

AN7318/S

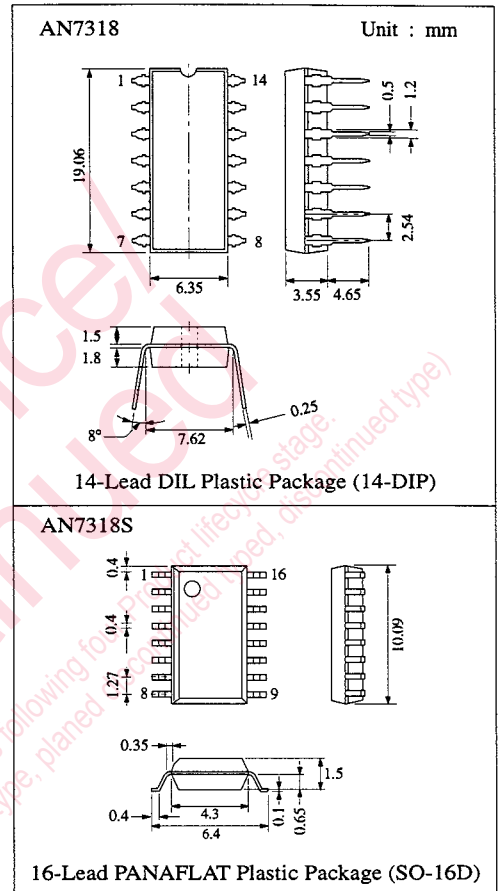
Dual Recording and Playback Pre-Amplifier Circuit with ALC

■ Description

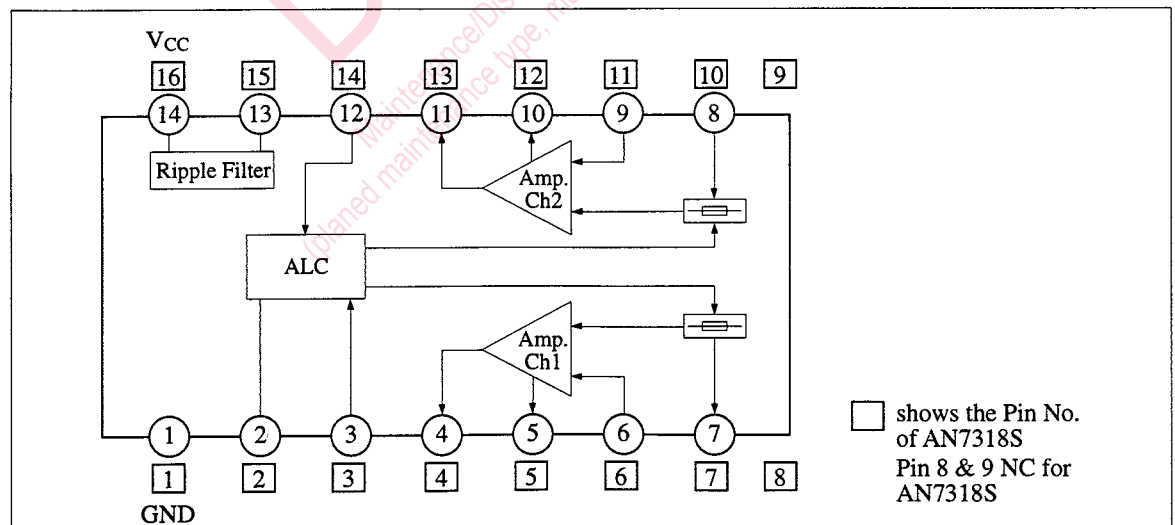
The AN7318/S are monolithic integrated circuits designed for dual pre-amplifier circuit with ALC for record/playback amplifier of cassette tape recorder.

■ Features

- High open loop gain (typically 100dB)
- Incorporates ALC detector circuit
- Low noise (typically 0.7 μ V)
- Low current consumption (typical I_{CQ} is 4.5mA)
- Less EMI achievable via external RC network
- Low power ON shock noise



■ 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 (Ta = 75°C)	P _D	200	mW
Operating Ambient Temperature	Topr	-20 ~ +75	°C
Storage Temperature	Tstg	-55 ~ +125	°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	SW1	SW2	Condition	min.	typ.	max.	Unit
Quiescent Current	I _{CQ}	B	B	V _{in} = 0mV	2.5	4.5	8.0	mA
Close Circuit Voltage Gain	G _{VC}	B	A	V _O = 0.5V	66	70	72	dB
Total Harmonic Distortion	THD	B	A	V _O = 0.5V		0.5	1.0	%
Maximum Output Voltage	V _O	B	A	THD = 1%	1.2	1.6		V
Output Noise Voltage	V _{no}	B	B	R _g = 0Ω DIN/AUDIO		2.0	4.2	mV
ALC Voltage	V _{ALC}	A	A	V _{in} = 400μV	0.55	0.63	0.7	V
ALC Width	W _{ALC}	A	A	Starting point 3dB up	35	47		dB
Channel Balance	CB	B	A	V _O = 0.5V, CB = G _{v1} - G _{v2}	-1	0	+1	dB

■ Pin

Pin No.	Pin Name	Pin No.	Pin Name
1 (1)	GND	9	NC
2 (2)	ALC Time Constant	10 (8)	Channel 2 Input
3 (3)	Channel 1 ALC Input	11 (9)	Channel 2 Negative Feedback
4 (4)	Channel 1 Output	12 (10)	Reference Pin 2
5 (5)	Reference Pin 1	13 (11)	Channel 2 Output
6 (6)	Channel 1 Negative Feedback	14 (12)	Channel 2 ALC Input
7 (7)	Channel 1 Input	15 (13)	Ripple Filter
8	N.C	16 (14)	V _{CC}

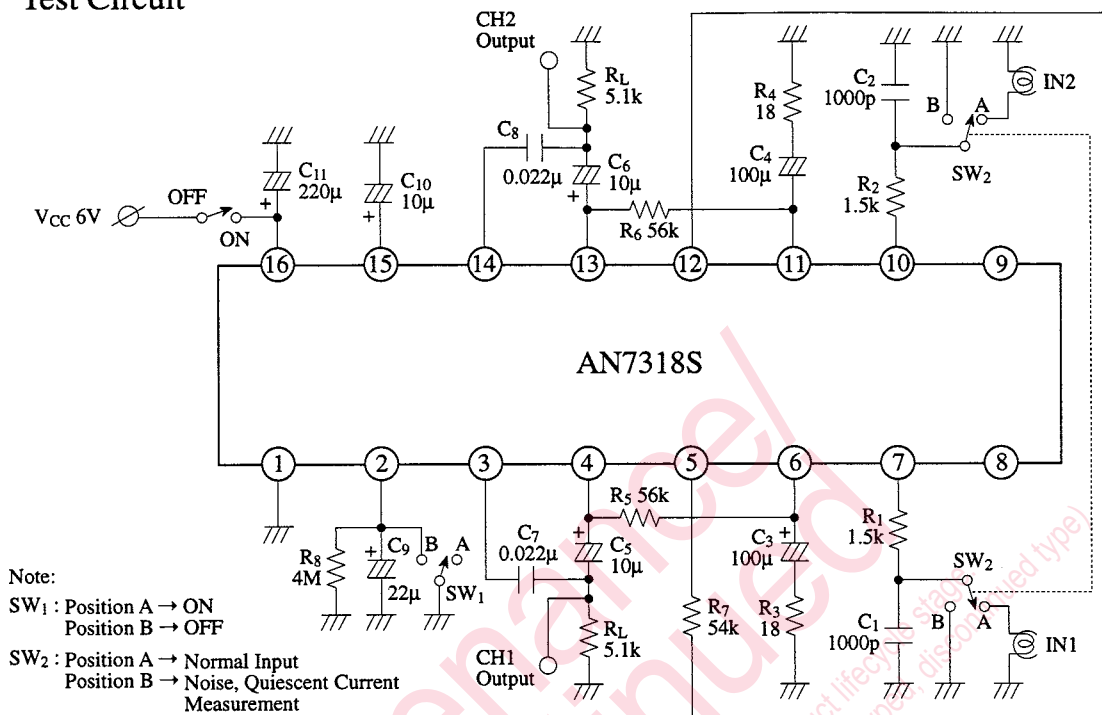
○ Show the pin of AN7318

■ Comparison of AN7318/S with AN7312

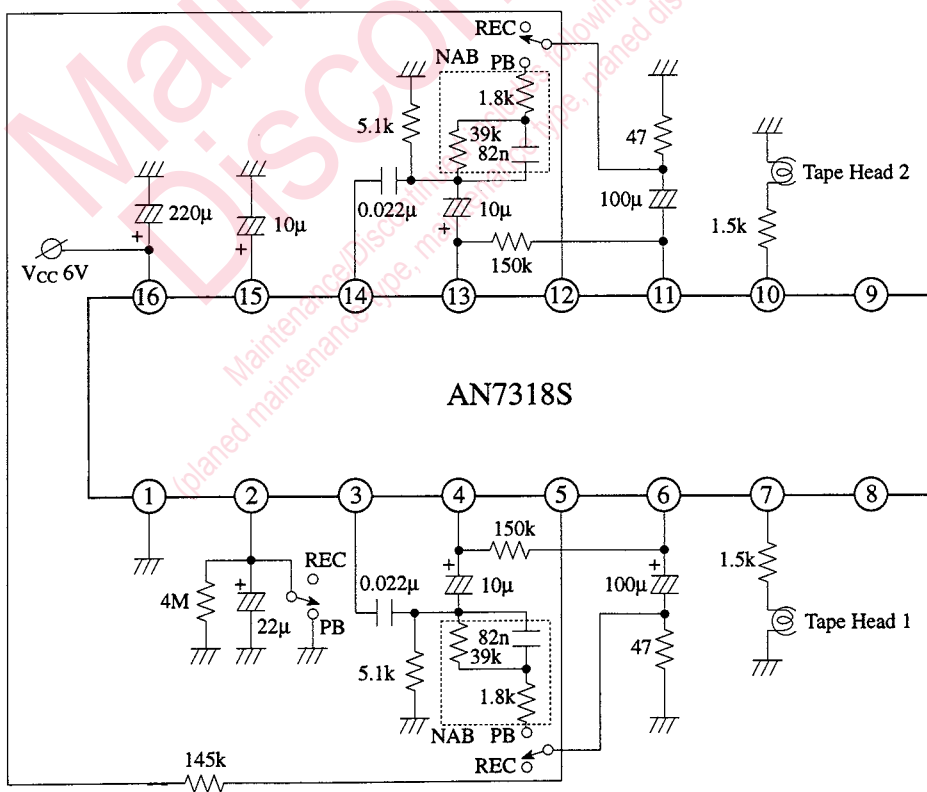
AN7318/S has the following modification over AN7312

- Both input resistors R₁ and R₂ (1.5kΩ) are short-circuited.
- Both feedback resistors R₅ and R₆ (56kΩ) are open-circuited.
- DC Bias resistor R₄₇ (54kΩ) is open-circuited. Externally, R₄₇ is to be connected between pin 5 and pin 12.
- G_{vo} at 10kHz is increased to 78dB.

Test Circuit



Application Circuit



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