

die-cast aluminum front. The entire rear is detachable to facilitate access to the battery-box and electronics for servicing. With appropriate settings AM, SSB, and CW can be received. This is a no-nonsense type of construction; almost no attention was given to the external or internal finish. Treated fairly, this radio will last practically forever and can take lots of abuse. Our test was carried out with one of the last production models.

## Unsurpassed simplicity

The design uses a minimum of controls. The secret of this receiver lies in the two thumbwheels located on the sides in little recessed niches. The left wheel is used to select one of thirty market segments covering 1 MHz each, while the right wheel tunes within this span. A very ingenious circuit makes the second tuning arrangement almost absolutely linear, so frequencies can be read with an accuracy of better than  $\pm 5$  kHz. The large drum scales are coupled directly to the respective tuning capacitor; there is virtually no lag when the kHz-wheel is moved. To get almost absolute accuracy a calibrator can reset the starting point on the kHz-drum to exact zero. The tiny calibrator knob is located beneath the equally diminutive signal strength meter. The effective scale length on the kHz-drum is 24 cm/1 MHz. The scale for the MHz segments is similarly divided; each MHz-portion has a length of almost one centimeter. All scales are imprinted very legibly with green on black numerals. Two index pointers are provided on the sides of the window covering the dials.

This method of tuning was copied later by a large number of companies.

The correct setting of the knob labelled antenna trim is of great importance. This control is connected to a preselector circuit, an active resonant circuit, so correct setting is vital for this set's receiving qualities. Most important, sensitivity is reduced when this circuit is detuned. The next knob below controls volume and switches the set on. On the opposite side the mode-

selector may be found; the knob above is a vernier tune control for SSB and CW with a range of approximately  $\pm 2$  kHz. A large speaker is mounted behind the grille in the center. The radio has a single short telescopic whip antenna which can be stored inside the case. This antenna comes straight out when extended; no swivel joint is used. A pair of non-standard 2 mm-jacks are provided for connections to an external aerial. The left side of the case has jacks for an earphone and connection to an external 9 VDC source.

Quality of workmanship is way below industrial standards. The set is made by native labor under working conditions which can best be described by the term "archaic". The entire electronics are contained on a single large circuit board that is mounted vertically in the metal case.

## What a performer

Despite its deceptively simple layout and appearance, actual operation will prove to be exasperating or quaint, depending on your point of view. A thorough study of the handbook is recommended. Operator errors or just plain inattention to detail will downgrade the set's performance by several orders of magnitude. Once you have mastered the combinatorial effects of antenna-trim (pronounced peak), MHz-setting (watch the S-meter), kHz and vernier tune (maximum clear signal), you will be rewarded by truly excellent performance. The XCR-30 lacks a directional ferrite rod, but even on LW and MW this radio can be a signal-grabber when the antenna input is slightly modified.

Of course, some details are subject to criticism. The signal meter is very small and peaks with moderate signals. There is no illumination whatsoever for the dials. The dynamic range of the simple input stage is rather limited. This is compensated for to some extent by the selective antenna-trim circuit. External aerials require an additional tuning device and/or an attenuator. The knobs are somewhat wobbly; especially the microswitch arrangement in the antenna-trim circuit which gets out of