



ELECTRONICS, INC.  
 44 FARRAND STREET  
 BLOOMFIELD, NJ 07003  
 (973) 748-5089  
<http://www.nteinc.com>

## NTE1540 Integrated Circuit B/W TV Synchronization, Deflection Circuit

**Features:**

- Multifunction and small size (16 Lead DIP)
- Minimum number of parts required
- Horizontal and vertical oscillators being stable to variation of ambient temperature and supply voltage owing to small warming-up drift.
- Small variation of horizontal oscillation frequency.
- Good linearity and interlace owing to DC bias at vertical output stage being sampling controlled within retrace time.
- Vertical blanking pulse width being freely set up according to peripheral parts.

**Functions:**

- Synchro Separator
- Horizontal AGC
- Vertical Driver
- Horizontal & Vertical Oscillator
- Vertical Blanking Pulse Making

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

Maximum Supply Voltage,  $V_{12}, V_{15}$  ..... 14V  
 Allowable Power Dissipation ( $T_A = +60^\circ\text{C}$ ),  $P_{Dmax}$  ..... 450mW  
 Operating Temperature Range,  $T_{opr}$  .....  $-20^\circ$  to  $+85^\circ\text{C}$   
 Storage Temperature Range,  $T_{stg}$  .....  $-55^\circ$  to  $+125^\circ\text{C}$

**Recommended Operating Conditions:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Supply Voltage,  $V_{12}, V_{15}$  ..... 12V

**Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$ ,  $V_{12} = V_{15} = 12\text{V}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
$V_{CC12}$ Current Drain	$I_{CC12}$		10.0	-	19.0	mA
$V_{CC15}$ Current Drain	$I_{CC15}$		6.0	-	11.0	mA
Vertical Frequency Pull-In Range			9.0	-	11.0	Hz
Vertical Free-Running Frequency	$f_V$	$f_V$ center 55Hz	50	-	60	Hz
Supply Voltage Dependence of Vertical Frequency		$V_{12} = 12 \pm 1\text{V}$ , 55Hz at 12V	-0.5	-	+0.5	Hz
Temperature Characteristic of Vertical Frequency		$T_A = -10^\circ$ to $+60^\circ\text{C}$	-0.028	-	+0.028	Hz/ $^\circ\text{C}$
Vertical Driver Amplification Factor			4.0	-	7.0	times

**Electrical Characteristics (Cont'd):** ( $T_A = +25^\circ\text{C}$ ,  $V_{12} = V_{15} = 12\text{V}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Horizontal Free-Running Frequency	$f_H$	$f_H$ center 15.750kHz	-750	-	+750	Hz
Supply Voltage Dependence of Horizontal Frequency		$V_{12} = 12 \pm 1\text{V}$ , 55Hz at 12V	-50	-	+50	Hz
Temperature Characteristic of Horizontal Frequency		$T_A = -10^\circ$ to $+60^\circ\text{C}$	-3.4	-	+3.4	Hz/ $^\circ\text{C}$
Horizontal Output Pulse Width		$f_H = 15.750\text{kHz}$	21.5	-	26.5	$\mu\text{s}$
Horizontal Output Drive Current			4.2	-	7.8	mA

**Pin Connection Diagram**

