

# UTC TA7668BP LINEAR INTEGRATED CIRCUIT

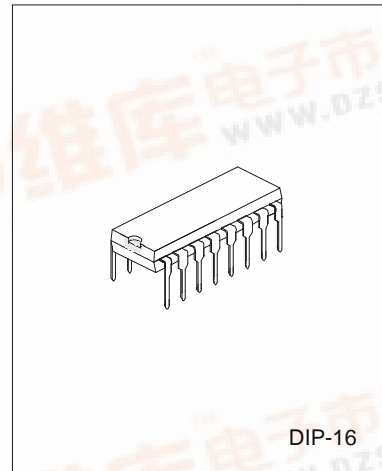
## DUAL PRE-AMPLIFIER FOR TAPE RECORDER

### DESCRIPTION

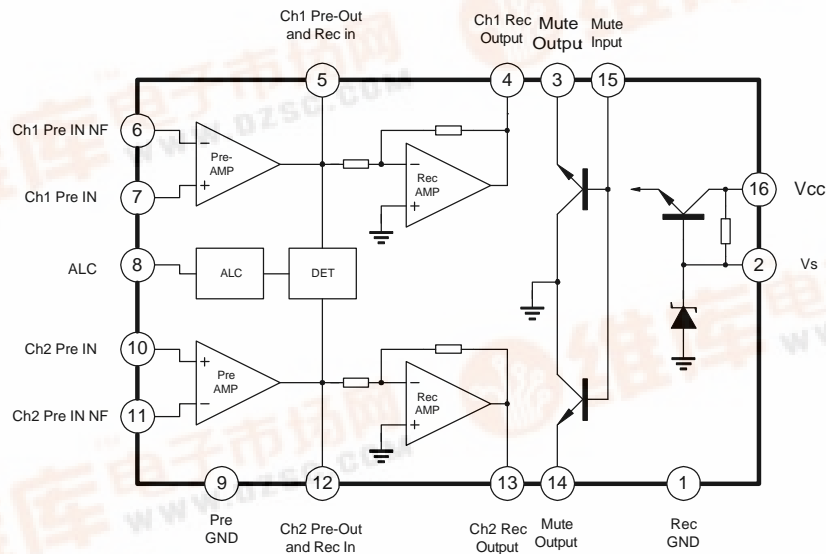
The UTC TA7668BP is a dual pre-amplifier with ALC and muting designed for use recorder/playback amplifier of tape recorder. It is suitable for a stereo set and a radio cassette recorder.

### FEATURES

- \*Build-in ALC detector circuit
- \*Build-in muting circuit
- \*Wide operating voltage range( 6V to 15V)



### BLOCK DIAGRAM



### ABSOLUTE MAXIMUM RATING (Ta=25°C)

PARAMETER	SYMBOL	VALUE	UNIT
Supply Voltage	VCC	16	V
Power Dissipation	PD	750	mW
Operating Temperature	TOPR	-25~75	°C
Storage Temperature	TSTG	-55~150	°C

Note: De-rated above Ta=25°C in proportion of 6mW/°C.



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DC VOLTAGE (V<sub>CC</sub>=9V, T<sub>a</sub>=25°C, no input signal)

PIN NO.	SYMBOL	VALUE	UNIT
1	V1	0	V
2	V2	8.2	V
3	V3	0	V
4	V4	3.3	V
5	V5	1.3	V
6	V6	1.3	V
7	V7	0	V
8	V8	0.9	V
9	V9	0	V
10	V10	0	V
11	V11	1.3	V
12	V12	1.3	V
13	V13	3.3	V
14	V14	0	V
15	V15	2.4	V
16	V16	9	V

ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C, V<sub>CC</sub>=9V, f=1kHz, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Quiescent Circuit Current	ICCQ	V <sub>IN</sub> =0		8.5	10.5	mA
<b>PRE AMPLIFIER</b>						
Open Loop Voltage Gain	GVO	V <sub>IN</sub> =-80dBm	65	78		dB
Maximum Output Voltage	VOM(1)	THD=1%	0.5	0.8		V <sub>rms</sub>
Total Harmonic Distortion	THD(1)	V <sub>O</sub> =0.2V <sub>rms</sub>		0.15	0.5	%
Output Noise Voltage	VNO	R <sub>g</sub> =2.2KΩ, B.P.F., NAB, 30Hz~20kHz		0.26	0.6	mV <sub>rms</sub>
Cross Talk	C.T.	R <sub>g</sub> =2.2KΩ	47	60		dB
<b>REC AMPLIFIER</b>						
Closed Loop Voltage Gain	GV	R <sub>L</sub> =10KΩ	12.7	14.7	16.7	dB
Maximum Output Voltage	VOM(2)	THD=1%	2	2.5		V <sub>rms</sub>
Total Harmonic Distortion	THD(2)	V <sub>O</sub> =1.5V <sub>rms</sub>		0.2		%
ALC Range	RALC	V <sub>IN</sub> =-60dBm, R <sub>IN</sub> =2.2KΩ		45		dB
Total Harmonic Distortion (ALC)	THD(ALC)	V <sub>IN</sub> =-20dBm, R <sub>IN</sub> =2.2KΩ, R <sub>L</sub> =10KΩ		0.3	1	%
ALC Voltage	VO(ALC)	V <sub>IN</sub> =-20dBm, R <sub>IN</sub> =2.2KΩ, R <sub>L</sub> =10KΩ	0.9	1.1	1.42	V <sub>rms</sub>
Muting Attenuation	ATT		45	55		dB
ALC Balance	BALC	V <sub>IN</sub> =-20dBm		0	2	dB

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## TEST METHOD

SYMBOL	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Measure Terminal
ICCQ	*	*	*	*	*	*	*	*	OFF	*	Vcc
GVO	OFF	CH1	GVO	FLAT	CH1	*	*	*	OFF	OFF	Pre-Out
VOM(1)	OFF	CH1	GV	NAB	CH1	*	*	*	OFF	OFF	Pre-Out
THD(1)	OFF	CH1	GV	NAB	CH1	*	*	*	OFF	OFF	Pre-Out
VNO	OFF	OFF	GV	NAB	CH2		*	*	OFF	OFF	Pre-Out
CT	OFF	CH1	GV	FLAT	CH1→CH2	*	*	*	OFF	OFF	Pre-Out
GV	OFF	CH1	GV	FLAT	CH1	*	CH1	CH2	OFF	OFF	Pre-Out→ Rec-Out
VOM(2)	OFF	CH1	GV	FLAT	CH2	*	CH1	CH2	OFF	OFF	Rec-Out
THD(2)	OFF	CH1	GV	FLAT	CH2	*	CH1	CH2	OFF	OFF	Rec-Out
RALC	OFF	CH1	GV	FLAT	CH2	*	CH1	CH2	OFF	ON	Rec-Out
THD(ALC)	OFF	CH1	GV	FLAT	CH2	*	CH1	CH2	OFF	ON	Rec-Out
VO(ALC)	OFF	CH1	GV	FLAT	CH2	*	CH1	CH2	OFF	ON	Rec-Out
ATT	OFF	CH1	GV	FLAT	CH1	*	*	CH1	OFF→ ON	OFF	Mute-Out
BALC	CH2	CH1→CH2	GV	FLAT	*	*	CH1→CH2	*	OFF	ON	Rec-Out

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## TEST CIRCUIT

