

**napsaterm**

<b>COLLABORATORS</b>
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# Chapter 1

## napsaterm

### 1.1 napsaterm.guide

Napsaterm 3  
\*\*\*\*\*

Napsaterm is a VT100 terminal emulator and rlogin client for  
AmiTCP/IP.

This is edition 1.3.2 of the Napsaterm documentation,  
30 May 1994, for Napsaterm version 3.9.

About	Authors, copying
Invoking from Shell	How to start Napsaterm from command line
Invoking from Workbench	How to start Napsaterm from Workbench
Options	Configuring Napsaterm
Menus	Using menus
Fonts	How Napsaterm uses fonts
National	Using different character sets and keymaps
IO modes	Using Napsaterm with AmiTCP, DNet etc.
Tektronix emulation	Tektronix tek4010 emulation window
History	Changes from previous versions
Glossary	Important concepts
Index	

-- The Detailed Node Listing --

About Authors

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Options

General options	Using different interfaces.
Device options	Changing the emulation type.
Emulation options	Changing the *Napsaterm* window.
Display options	Selecting remote host.
Host names	Setting default preferences
Preference file	

## Using Menus

- Command menu
- Edit menu
- Setup menu

## National Modes

Keymaps	Default national keymaps
Character tables	National character tables

## Using Different IO Modes

- rlogin protocol
- Telnet protocol
- Serial device
- DNet
- DOS IO

## Napsaterm History

- Changes in Version 3
- Changes in Version 2
- Changes in Version 1

## 1.2 napsaterm.guide/About

### About Authors

=====

Napsaterm is © copyright 1991, 1993, 1994 Pekka Pessi and AmiTCP/IP Group. Our e-mail address is '<AmiTCP-Group@hut.fi>'. You can reach us by mail with address

AmiTCP/IP Group  
c/o Pekka Pessi  
Jämeräntaival 11E122  
FI-02150 Espoo  
Finland, Europe

Members of the AmiTCP/IP Group and their e-mail addresses are

Tomi Ollila, '<Tomi.Ollila@hut.fi>'  
Pekka Pessi, '<Pekka.Pessi@hut.fi>'  
Markus Peuhkuri, '<Markus.Peuhkuri@hut.fi>'  
Jarno Rajahalme, '<Jarno.Rajahalme@hut.fi>'

We are interested to continuously develop Napsaterm and AmiTCP/IP. If you improve Napsaterm or fix bugs, please send the changes to us.

The Tektronix emulation is written by Robert A. Knop, '<rknop@cco.caltech.edu>'. He has also written some new features and bug fixes to VT100 emulation.

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## 1.4 napsaterm.guide/Niftyterm licence

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---

Authors: Christopher J. Newman and Todd Williamson  
 Niftyterm source code is available upon request. Send a disk and a self-addressed mailer to the address below, and I'll send you a copy.

If you find this program useful, Chris and I would certainly appreciate a donation to support further development:

Todd Williamson  
 5440 Fifth Avenue Apt. 59  
 Pittsburgh, Pa. 15232-2243

## 1.5 napsaterm.guide/Invoking from Shell

Invoking Napsaterm from Shell

=====

You can start Napsaterm with following command line options and parameters:

```
NAPSATERM [-V] [--vt102] [--vt52] [--h19] [-7] [-l FILE] [--slow]
          [-g GEOMETRY] [--80] [-f FONTNAME] [-p PROGRAMTITLE] [-S SCREEN]
          [--ic] [-v] [--application] [--numeric] [-w]
          [-d DEVICE] [-u UNIT] [-B LINESPEED] [--shared] [--stdio]
          [-N NET] [-s SERVICE] [-r REMOTENAME] [HOST]
```

Command line options can be entered in any order and any combination (except those that override each other). Single character options begin with single hyphen and can have optional arguments, multicharacter options begin with double hyphen. The rest of the command line arguments are interpreted as host names. With Preference file you can change the default preferences of Napsaterm.

## 1.6 napsaterm.guide/Invoking from Workbench

Invoking Napsaterm from Workbench

=====

You can start Napsaterm from Workbench with various tool types to accommodate your personal preferences.

If you are using a project icon with Napsaterm as tool, the tooltypes of the project icon will override the tool types of the tool icon.

```
WAITTOEND
LOGFILE=filename
DEVICE=name
UNIT=number
LINESPEED=number
SHARED
```



```

REMOTENAME=login name
REMOTETYPE=terminal type
SERVICE=service type
EMULATION=terminal type
NATIONAL=mode
NATION=Nation name
KEYMAP=[nation/]mapname
KEYBOARD=[nation/]mapname
KEYPAD=NUMERIC|APPLICATION
MOUSE=events
BACKSPACE2DELETE
DELETE2BACKSPACE
CURSORBLINK
CURSOR=type
BELL=type
PASS8
CTRL8BIT
INVERSE
ALTISMETA
GEOMETRY=specification
PUBSCREENNAME=name
BASEFONT=font/size
TITLE=string
SIZEGADGET=type
FIXEDCOLUMNS
HOST=hostname

```

## 1.7 napsaterm.guide/Options

Options  
=====

The Napsaterm can be given either command line options or icon tool types.

General options	
Device options	Using different interfaces.
Emulation options	Changing the emulation type.
Display options	Changing the Napsaterm window.
Host names	Selecting remote host.
Preference file	Setting default preferences

## 1.8 napsaterm.guide/General options

General Options  
-----

``-v'`

Displays the current version number and copyright notice. There is

---

no corresponding tool type.

`'-l FILE'`

`'LOGFILE=FILENAME'`

Logs the terminal output into specified file.

`'-w'`

`'WAITTOEND'`

Wait for a keypress before closing the emulation window after the input stream has finished.

`'WAITTOEND=NOT'`

Negative form of previous tool type.

## 1.9 napsaterm.guide/Device options

Device Options

-----

`'-d DEVICE'`

`'DEVICE=NAME'`

Uses specified device. The DEVICE may be any device compatible with serial.device (normal Exec device name) or one of the following:

- \* NET - use the remote login protocol over TCP/IP (default).
- \* TELNET - use the Telnet protocol over TCP/IP.
- \* DNET - use a "DNet" channel.

`'-u UNIT'`

`'UNIT=NUMBER'`

causes Napsaterm to use the specified unit of the device. It has no effect when using TCP/IP or DNet.

`'-N NETWORK'`

Uses the specified DNet NETWORK. This option is not currently implemented.

There is no corresponding tool type.

`'-B LINESPEED'`

`'LINESPEED=NUMBER'`

Starts the Napsaterm with specified LINE SPEED (as bits per second). This parameter is used with 'serial.device' and rlogin protocol.

`'--shared'`

`'SHARED'`

If this option is specified, Napsaterm will open the device specified in "shared" mode. This allows Napsaterm to share the serial port with other applications which also can open the serial port in shared mode (including another Napsaterm). You can also

prevent Napsaterm from reading characters from serial device, see Unlisten menu command.

`--stdio`

Causes Napsaterm to display whatever comes from standard input, and send all keystrokes to standard output. For example:

Napsaterm --stdio < filein > fileout  
would display file in a Napsaterm window.

There is no corresponding tool type.

`-r LOGIN NAME`

`REMOTENAME=LOGIN NAME`

This option or tool type is used to specify user name in the remote system when using the rlogin protocol.

`REMOTETYPE=TERMINAL TYPE`

This tool type specifies the terminal type used in the remote system when using the rlogin protocol.

`-s SERVICE`

`SERVICE=SERVICE`

causes Napsaterm to use the specified TCP service or port number. You can either give a service name from 'AmiTCP:db/services' or the directly the port port number.

This option or tool type is valid only with telnet protocol.

## 1.10 napsaterm.guide/Emulation options

### Emulation Options

`EMULATION=TERMINAL TYPE`

Select the emulation type to use. The emulation type can be chosen with following options from the command line.

`--vt102`

Emulate a "vt102" terminal.

`--vt52`

Emulate a "vt52" terminal.

`--h19`

Emulates a "ht19" terminal.

`NATIONAL=MODE`

Determines the national mode used. National modes are (valid abbreviation for each mode in parenthesis):

- \* 'None' ('No')
- \* 'Multinational' ('Mu')
- \* 'National' ('Na')

See National modes.

---

`'NATION=NATION NAME'`

Specifies the used nation. Valid nations are as follows (valid abbreviations for each nation in parenthesis):

- \* `'US ASCII', ('US')`
- \* `'Danish', ('Da')`
- \* `'Finnish', ('Fi')`
- \* `'French', ('Fr')`
- \* `'German', ('Ge')`
- \* `'Norwegian', ('No')`
- \* `'Swedish', ('Sw')`
- \* `'UK ASCII', ('UK')`

Default nation is `'US'`.

`'KEYMAP=[NATION/]MAPNAME'`

`'KEYBOARD=[NATION/]MAPNAME'`

These tool types are synonymous. They specify the keymap the Napsaterm will use. It is possible to change also a specific national keymap, for instance the tool type `'KEYMAP=Finnish/sf7'` will change the Finnish national keymap to `'sf7'`. For default national keymaps, see Keymaps.

`'KEYPAD=[NUMERIC/APPLICATION]'`

`'--numeric'`

`'--application'`

These options and tool type control the behavior of keypad. If the option `'--numeric'` is specified or the tool type `'KEYPAD'` has value `'NUMERIC'`, the keypad is in normal mode. If the option `'--application'` is specified or the tool type `'KEYPAD'` has value `'APPLICATION'`, the keypad is in the application mode.

In application mode, the vt100 control sequences will be sent to remote host instead of normal characters. This is handy for text editors and the like that use the keypad as a function keypad.

`'--slow'`

Starts in slow mode. This mode is useful only watching some vt102 animations with `'--stdio'` option.

There is no corresponding tool type.

`'MOUSE=EVENTS'`

This tool type controls which kind of mouse events are sent to the remote end.

OFF

Don't send mouse clicks

DOWN

Send an event only when user presses the select button

UP

Send a mouse event only when user releases the select button

BOTH

Send both up- and downward clicks

When mouse events are enabled Napsaterm sends the following sequence when the user presses the left (selection) button on the

Amiga mouse:

ESC 'M' QUALS COLUMN LINE

where column and line are bytes that represent the x, y coordinates of the mouse click (offset by 32; a click on (0, 0) results in sending two space characters), and quals is like so:

bit 0

Control key

bit 1

Shift key

bit 2

Meta (alt) key

bit 3

Caps lock

bit 4

Mouse down event

bit 5

Mouse up event

bit 6

Always on (making qual a printable value)

For example, clicking on column 1, row 1 results in the escape sequence

ESC 'M' 'P' SPC SPC

'BACKSPACE2DELETE'

This switch tool type causes the backspace key mapped to Delete.

'DELETE2BACKSPACE'

This switch tool type causes the Delete key mapped to Backspace.

'CURSORBLINK'

By default, Napsaterm has a solid cursor. Setting this tool type will cause cursor to blink at the rate of once per second.

'CURSOR=TYPE'

Available cursor types are 'Invisible', 'Underlined' and 'Block'.

'--ic'

This option causes Napsaterm to start up with an invisible cursor.

'BELL=TYPE'

Available bell types are 'Visual', 'Audio', 'Both', 'None' and 'Display'. The visual bell flashes the Napsaterm window, audio bell plays a simple beep with 'audio.device'. Both of them can be used at the same time. The display bell uses Intuition function 'DisplayBeep()'.

'PASS8'

Prevents Napsaterm from stripping off the 8th bit of the input stream character. This is the default mode.

---

``-7'`

``PASS8=NOT'`

Causes Napsaterm to strip off the 8th bit of the incoming characters. This is useful, if the input may contain 7 bit characters with parity enabled.

``CTRL8BIT'`

Prevents Napsaterm from converting the 8-bit control codes to escape sequences. Normally, Napsaterm converts any 8-bit control character (ie. ASCII codes from 128 to 159) to a two character escape sequence. The escape sequences consist of a ESC code and original control character code minus 64. For example, CSI (ASCII code 155) will be converted to escape sequence ESC [, the ASCII code of [ is 91, 155 - 64.

``CTRL8BIT=NOT'`

Causes Napsaterm to convert the 8bit control codes to escape sequences.

``-v'`

``INVERSE'`

Starts up with an inverted window. This may be controlled by terminal codes when emulating a VT102 terminal. See also Setup menu.

``ALTISMETA'`

If this tool type is given, the left alt key on the keyboard will act as a meta key. If the left alt key is pressed down, all single character key sequences will be prefixed by ESC character. This is particularly useful for emacs.

## 1.11 napsaterm.guide/Display options

### Display Options

-----

These preferences or tool types affect the Napsaterm window, its size, placement and title.

``-g GEOMETRY'`

``GEOMETRY=SPECIFICATION'`

Sets up the window geometry. The format for geometry is /LEFT/TOP/WIDTH/HEIGHT. A value of -1 for the WIDTH or HEIGHT makes the window stretch to the right edge or bottom of the screen. A value of -1 for the TOP makes the window's top edge appear just below the screen title bar. The LEFT and TOP are specified in pixels. The WIDTH and HEIGHT are specified in characters.

``-S SCREEN'`

``PUBSCREENNAME=NAME'`

Opens the Napsaterm window on the specified "public screen". If the screen don't exist, open the window on the default public screen

(which is normally the Workbench Screen).

``-f FONTNAME'`

``BASEFONT=FONT/SIZE'`

Sets the font for the Napsaterm window. By default the font ``napsa 11'` or, if ``napsa 11'` cannot be found, ``topaz 8'` is used. If you wish to use a different font such as "courier 11", simply specify FONT as ``courier/11'`. If the font you choose is not fixed width, strange and unusual things will happen. For more information of Napsaterm fonts see Fonts.

``-p PROGRAMTITLE'`

``TITLE=STRING'`

Draws the PROGRAM TITLE with given text. The actual window title is concatenated with display size indicator ``(width $\times$ height)'`. Normal title is the remote host name when using rlogin, otherwise ``Napsaterm'`.

``SIZEGADGET=TYPE'`

This tool type controls which border of the window the window's sizing gadget will appear in. If you have a sizing gadget on a window, you must lose some of the window space for the border to contain it. This preference controls whether you lose rows, columns, or nothing. If you choose NONE, the window will not have a size gadget, and will therefore not be resizeable. It is useful if you want an 80x24 window to take up the smallest possible screen space. If you choose COLUMN, the sizing gadget will be on the right border, and if ROW, the sizing gadget will be on the bottom border.

``--80'`

``FIXEDCOLUMNS'`

If this option or tool type is given Napsaterm won't use no more than 80 columns of text. This is useful for running programs written for terminals that assume the terminal has 80 columns.

## 1.12 napsaterm.guide/Host names

Host Names

-----

``HOST=NAME[|NAME2...]'`

The tool type HOST is used to specify remote host name(s). The host names should be given in standard internet format.

When Napsaterm is started from command line, command line arguments which do not start with hyphen are regarded as host names. If you need to use host name which begins with hyphen ``-'`, give a single hyphen as an argument after all options and before the host name.

Napsaterm -d net - -weird.host.name.in.net

If Napsaterm is given multiple host names, it will randomly connect to one of them.

The following command causes Napsaterm connect to either 'punkku' or 'vinkku':

```
run Napsaterm -g 0/-1/80/30 punkku vinkku
```

## 1.13 napsaterm.guide/Preference file

### Preference File

The preference file 'AmiTCP:db/NapsaPrefs' contains default preferences when you invoke Napsaterm from CLI.

The preference file contains tool-type-like options given in a X-resource-look-a-like format. The preference file format is compatible with NiftyTerm and older Napsaterm versions. Each row in the preference file has format as follows:

```
[COMMAND NAME'.']PREFERENCE NAME':' VALUE
```

"Preference name" is the part of the line before the ':' character, "preference value" is the part after it.

Unless otherwise specified, preference name and value are case-insensitive. Unrecognized preference names are ignored, unrecognized values revert to default.

If the corresponding tool type is a switch, the preference value should be '1', 'true' or 'yes', or the preference is silently ignored.

Tool type 'Host' has no corresponding preference.

See Alternative command names, if you need many different default preference sets.

For compatibility reasons, if the file 'AmiTCP:db/NapsaPrefs' does not exist, also the files 'S:NapsaPrefs' and 'S:NiftyPrefs' are searched for preferences.

## 1.14 napsaterm.guide/Alternative command names

### Using Alternative Command Names

.....

If the preference name is prefixed with COMMAND NAME, it is valid only when Napsaterm is invoked with that name. You can invoke Napsaterm with a different name, if you rename the Napsaterm program file or make a new link to it. For example, you could make following links

```
makelink AmiTCP:bin/NapsatermUS AmiTCP:bin/Napsaterm
```

```
makelink AmiTCP:bin/NapsatermUK AmiTCP:bin/Napsaterm
```

and you have added following preferences

```
Nation: Finnish
```



```
Napsaterm.Nation: US
```

```
NapsatermUK.Nation: UK
```

If you started Napsaterm with the command 'Napsaterm', you could use Finnish keyboard ('s') and character set (ISO 646 SF-2). If you gave command 'NapsatermUK', you would get the British keyboard ('uk') and character set (UK-ASCII).

## 1.15 napsaterm.guide/Menus

Using Menus

=====

Napsaterm have three menus, 'Command', 'Edit' and 'Setup'. The 'Command' menu contains terminal control commands. The 'Edit' menu handles the clipboard. The 'Setup' menu allows the user to adjust the way Napsaterm functions.

Command menu

Edit menu

Setup menu

## 1.16 napsaterm.guide/Command menu

Command Menu

-----

The 'Command' menu contains terminal control commands.

-- Menu item: Clear Screen

Moves the current Napsaterm prompt to the top of the Napsaterm window and clears the screen. Shortcut is 'Amiga-S'.

-- Menu item: To Tek4010

Selects the Tek4010 emulation and activates the Tek4010 window. Shortcut is 'Amiga-G'.

-- Menu item: To VT102

Selects the VT102 emulation and activates the VT102 window. Shortcut is 'Amiga-T'.

-- Menu item: Soft Reset

Resets all terminal styles, scroll regions, and invert mode. Shortcut is 'Amiga-R'.

-- Menu item: Flush

Flushes the buffers for the current device. Useful if you did something that will cause a lot of output, and you want to tell Napsaterm not to display it all. Shortcut is 'Amiga-F'.

---

- Menu item: Break  
Sends a break signal to the current device. Shortcut is 'Amiga-B'.
- Break is enabled only when Napsaterm is connected to a serial device.
- Menu item: Unlisten  
Napsaterm will cease to talk to whatever device it is connected to, so that another program can use it exclusively. Note that all keyboard input is flushed as well until you select Listen menu option.
- 'Unlisten' is enabled only when Napsaterm is started in 'Shared' mode. Shortcut is 'Amiga-U'.
- Menu item: Listen  
Napsaterm restarts talking and listening to device it is connected to.
- 'Listen' is enabled after 'Unlisten' is selected.
- An example of usage for 'UnListen' and 'Listen': you're logged in and you want to save something to a log file. You had foresight and started Napsaterm in shared mode. You select 'Unlisten' and start another Napsaterm writing to a log file. When you have everything in the log file, you quit the second Napsaterm and select 'listen' the original. This option might be useful if someone wants to write some stand-alone file transfer utilities. Shortcut is 'Amiga-L'.
- Menu item: Quit  
Exits Napsaterm and closes the window. Shortcut is 'Amiga-Q'.

## 1.17 napsaterm.guide/Edit menu

### Edit Menu

-----

The 'Edit' menu handles the clipboard.

- Menu item: Copy  
Copies the selected text into the clipboard. You can put the text you copied most recently back into any document by choosing 'Paste'. Shortcut is 'Amiga-C'.
- Menu item: Paste  
Copies the most recently copied text to the current cursor position. Shortcut is 'Amiga-P'.
- Menu item: Move  
If a previous command or some text is selected in the Napsaterm window, 'Move' inserts the text as if it had been typed. Shortcut is 'Amiga-M'.
-

```
-- Menu item: Execute
    The same as 'Move', only it follows the text with a 'LF'
    character. Shortcut is 'Amiga-E'.
```

## 1.18 napsaterm.guide/Setup menu

### Setup Menu

-----

The 'Setup' menu allows the user to adjust the way \*Napsaterm\* functions.

```
-- Menu item: National Mode
    See Tool type 'NATIONAL'.

-- Menu item: Nation
    See Tool type 'NATION'.

-- Menu item: Terminal Type
    See Tool type 'EMULATION'.

-- Menu item: Backspace is sent as
    See Tool type 'BACKSPACE2DELETE'.

-- Menu item: Del is sent as
    See Tool type 'DELETE2BACKSPACE'.

-- Menu item: Left Alt key is
    See Tool type 'ALTISMETA'.

-- Menu item: Keypad
    See Tool type 'KEYPAD'.

-- Menu item: Mouse Events
    See Tool type 'MOUSE'.

-- Menu item: Control Codes
    See Tool type 'CTRL8BIT'.

-- Menu item: Cursor
    See Tool type 'CURSOR'.

-- Menu item: Display Width
    See Tool type 'FIXEDCOLUMNS'.

-- Menu item: Display Speed
    See Option '--slow'.

-- Menu item: Bell Type
    See Tool type 'BELL'.

-- Menu item: Reverse
    See Tool type 'INVERSE'.
```

---

-- Menu item: Ansi LNM  
Controls whether RETURN should be sent as CR-LF sequence.

## 1.19 napsaterm.guide/Fonts

### How Napsaterm Uses Fonts

=====

Napsaterm should be able to use any fixed-width font. However, standard Amiga fonts do not represent the VT100's character set very well. Included with this Napsaterm is a set of fonts with names starting with 'Napsa'. Some explanation of these fonts is in order.

Napsaterm starts out with a base font name, something like 'topaz' or 'Napsa'. If Napsaterm needs an italic or bold font, it first looks in the fonts: directory to see if there is a version of the current font which was designed to be italic or bold. If not, it uses the Amiga's internal functions to construct one. When it needs one of the special VT100 character sets, it appends an extension to the font name and looks for a font of the same size as the current font with the new name. The extensions are as follows:

'v'  
alternate character set

'w'  
double-width font

't'  
top half of double-width double-height font

'b'  
bottom half of double-width double-height font

'vw', 'vt', and 'vb' are also extensions, meaning the alternate character set version of the different-sized font. So, for example, if Napsaterm was using the font 'Napsa/11', and it needed a double-width font, it would look for the font 'Napsaw/11'.

The fonts that come with the distribution are designed to be used on screens where the pixels are roughly as wide as they are tall. Any of the 640x400 graphics modes fall into this category. In the 640x200 modes, the fonts will seem too tall.

If anyone creates any fonts for use with Napsaterm or Niftyterm, I'd like to get a copy of them.

## 1.20 napsaterm.guide/National

## National Modes

=====

The national mode is set with tool type 'NATIONAL' There are three different national modes in Napsaterm.

### None

By default, when no national mode is not in use, ('None', abbreviated as 'NO'), Napsaterm uses the ISO-8857 Latin 1 character set, the standard character set used in Amiga. By default, Napsaterm uses either the default system keymap or the keymap specified with tool type 'KEYMAP', if any.

### Multinational

In the 'Multinational' mode (abbreviated as 'MU') Napsaterm uses the Latin 1 character set and the appropriate national keymap. See Keymaps for a list of default national keymap names. A specific national keymap can also be specified with tool type 'KEYMAP' or 'KEYBOARD'.

### National

In the 'National' mode (abbreviated as 'NA') Napsaterm uses the appropriate national 7 bit character set and the national keymap. See Character tables for tables of national character sets.

#### Keymaps

Character tables

Default national keymaps

National character tables

## 1.21 napsaterm.guide/Keymaps

### National Keymaps

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Default national keymaps are as follows:

- \* 'US ASCII' uses ('usal')
- \* 'Danish', ('dk')
- \* 'Finnish', ('s')
- \* 'French', ('f')
- \* 'German', ('d')
- \* 'Norwegian', ('n')
- \* 'Swedish', ('s')
- \* 'UK ASCII', ('gb')

You can change national keymap with tool type 'KEYMAP'=NATION/KEYMAPNAME, for example

KEYMAP=Finnish/s-term

changes the Finnish keymap to 's-term'. You can abbreviate the nation name, see also tool type NATION.

## 1.22 napsaterm.guide/Character tables

### National Character Tables

-----

Napsaterm uses ISO 646 national character codes as follows:

DEC	35	36	64	91	92	93	94	96	123	124	125	126
=====												
US-ASCII	#	\$	@	[	\	]	^	`	{		}	~
Danish	#	\$	@	Æ	Ø	Å	^	`	æ	ø	å	~
Finnish	#	\$	@	Ä	Ö	Å	^	`	ä	ö	å	~
French	#	\$	à	\textdegree{}				ç	§	^	`	é ù è ..
German	#	\$	§	Ä	Ö	Ü	^	`	ä	ö	ü	ß
Norwegian	#	¤	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü
Swedish	#	¤	É	Ä	Ö	Å	Ü	é	ä	ö	å	ü
UK-ASCII	£	\$	@	[	\	]	^	`	{		}	~
=====												
HEX	23	24	40	5B	5C	5D	5E	60	7B	7C	7D	7E

## 1.23 napsaterm.guide/IO modes

### Using Different IO Modes

=====

Napsaterm provides four different ways to do the terminal IO.

```
rlogin protocol
Telnet protocol
Serial device
DNet
DOS IO
```

## 1.24 napsaterm.guide/rlogin protocol

### Rlogin protocol

-----

The rlogin protocol is described in the 'RFC 1282'. It is a Unix-specific remote terminal session protocol, somewhat like Telnet protocol but with different features. The remote rlogin session get your the user name, terminal type and line speed from the rlogin

client.

Rlogin protocol uses your local hostname (domain name of the computer you are logging from), your local user name and user name at the "rlogin server" for authentication. If there is a matching entry in the 'rhosts' files, the rlogin server let you log in without asking the password. If no match is found, rlogin server asks you for the password for the remote user. If it is not correct, it reverts to normal login procedure.

Napsaterm is used as a rlogin client for AmiTCP/IP. Currently Napsaterm gets the local user name from environment variable 'USER'. The remote user name is same as your local user name unless you specify tool type 'RemoteName'.

For example, your local user name is 'ppessi', but remote user name is 't35082k'. If not told otherwise, Napsaterm will introduce you as 'ppessi' to the remote machine. As the rlogin server regards it as the password of account of 'ppessi', you can not give your password at the first 'Password:' prompt. You should use tool type 'RemoteName':

```
RemoteName=t35082k
```

Now you can enter password for 't35082k''s account without typing the user name each time. You can also specify your remote user name with '-r' option.

You should add an entry to your '.rhosts' file in a Unix machine only if your Amiga is trustworthy -- that is, nobody else but you can use it and it is in secure network. A '.rhosts' entry consists of a host name and a user name in that host. The host name is the canonic host name of machine you are logging from. For example, if you have account 't35082k' in machine called 'kaira.hut.fi', you could add following line to your '.rhosts' file:

```
kaira.hut.fi t35082k
```

The line speed has additional meaning when using rlogin protocol. Some Unix programs and terminal drivers use the nominal terminal speed to determine the throughput of your connection. There may be a problem if the speed is 300 b/s (or even 9600 b/s) while you are using Ethernet. Likewise the nominal speed of 38400 b/s over a 2400 b/s slip connection is likely to cause trouble. You can determine your nominal speed in the Unix systems with the 'stty' command.

## 1.25 napsaterm.guide/Telnet protocol

Serial devices

The Telnet protocol is described in various RFC documents. It is a generic remote session protocol with rich features and more general use than rlogin protocol.

Currently the Napsaterm supports terminal type and size negotiation. It does not pass your user name to telnet server.

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## 1.26 napsaterm.guide/Serial device

### Serial devices

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Napsaterm can use any 'serial.device'-compatible Exec device. You can specify the device name and unit number with tool types or command line options. See Device options.

You can start Napsaterm in shared mode, See '--shared'. In "shared mode" other programs (like another Napsaterm) can open serial device in the same time. The actual input data is is not shared, but all programs will read the data from device in their turn. Napsaterm can stop reading data from serial device, see Unlisten.

## 1.27 napsaterm.guide/DNet

### DNet

----

"DNet" is a serial line multiplexing protocol with priorities and provisions for server/client architecture. It works between Amigas and Unix machines running 4BSD or SunOS. There are ports for different 4BSD variants and Linux. There exists many network-type applications for DNet.

If you are using "DNet", you can use Napsaterm instead of 'FTerm'.

## 1.28 napsaterm.guide/DOS IO

### DOS IO

-----

The input and output of Napsaterm can be read from and written to "standard input" and "standard output" DOS IO streams. For example, if you want to view a VT100 animation with Napsaterm, you can give command

```
Napsaterm --slow --stdio < vt100-animation-file
```

## 1.29 napsaterm.guide/Tektronix emulation



## Tektronix emulation

=====

There are two versions of Napsaterm binaries in distribution archive, one with Tektronix emulation and one without. The tektronix emulation is implemented in separate window, the VT100 window works as usually.

Two menu items have been added to Tektronix emulation version. They are 'To VT102' and 'To Tek4010'. When a emulation window (tek or vt) is selected, it may be brought to the front and activated (depending on settings of the config menus on the Tek4010 window). However, if you click in a window, or bring it to the front, it does not necessarily make it the one receiving data from the host. The 'To Tek4010' and 'To VT102' menu items in each screen switch that, as can certain escape sequences from the host.

## 1.30 napsaterm.guide/History

### Napsaterm History

=====

Napsaterm is derived originally from Niftyterm 1.2. It is called Napsaterm because original authors wanted to keep distinction clear between it and their versions of Niftyterm. See Niftyterm licence.

There are some features in Napsaterm 3 which are incompatible with earlier versions or with NiftyTerm 1.2.

Changes in Version 3  
Changes in Version 2  
Changes in Version 1

## 1.31 napsaterm.guide/Changes in Version 3

### Changed in Version 3.9

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- \* The AmiTCP/IP error messages are now printed when using the rlogin or telnet protocol.
- \* A brave new 'About' requester was added. Currently, it is modal.

### Changed in Version 3.8

-----

- \* The tool type 'CTRL8BIT' is no more enabled by default, ie. 7 bit control codes are used normally.
-

- \* Bug with audio bell is fixed.

#### Changed in Version 3.7

-----

- \* Support for Telnet protocol was added. Supported features include terminal type and size negotiation.
- \* The long options have now double hyphen at the beginning.
- \* The 8-bit/7-bit control codes are working for all keys.
- \* New menu item added, See Control Codes, which enables sending 8-bit control codes.

#### Changed in Versions 3.4 and 3.5

-----

Robert Knop, '<rknop@cco.caltech.edu>', released these versions. The major new feature in these releases is the Tektronix emulation. Any bug reports on the tek4010 emulation should be sent to Rob Knop.

- \* The tek4010 emulation has following features:
  - Vector, Alpha, Incremental, and Point-plot modes are (at least partially) supported.
  - As of version 3.5, the GIN cursor is supported.
  - Some GraphOn enhancements, e.g. block fill mode, are also supported.
  - \* 'ANSI LNM' added to the Setup menu. Sometimes changing the state of this flag can improve the operation of the terminal's newlines under Unix when running directly over the serial port. It does not seem to be necessary when Napsaterm is used with AmiTCP/IP.
- \* Support for the VT100 application keypad has been added. Under the Setup menu, if you select 'Application' for keypad type, VT100 escape sequences will be sent to the host instead of characters when you hit keys on the numeric keypad. This is handy for text editors and the like that use the keypad as a function keypad.
- \* A small number of additional minor enhancements and bugfixes to the VT100 emulation.

#### Changed in Version 3.3

-----

- \* For compatibility reasons, if the file 'AmiTCP:db/NapsaPrefs' does not exist, the files 'S:NapsaPrefs' and 'S:NiftyPrefs' are searched for preferences.
- \* New menu item 'Left Alt key is' was added to 'Setup' menu.

#### Changes in Version 3.2 (3beta)

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- \* Workbench support is added. You can start Napsaterm directly from Workbench
- \* As a consequence of previous, the preference parsing is altered. See Preference file. Preference files are used only when Napsaterm started from shell. The program name used in preference parsing is not fixed, the command name given by shell is used
- \* Napsaterm can select randomly a host if it is given multiple host names
- \* Mouse support is enchanced. (See Mouse.) Napsaterm sends Mouse events as 'ESC M' sequences. Preference 'Emacsmode' is obsolete and it is supported no more
- \* New preference 'Backspace2Delete'. (See Backspace2Delete.) There was an old preference 'NormalBackspace', which had opposite meaning
- \* New preference 'Delete2Backspace'. (See Delete2Backspace.) There was an old preference 'NormalDelete', which had opposite meaning
- \* Preference 'LineSpeed' is used to change the serial speed, also a new option '-B' changes the line speed
- \* Preference 'National' has now three values, 'None', 'MultiNatinall' and 'National'

## 1.32 napsaterm.guide/Changes in Version 2

### Changes in Version 2.2

-----

- \* Preference 'PubScreenName'
- \* Preference 'ctrl8bit'
- \* Preference 'Keyboard' was mentioned version 2 documentation instead of correct preference 'Keymap'. Now both preferences can be used

### Changes in Version 2.1

-----

- \* Option '-p' selects the public screen
- \* The preference file is moved into the directory 'AmiTCP:db/'

### Changes in Version 2.0

-----

The AmiTCP/IP BSD socket interface was added to Napsaterm after the porting of real "rlogin" program seemed to take too much effort and time. The rlogin protocol is a very simple. However asynchronous, interactive IO with AmigaDOS is quite ineffective and quite complex to implement. Fortunately Niftyterm IO implementation was extremely

---

flexible and it was easy to add new IO methods for rlogin.

- \* Option `'-d net'` selects now rlogin protocol (`'-d dnet'` will select DNet).
- \* New preferences:
  - `'Linespeed'`
  - `'RemoteName'`
  - `'RemoteType'`

## 1.33 napsaterm.guide/Changes in Version 1

Napsaterm 1.3 Compared to Niftyterm 1.2

-----

- \* Support for different international keyboards layouts and character sets is added. Napsaterm supports multinational ISO 8857-Latin-1 character set, the native Amiga character set. It also supports some ISO 646 national character sets. For the character tables for ISO 646 character sets see Character tables.
- \* New preferences were added:
  - `'Keymap'`
  - `'National'`
- \* Left Alt key can be used as a Meta key by setting the `'AltisMeta'` preference. If you press a key with Left Alt key Napsaterm sends an `'Escape'` character (ASCII 27) before the key's ASCII code. Niftyterm sets the 8th bit of sent ASCII code.
- \* Switching Delete and Backspace keys was enchanced. Switching Delete and Backspace keys are now done before key code conversion. So, even if the Backspace key (arrow to left above the Enter key) will send a `'DEL'` code (ASCII 127) but if you press CTRL and H, Napsaterm sends still `'^H'` (ASCII 8).
- \* A bug in the clipboard handling is fixed.
- \* Napsaterm do not free the console window when it is started, you must start it explicitly with run. Iconify feature is removed (if you really want it, do recompile from the sources).
- \* Iconifying was removed as the zoom feature in Amiga OS 2.04 had most of its functionality

## 1.34 napsaterm.guide/Glossary

Glossary

=====

## 1.35 napsaterm.guide/Index

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