

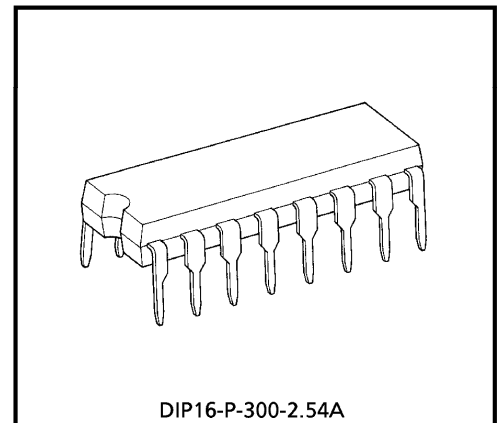
TA7628P, TA7628HP

AMPLIFIER SYSTEM FOR CASSETTE TAPE RECORDER

TA7628P and TA7628HP are Pre + Power amplifier system designed for cassette tape recorder.

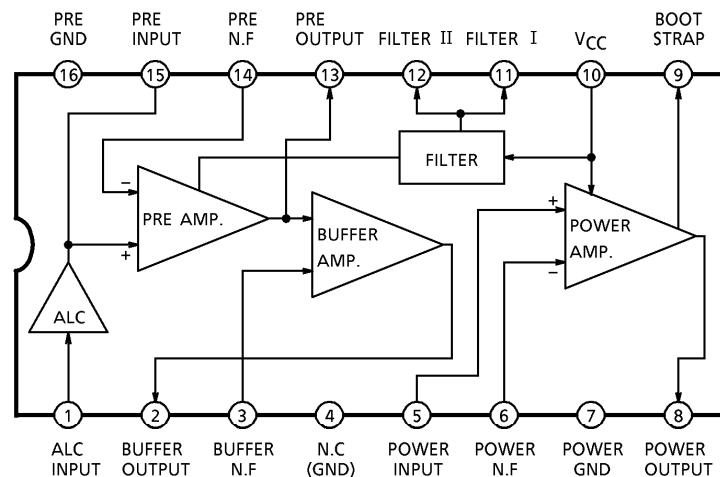
FEATURES

- Recording Playback for Pre Amplifier
- Buffer Amplifier (Recording Amplifier)
- Power Amplifier
- ALC Detector Circuit
- Muting Circuit
- Maximum Output Power ($V_{CC} = 6V$, $f = 1kHz$, $THD = 10\%$)
 - : $P_{out} = 0.6W$ (Typ.) ($R_L = 8\Omega$) : TA7628P
 - : $P_{out} = 0.96W$ (Typ.) ($R_L = 4\Omega$) : TA7628HP
- Low Distortion and Wide Dynamic Range
- Without Turn-on "POP" for Muting Circuit
- Operating Supply Voltage Range
 - : $V_{CC(opr)} = 3.5 \sim 9V$ ($T_a = 25^\circ C$)



Weight : 1.00g (Typ.)

BLOCK DIAGRAM



ELECTRICAL CHARACTERISTICS (TA7628P) (Unless otherwise specified, $V_{CC} = 6V$, $f = 1kHz$, $T_a = 25^\circ C$)
TOTAL

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Quiescent Current	$I_{CCQ(1)}$	—	$V_{CC} = 3.5V$	7	—	—	mA
Quiescent Current	$I_{CCQ(2)}$	—	$V_{CC} = 6V$	9	—	36	mA

PRE AMP.

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Open Loop Voltage Gain	G_{vo1}	—	—	55	70	—	dB
Closed Loop Voltage Gain	G_{v1}	—	—	—	40	—	dB
Maximum Output Voltage	V_{out1}	—	THD = 1%	—	0.7	—	V_{rms}
Input Resistance	R_{IN1}	—	—	24	30	—	$k\Omega$
Equivalent Input Noise Voltage	V_{ni}	—	$R_g = 0$	—	1.4	2.5	μV_{rms}

PRE AMP. + BUFFER AMP.

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Closed Loop Voltage Gain	G_{v2}	—	Pre amp. $G_v = 40dB$ Buffer amp. $G_v = 20dB$	—	60	—	dB
Maximum Output Voltage	V_{out2}	—	THD = 3%	1.5	1.7	—	V_{rms}
Output Noise Voltage	V_{no2}	—	$R_g = 0$, $G_{v2} = 60dB$	—	1.2	2.5	mV_{rms}
ALC Effect	ALC1	—	$V_{in} = 0.775mV_{rms}$ (- 60dBm) $\sim 0.0775V_{rms}$ (- 20dBm)	—	2	—	dB
ALC Range	ALC2	—	Range of THD $\leq 1\%$	—	60	—	dB

POWER AMP.

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Open Loop Voltage Gain	G_{vo3}	—	—	60	70	—	dB
Closed Loop Voltage Gain	G_{v3}	—	—	—	40	—	dB
Output Power	P_{out}	—	$R_L = 8\Omega$, THD = 10%	0.5	0.6	—	W
Output Noise Voltage	V_{no3}	—	$R_g = 0$, $G_v = 40dB$	—	0.3	1.0	mV_{rms}

ELECTRICAL CHARACTERISTICS (TA7628HP) (Unless otherwise specified, $V_{CC} = 6V$, $f = 1kHz$, $T_a = 25^\circ C$)
TOTAL

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Quiescent Current	$I_{CCQ(1)}$	—	$V_{CC} = 3.5V$	7.5	—	—	mA
Quiescent Current	$I_{CCQ(2)}$	—	$V_{CC} = 6V$	11	—	35	mA

PRE AMP.

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Open Loop Voltage Gain	G_{vo1}	—	—	55	70	—	dB
Closed Loop Voltage Gain	G_{v1}	—	—	—	40	—	dB
Maximum Output Voltage	V_{out1}	—	THD = 1%	—	0.7	—	V_{rms}
Input Resistance	R_{IN1}	—	—	—	30	—	$k\Omega$
Equivalent Input Noise Voltage	V_{ni}	—	$R_g = 0$	—	1.4	2.5	μV_{rms}

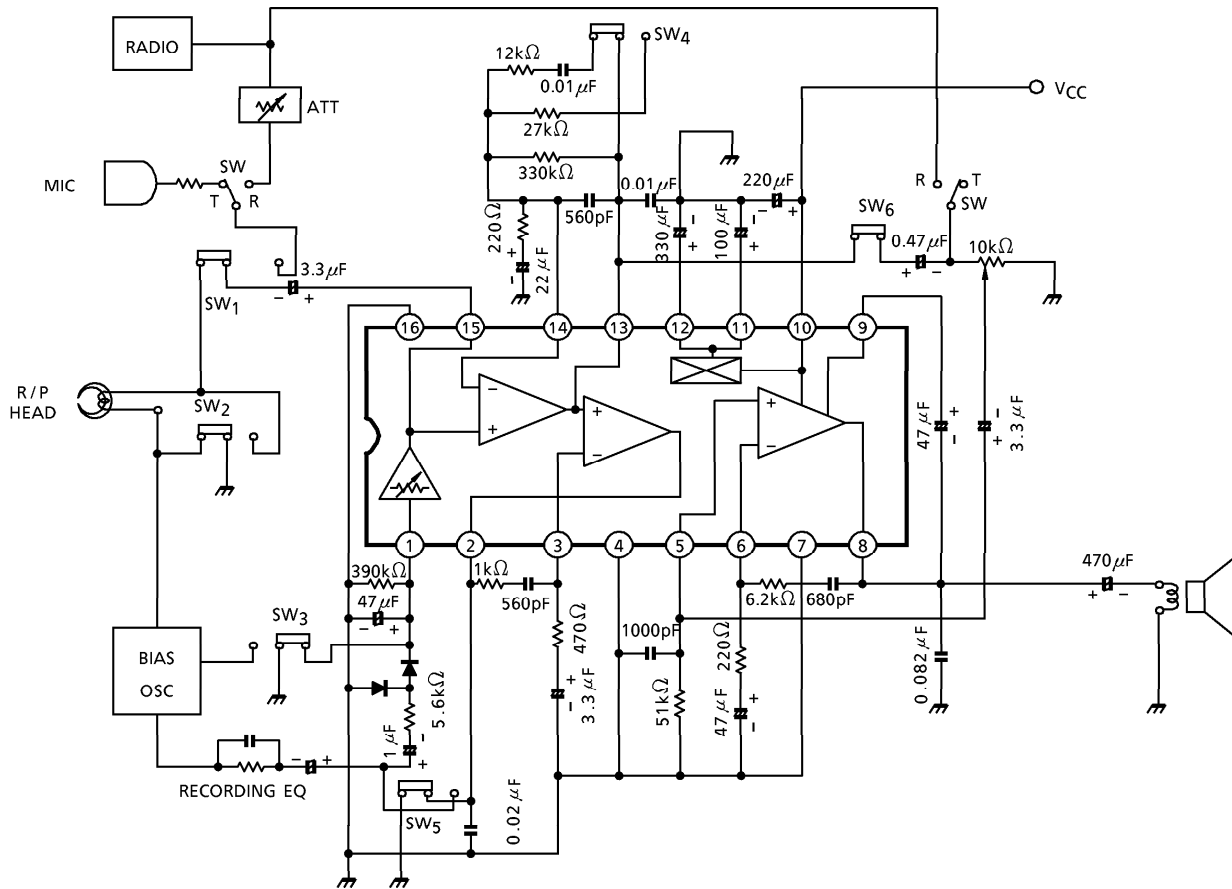
PRE AMP. + BUFFER AMP.

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Closed Loop Voltage Gain	G_{v2}	—	Pre amp. $G_v = 40dB$ Buffer amp. $G_v = 20dB$	—	60	—	dB
Maximum Output Voltage	V_{out2}	—	THD = 3%	1.5	1.7	—	V_{rms}
Output Noise Voltage	V_{no2}	—	$R_g = 0$, $G_{v2} = 60dB$	—	1.2	2.5	mV_{rms}
ALC Effect	ALC1	—	$V_{in} = 0.775mV_{rms}$ (- 60dBm) $\sim 0.0775V_{rms}$ (- 20dBm)	—	2	—	dB
ALC Range	ALC2	—	Range of THD $\leq 1\%$	—	60	—	dB

POWER AMP.

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Open Loop Voltage Gain	G_{vo3}	—	—	60	70	—	dB
Closed Loop Voltage Gain	G_{v3}	—	—	—	40	—	dB
Output Power	P_{out}	—	$R_L = 4\Omega$, THD = 10% $V_{CC} = 9V$, $R_L = 8\Omega$, THD = 10%	0.8 —	0.96 1.4	— —	W
Output Noise Voltage	V_{no3}	—	$R_g = 0$, $G_v = 40dB$	—	0.3	1.0	mV_{rms}

APPLICATION CIRCUIT



SW₁~SW₆ are set for play back.
SW Functions.