

TSAN 001 T96SR MICROCAPP

Dataradio Technical Support

For additional assistance: www.dataradio.com

| | | | |
|-------------------|----------------|---------------|----------------|
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|-------------------|----------------|---------------|----------------|

Product: DCI Technologies Inc., *Micro-CAPP*® RTS (MC-RTS-01)
Dataradio T-96SR Wireless Modem

Application: Provide information necessary for RS-232 RTS/CTS handshake control when no handshaking (DOX – Data Activation Transmission) is available. Tests were conducted at 19,200, 9600 and 4800 bps data rates. The Micro-CAPP converter can be used for all configurations. The primary use of this device is for Data Activated Transmission (DOX) to RTS control of a Dataradio T-96SR Wireless Modem.

The Micro-CAPP will sense data on its host data connector, immediately raise RTS to the wireless modem thus allowing the wireless modem to go into transmit mode and the Micro-CAPP will buffer up to 128 bytes of data while waiting for CTS from the wireless modem. When the wireless modem is ready to transmit it asserts CTS which the Micro-CAPP detects and then releases the data to be transmitted. This provides RTS/CTS transmit control to the T-96SR Wireless Modem and thus allows the host computer or controller to maintain a data activated transmission environment without having to handle any handshaking or timing issues. In addition to this functionality, the Micro-CAPP can also be set-up to watch the state of the Carrier Detect line from the wireless modem receiver and hold off data transmission until the channel is clear.

Power Requirements: The Micro-CAPP RTS will operate on 10 to 30 Vdc and may be operated from the same power source as the T-96SR Wireless Modem.

Connection: The Micro-CAPP can be directly installed by plugging it into the “computer end” of the standard Dataradio T-96SR Data cable, providing seamless DOX Control. The *Micro-CAPP* RTS comes with a DB-9 DCE female connector on the Host Port (see Fig 1). The Wireless modem Port is a DB-9 DTE male connector (see Fig 1).

A four-position DIP switch located on the side of the *Micro-CAPP* RTS is used to configure the bps rate, word length and CD detection mode. An example of a common configuration might be:

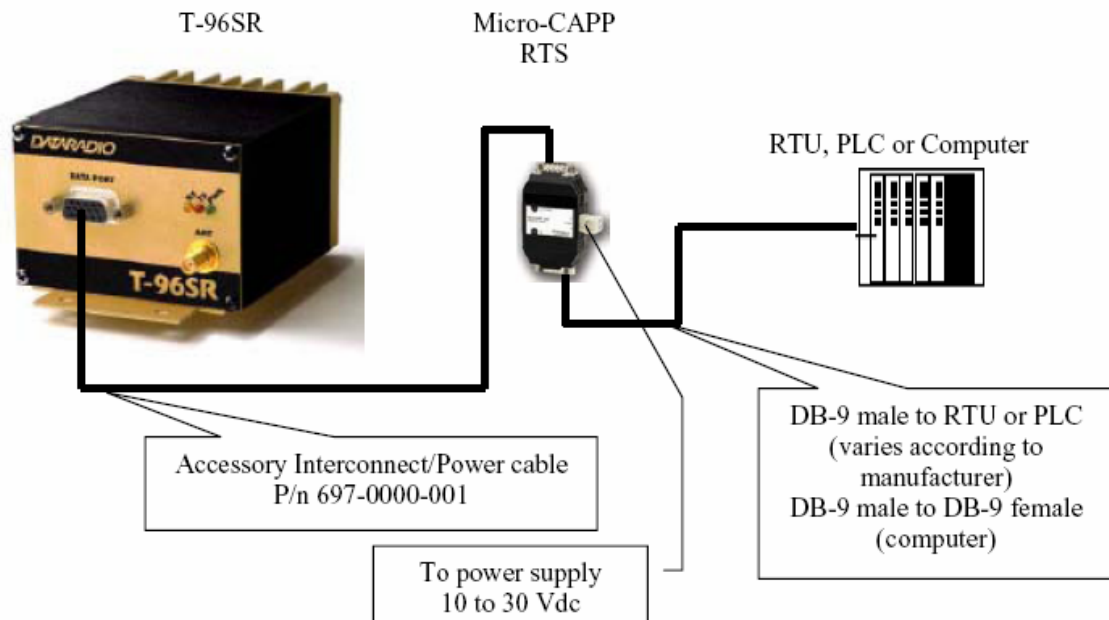
Bps rate = 19200
Data bits = 8
CD = no TX on CD

Bps rate = 9600
Data bits = 8
CD = no TX on CD

The Dipswitch configuration should be set as follows:

| | |
|-------------|-----------|
| 19200 Bps | 9600 Bps |
| Sw 1 = down | Sw 1 = up |
| Sw 2 = down | Sw 2 = up |
| Sw 3 = up | Sw 3 = up |
| Sw 4 = up | Sw 4 = up |

Connection from the Micro-CAPP RTS to the host computer or controller and the T-96SR WIRELESS MODEM is through DB-9 connectors. The connection from the *Micro-CAPP* RTS and the T-96SR WIRELESS MODEM is a Dataradio application cable (p/n 697-0000-001(see Fig. 2)). The cable from the host to the *Micro-CAPP* RTS is a straight through cable (see Fig. 3).



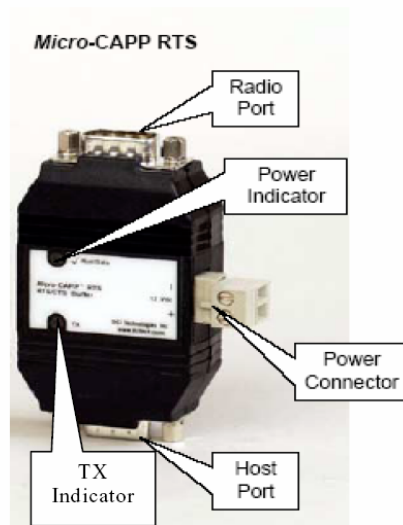


Fig. 1

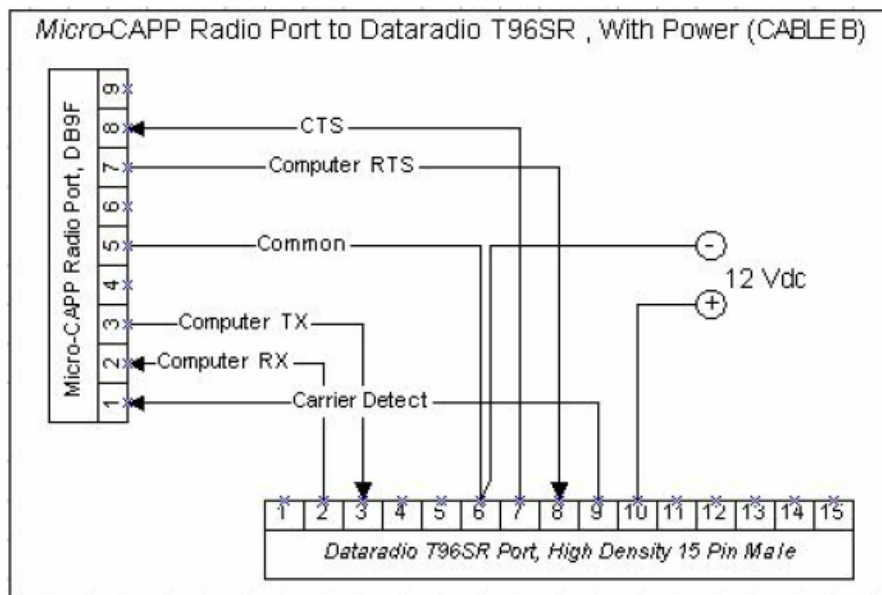


Fig. 2

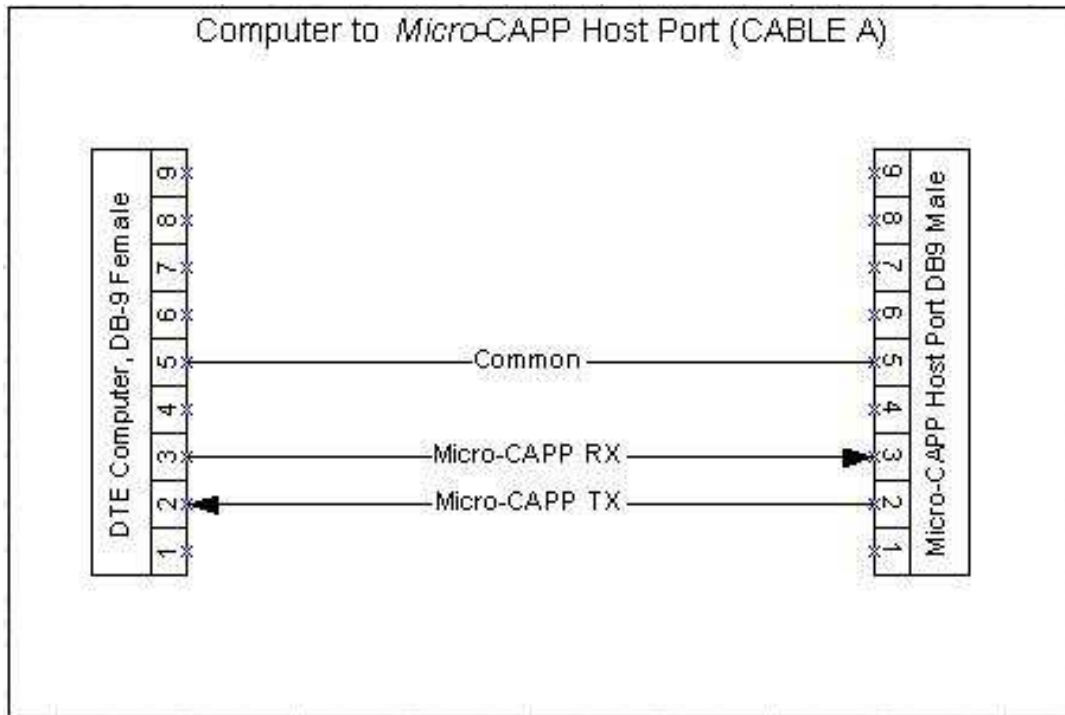


Fig. 3

Micro-CAPP Information:

Micro-CAPP RTS Specifications:

| | |
|---------------------------|--|
| Baud Rate | 1200, 4800, 9600, 19,200 |
| Data Format | 8 or 9 Bit |
| Handshake Control | Turn on RTS when Data Detected, Wait for CTS |
| Carrier Contention | Ignore CD or Buffer Data when CD Present |
| Port Connectors | Standard DB-9's |
| I/O Compatibility | EIA RS-232 |

Hardware:

| |
|--|
| Micro-CAPP® RTS |
| Single Flash Based RISC Processor |
| 128 Byte FIFO |
| Small Case that be inserted in-line in a cable |
| 10 to 30 Vdc Operation |

Micro-CAPP RTS Connector Pinouts

Notation:

Output - Refers to an RS-232 Output

Input - Refers to an RS-232 Input

N/C - Indicates pin not connected

Host Port, DCE 9 Pin Female Connector

| Pin | Name | Direction | Function |
|-----|------|-----------|---|
| 1 | DCD | Output | Direct to Pin 1 of Radio Port |
| 2 | RXD | Output | Direct to Pin 2 of Radio Port |
| 3 | TXD | Input | Data given to the Micro-CAPP to be passed on the Radio Port |
| 4 | DTR | Input | N/C |
| 5 | GND | | Electrical Common |
| 6 | DSR | Output | N/C |
| 7 | RTS | Input | Ignored |
| 8 | CTS | Output | Ignored |
| 9 | RI | Output | N/C |

Radio Port, DTE 9 Pin Male Connector

| Pin | Name | Direction | Function |
|-----|------|-----------|--|
| 1 | DCD | Input | Carrier Detect Signal from Radio Indicating Channel is Busy |
| 2 | RXD | Input | Data Received from the Radio |
| 3 | TXD | Output | Data sent from the Micro-CAPP to the Radio to be Transmitted |
| 4 | DTR | Output | Ignored |
| 5 | GND | | Electrical Common |
| 6 | DSR | Input | Ignored |
| 7 | RTS | Output | Used as a Begin Transmission Signal |
| 8 | CTS | Input | Used for flow control via RTS handshaking |
| 9 | RI | Input | Ignored |

There is also an enhanced version of this product available that can handle baud rate translation and has greater flexibility for buffering and timing. Further information regarding the DCI Technologies *Micro-CAPP* line of products may be found at www.dcitech.com.