Conversion of Neumann U 47 and U 48 microphones
to nuvistor tubes

(nuvistor 13 CW 4 instead of tube VF 14)

U 47-960-02-01

In view of the fact that Telefunken quite some time ago discontinued manufacture of the VF 14 tube used in the U 47 and U 48 microphones, Neumann has devised a means of converting these microphones from the VF 14 tube to another tube. Due to the fact that no completely equivalent tube is available on today's market, the following changes have to be made:

1. Remove VF 14.
2. Remove the leads (red, blue, yellow, green, black) from the tube holder (at U 48 remove also 29-Ω-resistor.).
3. Remove the tube holder after unscrewing six screws in the three bars.
4. Two of the three plastic holders supplied have to be inserted into the screw holes.
5. Put the AR 47 upside down into these holders and fix it by inserting the third plastic holder. (The AR 47 side with three soldering points shows towards the front of the microphone.)
6. Resolder the leads according to the sketch below (at U 48 resolder also the 29-Ω-resistor).
7. Insert nuvistor 13 CW 4 into the socket.

The NG pwer supply must have a small change of wiring due to the greater heater current required by the nuvistor.

a) Replace resistor R-2 (1 kΩ power resistor coming from + terminal of rectifier) by a solid wire connection between the first two electrolytic capacitors.

b) Install this same R-2 in parallel with R-3 (an identical resistor next in the RC filter chain), thereby making its total resistance value 500 Ω.

After conversion, the U 47 / U 48 microphone will have an output level 2...3 dB lower than previously. Due to the very high output level of these microphones this is of no disadvantage.

Should you now have some microphones converted and others unconverted, the power supplies and microphones must be marked to prevent confusion.

GEORG NEUMANN GMBH · ELECTROACUSTIC · 1 BERLIN 61 (WEST)

427 June 68

Printed in Germany

U 47 - 960 - 02 - 01

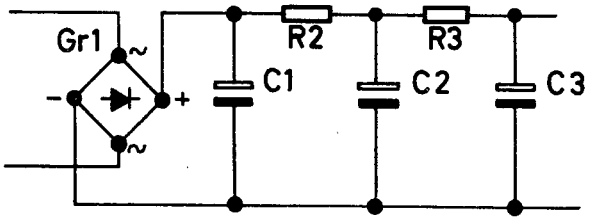
Should you desire complete interchangeability of converted and unconverted microphones, you may wish to do the following:

a) Convert all your power supplies as described above.

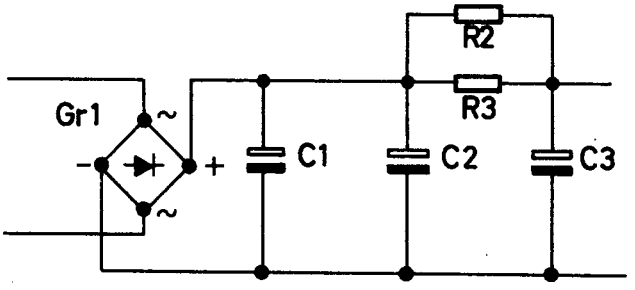
b) Install in those U 47 / U 48 microphones still equipped with the VF 14 tubes, a 1500 Ω 3 W resistor directly at the back of pin 5 (B+) terminal of the microphone base connector in series with the red lead.

c) Remove this resistor at any time that you subsequently convert to the nuvistor adapter in these microphones.

NG power supply schematic:



before conversion



after conversion

