

AN7316

LINEAR INTEGRATED CIRCUIT

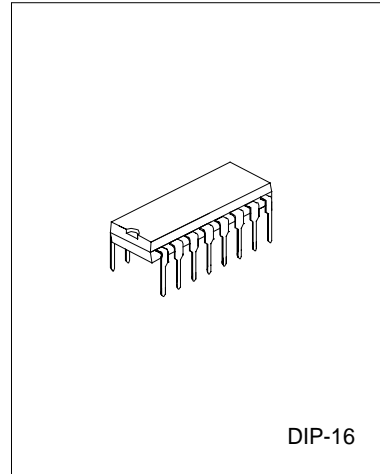
DUAL RECORDING/PLAYBACK PRE-AMPLIFIER IC FOR CASSETTE

DESCRIPTION

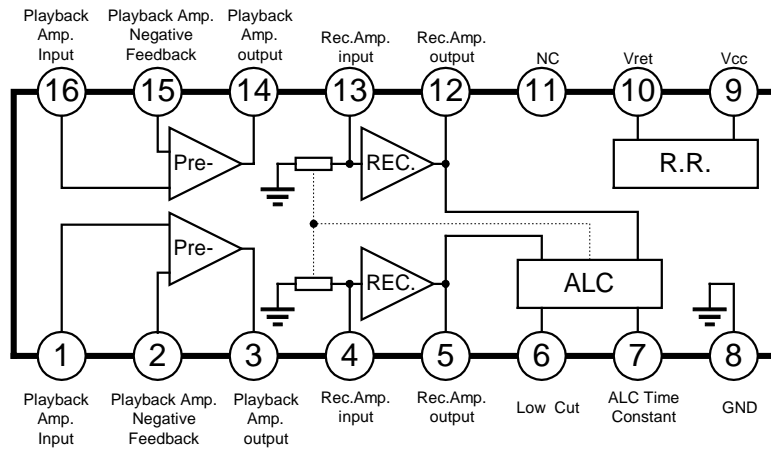
The AN7316 is an integrated circuit for radio cassette recorder and built-in only fundamental function of rec./playback pre-amp. With ALC function in 2-channel DIP plastic package.

FEATURES

- *Built-in ALC LOW CUT function
- *Rec. Amp gain fixed and external parts reduced
- *Wide operating supply voltage range (4V~12V)



BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Characteristic	Symbol	Value	Unit
Supply Voltage	Vcc	12	V
Supply Current	Icc	30	mA
Power Dissipation	P _D	1,000	mW
Operating Temperature	T _{opr}	-20~+75	°C
Storage Temperature	T _{stg}	-55~+150	°C

RECOMMENDED OPERATING RATINGS (Ta=25°C)

Characteristic	Symbol	Value	Unit
Operating Supply Voltage Range	Vcc	3.5~12	V

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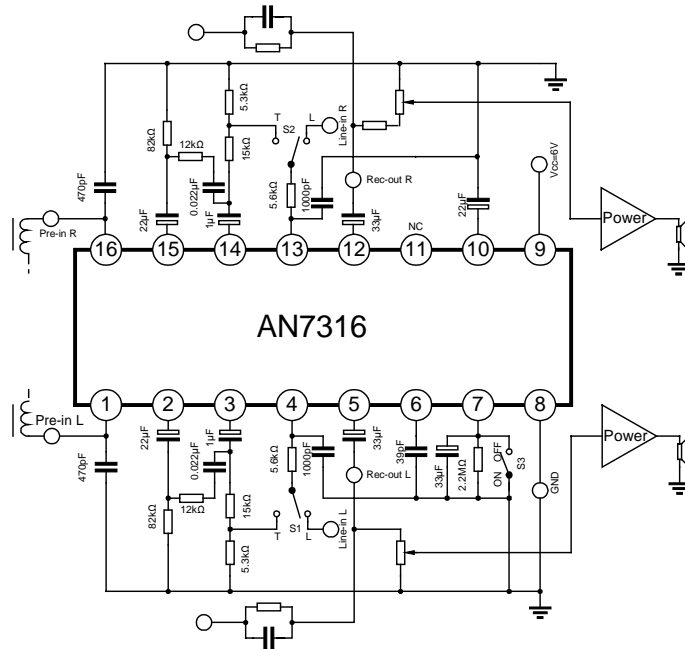
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ELECTRICAL CHARACTERISTICS


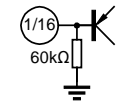
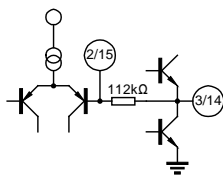


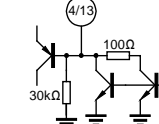

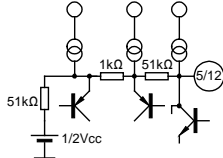
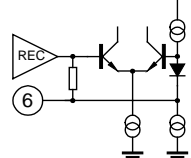
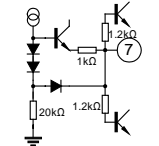
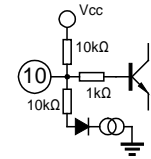
(Vcc=6V, f=1KHz, fMOD=1KHz, Ta=25°C, unless otherwise specified)

Characteristic	Symbol	Condition	Min	Typ.	Max	Unit
No Signal Current Consumption	I _{tot}		8.8	11.4	15.3	mA
(Playback Amp.)						
Open Circuit Gain	G _{VO-p}	RNF	75	84		dB
Closed Circuit Gain	G _{VC-p}	NAB	40	43	46	dB
Max. Output Voltage	V _{OM-p}	THD=3%	1.4	1.7		V
Total Harmonic Distortion	THD-p	400Hz-80kHz		0.038	0.1	%
Noise Voltage Referred To Input	V _{NI-p}	R _{in} =2.2kΩ, DIN/AUDIO		1.1	2	μV
Crosstalk Between Channels	CT-p	R _{in} =2.2kΩ, DIN/AUDIO	64	71.5		dB
Channel Balance	CB-p		-1.5	0	1.5	dB
(Rec. Amp)						
Closed Circuit Gain	G _{V-r}		37	39	42.5	dB
Max. Output Voltage	V _{OM-r}	THD=3%	1	1.9		V
Total Harmonic Distortion	THD-r	400Hz-80kHz		0.1	0.17	%
Output Noise Voltage	V _{NO-r}	R _{in} =3kΩ, DIN/AUDIO		260	550	μV
Crosstalk Between Channels	CT-r	R _{in} =3kΩ, DIN/AUDIO	50	51		dB
Channel Balance	CB-r		-1.5	0	1.5	dB
(ALC)						
ALC Start Voltage	V _s	R _{in} =5.6kΩ, Dual Ch. Input	0.75	0.9	1.37	V
ALC Effective Width	WALC	R _{in} =5.6kΩ, Dual Ch. Input	35	46		dB
ALC Channel Balance	CB-a	R _{in} =5.6kΩ, Dual Ch. Input	-2	0.1	2	dB

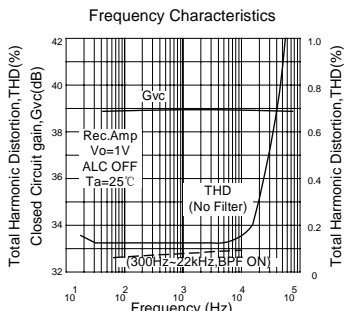
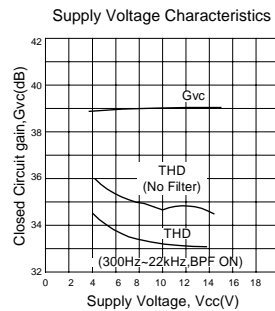
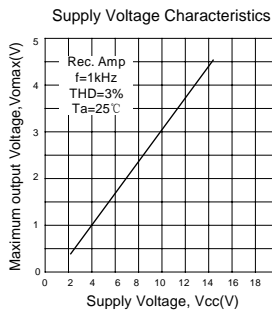
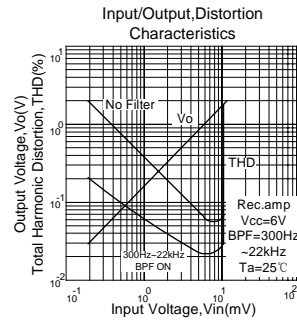
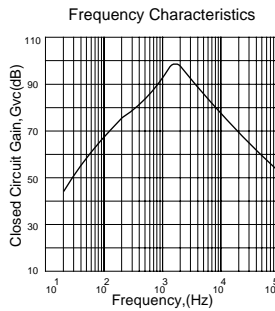
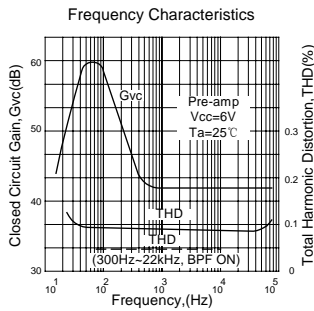
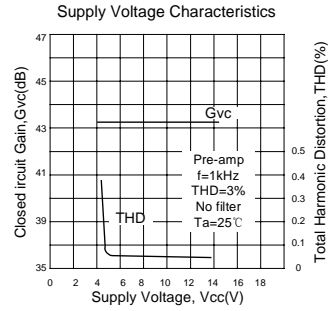
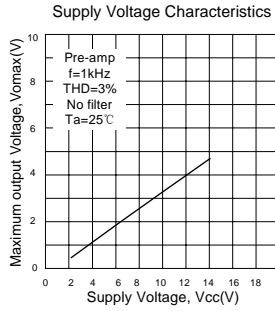
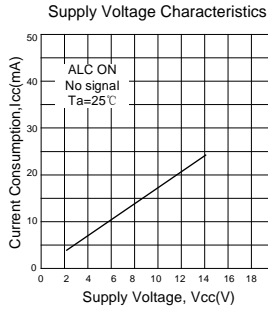
APPLICATION CIRCUIT



PIN DESCRIPTIONS

Pin No.	Pin Name	Typ. Waveform	Description	Equivalent Circuit
1	Ch.1 Playback Amp. Input	 -43.6dBV	Playback amp. Input	
16	Ch.2 Playback Amp. Input			
2	Ch.1 Playback Amp. Negative Feedback	DC 0.7V	Playback amp. feedback	
15	Ch.2 Playback Amp. Negative Feedback			
3	Ch.1 Playback Amp. Output	 0dBV	Playback amp. output	
14	Ch.2 Playback Amp. Output			
4	Ch.1 Rec. Amp. Input	 -39dBV	Rec.amp.input	
13	Ch.2 Rec. Amp. Input			
5	Ch.1 Rec. Amp. Output	 0dBV	Rec.amp.output	
12	Ch.2 Rec. Amp. Output			
6	Low CUT	DC about 2.5V	AGC comparator circuit reference voltage	
7	ALC Time Constant	Follow input signal	Low-pass filter pin	
8	GND	-----	Main circuit GND	-----
9	Vcc	DC 6V	Main circuit +Vcc	-----
10	Vret	DC 3.7V	-----	
11	NC	-----	-----	-----

TYPICAL PERFORMANCE CHARACTERISTICS



TYPICAL PERFORMANCE CHARACTERISTICS (CONTINUED)

