

# Synchronous Serial Solutions

## *For rigorous security and intensive data integrity protocols*

Synchronous serial connectivity is an appropriate choice when rigorous security and intensive data integrity protocols are required for high-speed serial communication. It is the communication method of choice for a wide variety of military and commercial systems such as satellite monitoring, radar control, GPS systems, flight recorder data transfers, and HF (High Frequency) e-mail systems to name a few.

Quatech's synchronous serial products are among the most robust on the market, providing deep data FIFOs for interrupt driven communication enabling data to be moved to and from the SCC in large blocks resulting in data speeds up to 4 Mbps (RS-422/485) or 600 kbps (RS-232). The cards' SCC also provides a programmable baud rate generator and digital phase-lock loop (DPLL) for recovering data clocking from received data streams.

SyncDrive Plus (for Windows 2000/XP) and SyncDrive (for Windows 95/98/Me, DOS and OS/2), are frame-level synchronous communication drivers included with all synchronous products. While not application programs themselves, the SyncDrive (Plus) package provides C callable routines and C data structures designed to aid in the development of application software.

- Single port cards for PCMCIA or PCI
- RS-232 or RS-422/485 interface
- Supports BiSync, HDLC and SDLC protocols
- 4 Mbps max data rate (RS-422/485)  
600 kbps max data rate (RS-232)
- 1024 byte transmit and receive FIFOs
- Programmable baud rate generator
- SyncDrive Plus and SyncDrive frame-level driver package included
- Five year warranty

## QUATECH

[www.quatech.com](http://www.quatech.com)



[www.dpie.com](http://www.dpie.com)

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## RS-232 Specifications

**Bus Interface:** MPAP(R): 16-bit PCMCIA  
MPAC: PCI 2.2 compliant

**OS Support:** Windows 95/98/Me/NT/2000/XP, OS/2  
DOS (MPAC only) via SyncDrive software

**Data Rate:** 600 kbps (max)\*  
\* Actual baud rates can be affected by cabling and other factors

**Serial Ports:** 1 synchronous RS-232 port DTE configured

### Serial Port Connectors:

MPAP: Removable Cable with DB-25 male  
MPAPR: Ruggedized Attached Cable with DB-25 male  
MPAC: On-board DB-25 male

**Controller:** MPAP(R): 85230 compatible 16-MHz SCC  
MPAC: Z85230 20-MHz (ESCC)

**FIFOs:** 1024-byte Transmit and Receive FIFOs

### Environment:

**Operating:** 0°C to 70°C  
**Storage:** -50°C to 80°C  
**Humidity:** 10% to 90%

**Power Requirements:** +5V, 30mA (typ)

**Certifications:** CE, FCC Class B

### Ordering Information:

**MPAP-100:** One port RS-232 PC Card with removable cable  
**MPAPR-100:** One port RS-232 PC Card with attached cable  
**MPAC-100:** One port RS-232 PCI board

## RS-422/485 Specifications

**Bus Interface:** 16-bit PCMCIA

**OS Support:** Windows 95/98/Me/NT/2000/XP, OS/2  
via SyncDrive software

**Data Rate:** 2.45 Mbps or 4.0 Mbps with an upgraded crystal.  
\* Actual baud rates can be affected by cabling and other factors

**Serial Ports:** 1 synchronous port configurable for RS-422 or RS-485

**Serial Port Connectors:** Removable Cable with DB-25 male

**Controller:** 85230-compatible 16-MHz SCC  
(contact Quatech sales for upgraded crystals)

**FIFOs:** 1024-byte Transmit and Receive FIFOs

### Environment:

**Operating:** 0°C to 70°C  
**Storage:** -50°C to 80°C  
**Humidity:** 10% to 90%

**Power Requirements:** +5V, 30mA (typ)

**Certifications:** CE, FCC Class B

### Ordering Information:

**MPAP-200/300:** One port RS-422/485 PC Card with removable cable

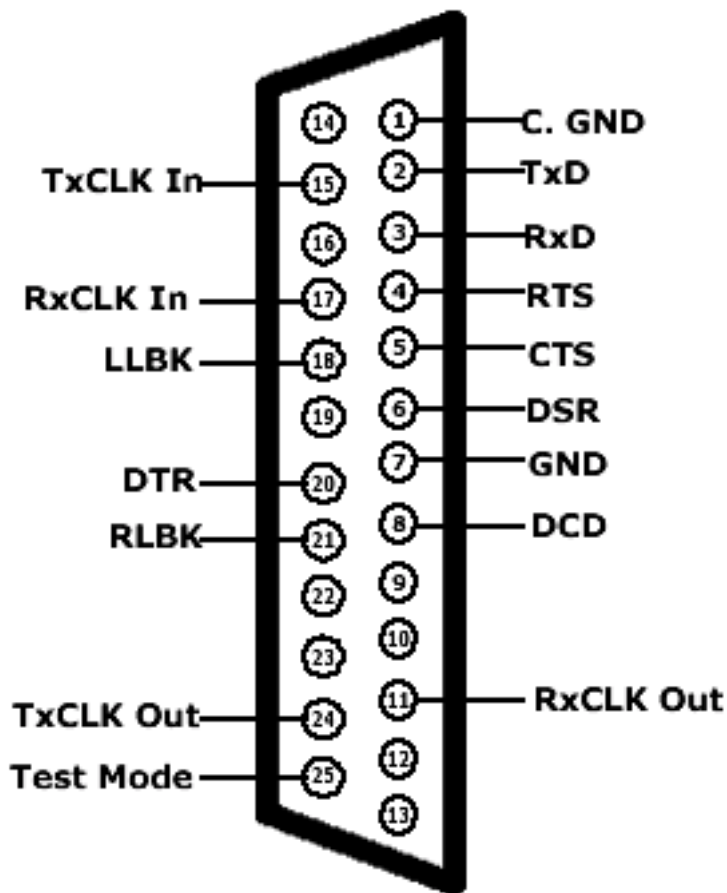
## SyncDrive Plus and SyncDrive Included with All Products

**SyncDrive Plus:** Frame-level HDLC/SDLC driver for Windows 2000/XP

**SyncDrive:** Frame level bit-synchronous (HDLC/SDLC) and byte-synchronous (Monosync/Bisync) driver for Windows 9x/Me, DOS and OS/2

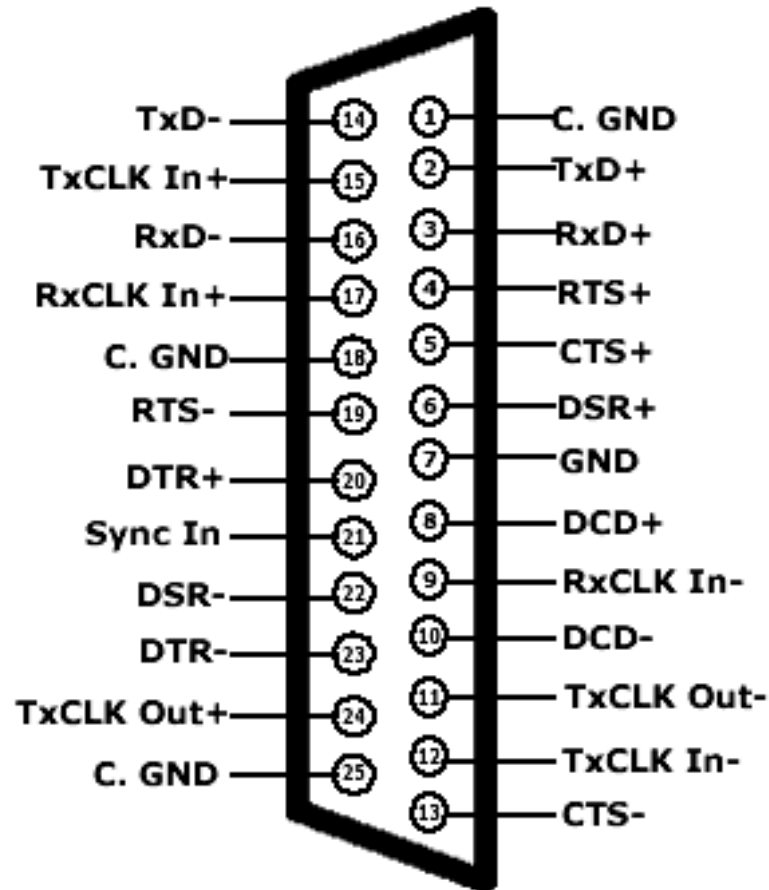
SyncDrive (Plus) is a frame-level synchronous communication driver implemented by a DLL and a device driver. Applications interface to SyncDrive (Plus) through C callable routines and C data structures. The routines provide services for channel configuration, transmitting a buffer, receiving a buffer, setting and monitoring I/O status. Once a handle is opened to the device driver, the application simply reads and writes frames as it would files, without worrying about buffer management, interrupts, or register handling. SyncDrive (Plus) handles start and end flags, synchronization characters, and CRC information on transmit and receive. The C data structures used are for configuration, transmitting and receiving buffers.

## RS-232 Pinout



Pin 1	Chassis Ground
Pin 2	Transmit Data
Pin 3	Receive Data
Pin 4	Request to Send
Pin 5	Clear to Send
Pin 6	Data Set Ready
Pin 7	Signal Ground
Pin 8	Carrier Detect
Pin 11	Receive Clock Out
Pin 15	Transmit Clock In
Pin 17	Receive Clock In
Pin 18	Local Loopback
Pin 20	Data Terminal Ready
Pin 21	Remote Loopback
Pin 24	Transmit Clock Out
Pin 25	Test Mode

## RS-422/485 Pinout



Pin 1	Chassis Ground
Pin 2	Transmit Data+
Pin 3	Receive Data+
Pin 4	Request to Send+
Pin 5	Clear to Send+
Pin 6	Data Set Ready+
Pin 7	Signal Ground
Pin 8	Carrier Detect+
Pin 9	Receive Clock In-
Pin 10	Carrier Detect-
Pin 11	Transmit Clock Out-
Pin 12	Transmit Clock In-
Pin 13	Clear to Send-
Pin 14	Transmit Data-
Pin 15	Transmit Clock In+
Pin 16	Receive Data-
Pin 17	Receive Clock In+
Pin 18	Chassis Ground
Pin 19	Request to Send-
Pin 20	Data Terminal Ready+
Pin 21	Sync In (RS-422 only)
Pin 22	Data Set Ready-
Pin 24	Transmit Clock Out+
Pin 25	Chassis Ground

