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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,  $T_{opr}$  .....  $-10^\circ$  to  $+75^\circ\text{C}$   
 Storage Temperature Range,  $T_{stg}$  .....  $-55^\circ$  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 $\Omega$
Mic. Amp. Input Impedance	$Z_{INM}$	(R)	40	55	-	k $\Omega$
Equalizer Amp. Noise Voltage Referred to Input	$V_{NINE}$	$R_g = 2.2\text{k}\Omega$ DIN AUDIO F-(P)	-	1	18	$\mu\text{V}$
Mic. Amp. Noise Voltage Referred to Input	$V_{NINM}$	$R_g = 2.2\text{k}\Omega$ DIN AUDIO F-(R)	-	1	2	$\mu\text{V}$

**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	$\text{THD}_A$	$V_{IN} = -30\text{dBm}$ , $\text{BW} = 500$ to $5\text{kHz(R)}$	-	0.4	1.0	%
Recording Amp. Distortion	$\text{THD}_R$	$V_O = 9\text{dB (R)}$	-	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.

