



Band IV/V Vision (1 kW) and Sound (200 W) Amplifier Type B 7302

THIS equipment comprises two cabinets housing a klystron which acts as a combined vision and sound amplifier, together with the associated power supplies and control circuitry.

Features

Single klystron amplifies both vision and sound signals.

Air cooled throughout.

No rear access required for operation or maintenance.

Silicon rectifiers used throughout.

EQUIPMENT

The vision and sound klystron amplifier is contained, together with the associated power supplies, in a double cabinet 7 ft 6 in. (229 cm) wide by 3 ft 9 in. (114 cm) deep and 7 ft (213 cm) high. The cabinet, once installed, has access through the front only

and should, ideally, be placed against a rear wall through which cooling air can be blown by an external fan.

Since the vision and sound r.f input to the amplifier is already combined, no external combining unit or filterplexer is required.

CIRCUIT

The amplifier uses a four-cavity klystron designed for television use and is entirely forced-air cooled. The klystron is mounted inside its own circuit assembly on a wheeled carriage. Air connections are made with quick-release flexible couplings. The r.f connectors are also by means of flexible joints and the entire assemblies may be withdrawn from the front of the equipment.

The power-supply circuitry is kept as simple as possible, thus reducing the amount of maintenance required and increasing reliability.

A special feature of the equipment is the use of a ferrite three-port circulator at the

input to maintain a well-matched load on the drive equipment. The input feeder also includes a variable attenuator to facilitate level adjustment.

Data Summary

Power rating: 1 kW peak sync. vision, 200 W carrier, f.m sound.

Frequency range: 470–854 Mc/s.

Output load impedance: 50 Ω unbalanced.

Performance: The characteristics of u.h.f transmitting equipment are at present the subject of discussion between various broadcasting authorities and few agreed standards exist. This equipment is designed to meet the most stringent colour specification at present in use and is confidently expected to meet any requirements which are likely to arise in the near future. Not only the overall amplitude/frequency response but also the group delay, differential phase and differential amplitude characteristics of this transmitter are such that the equipment can be used for N.T.S.C, S.E.C.A.M and P.A.L colour transmission systems.

A typical frequency response which can be obtained when used with the 625 lines, negative modulation system defined in the Stockholm Plan as System G is set out below:

Upper Sideband: Less than 4 dB down at 5.0 Mc/s. Better than ± 0.5 dB between 0 and 3 Mc/s.

Lower sideband: Less than 3 dB down at 0.75 Mc/s. Not less than 20 dB down at 1.25 Mc/s. Not less than 20 dB down at 4.43 Mc/s.

Power supply: 380–440 V ($\pm 1\%$), 50 c/s (60 c/s to order) a.c 3 phase, 4 wire.

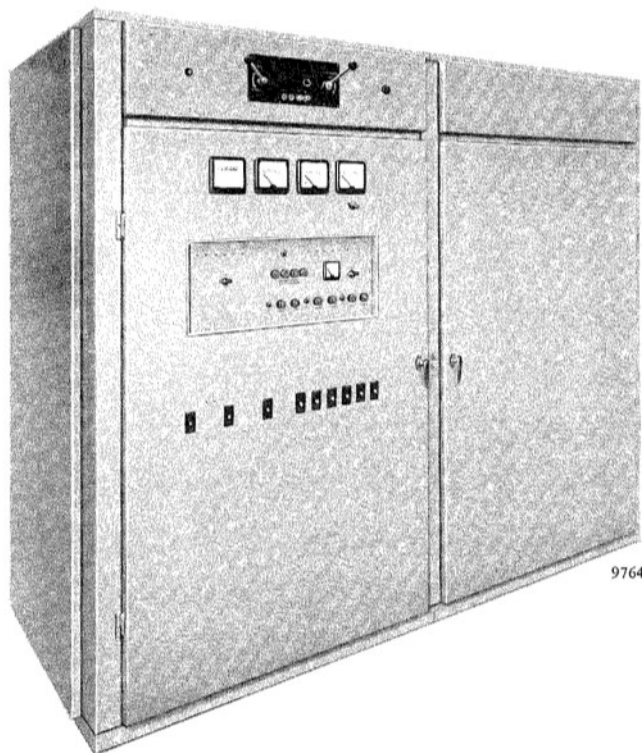
Power consumption: 23 kW at 0.9 power factor.

Dimensions:

Height 7 ft (213 cm)

Width 7 ft 6 in. (229 cm)

Depth 3 ft 9 in. (114 cm)



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