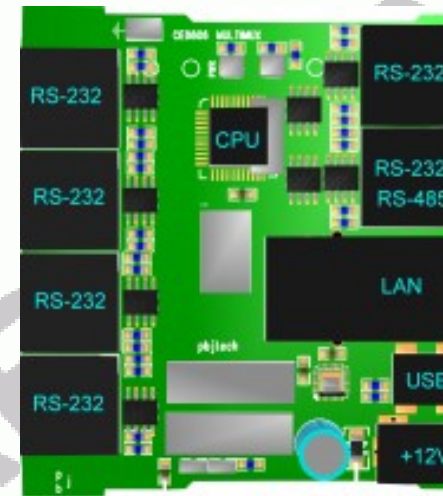


6 Port RS-232 Expandable Multiplexer with LAN & USB

Features

- 6 Active RS-232 Ports fully software buffered
- USB, LAN, and RS-485 ports
- **Expandable via RS-232 or RS-485 ports**
- **8 Core 32-bit processor (P8X32A)**
- Super high-speed Megabaud RS-232 operation & drive
- Individual port settings with any baud rate
- RJ-45 Connections
- Small size, low-power
- Power and status indicators



Overview

Designed primarily as a 6 channel RS-232 multiplexer/demultiplexer the MultiMux is capable of being expanded to any practical limit by cascading additional MultiMuxes. Any port may act as the master port including the USB, LAN, or RS-485 ports. There are various modes of operation which are supported by the processor's eight cores which emulate communications ports. This means that the communications speed and formats are not limited by hardware but are defined by software. Synchronous operations are also possible as are 9-bit data modes etc.

Placed back to back the MultiMux makes an excellent Multiplexer/Demultiplexer linking multiple RS-232 channels over a user defined medium such as RS-485, LAN, Radio etc.

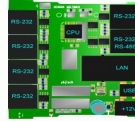
Applications

- Remote equipment access
- Network access serial ports
- Multiple RS-232 long haul connections



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CE0863 MULTIMUX

6 Port RS-232 Expandable Multiplexer with LAN & USB

OPERATION

CPU

Conventional CPUs are interrupt driven single cores with general-purpose peripheral circuits. The MultiMux is different in that it uses the [Parallax Propeller](#) chip which is comprised of eight 20MIP 32-bit CPUs integrated onto a single chip. These CPUs called COGs are capable of emulating hardware peripherals in software in a deterministic real-time manner as well as general processing. As all I/O is general-purpose the ports may be re-tasked to suit application-specific requirements.

RS-232

Each RS-232 port supports 4-wire mode using RTS and CTS. High slew-rate drivers also enable megabaud operation to be possible at RS-232 levels. Most importantly, each port is fully supported by it's own processor which means that individual baud rates and protocols can be set for each port.

RS485

An auxiliary RS-485 port is provided to permit multiple units to be connected together without impacting the RS-232 ports. Alternatively the MultiMux may be accessible from the RS-485 bus to provide remote RS-232 ports in a network.

USB

A standard type mini-B USB connection connects to host devices such as PCs etc. The USB port appears as a communications class device and is assigned a Comport by most PC operating systems. The port can be connected at up to 2Mbps/sec full-duplex.

LAN

Lantronix XPORT technology provides Ethernet connectivity for the MultiMux while assuring that the unit does not need special software to permit connection from the Local Area Network or from the Internet. The XPORT software can emulate virtual communications ports so that the MultiMux can be reached over the Internet as easily as if it were connected directly to the host computer.

POWER

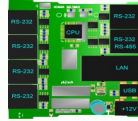
A standard +12V input is utilized directly for the RS-232 drivers which is also complemented by an internal voltage inverter supplying the -12V to power the high slew rate RS-232 drivers. Conventional switch-mode regulation is used before final linear regulation for the CPU and remaining logic.

CONFIGURATION

Configuration of the unit is achieved primarily by means of an ANSI terminal emulator such as Hyperterminal connected through the USB port although other ports may be used as well. Modem style escape sequences cause the MultiMux to exit transparent data mode and enter the command mode. Utilizing either plain text or ANSI graphics the operator may configure the ports and protocols etc.

FIRMWARE

Firmware for the controller is held in serial EEPROM supplemented by the operating kernel and boot-loader in mask ROM. This firmware may be uploaded and verified before being committed to EEPROM.



6 Port RS-232 Expandable Multiplexer with LAN & USB

Specifications

Supply Voltage	+12VDC
Current	100ma
Physical	78mm x 70mm x 15mm (WLH)
Weight	200g approx
Case	1mm Steel, powder-coated
Environment	-40°C to +85°C operating
CPU operating temperature	-55°C to +125°C
Standards	IEC 1010; AS/NZS 3548 EMI/EMC; C Tick compliant

Ports

RS-232 x6	110 to 1M baud, all formats supported
• Handshake	RTS/CTS, XON/XOFF, NONE
• Output Levels	+9/-9V (all outputs fully loaded)
RS-485	110 – 2M baud, all formats supported, Full Fail-Safe
• Protocol	MODBUS, MULTIMUX, or RAW
USB	USB 2.0, FT232R USB UART slave, Mini-B connection
LAN	Lantronix XPORT compatible

CONNECTIONS

RS-232 PORTS COM1 to COM6*

	RS-232		RJ-45
1	CTS	I	Clear to Send
2	DSR	nu	
3	RXD	I	Receive Data
4	GND		
5	GND		
6	TXD	O	Transmit Data
7	DTR	O	+5V output
8	RTS	O	RTS output

ETHERNET LAN

	LAN		RJ-45
1	TX+	O	Differential Ethernet Tx +
2	TX-	O	Differential Ethernet Tx -
3	RX+	I	Differential Ethernet Rx +
4	RX-	I	Differential Ethernet Rx -
5		nu	
6		nu	
7		nu	
8		nu	

RS-485 PORT on COM6 CONNECTOR

	RS-485		RJ-45
1	A	IO	RS-485 DATA
2	B	IO	RS-485 DATA
3			
4	GND		
5	GND		
6			
7			
8			

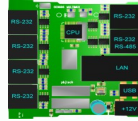
POWER

	2.5mm		
CENTER	+12V	I	
RING	0V	I	



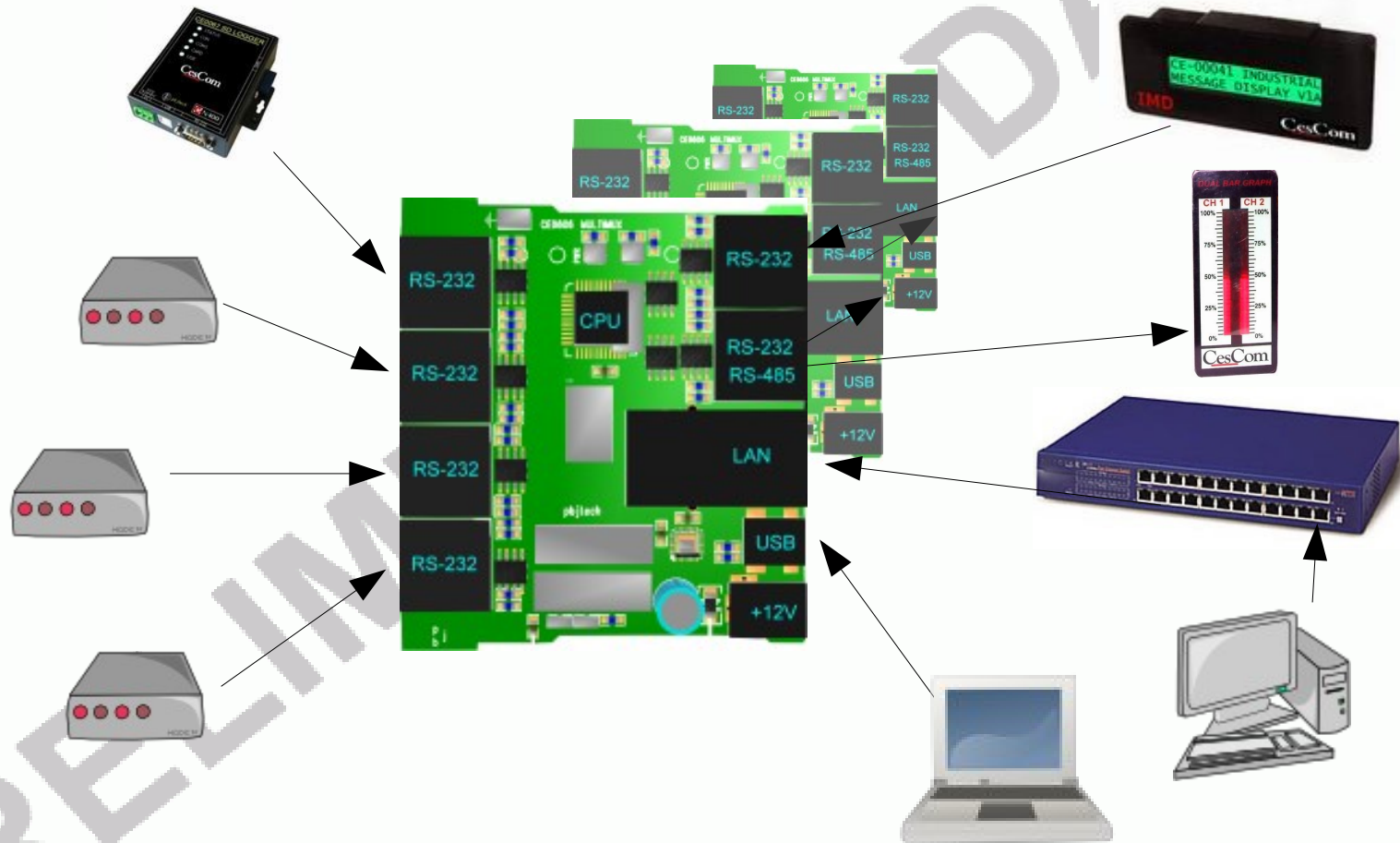
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MultiMux Configuration Example