

### TSAN 035 T96SR MOSCAD Dataradio Technical Support

For additional assistance: [www.dataradio.com](http://www.dataradio.com)

Within the U.S.A.	1-800-992-7774	International	1-507-833-8819
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**Product:** T-96SR Integrated Wireless Modem

**Application:** Installation instructions and interface information for Dataradio's T-96SR Integrated Wireless Modems and MOSCAD/MOSCAD-L RTU's

**Introduction:** Motorola offers the MOSCAD™ family of smart Remote Terminal Units (RTUs) for the most popular SCADA applications:

- Water distribution and Waste Water Handling
- Electricity Substation and Distribution Automation
- Oil and Gas Pipelines and Substation Control
- Public Safety: Siren Control and Flood Monitoring

MOSCAD™ RTUs are microprocessor-based with large memory capacity that can make control decisions on-site based on status conditions and values from local and remote sources.

MOSCAD™ permits communications to occur RTU-to-central and RTU-to-RTU (peer-to-peer). Communications may occur between individual units or may be broadcast to several units simultaneously. Store-&-forward may be employed to pass messages RTU-to-RTU throughout the system.

The T-96SR is a transparent real-time wireless modem designed primarily for SCADA (Supervisory Control and Data Acquisition) and telemetry use.



Dataradio's T-96SR Integrated Wireless Modem

#### Features of the T-96SR include:

- Data speeds of 4800 to 19200 b/s (9600 b/s maximum in half-channels) using a standard RS-232 interface

- Built-in 8 channel synthesized radio transceiver for VHF, UHF, and 900 MHz
- Power output of 1 W to 5 W (software controlled)
- Half duplex or simplex operation
- Transmit control via RTS
- Online diagnostics monitoring
- Offline local and remote diagnostics
- Compatible with Dataradio T-Base for base station or repeater use
- Compatible with any Dataradio Interoperability Standard (DI-OS) equipment including the T-96S for data rates of 4800 and 9600 b/s.

The MOSCAD RTUs can connect either to the 12.5KHz 9600bps or to the 25KHz 19200bps T-96SR radio.

RTUs can be ordered with the following T-96SR installation kit options:

MOSCAD: V146

MOSCAD-L: V146

The T-96SR installation kits can be ordered separately as follows:

MOSCAD: FLN3228

MOSCAD-L: FLN3229

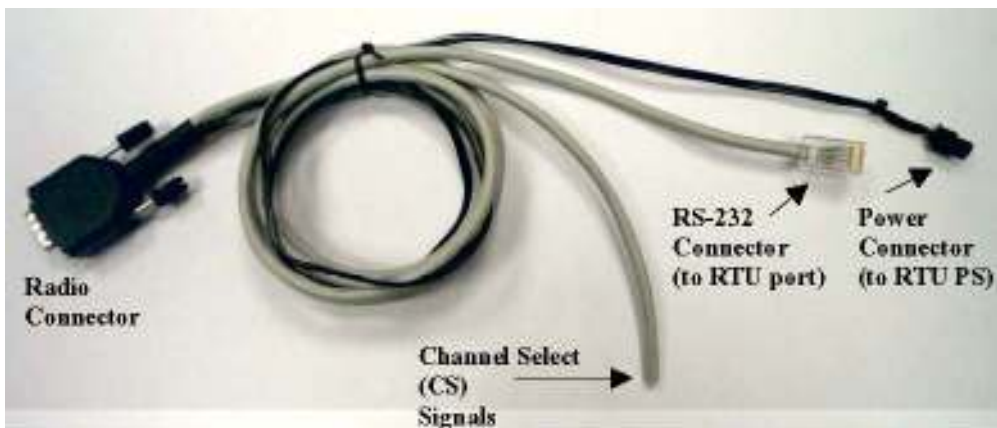
The option kits include a bracket, interface cable, antenna connector cable and installation instructions.



**MOSCAD with T-96SR**



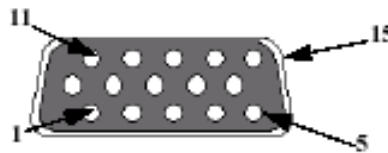
**MOSCAD-L with T-96SR**



**Interface cable (FKN8173A)**

### Radio Connector description:

- 1 Ground
- 2 Rx Data
- 3 TX Data
- 4 Test Audio
- 5 B+ Power
- 6 Ground
- 7 CTS
- 8 RTS 13
- 9 DCD
- 10 B+ Power
- 11 CS 0 (white/orange)
- 12 CS 1 (orange)
- 13 CS 2 (white/blue)
- 14 RSSI
- 15 DTR\_PGM

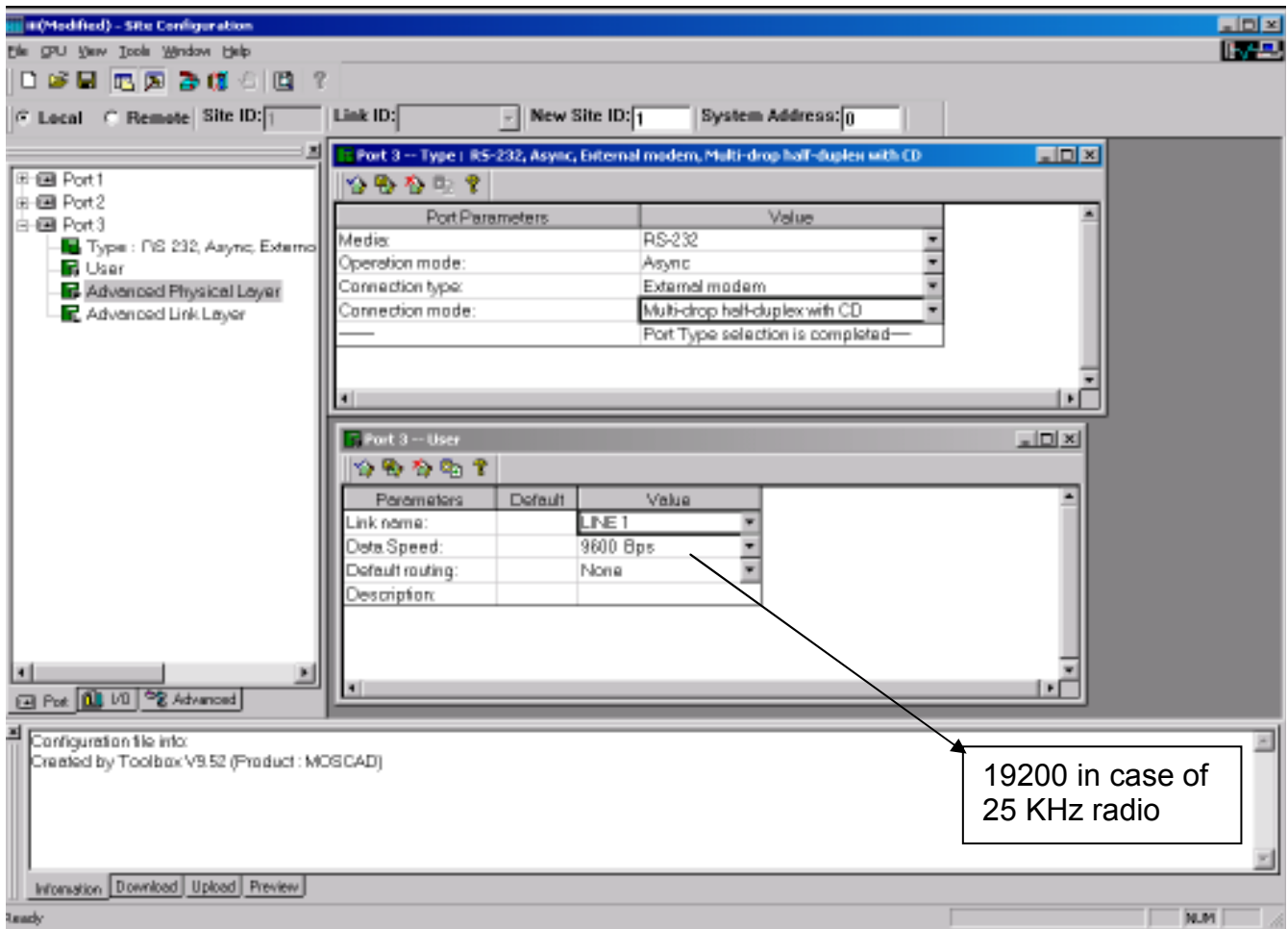


The channel select wires (CS0-CS2) can be connected to digital outputs in the RTU. This way the RTU program can select the T-96SR frequency channel.

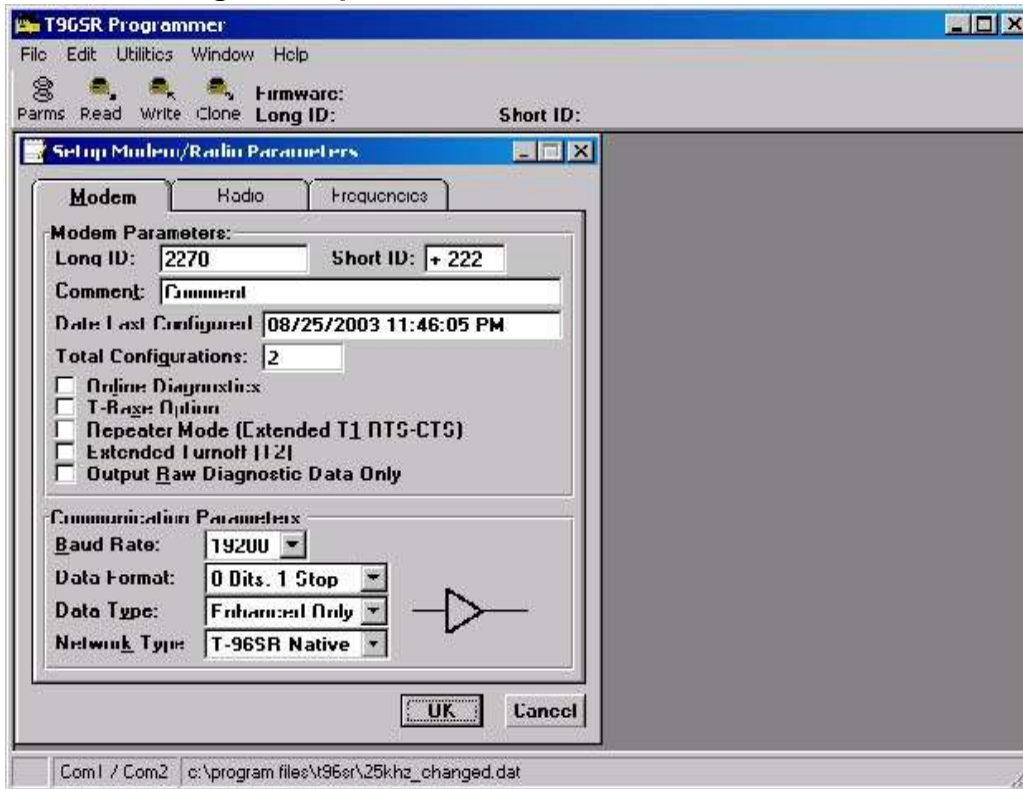
*Note: if signals CS0-CS1 are not used, make sure that their corresponding wires in the cable open end are not exposed to prevent unwanted channel selection.*

### MOSCAD Setting for T-96SR

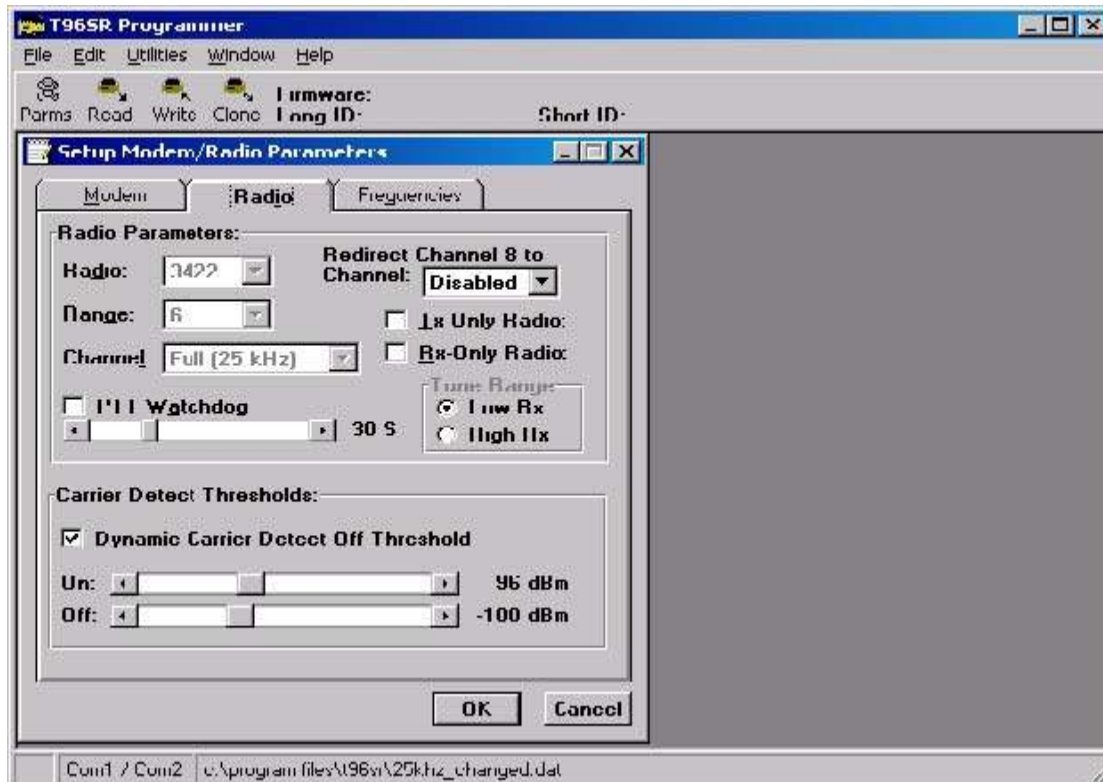
The MOSCAD ToolBox screen below describes the setting of the RS-232 port for T96-SR.

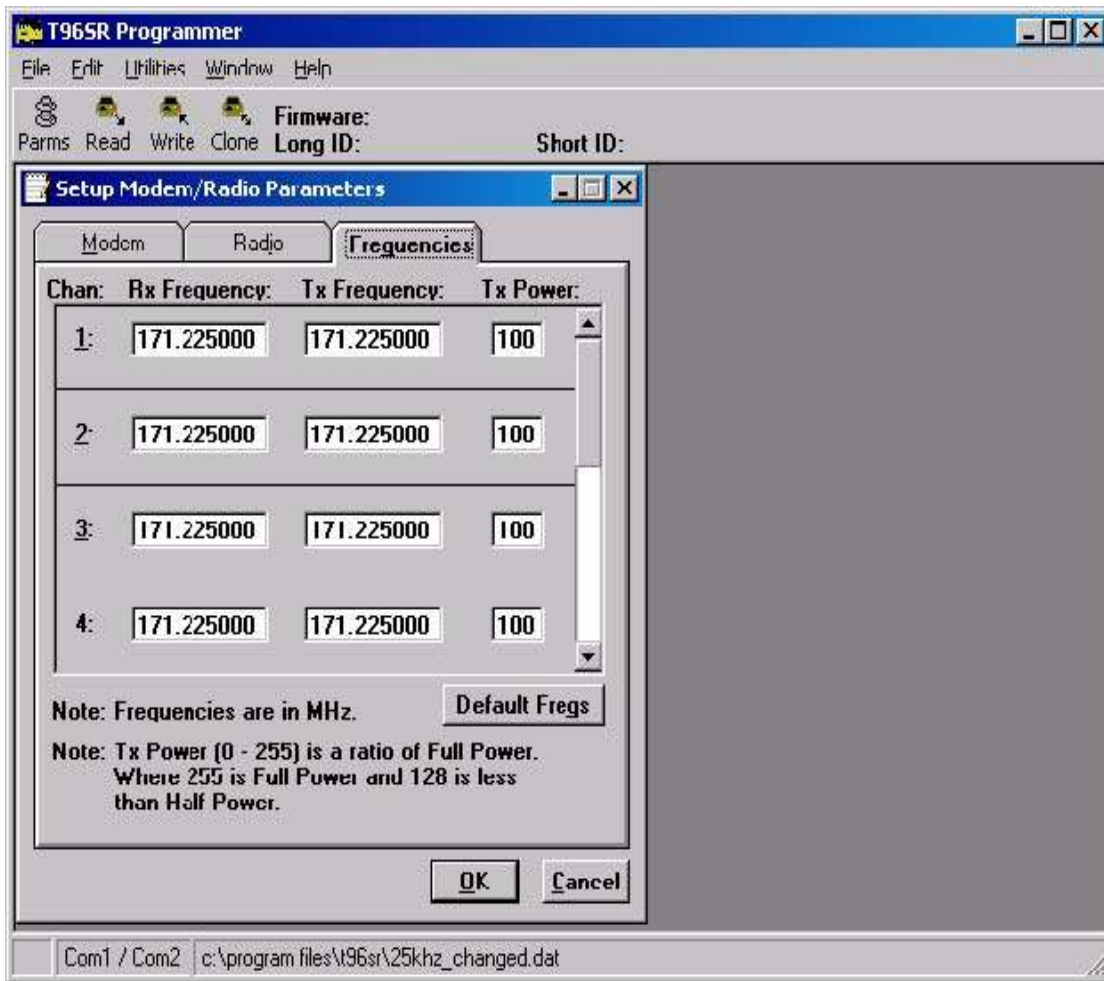


### T-96SR settings example for MOSCAD



Online Diagnostics is not selected in order to decrease RTS to CTS time.





The MOSCAD is working in a signal frequency mode. The power output is changed according to the requirements of the application.