# The Soviet R131 LRRP Sets Tony Helm G4BCX

Continuing with our series illustrating different old radios, military and civilian, this time I am writing about Soviet ground forces manpack radios as used by Long Range Reconnaissance Patrols, as opposed to Para/Spetsnaz units. This particular area has never attracted much in the way of print as the numbers are very small, they were not really used in peace time exercises and their role in Afghanistan was largely supplanted by Para/Spetsnaz units. The radios are therefore rare, and the ones used were R131, R129 (incredibly complicated considering its role), and R143, a dodgy transistorised affair.

# The Soviet radio numbering system.

Since WW2 the Soviets have adopted a three number system after the letter "R", or "P" in Cyrillic. So we have 'R107', 'R354' etc. The first number indicates the end-user, though there are some anomalies. The following numbers are not very significant, as they are not always sequential, i.e. R129 came after R131, not before it. So we have "R1--" for Ground Forces (but R147 also used by Para), "R3-" for



Para/Spetsnaz, "R6-" for the Navy and "R8-" for the Air Force. Sometimes there is a massive jump, i.e. R350, R352, R353, R354 then R392 (same vintage) then R394 (1988 design). Blessed is he who can work that one out.

I am going to start with the R131, which as can be seen from the picture above, is a nice set to look at with a conventional control layout. Looking at it physically though, that is an awful lot of radio to push out 500 mW. Controls are as follows.

Top to bottom, left of the meter:- Frequency range 1.5-3.66 MHz (note gap) 3.68-8 MHz, with the panel light switch to the left. Below is aerial coupling, with the eyeglass to read frequency, and below that are the dipole terminals, aerial tuning switch and tone control to the right, with the mode switch to the right of that. The very big knob is the Master Oscillator control, with above it the famous words "The Enemy is listening" in red, with the control label underneath. Beneath the knob are two switches. The left-hand one is up for crystal control, down for MO. The right hand one is up for CW key, down for Fast Coder type R014D (subject of a later article). Below are the headphone sockets. To the right is the crystal select switch, including the calibrate facility in position "1". To the right is the Coder connecting socket. Above is the volume control with the meter switch to the right, and at the very top is the RF gain control, send/receive switch and CW key sockets (photo is of someone else's radio). The on/off switch is at the rear of the set on the top.

### Specifications.

Frequency coverage	1.5-8 MHz in 2 bands.
Frequency control	MO/crystal
Power Output	500 mW.
Power Supply	2 off 2.4 volt battery packs.
Transipak o/p	4.8V, 75V and 150V
Valve line-up	1SH29 pencil-type sub-
	miniature valves.
O/P modes.	CW wide and narrow, and
	RTTY.
Weight	9 kg.
Dimensions	270 mm wide, 170 mm high,
	270 mm deep.

#### Summary.

A good little set for us to use, and not too bad for a member of a five-man LRRP up to 50 miles behind our lines. The very low power would have to be fed into a very carefully constructed dipole. Not really a suburban tiny garden set.

# The R129

The R129 was made to supersede the R131, which was very dated in concept. The R129 is really a man-pack version of the R130 tank-radio, and is built like it. It weighs about 24 kg with CES, and is very lumpy to carry. In addition we must also consider that the radio operator had his own personal kit, spare batteries, aerials, weapon, ammo etc. The "synthesiser", or stepped tuner, is pencil valve operated and is a series of tuned circuits. All the other circuits use pencil valves as well, making the radio a very complicated affair, as it is using valves when transistors had become the order of the day. It is said that this was done to overcome EMP, though interestingly the R143, which superseded it, went into Jap Plastikrap mode. The R129 is not easy to work on and repair.



The R129

Specifications.	
Freq. Coverage	1-10.999 MHz
	10 kHz steps
	Receiver fine tune over
	10 kHz.
Transmission Modes	CW wide/narrow/ USB/AM/F3
	to fast coder R014.
Power out	0.5 to 1 Watt.
Aerials	Whip or dipole (full size G5RV
	type)
Power supply	1.25, 3.75 and 5 volt
	battery pack, internal inverter
	for 50 and 200v
Size	378 x 188 x 410 mm.
Weight	24 kg.

Controls, (left to right), top middle and bottom. Top: aerial type selector, aerial coupling, key sockets, wide/narrow cw switch, meter switch, meter. Middle: Aerial coarse control, mode select, MHz select, 100 kHz select, 10 kHz select Bottom: aerial fine ctrl, manual/AVC switch, volume control,

fine tune unlock lever. This frees the 10KHz switch.

# The R143

The R143 superseded the R129, and moved into fully synthesised transistor technology, a very different kettle of fish from its predecessors. It is much more modern in appearance than previous Russian sets, having lost the "WW2 German design" approach, continued long after the war by the simple expedient of deporting large numbers of East German radio technicians to the Soviet Union at a few hours notice, and then telling them to build the CA's new generation of radio sets. Also exporting military kit to nonaligned nations was vital, in order to obtain badly needed western currency, so they had to move their feet in double time into the late twentieth century. The R143 makers had also finally realised that Warsaw Pakt soldiers were not all huge giants as strong as oxen with the submissive mind of a pack-mule, and built the set to a reasonable weight. It looks like a ruggedised Syncal but the manufacturing technology is not really up to the mark, as component failure is common, and they are not field repairable like a Syncal. Possibly, by the time this was built, in the late 1970's, radios around the world, like cars, were losing their distinguishing features. Also the R143 does not have a fast-coder, relying solely on fast morse as far as I can make out. This is an interesting point, as CW was starting to disappear from WP Army training, only being retained, like NATO, for SPF's.



R143

*Specification* Frequency coverage.

Operating Mode

Power out Aerials Power supply

Size Weight 1.5-19.999 MHz
1 kHz steps.
CW wide/narrow/USB
8-10 watts.
Whip/long wire/dipole.
24 volt or 12 volt internal

batteries. 105 x 310 x 350 mm 11 kg.

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More information (in Russian!) on many Soviet radio equipment can be found at <u>http://hamradio.online.ru/trx/</u> and a useful Russian – English translator can be found at <u>http://www.translate.ru/srvurl.asp?lang=en</u> The wonders of modern technology.....Ed.