

RECEIVER REVIEWS

-Ronald F. Schatz

The Sony TR-1300

A look into recent issues of the bulletin will reveal the fact that a lot of DXers are travelling, especially abroad, to places where their monitoring activities could offer invaluable information to the DX community. Unfortunately, portable receivers of DXing quality are hard to come by, and most multi-band portables are notoriously lacking in selectivity and sensitivity, leaving the travelling DXer much to be desired in equipment and performance.

But leave it to the Japanese to solve the problem: The Sony Corporation is offering a lot for the money in its two "world-wide multi-band, deluxe, high-powered portables" - the TR-1300 and the TFM-1600/W, with or without FM respectively in reverse. Both receivers offer AM coverage from 530 kHz to 26.1 MHz in five bands, voltage selector for use with any wall socket in the world, tuning ("S") meter, whip antenna, outside antenna terminals, RF stage with two FETs, ceramic filtering, flywheel tuning, and a sensitivity switch (local - DX). The TR-1300 also has a selectivity switch (broad - sharp) which is replaced in the TFM-1600/W with an AFC option switch, keeping selectivity in the "sharp" position. Getting into quality parameters:

Sensitivity: The proverbial 1-uV sensitivity common to the best communications receivers is noted. A few years ago I managed to pull in flea-powered Wake Island-1480 from a distance of 500 miles with a readable signal. The TFM-1600/W will get readable signals from FM stations up to 200 miles distant.

Selectivity: Excellent - for an unmodified portable. Both versions will pick up most splits beyond 1- or 2-kHz separation with no trouble. The same thing applies relatively on FM.

Frequency determination: There is very little play on the tuning dial, so that many who own these receivers scratch or tape on high resolution band scales before going abroad. By using that and the furrows on the tuning knob, it is possible to determine frequencies to the nearest kHz by interpolation, just as the author did on stations in Port-au-Prince.

The dimensions of the two portables are roughly 11" x 9" x 4" and the TFM-1600/W weighs in at 8 pounds. Free-port prices are \$80 for the TFM-1600/W and \$55 for the TR-1300. Expect to pay more outside a free-port shop, of course.

Sony also offers the 7F-7*L for \$84 (free-port). This small portable covers LW, MW, FM (87 - 104 MHz), and SW (4.7 - 12 MHz). Just perfect for the DXer travelling to Europe, hi. -Ron Schatz,

The Panasonic RF-759 AM/FM Portable
By George B. Sherman

The Panasonic RF-759 AM/FM portable is one receiver that can give you good DX on both bands for a very reasonable price. The sensitivity and selectivity are about equal to the TRF in side by side tests on the AM band. The only complaint I have is a few SW (no MW) spurs the RF-759 gets that could block the reception of very weak AM signals. It does, however, have much better DX capabilities than most portables. It can pull in groundwave up to 400 miles using the built-in antenna. I think perhaps the sensitivity is slightly better than the TRF and the selectivity is slightly worse. Still it is selective enough to receive stations on most frequencies adjacent to locals. A disadvantage is that the back must be screwed off to connect an external antenna, whereas the TRF snaps open easily and quickly. The FM on the RF-759 is quite sensitive with fairly good selectivity. Stations up to 175 miles are audible with the band dead. The radio features a dial light and earphone so you can DX at night without disturbing others. The RF-759 is powered by 4 C cells or the built-in AC cord. The manufacturers suggest list price is \$59.95, but should be available for \$49.95 or less. Check the yellow pages under radios for your nearest Panasonic dealer. If you are an FM and AM DXer who can't afford expensive stereo and communications receivers, this may be what you are looking for.

The Heath GR-78

The Heathkit GR-78 is a small, portable general-coverage receiver. Its small size (only about 6" x 11" x 9" at 14 pounds) contrasts with a 6-band dial and eleven front-panel controls to give the appearance of a communications receiver in miniature. Frequency coverage includes the standard 550 kHz to 30 MHz in five bands (with the BCB divided between bands "B" and "C" at 1300 kHz) with added coverage on long wave from 190 to 410 kHz. Main tuning is vernier; bandspread is on a cylinder. Other features include RF gain, product detector, 500-kHz crystal calibrator, built-in vertical whip antenna, and a tuning meter. Internally, all signal mixing (first detector, product detector, second detector, etc.) is done via dual-gate FETs; four little red ceramic filters replace all IF coils past the mixing stage; and there is double conversion on the 18-30 MHz "F" band. Total mailable cost of the kit is \$141.95 U.S.

We found the GR-78 fun to build, if only to admire the interesting manner that Schlumberger uses to fit a tremendous amount of components and circuitry into a container hardly larger than the "matching speakers" of other GC receivers.

The greatest difficulty in construction was with the mechanical alignment of the removable circuit boards and the external case. We had some trouble pinioning the switch wafers on the four parallel removable circuit boards with the metal shaft of the band selector, and it took an extreme amount of body pressure and endurance to close the case on completion of the project. Before doing that, we had to charge up the internal battery and align the works - a simple procedure. But how about performance?

Sensitivity: Fantastic on LW and MW, good on the other single-conversion SW bands, and poor on the double-converted band "F". Beautiful reception of daytime Cubans, such as CMC1-760 and CMHW-840 was noted out-of-doors using just the vertical whip. Unfortunately, every local had a set of spurs and mixing products distributed across the dial, plus some harmonics extending into the next band, and reduction of the RF gain failed to alleviate the condition out of proportion with the accompanying signal attenuation. True, strong images were noted on the single-conversion SW bands, forcing us to use our spectrum analyzer for any serious SW listening. The 18-30 MHz band was all but dead, and we finally got our money back when Heath techs tried but failed to get that last band to perform according to listed specs.

Selectivity: The four tiny ceramic filters permit "7.5 kHz \pm 1 at 6 dB down". This is good enough for most even-channel separations, except around locals, but the only split noted in Miami was Radio Belize-834. Slopover from locals was tremendous. We did not feel it worthwhile to install a mechanical filter in the circuit though it would have done some good.

Frequency readout and determination: The dial tracked only "so-so", and we were forced to eye the band at an extreme angle in some instances. We did not determine the linearity of the bandspread for frequency measurement.

Other features: The "S" meter is not one as such, as it is marked linearly with a coarse scale from 1 to 6. The internal battery is useful for the field (the GR-78 would be excellent for domestic DX on camping trips, etc. - far away from any urban area), and a cable is provided to permit use with a 12VDC battery. A switchable ANL and "muting" connection (for use with a transmitter) is also provided.

In all, Schlumberger had a good idea in mind when they designed the GR-78, a portable communications receiver, but they tried to put too many features into too small a space, and wound up with a performer that didn't quite live up to its \$142 price tag. With other comparable equipment on the market at a fraction of the price of the Heathkit GR-78 we cannot heartily recommend this receiver to the MW DXer.
-Ronald Franklin Schatz