

POINTS FROM THE TONY HELM QTH

Notes on the LV80 amplifier

On to more pleasant things. I have been using an ex-West German Army RF Amplifier recently, type LV80, to amplify the RF output of sets such as A13, R104, CCA982 and WS62 (I do use British ex-Army gear occasionally). The LV80 is a 2 valve plus ATU unit, with a separate 24 volt only inverter. Originally, there was an AC mains unit as well, but that is rarer than a WS42. The valves are type 6159 – apparently similar to the 6146, but with 24 volt heaters.

The output circuit offers a very flexible tuning arrangement designed to match a wide variety of aerials, from assorted whips, through to dipoles and long wires, and is sketched below.

The various controls, which are given letters on the unit itself, are as follows:

- W: anode loading capacitor
- S: output coupling control
- R: antenna loading – coarse control – 11 position switch on tapped coil.
- V: antenna loading – fine control – roller coaster variable inductor.

It was originally designed to work with the GRC9 and KL3030, with appropriate control cables. Its frequency coverage is the same, 2-12MHz, quoted power outputs being 75W CW and 25W AM, with a 50 ohm load. This is very conservative indeed: even with the input level control set precisely to the AM or CW points, I manage 35W from a WS62 into a dipole.

The RA1 – a close relation

It has an American brother, the RA1/GRC-1009, but the LV80 is much more user-friendly. The

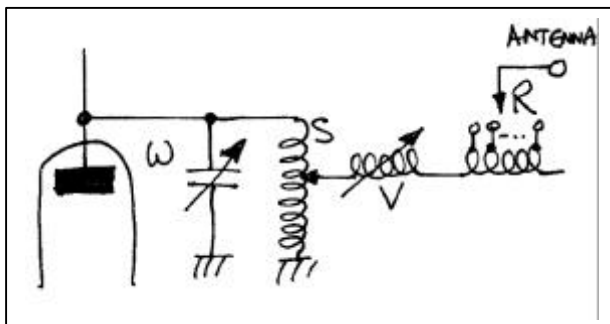
RA1 can be distinguished by a 'binding-post' antenna connection, and a J1-J2-J3 facility on Switch X, whereas the LV80 has only J1 and J2. 'Switch X' is the meter switch.

Using and tuning the LV80

Using the LV80 is simply a matter of adhering to the following instructions:

- 1) Set the output of the driver transmitter into 50 ohms load, giving maximum deflection. Beware of false indications, especially on A13 ('iffy' meter swinging).
- 2) Switch on LV80, switch T to appropriate band and aerial type. Allow to warm up.
- 3) Connect aerial system to o/p socket (large BNC male). I run my dipole cut to about 3.65MHz through a balun-equipped ATU (Soviet 130M3), set up using an SWR analyser. The aerial system needs to be of 50 ohms impedance.
- 4) With the appropriate switches set to the designated positions, tune up, following the steps in the table below. The switches/controls listed are:

- SJ stands for 'Shorting Jack', inserted into the jack socket with the "Y in a circle" symbol, also labelled "Tastltg" (= morse key).
- R coarse antenna loading
- S output coupling control
- U RF input level control
- V fine antenna loading
- W anode tuning capacitor
- X meter switch, 5 positions: AM, CW, Ja (anode load), J1 (RF o/p on CW), J2 (RF o/p on AM)



In the following table, key transmitter for steps 3 to 9 inclusive:

Step	Switch X at:	SJ	Control knob	Meter/Dial Reading
1	-	Out	S	Band 1 Dial 10
				Band 2 Dial 20
				Band 3 Dial 30
2	-		W	Set to about 200 (80m band) 680 (40m) 2230 (30m)
3	A1/A300 required	In	U	set to A1 or A3 as required
4	Ja	In	W	min dip on meter
5	J1 (CW). J3 (AM)	in	R	max on meter
6	J1 (CW). J3 (AM)	in	V	max on meter
7	J1 (CW). J3 (AM)	in	S	max (may have to back off control S)
8		in	S	max (will read below A1 or A3 on meter)
9	J1 (CW). J3 (AM)	in	V	Max

You are now tuned up and ready to go.

At the jack socket used for SJ, I use a surplus, disembowelled headset Adaptor MC 385-B, cleaned out, drilled and re-embowelled with a little mains toggle switch. I can therefore use a key if required. Criminal I know, but I have a brand new one, boxed, ready for use with GRC9.

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Hint of the month

Recently a number of ex-West German Army, SEM35, man-packs have appeared in the UK. The flexible whip aerial section is almost impossible to obtain. The thread on the aerial base is 16mm coarse, the same as the "Russian PL259". So therefore either use Soviet bits and pieces from their PL259 to make an adaptor, or drill out a bar of appropriate diameter, use a 16mm tap or internally screw-cut. Alternatively, tap out an ex-US Army flexi-joint for one of their whip aerials.

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An open invitation

I extend a cordial and informal invitation to anyone visiting Devon, to come and view my display/museum of Warsaw Pact tactical radio equipment, named Kampfgruppe Kessler, after the last East German Defence Minister. I also

have on display a collection of NATO radio equipment representing the various countries of NATO. I can cope with 'passing trade' but a warning order would be appreciated. That way I can organise a presentation in the proper manner.

73s.

Tony, G4BCX, QTHR. (All the above is strictly copyright to Tony Helm)

