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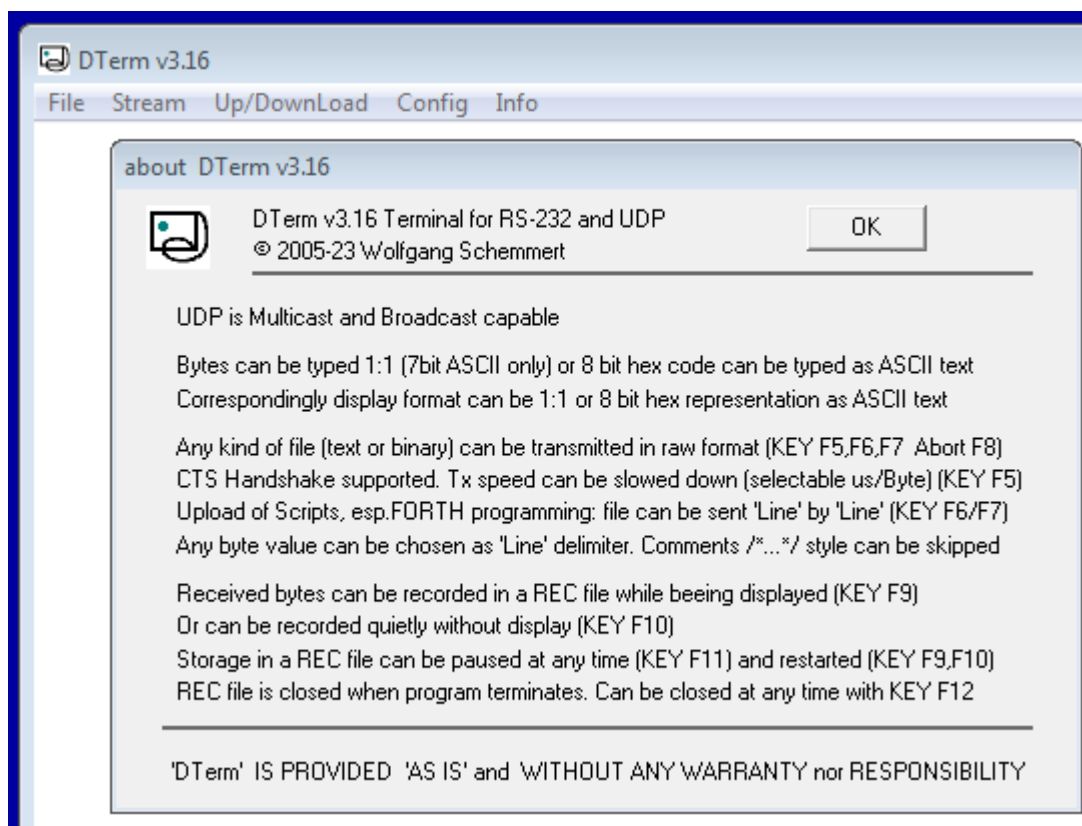
DTerm user manual

DTerm is a **terminal emulation for WindowsTM to send and receive RS-232 bytes as well as UDP packets** - latter feature comparable with a TCP Telnet session, but without the need to maintain a "connection".

Additionally transmission and reception of raw bytes and complete files is possible. It has been tested to work with Windows 98, 2000, XP,7 and 10.

In version 3.16 incremental script or source code upload has been improved furthermore, which is specially useful for my [STM32 CForth project](#) and my [ATmega Avise project](#)
A similar software specially designed for native MIDI ports is provided at this website, see ["MIDITERM"](#)

DTerm comes more or less self-explaining:



Some features shall be explained more specifically:

With menu item **"File-->Select Send File"** or **"File-->Select Record File"** you get into a configuration dialog to select the corresponding file. Here only a preselection is made, which is applied when options of menu "Up/Download" are selected. Nothing else happens directly here.

With menu **"Stream"** the **display flow** on the terminal screen can be interrupted or restarted. No influence on sent or received files. Useful in debugging situations when too much data are displayed for realtime interpretation.

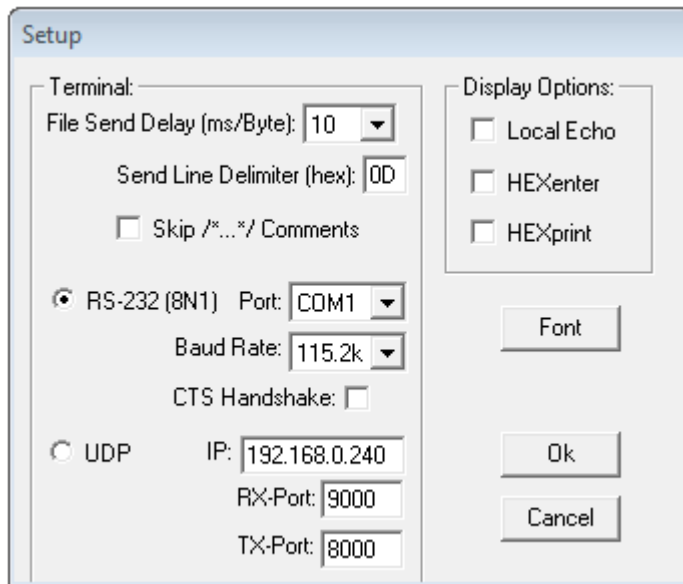
With menu **"Up/DownLoad"** up- and download of any type of file is managed. See description of shortcuts F5 to F12 below.

With menu item "**Config-->Terminal**" you get into the configuration dialog. By default, DTerm is configured as follows:

---Communication mode: RS-232, 115.2 kBaud, COM1, 8N1, no handshake.

---SendLine terminator "Carriage Return" (ASCII 0x0D or 13), no suppression of /*...*/ style comments.

---File transmission delay 10ms/byte (well for target low CPU speed).



You can select:

- **RS-232 mode:**

- COM1...COM6,

- Baud Rates 9600, 19200, 38400, 57600, 115200, 230400 (if supported by hardware)

- CTS handshake. RTS handshake is not supported because it is usually not needed

- **UDP mode:** IP address (Multicast and Broadcast are supported)

- Rx=local Port number

- Tx=destination Port number

- DTerm comes with following UDP default setup: IP is 192.168.0.240.

- The default Tx port is 8000, the default Rx port number is 9000.

- This is conformant with the default setting of the [Ethernet-MIDI-USB Interface](#) described at this website.

- **Both modes:**

- in Send Modes (F5,F6,F7) selectable transmission delay in us/byte (0,1,2,5,10,20,50,100)

- in Send Modes (F5,F6,F7) suppression of /*...*/ comments selectable.

- Good for incremental programming of interpreter engines like Forth.

- freely selectable line terminating character (any byte, incl nonprintable) for sending line-by-line

- Local Echo

- Bytes to be transmitted may be entered as plain ASCII (7 bit only) or as hexadecimal ASCII text

- Bytes(local echo and/or received) may be displayed as plain ASCII or as hexadecimal ASCII text
- Screen Font

Furthermore, the Config menu supports "**Erase Screen**" and "**Save Setup**".

Send and receive of any kind of files is supported. File content is handled "binary" - no special treatment of text files. No transport protocol or checksum is supported. This may be a risk for data integrity but raises flexibility.

Features and corresponding **command keys** (also selectable by menu) in detail :

- F1: Select Send File (is stored in preset and re-selected when DTerm is started)
- F2: Select Receive File (is stored in preset and re-selected when DTerm is started)
- F3: Stop/drop display of received byte stream. Useful for analysis of permanently received debug/test data. Avoid scroll away.
- F4: Show received data stream again (default)
- **Options F5, F6,F7:** /*...*/ style comments can be blocked (see checkbox "Terminal" dialog).
Modes F5,F6,F7 can be used in arbitrary sequence.
- F5: Send complete File. Delay (us per byte) selectable in "Terminal" dialog. This may be useful to send files to slow devices with small buffers which do not support CTS handshake
- F6: Send File "line by line". The line terminating character can be selected freely in "Terminal" dialog. After each line has been sent, the terminal works in interactive mode until next key F5, F6 or F7 is pressed.
- F7: Send File "line by line". Features like F6, but additionally '/' and '(' style comments are suppressed.
- F8: Abort file transmission immediately
- F9: Temporarily store any stream of received bytes while the content is displayed. No timestamp
- F10: Temporarily store any stream of received bytes silently without display. No timestamp
- F11: Pause temporary storage. The text "_PaUsE_" is inserted into the record file for later recognition of different record segments. Recording can be restarted at any time with Key F9 or F10 and is appended to the originally opened file. The resulting file is stored on disk when you close DTerm or type Key F12. If Key F9 or F10 is pressed again after recording was finished with Key F12, the selected Receive File is overwritten without warning
- F12: store temporarily received file on disk and close it. Receive option started once, the file is stored in any case when DTerm is terminated

How to send raw bytes:

If you have selected "command input as hex bytes" then a single byte can be entered as follows and transmitted immediately:

First **enter the high nibble** as a hex digit 0,1,2,3,4,5,6,7,8,9,A,B,C,D,E,F. Letter input is

case insensitive. **Next enter the low nibble** the same style. Terminate input with a <SPACE>. If the high nibble is = 0, then only the low nibble has to be entered and terminated with a <SPACE>.

Typed characters may be responded on the terminal screen with Local Echo ON. Typing errors may be corrected with the BACKSPACE key.

If an invalid hex digit or a wrong number of hex nibbles was entered, this is responded by a question mark '?'.

Example: send a NOTE ON message on MIDI channel #3 with chamber pitch 'a' and standard velocity (dec64 = hex40): type as text 92<SPACE>45<SPACE>40<SPACE>. Every byte is transmitted immediately after termination.

Download:

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[Download "dterm.zip"](#)

Program version v3.16, status 22 September 2023 (contains "DTerm.eee" and this HTML file in PDF format. "DTerm.eee" must be renamed to "dterm.exe" before use.)

Version Changes:

3.11 (Aug 2019)

- F1-F4 new assigned,
- menue item "Stream" added,
- vertical scroll and window size improved.

3.12 (June 2020)

- Send File options (F5, F6, F7) new arranged:
- single line sending improved
- sending of comments can be blocked
- vertical scroll improved
- 30May21: minor bugfix suppression /*...*/ comments

3.13 (May 2021) not published, effectively same code as 3.12 update May 2021.

3.14 (June 2022) improvement of suppression /*...*/ comments for special cases, else no code changes.

3.15 (April 2023) not published, improvement of byte transmission delay.

3.16 (September 2023) further improvement of byte transmission delay and suppression of comments.

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* State of information September 2023.

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