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NTE1806 Integrated Circuit Head Amplifier Circuit for 4 Head VCR

Features:

- Built-in Enveloped Comparing Circuit
- Built-in Peaking Amplifier Circuit
- Less Noise Voltage Referred to Input: $1\mu\text{V}_{\text{rms}}$

Absolute Maximum Ratings: ($T_A = +25^\circ\text{C}$ unless otherwise specified)

Supply Voltage, V_C	6V
Power Dissipation ($T_A = +70^\circ\text{C}$), P_D	250mW
Operating Ambient Temperature, T_{opr}	-20° to $+70^\circ\text{C}$
Storage Temperature Range, T_{stg}	-55° to $+150^\circ\text{C}$

Electrical Characteristics: ($T_A = +25^\circ\text{C}$, $V_{CC} = 5\text{V}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Circuit Current	I_{16}		16	—	40	mA
Channel I Gain	G_{3-15}	$f = 1\text{MHz}$	50.5	—	60.5	dB
Channel II Gain	G_{4-15}	$f = 1\text{MHz}$	50.5	—	60.5	dB
Channel III Gain	G_{8-15}	$f = 1\text{MHz}$	50.5	—	60.5	dB
Channel IV Gain	G_{9-15}	$f = 1\text{MHz}$	50.5	—	60.5	dB
AGC Output Amplitude	v_{20}	$f = 4\text{MHz}$	100	—	190	$\mu\text{V}_{\text{P-P}}$
AGC Control Sensitivity	v_{20}	$f = 4\text{MHz}$	—	—	3	dB
Head Switch Changeover Sensitivity	S_1		—	—	1	V
Head Amp Switch Changeover Sensitivity	S_{11}		—	—	1	V
Noise Voltage Referred to Input (I)	V_{ni3-15}	1MHz BFP	—	—	1	μV_{rms}
Noise Voltage Referred to Input (II)	V_{ni4-15}	1MHz BFP	—	—	1	μV_{rms}
Noise Voltage Referred to Input (III)	V_{ni8-15}	1MHz BFP	—	—	1	μV_{rms}
Noise Voltage Referred to Input (IV)	V_{ni9-15}	1MHz BFP	—	—	1	μV_{rms}
Envelope Comparative Output Amplitude	v_{14}		4.3	—	—	$\text{V}_{\text{P-P}}$
Envelope Comparative Output Stop Sensitivity	S_{17}		—	—	1.2	V

Note 1. Operating Supply Voltage Range: $V_{CC(\text{opr})} = 4.5$ to 5.5V

Pin Connection Diagram

Head Switch Changeover	1	22	AGC Control Signal Design
Initial Stage	{ Bias (I)	2	AGC Reverse Phase Output
	Input (I)	3	AGC Output
	Input (II)	4	Output Stage GND
	Bias (II)	5	Peaking Circuit Peak Constant
Input Stage GND	6	18	Envelope Comparative Circuit
Initial Stage	{ Bias (III)	7	Stop Switch
	Input (III)	8	V_{CC}
	Input (IV)	9	Chroma Output
	Bias (IV)	10	Envelope Comparative Output
Head Amp Switch Changeover	11	13	Side Envelope Detection (III, IV)
		12	Side Envelope Detection (I, II)

