

AN7312

Dual Recording / Playback Pre-Amplifier Circuit with ALC

Description

The AN7312 is a monolithic integrated circuit designed for dual pre-amplifier circuit with ALC for record/playback amplifier of cassette tape recorder.

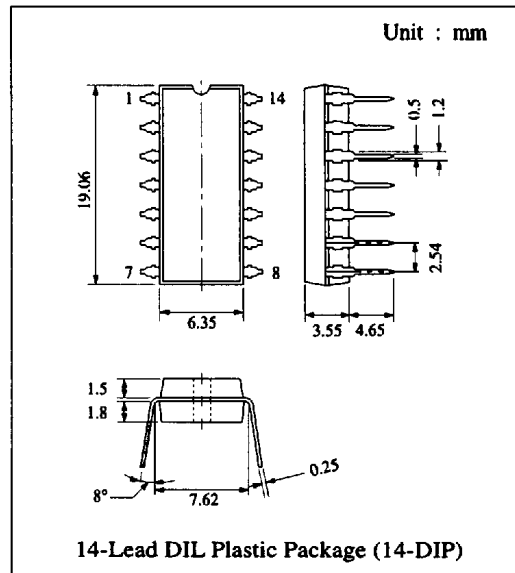
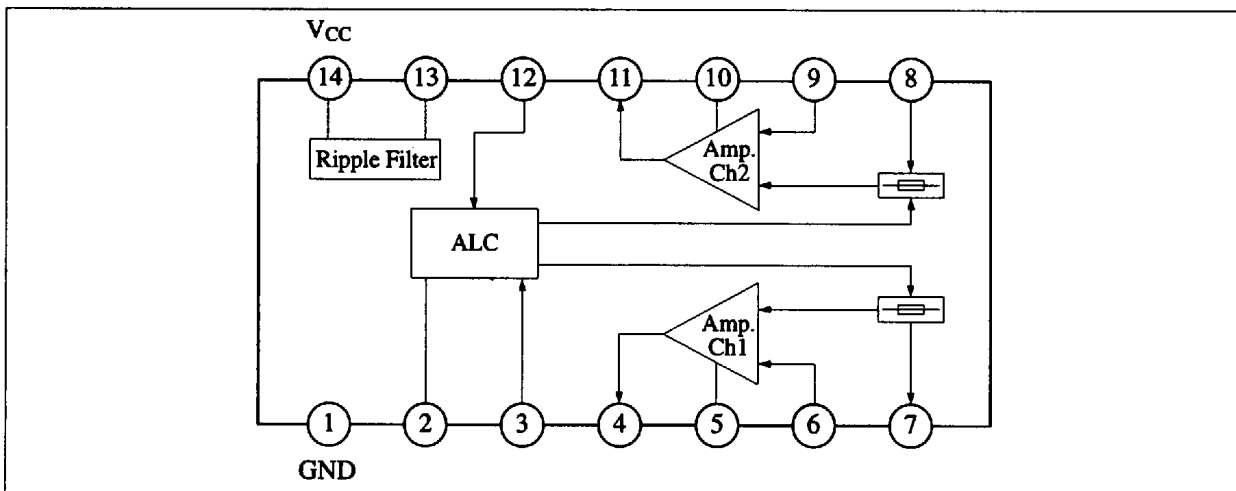
Features

- High open loop gain
- Incorporates ALC detector circuit
- No input coupling condenser
- Low noise
- Low current consumption
- Wide ALC range
- Wide operating voltage range: $V_{CC} = 5V \sim 12V$
- Low power ON shock noise

Pin

Pin No.	Pin Name	Pin No.	Pin Name
1	GND	8	Input Ch. 2
2	ALC Time Constant	9	N.F.B. Ch. 2
3	ALC Input Ch. 1	10	Phase Compensation Ch. 2
4	Output Ch. 1	11	Output Ch. 2
5	Phase Compensation Ch. 1	12	ALC Input Ch. 2
6	N.F.B. Ch. 1	13	Ripple Filter
7	Input Ch. 1	14	Vcc

Block Diagram



■ Absolute Maximum Ratings (Ta=25°C)

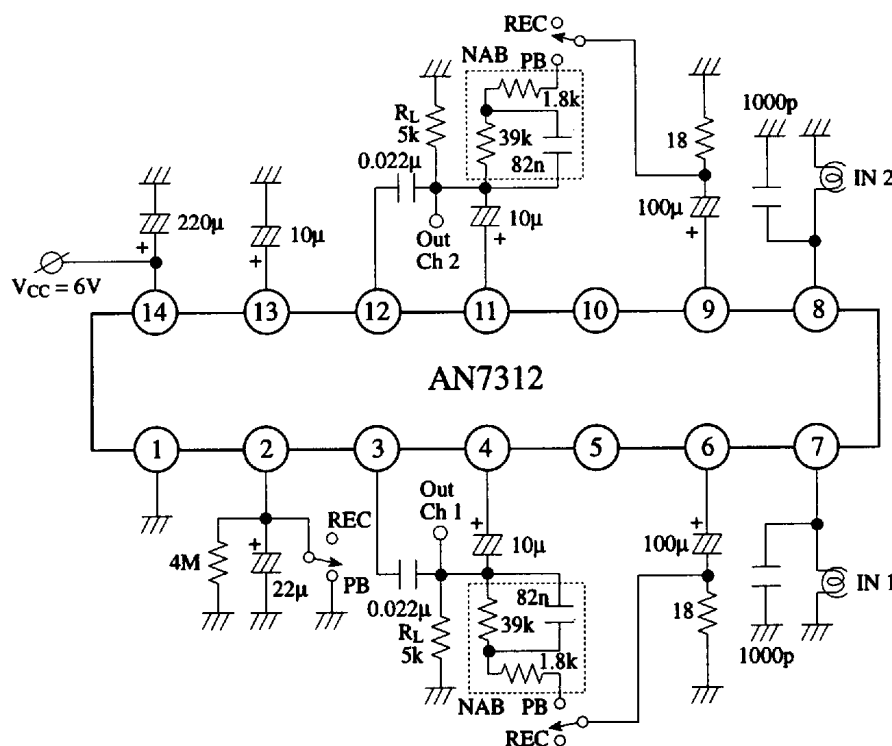
Item	Symbol	Rating	Unit
Supply Voltage	V _{CC}	14	V
Supply Current	I _{CC}	50	mA
Power Dissipation	P _D	700	mW
Operating Ambient Temperature	T _{opr}	-20 ~ +75	°C
Storage Temperature	T _{stg}	-55 ~ +150	°C

Operating Supply Voltage Range: V_{CC} = 5.0V ~ 12.0V

■ Electrical Characteristics (V_{CC}=6V, f=1kHz, R_L=5.1kΩ, Ta=25±2°C)

Item	Symbol	Condition	min.	typ.	max.	Unit
Quiescent Current	I _{CQ}	V _{in} = 0μV	2.5	4.5	8.0	mA
Closed-loop Voltage Gain	G _{VC}	V _O = 0.5V	66	69	72	dB
Total Harmonic Distortion	THD	V _O = 0.5V		0.5	1.0	%
Output Voltage	V _O	THD = 1%	1.2	1.6		V
Output Noise Voltage	V _{no}	R _g = 0Ω (Internal resistance 1.5kΩ) DIN/AUDIO		2.0	5.0	mV
ALC Voltage	V _{ALC}	V _{in} = 400μV	0.55	0.63	0.7	V
ALC Width	W _{ALC}	Beginning 0dB to 3dB	35	47		dB
Channel Balance	CB	V _O = 0.5V, CB = G _{V1} - G _{V2}	-1	0	+1	dB

■ Application Circuit



Characteristics Curve

