work better than the big one, too.

You can see that I'm sold on the Davco DR-30. Try one out. You will be, too.

... WA1CCH

## **SUPERSPECIAL!**

### **VHF SEASON SALE**

BE READY FOR THOSE 6 METER DX  
OPENINGS WITH A

## **HIVERTER • 50**

EXTENDS THE RANGE OF YOUR PRESENT  
14 MC TRANSMITTER TO 50 MC

SEE OUR 73 ADS AND THE 73  
REVIEW OF DECEMBER 1962 OR  
SEND FOR FREE INFO.

**HIVERTER 50, less TUBES**  
**(1-6146,6CL6,5763) and POWER SUPPLY**  
**was 99.50 NOW \$49.95 PREPAID**

**HIVERTER 50 Kit,**  
**less TUBES and POWER SUPPLY**  
**was 59.95 NOW \$29.95 PREPAID**

Send for free list of etched circuit boards

**IRVING ELECTRONICS CO.**

P. O. BOX 9222

419 S. MAIN

• SAN ANTONIO, TEXAS