



# Communication Circuits

LM172/LM272/LM372

## LM172/LM272/LM372 am if strip

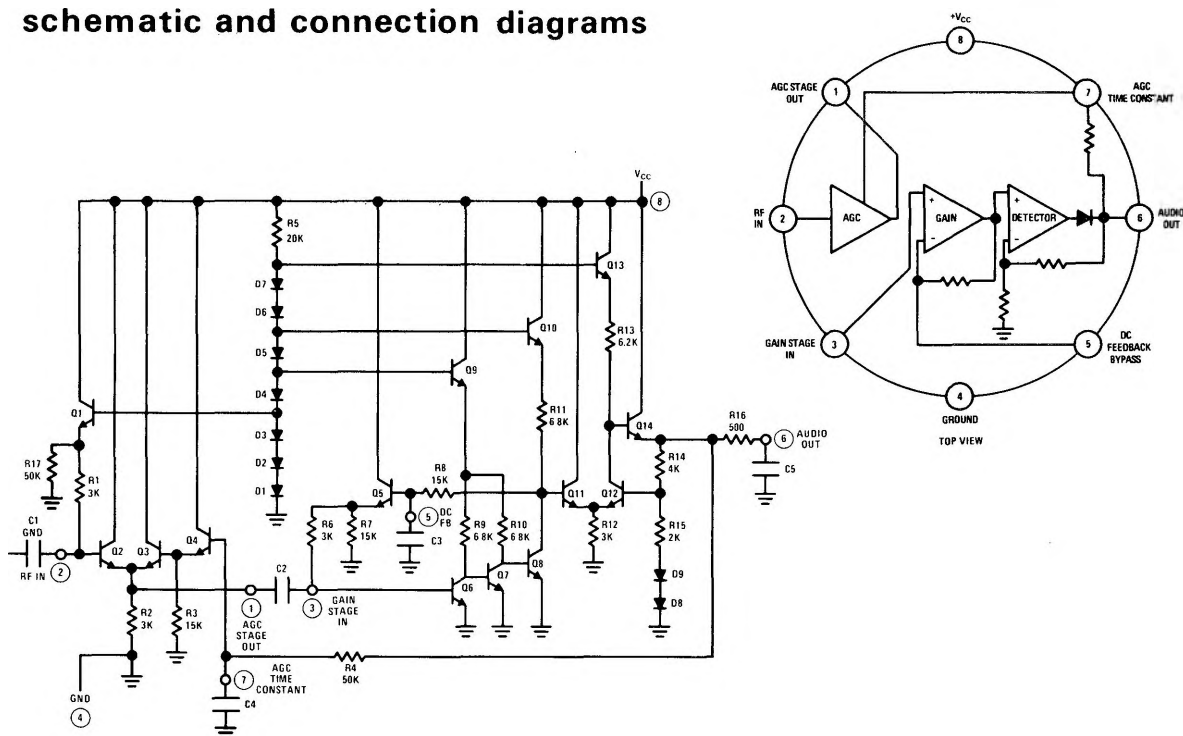
### general description

The LM172/LM272/LM372 is a broadband AM receiver subsystem, including a high gain amplifier, an active detector, and self-contained automatic gain control. It is intended for IF or TRF applications from 50 kHz to 2 MHz. Bandpass shaping is performed by a single, external filter, which may be ceramic, crystal, mechanical, or LC, having single or multiple poles. The IF strip features:

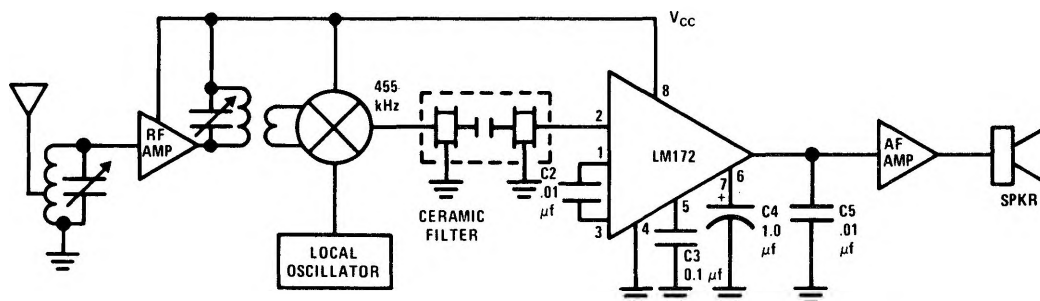
- AGC Range: 60 dB

- Audio Output of 0.8V p-p for 80% modulated inputs, at carrier levels as low as 50  $\mu$ V rms.
- Total dissipation only 8.4 mW from +6V supply, usable with supply up to +15V.
- AGC time constant and audio frequency response selected by choice of external capacitors.
- Internal supply regulators eliminate individual stage decoupling.
- AGC voltage available to drive receiver "front end."

### schematic and connection diagrams



### typical application



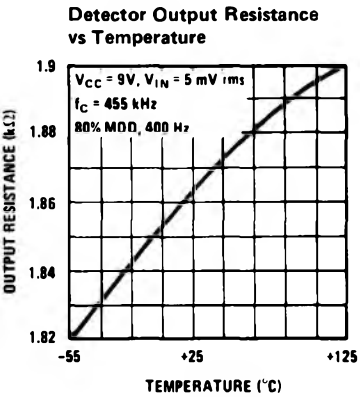
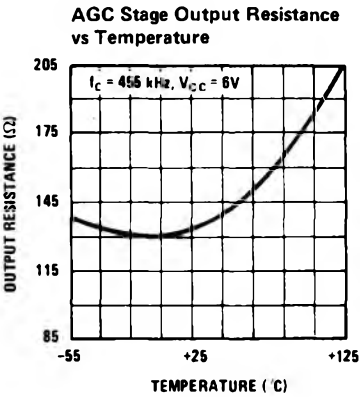
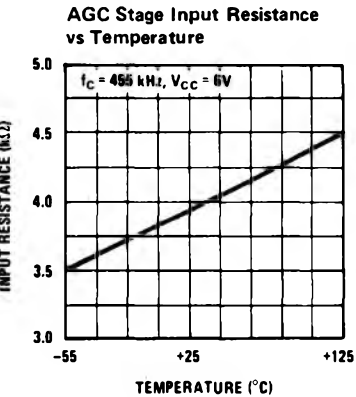
absolute maxium ratings

Supply Voltage Range		+6V to +15V
Storage Temperature		-65°C to +150°C
Operating Temperature	LM172	-55°C to +125°C
	LM272	-25°C to +75°C
	LM372	0°C to +70°C
RF Input Level, Pin 2		500 mV rms

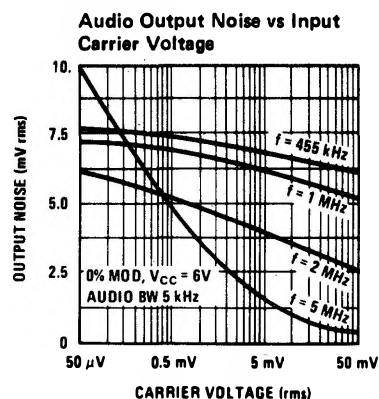
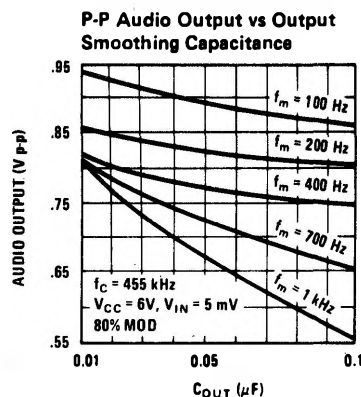
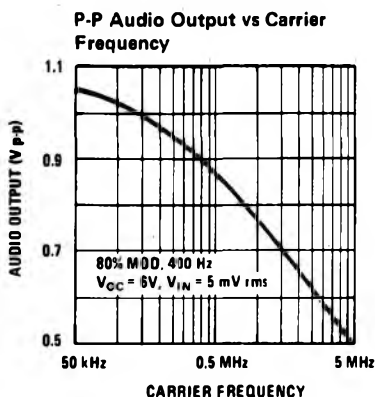
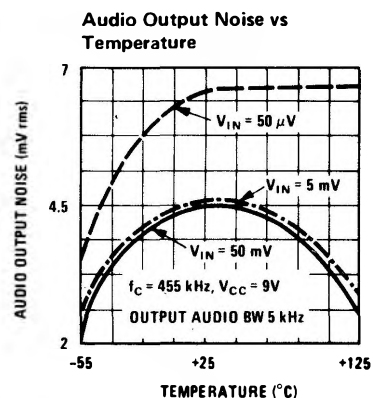
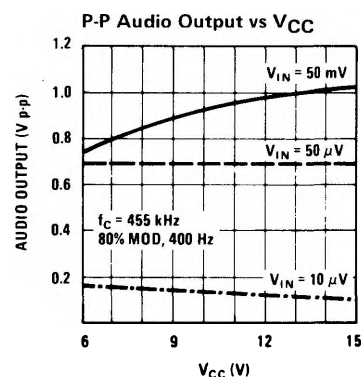
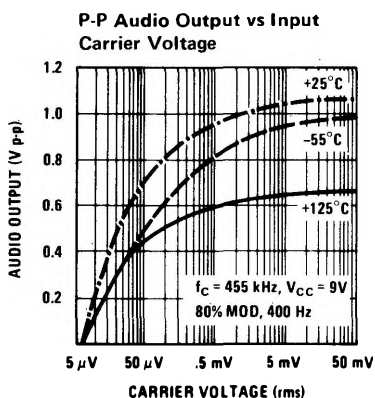
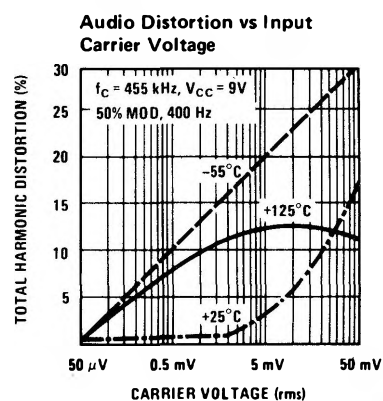
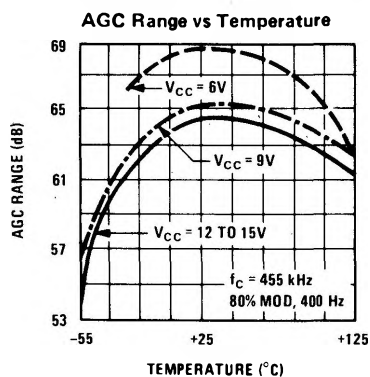
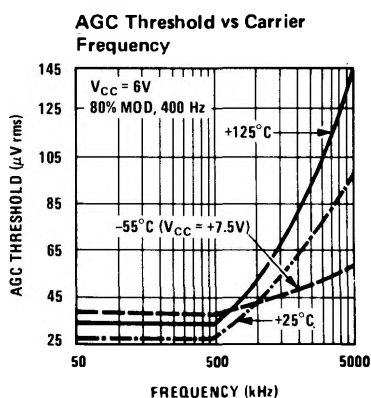
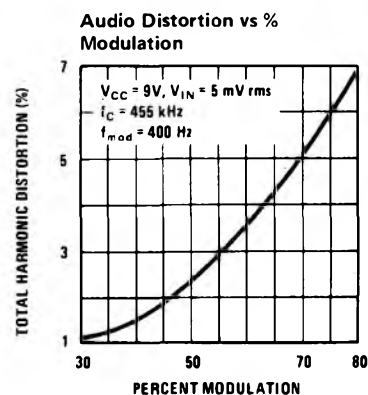
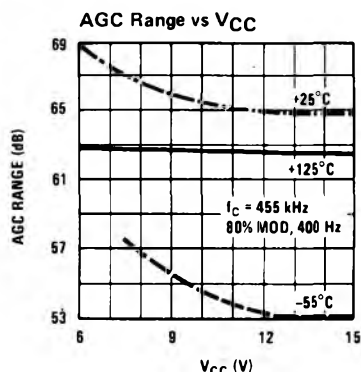
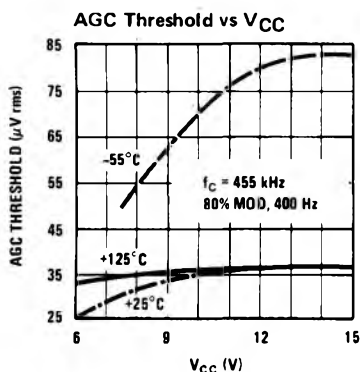
electrical characteristics (T<sub>A</sub> = 25°C)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Power Supply Drain	I <sub>PS</sub>	V <sub>CC</sub> = 6V, Input = 50 mV f = 455 kHz		1.4		mA
		V <sub>CC</sub> = 6V, Input = 50 μV f = 455 kHz		1.7		mA
		V <sub>CC</sub> = 15V, Input = 50 mV f = 455 kHz		2.5	2.65	mA
		LM172/272		2.5	3.2	mA
AGC Range	AGCR	V <sub>CC</sub> = 6V, f = 455 kHz	50	69		dB
		LM172/272	47	69		dB
AGC Threshold	V <sub>IN(th)</sub>	V <sub>CC</sub> = 6V, f = 455 kHz		50		μV, rms
Maximum Usable Frequency	MUF	V <sub>CC</sub> = 6V		2.0		MHz
Audio Output Voltage	V <sub>OUT</sub>	V <sub>IN</sub> Between 50 μV and 50 mV, 455 kHz, 80% modulated by 100 Hz,				
		V <sub>CC</sub> = 6V				
		LM172/272	0.4	0.8		V, p-p
		LM372	0.35	0.8		V, p-p
		V <sub>CC</sub> = 15V				
		LM172/272	0.45	0.9		V, p-p
		LM372	0.40	0.9		V, p-p

input-output impedances



## typical characteristics



## power supply characteristics

