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## NTE1812 Integrated Circuit Capstan Interface Circuit for VCR

**Description:**

The NTE1812 is an integrated circuit in a 20-Lead DIP type package designed for VCR capstan interface.

**Features:**

- The Functions Consist of:
  - FG Amplifier
  - 2H/4H/6H Automatic Detector
  - FG Divider
  - Gain Automatic Change Circuit
- Supply Voltage: 5V

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

Supply Voltage,  $V_{CC}$  ..... 6.0V  
 Power dissipation ( $T_A = +70^{\circ}\text{C}$ ),  $P_D$  ..... 100mW  
 Operating Ambient Temperature Range,  $T_{opr}$  .....  $-20^{\circ}$  to  $+70^{\circ}\text{C}$   
 Storage Temperature Range,  $T_{stg}$  .....  $-55^{\circ}$  to  $+150^{\circ}\text{C}$

**Electrical Characteristics:** ( $V_{CC} = 5V$ ,  $T_A = +25^{\circ}\text{C} \pm 2^{\circ}\text{C}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Circuit Current	$I_{18}$	$V_{REF} = 2.5V$	7	–	14	mA
FG Amp Input Sensitivity	$S_{19}$		30	–	–	mV
FG High-Level Frequency Dividing Output	$V_{OH17}$		4.6	–	–	V
FG Low-Level Frequency Dividing Output	$V_{O17}$		–	–	4.0	V
A/B High-Level Output	$V_{OHA, B}$	$-I = 2mA$	3.3	–	–	V
A/B Low-Level Output	$V_{OLA, B}$		–	–	0.4	V
Playback CTL Input Sensitivity	$S_{16}$		3.0	–	–	V
Mode Select Sensitivity Record/Playback PAL/MTSCX 1/2, C, A, B	$S_{(MODE)}$		3.0	–	–	V
OP Amp. 3 High-Level Output	$V_{OH11}$		3.8	–	–	V
OP Amp. 3 Low-Level Output	$V_{OL11}$		–	–	1.1	V
Total Offset OP. Amp. NTSC 2H	$V_{O(offset)2}$		–	–	30	mV
Total Offset OP. Amp NTSC 6H	$V_{O(offset)6}$		–	–	30	mV
OP. Amp. 2 Gain	$G_{V2}$		–4	–	+2	dB

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

### Pin Connection Diagram

Mode Select B	<b>1</b>	<b>20</b>	Mode Select A
GND	<b>2</b>	<b>19</b>	Cap FG Input
Mode Select C	<b>3</b>	<b>18</b>	V <sub>CC</sub>
Mode Select x 1/2	<b>4</b>	<b>17</b>	Cap FG Output
PAL/NTSC Select	<b>5</b>	<b>16</b>	PB Control Input
B Output	<b>6</b>	<b>15</b>	FG Divide Select
A Output	<b>7</b>	<b>14</b>	Memory
Cap Error Input	<b>8</b>	<b>13</b>	Rec 2/4/6H Select
Reference Input	<b>9</b>	<b>12</b>	Rec/PB Select
OP Amp Input	<b>10</b>	<b>11</b>	Cap Error Output

