

QUICK MANUAL

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

© Copyright 2008 Kontron Embedded Computers GmbH

All right are reserved

Release – February 2008

Kontron vertraulich	Formularstand: 15.02.2008	Dokument	Linux_Quick Manual_V01_MC_ETX_PM.doc
Erstellt: Matthias Kaiser	Änderung:	Freigabe	Datum: 15.02.2008 Seite: 1 von 35

Revision History

ChangeLog			
Rev	Description	Date	Author
01	Initial Release	15.02.2008	M. Kaiser

Table of Contents

1 Preface.....5

2 Features.....6

3 Hardware.....7

 3.1 Serial port COM1 parameters 7

 3.2 Image Size 7

4 Setting up a basic network support.....8

 4.1 Setting static IP address 8

 4.2 Setting dynamic (DHCP) IP address 8

5 Setting up the Startup WEB browser homepage.....9

6 Setting the X11 server blank time (black screen).....9

7 How to make a reboot.....9

8 Touch calibration 10

9 Setting a virtual soft keyboard on startup..... 10

10 Using a virtual soft keyboard..... 10

11 Restoring the default WEB browser settings..... 10

12 Saving WEB browser setting 11

13 Disable/Enable the WEB browser on startup 11

14 Setting the WEB browser Startup Mode 11

15 Opening a virtual terminal (shell) 12

16 Starting Mozilla Firefox manually 12

17 Closing any X11 application manually 12

18 Changing fullscreen browser mode to user-based mode 12

19 Mounting USB Storage Devices 12

20 Mounting USB CD drives..... 12

21 Query the Image Version..... 13

22 Recommended BIOS Configuration..... 14

 22.1 Main 15

 22.1.1 Main: Primary/Secondary Master/Slave Submenus 16

 22.2 Advanced Menu 17

 22.2.1 Advanced Chipset Control 18

 22.2.2 PCI/PnP Configuration..... 19

 22.2.3 Memory Cache 23

 22.2.4 I/O Device Configuration..... 24

 22.2.5 Keyboard Features 28

 22.2.6 Watchdog Settings..... 29

 22.2.7 Display Control 30

22.2.8	Miscellaneous.....	31
22.3	Security	32
22.4	Power	33
22.4.1	Wake Up Events.....	34
22.5	Boot	35

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

- **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 blank time (black screen)

- Press <Alt><Ctrl> on the keyboard to enter modify the **blank 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 make 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

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**

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 Point Nr. 18.**

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"

Kontron vertraulich		Formularstand: 15.02.2008		Dokument		Linux_Quick Manual_V01_MC_ETX_PM.doc	
Erstellt:	Matthias Kaiser	Änderung:		Freigabe	Datum:	15.02.2008	Seite: 12 von 35

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.

Kontron vertraulich		Formularstand: 15.02.2008		Dokument		Linux_Quick Manual_V01_MC_ETX_PM.doc	
Erstellt:	Matthias Kaiser	Änderung:		Freigabe	Datum:	15.02.2008	Seite: 13 von 35

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:

- The most important Settings are marked blue !!!!
- Press „F2,, Key as long as booting the BIOS-setup starts

Kontron vertraulich		Formularstand: 15.02.2008			Dokument		Linux_Quick Manual_V01_MC_ETX_PM.doc	
Erstellt:	Matthias Kaiser	Änderung:		Freigabe	Datum:	15.02.2008	Seite: 14 von 35	

22.1 Main

PhoenixBIOS Setup Utility						
Main	Advanced	Security	Power	Boot	Exit	
System Time			Xxxxxx			Item Specific help
System Date			Xxxxxx			
Legacy Diskette A:			[Disabled]			
Legacy Diskette B:			[Disabled]			
> Primary Master			[None]			
> Primary Slave			[None]			
> Secondary Master			[None]			
> Secondary Slave			[None]			
Smart Device Monitoring			Enabled			
System Memory			Xxxxx			
Extended Memory			Xxxxx			
F1 Help	↑↓	: Select Item	-/+	Change Value	F9	
Esc Exit		Select Menu	Enter	Select > Sub-Menu	F10	Save and Exit

22.1.1 Main: Primary/Secondary Master/Slave Submenus

PhoenixBIOS Setup Utility	
Main	
Primary Master / Primary Slave Secondary Master / Secondary Slave	Item Specific help
Type [Auto] CHS Format Cylinders: [XXXX] Heads: [XXXX] Sectors: [XXXX] Maximum Capacity XXXXX LBA Format Total Sectors : XXXXX Maximum Capacity : XXXXX Multi-Sector Transfer : [Disabled] LBA Mode Control : [Enabled] 32 Bit I/O [Disabled] Transfer Mode : [Fast PIO 1] Ultra DMA Mode: [Disabled] SMART Monitoring : Disabled	
F1 Help ↑↓ : Select Item -/+ Change Value F9 Setup Defaults	
Esc Exit Select Menu Enter Select > Sub-Menu F10 Save and Exit	

22.2 Advanced Menu

PhoenixBIOS Setup Utility	
Advanced	
	Item Specific help
> Advanced Chipset Control > PCI/PnP Configuration > Memory Cache > I/O Device Configuration > Keyboard Features > Hardware Monitor > Watchdog Settings > Display Control > Miscellaneous	
F1 Help	↑ ↓ : Select Item -/+ Change Value F9 Setup Defaults
Esc Exit	Select Menu Enter Select > Sub-Menu F10 Save and Exit

22.2.1 Advanced Chipset Control

PhoenixBIOS Setup Utility	
Advanced	
Advanced Chipset Control	Item Specific help
Enable Memory Gap [Disabled]	
Graphics Engine 1 [Enabled]	
Graphics Engine 2 [Enabled]	
Graphics Memory [UMA=8MB]	
Assign IRQ to VGA [Yes]	
F1 Help ↑↓ : Select Item -/+ Change Value F9 Setup Defaults Esc Exit Select Menu Enter Select > Sub-Menu F10 Save and Exit	

22.2.2 PCI/PnP Configuration

PhoenixBIOS Setup Utility	
Advanced	
PCI/PnP Configuration	Item Specific help
PnP OS installed [Yes]	
Reset Configuration Data [No]	
Secured Setup Configuration [Yes]	
> PCI Device, Slot #1-#4	
PCI IRQ line 1-4 [Auto Select]	
Onboard LAN IRQ line [Auto Select]	
Onboard USB EHCI line [Auto Select]	
> PCI/PnP ISA UMB Region Exclusion	
> PCI/PnP ISA IRQ Resource Exclusion	
Default Primary Video Adapter [PCI]	
Assign IRQ to SMB [Enabled]	
F1 Help ↑↓ : Select Item -/+ Change Value F9 Setup Defaults	
Esc Exit Select Menu Enter Select > Sub-Menu F10 Save and Exit	

22.2.2.1 PCI Device, slot #1-#4

PhoenixBIOS Setup Utility	
Advanced	
PCI Device, Slot #	Item Specific help
Option ROM Scan [Enabled]	
Enable Master [Disabled]	
Latency Timer [0040h]	
F1 Help ↑ ↓ : Select Item -/+ Change Value F9 Setup Defaults Esc Exit Select Menu Enter Select > Sub-Menu F10 Save and Exit	

22.2.2.2 PCI/PnP ISA UMB Region Exclusion

PhoenixBIOS Setup Utility	
Advanced	
PCI/PnP ISA UMB Region Exclusion	Item Specific help
CC00 - CFFF	[Available]
D000 - D3FF	[Available]
D400 - D7FF	[Available]
D800 - DBFF	[Available]
DC00 - DFFF	[Available]
F1 Help ↑↓ : Select Item -/+ Change Value F9 Setup Defaults Esc Exit Select Menu Enter Select > Sub-Menu F10 Save and Exit	

22.2.2.3 PCI/PnP ISA IRQ Exclusion

PhoenixBIOS Setup Utility	
Advanced	
PCI/PNP ISA IRQ Resource Exclusion	Item Specific help
IRQ 3:	[Available]
IRQ 4:	[Available]
IRQ 5:	[Available]
IRQ 7:	[Available]
IRQ 9:	[Available]
IRQ 10:	[Reserved]
IRQ 11:	[Available]
IRQ 12:	[Available]
F1 Help ↑↓ : Select Item -/+ Change Value F9 Setup Defaults Esc Exit Select Menu Enter Select > Sub-Menu F10 Save and Exit	

22.2.3 Memory Cache

PhoenixBIOS Setup Utility	
Advanced	
Memory Cache	Item Specific help
Memory Cache: [Enabled]	
Cache Syste BIOS area: [Write Protect]	
Cache Video BIOS area: [Write Protect]	
Cache Base 0-512k [Write Back]	
Cache Base 512-640k [Write Back]	
Cache Extended Memory Area : [Write Back]	
Cache D000 – D3FF: [Disabled]	
Cache D400 – D7FF: [Disabled]	
Cache D800 – DBFF: [Disabled]	
Cache DC00 – DFFF: [Disabled]	
F1 Help ↑↓ : Select Item -/+ Change Value F9 Setup Defaults Esc Exit Select Menu Enter Select > Sub-Menu F10 Save and Exit	

22.2.4 I/O Device Configuration

PhoenixBIOS Setup Utility	
Advanced	
I/O Device Configuration	Item Specific help
Local Bus IDE adapter: [Both]	
Primary IDE UDMA66/100 [Enabled]	
Secondary IDE UDMA66/100 [Enabled]	
> USB Options	
AC97 Audio Controller [Enabled]	
> LAN Options	
> SIO Options	
F1 Help	↑ ↓ : Select Item -/+ Change Value F9 Setup Defaults
Esc Exit	Select Menu Enter Select > Sub-Menu F10 Save and Exit

22.2.4.1 I/O Device Configuration - USB Options

PhoenixBIOS Setup Utility	
Advanced	
USB Options	Item Specific help
USB UHCI Host Controller 1 [Enabled]	
USB UHCI Host Controller 2 [Enabled]	
USB EHCI Host Controller [Enabled]	
Legacy USB Support [Enabled]	
EHCI Legacy Support [Enabled]	
F1 Help ↑↓ : Select Item -/+ Change Value F9 Setup Defaults Esc Exit Select Menu Enter Select > Sub-Menu F10 Save and Exit	

22.2.4.2 I/O Device Configuration - SIO Options

PhoenixBIOS Setup Utility	
Advanced	
SIO Options	Item Specific help
Serial port A: [Auto]	
Serial port B: [Auto]	
Mode: [Normal]	
Onboard LPT: [Auto]	
Mode: [ECP]	
F1 Help	↑↓ : Select Item -/+ Change Value F9 Setup Defaults
Esc Exit	Select Menu Enter Select > Sub-Menu F10 Save and Exit

22.2.4.3 I/O Device Configuration - LAN Options

PhoenixBIOS Setup Utility	
Advanced	
LAN Options	Item Specific help
LAN MAC Address (ETH1) xxxxxxxxxxxx	
Onboard LAN Controller [Enabled]	
Onboard LAN PXE ROM [Disabled]	
Enable WOL [OS control]	
F1 Help ↑ ↓ : Select Item -/+ Change Value F9 Setup Defaults	
Esc Exit Select Menu Enter Select > Sub-Menu F10 Save and Exit	

22.2.5 Keyboard Features

PhoenixBIOS Setup Utility	
Advanced	
Keyboard Features	Item Specific help
NumLock: [Auto]	
Key Click: [Disabled]	
Keyboard auto-repeat rate: [30/sec]	
Keyboard auto-repeat delay: [1/2 sec]	
F1 Help ↑↓ : Select Item -/+ Change Value F9 Setup Defaults Esc Exit Select Menu Enter Select > Sub-Menu F10 Save and Exit	

22.2.6 Watchdog Settings

PhoenixBIOS Setup Utility			
Advanced			
Watchdog Settings		Item Specific help	
Mode :		[Disabled]	
F1 Help	↑ ↓	: Select Item -/+ Change Value	F9 Setup Defaults
Esc Exit		Select Menu Enter Select > Sub-Menu	F10 Save and Exit

22.2.7 Display Control

PhoenixBIOS Setup Utility	
Boot	
Display Control	Item Specific help
Display Mode: [CRT+LFP]	
JDA Revision: 1.5	
Flat Panel Type: [Auto]	
Flat Panel Scaling: [Stretched]	
Flat Panel Backlight: [128]	
Default Primary Video Adapter [AGP]	
Assign IRQ to VGA [Enabled]	
F1 Help ↑ ↓ : Select Item -/+ Change Value F9 Setup Defaults	
Esc Exit Select Menu Enter Select > Sub-Menu F10 Save and Exit	

22.2.8 Miscellaneous

PhoenixBIOS Setup Utility	
Advanced	
Miscellaneous	Item Specific help
FloppyCheck: [Disabled]	
Summary Screen: [Disabled]	
Quick Boot Mode: [Enabled]	
Extended Memory Testing: [Just Zero It]	
Dark Boot: [Disabled]	
Halt On Errors [Enabled]	
PS/2 Mouse: [Disabled]	
Large Disk Access Mode: [Other]	
Spread Spectrum: [Disabled]	
F1 Help ↑↓ : Select Item -/+ Change Value F9 Setup Defaults Esc Exit Select Menu Enter Select > Sub-Menu F10 Save and Exit	

22.3 Security

PhoenixBIOS Setup Utility					
Main	Advanced	Security	Power	Boot	Exit
					Item Specific help
Supervisor Password Is:			Clear		
User Password IS:			Clear		
Set Supervisor Password			[Enter]		
Set User Password			[Enter]		
Diskette access:			[Supervisor]		
Fixed disk boot sector:			[Normal]		
Virus check reminder			[Disabled]		
System backup reminder			[Disabled]		
Password on boot:			[Disabled]		
F1	Help	↑ ↓	: Select Item	-/+	Change Value
Esc	Exit		Select Menu	Enter	Select > Sub-Menu
				F9	Setup Defaults
				F10	Save and Exit

22.4 Power

PhoenixBIOS Setup Utility					
Main	Advanced	Security	Power	Boot	Exit
					Item Specific help
Enable ACPI			[No]		
Automatic Thermal Control Circuit			[TM1]		
Power Savings			[Disabled]		
Hard Disk Timeout			[Disabled]		
> Wake Up Events					
Resume On Modem Ring:			[Off]		
Resume On Time:			[Off]		
Resume Time:			[00:00:00]		
Power Supply			[ATX]		
Power Button Function			[Sleep]		
Power Loss Control			[Power On]		
F1 Help	↑ ↓	:	Select Item	-/+	Change Value
Esc Exit			Select Menu	Enter	Select > Sub-Menu
				F9	Setup Defaults
				F10	Save and Exit

22.4.1 Wake Up Events

PhoenixBIOS Setup Utility	
Power	
Wake Up Events	Item Specific help
Wake on Mouse Activity: [Enabled]	
Wake on Keyboard Activity: [Enabled]	
Wake on Serial Port A Activity: [Enabled]	
Wake on Serial Port B Activity: [Enabled]	
F1 Help ↑↓ : Select Item -/+ Change Value F9 Setup Defaults Esc Exit Select Menu Enter Select > Sub-Menu F10 Save and Exit	

22.5 Boot

PhoenixBIOS Setup Utility	
Boot	
	Item Specific help
<p>Boot priority order:</p> <p>1: USB KEY: 2: IDE 0: 3: IDE 1: 4: IDE 2: 5: IDE 3: 6: IDE CD: 7: USB CDROM: 8:</p> <p>Excluded from boot order:</p> <p> : USB FDC: : USB HDD: : USB ZIP: : USB LS120: : PCI BEV: : PCI SCSI: : Bootable Add-in Cards : Legacy Network Card</p>	
<p>F1 Help ↑↓ : Select Item -/+ Change Value F9 Setup Defaults</p> <p>Esc Exit Select Menu Enter Select > Sub-Menu F10 Save and Exit</p>	