

# User Guide for NewTELnet P800

## Version 1

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## Contents

<b>1 Overview</b>	<b>3</b>
<b>2 Features of newTELnet P800</b>	<b>5</b>
2.1 History Screen . . . . .	5
2.2 Escape Sequences . . . . .	5
2.3 Scrolling within the Terminal Screen . . . . .	5
2.4 Definition of the Cursor Keys . . . . .	6
2.5 Hot Keys . . . . .	6
2.6 Entering Stored Texts . . . . .	6
2.7 Autocursor . . . . .	7
2.8 Recall Command Line . . . . .	7
2.9 Registration . . . . .	7
<b>3 Special Modes</b>	<b>8</b>
3.1 Ping Mode . . . . .	8

<b>4</b>	<b>Important Dialog Screens</b>	<b>10</b>
4.1	Connecting to the remote host . . . . .	10
4.2	Buttons Dialog . . . . .	11
4.3	Stored Texts Dialog . . . . .	11
<b>5</b>	<b>Specification</b>	<b>13</b>

## List of Figures

1	Main window at start . . . . .	3
2	Connected to a remote system . . . . .	4
3	Ping Screen . . . . .	8
4	Remote connection dialog . . . . .	10
5	Buttons Dialog . . . . .	11
6	Stored Texts Dialog . . . . .	12

## List of Tables

1	Special Keys for control character entry . . . . .	6
2	ANSI codes sent from keyboard . . . . .	14
3	Character translation in Special Graphics Mode . . . . .	14
4	ANSI and VT100 supported escape sequences . . . . .	15



Figure 1: Main window at start

## 1 Overview

NewTELnet P800, the TELNET terminal emulator, is the ideal tool for the system manager to access his system remotely and work interactively via the command line. He does not need to be near his office, or even have a power plug near him. He just uses the TELNET connection via the TCP/IP stack in the Sony-ericsson P800. NewTELnet P800 has been fully tested with all the standard LINUX utilities, and supports all major escape sequences. The newTELnet application from **NewNet Marketing** for the P800 gives remote access to a system via Internet connected over the mobile telephone.

NewTELnet P800 is compliant to all the important ANSI, VT100, VT2xx, VT52, TVI950, WYSE60, and ADM3A escape sequences and is therefore ideal to access a remote LINUX, or any other UNIX system.

Figure 1 shows the newTELnet P800 main screen immediately after it is started. The program version and registration status are shown at the top. This page lists previous connections with the remote host address, and an optional name. The entry can then be called directly by selecting it, and pressing the *Call* button. This list is, of course, empty the first time that newTELnet P800 is started.

A TELNET call can be made to other destinations by pressing the button (*newTELnet*), or the ping mode selected with the *ping* button.

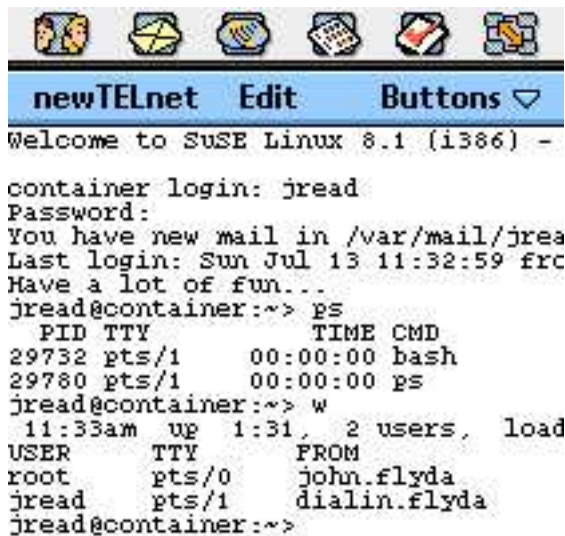


Figure 2: Connected to a remote system

NewTELnet P800 has been fully tested against most "escape sequence heavy" applications, eg. Top - the system display, Joe - the editor, Pine - the e-mail client. In figure 2 you can see a running session connected to a remote LINUX system.

The screen on the P800 is smaller than the complete terminal screen, and this will mean that the user must scroll to be able read all the screen content. This can be done by either dragging the scrollbars with the pen, or automatically using the "follow" mode.

Control characters, e.g *Ctrl-C*, can be entered directly in newTELnet P800 via the "Special Chars". In addition to this, hotkeys can be defined for easy access of standard texts. These hotkeys are preloaded with the F1..F10, but the contents can be changed by the user.

To ease the entry of standard text blocks, these can be stored in buffers within newTELnet P800 for direct entry, and selected onto one of the "buttons" menu entries. Commands or stored texts can be placed on the "buttons" menu.

The last command that was entered from the keyboard can be easily recalled by pressing the recall button, this function is normally called being linked to a "button" menu entry.

NewTELnet P800 is available as a shareware program both in English and German. The shareware version is fully functional with an additional information screen displayed when going online. This screen disappears after the registration code has

been entered. The registration is done easily via one of the online registration companies listed on our web site <http://www.newnet-marketing.de> or directly there online.

## **2 Features of newTELnet P800**

### **2.1 History Screen**

A history screen can be selected to display the data collected since the program was started. The history is limited to a maximum size, which can be set by the user. The history collection can be enabled, or disabled per default via the "History" menu found under "Capture".

The default mode records all data received, and attempts to format the text in an approximation to the original data. This is, however, not possible when the data was formatted by direct cursor addressing.

When full mode is selected, then all data sent and received will be recorded. The data will be expanded so that all binary data can be analyzed. This mode is normally only used for debugging purposes.

To display the data in the history select the "display history" menu, or press the "history" button entry. A new screen will appear covering the terminal window showing the text stored in the history buffer. It will be noted that escape sequences are not processed on this screen as it is not a terminal emulation. They are, however, removed from the text, when collecting in default mode.

If you wish to copy the data into the clipboard for use within other applications, you can either select sections of the text by pressing up-arrow and the direction key, or you select all the text by using the "edit" menu. The selected text can be copied into the clipboard by pressing the "copy" entry on the "edit" menu.

To return to the default operation this screen must be removed. To do this just press the toolbar button "close". The buffer contents are not removed, and will continue to fill unless cleared, or turned off.

The history buffer will fill to the maximum level, and will then stay at this size. To clear the history buffer, press the "clear" button. The screen will then be cleared, and the data will be at the start of a new buffer

### **2.2 Escape Sequences**

NewTELnet P800 supports the ANSI standard escape sequences including the colour formatting statements.

- In ANSI mode, newTELnet P800 will also process any DEC VT200 control sequences. This mode is shown as ANSI/VT2xx.
- VT100 , VT52 , TVI950 , WYSE60 , and ADM3A are not compatible to each other, and must be selected via the menu.

### **2.3 Scrolling within the Terminal Screen**

The PDA screen is smaller than the corresponding terminal screen. This will probably mean that you can only display a part of the emulated terminal on the newTELnet P800 screen, depending on the selected font size. To scroll within the terminal screen, drag the screen using the standard scroll bars.

description	entry
Escape character	\e
Carriage return	\r
New line	\n
Tabstop	\t
Backslash	\\
Any character	\xnn where the nn is the hexadecimal value of this character.

Table 1: Special Keys for control character entry

When the "follow" mode is selected, either from the menu or a button, then the screen will always scroll to display the cursor. This can, depending on the the remote application, ease user entry considerably, and is described in section 2.7.

## 2.4 Definition of the Cursor Keys

The cursor key escape sequences for the various terminal types, stored in newTELnet P800, normally work with most remote products. However, sometimes they have to be modified for special needs. They can be directly edited in the dialog. All control characters can be entered by using the entry methods as shown in Figure 1.

## 2.5 Hot Keys

The "hot keys" entry on the "buttons" menu has "hot 1".."hot 10" positions which will automatically send a stored string when clicked. The default values are the ANSI F1..F10 escape sequences. The strings can, however, be changed to store any other values.

A typical use for one of these hotkeys is to store the UNIX "pipe" character, which cannot be entered directly from the virtual keyboard.

**Note** The UNIX "pipe" command can be easily stored and sent from a hotkey. An example of storing the "pipe" command in hotkey 1: Using Menu-Buttons - "Stored Codes" (as described in section 2.6, change text in field "Hot1" to \x7C. The "pipe" character can now be sent by the clicking "hot 1" menu entry ("Buttons" - "hot keys" - "hot 1").

## 2.6 Entering Stored Texts

To ease the entry of standard texts, these can be stored in newTELnet buffers, and then linked to the menu "buttons". There are 8 buffers in total. The text will be sent to the host when the button is clicked.

The menu allows entry of special keys, eg. escape, carriage return, etc. by using the standard C-syntax. Figure 1 lists the special keys, and their meaning.

Note: If the stored text is to be used as a command for the system, it will probably need to be terminated with carriage return "\n";

## 2.7 Autocursor

The cursor "follow" function will automatically scroll the window so that the cursor is in the visible section. This can be selected via the menu, or a button. Depending on the host software, this can either be an advantage, or cause irritation. Some software always moves the cursor to the bottom of the screen, even though the important data is at the top, in this case the autocursor function should be disabled.

## 2.8 Recall Command Line

Most commands entered for the remote system are terminated by a carriage return key (CR). The recall function within newTELnet9200 automatically stores strings sent in this way, and allows them to be resent by simply pressing the "Recall" button. This function is only available as a "buttons" menu entry, so it must be selected via the "Buttons" menu before being used.

When the command line is recalled via the "Recall" button, the CR is not sent. This allows the user to edit, or cancel the line before it is performed by the remote system.

## 2.9 Registration

newTELnet P800 is a shareware application. This allow users to fully test it before deciding whether it is useful to them. When the user decides to register, then this must be done via **NewNet Marketing** (<http://www.newnet-marketing.de>), or one the registration partners. A complete list of partners is available on the **NewNet Marketing** web-site.

For a single-user license, the Sony-ericsson P800 IMEI number, and a user name must be entered during the registration. The IMEI number identifies the P800, and the user name will appear on the main page of newTELnet P800.

The Sony-ericsson P800 IMEI number can be easily got by entering the following characters on the telephone keypad: \*#06#. The IMEI number then appears on the display.

**NewNet Marketing** will then send the user a newTELnet P800 registration code and user name via e-mail which is specifically valid for this P800. Should the IMEI code change after registration, perhaps due to a phone repair, then just send an email to [register@newnet-marketing.de](mailto:register@newnet-marketing.de) with the new IMEI number.

The user name and registration code should be entered in the "registration" dialog found in the "Tools" menu. The main page should now display the user name instead of the "unregistered version" text. It is not necessary to reinstall, or update newTELnet P800 for this registration, however, it is wise to use the latest version, which can always be found at the **NewNet Marketing** web-site (<http://www.newnet-marketing.de>).

**NewNet Marketing** has a policy of free upgrades for their products. This means that any upgrades for newTELnet P800 that become available can be installed without having to re-register the application. When additional features become available within the product that were not available at the time of registration, it is, however, possible that an update registration might be requested before using these new features.



Figure 3: Ping Screen

### 3 Special Modes

#### 3.1 Ping Mode

The Ping mode is a completely independent mode selected from the "ping" toolbar button. When in this mode, all operations refer to "Pinging" a remote host. The standard mode must be reentered before the TELNET terminal connectivity functions can be used by pressing the "Finish" button.

*Tip: Before attempting to start a PING to a remote host for the first time, check that the "Internet Access Point" is correctly set up by accessing the internet using the phone's www-browser.*

The PING is started by pressing the toolbar button "Start". A dialog will then allow a remote host name, or address. The PING will then start the connection, and will print all the results on the screen. After completing the PING, it will complete and return to the STOP status.

There are several menu commands that can be selected in this mode, including the "Capture" functions, an "select all" to copy the screen contents into the clipboard so



that they can be pasted into another applications e.g. email.

The parameters for the PING can be set with the "Parameters" menu selection. This includes the length of data that should be sent, the number of ICMP packets that should be sent to the remote host before automatically stopping, and the time interval in milliseconds between each packet that is sent out.

```

newTELnet Edit Buttons ▾
Welcome to SUSE Linux 8.1 (i386) -

container login: jread
Password:
You have new mail in /var/mail/jrea
Last login: Sun Jul 13 11:32:59 frc
Have a lot of fun...
jread@container:~> ps
  PID TTY          TIME CMD
 29732 pts/1        00:00:00 bash
 29780 pts/1        00:00:00 ps
jread@container:~> w
 11:33am up 1:31,  2 users,  load
USER      TTY      FROM
root      pts/0    john.flyda
jread    pts/1    dialin.flyda
jread@container:~>

```



Figure 4: Remote connection dialog

## 4 Important Dialog Screens

### 4.1 Connecting to the remote host

The new TELNET connection is selected by pressing the (Telnet) toolbar button.

*Tip: Before attempting to start a TELNET connection for the first time, check that the "Internet Access Point" is correctly setup by accessing the internet using the P800 / P900 www-browser.*

The multi-page dialog is shown in figure 4. The connection is started by clicking the "ok" button. The first page of this dialog shows the current remote host name or address, and allows the name, or address to be edited. The remote port can also be entered in this dialog. This has a default value of 23, and does not normally need to be changed.

Previous entries can be selected directly from the second page of the dialog.

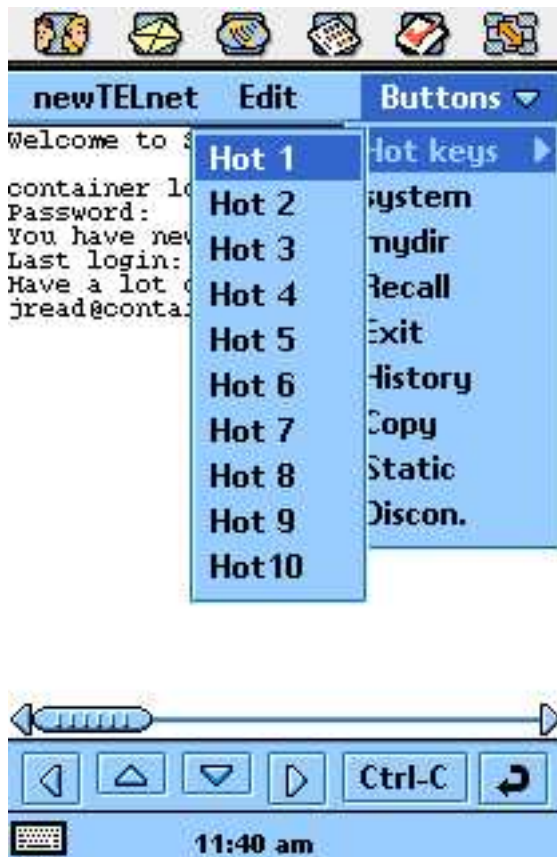


Figure 5: Buttons Dialog

## 4.2 Buttons Dialog

Figure 5 shows the dialog which should be called to define the functions performed when an entry on the "buttons" menu is clicked. This will be found on the "Edit" - "Preferences" - "buttons" menu.

For each button, there is a roll-down list to allow the user to select either a stored text (1 - 8), or a command to be placed on this button. When the command or text has been selected, the title of the stored text or the command name will afterwards appear in the buttons menu on the screen to make selection easier.

## 4.3 Stored Texts Dialog

The texts that should be sent to the remote system when the hot-key or button menu entry is clicked. They are set in the "Stored Texts" dialog, shown in Figure 6. There are 10 hot-key buffers available in newTELnet P800, these are preloaded with the escape sequences for F1 .. F10. They can, however, be reloaded with any other text up to a maximum length of 254 chars.

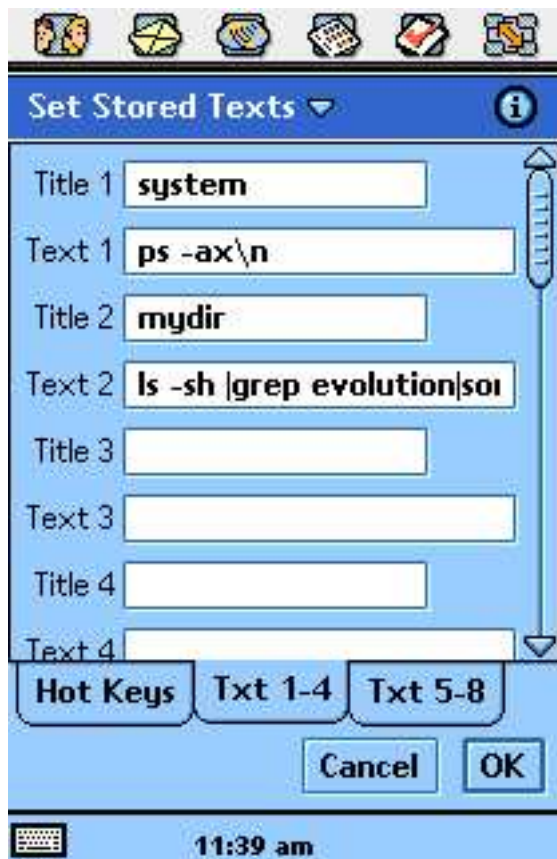


Figure 6: Stored Texts Dialog

*Note The F1..F10 control sequences are not standardized, and might have to be set to a different value to communicate with your system.*

The hot-key texts are sent when the hot-key menu entries are pressed, as described later in section 2.5.

The 8 Stored Texts can also be inserted, and edited using this dialog. A title is allotted to each text. This title will appear in the "buttons" menu, when it is selected, using the "Buttons" Dialog, described in Section 4.2.

Control characters can be entered into both the hot-key and the stored text buffers in a simple C-like syntax. This is described in section 2.5.

## 5 Specification

**Screen:** max. 132 x 44, min 40 x 10, default: 80 x 24, ANSI colour functions

**Escape sequences:** ANSI, VT2xx, VT100, VT52, TVI950, WYSE60, ADM3A

**Hotkeys:** default settings for F1 .. F10.

**Stored texts:** 8 buffers with their titles, 254 chars. max. length of text including control characters.

**Charset:** All character sets installed in the country version of the P800/P900. ;p;

**Recall:** last entered command will be resent to the remote system.

**History:** The default mode stores all received data, which can easily be seen by displaying the history screen. The History can also store all the data sent, and received in Full mode to assist in fault finding.

Table 2: ANSI codes sent from keyboard

Key	Control Function	Comments
Cursor Left	CSI D	
Cursor Right	CSI C	
Cursor Up	CSI A	
Cursor Down	CSI B	
Page Down	CSI 6	
Page Up	CSI 5	
Home	CSI 1	
End	CSI 4	
F1	CSI OP	Can be modified at any time
F2	CSI OQ	Can be modified at any time
F3	CSI OR	Can be modified at any time
F4	CSI OS	Can be modified at any time
F5	CSI [6	Can be modified at any time
F6	CSI [17	Can be modified at any time
F7	CSI [18	Can be modified at any time
F8	CSI [19	Can be modified at any time
F9	CSI [20	Can be modified at any time
F10	CSI [21	Can be modified at any time

Table 3: Character translation in Special Graphics Mode

Input char	Output	Comments
0x71	0x97	Horizontal line
0x78	0x7C	Vertical bar
0X7D	0XA3	Pound sign
0X6A, 0X6E, 0X74, 0X77	0X2B	Corners (top left, top right, bottom left, bottom right). These are completely replaced by a plus sign as there are no graphic symbols available in the fonts.

Table 4: ANSI and VT100 supported escape sequences

Escape code	Name	Description
CSI Ps ; Ps m	SGR Select Graphic Rendition	This control sets one or more character attributes at the same time.
CSI Pt ; Pb r	DECSTBM Set Top and Bottom Margins	This control function sets the top and bottom margins for the current page. You cannot perform scrolling outside the margins.
CSI Pn A	CUU - Cursor Up	Moves the cursor up a specified number of lines in the same column. The cursor stops at the top margin. If the cursor is already above the top margin, then the cursor stops at the top line.
CSI Pn B	CUD Cursor Down	This control function moves the cursor down a specified number of lines in the same column. The cursor stops at the bottom margin.
CSI Pn C	CUF Cursor Forward	This control function moves the cursor to right by a specified number of columns. The cursor stops at the right border of the page.
CSI Pn D	CUB Cursor Backward	This control function moves the cursor to the left by a specified number of columns. The cursor stops at the left border of the page.
CSI Pn E	CNL Cursor Next Line	Move the cursor to the next line.
CSI Pn F	CPL Cursor Previous Line	Move the cursor to the preceding line.
CSI Pn G	CHA Cursor Horizontal Absolute	Move the active position to the n-th character of the active line.
CSI Pl ; Pc H	CUP Cursor Position	This control function moves the cursor to the specified line and column.
CSI Pn I	CHT Cursor Horizontal Tabulation	Move the active position Forward n tabs forward
CSI Ps J	ED Erase in Display	This control function erases characters from part or all of the display. Ps = 0, From Cursor through the end of display; Ps=1, From beginning of the display through the cursor; Ps=2, The complete display.

CSI Ps K	EL Erase in Line	This control function erases characters on the line that has the cursor. Ps=0, From the cursor to the end of the line; Ps=1, From the beginning of the line through the cursor; Ps=2, The complete line.
CSI Pn L	IL Insert Line	This control function inserts one or more blank lines, starting at the cursor.
CSI Pn M	DL Delete Line	This control function deletes one or more lines in the scrolling region, starting with the line that has the cursor.
CSI Pn d	VPA Vertical Line Position Absolute	Move to the corresponding vertical position of the current column.
CSI Pn T	SD Pan Up	This control function moves the user window up a specified number of lines in page memory.
CSI Pn S	SU Pan Down	This control function moves the user window down a specified number of lines in page memory.
CSI Pn @	ICH Insert Character	This control function inserts one or more space (SP) characters starting at the cursor position.
CSI Pn P	DCH Delete Character	This control function deletes one or more characters from the cursor position to the right.
ESC 6	DECBI Back Index	This control function moves the cursor backwards one column.
ESC 9	DECFI Forward Index	This control function moves the cursor forwards one column.
ESC D	IND - Index	IND moves the cursor down one line in the same column.
ESC M	RI Reverse Index	RI moves the cursor up one line in the same column.
ESC E	NEL Next Line	Moves cursor to first position on next line.
CSI u	SCORC Restore Saved Cursor Position	Moves cursor to the position saved by save cursor command.
CSI s	SCOSC Save Current Cursor Position	Save current cursor position.
ESC =	DECKPAR	Null
ESC (	DEC SCSG0	Select Graphic mode 0
ESC )	DEC SCSG1	Select Graphic mode 1
ESC *	DEC SCSG2	Select Graphic mode 2



ESC +	DEC SCSG3	Select Graphic mode 3
ESC Z	DEC ID- Identify device	Reply with identification string
CSI c	DA1 Primary Device attributes	Reply with Attributes

1. CSI is the control sequence introducer. For the 7-bit sequences used by newTELnet 9200, this is replaced by ESC followed by [
2. Ps, Pt, etc. are integer parameters.

## Index

- ADM3A mode, 5
- ANSI mode, 5
- Auto cursor, 7
  
- Buttons dialog, 11
  
- Copy history data, 5
- Cursor Down Key, 13
- Cursor keys, 6
- Cursor Left Key, 13
- Cursor Right Key, 13
- Cursor Up Key, 13
  
- End Key, 13
- Escape sequences, 5
  
- F1 Code, 13
- F10 Code, 13
- F2 Code, 13
- F3 Code, 13
- F4 Code, 13
- F5 Code, 13
- F6 Code, 13
- F7 Code, 13
- F8 Code, 13
- Follow Mode, 6
  
- History clear button, 5
- History Close, 5
- History default mode, 5
- History display, 5
- History full mode, 5
- History maximum size, 5
- History Screen, 5
- Home Key, 13
- Hot Keys, 6
  
- IMEI number, 7
  
- Main window, 3
  
- Page Down Key, 13
- Page Up Key, 13
- Ping Mode, 8
- Ping Screen, 8
  
- Recall button, 4, 7
- Registration code, 7
  
- Remote connection dialog, 10
  
- Scrolling, 4, 5
- Special Keys, 6
- Stored texts, 6
- Stored texts dialog, 12
  
- TVI950 mode, 5
  
- Unix Pipe command, 6
  
- VT100 mode, 5
- VT52 mode, 5
  
- WYSE60 mode, 5