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NTE1550 Integrated Circuit TV Sync Signal Processor

Functions:

- Sync Separator
- Horizontal Automatic Frequency Control (AFC)
- Horizontal Oscillator
- X-Ray Protector
- Vertical Oscillator
- Vertical Driver

Features:

- Fewer External Components
- 10V_{p-p} Sync Separator Output
- Voltage Regulator for Horizontal Supply Voltage
- 7.5Hz/rad Horizontal AFC DC Loop Gain
- Output Stage Positive Feedback Eliminated by Vertical Oscillator's Astable Multivibrator
- Vertical Oscillator Waveform used for Vertical Output Drive; Only One High-Stability (Tantalum) Capacitor Required for Vertical Stage
- Vertical Output Stage Stabilized by DC Feedback to Pin3
- Vertical Linearity Adjustment can be Eliminated

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

Supply Voltage, V_{CC}	16V
Power Dissipation ($T_A = +75^\circ\text{C}$), P_T	500mW
Output Current (Pin2, Pin10, and Pin16), I_O	20mA
Operating Temperature Range, T_{opr}	-20° to $+75^\circ\text{C}$
Storage Temperature Range, T_{stg}	-55° to $+125^\circ\text{C}$

Electrical Characteristics:

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Line Circuitry						
Regulated Voltage	V_{11}	$I_{CC} = 15\text{mA}$	–	12.8	–	V
Supply Current	I_{CC}		–	15	–	mA
Free-Running Frequency	f_{oh}	$R_h = 12.6\text{k}\Omega$, $C_h = 5.6\text{nF}$	14,734	15,734	16,734	Hz
Pull-In Range	Δf_{ph}		± 450	± 650	–	Hz
APC Loop Gain	f_c		577.5	750	1070	Hz/ μs
Temperature Coefficient	Δf_{oh}		–6.0	–3.0	0	Hz/ $^\circ\text{C}$
Output Pulse Width	t_{hw}	Pin10	22.5	25.0	27.5	μs

Electrical Characteristics (Cont'd):

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Frame Circuitry						
Free-Running Frequency	f_{ov}	$R_V = 5.2k\Omega$	55	60	65	Hz
Pull-In Range	Δf_{pv}		-	-10	-7.5	Hz
Temperature Coefficient	Δf_{ov}		-0.03	0	+0.03	Hz/°C
Sync Separator						
Input Voltage Peak-to-Peak Value	V_{15}	Negative-Going Sync	0.2	-	-	V
Output Voltage	V_{sy}	Peak-to-Peak Value	8.0	10.0	-	V
Output Pulse Width	t_{sy}	Pin16	4.5	5.0	5.5	μs

Pin Connection Diagram

