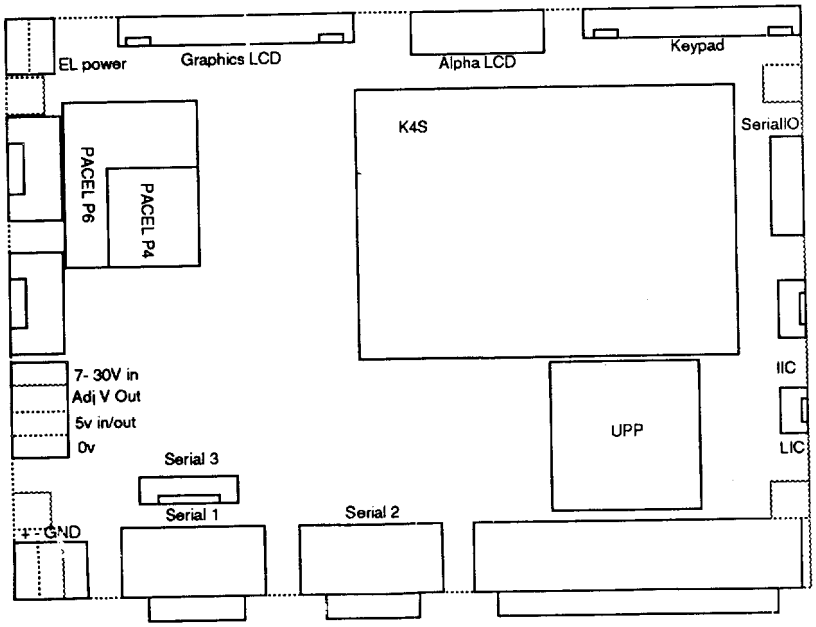
Scorpion K4 Application Board III

Product Code 5525



170 BY 125 mm

Overview

The 5525 Application Board provides a full set of interfaces to implement a sophisticated control station including networking, graphics LCD, analogue input and pulse processing.

Communications

The 5525 has three serial ports.

- Port 1 operates at up to 19,200 baud and is link-selectable between RS232 and RS485 levels. RS485 is used for networking and is half-duplex only.
- Port 2 operates at up to 1200 baud (2400 in some circumstances). It is 'device-selectable' between RS232, and RS485 (half-duplex).
- Port 3 is transmit only at up to 1200 baud at RS232 levels only.

User Interface

Many types of graphics and alphanumeric LCD modules may be connected directly to the 5525. The board has provision for an invertor for electro-luminescent back-lit graphics modules.
Matrix keypads (4 by 4 and 8 by 8) are supported.

10-bit Analogue Input

There are 10 channels of 10-bit analogue input. The input range is 0 to 5 Volts.

Pulse Processing

The I/O co-processor has 16 multi-purpose digital signal lines. These can be programmed for pulse counting (at up to 100KHz), as shaft encoder inputs (at up to 200KHz), for frequency measurement (25ppm resolution), for pulse width measurement (5µs resolution), for pulse generation (5µs resolution) and for simple digital input or output.

I^2C Bus

An I^2C bus allows the 5525 to control any I^2C-compatible slave device. A range of modules can be connected via the I^2C bus, including 128 digital I/O and 40 8-bit analogue I/O.

Long-Distance I²C

A long-distance I²C bus using the new 82B715 device allows I²C communications at up to 20 metres, providing that an 82B715 is used at the remote end.

SerialIO bus

This bus implements the industry-standard Microwire and SPI interfaces, allowing a host of high resolution analogue devices to be connected to the K4.

Adjustable power supply

An adjustable power supply has been included to power ancillary equipment. The output is adjustable between 1.25 and 12 Volts, and can source over 1 Amp.

Power Requirements

The 5525 requires 7 to 30V DC at up to 300mA. Additional heat sinking may be required for high supply voltages and currents.

Connectors

Serial Port 1 (RS232)	9 way 'D' plug - IBM compatible
Serial Port 1 (RS485)	3 way pluggable screw terminals
Serial Port 2	9 way 'D' plug - IBM compatible
Serial Port 3	7 way Molex 6410 header
Graphics LCD	20 way Molex 6410 header
EL backlight	2 way pluggable screw terminals
Alphanumeric LCD	16 way DIL header
Keypad	18 way Molex 6410 header
Power	4 way pluggable screw terminals
Analogue/Pulse	37 way 'D' socket
I²C	5 way Molex 6410 header
Long I²C	4 way Molex 6410 header
SerialIO	14 way DIL header