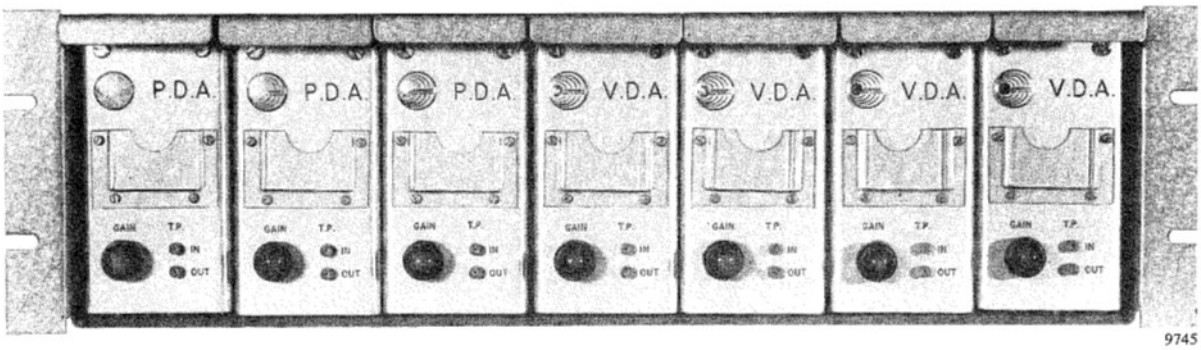
Vision and Pulse Distribution Amplifiers
Type B 4002



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THESE self-contained, fully transistorized amplifiers are module-type units. Up to 35 vision outputs or 42 pulse outputs are available in 5¼ in. (13·3 cm) of a 19 in. (48 cm) rack. A pre-set gain control and output-level test points are provided on the front panel of each module.

Vision Distribution Amplifier

The circuit of the vision version incorporates eight transistors and includes overall feedback. This arrangement provides a very stable performance and excellent differential phase and gain parameters. If necessary several amplifiers may be linked in cascade to distribute colour signals.

FEATURES

Full colour specification for 5 outputs.

35 vision outputs in 5¼ in. (13·3 cm) of 19 in. (48 cm) rack.

Integral power supply unit.

Plug-in modular construction.

No disturbance of input signal to other units when modules are withdrawn.

DATA SUMMARY

(Vision-Distribution Amplifier)

Inputs

Video: 1 V p-p.

Sub-carrier 4·43 Mc/s sinewave: 2 V p-p.

Non-useful d.c or switching transient: ±4 V.

Active input impedance: Greater than 20 kΩ at l.f and with the reactive component built into a filter.

Outputs

Video: 5 of 1 V p-p fully saturated colour picture plus sync. signals.

Overload excursion: With gain set to give standard output, input can safely be increased by 3 dB with 10 to 90% a.p.l and up to 0·3 V of hum added.

Isolation between outputs: Better than 50 dB at 100 kc/s. Better than 40 dB at 3 Mc/s. Better than 35 dB at 5 Mc/s.

Source impedance: 75Ω ±3% to 5 Mc/s. ±5% to 8 Mc/s.

D.C. component: Less than ±0·1 V.

Gain: Variable from +6 dB to −1 dB.

Gain stability: Better than 1·5%.

Frequency response:

(a) Unity gain: ±0·1 dB to 6 Mc/s, thereafter falling to not more than −1 dB to 10 Mc/s.

(b) Over gain range: ±0·2 dB to 6 Mc/s, thereafter falling to not more than −1·5 dB at 10 Mc/s.

L.F overshoot: After a sudden change of a.p.l 10 to 90% or 90 to 10%, not more than 2%.

Differential phase distortion: Less than 0·25° at 4·43 Mc/s using I.R.E standard staircase test signal at 1 V p-p comp.

Differential gain distortion: Less than 0·5% at 4·43 Mc/s using I.R.E standard staircase test signal at 1 V p-p comp.

Phase delay: Less than 50 nS at 4·43 Mc/s.

Hum: Less than 1 mV peak-to-peak.

Isolation between output and input: Better than 60 dB at 1 Mc/s. Better than 50 dB at 5 Mc/s.

Power supply: 100–125 or 200–250 V (±6%), 48–60 c/s.

Power consumption: 12·5 VA.

Pulse Distribution Amplifier

Six transistors are employed in the pulse version and a large measure of feedback is used to ensure stable operation.

The input circuit is protected from accidental surges by the provision of a 12 kΩ series resistance and this also defines the input impedance even with the power off.

FEATURES

42 pulse outputs in 5¼ in. (13·3 cm) of 19 in. (48 cm) rack.

Integral power supply unit.

Plug-in modular construction.

High input impedance with power on or off.

DATA SUMMARY

(Pulse Distribution Amplifier)

Inputs

Pulse: 2 or 4 V p-p nominal.

Input impedance: 12 kΩ in parallel with 21 pF.

Non-useful d.c: ±4 V.

Outputs:

Pulse outputs: 6 outputs of 4 V p-p.

Isolation between outputs: Better than 40 dB at 1 Mc/s. Better than 30 dB at 3 Mc/s.

Source impedance: 75Ω ±5% to 5 Mc/s.

Relative amplitude of outputs: ±1%.

D.C component: Less than ±100 mV.

Gain: Variable form +6 dB to −3 dB. Maximum output level 4·5 V.

H.F transient response: With an input pulse having a sine-squared rise and fall time of 0·1 μs, the output pulse rise and fall time is less than 0·115 μs with an overshoot of less than 3%.

L.F tilt: Tilt less than 2% for field blanking of up to 2 mS, at 50 c/s field rate.

Pulse delay: Less than 0·06 μs.

Output-to-input isolation: Better than 60 dB at 3 Mc/s.

Power supply: 100–125 or 200–250 V (±6%) 48–60 c/s, single-phase a.c.

Power consumption: 10·5 VA.

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