

Tube Microphone Preamplifiers (Telefunken/Siemens/Maihak/TAB)

V76



The ultimate, the "Rolls-Royce" of tube mic preamps.

The V76 was designed by the Insitut fur Rundfunktechnik and built from 1958 basically by TAB/Germany (Tonographie Apparatebau, Wuppertal/Eberfeld). This company also built other units for this series, as the V72 and 72a (low/mid gain preamp) and the U73 (tube compressor).

Engineering standard and technical quality at this time was so high, that it would be impossible to build this preamp today for its current market price.

The V76 was designed for applications where the "standard" V72 could not provide enough gain (ie for dynamic mics) and where it was essential to have a switchable variety of gain steps plus some selectable high and low frequency pre filtering. The circuit of the gain selector works in a quite unique way of combining variable input attenuation and variable feedback. This results in very good noise figures at all gain settings.

There are 3 controls at the front panel: The 12 step gain selector (+3dB up to +76dB), a 3 kHz rolloff switch and a four step low cut filter.

The unit is fully self contained, it includes its own 220V power supply and all connections as the mains supply and the balanced input and balanced output are accessible through a single 12pin Tuchel connector. The high quality balancing transformers at the signal input and output and the mains transformer are shielded with multi layer mumetal/copper technique. Pentodes Telefunken EF804S and E83F used in the V76 are common types and are still easily available.

V76 VERSIONS:

1. **V76/80** - with switchable lowcut at 80Hz and 300Hz. **Fixed input filter 40Hz and 15kHz.**
2. **V76/120** - with switchable lowcut at 120Hz and 300Hz. **Fixed input filter 40Hz and 15kHz.**
3. **V76m** - special version without switchable low/highcut and without fixed input filters; **linear frequency response from 20Hz to 20kHz**

If you are lucky enough to own a V76 it will probably be a V76/80 or the V76/120 type. The IRT designed this versions for Radio and TV Studios, where it was important to cut off any noise in the studio below 40Hz and above 15kHz. If you are using yours in your TV studio this will be fine, but most V76s are used in top class music recording studios today. Obviously it makes no sense there to limit the performance of this terrific amplifier! So make sure that yours has been modified to give you the full frequency response.

If this is done right, the V76 has an impressive response from 10Hz to 35kHz , +/- 0.5 dB !!)

If you ever wondered what rattles inside your V76

The V76's first and second stage (2 input tubes and an inductor) sit on a separate metal plate, mounted to the chassis on 4 rubber spacer.

Great idea to reduce mechanical ringing noise in the input tubes. Unfortunately all these spacers are old and broken in most V76 I've seen. So the complete little "subchassis" floats and rattles around and likes to smash tubes and to break wires if the V76 is moved.

To replace the four spacers (and secure the subchassis in position), the complete V76 has to be taken apart. It takes a few hours and it is quite tricky because it is very easy to forget something somewhere, so the thing will not work afterwards or keeps on blowing up big and expensive capacitors. I fixed many of them but it is still nasty work...

So if somebody offers you a V76 to buy - open it up and make sure that everything is nice and fixed and nothing rattles around!

But do not just shake the V76 to test it. First, the V76 is not big - but *heavy*! If you drop it there might be a hole in the floor (or in your foot). And second, some bad guys do not go through the effort of replacing the little mounting posts, instead they just jam the subchassis within the case with foam or cardboard or whatever.

Apart from cleaning the inside and replacing the tubes and all the electrolytic caps, this is the major job in restoring a V76 professionally! If this has not been done, don't buy it if you are not experienced with this nasty job! (And, hey - don't send it to me to do it!)

Now you know why prices for V76's are so different.

Mains Supply

The V76 was designed for Germany's Radio broadcast only, so it is specified for exact 220V +/- 5% . Mains voltage higher than 230V increases the noise figures, heat development and reduces life of tubes. So if used in the UK, AUSTRALIA or another country with higher mains voltage it has to be modified to run with the correct internal voltages.

In countries with lower mains voltage a step up transformer has to be used. Power requirement per unit is only between 16 to 20 Watts, so you can run up to 10 units V72 or V76 on a single 100W step up transformer. In the US "The Jester" can provide you with a replacement 110/120V power transformer.

- if you need some more information about V76 amps
[send me an email](#)

The V76 experts in the USA:

If you need help with your V72 in the USA please contact "The Jester"

HOME

Thanks for visiting my web-page

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Sydney/Australia
28/04/99



