



Setup Manual
for
SFT-X900
(Vers. 7.3 and higher)
SmartClient Network Appliance

10/2003

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What is SFT-X900?

SFT-X900 is a SmartLinux based Thin Client Network Appliance, to be used as fully featured, high performance X-Terminal for Linux and UNIX environments.

SFT-X900 is a product of SmartFLex Technology Inc. It's firmware is based on the popular and powerful Linux kernel and developed to as replacement for proprietary high-priced X-Terminals, such as the NCD 900.

SFT-X900 was developed with input from many of our customers. They supplied us with their thoughts and ideas on how a modern X-Terminal should function. As a result we have designed the most enhanced dedicated Linux/Unix graphical Desktop Workplace for today's sophisticated Linux and Unix multi user systems.

Its XDMCP Mode, allows the SFT-X900 user to work on a Linux or Unix server's graphical remote desktop manager, giving the user the same feeling as working on a local Linux or Unix workstation.

In remote (plain) X Mode, SFT-X900 allows the user to work on Linux or Unix applications executed locally on the client itself. This mode can publish an X-Application to the client automatically via a server daemon that recognizes if a particular X900 client is active on the network.

Both modes are supported by a very sophisticated printing system and direct port addressing via TCP ports. A special "TCP/IP to tty" server module for RedHat is available, allowing to map incoming data from a serial port on the terminal to a tty port that can be read by an application running on the server. This allows SFT-X900 to be deployed in POS, Kiosk and Office Applications, anywhere applications are running on a Linux/Unix host system and a cost-effective desktop system can be connected to it via a 10/100 MBit/s Ethernet connection.

Installation:

The box should be undamaged and should contain the following parts:

- SFT-Software Licensing (to comply with GPL and LGPL)
- 1 AC Cable
- 1 external PS (only with /A unit)
- 1 SFT-X900 Unit (Grey /S series or black /A series)
- This manual

Inspect all parts visually for damage. If any part is visually damaged, please call the shipping carrier immediately, report the damage and file an insurance claim.

If all parts seem to be undamaged proceed with the following steps:

Connect a VESA compatible monitor or LCD monitor to the video port in the back of the unit.

Connect mouse and keyboard to their respective connectors in the back of the unit.

Connect a CAT 5 Ethernet cable to the Ethernet port in the back of the unit and connect the other end of the Ethernet cable to an available port on a Ethernet hub.

Connect the round Power Supply connector to the respective port in the back of the unit

Connect the AC Cable to the Power Supply and an AC outlet.

***Press the ON/OFF button on the front of the unit to turn the unit on.
Press and hold the ON/OFF button on the front of the unit until unit turns off.***

Configuration:

Press the ON button on the monitor and on the front of the unit.

To enter the unit's SETUP, turn on the unit and immediately press ESC twice when the SmartFLeX Technology logo and the message "Loading Linux kernel" appears on the screen . On the appearing "boot:" prompt type "setup" and press the <enter> key. The unit will continue to boot into the setup mode.

Alternatively, press and hold the "s"-key on your keyboard until you see the SmartFLeX Logo and the message "Loading Linux kernel" appears on the screen . Release the "s" key and the unit should automatically boot into setup.

Note:

The setup is divided into several screens. The individual setup screens can be accessed by clicking on the respective icon on the left side of the screen. The settings of the items in the screens is described below. The description of the setup items is not necessary in the same order as the icons appear on the screen.

The following setup steps **MUST** to be completed:

Network:

Use DHCP

IP Addressing (default IP address: 192.168.100.99)

Select if the unit is to receive its local IP address via DHCP (default setting) or via a static IP address entered into the IP address field after clicking off DHCP.

Gateway

force 10 baseT (unit is in 100 baseT by default)

If the unit is attached to a 10 MBit/s Ethernet port click the “force 10 MBit/s “ checkbox to force the unit into a 10 MBit/s Ethernet mode. By default (checkbox is unchecked) the unit is set to 100 MBit/s Ethernet mode. This procedure is more reliable than auto-sensing, which caused problems in the past to connect to a 10 MBit/s Ethernet network.

Webinterface

Select if the unit should allow remote administration. We strongly recommend to leave this option enabled! It allows a system administrator to remotely manage the setup or recover from incorrect setup choices. The default setting for this option is “selected”, but if security becomes a concern it can be deselected.

Send Client Up Message:

This client supports a method to start X applications automatically from the server to be executed on the client itself. During boot a server software module recognizes the active client and automatically publishes the defined application to the client. The server daemon is to be installed on the server and a script has to be created to start the X application to be executed locally on the client. To identify the active client the client must send a ID signal to the network, This function can be enabled by setting “Send Client Up Message”. The accompanying selection for this feature is to send the ID only once or nonstop, and to send the ID as a broadcast signal or to a specific device (server).

After downloading and extracting the server software, the resulting hb_client can be started by the user that is in need to start an application on the terminal automatically at boot time.

To start the hb_client it needs to be set executable and an argument needs to be added at startup. This startup argument is a script that the system administrator has to create for the application to be started.

The following is a sample script to start the mozilla browser with the mwm windowmanager automatically on the terminal after boot:

----- SNIP -----

```
#!/bin/sh
export DISPLAY=$1:0.0
mwm&
mozilla
```

----- SNIP -----

Save this script and give it a name and than run:

```
hb_client <script name>
```

Important:

This software is still experimental and we need feedback from our customers about any problems they might have with this new feature !!!

NOTE:

It is not a good idea at this time to stop the running hb_client, it will not restart again. Changes on the script can be made during run-time without the need of restarting the server module. Just keep the hb_client running.

X-Terminal Connection Setting:

Broadcast (default)
Indirect
Direct
XDMCP Server:

Input the IP address of the XDMCP Server to **DIRECTLY** connect to in the field labeled XDMCP, or select **BROADCAST** to receive a list of XDM capable hosts, available within your network, after startup. Enable "**INDIRECT**" if the host selection is supplied via another server in the network.

Font Server (default port: 7100):

Provide the IP address of up to three (3) font server if external fonts are supposed to be supplied to the terminal to extend its internal font set.

NFS Font Path:

Provide server address and path to access fonts supplied by the server via NFA service. This feature requires a NFS server running on the server that is compatible with NFS Version 2 and 3. The server must allow the terminal to access the fonts with "root permissions". Make sure that the fonts have been set to read only.

Supported Printer Modes:

BSD/lpd (on port 515)

JetDirect (on port 9100)

rsh (on port 514)

transparent (InStream) printing

Unlike most other Terminals and Thin Clients on the market, SFT-X900 supports multiple concurrent printers on all available ports. Select the print mode if a printer is to be attached to one or more of these ports. For more detailed information on printing download the SFT-X900 manual, available via the <Download> button on our web site at <http://www.smartflectech.com>.

LPT1

COM1

COM2

USB

Print Server supported on Linux or Unix Server side:

CUPs

lpr

"rsh" printing:

For rsh printing the the following sequence MUST be used:
cat <filename> | rsh <IP-Address of Terminal> LPT (COM1, COM2)

"filename" means a file that is formatted for a particular printer!

Note:

The embedded rsh daemon can only be used for printing! It is a proprietary software module that does not support any other functionality.

Display:

Select the screen resolution, to be effective after the next reboot (setup always runs in 640x480 mode). All resolution settings refer to the standard VESA 2.x modes. All resolutions are selectable in 8 or 16 Bit mode.

800 x 600
1024 x 768
1280 x 1024
1600 x 1200

Input:

Select mouse type, keyboard and language settings.

Mouse:

PS/2 (default)
PS/2 Wheel Mouse
USB
USB Wheel Mouse

Keyboard:

US_[104_key]
Germany_[105_key]
Italian_[105_key]
Spanish_[105_key]
French_[105_key]
UK_[105_key]

Update:

This unit supports a firmware update feature, allowing the replacement of the internal Flash-Linux based OS with a new revision. This procedure requires a stable network environment and can only

be initiated locally on the unit itself. To start the update from within the web interface proved to be unpredictable causing the unit to become un-bootable at times, especially if the update procedure was unintentionally interrupted by an end user.

Local address [required]:

Provide temporary local IP address even if unit runs in DHCP mode! If unit runs in static IP mode the IP address selected here can be identical to the IP address used in normal operation mode.

TFTP server address:

Provide the IP address of the TFTP server that provides the new “firmware system files” in its root directory

TCP Ports also called Port Redirection:

COM1 TCP Port 3001
COM2 TCP Port 3002
LPT TCP Port 3003

(USB is not available for direct port access via TCP!)

Remote Administration:

This unit supports a Web-based administration tool, allowing to adjust **client settings**. To invoke this tool you need to have a browser available within the network and you need to know the IP address of the terminal to be managed. In the browser's URL field please type:

http://<IP Address of the terminal>:8081

NOTE:

Since the user invoking the admin interface does not have any access to the terminals file system, it is not necessary to protect the setup with a password. We have found in many installations that password protecting a unit's setup is more trouble for system administrators than the occasional setup failure created by inexperienced end users. There is NO terminal window provided that would allow an end user to modify the units system via shell commands. The browser will display the unit setup screen, where all functions and settings for the active terminal mode can be changed.