

LM1828, LM1848 Color Television Chroma Demodulator

General Description

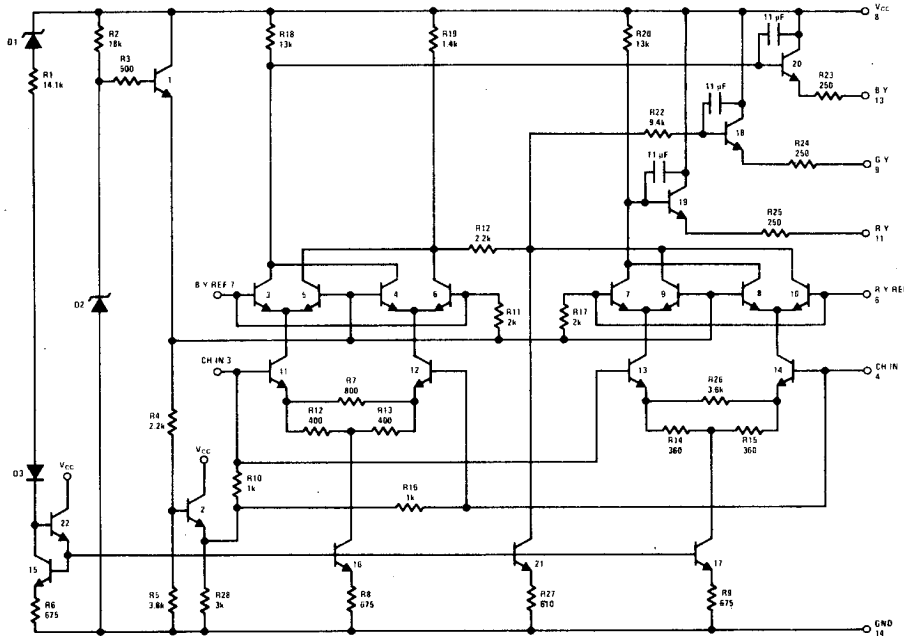
The LM1828, LM1848 are monolithic silicon integrated circuits which demodulate the chroma sub-carrier information contained in a color television video signal and provide color-difference signals at the outputs.

The low dc voltage drift of the outputs insures excellent performance in direct-coupled chrominance output circuitry.

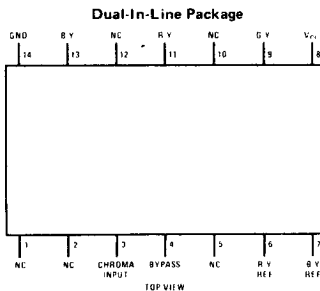
Features

- Low output voltage drift with temperature
- Doubly balanced demodulation
- 10 Vp-p $E_B - E_Y$ output
- Built-in ripple filter capacitors
- Standard matrix in LM1828
- Revised matrix in LM1848
- Pin compatible with LM746, CA3072

Schematic Diagram



Connection Diagram



**Order Number LM1828N
or LM1848N
See NS Package N14A**

Absolute Maximum Ratings

Power Dissipation (Note 2)	715 mW
Operating Temperature Range	0°C to +70°C
Storage Temperature Range	-65°C to +150°C
Supply Voltage	30V
Reference Input	5 Vp-p
Chroma Input	5 Vp-p

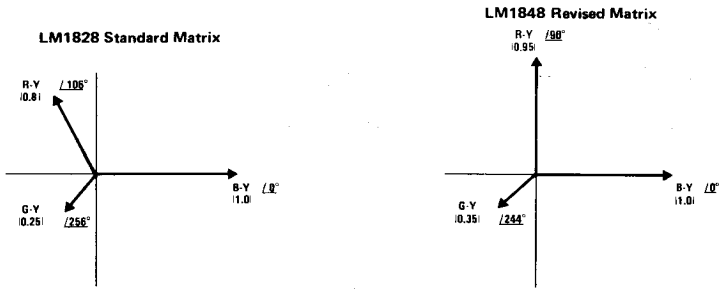
Electrical Characteristics $T_A = 25^\circ\text{C}$, $V_{CC} = 24\text{V}$, $R_L = 3.3\text{k}$, Note 1

PARAMETER		CONDITIONS	MIN	TYP	MAX	UNITS
STATIC						
I_s	Supply Current	$e_c = 0$ $R_L = 1\text{M}$	5.5	9.0	12.5	mA
		$R_L = 3.3\text{k}$	16.5	22	25.5	mA
P_D	Power Dissipation	$e_c = 0$		340	430	mW
V9, V11, V13	dc Output Voltage	$e_c = 0$, $R_L = 3.3\text{k}$	13	14.5	16	V
$ \Delta V_O $	Output Differential	$e_c = 0$, $R_L = 3.3\text{k}$		100	600	mV
	Output Tempco	$e_c = 0$		3		mV/°C
V6, V7	Reference Input dc			6.2		V
V3, V4	Chroma Input dc			3.4		V
DYNAMIC						
e_c	Chroma Input Sensitivity	B-Y = 5 Vp-p		0.4	0.7	Vp-p
V13	Max B-Y Output	$e_c = 1.5$ Vp-p	8	10		Vp-p
	ac Unbalance	$e_c = 0$		0.1	0.8	Vp-p
V9, V11, V13	Residual Carrier	B-Y = 5 Vp-p			1.5	Vp-p
	R-Y Output	B-Y = 5 Vp-p				
	LM1828		3.5	3.8	4.2	Vp-p
	LM1848		4.2	4.75	5.25	Vp-p
	G-Y Output					
	LM1828		0.75	1.0	1.25	Vp-p
	LM1848		1.3	1.75	2.2	Vp-p

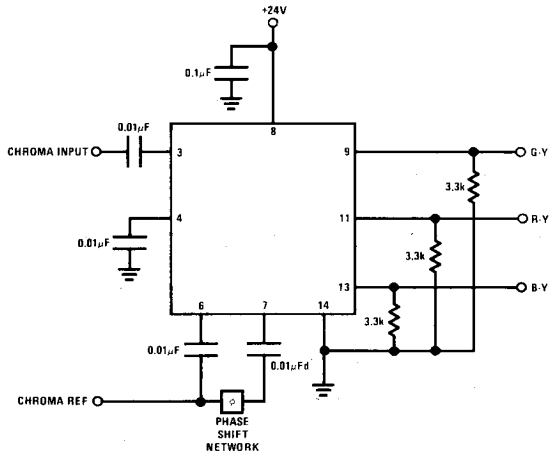
Note 1: Values measured in test circuit.

Note 2: For operation in ambient temperatures above 25°C, the device must be derated based on a 150°C maximum junction temperature and a thermal resistance of 175°C/W junction to ambient.

Typical Vector Output Diagrams



Typical Application



Test Circuit

