

gu-81 russ

ГУ-81

19.04.2023



The gu-81 is a Russian transmitter tube. Above a size comparison to an EF80.

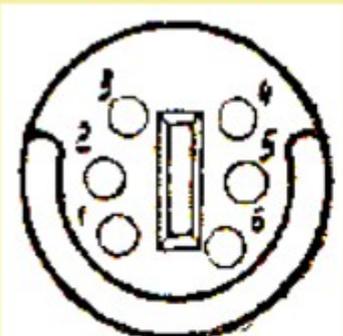
### 1. Tube Base/Socket

This tube has a special base requiring also a special socket that I do not have. For measuring the socket is not needed. All voltages can be connected using alligator clips.



Base of the gu-81 bottom view

**Socket/Fassung:**



russ 6 pol gu

Stift 1:	F1
Stift 2:	F2
Stift 3:	G1
Stift 4:	G2
Stift 5:	FM
Stift 6:	G3
Stift 7:	
Stift 8:	
(ext. Seite) Stift 9:	G3
(ext. oben) Stift 10:	A

Base pin assignment

## 2. Heating

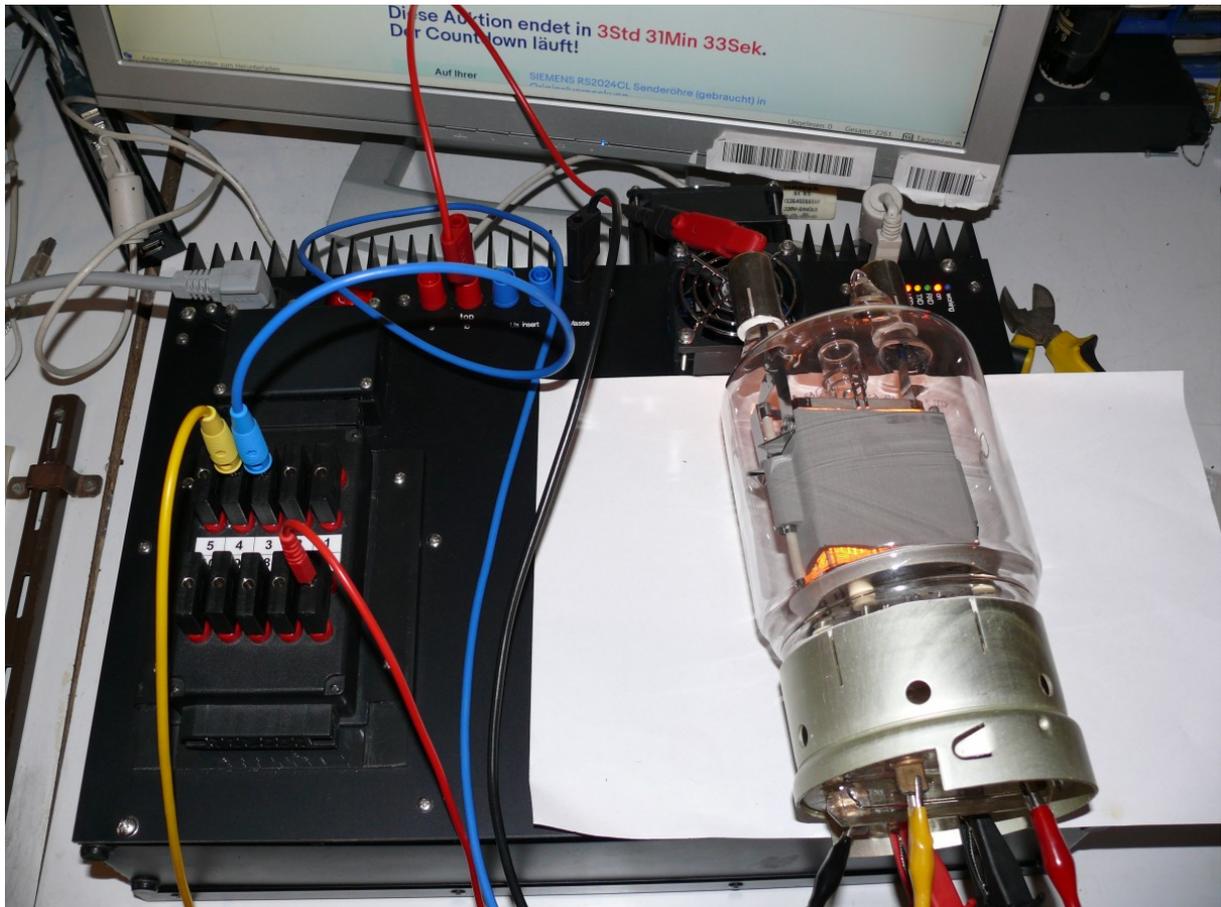
According to the data sheet the tube has a heater requiring 12,6V at 10,5A. This current is above the RoeTest's internal heater voltage supply capability. Therefore the heater voltage must be supplied externally. This high current should not be connected to the RoeTest's banana jackets but should be supplied directly at the tube's base.

A short while ago I bought a laboratory power supply that delivers up to 60A at 15V DC. With this power supply even larger tubes could be heated.



### Connection of the tube's voltages is as follows:

- The laboratory power supply's **positive output** (to tube **Pin 2**) and **negative output** (to tube **Pin 1**) are directly connected to the tube's base (the DC power supply must be floating. This pins are **not** connected with the RoeTest/insert box!
- Connect a multimeter to pin 1 and pin 2 of the tube (for exact adjustment of the heater voltage at the tube).
- Tube Pin 5 (FM and metallic parts of the socket) must be connected to the RoeTest's ground.
- Connect the anode (top connection) using a wire with choke/resistor parallel combination to jacket 10 of the RoeTest.
- G3 top connector is not connected because G3 is already connected through pin 6
- All other voltages (pins 3, 4, 6) are taken from the insert box and are connected to the tube's pins using alligator clips.



## Tube Data

Create the tube's data set as follows:

TY81		System 1	
Röhren-(System)art:		Pentode ext.H.DC	
<b>typische Werte:</b>	S2 +1 UA/ L [V] *)	600,0	
	S3 -1 UG1 [V] *)	-40,00	
	S4 +2 UG2/An/Stn [V] *)	300,0	
	S5 -2 UG3/G40kt. [V] *)	0,0	
	UG4/G5 [V] *)		
	I <sub>AL</sub> Soll [mA]:	140,00	
	I <sub>G2/An</sub> Soll [mA]:	28,00	
	S [mA/V]:	4,75	
	μ:	225,0	
	D:	0,0	
	R <sub>i</sub> [KOhm]:	50,0	

- Tube type: **"Pentode externe H.DC"** – the RoeTest's internal heater supply will not be connected for this tube type.
- Typical values: There are no values available for lower voltages from the data sheet for this transmitter tube. So the values from the present NOS-tube were taken as typical values. If you have more tubes of this type available the average of all tubes should be used for the typical values.

## Measuring:

First switch on the heater power supply, adjust the heater voltage and wait until the heater current has stabilized. Now all measurements (static measurements, characteristic curves, manual mode) can be done with the RoeTest as usual.

