



Broadcast Audio
Custom Manufacture
Design and Consultancy

BCD030624
IPPM AES PPM
Connector and Usage

Acrone Ltd
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Power Supply Input J1 3pin Molex

3 pin Molex, Pin1 = Power1, Pin2 = Ground, Pin3 = Power2.

DC Power operation in the range 8V to 30V from one or two power supplies.

AC Power operation at 15V AC from a centre-tapped mains transformer.

DC power appears at J10 pin1 and 5V at J10 pin 10 for lamp operation.

Operating with AC input power is adequate if external LEDs are used, but is not recommended with external Lamps due to the added ripple current demanded from the power supply.

Supply current 100mA from 10V DC, 50mA from 20V DC excluding LED or LAMP or backlight current.

LED or LAMP driver outputs J2 10way Molex (pins corrected 27-2-2006)

Outputs are open-collector, maximum current sink 100mA per output, diode clamped to the incoming DC voltage.

Pin 10 = Incoming DC voltage, for Lamp power. Limit to 200mA maximum from this feed.

Pin 9 = Active in AB mode (V3 software)

Pin 8 = AES lock and Vflag Error : ON for error.

Pin 7 = CLIP indication for left or right : ON for clip in either channel.

Pin 6 = OVER indication for left or right : ON for overload in either channel.

Pin 5 = Spare switch 2 is active : ON for active.

Pin 4 = Spare switch 1 is active : ON for active.

Pin 3 = S+20 switch is active : ON for active. Sum + difference+20 operation if MS mode is active.

Pin 3 = MS switch is active : ON for active.

Pin 1= Local regulated 5V , for Lamp power. Limit to 200mA maximum from this feed.

LED return connector J8. 8way Molex

Eight 470R resistors, each connected to +5V. May be used for LED terminations to LEDs connected to J2 as required.

Local switch inputs J4 8way Molex (pins corrected 27-2-2006)

Inputs are grounding operation, floating to 5V. Connect to grounding switches, or TTL logic inputs.

Pin 8 = MS switch feed.

Pin 7 = Ground return

Pin 6 = S20 switch feed.

Pin 5 = Ground return.

Pin 4 = Spare switch1 feed

Pin 3 = Ground return.

Pin 2 = Spare switch2 feed.

Pin 1 = Ground return.

AES input J6 3way Molex

Pin1 = Input +, Pin 2 = ground, Pin3 = Input -. Transformer balanced input, 110R termination at LK10.

RS422 data port J3 5way Molex

Pin1 = Input +, Pin2 = Input -, Pin 3 = ground, Pin4 = Output +, Pin5 = Output -.

Backlight power port J5 2way Molex.

Pin 1 = 5V out, Pin 2 = ground. Connect to optional backlight card, or may be used for external use up to 100mA.



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Option links

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Option links are software dependant , and currently operate as follows:

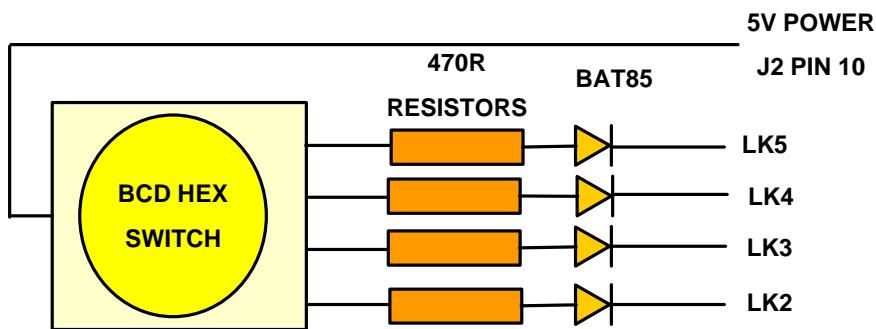
- LK2 Headroom select index 8.
- LK3 Headroom select index 4.
- LK4 Headroom select index 2.
- LK5 Headroom select index 1.

These links may be set to give 16 different headroom/calibration settings, by fitting and removing the Links. Setting 0 is achieved with no links, and Setting 15 is achieved with all of the links fitted.

- LK6 Difference mode calibration. Fitted = 3dB calibration, Not fitted = 0dB calibration.
- LK7 MS and S20 switch mode. Fitted = Toggle operation, Not fitted = Fleeting operation.
- LK8 Spare option mode.
- LK9 Spare option mode.

The above links form part of the internal circuitry, and are not intended for external use, as they are not current limited, and incorrect use may damage or prevent operation of the card.

A BCD hex style switch may be connected to links 2,3,4,5 using the following circuit:



With the above circuit, 16 headroom settings can be achieved. Wiring should be short. Connections to LK2,3,4,5 are towards U1, and away from RP3.



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RS422 control

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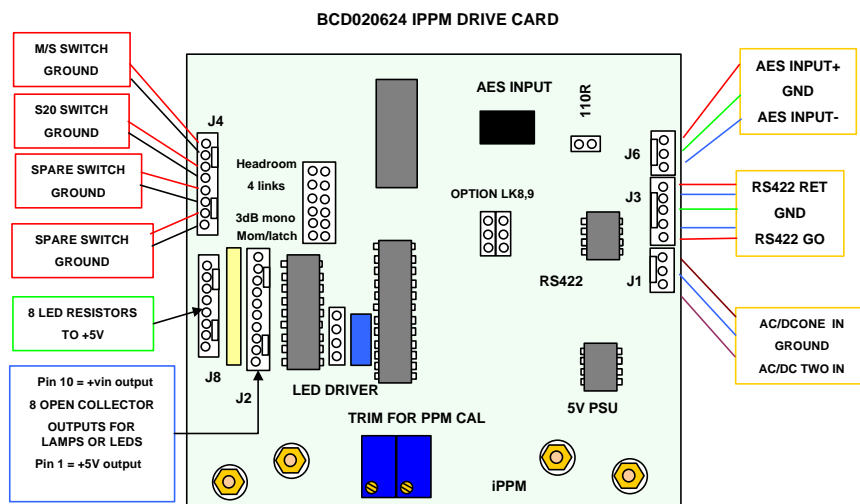
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RS422 Control

RS422 control is software dependant , and will change in future versions of the product.
At power-up or watchdog reset, a copyright banner is printed and the AES receiver chip tested.
Changes to the headroom setting and operating mode controlled by the switches are reported on the RS422 link by a string in the form H=<n> M=<n><nl><ret>.
There are 16 possible headroom settings and 16 possible operating modes, so <n> is a value 0 to F.

New Headroom or operating mode may be selected by entering a string like H4<nl><ret> and M3<nl><ret>.

Future versions of the software may allow direct data entry of PPM level values.



Outline Specification

- AES3 input signal to Analogue PPM driver card.
- Samples supported 24KHz up to 100KHz.
- Stereo Linear signals of 16 to 24bit resolution.
- Output metering achieved with Pulse-width modulation, to an accuracy of 0.1dB.
- Linearity, ballistics and decay time to BS6840.
- Attack time conforms to BS6840, or may be faster to accommodate digital transients.
- Remote and switch control of Mono/ Stereo and S20 modes.
- Remote and jumper control of headroom setting.
- LED or Lamp indications of LOCK, CLIP, OVERLOAD and operating modes.
- RS422 data port.
- AC/DC power port.