

# CANADIAN MARCONI 52 RECEIVER AND ARMY TRANSCEIVER W/S NO. 62

DESCRIPTIVE NOTES AND  
AMATEUR BAND APPLICATIONS

J. Akehurst (GW3OAZ)

INFORMATION on items of surplus radio equipment is always in demand, details required normally being for valve line-up, frequency coverage, and IF's used. It is with these considerations in mind that this article was written; it is hoped that information on the Canadian-Marconi Receiver No. 52 and Army Transceiver W/S 62 will give a prospective user of these sets a fuller picture of their capabilities and possible applications in the unmodified condition. No attempt has been made to give modification details.

### Marconi 52 Receiver

This receiver is now on the surplus market and offers an excellent chance of a good set for amateur and general short wave coverage, and as a tunable IF/AF for HF converters. The frequency coverage is 1.75-16 mc in three bands, thus four of the amateur bands are covered. The receiver employs 13 valves in a superheterodyne circuit using 12-volt indirectly heated types. The valve line-up and block diagram is shown in Fig. 1; the IF used is 420 kc—see diagram opposite.

Front panel controls include the following: Separate AF and RF gain, CW filter, noise limiter, BFO tone, sharp and flat selectivity, speaker on-off switch (a built-in speaker is incorporated in the set and also provision for two headsets); further controls are the CW/Phone Select, crystal calibrator switch (see later paragraph for details), a multi-position meter switch and meter giving an instant valve check, HT and AVC readings. When the 52 is used with its companion transmitter this meter also reads RF current, and transmitter PA and grid currents.

Power for the receiver is fairly easy to supply; a companion PSU is listed as Power Unit ZE. 12 and is available from the same source as the receiver. This enables the 52 Set to be worked directly from the mains. For those without this PSU, the receiver voltages required are 150 volts DC for the HT and 12 volts for the heaters. Connections to the receiver are made at a plug on the rear chassis drop.

A good feature of the set is a crystal calibrator with front panel control switch; the calibrator uses three 12SC7 valves, and a front-panel switch has 1,000, 100 and 10 kc positions, enabling accurate check points to be obtained through the whole tuning range of the receiver—a particularly useful facility when crystal-controlled converters are used. The 52 Receiver lacks in bandspread, as do most of the surplus types; however, a two-speed tuning

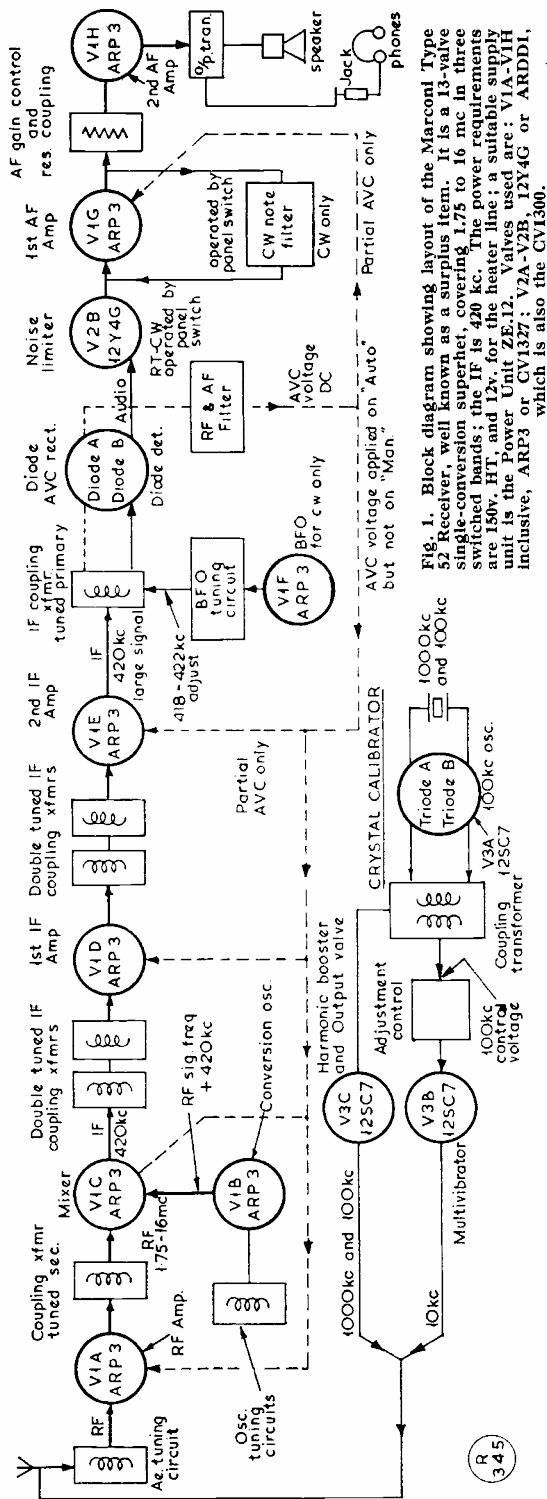


Fig. 1. Block diagram showing layout of the Marconi Type 52 Receiver, well known as a surplus item. It is a 13-valve single-conversion superhet, 1.75 to 16 mc in three bands; the IF is 420 kc. Power requirements are 150V. HT and 12V. for the heaters. A suitable supply unit is the Power Unit ZE.12. Valves used are: V1A-V1H inclusive, ARP3 on CV1327; V2A-V2B, 2Y4G or ARDD1, which is also the CV1300.

R 345

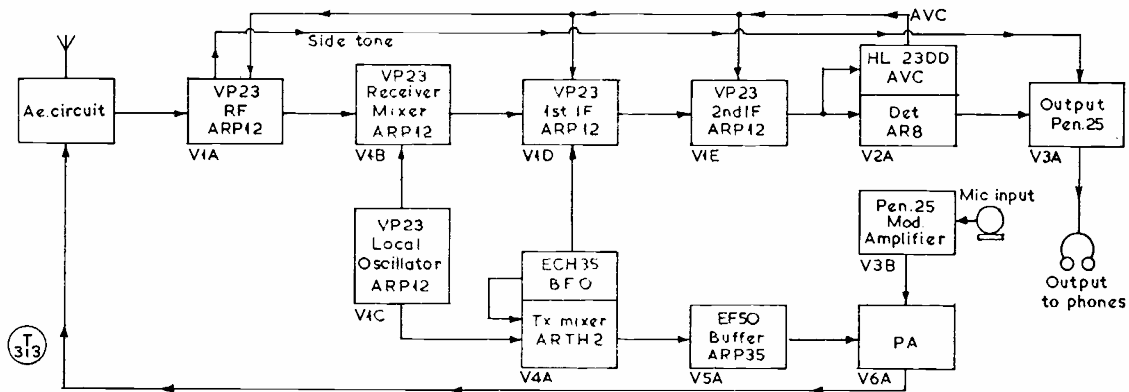


Fig. 2. Block diagram of the Army Wireless Set No. 62, which is a well-known surplus item. It is a low-power phone/CW transceiver with a useful frequency coverage, 1.6-10 mc, and quite a good receiving section. The set is designed for a 12-volt DC power supply, and some modification would be required to get it going on normal supplies. It can be operated either crystal or VFO-controlled. The valve equivalents are as follows: V1A-V1E, ARP12-VP23-CV1331; V2A, AR8-HL23DD-CV1306; V3A, Pen 25-CV65; V4A, ARTH2-ECH35-CV1347; V5A, ARP35-EF50-CV1091; V6A, VT510-QVO4/7-CV1510.

control is fitted, also a knob marked "frequency adjust"; this varies the frequency of the main tuning control plus or minus 2 or 3 kc and is a fine-tuning device.

#### Army Transceiver W/S No. 62

This is the Army battery transceiver generally known as the 62 Set and is appearing on the market at various prices; it offers several possibilities—as a main station QRP rig, a stand-by, or better still, as a set for /P or /M working.

The set is a complete Tx/Rx in compact form, not very heavy, and including power supply unit, aerial tuning, and built-in modulator. Frequency coverage is 1.6-10 mc in two bands, with common tuning on Rx and Tx. The set thus covers our 160, 80 and 40-metre bands, with VFO control and provision for crystal drive for fixed frequency working.

Power required for the set is 12v. DC at approximately 2.8 amps. on "receive" and 4.5 amps. on "transmit." The built-in power unit incorporates a rotary transformer and the necessary smoothing circuit.

On the RF side, the ATU will match the transmitter into dipoles,  $\frac{1}{4}$ - or  $\frac{3}{4}$ -wave end-fed aerials and vertical rods such as a 16ft. whip aerial. Power output is 1-2 watts on CW and approximately one watt on telephony.

The Rx consists of RF stage, Mixer, local Osc., two IF stages, AVC, detector and AF amplifier. Valve line-up details and general arrangement are shown in the block diagram at Fig. 2. The valves are indirectly heated with 2-volt filaments, except that the BFO employs a 6-volt type; IF is 460 kc and the BFO is adjustable 2 kc either side of zero.

On the transmitter side, the arrangement is Master Osc., Mixer, Buffer Amp, PA and Mod. amplifier; the modulator is intended for a carbon microphone input. Valve line-up and block diagram are as in Fig. 2. Provision is made on the front panel for plugging in the Crystal Calibrator No. 10

which has been described in the *Magazine* previously—see January 1960. Power for the calibrator used with the set is taken from a socket also located on the front panel.

The writer has used the 62 Set in its original, unmodified form on the amateur bands with promising results. A 66ft. aerial produced QSO's with many European countries on 80 and 40 metres, using CW. On telephony using the same aerial and an unmodified 62 Set good U.K. contacts have been obtained on 160 and 80 metres. It is therefore reasonable to assume that with some modifications to meet more serious amateur-band requirements a really good /P or /M rig would result.

In conclusion, it is hoped that this article will have answered a few questions regarding the Canadian-Marconi No. 52 Receiver and the Army Transceiver W/S No. 62.

#### THE "HAM'S INTERPRETER"

For several years now, the booklet known as the *Ham's Interpreter* has been making steady progress because it succeeds in what it sets out to do—which is to provide a phrase book and pronouncing dictionary strictly applicable to Amateur Radio and AT station phone operating practice as we know it today. The *Ham's Interpreter*, produced by OH2SQ and DL1CU in collaboration, now gives you the clues in nine European languages. From it, you can learn how to say things like *It is very nice to meet you for the first time* and *Your report here is Q five and S seven* in Spanish and Russian, as well as in French and Italian and four other languages. Of some 48 pages, in stiff covers with a spiral binding enabling it to open flat anywhere, the price is 7s. post free, obtainable from our Publications Department, from stock.

*Power On — Hands Off*