

## A Russian Radiola

There is usually a certain sameness about receivers that have had similar origins. Occasionally though, a lucky or enterprising collector will acquire an exotic radio that adds considerably to the interest of a display, and warrants extra study. Recently a friend of mine did just that. He was offered a Russian receiver which had been a prized possession of a Bulgarian who had migrated about 35 years ago. It was a rare opportunity to study Russian technology of the late 1950's, and the offer was accepted with enthusiasm.

Until recently, a lot of what went on behind the Iron Curtain has been not at all clear, but there has been a widespread impression that Russian technology lagged behind and was inferior to that of the West.

On seeing my friend's acquisition, my first impression was of a large and well finished table-top cabinet with attractive inlaid veneers and in appearance quite different from locally made contemporary models. It is somehow bigger than it looks — measuring 350 x 450 x 600mm — and is quite heavy. The front curves inwards, effectively removing any suggestion of boxiness, and the top lifts up to provide access to a turntable and monaural pickup. But more of these later.

What is the brand name? In the middle of the speaker baffle is a metal badge in Cyrillic script. With the aid of

a Russian guide book, I transliterated this as 'Loocs' (Lux?). There may be some significance, but Lux has been a Swedish radio brandname. Indeed, the quality of construction and general appearance give an initial impression of the chassis having German or Scandinavian influences...

### Label surprise

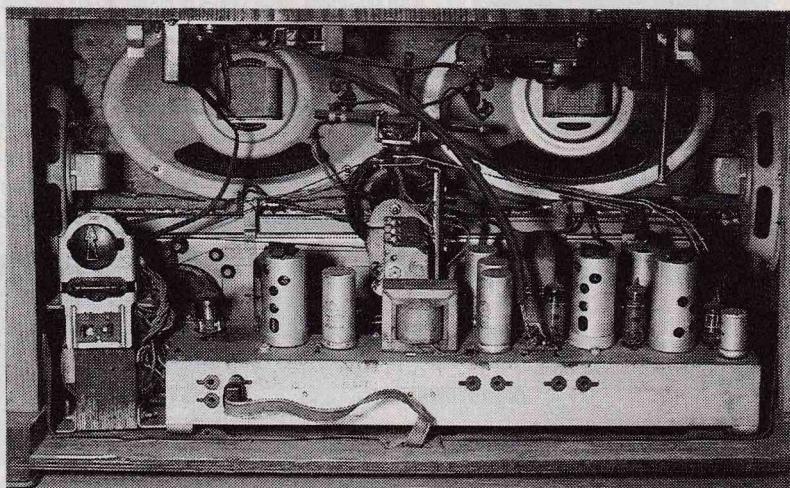
Together with several labels identifying terminals and controls, the logo also appears on the back cover. But above it was my first surprise: a word which when converted to our Roman alphabet says 'Radiola'!

The term *Radiola* has long been associated with RCA and their Australasian associate, AWA. In fact, right from their founding, RCA had called their receivers Radiolas and almost certainly held the

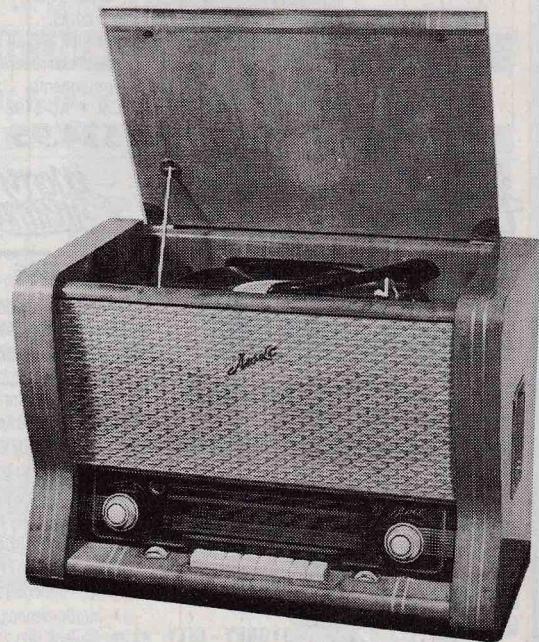
copyright. In Levallois in 1921, the French installed a transmitter for what was named the Radiola Station. My guidebook says that the Russian for a radio is 'pryeeyomnyeek' and a record player is a 'prahheegrivahtyehl'. Perhaps 'Radiola' is a generic term much as 'Hoover' or 'Gramophone'.

Grouped with the inevitable CCCP (USSR) is what appears to be the manufacturer's logo. This is very stylised, in what looks like Roman script initials VEF above the name RIGA. V and F are not Cyrillic letters and of course Riga is the capital of Latvia. (On the dial, the same logo has Riga in Cyrillic script). It would seem likely that the Radiola was made in Latvia, which perhaps significantly is very close to Sweden.

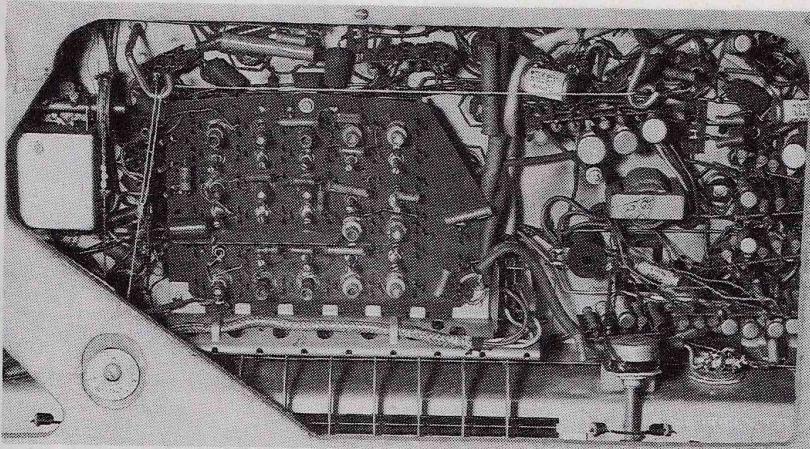
Still at the rear, there are plenty of



*Above: The rear of the set with the back removed. Although only a mono receiver, there are four parallel-connected elliptical speakers.*



*Right: In its distinctive tabletop cabinet, the Russian radio/record player would stand out in any collection. There are a total of six receiving bands, including an FM band centred on 67MHz.*



Many of the components are mounted on tagboards to achieve a compact layout. Note the cord, linked to the tone control, for adjusting the IF selectivity.

sockets to sort out. First there is a modified octal socket with a plug to select mains voltages of 110, 127 or 220 volts. The standard Russian supply is 220V at 50Hz, but there are some variations. As was common European practice, the mains plug is captive on the back cover to prevent operation with the chassis exposed.

There is a socket for a VHF dipole for FM reception, and the usual aerial and earth connections are provided for the AM frequencies. There is an extension speaker socket and although the record player pickup is internally connected, there is provision for an external pickup, indicating perhaps that the chassis was intended for installation in non-record playing cabinets.

### Extensive coverage

Across the lower front of the cabinet is a well laid out glass dial, the scales giving an idea of the extensive coverage of the receiver. Calibration of all six bands is in metres and is as follows:

Longwave 800 - 2000m (375 - 150kHz)  
 Broadcast 200 - 550m (1500 - 545kHz)  
 Shortwave III 55 - 75m (5.45 - 4.0MHz)  
 Shortwave II 40 - 55m (7.5 - 5.45MHz)  
 Shortwave I 23 - 32m (6.9 - 9.37MHz)  
 VHF (FM) 4.3 - 4.7m (69.7 - 63.8MHz)

The shortwave and broadcast band frequency ranges are conventional with good shortwave bandspread, but the others need some comment. With its vast distances, Russia finds the longwave band very useful. FM tuning is very restricted, covering a portion of what here is Television Band I.

As was common practice at the time, the dial is decorated with station locations — recognisable names of Russian cities including Moscow, Leningrad (now St Petersburg once again),

Stalingrad, Kiev, Minsk and Odessa. What I was not prepared to find listed were European cities including Luxembourg, Oslo, Paris, Prague and Hilversum! Obviously, the Iron Curtain did not screen radio transmissions...

Band selection uses a method internationally popular at the time, by means of a row of piano-type key operated switches. Depressing a key switches the band or pickup and connects the mains supply. The extreme left hand key switches the power off.

Either side of the row of keys, and partly recessed into the cabinet, are edge operated tone control knobs, with bass on the left and treble on the right. Overall, the control range is wide and each has a clever little music clef scale in front of an illuminated red cursor indicating the setting.

There are two main controls, both of them of the dual concentric variety. One pair is on either side of the dial. At the left is the volume control, concentric with a knob for rotating the internal long- and medium-wave ferrite aerial for best signal pickup. This is accomplished by means of an ingenious arrangement of a



Larger value capacitors are especially well made, with glazed ceramic bodies, solid metal ends and low inductance leads.

cable, guides and jockey pulleys. On the right, a similar pair of knobs control tuning, with the inner control for the AM bands and the outer for FM. Gearing ratios are well chosen to provide comfortable tuning.

### No 45rpm...

The record player has a spring mounted 10-inch turntable. One convenient feature is a pair of clips that can be flicked into position to lock the springs for transit.

I was astonished to find that the turntable has only two speeds — 78 and 33rpm. It would seem that the Russians did not recognise the 7" 45rpm disc which was so popular elsewhere. Was it because this format was first developed by America's RCA? In the West, the 45 single was a cornerstone of the record and entertainment industry and very important to youth culture. Perhaps this is another example of how much the old Socialist regime was out of touch with the needs of their people.

The crystal pickup has two stylus on a common leaf and selected by a little lever which rotates the assembly a few degrees. This system simplifies stylus se-

### VALVES USED IN J10K RECEIVER

VALVE TYPE	FUNCTION	EQUIVALENT
6K4II	R.F. & I.F. AMPLIFIERS	6BA6/EF93
6И1II	M.F. & H.F. MIXER	6AJ8/ECH85
6Х2II	DIODE DETECTOR/AGC	6AL5/EAA90
6II14II	OUTPUT STAGE	6BQ5/EL84
6H2II	AUDIO AMPLIFIERS	SIMILAR TO 12AX7
6H3II*	F.M. OSC/MIXER	NO EQUIVALENT
6E5C	TUNING INDICATOR	6U5G/EM35

\* V.H.F. DOUBLE TRIODE

## VINTAGE RADIO

lection, but it does mean that there is additional mass waving about to affect pickup performance.

### Four speakers

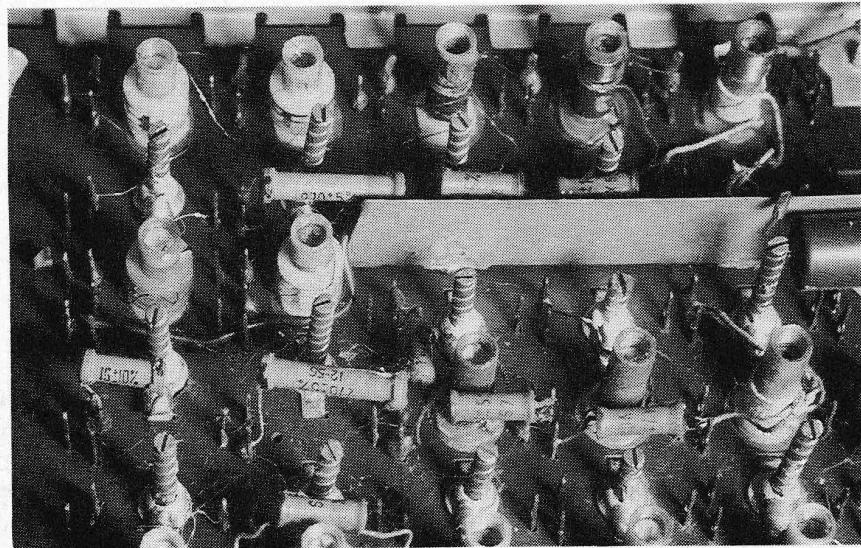
Although no open-back cabinet can be ideal acoustically, the quality of sound produced is very good. Some of this can be attributed to the provision of four parallel loudspeakers, which must be a record number for a monaural mantel radio cabinet. There are two 200mm by 125mm units on the front baffle board and one 75mm by 125mm on either side of the cabinet.

Around about now I had intended tracing out the circuit, but after a close study of the chassis I concluded that too much of what is euphemistically known as 'reverse engineering' (pulling apart) would be involved. However, a fair evaluation is possible without such drastic action.

The IF and audio amplifiers are common to both FM and AM, but there are independent RF sections. The FM section comprises a slug-tuned unit and a double triode oscillator/converter valve, connected directly to the aerial without the benefit of an RF stage. This is probably the weakest part of the whole design. There is an optional internal FM aerial made of 300-ohm ribbon tacked around the interior of the cabinet.

The AM section of the receiver has a conventional RF stage, and a triode/hexode converter.

The IF amplifier has an unexpected refinement. A cord around the treble tone control shaft is connected to the IF transformers. This acts as a windlass, adjust-



**The coil assembly is on a large fibre board, making access for alignment very easy. With the wavechanging switches directly underneath, leads are very short, contributing to stability and efficiency.**

ing the physical spacing of the windings in what is one of the best variable selectivity systems.

### Familiar valves

Following the detector, the quite elaborate audio amplifier has two double triodes and a push-pull pair of output pentodes. Naturally, I was very interested in the valves and ascertaining just what types are their equivalents, involved a bit of detective work. A magnifying glass and an AVO valve tester were indispensable.

As can be seen from the table, most are international types with only one, the high mutual conductance VHF double triode, having no close Western relative. Although it has a noval base, pin connections are completely different from any American or European types. The characteristics of the two audio double triodes are intermediate between the 12AX7 and the 12AT7, but the filaments of the two sections are internally connected in parallel.

The remaining valve types are very familiar and with the exception of the tuning indicator, were preferred types internationally. One at least, the 6BA6/EF93 was sold in the West under the CEI label.

The rectifier is a large selenium flat pack bridge labelled 'ABC 120-270', the figures no doubt referring to the ratings.

A hardboard base plate with its mounting screws in keyhole slots is readily removed to give access to the wiring and small components. First impression is of an orderly array of the fairly large number of components needed for a complex

receiver. Most are mounted on tagboards and the wiring is tidy.

Virtually all large capacitors have glazed white tubular ceramic cases with very solid metal ends. Components of this quality are normally found only in military or the highest grade industrial equipment. Smaller capacitors appear to be ceramic types, and what appears to be date codings on some of them confirm the age of the receiver as being about 35 years. Resistors are all one colour — green — and appear to be spiral cut deposited carbon. Values are not colour coded, but printed on capacitors and resistors. Rather than the usual wire connections, resistors and capacitors all have low inductance copper ribbon leads.

There is good access for alignment. As can be seen from the underchassis photographs, the ferrite cored RF coils and well made ceramic trimmers are mounted on a large fibre panel which is effectively part of the switch assembly. Thus the coils are effectively mounted directly on the wavechange switch, with virtually no connecting leads. This method of construction is far superior to the use of a rotary wafer switch, and would be nearly as efficient as a turret.

Overall this receiver is a very well conceived and designed piece of equipment, which gives a first impression of having Northern European origins. Its good quality goes some way in rebutting the common misconception that Russian products have been inferior to and below the standard acceptable in the West.

In short, it's a worthwhile addition to any radio collection. ♦

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