APN Number:**42**

APN
Arcom Product Notice

ACEpc BASEBOARD

Introduction

The ACEpc baseboard is a platform for using Arcom processor boards together with AIM 104 I/O modules.

ACEpc Baseboard key features are:

• Field powered at 24VDC nominal
• Terminal breakouts for up to 128 I/O lines
• 16bit and 8bit PC/104 bus support
• RS232 COMMS ports with PC/AT compatible 9way connectors
• 188EB, 386EX, SBC104, Elan-104 processor boards.
• Up to 8 PC104 I/O modules can be installed

Power Input

Power Input The standard power supply for ACEpc is 18watts fully isolated which is capable of supporting up to 5 PC104 I/O modules.

 Other options available are: -

 15watts non-isolated   (up to 4 PC104 I/O modules)

  30 watts isolated   (up to 8 PC104 O/I modules)

The input power can be within the range of 12VDC. To 30VDC.

Over voltage protection and reverse protection are by electronic resetable fuse with a shunt Zener limiter.

On-board supply regulators offer 5VDC (logic) and ±12VDC for RS232 COMMS. Power is shared between the logic supply and the COMMS supply up to the maximum. The maximum taken by COMMS is 2.5W, which is sufficient for up to four Arcom AIM104-SER4C serial boards (giving 16 RS232 PORTS).

Non-isolated power supplies are referenced to the field power supply although the 0V common is separate from the chassis ground. APCpc Baseboard includes the facility for a Ground strap to 0V if this is required for safety or shielding. (See diagram). To connect GND to the system, either use the stud on the case, or wire to the Power Input GND terminal. Use a wire link between the on-board screw terminals 0V and GND to guard against floating 0V.

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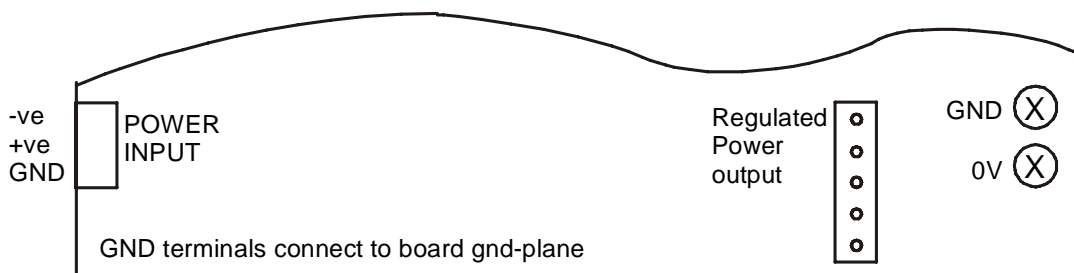
AIM104 Modules

The ACEpc Baseboard has two sites for AIM104 I/O modules, which support a wide range of I/O functions with on board signal conditioning. (See Assembly Drawing on page 4). Using the mounting kits supplied, AIM104 modules can be plugged into either Site and stacked to a maximum of four high (with the high profile cover). External connections are then made through ribbon cable headers translated to screw terminals on the Baseboard.

I/O Connection

AIM104-I/O modules using IDC headers for signal connection have I/O arranged in groups of up to eight signals with two supply references. These 10way groupings can be split out of a multiway ribbon cable for selective use in a system based on the APCpc Baseboard. External wiring can then be made to screw terminal ports with a generic pin designation :

EXTERNAL PIN ASSIGNMENTS
Pin numbers follow the ribbon cable wire number.

PIN	SIG	SIG	PIN
1	REFa	IO0	2
3	IO1	IO2	4
5	IO3	IO4	6
7	IO5	IO6	8
9	IO7	REFb	10
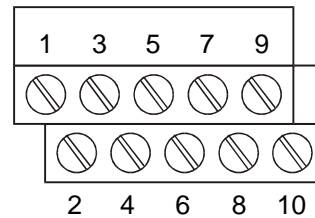
AIM104 modules often include several groups of 10way I/O. By splitting the ribbon cable, only the groups which are required are terminated and maximum use can be made of the screw terminal break-out connectors on the Apex Baseboard. The diagram on the page 4 shows the general assembly of a system.

Linking Information

There are two sites on the ACEpc motherboard where it is possible to remove the EMC filtering components from the I/O connection circuit by simply removing the links. This provision is to enable PC104 modules that are likely to be adversely effected by the addition of another set of filters in the line, such as Arcom's Motion1 board.
 See Assembly drawing on page 4 for more detail.

Accessories and Options

General options for the baseboard product are:

- 188EB, 386EX, SBC104, Elan-104 processor boards.
- Low profile cover (4 AIM modules max.) or High cover (8 AIM modules max.)
- Panel mounting plates or DIN rail mounting feet.
- ACE-TERM pack consisting of 8 connectors to mate up with the I/O sockets fitted to the ACEpc. The breakout details are as described above.
- ACE-CAB50 50way IDC to 5 10 way IDC (10 ways supplied loose) to enable interconnection between the AIM104 modules and the motherboard.

Accessory products:
- COMMS breakout panel for AIM104-SER4C (not avaliable if using the Elan processor)
- SBC104 VGA end plate option

The COMMS breakout panel fits in place of the standard end panel and supports four additional PC/AT style COM connectors. RX/TX activity for each channel is indicated by LED's. This panel is

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designed to plug directly to an AIM module in Site A, thus minimising the internal wiring.
The SBCVGA end plate option gives breakout for VGA, LPT1 and Ethernet connectors.

Development Support

Arcom offers development support for all combinations of the ACEpc in the form of Target Development kits for the 188EB and the 386EX Target processors and ROM-DOS, Remote disk development, and flash filing system available for the SBC104 and the Elan104 processor types, Target software can be developed and debugged on a host PC using Arcoms SourceVIEW development tools. Other software can be developed on a host PC and downloaded to flash via a serial link for the SBC104 and the Elan104.

Specification

- Power input 24VDC nominal (12VDC to 32VDC) non-isolated
- Maximum load 15W, 5V 3A , +12V 80mA, -12V 80mA (power sharing)
- Temperature range -20°C to +70°C ambient
- Dimensions 185mm x 275mm approx. without cables/connectors.
- Mounted in a steel chassis. Giving overall dimensions of approximatly 320mm x 200mm.
- End plate opposite to processor is fitted with cut outs for 9, 25 and 37 way 'D' types for customer specific breakout (filtered 'D' connectors are reccomended for use on this panel to maintain EMC)
- Heights (incl. mtg. brackets)   : Low profile panel mount 94mm.
  : Low profile DIN rail mount 119mm.
  : High profile panel mount 120mm.
  : High profile DIN rail mount 145mm.
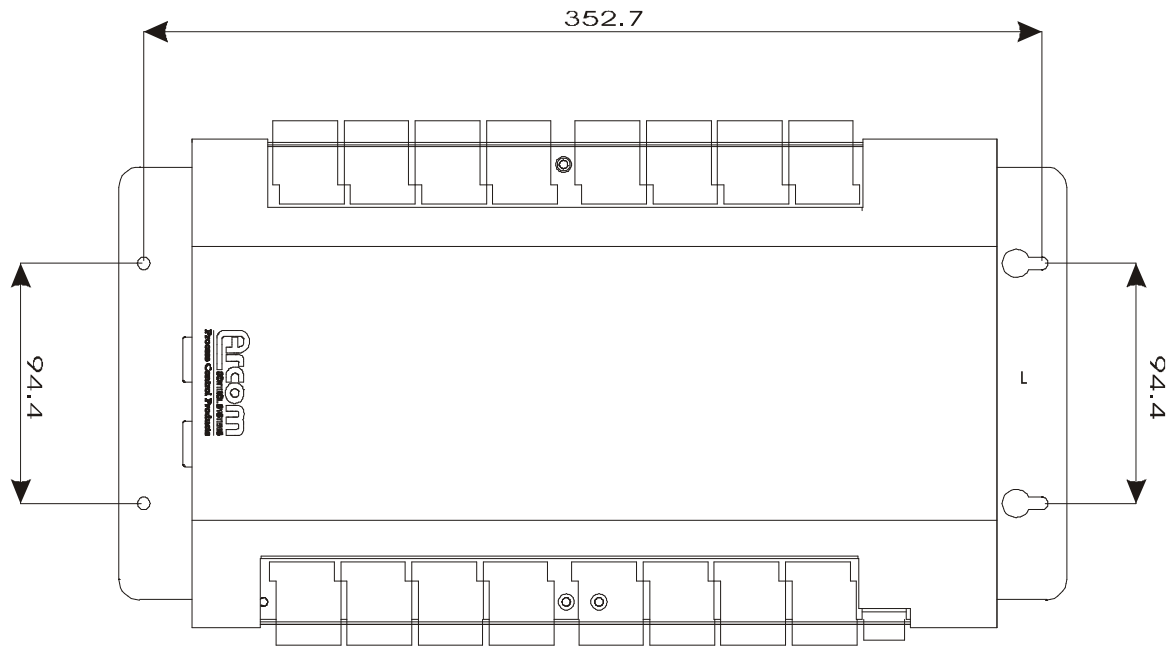
Assembly Drawing

End plate Shown with SBC104 fitted
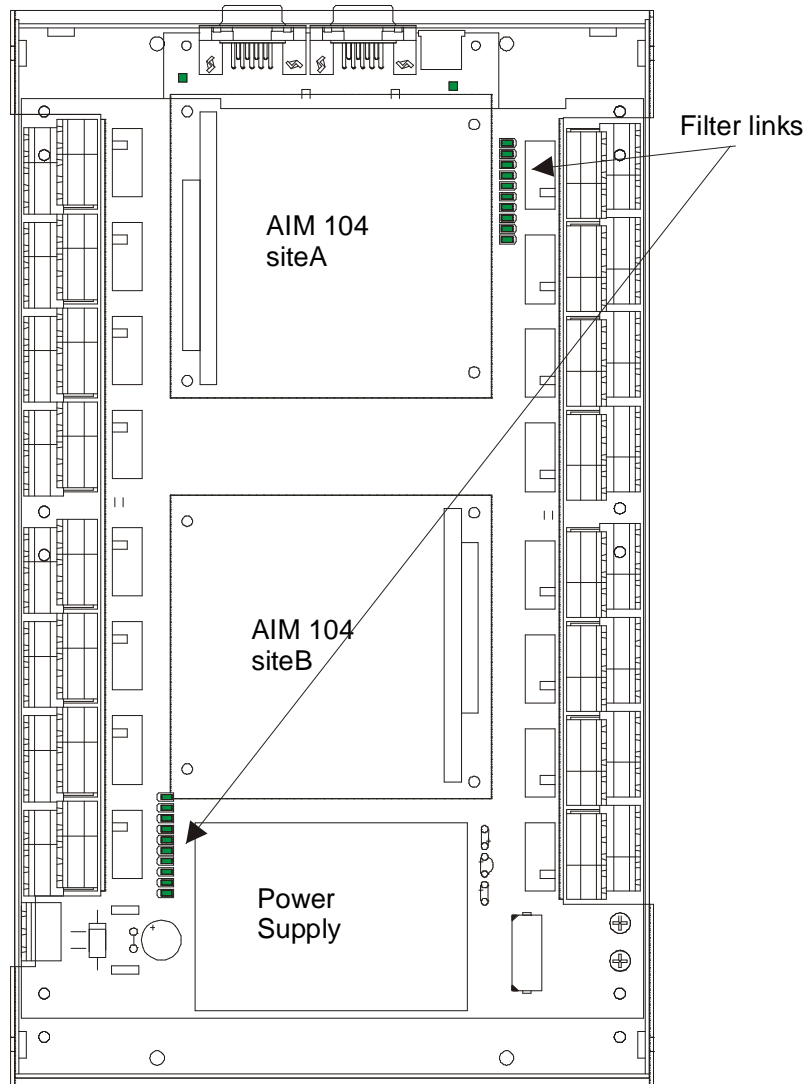
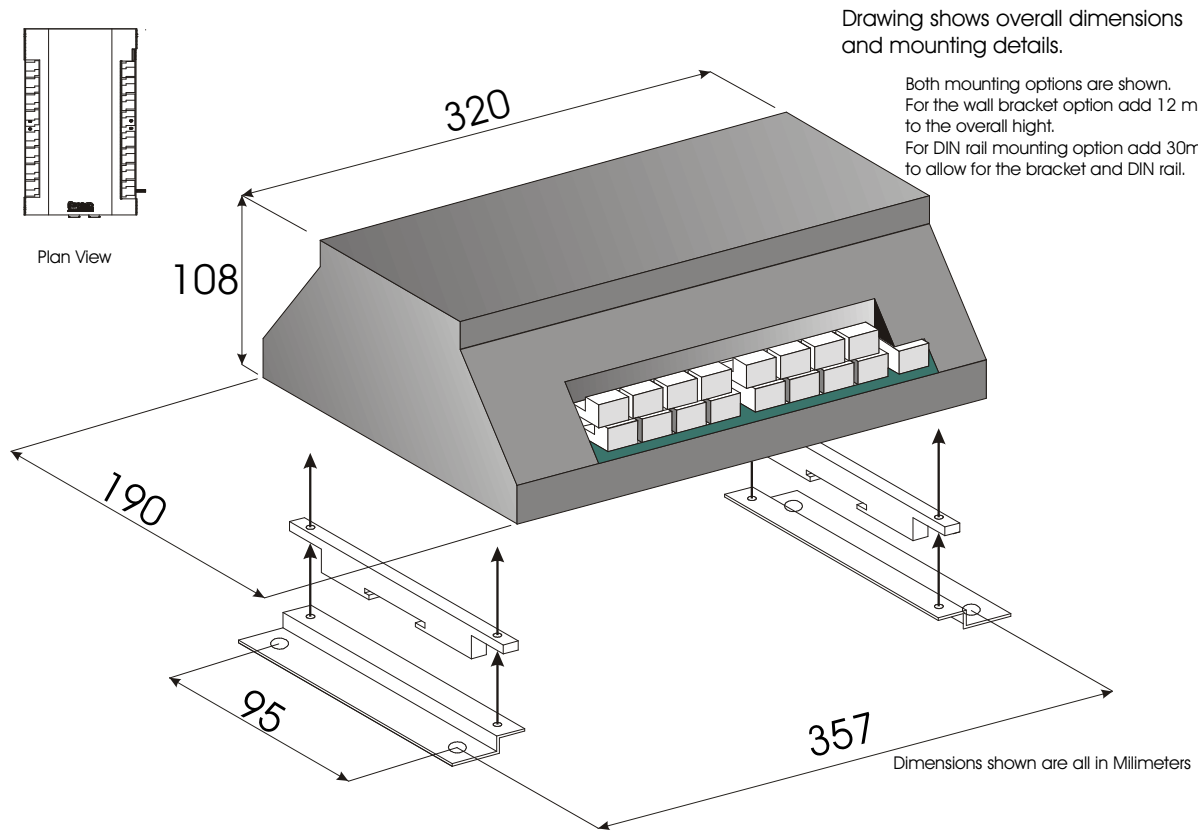End plate fitted with 9,25 and 37way "D" type cutouts
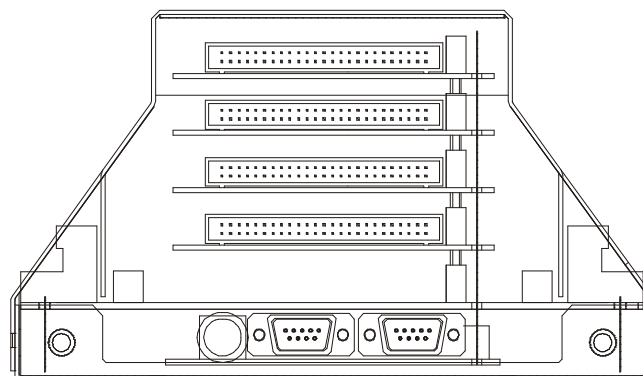
End view showing high profile cover fitted
4 Pc104 modules stacked & Processor Mounted Uderneath

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Wall mounted details

Note: There are a choice of wall mounting brackets (slotted, non slotted or a combination as shown) together with a din rail mounting option.

Plan View

320

108

190

95

357

Drawing shows overall dimensions and mounting details.

Both mounting options are shown. For the wall bracket option add 12 mm to the overall hight. For DIN rail mounting option add 30mm to allow for the bracket and DIN rail.

Dimensions shown are all in Milimeters

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Product Information

Full information about other Arcom products is available via the **Fax-on-Demand System,** (Telephone Numbers are listed below), or by contacting our **WebSite** in the UK at: **www.arcom.co.uk** or in the US at: **www.arcomcontrols.com**

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