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NTE1558 Integrated Circuit Switchless Rec/PlayBack Amp for VCR

Features:

- Contains all recording/playback amplifiers required for VTR audio signal system.
- Capable of setting each mode of recording, playback and muting by changing only the control pin voltage
- Very small pop noise occurring at the time of mode selection
- Easy to adjust recording level, playback sensitivity
- Improvement in reliability due to electronic switch

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

Maximum Supply Voltage, V_{CCmax} 15V
 Power Dissipation, P_D 700mW
 Operating Temperature Range, T_{opr} -10° to $+75^\circ\text{C}$
 Storage Temperature Range, T_{stg} -55° to $+125^\circ\text{C}$

Electrical Characteristics: ($T_A = +25^\circ\text{C}$, $V_{CC} = 9\text{V}$, $f = 1\text{kHz}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Current Dissipation (Playback)	I_{CCP}		5	8.5	13	mA
Current Dissipation (Recording)	I_{CCR}		6	10	15	mA
Overall Gain for Playback	$V_{G(1)}$	PB In to Line Out, $V_O = 0\text{dBm(P)}$	75	80	85	dB
Overall Gain for Recording	$V_{G(2)}$	MIC In to Line Out, $V_O = 0\text{dBm(R)}$	64	68	72	dB
Line Amp. Max. Output Voltage	V_{omL}	THD = 3%(P/R)	1.9	2.3	-	V
Recording Amp. Max. Output Voltage	V_{omR}	THD = 3%	1.9	2.3	-	V
Mic. Amp. Closed Loop Gain	V_{GCM}	$V_O = 0\text{dBm(R)}$	35.5	37.5	39.5	dB
Recording Amp. Closed Loop Gain	V_{GCR}	$V_O = 0\text{dBm(R)}$	11.5	13	14.5	dB
Equalizer Amp. Open Loop Gain	V_{GOE}	$V_O = 0\text{dBm(P)}$	70	90	-	dB
Recording Amp. Open Loop Gain	V_{GOR}	$V_O = 0\text{dBm(R)}$	38	42	-	dB
Equalizer Amp. Input Impedance	Z_{INE}	(P)	40	55	-	k Ω
Mic. Amp. Input Impedance	Z_{INM}	(R)	40	55	-	k Ω
Equalizer Amp. Noise Voltage Referred to Input	V_{NINE}	$R_g = 2.2\text{k}\Omega$ DIN AUDIO F-(P)	-	1	18	μV
Mic. Amp. Noise Voltage Referred to Input	V_{NINM}	$R_g = 2.2\text{k}\Omega$ DIN AUDIO F-(R)	-	1	2	μV

Electrical Characteristics (Cont'd): ($T_A = +25^\circ\text{C}$, $V_{CC} = 9\text{V}$, $f = 1\text{kHz}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Leak Output for Playback Muting	$V_{O(PM)}$	PB in to Line Out, $V_{IN} = -40\text{dBm(PM)}$	-	-40	-30	dBm
Leak Output for Recording Muting	$V_{O(RM)}$	PB in to Line Out, $V_{IN} = -40\text{dBm(RM)}$	-	-46	-36	dBm
Output Voltage II for ALC Operation	V_{OAI}	Mic In to Line Out, $V_{IN} = -60\text{dBm(R)}$	0.46	0.58	0.73	V
Output Voltage I for ALC Operation	V_{OAI}	Mic In to Line Out, $V_{IN} = -30\text{dBm(R)}$	0.60	0.80	1.10	V
Line Output Distortion for ALC Operation	THD_A	$V_{IN} = -30\text{dBm}$, $\text{BW} = 500$ to 5kHz(R)	-	0.4	1.0	%
Recording Amp. Distortion	THD_R	$V_O = 9\text{dB (R)}$	-	0.2	0.6	%
Line Amp. Outside Noise	V_{NOL}	DIN Audio F. (M)	-	-68	-58	dBV

Note *. (P), (R), (PM), and (RM) represent the playback mode, recording mode, and muting mode respectively.

