



*Interfaces RS232 devices as slaves to RS485 networks*

### Features

- **RS232** DB9F
- **RS485** TBUS IDC
- Multisourced power
- P8X32A 32-bit Multicore Processor
- EEPROM
- DB9 Headshell sized
- NTSC/PAL **Video** output
- Network **transparent** RS232 operation



### Overview

Especially designed for interfacing RS232 devices as slaves to RS485 networks the iNODE packs a complete network node into the size of a DB9 headshell. All the network processing is handled by the iNODE and it takes data addressed to it from the bus and presents the original data back to the RS232 device. Conversely the iNODE will accept data from the RS232 device and either hold it until it is polled by the network or else it will act as a peered master and transmit the RS232 data to its programmed destination.

Firmware can be loaded into the device through the RS232 connection which is then stored in onboard EEPROM. The network processor is actually an octal core 32-bit processor where the individual processors emulate peripherals etc so that non-standard communications interfaces can be configured totally in software.

The serial communications ports are fully programmable in standard and non-standard formats and baud-rates.

A PAL/NTSC video output are built-in and is capable of 64 colors at up to 1,024x800. This signal from the Array Processor is available on the DB9 and is totally independent of all the other network resources so its use does not impact upon the performance of the iNODE. This makes the iNODE useful for driving TVs as big message displays over simple multi-dropped RS485 networks.

The unit can be self-powered from the RS232 port using DTR and/or RTS as well as being powered from the bus wiring. An internal regulator will accept 5-12V input.



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### Specifications

<b>Supply Voltage</b>	3 - 12V
<b>Current</b>	30ma
<b>Physical</b>	50mm x 25mm x 15mm (WxHxD)
<b>Environment</b>	0°C to +70°C operating
<b>Case</b>	DB9 plastic headshell
<b>Connections</b>	DB9F, IDC8

<b>RS232</b>	Max 460.8K baud, all formats supported
<b>Handshake</b>	RTS/CTS, XON/XOFF, user specified
<b>RS232 drive</b>	3.3V outputs*, RS232 inputs
<b>RS485</b>	Max 2M baud, all formats supported
	IDC8
<b>PROTOCOLS</b>	MODBUS or custom

### OPERATION

#### RS232 MODE

The RS232 host can operate transparently to the network as the iNODE has ample buffer capacity and processing power. Depending upon the iNODE firmware RS232 hosts may also interact with the iNODE to issue network commands etc. Due to the Array Processor nature of the iNODE it is possible to split the RS232 signals into two RS-232 channels.

#### RS485 NETWORK

The 8-pin IDC header is configured for operation over TBUS networks which are essentially RS485 networks along with power over 8-way IDC cable. TBUS nodes can be introduced anywhere along a cable run by simply crimping an 8-pin plug onto the cable in-situ. For other types of connections the iNODE simply has an 8-way IDC cable connected to the customer selected connector.

RS485 network software is varied but can be accommodated easily from customer supplied specifications whereas the input MODBUS software is well defined and available for immediate operation on MODBUS networks.

### CONNECTIONS

RS485		
1	+VDC	5-12VDC input
2	GND	
3	A	RS485 A (+)
4	B	RS485 B (-)
5	B	RS485 B (-)
6	A	RS485 A (+)
7	GND	
8	+VDC	5-12VDC input

RS232		DB9F
1	DCD	output
2	TXD	RS-232 transmit
3	RXD	RS-232 Transmit
4	DSR	RS-232 power input
5	GND	
6	DTR	Output
7	CTS	input
8	RTS	output
9	COMP	Composite video