RACAL RA.1217 RECEIVER

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This receiver is less known in Finland than it's precedessors RA17 and RA117. The RA1217 is an example of first-generation transistorized receivers. The receiving equipment shown here has been used on the icebreaker "Tarmo" as a map plotting receiver. The RA1217 has been reviewed and tested in the "Funk" 4/96 and "Weltweit Hören" 9/96 magazines.

The receiver shown includes a VLF/MF converter, enabling reception from 3 kHz upwards. Due to more modern technology, the receiver is much smaller than earlier models. The height is only 9 cm. It seems that another version also exists, which is a narrower and higher table-top receiver. A picture of this verison is also shown on this page.

The operating principle of the RA1217 is on the traditional Racal line, using a Wadley loop. Perhaps due to the wide first IF bandwidth or the first mixer using 2N918 transistors, the RA1217 seems unable to handle large signals as well as it's precedessors did.

By clicking here you'll see part of the first mixer schematics.

On the international SW bands this will not be a problem, but on the tropical bands the signal must be attenuated more than what's desirable, bringing up the receiver's internal noise to a disturbing level. When listening to a strong signal, the attenuator does not have an adverse effect.

The sensitivity even on the lower frequencies is very good. Unfortunately, it cannot be fully exploited, due to the poor large signal handling capacity.

The mechanical digital frequency display is much more accurate than the film scale used in older models.

Also differing from the previous models, the RA1217 is equipped with crystal filters on the next to last IF. Unfortunately, the filter's shape factors are not published. The selectable bandwidths are 0.2, 3 and 8 kHz. Of these, the 3 kHz filter is the most usable; 2 and 4 kHz filters would be desirable though. Otherwise, the front panel functions are very much the same as in the RA117, although the controls are packed closer together.

Looking inside the receiver is a pleasure, if you've mostly seen lightly-constructed modern gear. The receiver is modular, with easily exchangeable and well-shielded modules. The modules use

D-connectors, with integral coaxial connectors where necessary. The covers are properly RF-tight. Mechanical parts, axles, gears etc are of high-quality metal workmanship. The RA1217 still has many solid die-cast parts, although fewer than in older models. The crystal filters are physically about the same size as the mechanical filters in a Collins 51-J4.

A nice detail is a toolset under the receiver's top cover, containing the necessary hex drivers and tuning tools - this is a feature often found in older commercial radio equipment. This enables small repairs even when no servicing equipment is at had.

I have elsewhere complained about the unprofessional use of screws at service depots. Opening up an RA1217, I found that a serviceman had lost a screw from the 1 MHz oscillator and forcibly used a wrong (millimeter) size screw, resulting in the screw snapping when I tried to unscrew it.

If anyone reading this needs screws for the Racal, please contact the webmaster.

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