HA11409

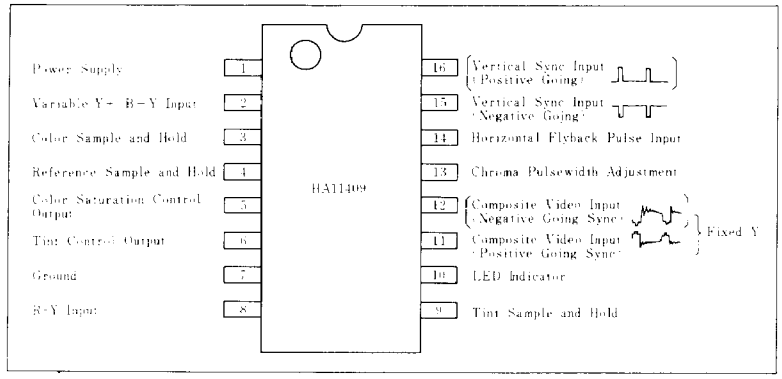
Color TV VIR Processing

The Hitachi HA11409 is designed for automatic adjustment of the color saturation and tint of color television receiver.

- **FUNCTIONS**
- Identification of line 19 and the detection of the presence of a VIR signal.
- The development of dc color-controlling voltage by processing the VIR portion of the receiver's simulated blue drive signal.
- The development of dc tint controlling voltage by processing the VIR portion of the receiver's demodulated R-Y signal.

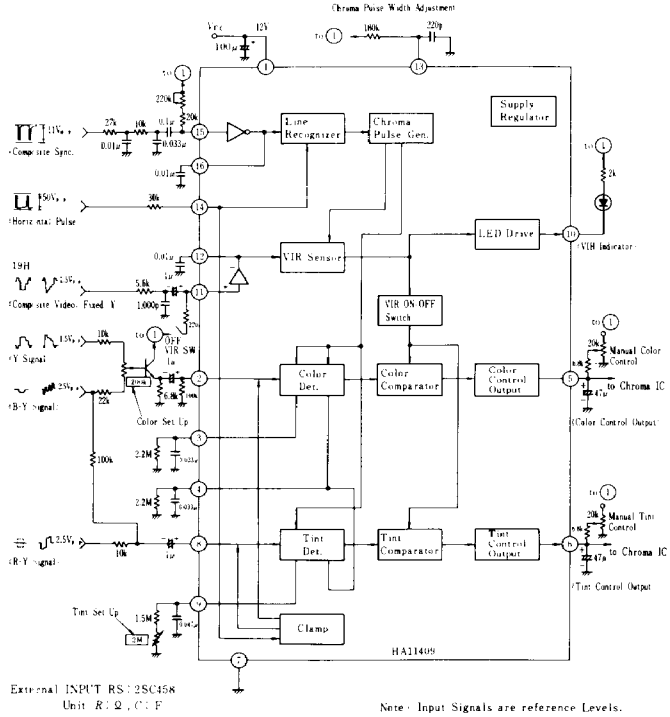
(DP-16)

■ PIN ARRANGEMENT



(Top View)

■ BLOCK DIAGRAM



HITACHI

■ ABSOLUTE MAXIMUM RATINGS (Ta=25℃ unless otherwise specified)

Item	Symbol	Rating	Unit
Supply Voltage	V_{CC}	14.4	V
LED Drive Current	I_{LED}	20	mA
Power Dissipation	P_T	600*	mW
Operating Temperature	T_{opr}	−10 to +65	℃
Storage Temperature	T_{stg}	−55 to +125	℃

* Value at Ta=65℃

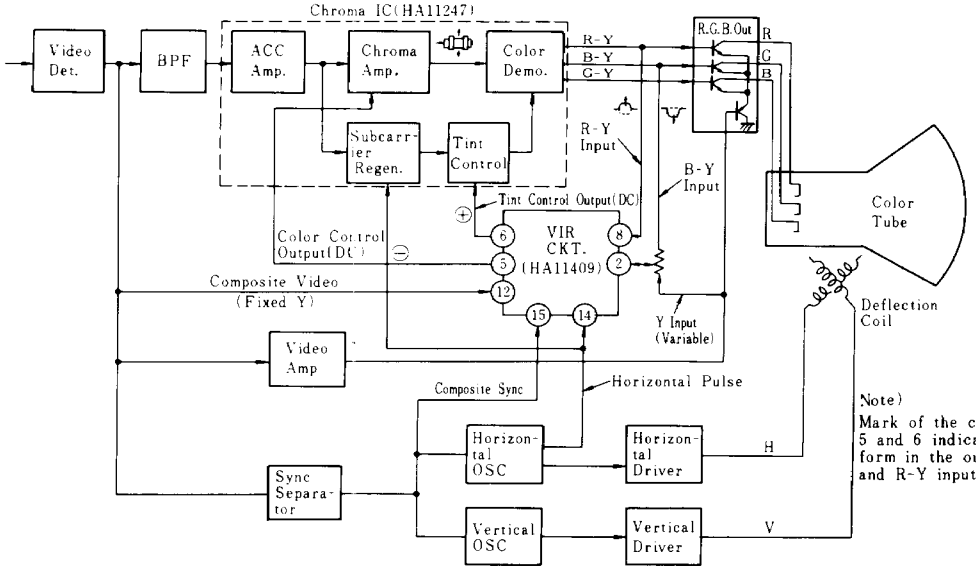
■ ELECTRICAL CHARACTERISTICS (V_{CC} =12V, Ta=25℃)

Item	Symbol	Test Conditions		min.	typ.	max.	Unit
Current Drain	I_{CC}	LED : OFF		—	21	35	mA
Output Voltage of Color Control Stage	V_{5H}	VIR : ON	High Level	10	11.2	—	V
	V_{5L}		Low Level	—	0.5	1.0	
	V_{5H}	VIR : OFF, Manual	High Level	—	10.7	—	
	V_{5L}		Low Level	—	0	—	
Output Voltage of Tint Control Stage	V_{6H}	VIR : ON	High Level	10	11.4	—	V
	V_{6L}		Low Level	—	0.3	1.0	
	V_{6H}	VIR : OFF, Manual	High Level	—	10.7	—	
	V_{6L}		Low Level	—	0	—	
Differential Voltage Gain of Color Control Stage	G_{VD1}	VIR : ON, R_L=10kΩ	Input : Pin3 to Pin4 Output : Pin5	—	40	—	dB
Differential Voltage Gain of Tint Control Stage	G_{VD2}		Input : Pin4 to Pin9 Output : Pin6	—	3.4	—	dB

■ TYPICAL OPERATION (V_{CC} =12V, Chroma IC : HA11247, Ta=25℃)

- The Phase Error of Tint for ±30 degree Deviation of Burst Phase ····· ±5degree
- The Error of Color Saturation for ±6dB Deviation of Burst Amplitude ····· ±1dB
- VIR Pull-in Time ····· 1sec

■ FUNCTIONAL BLOCK DIAGRAM



Note :
When R-Y input (terminal 8) is drived at positive transition, the DC output (terminal 6) on the Tint Control change to positive transition.
DC output on the chroma level control change to negative transition when B-Y input (terminal 2) is drived at negative transition.

Note)
Mark of the control output voltage on terminal 5 and 6 indicate a reversed polar when a wave form in the output of chroma amp., B-Y input, and R-Y input turn to an arrow direction.