

# Rogers Electronic Tubes & Components

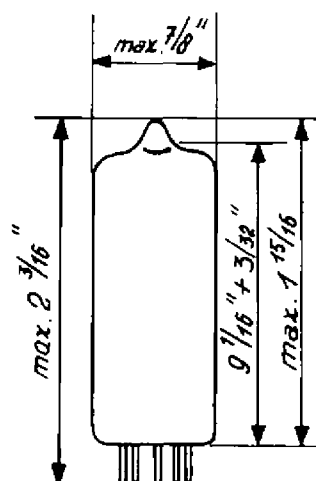
17EW8

Description: Double triode for use as R.F. amplifier and self-oscillating mixer

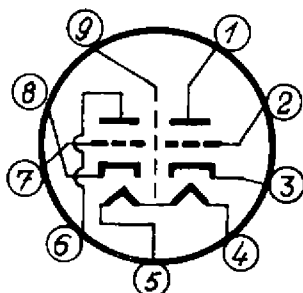
## Mechanical Data

|                   |                      |
|-------------------|----------------------|
| Cathode           | coated, unipotential |
| Base              | E 9-1                |
| Bulb              | T 6 1/2              |
| Outline           | 6-2                  |
| Basing            | 9AJ                  |
| Mounting position | any                  |

## Tube outline



## Bottom view of base



## Base pin No.

|   |                 |                |
|---|-----------------|----------------|
| 1 | Plate           | } Triode no. 2 |
| 2 | Grid            |                |
| 3 | Cathode         |                |
| 4 | Heater          | } Triode no. 1 |
| 5 | Heater          |                |
| 6 | Plate           |                |
| 7 | Grid            | } Triode no. 1 |
| 8 | Cathode         |                |
| 9 | Internal shield |                |

## Heater Data

|                |            |
|----------------|------------|
| Heater voltage | 17.5 volts |
| Heater current | 150 mamps  |

## Direct interelectrode capacitances (each system)

|                                            |                       |
|--------------------------------------------|-----------------------|
| Plate to grid                              | 1.5 $\mu\mu\text{F}$  |
| Plate to cathode                           | 0.18 $\mu\mu\text{F}$ |
| Plate to cathode, heater and shield        | 1.2 $\mu\mu\text{F}$  |
| Plate to cathode, heater and shield $\neq$ | 1.9 $\mu\mu\text{F}$  |
| Grid to cathode, heater and shield         | 3 $\mu\mu\text{F}$    |

$\neq$  With external shield with internal diameter of 0.886"

Direct interelectrode capacitances (continued)Between the triode systems

|                                          |                          |
|------------------------------------------|--------------------------|
| Plate to plate                           | max. 0.04 $\mu\text{F}$  |
| Plate to plate $\neq$                    | max. 0.008 $\mu\text{F}$ |
| Grid to grid                             | max. 0.003 $\mu\text{F}$ |
| Plate triode No.1 to grid triode No.2    | max. 0.008 $\mu\text{F}$ |
| Plate triode No.2 to grid triode No.1    | max. 0.008 $\mu\text{F}$ |
| Plate triode No.1 to cathode triode No.2 | max. 0.008 $\mu\text{F}$ |
| Plate triode No.2 to cathode triode No.1 | max. 0.008 $\mu\text{F}$ |
| Grid triode No.1 to cathode triode No. 2 | max. 0.003 $\mu\text{F}$ |
| Grid triode No.2 to cathode triode No. 1 | max..0.003 $\mu\text{F}$ |

Maximum ratings (each section; Design Center Values)

|                                               |                 |
|-----------------------------------------------|-----------------|
| Plate voltage without current                 | 550 volts max.  |
| Plate voltage                                 | 250 volts max.  |
| Plate dissipation                             | 2.5 watts max.  |
| Plate dissipation of two systems together     | 4.5 watts max.  |
| Cathode current                               | 15 mamps max.   |
| Negative grid bias                            | 100 volts max.  |
| Grid circuit resistance                       | 1 megohm max.   |
| Voltage between cathode and heater            | 90 volts max.   |
| Circuit resistance between heater and cathode | 20000 ohms max. |

Typical characteristics (each section)

|                      |                    |      |      |           |
|----------------------|--------------------|------|------|-----------|
| Plate voltage        | 100                | 170  | 200  | volts     |
| Grid bias            | -1.1 <sup>0)</sup> | -1.5 | -2.1 | volts     |
| Plate current        | 4.5                | 10   | 10   | mamps     |
| Transconductance     | 4600               | 6200 | 5800 | micromhos |
| Amplification factor | 50                 | 50   | 48   |           |

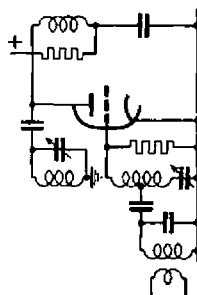
$\neq$  With external shield with internal diameter of 0.886"

<sup>0)</sup>In this case grid current may occur. If this is not permissible a condition with a bias of -1.5 volts should be chosen.

Operating characteristics as R.F. amplifier in FM/AM receivers  
(triode system No.1)

|                             |       |      |                |
|-----------------------------|-------|------|----------------|
| Supply voltage              | 170   | 170  | 100 volts      |
| Plate series resistor       | 1300  | 1500 | 1500 ohms      |
| Plate voltage               | 160   | 155  | 92 volts       |
| Cathode resistor            | 330   | 160  | 160 ohms       |
| Negative grid bias          | -2    | -1.4 | -0.85 volts    |
| Plate current               | 6     | 8.7  | 5.2 mamps      |
| Transconductance            | 4700  | 6000 | 5200 micromhos |
| Internal resistance         | 10500 | 8400 | 10000 ohms     |
| Input resistance at 100 Mc  | 8000  | 6000 | 7000 ohms      |
| Equivalent noise resistance | 650   | 500  | 580 ohms       |

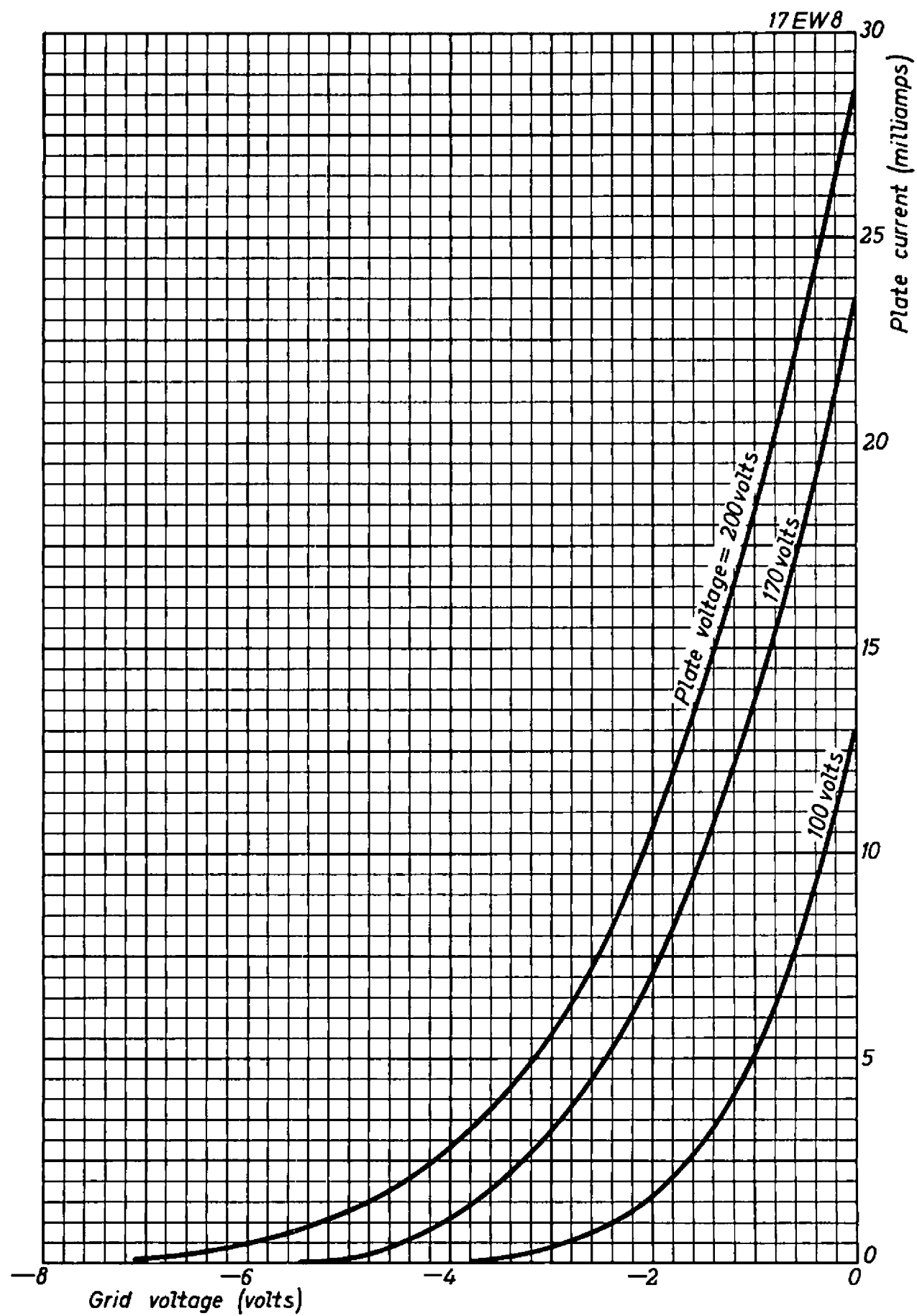
Operating characteristics as self-oscillating mixer in FM/AM  
receivers (triode system No.2)

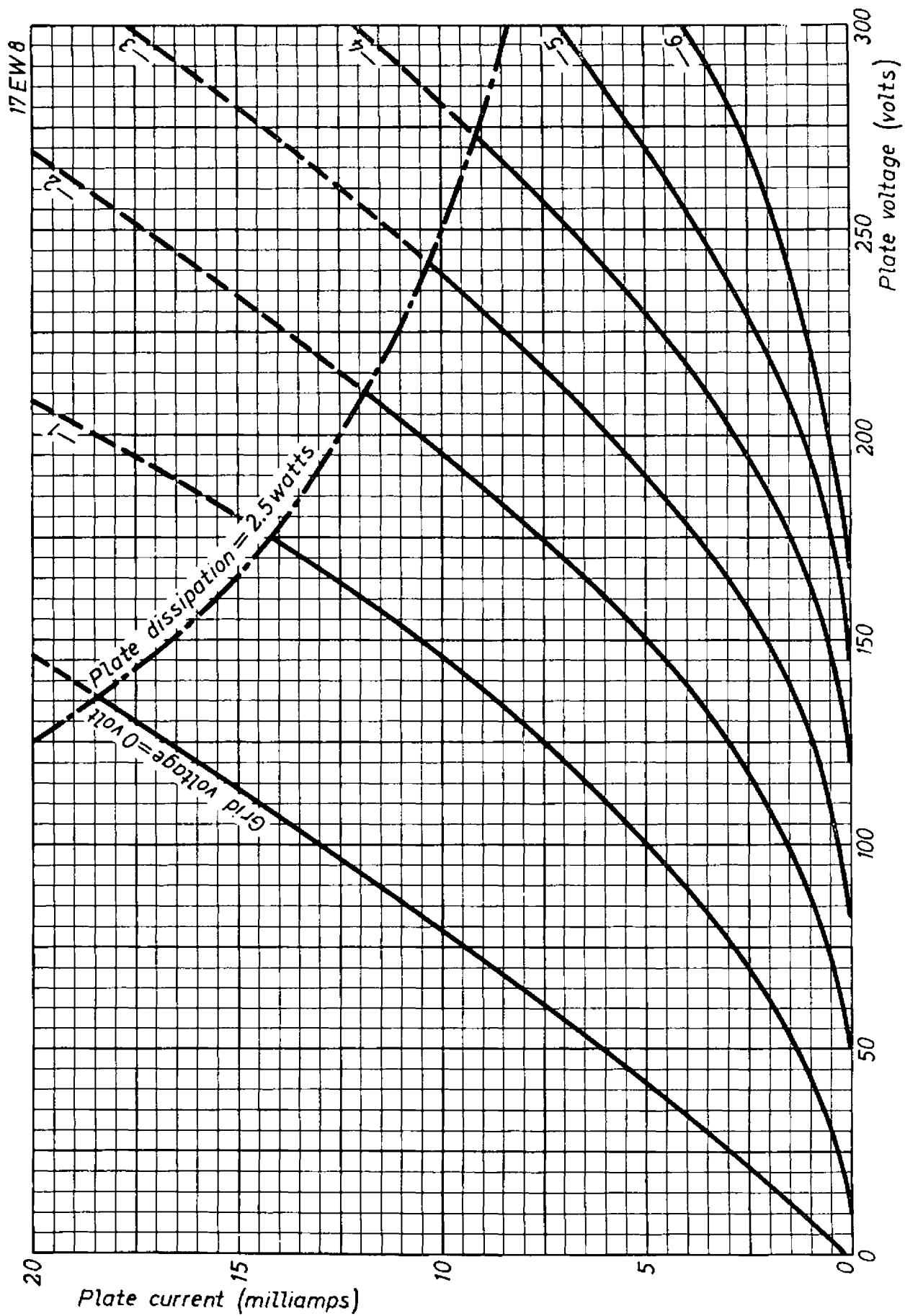


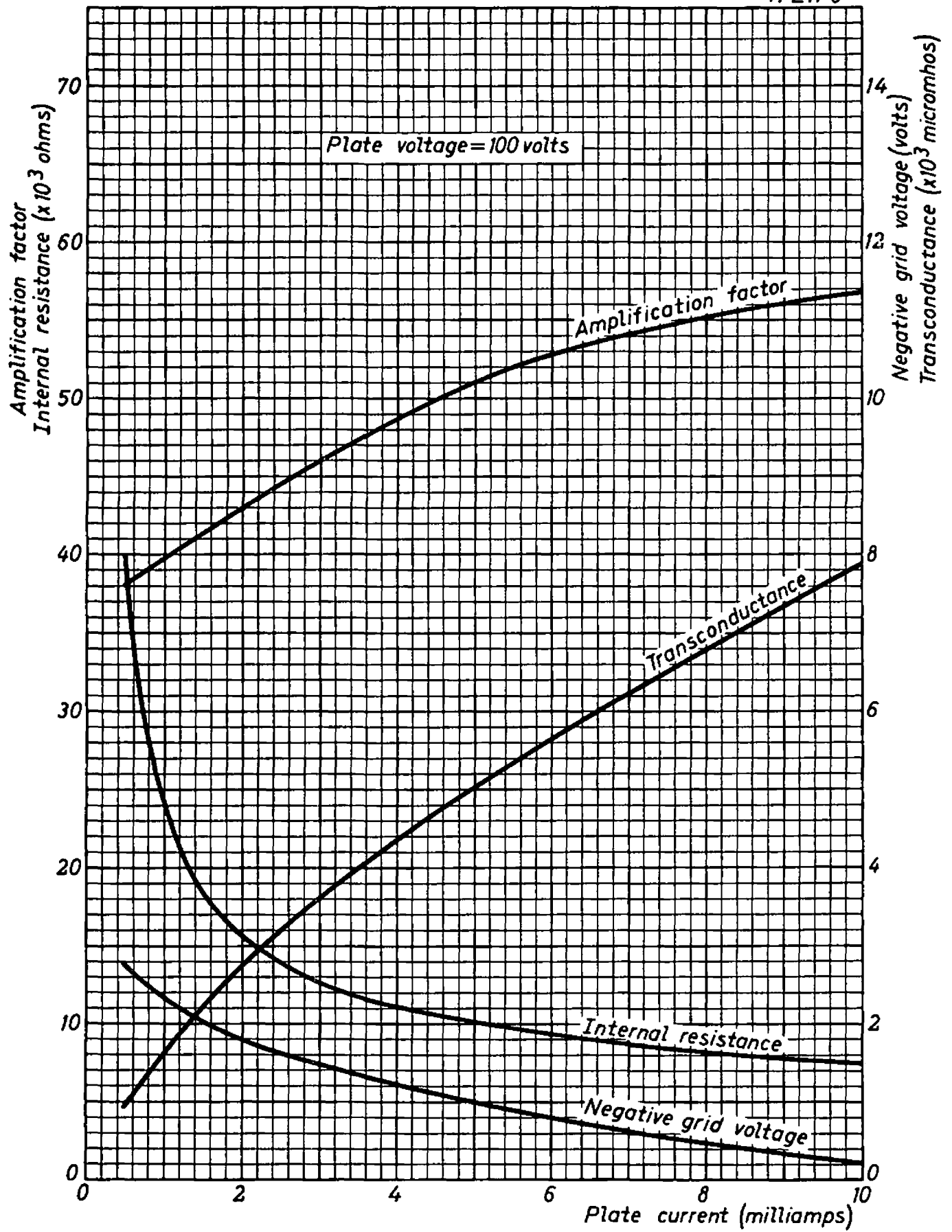
|                            |       |       |                         |
|----------------------------|-------|-------|-------------------------|
| Supply voltage             | 100   | 170   | 200 volts               |
| Plate series resistor      | 4700  | 4700  | 8200 ohms               |
| Grid leak                  | 1     | 1     | 1 megohm <sup>+</sup> ) |
| Oscillator voltage         | 1.8   | 2.8   | 2.8 volts (rms)         |
| Plate current              | 2.2   | 4.8   | 5.2 mamps               |
| Conversion conductance     | 1700  | 2200  | 2300 micromhos          |
| Internal resistance        | 20000 | 16000 | 15000 ohms              |
| Input resistance at 100 Mc | -     | 15000 | - ohms                  |

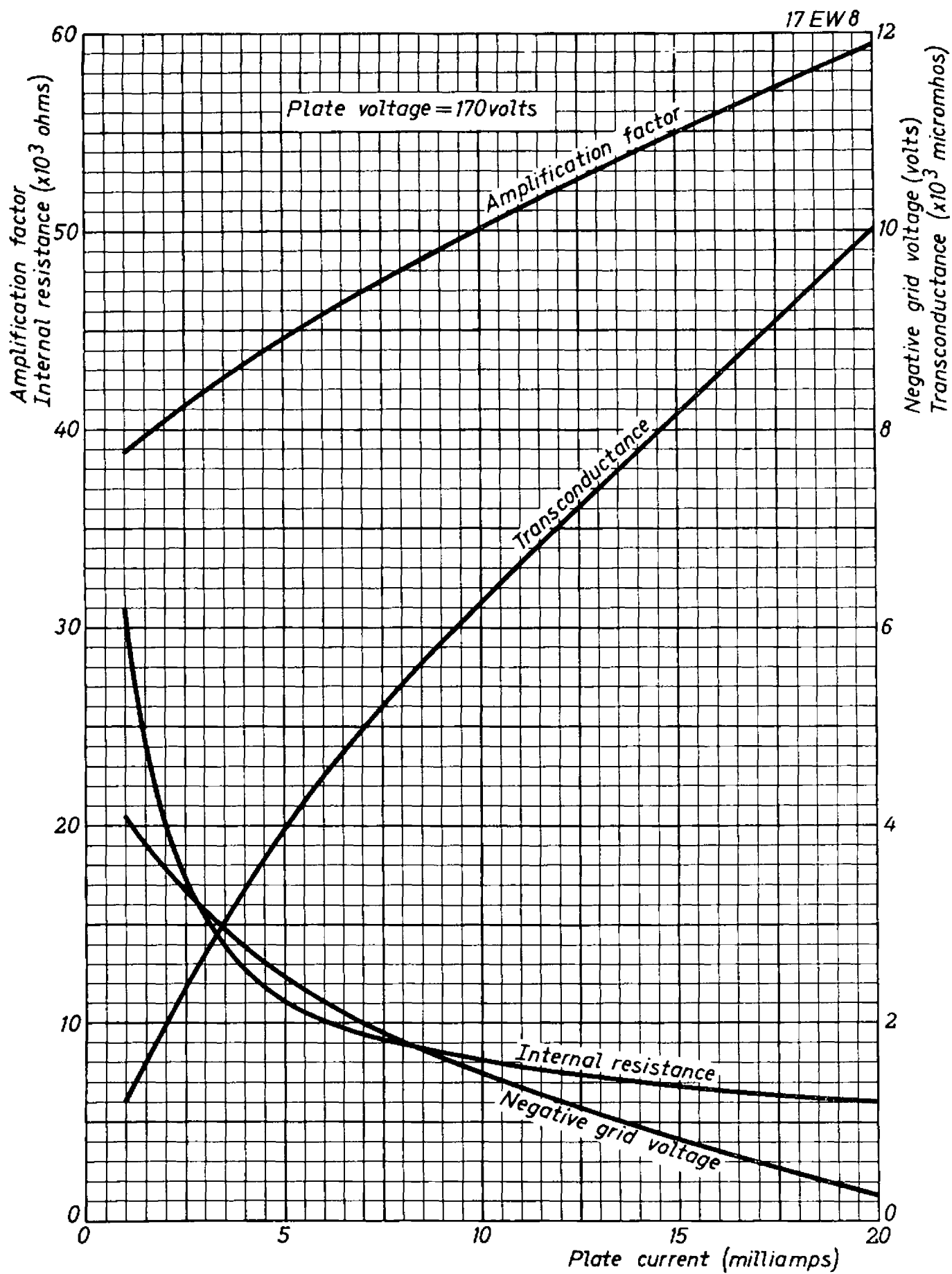
<sup>+</sup>) At this value of grid leak squegging is prevented by feed-back, which normally is applied in order to compensate for the internal resistance

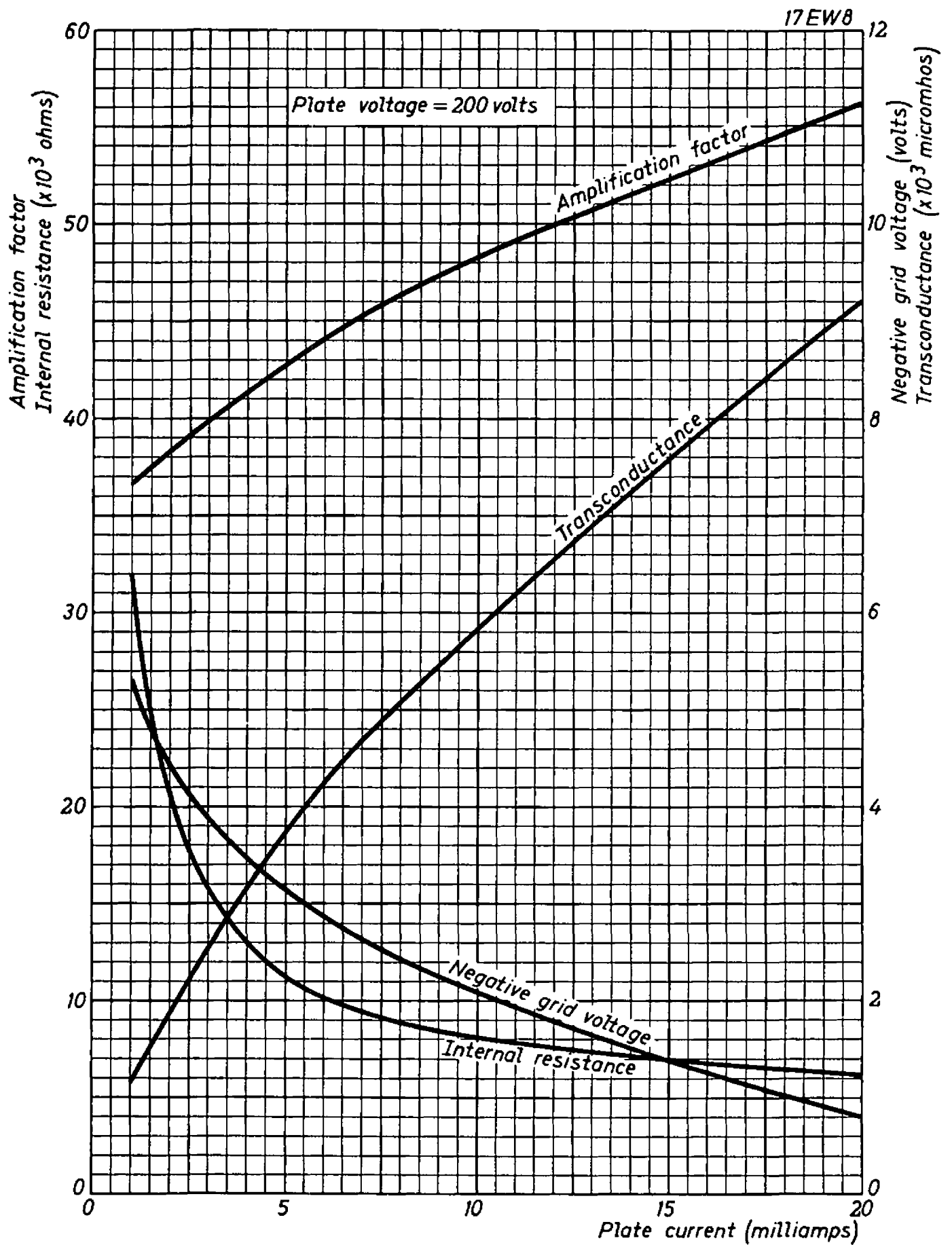
<sup>o</sup>) See page 2

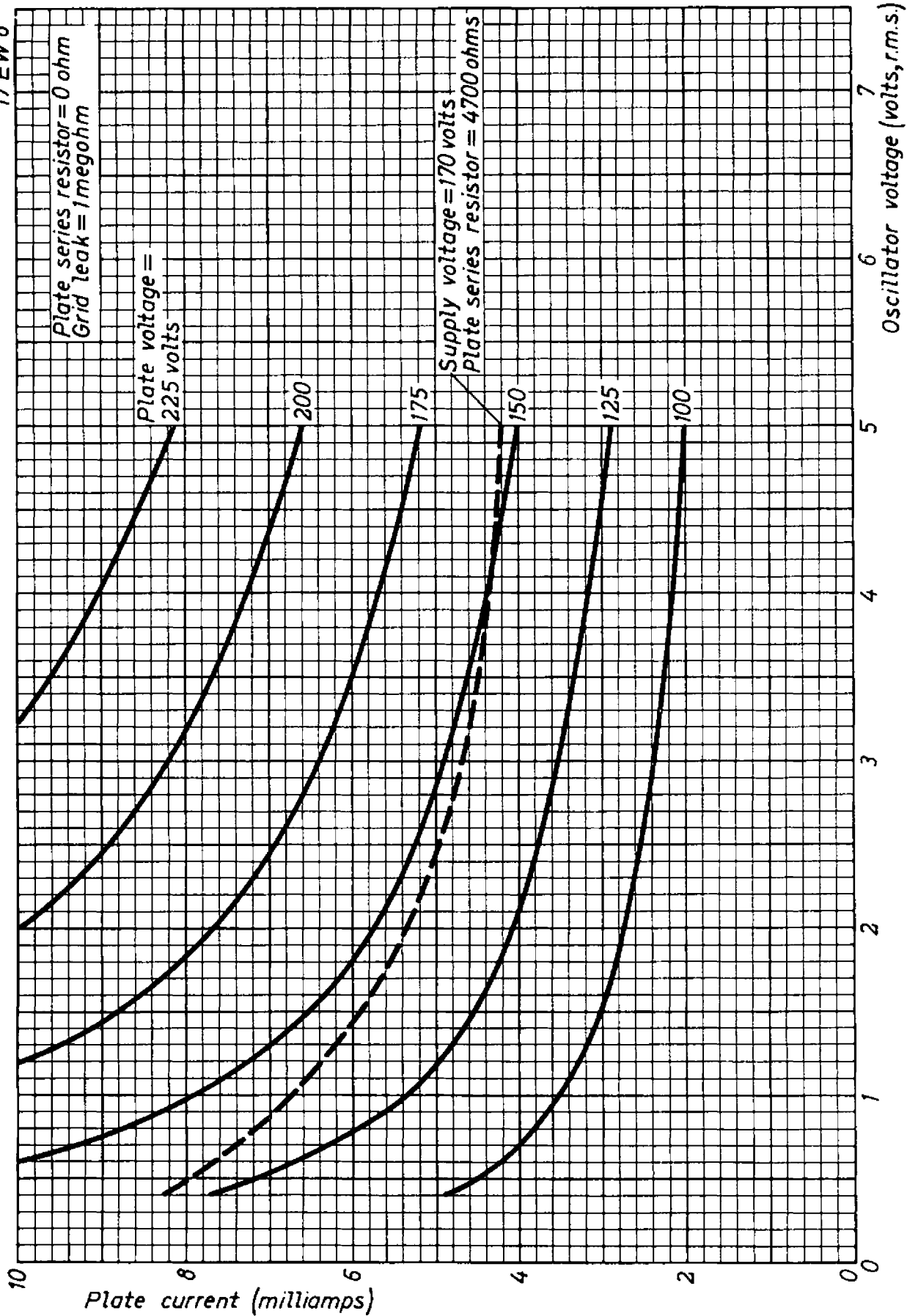












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