

QUICK MANUAL

Kontron Embedded Linux Image
for
Micro Client II (M@CII) and MediClient with ETX-LX800

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1 Preface

The document describes the features and adjustments for the Microclient 2 Kontron Embedded Linux Image.

2 Features

- **On-Board Hardware Support**
 - COM Port
 - USB ports
 - Ethernet (LAN)
 - Flat panel interface
 - CAN bus
- **Storage Devices**
 - Hard drives (HDD)
 - Compact Flash (CF)
 - USB storage devices (USB memory stick, USB CD-ROM)
 - Automounter
- **User Interface**
 - USB HID support (keyboard + mouse)
 - Touch Screen (Hampshire) at internal USB
- **Communication Services and Networking**
 - Wired LAN 802.3
 - Telnet server (BusyBox 1.2.2)
 - FTP Server (proFTPD 1.3.0)
- **Application**
 - Mozilla Firefox / JRE

3 Hardware

3.1 Serial port COM1 parameters

Serial Interface	Address	IRQ	Device
COM1	0x3F8	4	/dev/ttyS0

3.2 Image Size

Released image: approx. 400 MB

4 Setting up a basic network support

4.1 Setting static IP address

- Press **<Alt><Ctrl><i>** on the keyboard to configure basic network support.
- Confirm the first dialog question by pressing the “**yes**” button on your connected keyboard or touch.
- Then choose your preferred network adapter (LAN1 is default / LAN2 is optional).
- Now press the “**static**” button
- You get some **dialog fields**:
 - First enter your **IP address**
 - Next enter your **subnet mask**
 - If you need a DNS server enter your **DNS IP**
 - If you need a gateway/router press the “**yes**” button on the next question and enter your **gateway address**
 - Last follow the instructions

Your static network address is set up now.

4.2 Setting dynamic (DHCP) IP address

- Press **<Alt><Ctrl><i>** on the keyboard to configure basic network support.
- Confirm the first dialog question by pressing the “**yes**” button on your connected keyboard or touch.
- Then choose your preferred network adapter (**LAN1** is default (eth0) / LAN2 is optional (eth1)).
- Now press the “**dhcp**” button
- Follow the instructions

5 Setting up the Startup WEB browser homepage

- Press <Alt><Ctrl><h> on the keyboard to enter your **default startup homepage site** in the dialog box.
- Save your new browser settings (see section 12).

Note: Changes take place on next reboot.

6 Setting the X11 server standby time (black screen)

- Press <Alt><Ctrl> on the keyboard to enter modify the **standby time**.

Default blank time is set to **10 minutes**.

If you want to disable black screen choose “0” with the slider for infinite time out

7 How to do a reboot

- Press <Ctrl><Esc> on the keyboard to get a drop down menu with all important menus.
- Choose “**Reboot**” from the drop down menu.

or press <Alt><Ctrl><e> on the keyboard for short.

8 Touch calibration

- Press <Ctrl><Esc> on the keyboard to get a drop down menu with all important menus.
- Choose “TouchCalib” from the drop down menu.

or press <Alt><Ctrl><c> on the keyboard. Follow the directions of the calibration tool.

9 Setting a virtual soft keyboard on startup

- Press <Alt><Ctrl><v> on the keyboard to set the default keyboard startup mode.
- Follow the instructions

Note: Changes take place after the next reboot.

10 Using a virtual soft keyboard

- Press <Alt><Ctrl><k> on the keyboard to start the virtual keyboard.

11 Restoring the default WEB browser settings

- Press <Ctrl><Esc> on the keyboard to get a drop down menu with all important menus.
- Choose -> **Browser_Prefs->restoreBrowserDefaultPrefs**

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12 Saving WEB browser setting

- Press <Ctrl><Esc> on the keyboard to get a drop down menu with all important menus.
- Choose -> **Browser_Prefs->saveBrowserPrefs**

13 Disable/Enable the WEB browser on startup

- Press <Ctrl><Esc> on the keyboard to get a drop down menu with all important menus.
- Choose -> **Browser_Prefs->autoStartBrowser**

or press <Alt><Ctrl><w> on the keyboard

14 Setting the WEB browser Startup Mode

- Press <Ctrl><Esc> on the keyboard to get a drop down menu with all important menus.
- Choose -> **Browser_Prefs->setBrowserStartupMode**
- or press <Alt><Ctrl><u> on the keyboard

**Note: The default browser mode is the standard Mode.
To force exit Firefox see item Nr. 17.**

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15 Opening a virtual terminal (shell)

- Open the menu (<Ctrl><ESC>) and choose xterm (the first entry) to start a virtual terminal.
- or press <Alt><Ctrl><t> on the keyboard

16 Starting Mozilla Firefox manually

- Press <Alt><Ctrl><f> on the keyboard to start **Firefox**.

17 Closing any X11 application manually

Press <Alt><F4> on the keyboard to terminate the actual focused application (e.g. Firefox).

18 Changing fullscreen browser mode to user-based mode

- In Firefox press <F11> on the keyboard to change from **fullscreen** to **user-based mode** and vice versa.

19 Mounting USB Storage Devices

When a USB storage device (like USB memory stick) is attached to the system, the automount daemon will mount the device when the user is going to use it for the first time. All USB storage devices are mounted relative to the path "/tmp/media", the first one being called "usbdisk", the second one "usbdisk1" and so on. To see the contents of the first USB storage device, e.g., type
"ls /tmp/media/usbdisk".

When you remove the USB storage device, it is recommended to unmount it:
"umount /tmp/media/usbdisk".

20 Mounting USB CD drives

Similar to USB storage devices, USB CD-ROM drives are mounted automatically by the automount daemon relative to the path "/tmp/media". The mount point is called "cd" in this case. Type
"ls /tmp/media/cd"

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to mount the device and see the contents of the medium.

When you remove the USB storage device, it is recommended to unmount it:

“umount /tmp/media/cd”.

21 Query the Image Version

Typing **<Ctrl>-<Alt>-q** opens an xterm window where a version description string is written.

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22 Recommended BIOS Configuration

The Linux image has been tested with the BIOS settings documented here. Changing them may lead to problems from system instabilities to complete failure.

Note:

- Press „DEL,, Key as long as booting the BIOS-setup starts

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22.1 Standard CMOS Features

Phoenix - AwardBIOS CMOS Setup Utility			
Standard CMOS Features			
Date (mm:dd:yy)	Xxxxxx	Item help	
Time (hh:mm:ss)	Xxxxxx		
> IDE Primary Master	[xxxxxx]		
> IDE Primary Slave	[None]		
Drive A:	[None]		
Halt On	[All but keyboard]		
Halt after CMOS restore	[Disabled]		
Base Memory	Xxxxx		
Extended Memory	Xxxxx		
Total Memory	xxxxxx		
↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults			

22.1.1 Standard CMOS Features - IDE Primary Master/Slave

Phoenix - AwardBIOS CMOS Setup Utility		
IDE Primary Master/Slave		
IDE HDD Auto Detection	[Press Enter]	Item help
IDE Primary Master/Slave	[Auto]	
Access mode	[Auto]	
Capacity	xxxxxx	
Cylinder	xxxxxx	
Head	xxxxxx	
Precomp	xxxxxx	
Landing Zone	xxxxxx	
Sector	xxxxxx	
↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

22.2 Advanced BIOS Features

Phoenix - AwardBIOS CMOS Setup Utility		
Advanced BIOS Features		
> Hard Disk Boot Priority	[Press Enter]	Item help
First Boot Device	[Hard Disk]	
Second Boot Device	[USB-FDD]	
Third Boot Device	[CDROM]	
Boot Other Device	[Enabled]	
PXE Lanboot	[Disabled]	
Boot USB HDD First	[Disabled]	
Virus Warning	[Disabled]	
CPU Internal Cache	[Enabled]	
Dark Boot/Custom Logo	[Disabled]	
Gate A20 Option	[Fast]	
SerIRQ Mode	[Continuous]	
FPU Imprecise Exceptions	[Enabled]	
Usercode Features	[Disabled]	
Security Option	[Setup]	
PS/2 Mouse Control	[Auto]	
Video BIOS Shadow	[Enabled]	
C8000-CBFFF Shadow	[Disabled]	
CC000-CFFFF Shadow	[Disabled]	
D0000-D3FFF Shadow	[Disabled]	
D4000-D7FFF Shadow	[Disabled]	
D8000-DBFFF Shadow	[Disabled]	
DC000-DFFFF Shadow	[Disabled]	
↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

22.3 Advanced Chipset Features

Phoenix - AwardBIOS CMOS Setup Utility			
Advanced Chipset Features			
CPU Frequency	[Auto]	Item help	
Memory Frequency	[Auto]		
Video Memory Size	[8MB]		
Output Display	[LCD & CRT]		
Resolution	[Auto]		
Onboard Audio	[Enabled]		
Onboard LAN	[Enabled]		
Onboard IDE	[Enabled]		
Ultra DMA Mode	[Mode 5]		
SATA/2nd IDE	[RAID]		
PATA IO Address	[Auto]		
USB Support	[USB 2.0]		
Memory Hole At 15M-16M	[Disabled]		
↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults			

22.4 Integrated Peripherals

Phoenix - AwardBIOS CMOS Setup Utility		
Integrated Peripherals		
Master Drive PIO Mode	[Auto]	Item help
Slave Drive PIO Mode	[Auto]	
IDE Primary Master UDMA	[Auto]	
IDE Primary Slave UDMA	[Auto]	
IDE DMA Transfer Access	[Enabled]	
IDE HDD Block Mode	[Enabled]	
Onboard FDC Controller	[Disabled]	
Onboard Serial Port 1	[3F8/IRQ4]	
Onboard Serial Port 2	[2F8/IRQ3]	
UART Mode Select	[Normal]	
Rxd, TxD Active	Hi, Lo	
IR Transmission Delay	[Enabled]	
UR2 Duplex Mode	Half	
Use IR Pins	IR-Rx2Tx2	
Onboard Parallel Port	[378/IRQ7]	
Parallel Port Mode	[Standard]	
EPP Mode Select	[EPP1.7]	
ECP Mode Use DMA	3	
Watchdog Function	[Disabled]	
NMI Timeout	[Disabled]	
Reset Timeout	[Disabled]	
Delay	[0 Sec]	
... more unimportant stuff ...		
↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

22.5 Power Management Setup

Phoenix - AwardBIOS CMOS Setup Utility		
Power Management Setup		
ACPI Function	[Disabled]	Item help
Power Management	[Disabled]	
ACPI Suspend Type	[S1&S3]	
** PM Timers **		
Standby Mode	[Disabled]	
Suspend Mode	[Disabled]	
PME Event Function	[Enabled]	
Soft-Off by Power Button	[Instant Off]	
> IRQ Wakeup Events	[Press Enter]	
↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

22.5.1 Power Management Setup - IRQ Wakeup Events

Phoenix - AwardBIOS CMOS Setup Utility		
IRQ Wakeup Events		
IRQ1 (Keyboard)	[On]	Item help
IRQ3 (COM 2)	[Off]	
IRQ4 (COM 1)	[Off]	
IRQ5 (LPT 2)	[Off]	
IRQ7 (LPT 1)	[Off]	
IRQ8 (RTC Alarm)	[Off]	
IRQ9 (IRQ2 Redirect)	[Off]	
IRQ10 (Reserved)	[Off]	
IRQ11 (Reserved)	[Off]	
IRQ12 (PS/2 Mouse)	[Off]	
↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

22.6 PnP/PCI Configurations

Phoenix - AwardBIOS CMOS Setup Utility		
PnP/PCI Configurations		
PnP OS Installed	[Yes]	Item help
Init Display First	[PCI/ISA Slot]	
Resources Controlled By	[Manual]	
> IRQ Resources	[Press Enter]	
> Memory Resources	[Press Enter]	
INT Pin1 Assignment	[Auto]	
INT Pin2 Assignment	[Auto]	
INT Pin3 Assignment	[Auto]	
INT Pin4 Assignment	[Auto]	
↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

22.6.1 PnP/PCI Configurations - IRQ Resources

Phoenix - AwardBIOS CMOS Setup Utility		
IRQ Resources		
IRQ-3 assigned to	[PCI Device]	Item help
IRQ-4 assigned to	[PCI Device]	
IRQ-5 assigned to	[PCI Device]	
IRQ-7 assigned to	[PCI Device]	
IRQ-9 assigned to	[PCI Device]	
IRQ-10 assigned to	[Reserved]	
IRQ-11 assigned to	[PCI Device]	
IRQ-12 assigned to	[Reserved]	
IRQ-14 assigned to	[Reserved]	
IRQ-15 assigned to	[Reserved]	
↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

22.6.2 PnP/PCI Configurations - Memory Resources

Phoenix - AwardBIOS CMOS Setup Utility		
Memory Resources		
Reserved Memory Base	[N/A]	Item help
Reserved Memory Length	[8K]	
↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		