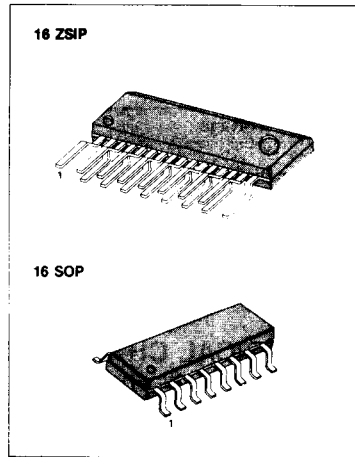


FM NOISE CANCELLER

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

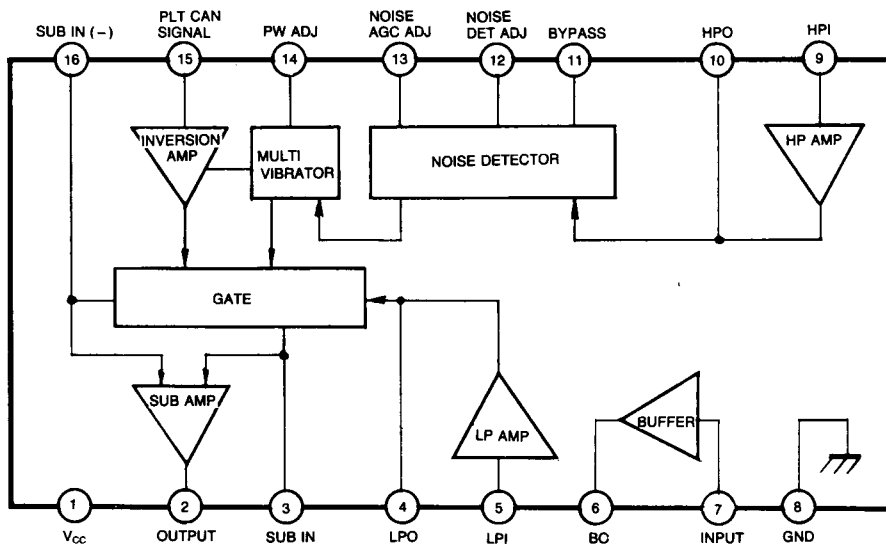


Fig. 1

ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

Characteristic		Symbol	Value	Unit
Supply Voltage		V _{CC}	16	V
Power Dissipation	KA2272	P _D	450	mW
	KA2272D		300	mW
Operating Temperature		T _{OPR}	-20 ~ +75	°C
Storage Temperature		T _{STG}	-40 ~ +125	°C

ELECTRICAL CHARACTERISTICS

(Ta = 25°C, V_{CC} = 12V, V₇ = 300mV, f = 1KHz, unless otherwise specified)

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

TEST CIRCUIT

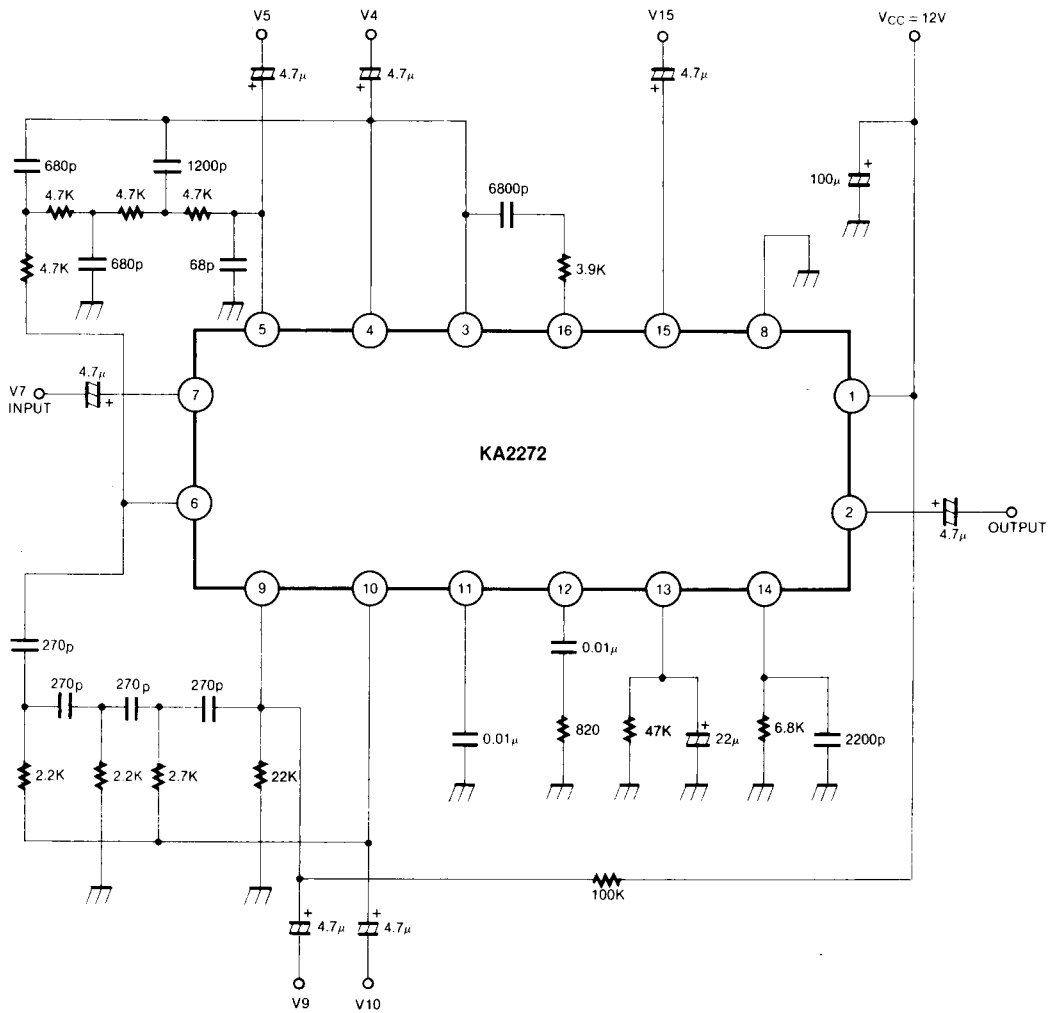
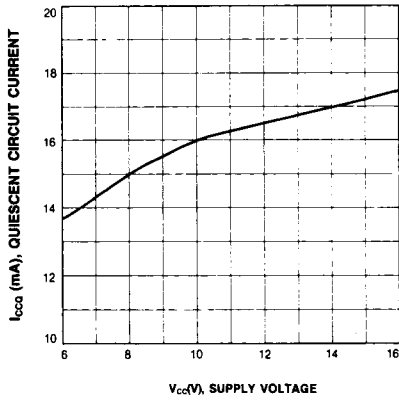
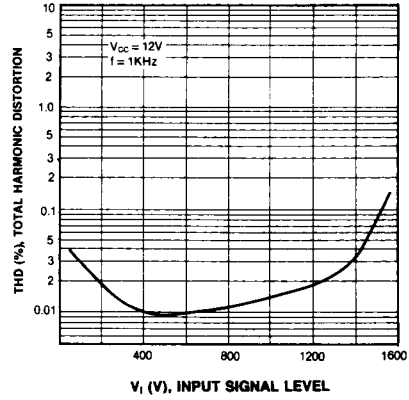


Fig. 2

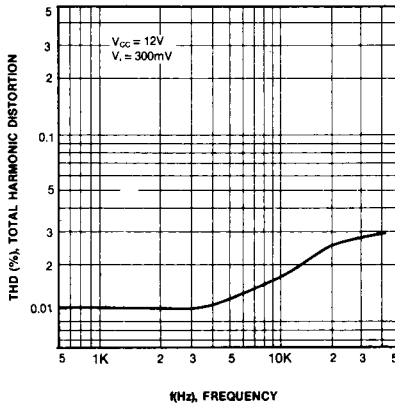
QUIESCENT CIRCUIT CURRENT-SUPPLY VOLTAGE



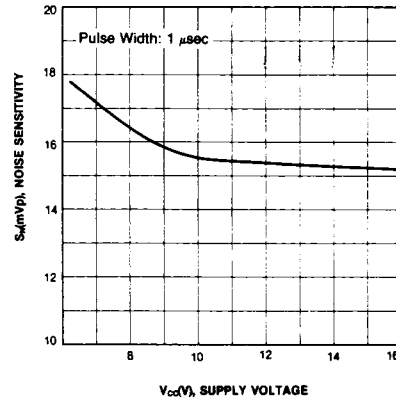
TOTAL HARMONIC DISTORTION-INPUT SIGNAL LEVEL



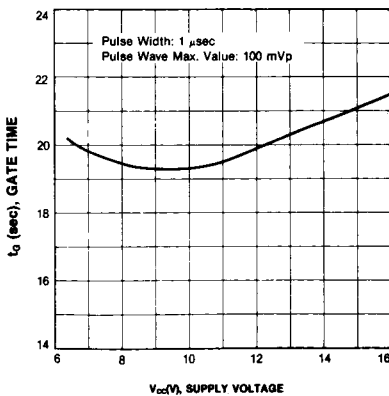
TOTAL HARMONIC DISTORTION-FREQUENCY



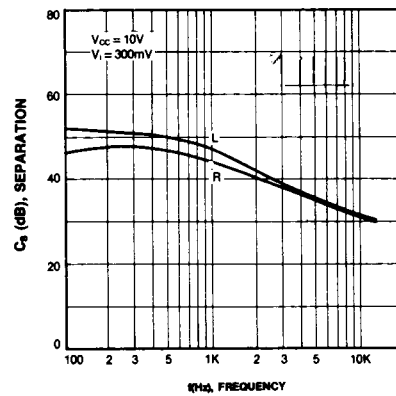
NOISE SENSITIVITY-SUPPLY VOLTAGE

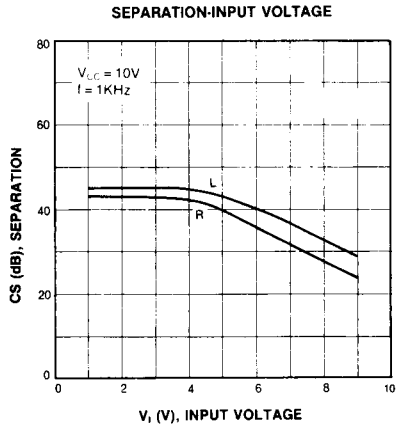


GATE TIME-SUPPLY VOLTAGE



SEPARATION-FREQUENCY





3

APPLICATION CIRCUIT

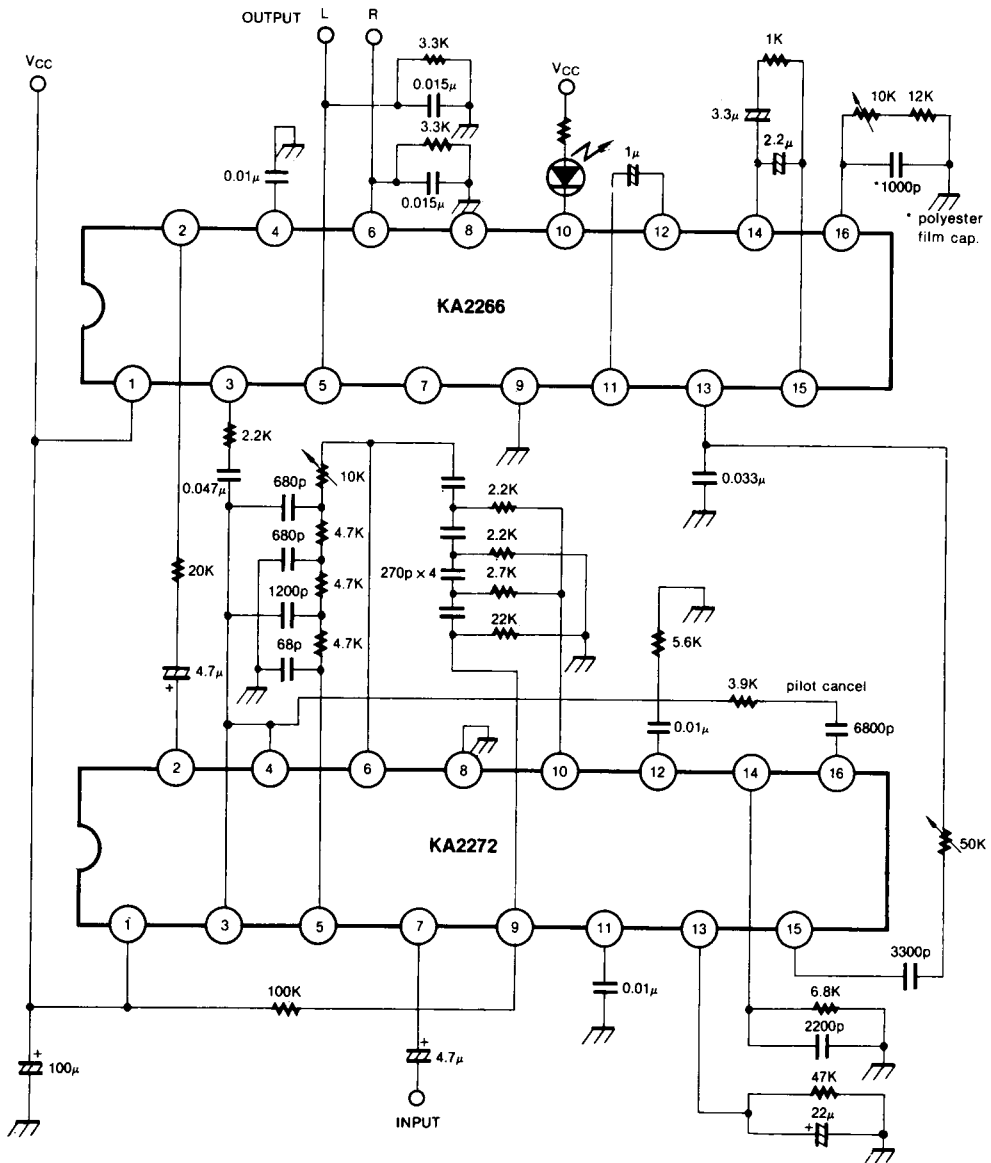


Fig. 3