APPENDIX L: MS-DMT Remote Control

The Data Port can be used for Modem Remote Control by a dumb terminal or dedicated application in support of Data Link Protocol implementation.

The commands are simple ASCII based structures that provide for both control of modem parameters as well as query of parameters.

Full error checking of commands is provided where a minimum amount of each command must be correct for trapping purposes.

Commands sent to the modem do not require termination such as a Carriage Return and Line Feed.

When the Modem is sending the Data Port DTR line is held high. There is also a Remote control query of the current "TRANSMIT" state.

COMMANDS

VERSION:

As of MS-DMT v1.0.1 b1.0.1.4 TB#7 the version of MS-DMT can be queried via remote control command:

Command syntax:

<<CMD:VER?>>

The data returned will be in the format of:

<<CMD:VER?>>vnnnbnnnntbnnnn

Where v**nnn** is the version, b**nnnn** is the build and tb**nnnn** is the test build.

When it is a production release tb**nnnn** will be "tb9999".

Where for example with for v1.01 b1.0.1.4 Test Build #7 the data returned would be:

<<CMD:VER?>>v101b1014tb7000

The returned data will terminate with a Carriage Return and Line feed.

For any previous version of MS-DMT the command will return an error message.

<<CMD:ERROR:> <<CMD:TX?>>

NOTE: There shall also be a VERSION.DAT file created in the folder where the MSDMT_32.EXE resides which shall contain the current version information in the same format presented herein.

SEND FILE:

The SEND FILE command provides the means for a cohosted external application running on the same computer.

Alternately an application running on another computer that has file system access to the computer running the modem can also be used. The speed of sending a message is increased exponentially sending from a file rather than buffered serial I/O using the Data Port.

The idea is that the external terminal application will place a file with the data to be sent on a drive of the host computer running the modem. Then the external terminal application will use the "SEND FILE" command to send the message content from that file.

The file can be located anywhere on the computer drive(s) using any file name and can be of any data type required, ASCII or BINARY as long as all stations are properly configured to support the file content. The file size cannot exceed 32kb.

Command syntax:

<<CMD:SEND FILE>>C:\\subdirectory\\filename.txt<>

Note: Windows has path naming requirements and limits that must be followed, see: https://msdn.microsoft.com/en-us/library/windows/desktop/aa365247(v=vs.85).aspx

Example:

<<CMD:SEND FILE>>C:\\TEMP\\message.txt<>

Note: The use of double back slashes (\\) verses a single back slash (\) is required for all path level directory and file naming separation.

Note: The "SEND FILE" absolutely will not work properly if <u>NOT</u> terminated with <> as detailed.

Note: The use of the same case in the path/filename as created when called is a good idea should it ever be mandated in future versions of Windows.

There is no query request. Errors that can be returned pertain to file missing or file too large or command syntax error.

<<CMD:ERROR: FILE NOT FOUND>[path/file name]

DATA RATE/INTERLEAVE:

Command syntax:

<<CMD:DATA RATE>>nU

or

<<CMD:DATA RATE>>nL

or

<<CMD:DATA RATE>>nS

The Data Rate and Interleave must always be provided at the same time.

Where for MS-110A the Data Rate provided (n) and Interleave choices of SHORT (S) or LONG (L) can be provided for n as 75, 150, 300, 600, 1200, 2400 or 4800 for Uncoded (U).

Examples when using MS110A:

<<CMD:DATA RATE>>4800U

<<CMD:DATA RATE>>75L

<<CMD:DATA RATE>>600S

Note: The range of arguments for the command <<CMD:DATA RATE>> shall be Modem specific. The addition of more Modem selections will bring about different choices. For example MS110B supports all but the 4800U as in MS110B 4800bps is coded and requires interleave settings. MS110B also adds a number of Data Rates as well as additional Interleave selections for those data rates.

Query the current TX Data Rate and Interleave setting:

<<CMD:DATA RATE?>>

Returns:

<<CMD:DATA RATE?>>nn..nnnnX

The returned data will terminate with a Carriage Return and Line feed.

RX DATA RATE:

Query the RX Data Rate for Auto Detect waveforms such as MS110A.

<CMD:RXDATARATE?>>

Returns:

<CMD:RXDATARATE?>>nn..nnnn BPS xxxx

Where nn.nnnn is the numeric data rate and where xxxx is the Interleave, i.e. SHORT or LONG, etc.

For example:

<<CMD:RXMODE?>>300 BPS LONG

This data is returned directly from the Modem core and is the same information that is displayed in the mode display during decoding of an incoming message.

NOTE: If <CMD:RXDATARATE?>> is issued during an incoming message it will provide the current incoming data rate and interleave setting. If <CMD:RXDATARATE?>> issued at modem start it should always return the value of "75 BPS SHORT" for the MS110A modem. If <CMD:RXDATARATE?>> is issued after an incoming message it will return the parameters for the previous transmission.

MODE:

Command syntax:

<<CMD:MODE mode>>

Example:

<<CMD:MODE ASYNC_EOM>>

or

<<CMD:MODE SYNC_EOM>>

or

<<CMD:MODE SYNC_NOE>>

Query the current mode:

<<CMD:MODE?>>

Returns:

<<CMD:MODE?>>ASYNC_EOM

or

<CMD:MODE?>>SYNC_EOM

or

<<CMD:MODE?>>SYNC_NOE

The returned data will terminate with a Carriage Return and Line feed.

PSK CARRIER:

Command syntax:

<<CMD:PSK CAR>>n

Where n = 1800, 1650 or 1500

Example: <<CMD:PSK CAR>>1800

Note: For STANAG 4529 the standard defines a number of PSK Carrier selections which may be implemented when S4529 support is provided. If additional selections are implemented, they would only be exposed for selectin when S4529 is selected as the modem.

Query the current PSK Carrier:

<<CMD:PSK CAR?>>

Returns:

<<CMD:PSK CAR?>>nnnn

The returned data will terminate with a Carriage Return and Line feed.

RESET MODEM:

<<CMD:RESET MDM>>

This command has the same effect as clicking the RESET button to reset the receiver. It is provided for a third party application use when running a Data Link Protocol over the modem via the Data Port. This command would be used when the EOM for the DLP is decoded so that the DLP can reset the modem.

There is no query request for RESET MDM.

EXIT MODEM:

<<CMD:EXIT MDM>>

This command has the same effect as clicking the EXIT button.

There is no Query request for EXIT MDM.

RESET ON NULL (RoN):

<<CMD:RON ENABLE>>

or

<<CMD:RON DISABLE>>

Query the current RoN state:

<<CMD:RON?>>

Returns:

<<CMD:RON?>>ENABLED

or

<<CMD:RON?>>DISABLED

The returned data will terminate with a Carriage Return and Line feed.

EOM ALARM:

<<CMD:ALARM ENABLE>>

or

<<CMD:ALARM DISABLE>>

Query the current ALARM state:

<<CMD:ALARM?>>

Returns:

<<CMD:ALARM?>>ENABLED

or

<<CMD:ALARM?>>DISABLED

The returned data will terminate with a Carriage Return and Line feed.

TRANS:

<<CMD:TRANS ENABLE>>

or

<<CMD:TRANS DISABLE>>

Query the current TRANS state:

<<CMD:TRANS?>>

Returns:

<CMD:TRANS?>>ENABLED

or

<<CMD:TRANS?>>DISABLED

The returned data will terminate with a Carriage Return and Line feed.

TRANSMIT State:

<<CMD:TX?>>

Returns:

<<CMD:TX?>>TX

or

<<CMD:TX?>>RX

The returned data will terminate with a Carriage Return and Line feed.

NOTE: When the Modem is sending the Data Port DTR line is held high to indicate the modem is in TX and DTR is low to indicate RX.

ERROR:

A message will be returned where the first 11 characters will always be: <<CMD:ERROR

The error message may be <<CMD:ERROR>> with and echo the erroneous command received.

In addition in the case of the command "SEND FILE", the error message may be <<CMD:ERROR: xxx>> where the xxx is pertinent information regarding the error predicated on the command that was received. For example:

<<CMD:ERROR: FILE NOT FOUND>>

or

<<CMD:ERROR: FILE TOO LARGE>>

The returned data will terminate with a Carriage Return and Line feed.