

### PRE&HI-POWER AMPLIFIER with ALC for PORTABLE TAPE RECORDER

#### ■ GENERAL DESCRIPTION

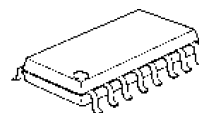
The NJM2775A is a pre&power amplifier with ALC designed for micro and compact cassette recorders.

It contains pre-amplifier, ALC circuit, power amplifiers, and ripple filter. The pre-amplifier amplifies the signal come from magnetic head. The ALC circuit limits the input signal to optimize level in recording. The power amplifiers drive a speaker in play back and the magnetic head in recording. The ripple filter stabilizing the supply voltage to the internal pre-amplifier and an external condenser microphone.

The NJM2775A improves high output power compared with the NJM2128.

It is suitable for portable tape recorder, and other portable playing back and recording recorder items.

#### ■ PACKAGE OUTLINE

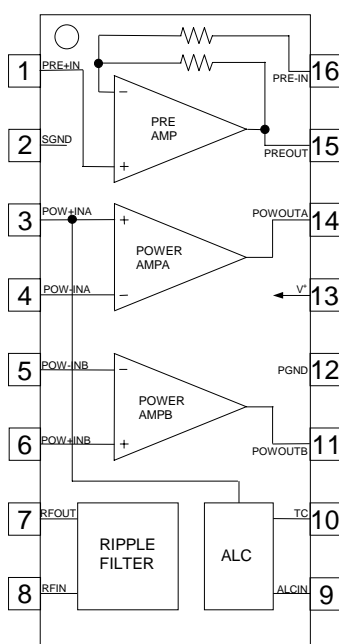


NJM2775AM

#### ■ FEATURES

- Operating Voltage  $V^+ = 1.8$  to  $6.0V$
- Operating Current  $9mA$  typ.
- Output Power  $350mW$  typ. at  $V^+ = 3V, R_L = 4\Omega, THD = 10\%$
- Automatic Level Control (ALC) Limit Level  $200mV_{rms}$  typ., at  $f = 1kHz$
- Ripple Filter R.R. (Ripple Rejection)  $47dB$  typ., at  $f = 200Hz, C = 47\mu F$
- Bipolar Technology
- Package Outline DMP16

#### ■ PIN CONFIGURATION



#### PIN FUNCTION

1. PRE +IN
2. SGND
3. POW +INA
4. POW -INA
5. POW -INB
6. POW +INB
7. RFOUT
8. RFIN
9. ALCIN
10. TC
11. POW OUTB
12. PGND
13.  $V^+$
14. POW OUTA
15. PREOUT
16. PRE -IN

### ■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V <sup>+</sup>	+7.0	V
PA Output Peak Current	I <sub>OP</sub>	1	A
PA Input Voltage Range	V <sub>IN</sub>	±0.4	V
Power Dissipation	P <sub>D</sub>	(DMP16)300	mW
Operating Temperature Range	T <sub>opr</sub>	-20 to +75	°C
Storage Temperature Range	T <sub>stg</sub>	-40 to +125	°C

### ■ RECOMMENDED OPERATING VOLTAGE RANGE (Ta=25°C)

PARAMETER	MIN.	TYP	MAX.	UNIT
Operating Voltage Range	1.8	3.0	6.0	V

### ■ ELECTRICAL CHARACTERISTICS

(V<sup>+</sup>=3.0V, Ta=25°C)

PARAMETER	SYMBOL	RATINGS	MIN.	TYP	MAX.	UNIT
Operating Voltage	I <sub>CC</sub>	R <sub>L</sub> =∞	-	9	14	mA

#### Power Amp

Input Bias Current	I <sub>B</sub>		-	140	-	nA
Out Put Offset	ΔV <sub>o</sub>	R <sub>L</sub> =8Ω	-	0	50	mV
Output Power (Note 1)	P <sub>O1</sub>	THD=10%, f=1kHz, V <sup>+</sup> =4V, R <sub>L</sub> =8Ω	400	500	-	mW
	P <sub>O2</sub>	THD=10%, f=1kHz, V <sup>+</sup> =3V, R <sub>L</sub> =4Ω	250	300	-	
T.H.D.	THD	V <sup>+</sup> =4V, R <sub>L</sub> =8Ω, P <sub>o</sub> =200mW, f=1kHz	-	0.2	-	%
Close Loop V-Gain	A <sub>v1</sub>	f=1kHz	41	44	47	dB
Equivalent Input Noise Voltage	V <sub>NI1</sub>	R <sub>S</sub> =10kΩ, R <sub>L</sub> =4Ω, A-Weighted	-	2.0	-	μVrms
	V <sub>NI2</sub>	R <sub>S</sub> =10kΩ, R <sub>L</sub> =4Ω, BW=22Hz to 22kHz	-	2.5	-	μVrms
Ripple Rejection	RR1	f=100Hz	-	47	-	dB
Cut off Frequency	F <sub>H</sub>	R <sub>L</sub> =4Ω, P <sub>o</sub> =0.1W, A <sub>v</sub> =-3dB from f=1kHz	-	80	-	kHz

#### Pre Amp

Output Voltage	V <sub>o1</sub>	f=1kHz, THD=1%	0.1	0.2	-	Vrms
Voltage Gain	A <sub>v</sub>	f=1kHz	35	38	41	dB
Output Noise Voltage	V <sub>NO</sub>	R <sub>S</sub> =3.3kΩ	-	0.1	0.4	mVrms

#### ALC

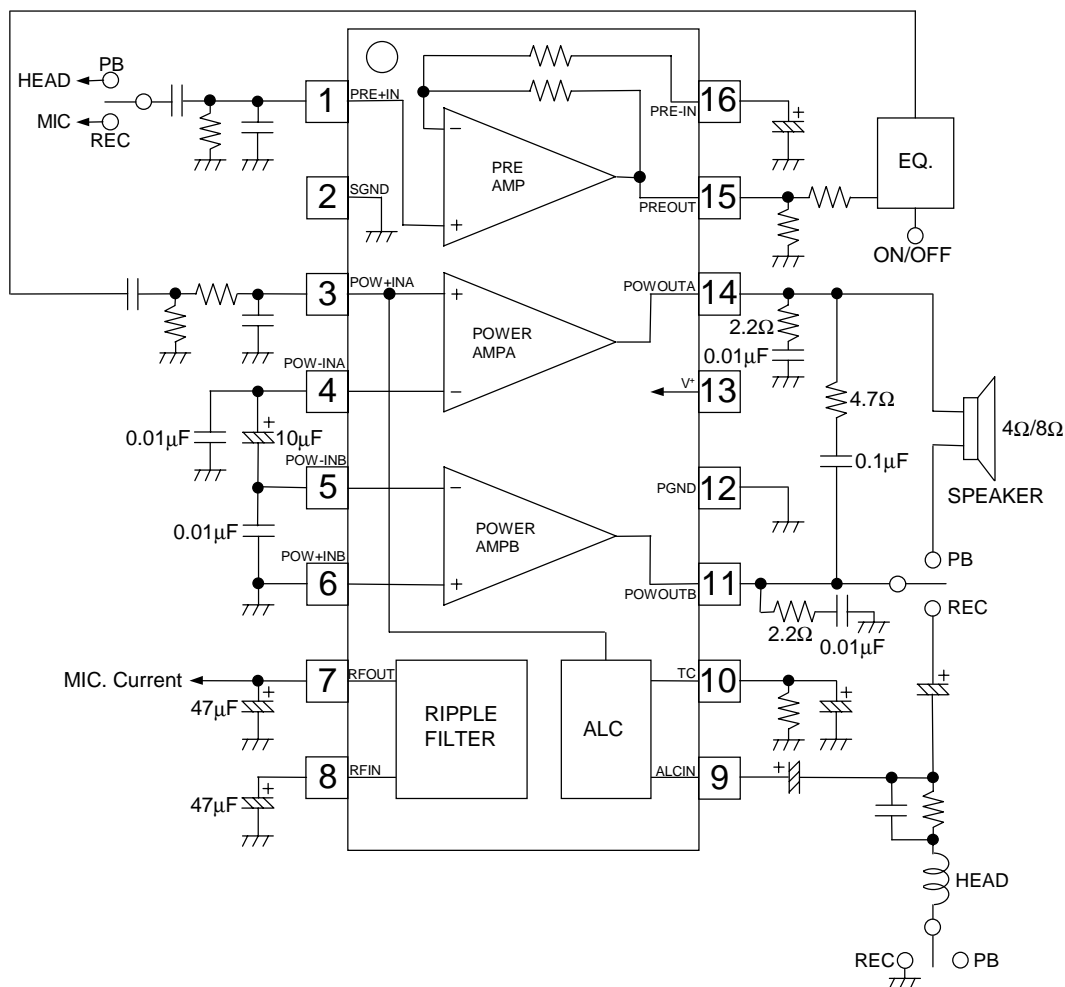
Limit Level	ALC	f=1kHz	100	200	300	mVrms
-------------	-----	--------	-----	-----	-----	-------

#### Ripple Filter

Output Voltage	V <sub>O2</sub>	R <sub>L</sub> =2kΩ	V <sup>+</sup> -0.24	V <sup>+</sup> -0.2	V <sup>+</sup> -0.16	V
Ripple Rejection	RR2	f=200Hz, C=47μF	40	47	54	dB

(Note 1) at on PC Board

### ■ TYPICAL APPLICATIONS



#### [CAUTION]

The specifications on this databook are only given for information, without any guarantee as regards either mistakes or omissions. The application circuits in this databook are described only to show representative usages of the product and not intended for the guarantee or permission of any right including the industrial rights.