



**ELECTRONICS, INC.**  
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## NTE1700 Integrated Circuit 2, 4, & 6 Hour Auto Discriminator for VCR

**Description:**

The NTE1700 is an integrated circuit in an 18-Lead DIP type package designed for 2Hr/4Hr/6Hr auto-automatic selection in video cassette recorders.

**Features:**

- The Functions Consist of:
  - Capstan FG Frequency Divider
  - Monostable Multivibrator
  - Sample & Hold Circuit
- Supply Voltage Either 9V or 12V

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

Supply Voltage,  $V_{CC}$  ..... 13V  
 Power Dissipation ( $T_A = +70^\circ\text{C}$ ),  $P_D$  ..... 500mW  
 Operating Ambient Temperature Range,  $T_{opr}$  .....  $-20^\circ$  to  $+70^\circ\text{C}$   
 Storage Temperature Range,  $T_{stg}$  .....  $-40^\circ$  to  $+150^\circ\text{C}$

**Electrical Characteristics:** ( $V_{CC} = V_{14-1} = 12\text{V}$ ,  $T_A = +25^\circ\text{C} \pm 2^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Current	$I_{14}$		24	–	40	mA
Input Blind Level	$V_2$		–	–	150	mV <sub>P-P</sub>
Playback Control Amp Sensitivity	$S_2$		350	–	–	mV <sub>P-P</sub>
X9 Select Sensitivity	$S_3$	SW. A to 1	3.3	–	–	V
X2 Select Sensitivity	$S_{4-1}$	SW. A to 2	5.5	–	–	V
1/2 Slow Select Sensitivity	$S_{4-2}$	SW. A to 3	–	–	1.45	V
Triangular Wave Reference Voltage	$V_7$	$V_{6-1} = 0$ , from Pin7 30k $\Omega$ to GND	2.9	–	3.6	V
Pause "L" Voltage	$V_{11}$	$V_{5-1} = 7\text{V}$ , $V_{10-1} = 5.5\text{V}$	3.3	–	4.1	V
S/H Output Voltage	$V_{OL11}$	SW. to 1	1.85	–	2.15	V
	$V_{O(C-11)}$	SW. to 3	3.25	–	3.80	V
	$V_{OH11}$	SW. to 2	6.25	–	7.15	V

Note 1. Operating Supply Voltage:  $V_{CC(opr)} = 8.5\text{V}$  to  $12.5\text{V}$

**Electrical Characteristics (Cont'd):** ( $V_{CC} = V_{14-1} = 12V$ ,  $T_A = +25^{\circ}C \pm 2^{\circ}C$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
2H Select Sensitivity	$S_{12-1}$	$V_{13-1} = 3.3V$ , SW. to 1	5.5	–	–	V
4H Select Sensitivity	$S_{12-2}$	$V_{13-1} = 3.3V$ , SW. to 2	2.4	–	3.8	V
6H Select Sensitivity	$S_{12-3}$	$V_{13-1} = 3.3V$ , SW. to 3	–	–	1.45	V
Record Select Sensitivity	$S_{13}$		3.3	–	–	V
A Output "H" Voltage	$V_{15H}$	$I_{15-1} = -3mA$ , $V_{12-1} = 1.45V$ , $V_{13-1} = 3.3V$	10	–	–	V
A Output "L" Voltage	$V_{15L}$	$I_{15-1} = 5mA$ , $V_{12-1} = 5.5V$ , $V_{13-1} = 3.3V$	–	–	0.55	V
B Output "H" Voltage	$V_{16H}$	$I_{16-1} = -3mA$ , $V_{12-1} = 1.45V$ , $V_{13-1} = 3.3V$	10	–	–	V
B Output "L" Voltage	$V_{16L}$	$I_{16-1} = 5mA$ , $V_{12-1} = 5.5V$ , $V_{13-1} = 3.3V$	–	–	0.55	V
Muting Output "H" Voltage	$V_{18H}$		5.2	–	–	V
Muting Output "L" Voltage	$V_{18L}$		–	–	0.2	V
A Schmitting Output "H" Voltage	$V_{OH(A)}$		5.6	–	6.5	V
A Schmitting Output "L" Voltage	$V_{OL(A)}$		2.8	–	3.4	V
B Schmitting Output "H" Voltage	$V_{OH(B)}$		4.15	–	4.8	V
B Schmitting Output "L" Voltage	$V_{OL(B)}$		2.8	–	3.4	V

Note 1. Operating Supply Voltage:  $V_{CC(opr)} = 8.5V$  to  $12.5V$

**Pin Connection Diagram**



