

HA11244

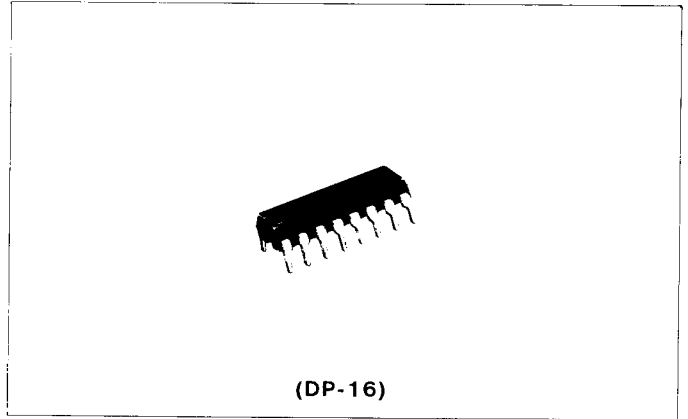
TV Synchronous Processor

FUNCTIONS

- Horizontal AFC
- Horizontal Oscillator
- X-radiation Protector
- Vertical Oscillator
- Vertical Driver

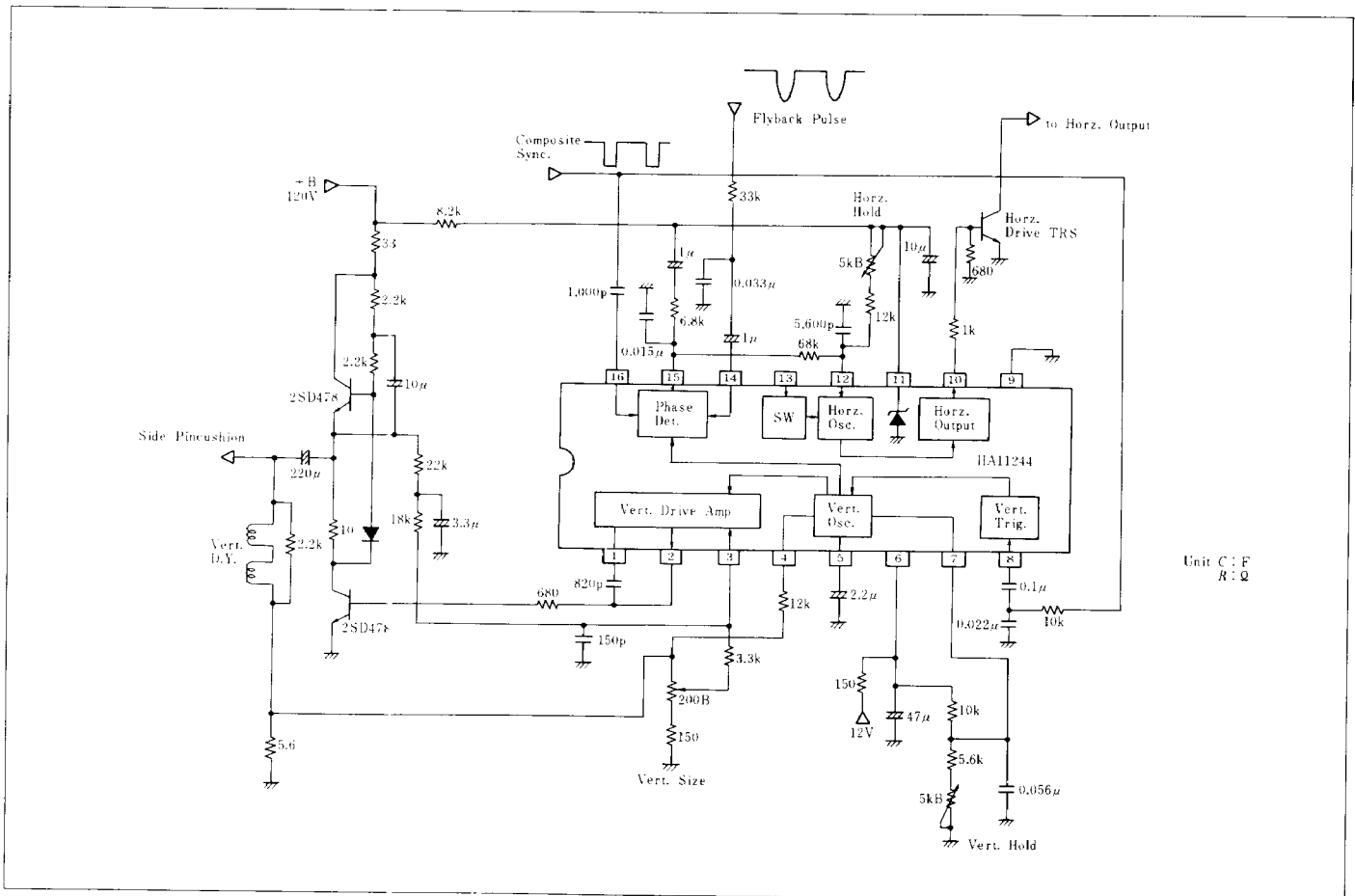
FEATURES

- Low external components count.
- A voltage regulator included in the horizontal block.
- DC loop gain of horizontal AFC: $640 \text{ Hz}/\mu\text{s}$.
- A nonstable multivibrator provided for vertical oscillation.
- One high-stable (Tantalum) capacitor at the vertical stage enables vertical oscillator waveform to drive vertical output stage.
- DC feedback to pin-3 stabilizes the vertical output stage.
- Automatic adjustment of vertical linearity.



(DP-16)

RECOMMENDED OPERATING CIRCUIT



■ ABSOLUTE MAXIMUM RATINGS ($T_a=25^\circ\text{C}$ unless otherwise specified)

Item	Symbol	Rating	Unit
Supply Voltage (pin 6)	V_6	15	V
Supply Current (pin 11)	I_{11}	20	mA
Power Dissipation	P_T	500*	mW
Operating Temperature Range	T_{opr}	-20 to +75	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to +125	$^\circ\text{C}$

* Value at $T_a=75^\circ\text{C}$
■ ELECTRICAL CHARACTERISTICS

Item		Symbol	Test Condition	min.	typ.	max.	Unit
Horizontal Block	Regulated Voltage	V_{11}	$I_{11}=15\text{mA}$	—	12.8	—	V
	Free-running Frequency	f_{oh}	H. Hold Vol = 2k Ω	14,734	15,734	16,734	Hz
	Pull-in Range	f_{ph}		± 450	± 650	—	Hz
	DC loop gain (1)	f_{c1}		512	640	853	Hz/ μs
	DC loop gain (2)	f_{c2}	Vertical Interval	1,540	2,000	2,860	Hz/ μs
	f_{oh} Temperature Coefficient	$\Delta f_{oh}/\Delta T$		-6	-3	0	Hz/ $^\circ\text{C}$
	Output Pulse Width	t_{HW}	Pin 10	20	22.5	25	μs
Osc. stop voltage	V_{D13}	$I_{13}=10\mu\text{A}$	0.665	0.715	0.765	V	
Vertical Block	Free-running Frequency	f_{ov}	V. Hold Vol = 2.9k Ω	55	60	65	Hz
	Pull-in Range	f_{pv}		—	-10	-7.5	Hz
	f_{ov} Temperature Coefficient	$\Delta f_{ov}/\Delta T$		-0.03	0	+0.03	Hz/ $^\circ\text{C}$
	f_{ov} V_{CC} Coefficient	$\Delta f_{ov}/\Delta V_{CC}$	$f_{ov}=f_{ov}(14.4\text{V})=f_{ov}(9.6\text{V})$	-2	0	+2	Hz
	Voltage of Pin 4	V_4		3.8	4.0	4.2	V