

HA11244

行场扫描电路

日立公司

性能说明:

本电路具有行 AFC、行振荡、X 射线防护、场振荡和场驱动等功能。场线性能自动调节。若采用高稳定度的钽电容, 可保证驱动场输出级的场振荡波形。3 端的直流负反馈能使场输出更加稳定。

极限值 ($T_A = 25^\circ\text{C}$)

参 数 名 称	符 号	极 限 值	单 位
电源电压	V_{CC}	15	V
电源电流	I_{CC11}	20	mA
功耗 ($T_A = 75^\circ\text{C}$)	P_D	500	mW
工作环境温度	T_A	-20~75	$^\circ\text{C}$
贮存温度	T_{stg}	-55~125	$^\circ\text{C}$

电特性 ($T_A = 25^\circ\text{C}$)

参 数 名 称	符 号	测 试 条 件	最 小	典 型	最 大	单 位
行扫描电源稳定电压	V_{11}	$I_{11} = 17\text{mA}$		13		V
行频捕捉范围	Δf_H		± 450	± 650		Hz
行电路直流环路增益1	f_c		512	640	853	Hz/ μS
行电路直流环路增益2	f_c	场间隔	1540	2000	2860	Hz/ μS
场自由振荡频率	f_{V0}	7端接8.5k Ω 电阻	55	60	65	Hz
场频捕捉范围	Δf_V			-10	-7.5	Hz
4端电压			3.8	4.0	4.2	V
行自振频率	f_{H0}	12端接14k Ω 电阻	14734	15734	16734	Hz
场频电源稳定性		$\Delta V_{CC} = (14.4-9.6)\text{V}$	-2	0	2	Hz
行频停振电压	V_{13}	$I_{13} = 10\mu\text{A}$	0.665	0.715	0.765	V

引出端说明 (16-DIP 见封装图B36)

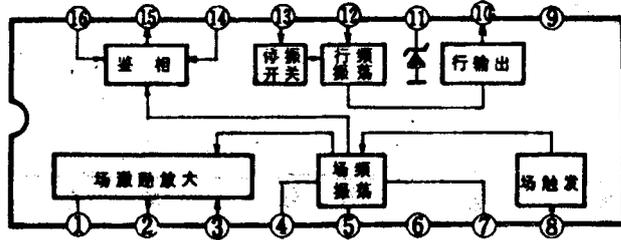
代号	引出端说明与符号	代号	引出端说明与符号	代号	引出端说明与符号
1	场激励输入	2	场激励输出	3	场幅控制
4	场振荡	5	场振荡定时电容	6	场频控制
7	场频控制	8	场同步信号输入	9	地
10	行频输出	11	行电源 V_{CC}	12	行频控制
13	停振控制	14	行回扫脉冲输入	15	行脉冲输出
16	复合同步信号输入				

HA11244

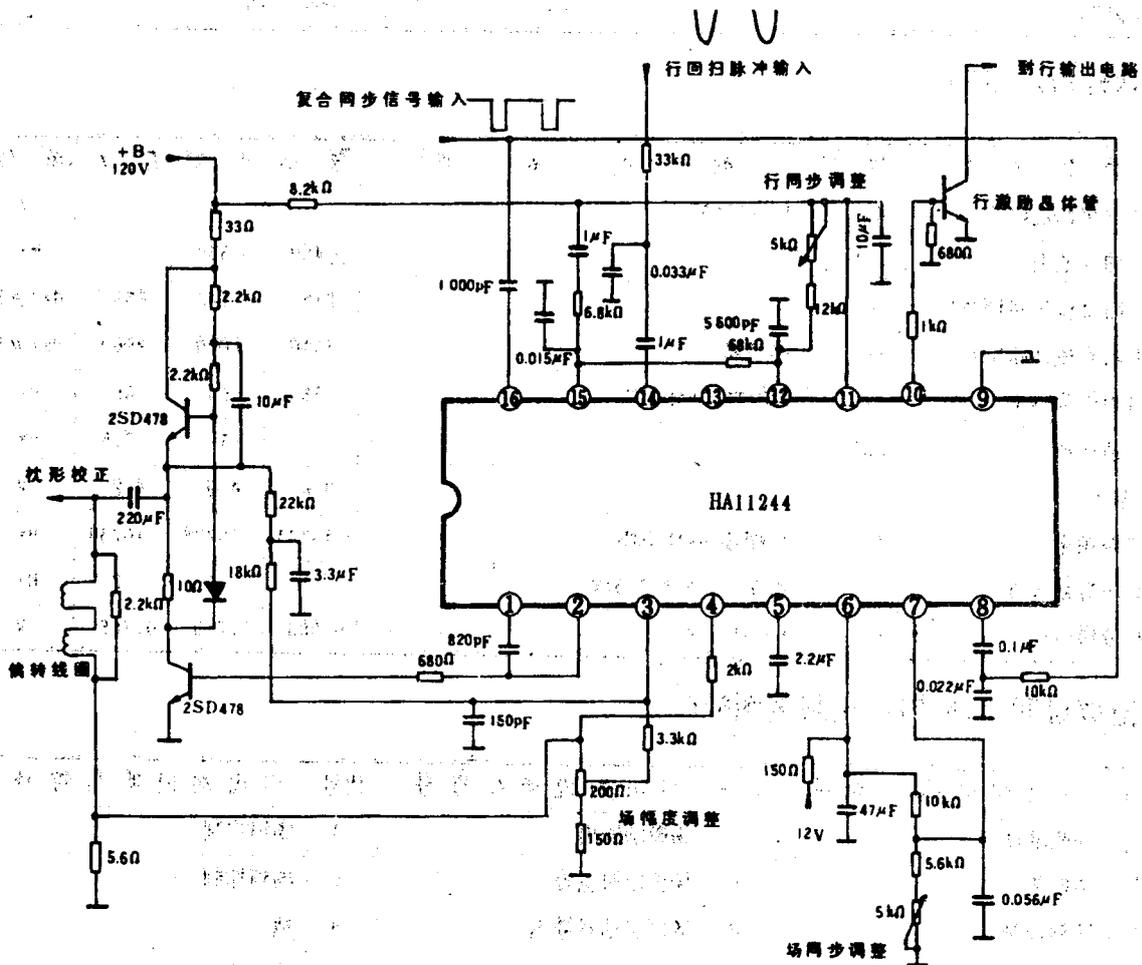
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功能框图



应用图例



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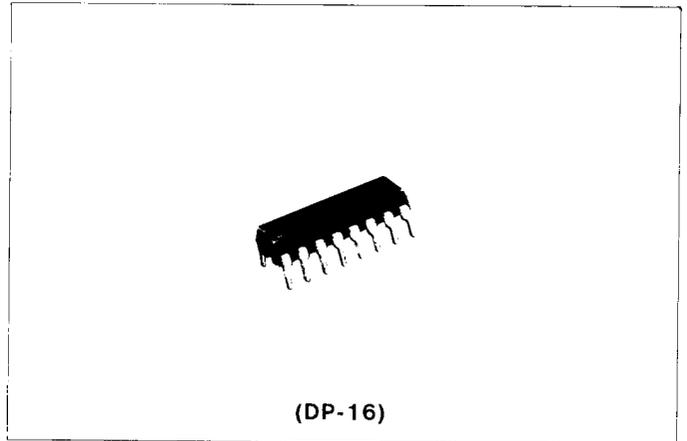
TV Synchronous Processor

FUNCTIONS

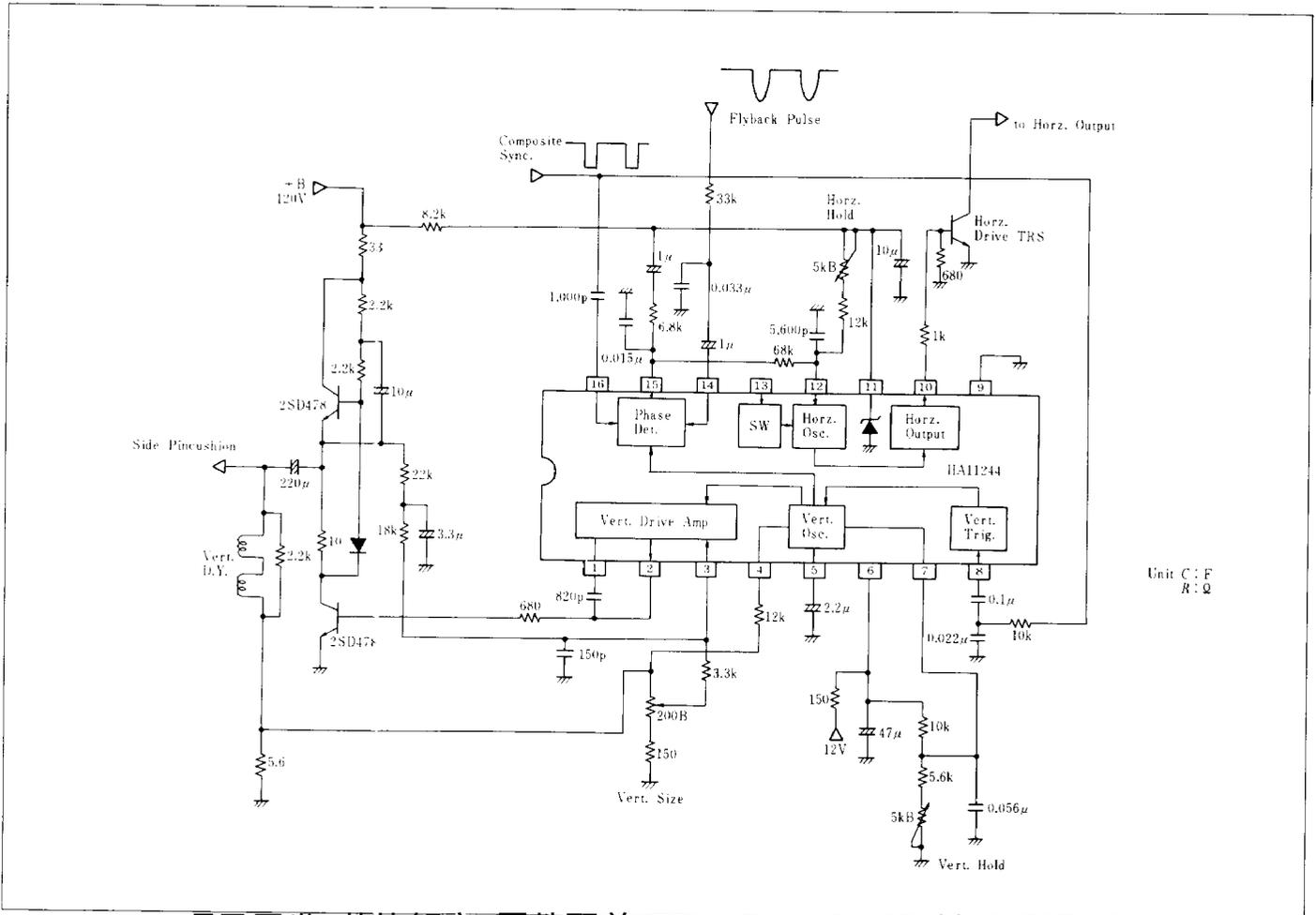
- Horizontal AFC
- Horizontal Oscillator
- X-radiation Protector
- Vertical Oscillator
- Vertical Driver

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.



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