

Double cassette tape recorder dual preamplifier

BA3416BL

The BA3416BL is dual preamplifier (for playback only) that has been designed for use with dual-cassette decks. An internal switch is used to switch the left and right channel inputs between the A and B tape mechanisms.

The playback heads can be directly coupled to the preamplifiers without coupling capacitors, and an internal switch is provided to switch the equalizer characteristics for metal and chrome tape.

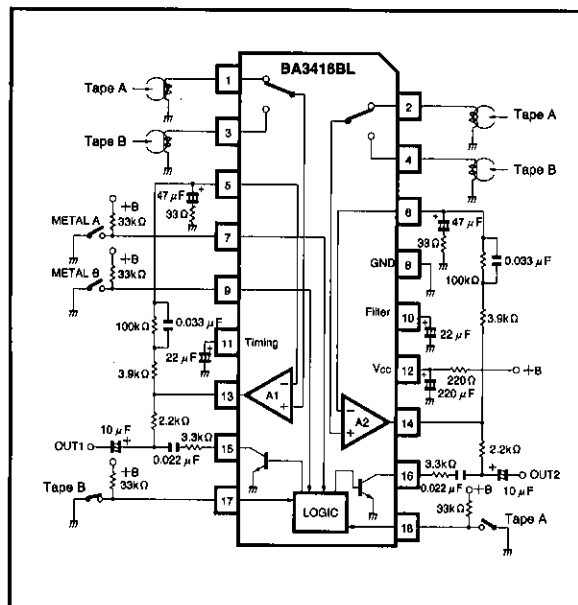
● Applications

Dual-deck stereo radio cassette players

● Features

- 1) Internal tape A/tape B switch for use with dual-cassette decks.
- 2) Internal switch is provided to switch the equalizer characteristics for metal tape playback.
- 3) Input bias circuit does not require coupling capacitors.
- 4) Wide operating supply voltage range ($V_{CC} = 3.5V$ to $12V$).

● Block diagram and external component connections



Preamplifiers

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● Absolute maximum ratings (Ta = 25°C)

| Parameter | Symbol | Limits | Unit |
|-----------------------|------------------|---------|------|
| Supply voltage | V _{CC} | 14 | V |
| Power dissipation | P _d | 400* | mW |
| Operating temperature | T _{opr} | -25~75 | °C |
| Storage temperature | T _{stg} | -55~125 | °C |

* Reduced by 4.0mW for each increase in Ta of 1°C over 25°C.

● Recommended operating conditions (Ta = 25°C)

| Parameter | Symbol | Min. | Typ. | Max. | Unit |
|----------------|-----------------|------|------|------|------|
| Supply voltage | V _{CC} | 3.5 | 8 | 12 | V |

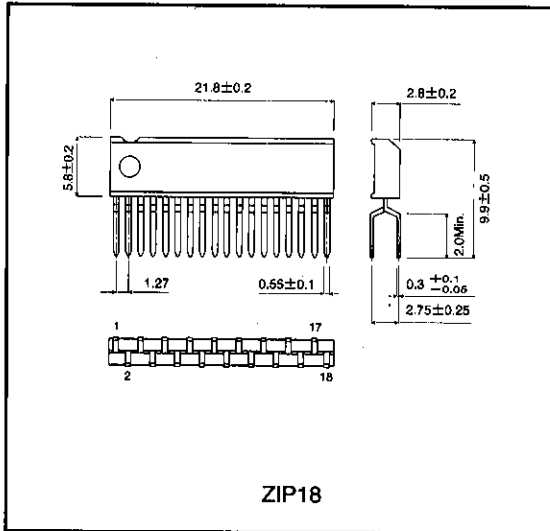
● Electrical characteristics (unless otherwise specified Ta = 25°C, V_{CC} = 8V, f = 1kHz, OUTPUT = pins 13 and 14)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|--------------------------------|------------------|------|------|------|-------------------|--|
| Quiescent current | I _Q | 1.0 | 2.5 | 4.0 | mA | V _{IN} =0V _{rms} |
| Open-circuit voltage gain | G _{VO} | 70 | 84 | — | dB | R _L =10kΩ, V _O =0dBV |
| Maximum output voltage | V _{OM} | 1.0 | 1.8 | — | V _{rms} | THD=1%, R _L =10kΩ |
| Input conversion-noise voltage | V _{NIN} | — | 1.1 | 2.0 | μV _{rms} | R _g =2.2kΩ, NAB45dB BPF (20Hz~20kHz) |
| Input resistance | R _{IN} | — | 130 | — | kΩ | — |
| Channel separation | CS | 55 | 65 | — | dB | V _O =1V _{rms} |
| ChA/ChB crosstalk | CT _{AB} | 60 | 70 | — | dB | V _O =1V _{rms} |
| Total harmonic distortion | THD | — | 0.08 | 0.2 | % | V _O =0.5V _{rms} |

● Tape selection

| 17pin | 18pin | Operating |
|-------|-------|---|
| L | L | TapeB |
| L | H | TapeA |
| H | L | TapeB |
| H | H | Unstable (first pin to go "H" has priority) |

●External dimensions (Unit: mm)



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