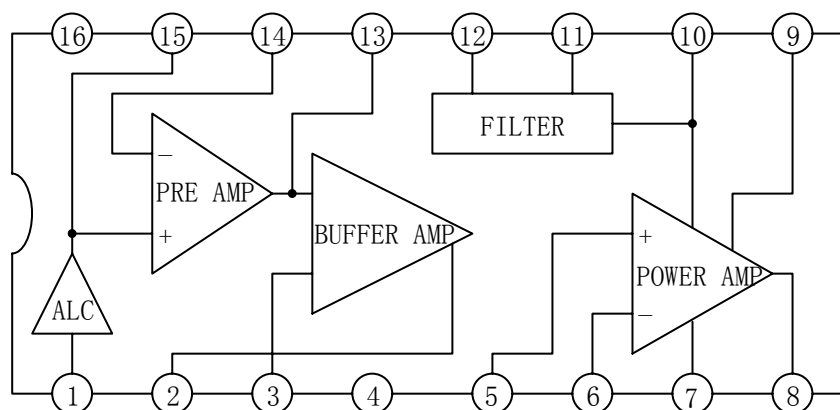


PREAMPLIFIER FOR PLAY OR RECORDER**—YD7738****DESCRIPTION**

The YD7738 is an amplifier system designed for a radio cassette recorder.

FEATURES

- *Recorder play back for Pre amplifier;
- *Buffer amplifier (Recorder amplifier);
- *Power amplifier;
- *Wide operating voltage (3.5V to 9V)。

BLOCK DIAGRAM**WuXi YouDa Electronics Co., Ltd**

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PIN DESCRIPTION

| PIN | Name | Description | PIN | Name | Description |
|-----|--------------------|--|-----|--------------------|-------------------------------------|
| 1 | IN _{ALC} | ALC input | 9 | BS | BS |
| 2 | OUT _{BUF} | Buffer amplifier input | 10 | V _{CC} | Supply voltage |
| 3 | NF _{BUF} | Negative feed back of Buffer amplifier | 11 | FIL | Filter input |
| 4 | NC | NC | 12 | FIL | Filter input |
| 5 | IN _P | Power amplifier input | 13 | OUT _{PRE} | Pre-amplifier output |
| 6 | NF _P | Negative feed back of Power amplifier | 14 | NF _{PRE} | Negative feed back of Pre-amplifier |
| 7 | GND _P | Power GND | 15 | IN _{PRE} | Pre-amplifier input |
| 8 | OUT _P | Power amplifier output | 16 | GND _{PRE} | Pre-GND |

ABSOLUTE MAXIMUM RATINGS (T_{amb}=25°C)

| PARAMETER | SYMBOL | VALUE | UNIT |
|-----------------------|------------------|------------|------|
| Supply Voltage | V _{CC} | 14 | V |
| Output Current | I _{OP} | 1.5 | A |
| Power Dissipation | P _D | 1.2 | W |
| Operating Temperature | T _{amb} | -20 to +75 | °C |
| Storage Temperature | T _{stg} | -55 to 150 | °C |

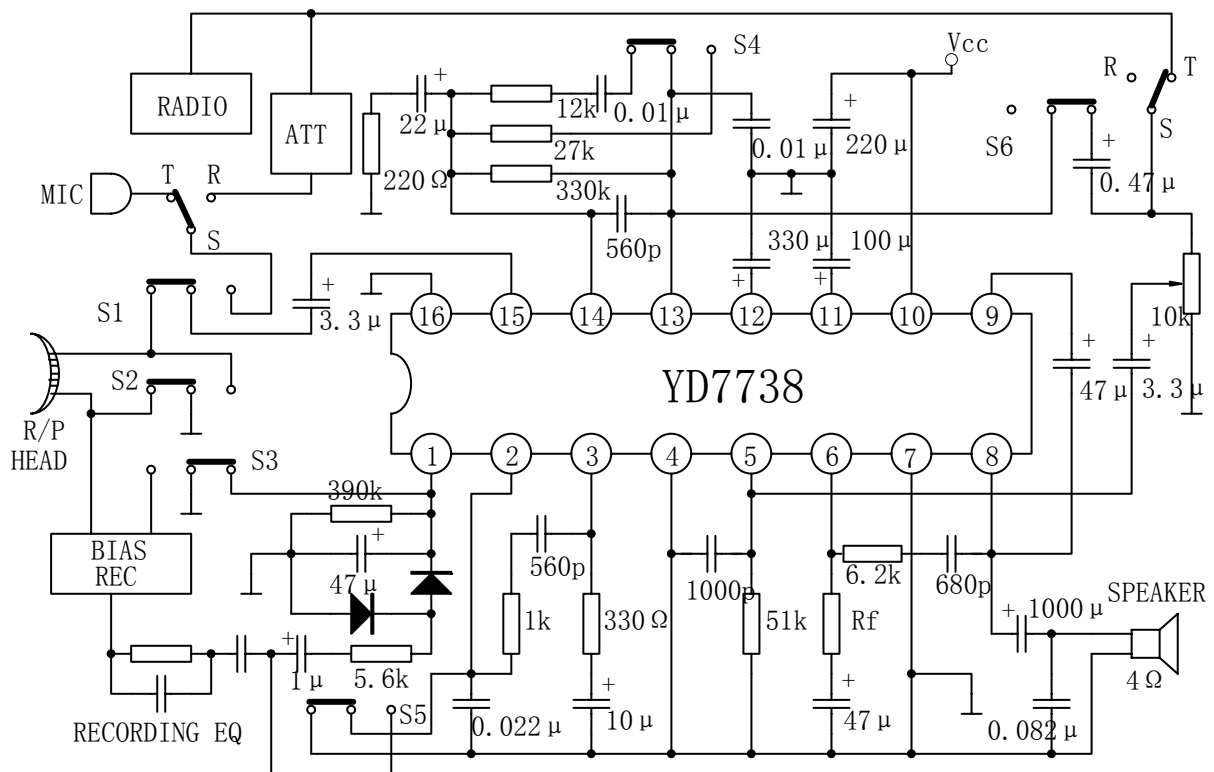
ELECTRICAL CHARACTERISTICS

(Unless otherwise specified, V_{CC}=6V, f=1kHz, T_{amb}=25°C)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|--------------------------------|------------------|-------------------------------------|-----|-----|-----|------|
| Total | | | | | | |
| Quiescent Current | I _{CCQ} | V _{CC} =3.5V | 7.5 | | | mA |
| | | V _{CC} =6V | 11 | | 35 | mA |
| Pre-Amplifier | | | | | | |
| Open Loop Voltage Gain | G _{VO1} | | 55 | 70 | | dB |
| Closed Loop Voltage Gain | G _{V1} | | | 40 | | dB |
| Max. Output Voltage | V _{OM1} | THD ≤ 1.0% | | 0.7 | | V |
| Input Impedance | Z _i | V _o =0.5V _{rms} | | 30 | | kΩ |
| Equivalent Input Noise Voltage | V _{NO1} | R _g =0 | | 1.4 | 2.5 | μV |

| Pre Amplifier + Buffer Amplifier | | | | | | |
|----------------------------------|------|---------------------------------------|-----|------|-----|----|
| Closed Loop Voltage Gain | Gv2 | Pre-Amp: Gv=40dB Buff-Amp: Gv=20dB | | 60 | | dB |
| Max. Output Voltage | Vo2 | THD=3.0% | 1.5 | 1.7 | | V |
| Equivalent Output Noise Voltage | VNO2 | Rg=0, Gv2=60dB | | 1.2 | 2.5 | mV |
| ALC Effect | ALC1 | VIN= -60dBm~-20dBm | | 2 | | dB |
| ALC Range | ALC2 | THD<1.0% | | 60 | | dB |
| Power Amplifier | | | | | | |
| Open Loop Voltage Gain | Gvo3 | | 60 | 70 | | dB |
| Closed Loop Voltage Gain | Gv3 | | | 40 | | dB |
| Maximum Out Power | POM | RL=4Ω, THD=10% | 0.8 | 0.96 | | W |
| | | Vcc=9V, RL=4Ω, THD=10% | | 2.0 | | |
| Output Noise voltage | VNO3 | Rg=0, Gv=40dB | | 0.3 | | mV |

APPLICATION CIRCUIT



1: Rf (pin6) controls the gain of power amplifier

| | | | |
|-------------------------|-------|-------|-------|
| Rf (pin6) value | 180 Ω | 200 Ω | 220 Ω |
| Gain of power amplifier | 42dB | 40 dB | 38 dB |

#2: S1----S6 apply at play estate

OUTLINE DRAWING

DIP-16

unit:mm

