

## How to connect the VGA TFT LCD and run your first demo

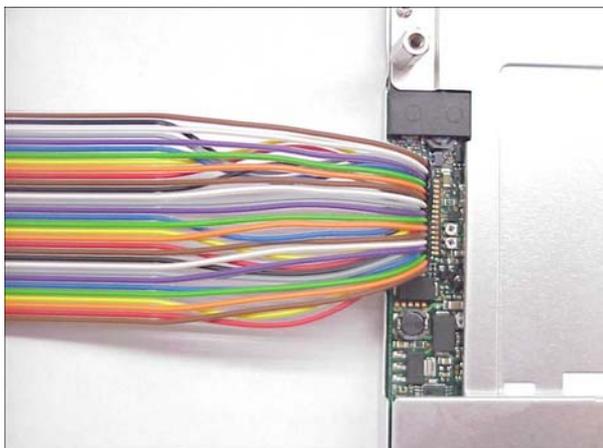
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The embedded Linux of a DIL/NetPC PNP/1110 comes with a pre-installed X graphic server engine. So just connect the VGA TFT LCD from the starter kit and run your first demo program.

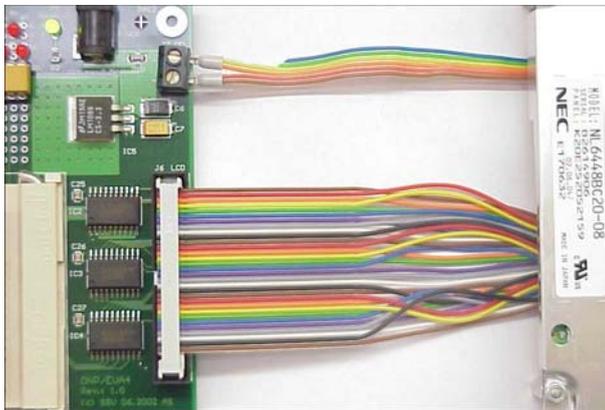
- **1. Step:** If you have a running PNP/1110 Linux configuration on a DNP/EVA4 evaluation board, you need the following add-on parts:
  - \* 1 VGA TFT LCD
  - \* 1 CFL Inverter Unit for the VGA TFT LCD
  - \* 1 CFL Inverter Power Cable
  - \* 1 VGA TFT LCD Interface Cable
  - \* 1 Simple small Screw Driver (not part of the starter kit)
  - \* The PNP/1110 Starter Kit CD-ROM
- **2. Step:** Make sure that the power for your PNP/1110 and DNP/EVA4 evaluation board is off.
- **3. Step:** Connect one side of the CFL Inverter Power Cable to the CFL Inverter Unit (see left cable in the following picture). Then connect the two CFL cables from the VGA TFT LCD to the CFL Inverter Unit (see the two cables in the right of the following picture).



- **4. Step:** Connect the VGA TFT LCD Interface Cable to the backside of the VGA TFT LCD.



- **5. Step:** Connect the other side of the VGA TFT LCD Interface Cable to the connector **J6 LCD** of the DNP/EVA4 evaluation board. Then connect the CFL Inverter Power Cable to **J7 CFL** of the DNP/EVA4 evaluation board (**Please Note: The yellow/orange pair of wires is +, the other pair is -**).



- **6. Step:** Power up your PNP/1110 starter kit. **Please Note:** There is no default init code within the PNP/1110 hardware set-up for initializing the SA-1110 LCD controller. Within the first seconds after power-up the LCD controller output lines are in a undefined state. After the Linux is up you see a small figure within the upper left corner of the LCD.



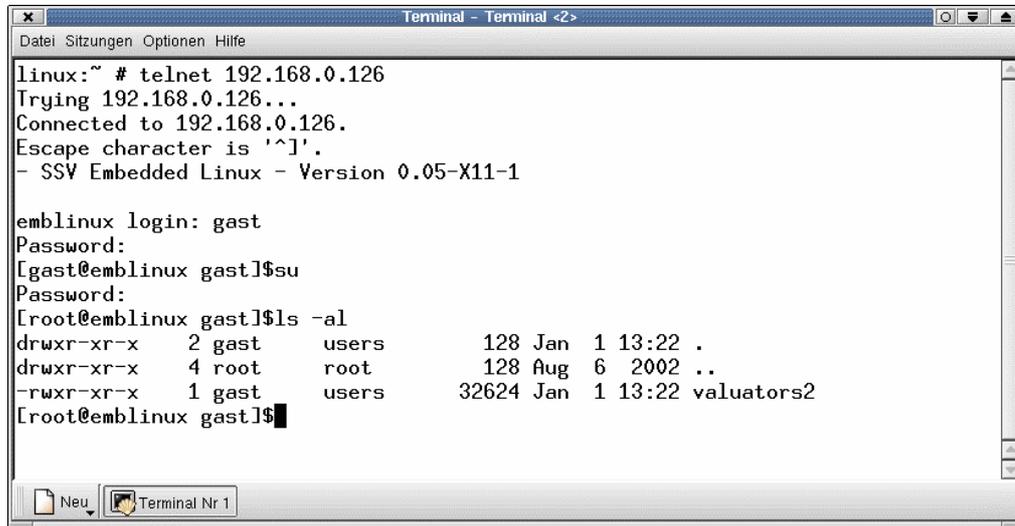
- **7. Step:** Set-up a FTP session between your Linux-based development system and the PNP/1110. Then copy the file **valuators2** from the directory **/Linux/Lcddemo** of the starter kit CD-ROM to the PNP/1110 RAM disk.
- **8. Step:** Set-up a Telnet session. First login with the user name **gast**. This user name don't need a password.
- **9. Step:** Make sure that you get superuser rights for the PNP/1110 Linux system. Please enter

**su**

for get these rights. Please note: You don't need a password. Just hit the enter key if the Linux ask you for a password.

- **10. Step:** Make sure that you find the file **valuators2** on your PNP/1110 RAM disk. This file needs executable rights. If the file is missing this rights, please enter

```
chmod +x valuator2
```



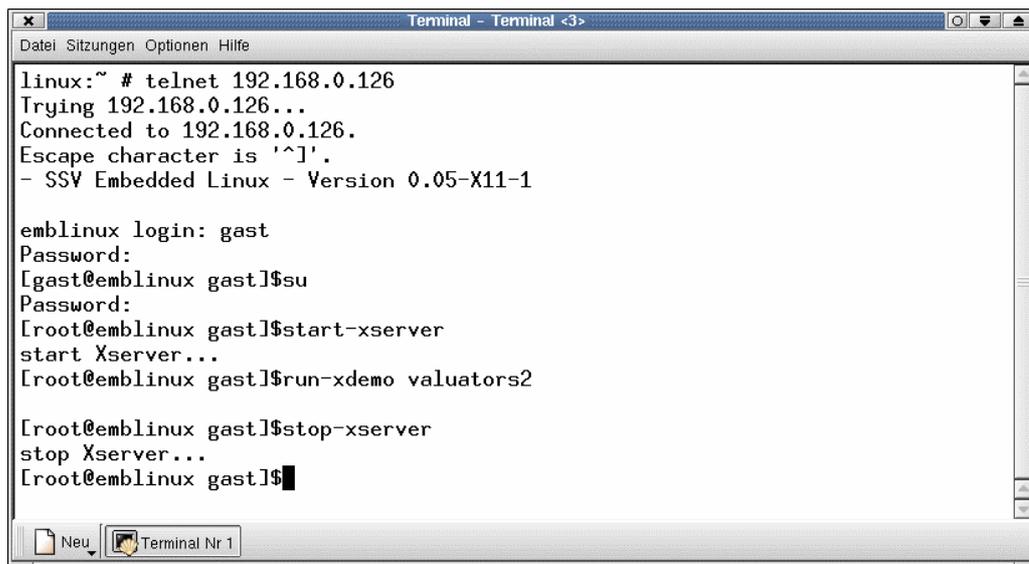
```
linux:~ # telnet 192.168.0.126
Trying 192.168.0.126...
Connected to 192.168.0.126.
Escape character is '^]'.
- SSV Embedded Linux - Version 0.05-X11-1

emblinux login: gast
Password:
[gast@emblinux gast]$su
Password:
[root@emblinux gast]$ls -al
drwxr-xr-x  2 gast  users      128 Jan  1 13:22 .
drwxr-xr-x  4 root  root       128 Aug  6 2002 ..
-rwxr-xr-x  1 gast  users     32624 Jan  1 13:22 valuator2
[root@emblinux gast]$
```

- **11. Step:** Now start the X server and after that the demo program **valuator2**. You need the following two commands for this task:

```
start-xserver
```

```
run-xdemo valuator2
```



```
linux:~ # telnet 192.168.0.126
Trying 192.168.0.126...
Connected to 192.168.0.126.
Escape character is '^]'.
- SSV Embedded Linux - Version 0.05-X11-1

emblinux login: gast
Password:
[gast@emblinux gast]$su
Password:
[root@emblinux gast]$start-xserver
start Xserver...
[root@emblinux gast]$run-xdemo valuator2

[root@emblinux gast]$stop-xserver
stop Xserver...
[root@emblinux gast]$
```

- **12. Step:** You can stop the X server with the following command:

```
stop-xserver
```