

# LINEAR MONOLITHIC INTEGRATED CIRCUITS

## IC's For Radio, Audio

Type No.	Function	Maximum Ratings (Ta=25°C)	Electrical Characteristics (Ta=25°C)							
			Item	Symbol	Condition	min.	typ.	max.	Unit	
AN7120	2.1W Audio Power Amplifier	V <sub>CC</sub> (V <sub>7-10</sub> )=18V I <sub>CC</sub> (Peak)=2A P <sub>D</sub> =1.2W P <sub>D</sub> =2.25W* T <sub>opr</sub> =-20~+70°C T <sub>stg</sub> =-40~+150°C  *With heat sink	(V <sub>CC</sub> =9V, R <sub>L</sub> =4Ω, f=1kHz)							
			Quiescent Current	I <sub>CQ</sub>	V <sub>i</sub> =0	10	27	50	mA	
			Open Loop Voltage Gain	G <sub>vo</sub>	V <sub>i</sub> =1mV		62		dB	
			Closed Loop Voltage Gain	G <sub>vc</sub>	V <sub>i</sub> =5mV	42	45	48	dB	
			Output Power	P <sub>o</sub>	THD=10%	1.7	2.1		W	
					R <sub>L</sub> =8Ω, THD=10%		1.4		W	
			Total Harmonic Distortion	THD	V <sub>i</sub> =5mV		0.5	1.5	%	
			Output Noise Voltage	V <sub>no</sub>	R <sub>g</sub> =10kΩ		0.4	1	mV	
			Input Impedance	Z <sub>i</sub>			25		kΩ	
			AN7130	4.2W Audio Power Amplifier	V <sub>CC</sub> (V <sub>9-2</sub> )=18V I <sub>CC</sub> =3A P <sub>D</sub> =10W (Ta=30°C) (θ <sub>j-c</sub> =12°C/W) T <sub>opr</sub> =-30~+75°C T <sub>stg</sub> =-40~+150°C	(V <sub>CC</sub> =13.2V, R <sub>L</sub> =4Ω, f=1kHz)				
Quiescent Current	I <sub>CQ</sub>	V <sub>i</sub> =0				10	20	50	mA	
Closed Loop Voltage Gain	G <sub>vc</sub>	V <sub>i</sub> =5mV				43	46	49	dB	
Output Power	P <sub>o</sub>	THD=10%				3.7	4.2		W	
Total Harmonic Distortion	THD	V <sub>i</sub> =5mV					0.4	1.5	%	
Output Noise Voltage	V <sub>no</sub>	R <sub>g</sub> =10kΩ					0.5	1.2	mV	
Input Impedance	Z <sub>i</sub>						25		kΩ	
AN7131 AN7140	5W Audio Power Amplifier	V <sub>CC</sub> (V <sub>9-2</sub> )=24V*1 V <sub>CC</sub> (V <sub>9-2</sub> )=20V*2 I <sub>CC</sub> =4A P <sub>D</sub> =10W (Ta=30°C) T <sub>opr</sub> =-30~+75°C T <sub>stg</sub> =-40~+150°C  *1 Without signal (AN7131 only) *2 Operation				(V <sub>CC</sub> =13.2V, R <sub>L</sub> =4Ω, f=1kHz)				
			Quiescent Current	I <sub>CQ</sub>	V <sub>i</sub> =0	AN7131	7	20	45	mA
						AN7140	15	30	55	mA
			Voltage Gain	G <sub>v</sub>	V <sub>i</sub> =3mV	51.5	53.5	55.5	dB	
			Output Power	P <sub>O(max)</sub>	THD=10%	4.5	5		W	
			Total Harmonic Distortion	THD	V <sub>i</sub> =3mV	AN7131		0.3	1	%
						AN7140		0.15	1	%
			Output Noise Voltage	V <sub>no</sub>	R <sub>g</sub> =10kΩ		1.5	3	mV	
			Input Impedance	Z <sub>i</sub>			30		kΩ	

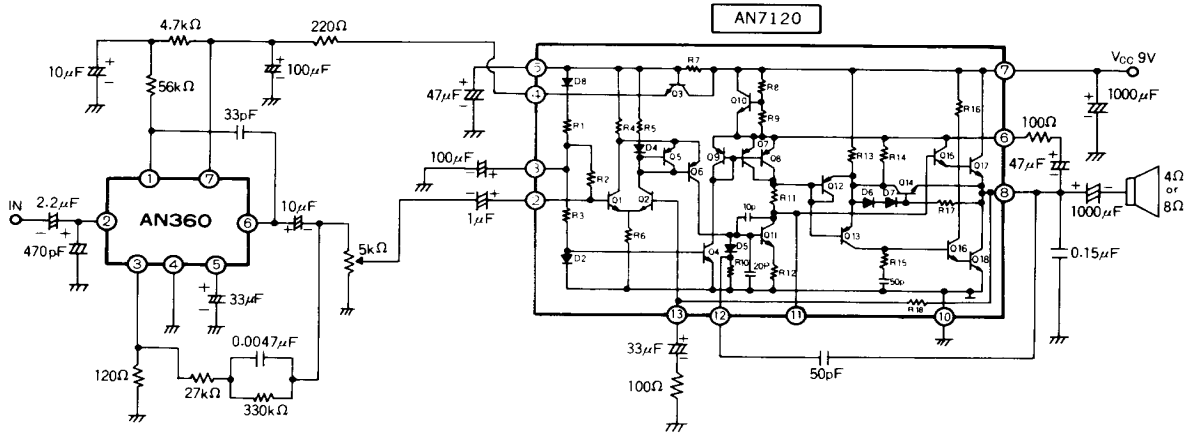
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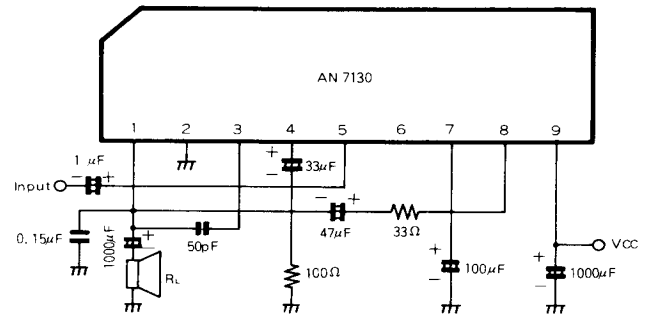
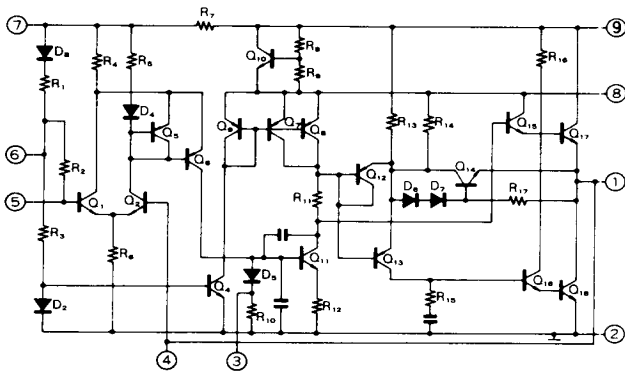
Circuit Diagram

Application Circuit

AN7120 (Package I-17,14-Lead Plastic DIL with Fin)



AN7130 (Package I-8,9-Lead Plastic SIL with Fin)



AN7131, AN7140  
(Package I-8,9-Lead Plastic SIL with Fin)

