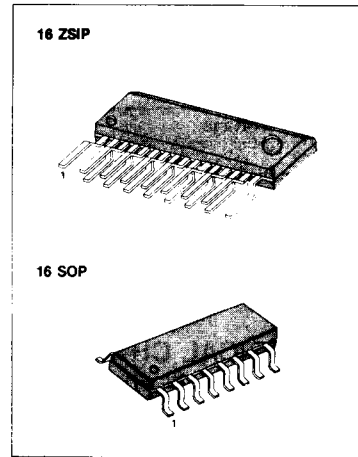


**FM NOISE CANCELLER**

The KA2272 is a monolithic integrated circuit for the FM noise canceller used in car stereos. It is used in combination with a PLL FM multiplex demodulator (such as the KA2266) with a pilot signal canceller.

**FEATURES**

- Operation voltage range:  $V_{CC} = 8V \sim 15V$
- Low quiescent circuit current
- Low distortion:  $THD = 0.02\%$  at  $V_I = 300mV$
- Pilot signal compensation
- The space factor is advantageous because of the signal-end-package.
- Built-in monostable multivibrator.
- Variable input type noise AGC system.



**ORDERING INFORMATION**

Device	Package	Operating Temperature
KA2272	16 ZSIP	- 20°C ~ + 75°C
KA2272D	16 SOP	

**BLOCK DIAGRAM**

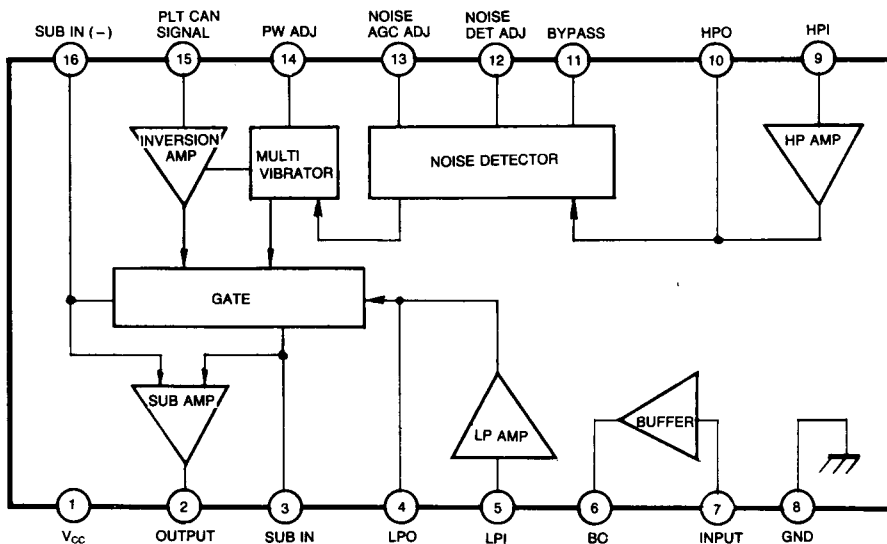


Fig. 1

## ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

Characteristic		Symbol	Value	Unit
Supply Voltage		V <sub>CC</sub>	16	V
Power Dissipation	KA2272	P <sub>D</sub>	450	mW
	KA2272D		300	mW
Operating Temperature		T <sub>OPR</sub>	-20 ~ +75	°C
Storage Temperature		T <sub>STG</sub>	-40 ~ +125	°C

## ELECTRICAL CHARACTERISTICS

(Ta = 25°C, V<sub>CC</sub> = 12V, V<sub>7</sub> = 300mV, f = 1KHz, unless otherwise specified)

Characteristic	Symbol	Test Conditions		Min	Typ	Max	Unit
		Input Pin	Output Pin				
Quiescent Circuit Current	I <sub>CCQ</sub>				16	25	mA
Voltage Gain	G <sub>V</sub>	V <sub>7</sub> = 300mV, f = 1KHz	Output	-0.2	0.8	1.8	dB
Output Voltage	V <sub>O</sub>	V <sub>7</sub> , f = 1KHz	Output THD = 1%	1.3			V
Total Harmonic Distortion	THD	V <sub>7</sub> = 300mV, f = 1KHz	Output		0.01	0.03	%
Input Resistance	R <sub>I</sub>	V <sub>7</sub> = 300mV, f = 1KHz		36	51	67	KΩ
Lowpass AMP Gain	G <sub>V(LP)</sub>	V <sub>5</sub> = 300mV, f = 1KHz	V <sub>4</sub>	0	0.83	1.58	dB
Highpass AMP Gain	A <sub>VH</sub>	V <sub>9</sub> = 100mV f = 200KHz	V <sub>10</sub>	1.58	2.92	4.35	dB
Inverted Amp Distortion	THD	f = 19KHz	Output			0.1	%
Inverted Amp Dynamic Range	V <sub>O</sub>	V <sub>15</sub> = 100mV f = 19KHz	Output THD = 1%	300			mV
Inverted Amp Gain	G <sub>V</sub>	V <sub>15</sub> = 100mV f = 19KHz	Output	0	2.28	4.08	dB
Output Noise Voltage	V <sub>NO</sub>	Bypass V <sub>7</sub> , V <sub>15</sub> to GND	Output, 100KHz LPF		30	60	μV
Gate Time	t <sub>G</sub>	V <sub>7</sub> = 100mV <sub>pp</sub> , 1μS, f = 1KHz	Output	13	21	30	μsec
Noise Sensitivity	SN	V <sub>7</sub> , 1μS, f = 1KHz	Output			30	mV <sub>p0</sub>

TEST CIRCUIT

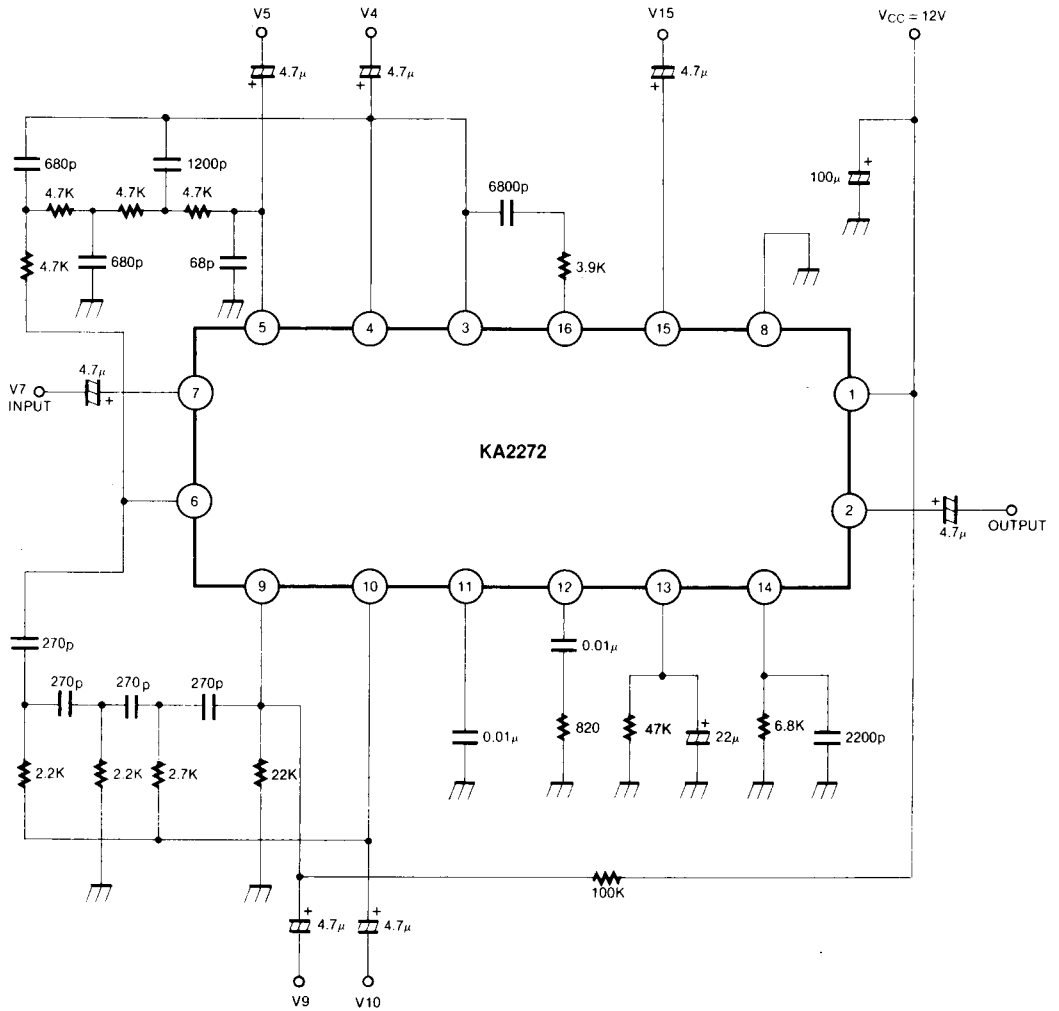
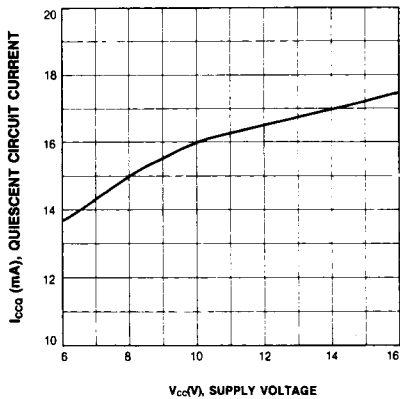
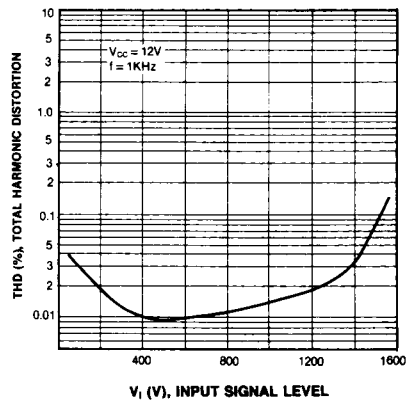


Fig. 2

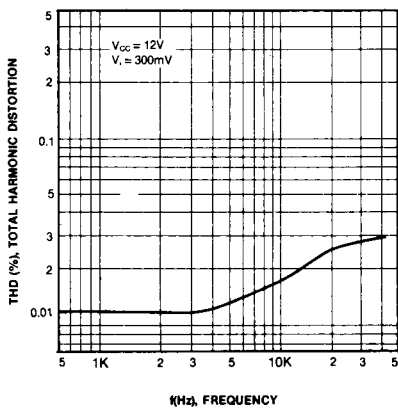
QUIESCENT CIRCUIT CURRENT-SUPPLY VOLTAGE



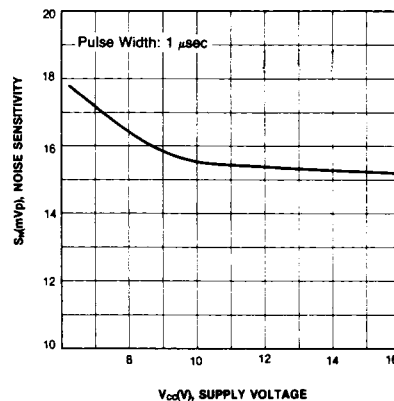
TOTAL HARMONIC DISTORTION-INPUT SIGNAL LEVEL



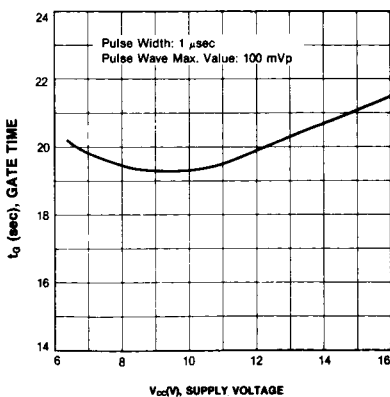
TOTAL HARMONIC DISTORTION-FREQUENCY



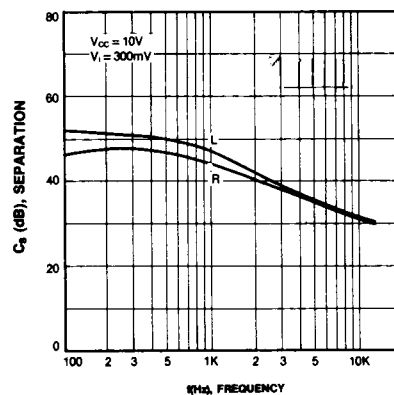
NOISE SENSITIVITY-SUPPLY VOLTAGE

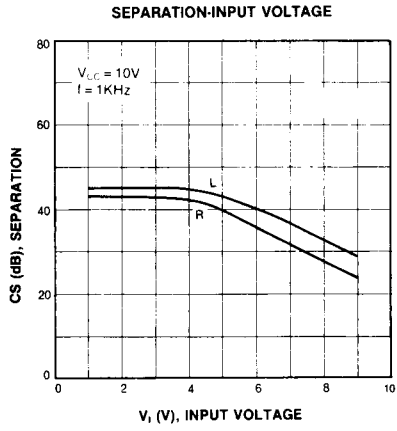


GATE TIME-SUPPLY VOLTAGE



SEPARATION-FREQUENCY





APPLICATION CIRCUIT

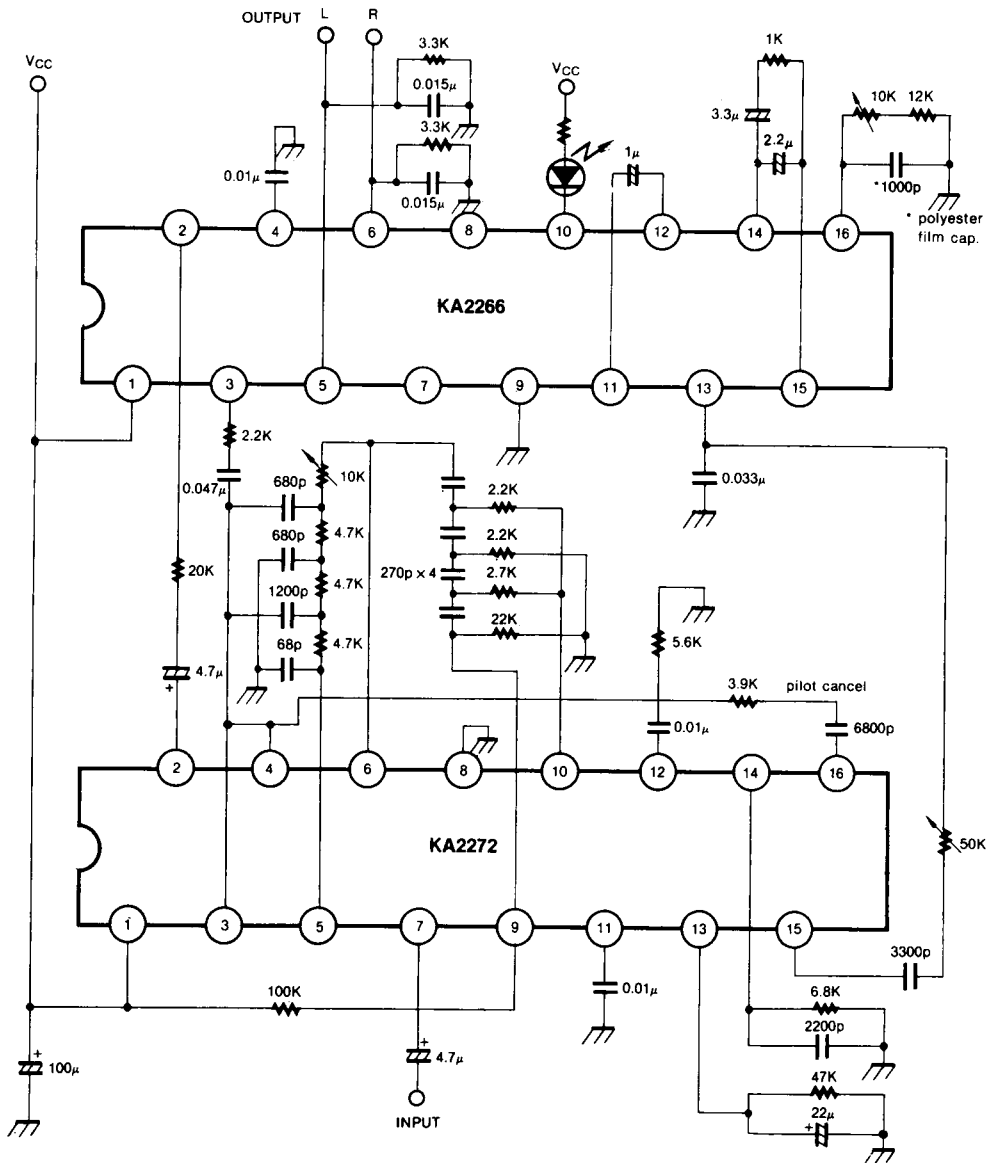


Fig. 3