

# AKG

ACOUSTICS

**C451 E comb.**  
**C451 EB comb.**  
**C451 EB**

**Bedienungshinweise**  
**User Instructions**  
**Mode d'emploi**



## Technical Data C 451 E comb.:

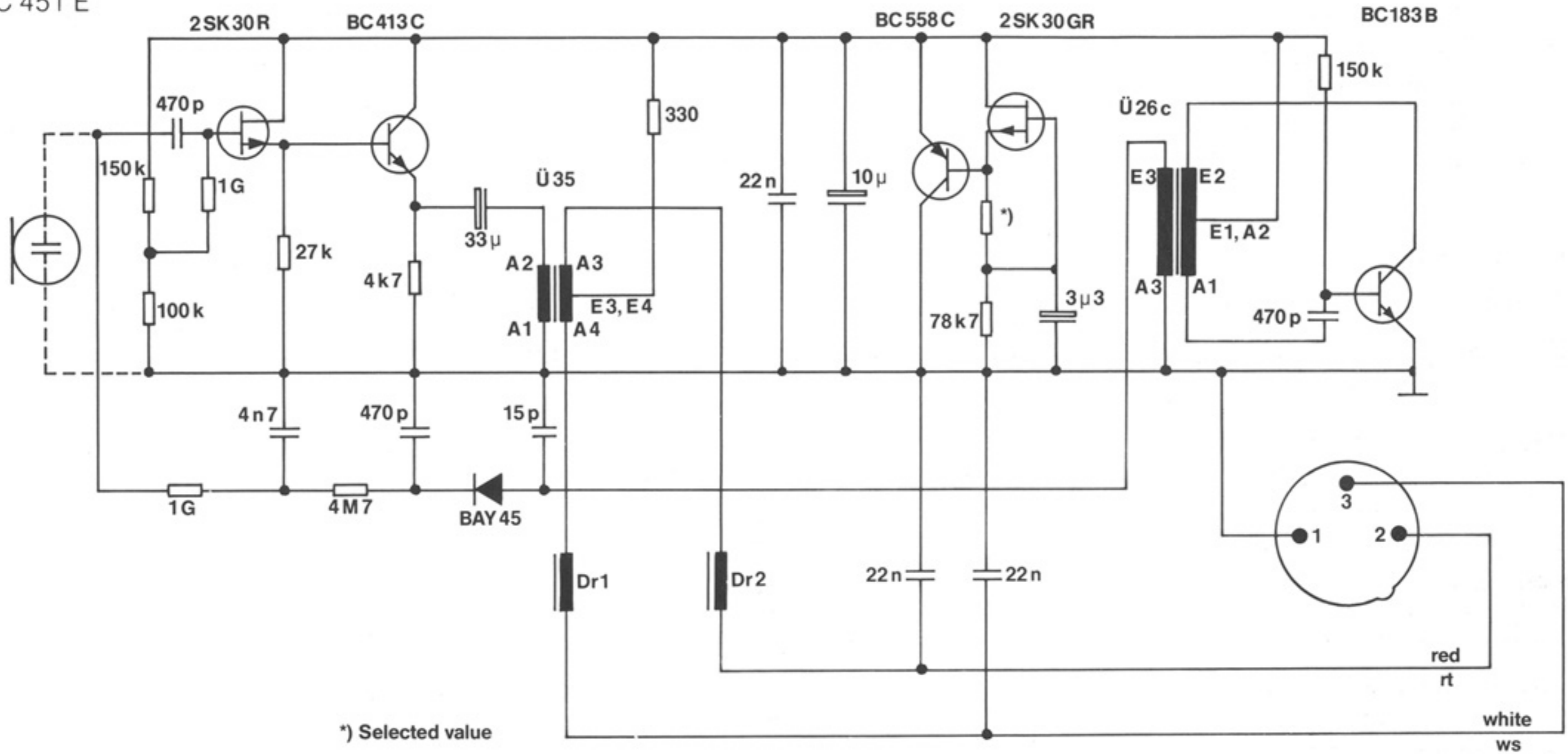
Operating Principle:	Pressure gradient receiver
Active Diaphragm Diameter:	approx. 15 mm
Frequency Response:	20 to 20,000 Hz $\pm$ 1 dB from standard curve
Sensitivity at 1000 Hz:	9.5V/Pa = 0.95mV/ $\mu$ bar = -60.5dBV on open circuit re 1 $\mu$ b
Nominal Impedance:	$\leq$ 200 ohms, transformer balanced
Recommended Load Impedance:	$\geq$ 500 ohms
Weighted Sound Pressure Level acc. to DIN 45 405 (CCIR 468-2):	$\leq$ 28 dB
acc. to DIN 45 412 (A-weighted):	$\leq$ 18 dB-A
Hum Sensitivity:	5 $\mu$ V/5 $\mu$ T at 50 Hz
Max Sound Pressure for 0.5% THD:	20 Pa = 120 dB SPL on 1000 ohms
Operating Temperature Range:	-20° C to +60° C
Permissible Humidity Level:	99% at +20° C, 95% at +60° C
Dimensions:	18 mm $\varnothing$ x 147 mm length (0.7 inch $\varnothing$ x 5.8 inch)
Finish:	all-metall housing
Connector:	3 pin XLR-type
Weight:	100 g net (3.5 oz.)
Shipping weight:	425 g (15 oz.)

## Optional Accessories:

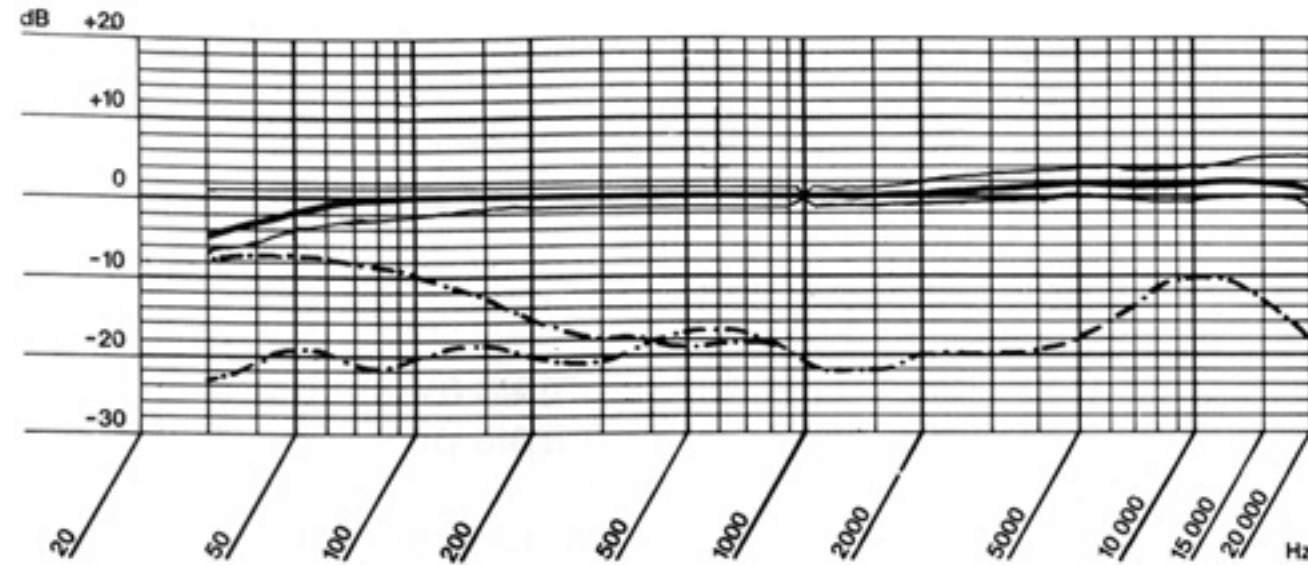
SA 18/1 all-metal stand adapter  
W17 A wire mesh windscreen  
Information on cables, power  
supplies, elastic suspensions,  
microphone stands and other parts  
of the modular system may be found  
in our special Studio Catalogue  
PROA 214/E

## Circuit Diagram:

C 451 E



## Frequency Response Curve:



### C 451 E:

Technical Data are identical to C 451 E comb, except that they are measured without the condenser capsule CK 1:

#### Technical Data C 451 E:

Frequency Range of Amplifier:

No-Load Amplification:

Dimensions:

Weight:

Shipping weight:

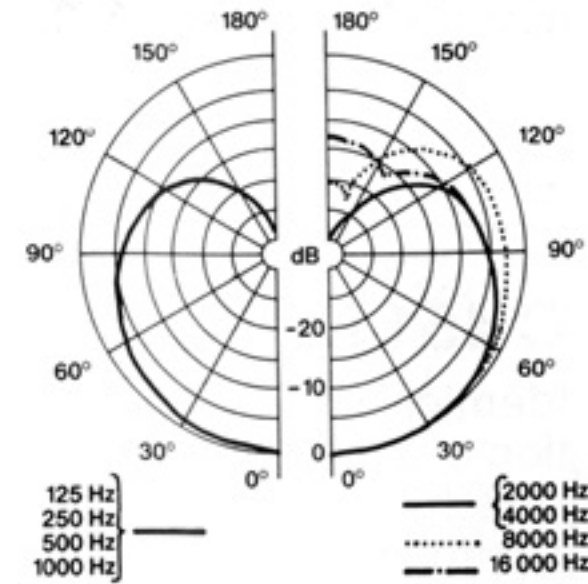
#### Technical Data C 451 EB:

Dimensions:

Weight:

Shipping weight:

## Polar Response:



### C 451 EB:

Identical to C 451 E with the exception of a built-in 3 position bass-cut switch.

The following switch positions are incorporated:

- linear frequency response down to 5 Hz
- ↙ 75 Hz: bass cut starts at 75 Hz with slope of about 14 dB/octave (-7 dB at 50 Hz)
- ↙ 150 Hz: bass cut starts at 150 Hz (-20 dB at 50 Hz)

5 to 30,000 Hz

0.47 ± 0.5 dB

18 mm Ø x 120 mm length (0.7 inch Ø x 4.7 inch)

80 g net (3 oz.)

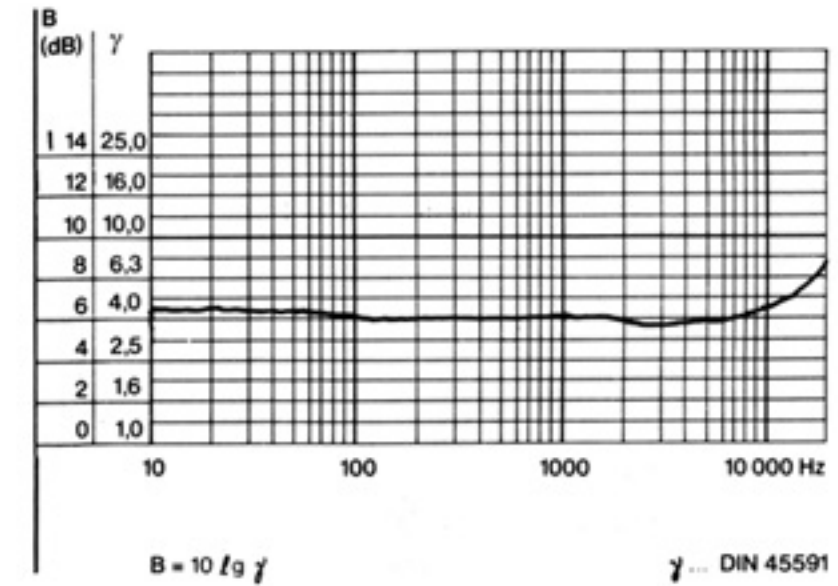
360 g (13 oz.)

18 mm Ø x 140 mm (0.7 inch Ø x 5.5 inch)

85 g (3 oz.)

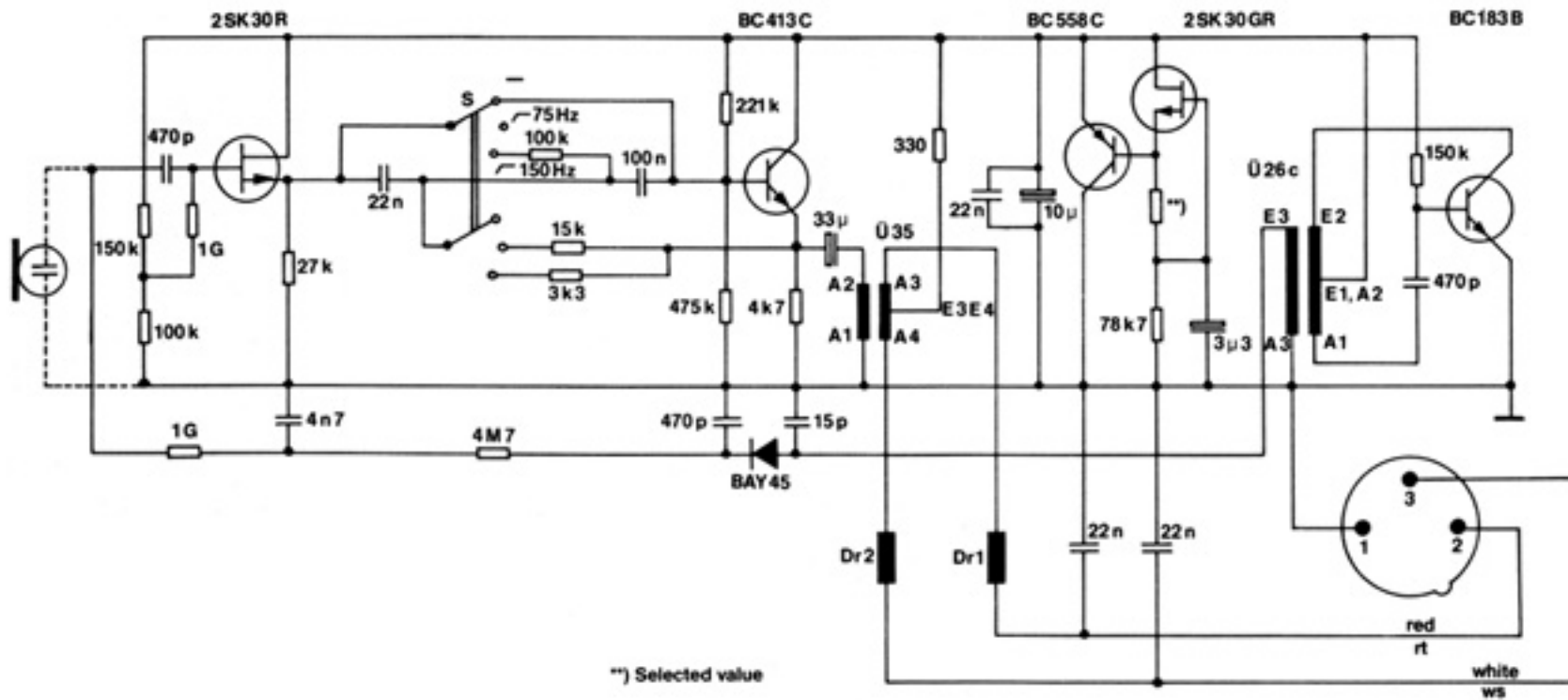
360 g (13 oz.)

## Sound Power Concentration Factor:



γ ... DIN 45591

## Circuit Diagram:

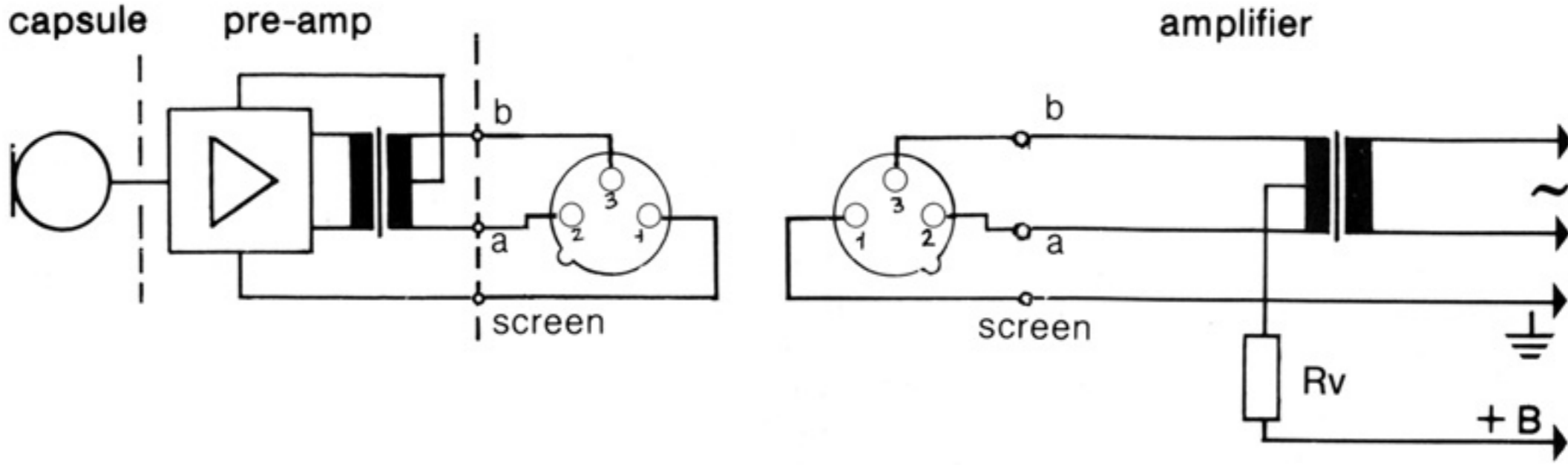


C451EB

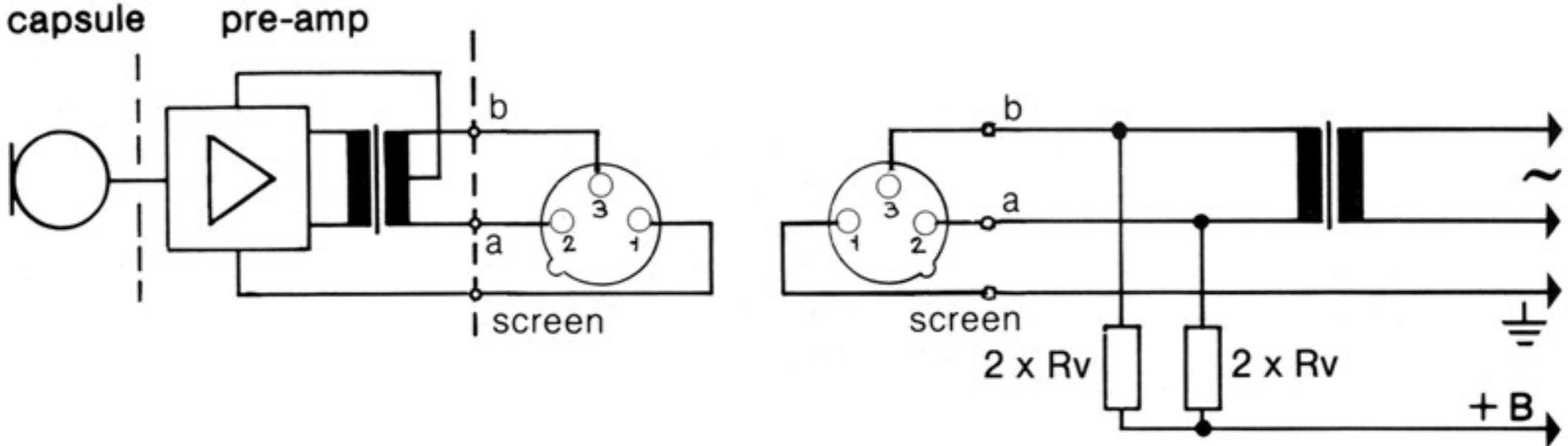
## Powering Technique:

All AKG CMS Preamplifiers may be powered in phantom technique according to DIN 45596. These standards specify a positive voltage on the audio lines versus the screen of the audio cable of 12,24 and 48 volts.

The possible connection diagrams are as show below:



a) circuitry incorporates input transformer with centre tap (ungrounded).



b) circuitry incorporates input transformer without centre tap (ungrounded).

The following values for  $R_v$  (or  $2 \times R_v$ ) and  $I$  are standardised:

Valeurs normalisées pour  $R_v$  (ou  $2 \times R_v$ ) et  $I$ :

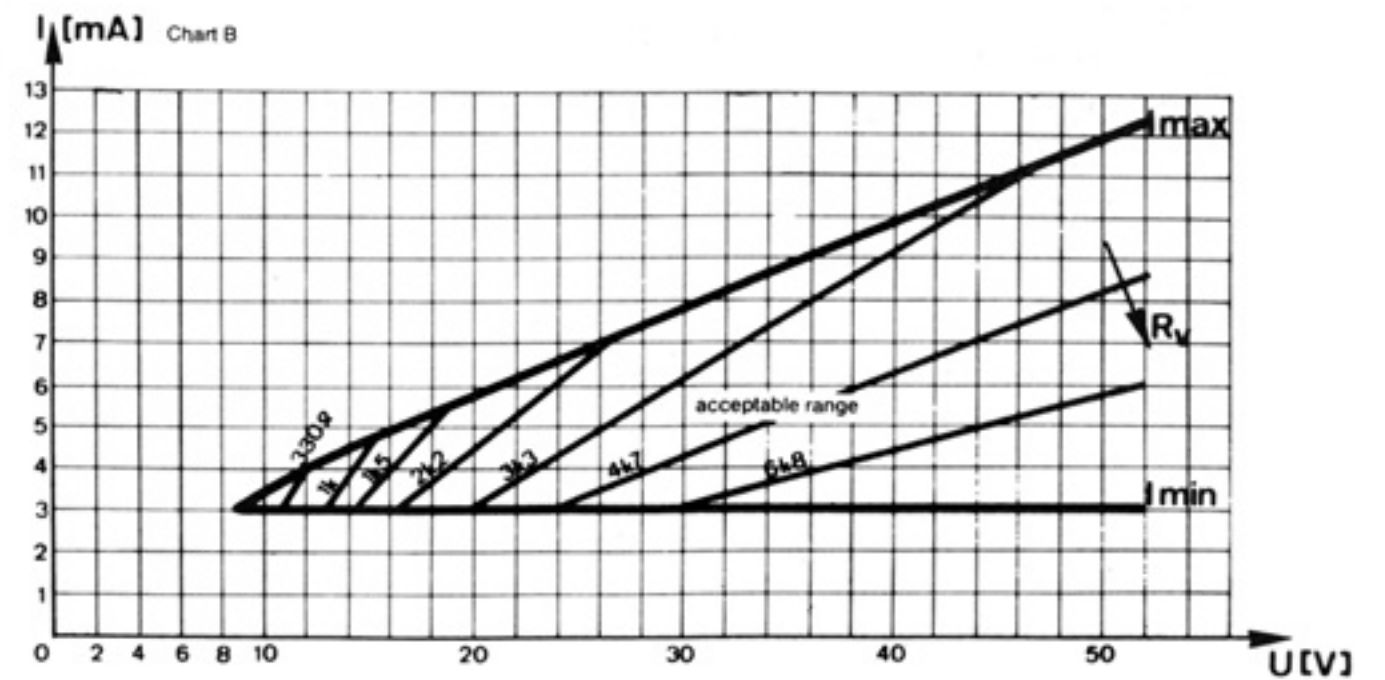
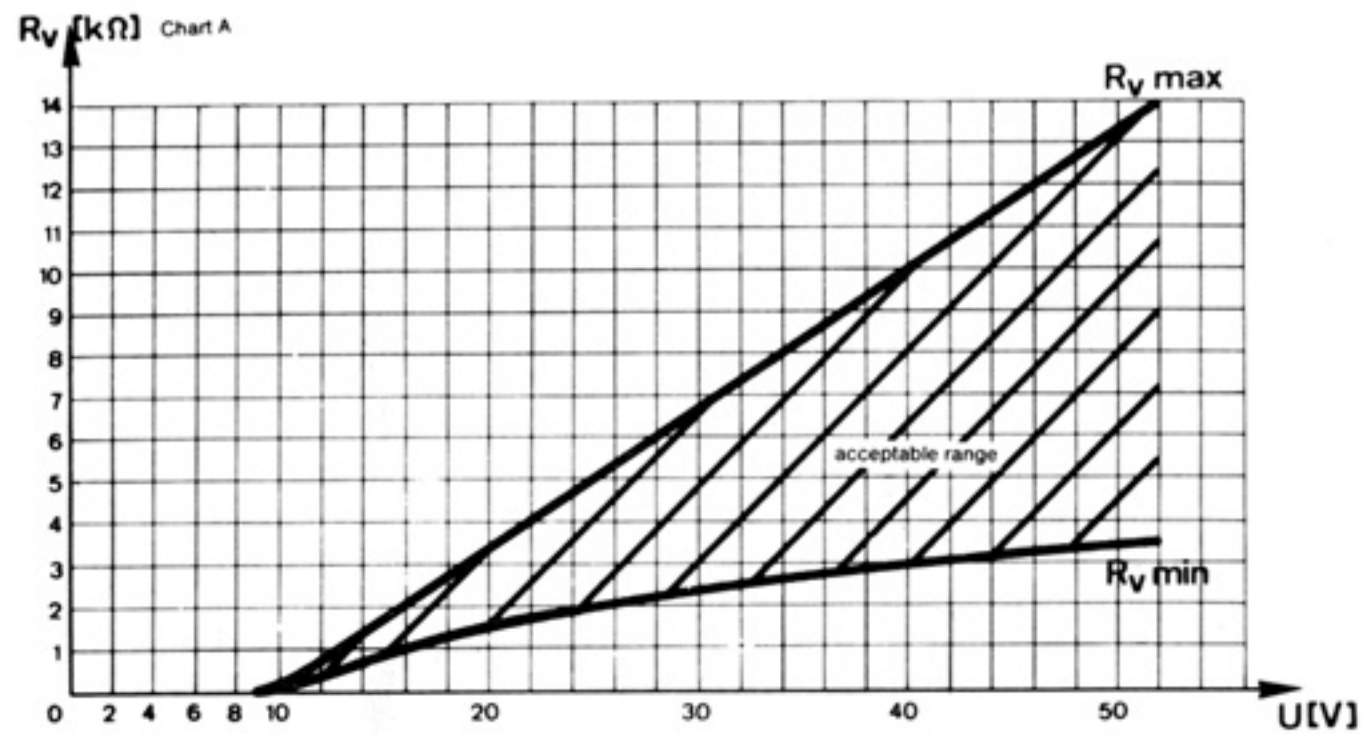
$U =$ $12 \text{ V} \pm 2 \text{ V}$ $48 \text{ V} \pm 4 \text{ V}$	$R_v$ 330 Ohm 3300 Ohm	$2 \times R_v$ 680 Ohm 6800 Ohm	$I =$ 10 mA max. 2 mA (6mA max).
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The minimum current requirement for all CMS microphones is 3mA. The following charts should help to find for any operating voltage between 9 and 52 volts the necessary resistor value  $R_v$ . They will also indicate for a given operating voltage and the selected  $R_v$  the expected current consumption of one connected AKG – CMS microphone.

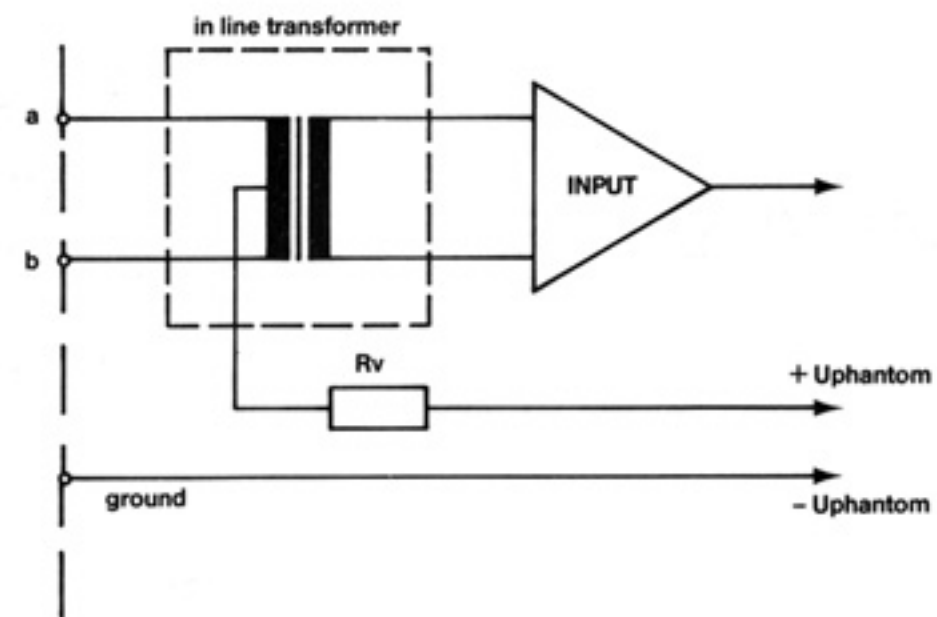
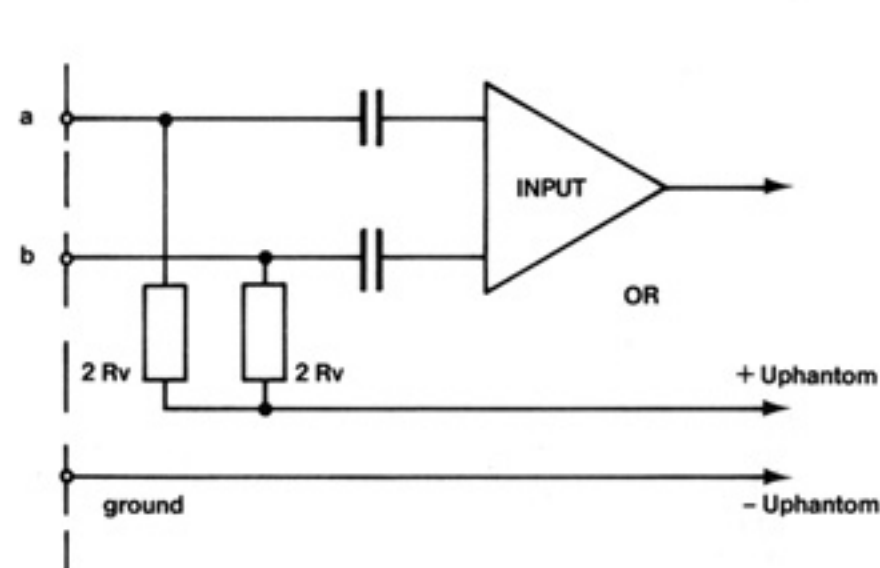
Deviations are permissible as long as the selected values for operating voltage,  $R_v$  resistor value and minimum current consumption are within the range indicated on the two charts shown.

The resistors  $2 \times R_v$  have to be of at least 0.5% tolerance type to satisfy the symmetry requirements.





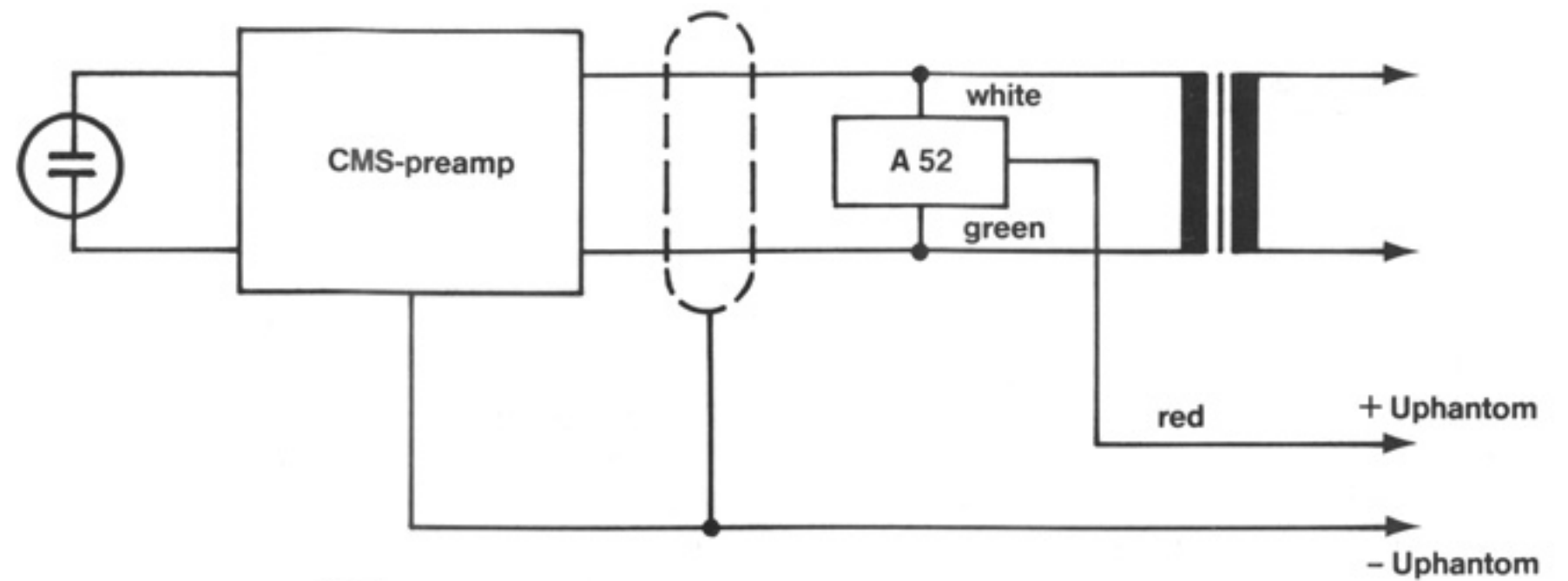
In case where single ended (grounded) amplifier inputs, or where no input transformers are available, either capacitors or optional transformers have to be wired into the audio lines to prevent any current leakage into the input circuitry.



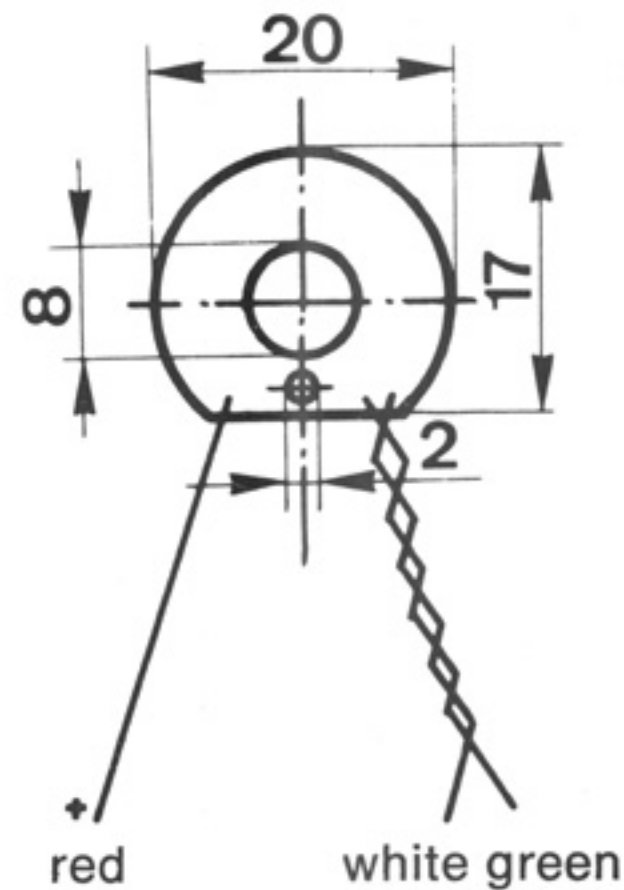


The simplest way to phantom power the AKG CMS microphones is by using the Powering Module A 52. Having a few components and small dimensions (20 mm Ø x 10 mm), it may be mounted almost in any place with no problems whatsoever.

**Connection Diagram:**



**Dimensional Drawing:**



Required depth: 10 mm

Any voltage between 7.5 and 52 volts are acceptable for the regulating device and no additional feeding resistors have to be added. The a. c. resistance of the A 52 is inherently very high which guarantees effective hum suppression and common mode rejection in the order of 100 dB.

### **Cleaning hints:**

All metal surfaces may be safely cleaned from time to time with methylated spirit or alcohol. The foam windscreen should be occasionally soaked in a non-aggressive detergent/water solution and will be ready for use after drying.