

# UC-8112-LX-STK User's Manual

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First Edition, April 2015

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# UC-8112-LX-STK User's Manual

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## Introduction

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Moxa's UC-8112 Series Starter Kit is an ideal hardware and software package for system evaluation. Containing a UC-8100 computer, optional cellular and Wi-Fi modules, and various software packages, this compact Starter Kit helps users establish their system architecture in no time.

The following topics are covered in this chapter:

- ❑ **Overview**
- ❑ **Model Descriptions**
- ❑ **Package Checklist**
- ❑ **Product Features**
- ❑ **Hardware Specifications**
- ❑ **Hardware Block Diagram**

# Overview

The UC-8112-LX Starter Kit offers a cellular or Wi-Fi module that users can easily install to establish wireless communication between the UC-8100 and the peripheral devices. In addition, system integrators can easily evaluate the result of remote management for some specific industrial tasks, such as data acquisition, and system integration.

## Model Descriptions

The UC-8112-LX-STK series includes the following models:

- **UC-8112 Starter Kit with LTE-EU:** Compatible with LTE, HSPA, GPRS/GSM, GPS
- **UC-8112 Starter Kit with LTE-US:** Compatible with LTE, HSPA, GPRS/GSM, GPS
- **UC-8112 Starter Kit with Wi-Fi:** Compatible with IEEE 802.11b/g/n
- **UC-8112 Starter Kit**

## Package Checklist

Before installing the UC-8112, verify that the package contains the following options:

### **UC-8112-LX Computer Kit**

- UC-8112-LX computer x 1
- Console cable x 1
- GPS antenna x 1
- Cellular antenna x 1
- Wi-Fi antenna x 1
- DIN rail mounting kit x 1
- 1 GB SD x 1
- Power jack x 1
- Power adapter x 1

### **Wi-Fi module kit**

- Wi-Fi module x 1
- Wi-Fi antenna cable x 1

### **Cellular Module Kit**

- Cellular module x 1
- Cellular antenna cable x 1

*NOTE: Notify your sales representative if any of the above options are missing or damaged.*

## Product Features

- ARMv7 Cortex-A8 300/600/1000 MHz processor
- Dual auto-sensing 10/100 Mbps Ethernet ports
- SD socket for storage expansion and OS installation
- Rich programmable LEDs and a programmable button for easy installation and maintenance
- Mini PCIe socket for cellular module
- Debian ARM 7 open platform
- Cybersecurity

# Hardware Specifications

## Computer

**CPU:** ARMv7 Cortex-A8 300/600/1000 MHz

**USB:** USB 2.0 host x 1 (type A connector)

**DRAM:** 256 MB DDR3 SDRAM (512 MB by request)

**OS (pre-installed):** Debian ARM 7 (Kernel 3.2)

## Storage

### Storage Expansion:

- SDHC/SDXC socket for storing OS and storage expansion
- 1 GB SD card with OS pre-installed
- MicroSD socket for storage expansion (UC-8112-LX/UC-8112-T-LX only)
- 2 GB MicroSD cards with OS pre-installed (UC-8112-LX/UC-8112-T-LX only)

## Ethernet Interface

**LAN:** 2 auto-sensing 10/100 Mbps ports (RJ45)

**Magnetic Isolation Protection:** 1.5 kV built-in

## Serial Interface

**Serial Standards:** 1 or 2 RS-232/422/485 ports, software-selectable (5-pin terminal block connector)

**Console Port:** RS-232 (TxD, RxD, GND), 4-pin pin header output (115200, n, 8, 1)

## Serial Communication Parameters

**Data Bits:** 5, 6, 7, 8

**Stop Bits:** 1, 1.5, 2

**Parity:** None, Even, Odd, Space, Mark

**Flow Control:** XON/XOFF, ADDC® (automatic data direction control) for RS-485

**Baudrate:** Max. 921600 bps

## Serial Signals

**RS-232:** TxD, RxD, RTS, CTS, GND

**RS-422:** TxD+, TxD-, RxD+, RxD-, GND

**RS-485-4w:** TxD+, TxD-, RxD+, RxD-, GND

**RS-485-2w:** Data+, Data-, GND

## LEDs

**System:** Power x 1, USB x 1, SD x 1, signal strength x 3 (UC-8112/8162/8132 with cellular module)

**LAN:** 10M/100M on connector

**Programmable:** Diagnosis x 3

## Switches and Buttons

**Push Button:** Initially configured to return a diagnostic report, and to reset the device to factory defaults

## Physical Characteristics

**Housing:** Polycarbonate plastic

**Weight:** 224 g

**Dimensions:** 101 x 27 x 128 mm (3.98 x 1.06 x 5.04 in)

**Mounting:** DIN rail, wall (with optional kit)

## Environmental Limits

### Operating Temperature:

Standard Models: -10 to 60°C (14 to 140°F)

Wide Temp. Models: -40 to 75°C (-40 to 167°F)

**Storage Temperature:** -40 to 80°C (-40 to 176°F)

**Ambient Relative Humidity:** 5 to 95% (non-condensing)

**Anti-Vibration:** 2 Grms @ IEC 60068-2-64, random wave, 5-500 Hz, 1 hr per axis (without any USB devices attached)

**Anti-Shock:** 20 g @ IEC 60068-2-27, half sine wave, 30 ms

### Power Requirements

**Input Voltage:** 12 to 24 VDC (3-pin terminal block, V+, V-, SG)

**Power Consumption:** 5.4 W (without cellular module and external USB device attached)

- 450 mA @ 12 VDC
- 225 mA @ 24 VDC

### Standards and Certifications

**Safety:** UL 60950-1, EN 60950-1, CCC (GB9254, GB17625.1)

**EMC:** EN55022 Class B, EN 55024-4-2, EN 55024-4-3, EN 55024-4-4, FCC Part 15 Subpart B Class A

**Green Product:** RoHS, CRoHS, WEEE

### Reliability

**Alert Tools:** Built-in RTC (real-time clock)

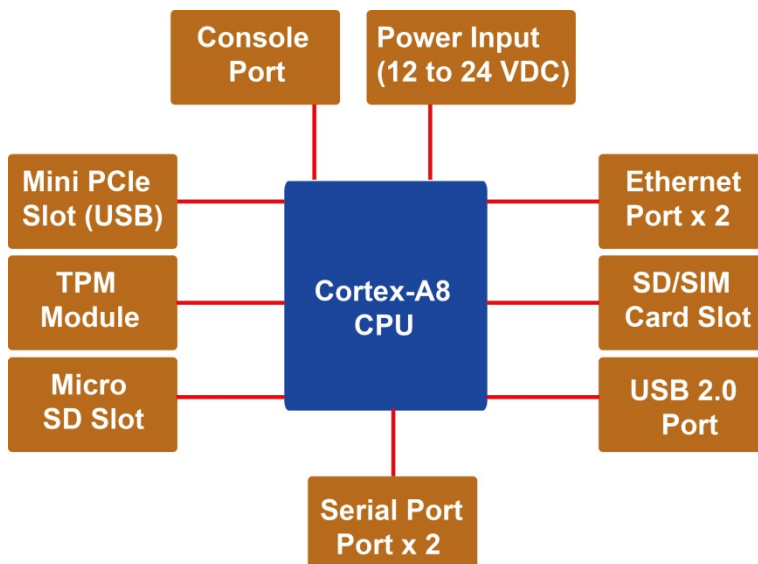
**Automatic Reboot Trigger:** Built-in WDT (watchdog timer)

### Warranty

**Warranty Period:** 5 years

**Details:** See [www.moxa.com/warranty](http://www.moxa.com/warranty)

## Hardware Block Diagram





# Hardware Introduction

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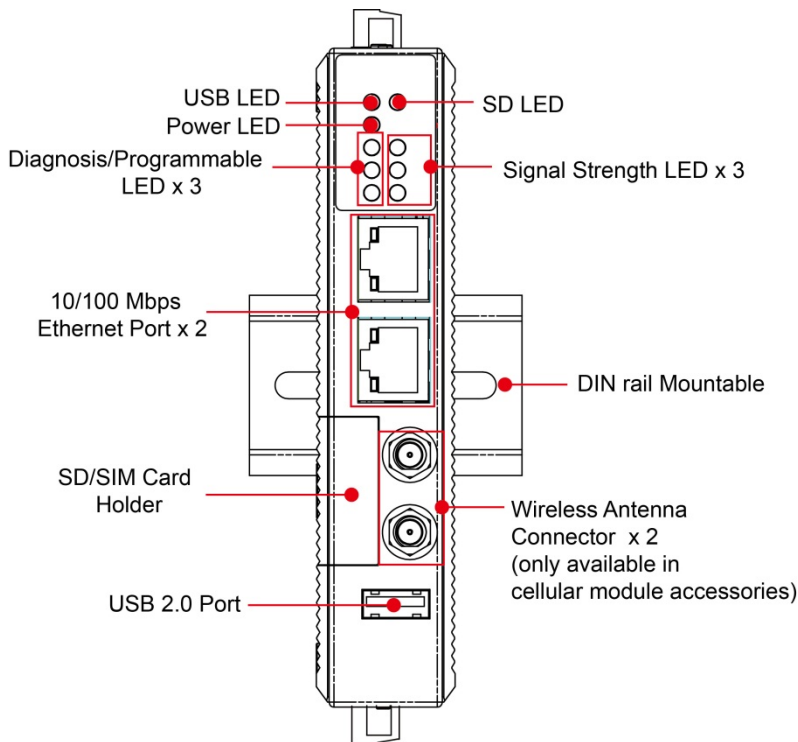
The UC-8112 embedded computers are compact and rugged, making them suitable for industrial applications. The LED indicators allow users to monitor performance and identify trouble spots quickly, and the multiple ports can be used to connect a variety of devices. The UC-8112 comes with a reliable and stable hardware platform that lets you devote the bulk of your time to application development. In this chapter, we provide basic information about the embedded computer's hardware and its various components.

The following topics are covered in this chapter:

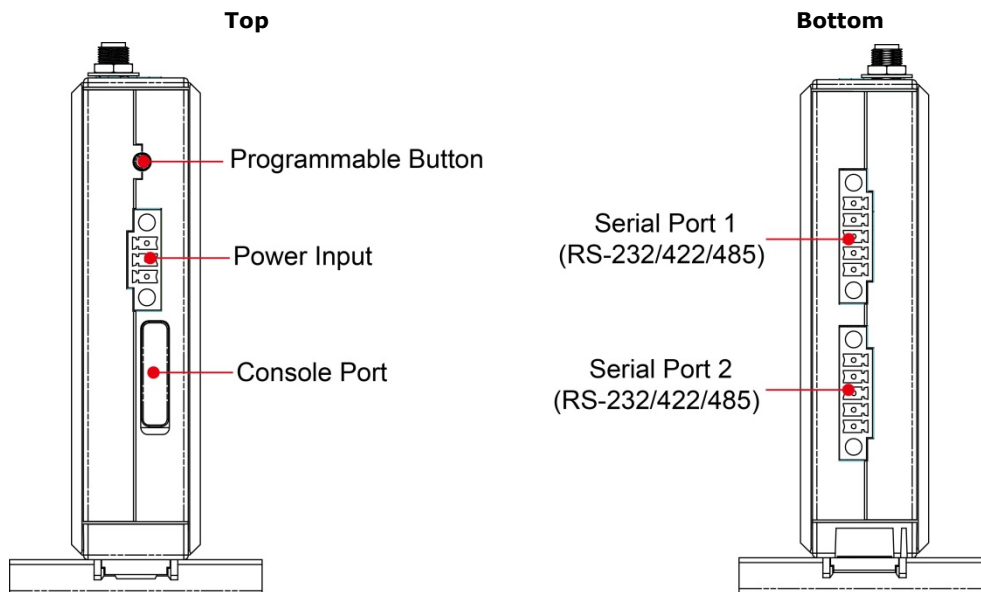
- **Appearance**
- **LED Indicators**
- **Default Programmable Button Operations**
- **Reset to Default Button**
- **Real Time Clock**
- **Placement Options**
  - DIN Rail Mounting
  - Wall or Cabinet Mounting

# Appearance

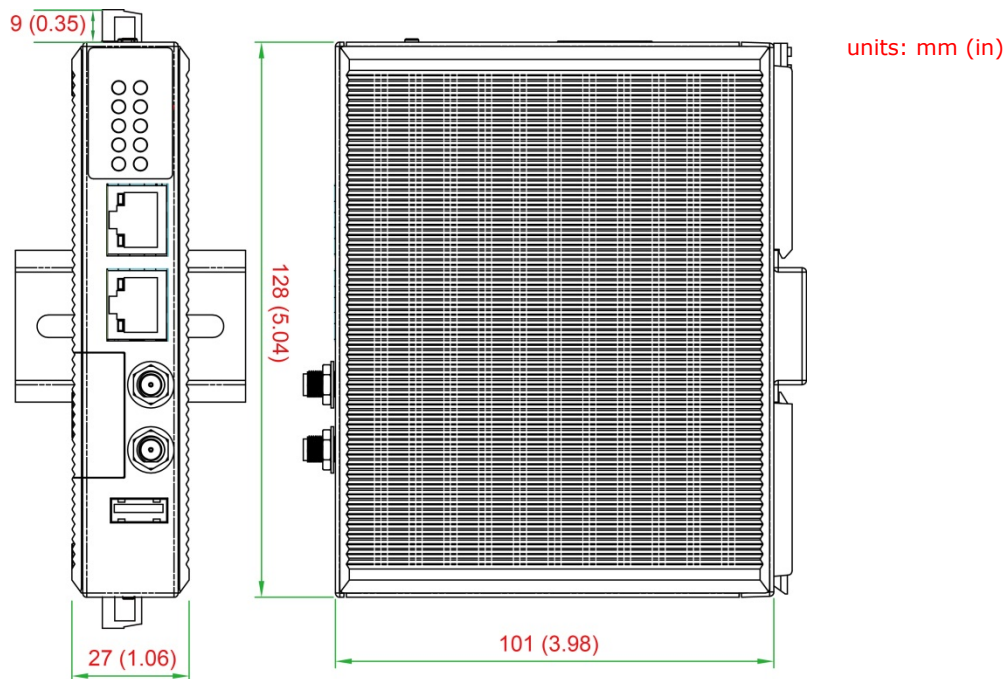
## Front View



## Top & Bottom Views









## Dimensions



## LED Indicators

Refer to the following table for information about each LED.

LED Name		Color	Function	
	USB	Green	Steady On	USB device is connected and working normally
			Off	USB device is not connected.
	SD	Green	Steady On	SD Card inserted and working normally
			Off	SD Card is not detected
	Power	Green	Power is on and the computer is working normally.	
		Off	Power is off.	
	LAN1/2 (On RJ45 connector)	Green	Steady On	100 Mbps Ethernet link
			Blinking	Data transmitting
		Yellow	Steady On	10 Mbps Ethernet link
			Blinking	Data transmitting
	Wireless Signal Strength	Green	Number of glowing LEDs indicates signal strength 3 (Green + Yellow + Red): Excellent 2 (Yellow + Red) : Good 1 (Red) : Poor	
		Yellow		
		Red		
		Off	Wireless module not detected	
	Diagnosis	Green	These 3 LEDs can be programmed by the user (Refer to Chapter 3 in the Hardware Manual for details.)	
		Yellow		
		Red		

## Default Operations for Programmable LEDs

Status of the 3 LEDs			Status Description
Green LED	Yellow LED	Red LED	
Off	Off	On	SD Card Error – Can't read from or write to the SD card
Off	On	On	WAN Ethernet Error – WAN Ethernet controller malfunction
On	Off	On	LAN Ethernet Error – LAN Ethernet controller malfunction
Off	Blinking	On	IP Address Error – IP Address conflict; re-configure the UC-8110's LAN IP address to solve this problem
Off	Off	Blinking	Power-Off Warning Power off may result in damage to the UC-8110 due to <ul style="list-style-type: none"> <li>Updating firmware</li> <li>Saving configuration</li> <li>Initialization process</li> </ul>
On	On	On	RS-232 Interface Error
Blinking	Blinking	Blinking	Proceeding with Self Diagnosis
Blinking	Off	Off	Automatic Pairing (Button) <ul style="list-style-type: none"> <li>Press and hold the button for 2 seconds to enable automatic pairing mode.</li> <li>Simply click the button "Smart Connect" on the software utility (Moxa Nexus for Windows, iOS, or Android) on any handheld device to seamlessly access this device via the Moxa Cloud Solution.</li> <li>Automatic pairing mode will be disabled after X seconds. (X is configurable, default is 30.)</li> <li>When automatic pairing mode is enabled, the green "Diagnosis" LED will keep blinking.</li> <li>Any successful pairing will disable the automatic pairing mode immediately.</li> </ul>
Off	Blinking	Off	Automatic Pairing (QR-Code) <ul style="list-style-type: none"> <li>Scanning the QR-Code on the UC-8110 from the software utility on a handheld device will enable automatic pairing mode</li> <li>Refer to "Automatic Pairing (Button)"</li> <li>The only exception is the Yellow "Diagnosis" LED, which will keep blinking when automatic pairing mode is enabled.</li> </ul>
Off	On	Off	Reset to Factory Default

## Reset to Default Button

Press and hold the **Reset Button** continuously for at least 5 seconds to load the **factory default configuration**. After the factory default configuration has been loaded, the system will reboot automatically. The **Ready** LED will blink on and off for the first 5 seconds, and then maintain a steady glow once the system has rebooted.

We recommend that you only use this function if the software is not working properly and you want to load factory default settings. The **Reset to Default** functionality is not designed to hard reboot the UC-8112.



### ATTENTION

#### Reset to Default preserves user's data

The **Reset to Default** function will NOT format the user directory and erase the user's data. Using the Reset to default function will only load the configuration file. The rest of the user's data stored in the Flash ROM will remain intact.

# Real Time Clock

The UC-8112's real time clock is powered by a lithium battery. We strongly recommend that you do not replace the lithium battery without help from a qualified Moxa support engineer. If you need to change the battery, contact the Moxa RMA service team.



**WARNING**

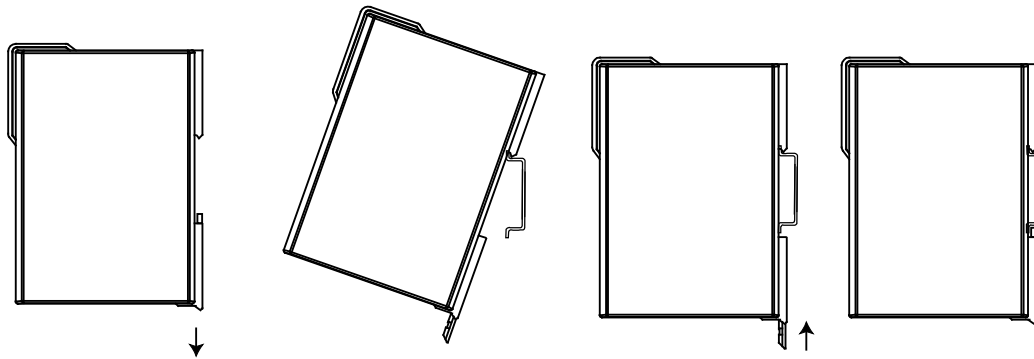
There is a risk of explosion if the battery is replaced by an incorrect type.

## Placement Options

There are two sliders on the back of the unit for DIN rail and wall mounting.

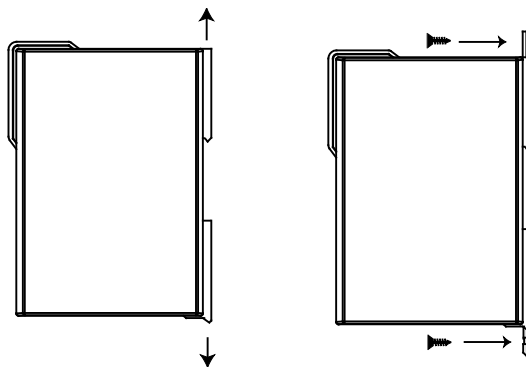
### DIN Rail Mounting

Pull out the bottom slider, latch the unit onto the DIN rail, and push the slider back in.

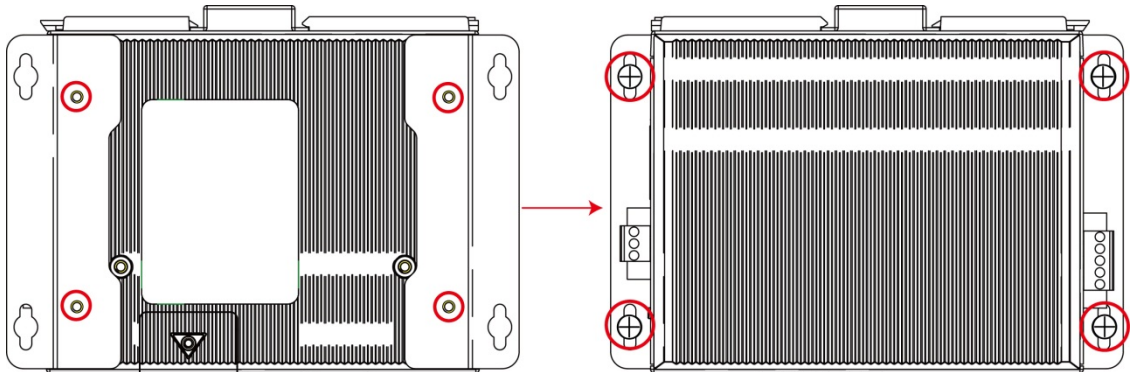


### Wall or Cabinet Mounting

Pull out both the top and bottom sliders and align the screws accordingly.



Another method for wall mounting installation is to use the optional wall mounting kit. Attach two mounting brackets on the side panel of the computer, and fasten with screws. Install the computer on a wall or cabinet by fastening two screws for each bracket.



**NOTE** Before tightening the screws into the wall, make sure the screw head and shank size are suitable by inserting the screw into one of the keyhole-shaped apertures of the wall mounting plates.

# Hardware Connection Description

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This chapter describes how to connect the UC-8112 to a network and various devices for first time testing purposes.

The following topics are covered in this chapter:

- ❑ **Wiring Requirements**
  - Connecting the Power
  - Grounding the Unit
- ❑ **Connecting to the Console Port**
- ❑ **Connecting to the Network**
- ❑ **Connecting to a Serial Device**
- ❑ **Inserting the SD and SIM Card**
- ❑ **USB Port**
- ❑ **Inserting a Micro SD Card**
- ❑ **Installing the Cellular Module**
- ❑ **Installing the Wi-Fi Module**

# Wiring Requirements

In this section, we describe how to connect various devices to the embedded computer. You should heed the following common safety precautions before proceeding with the installation of any electronic device:

- Use separate paths to route wiring for power and devices. If power wiring and device wiring paths must cross, make sure the wires are perpendicular at the intersection point.

**NOTE** Do not run signal or communication wiring and power wiring in the same wire conduit. To avoid interference, wires with different signal characteristics should be routed separately.

- You can use the type of signal transmitted through a wire to determine which wires should be kept separate. The rule of thumb is that wiring that shares similar electrical characteristics can be bundled together.
- Keep input wiring and output wiring separate.
- When necessary, it is strongly advised that you label wiring to all devices in the system.



## ATTENTION

### Safety First!

Be sure to disconnect the power cord before doing installations and/or wiring.

### Electrical Current Caution!

Calculate the maximum possible current in each power wire and common wire. Observe all electrical codes dictating the maximum current allowable for each wire size.

If the current goes above the maximum ratings, the wiring could overheat, causing serious damage to your equipment.

### Temperature Caution!

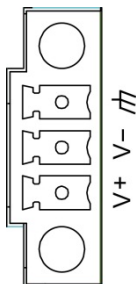
Be careful when handling the unit. When the unit is plugged in, the internal components generate heat, and consequently the outer casing may feel hot to the touch.

## Connecting the Power

The UC-8112 has a 3-pin terminal block for a 12 to 24 VDC power input.

The following figure shows how the power input interface connects to external power sources. If the power is properly supplied, the Power LED will light up. The Ready LED will glow a solid green color when the operating system is ready (it may take 30 to 60 seconds for the operating system to boot up).

### Terminal Block



## ATTENTION

The power for this product is intended to be supplied by a Listed Power Supply Unit that is rated to deliver 12 to 24 VDC at a minimum of 450 mA @ 12 VDC, and 225 mA @ 24 VDC.



## Grounding the Unit

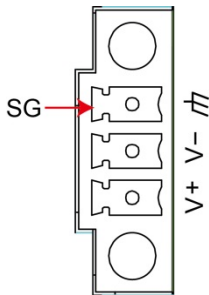
Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run the ground connection from the ground screw to the grounding surface prior to connecting devices.



### ATTENTION

This product is intended to be mounted to a well-grounded mounting surface, such as a metal panel.

SG: The Shielded Ground (sometimes called Protected Ground) contact is the bottom contact of the 3-pin power terminal block connector when viewed from the angle shown here. Connect the SG wire to an appropriate grounded metal surface.




### ATTENTION

A shielded power cord is required to meet FCC emission limits and also to prevent interference with nearby radio and television reception. It is essential that only the supplied power cord be used. You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

## Connecting to the Console Port

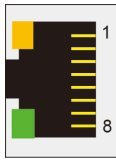
The UC-8112's console port is a 4-pin pin-header RS-232 port located on the top panel of the case. It is designed for serial console terminals, which are useful for identifying the boot up message, or for debugging when the system cannot boot up.

Serial Console Port & Pinouts		Serial Console Cable	
4		Pin	Signal
3		1	TXD
2		2	RxD
1		3	NC
		4	GND



## Connecting to the Network

Connect one end of the Ethernet cable to one of the UC-8112's 10/100M Ethernet ports (8-pin RJ45) and the other end of the cable to the Ethernet network. If the cable is properly connected, the UC-8112 will indicate a valid connection to the Ethernet in the following ways:



The LED indicator in the lower right corner glows a solid green color when the cable is properly connected to a 100 Mbps Ethernet network. The LED will flash on and off when Ethernet packets are being transmitted or received.

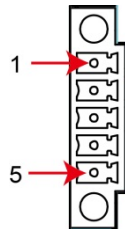
The LED indicator in the upper right corner glows a solid orange color when the cable is properly connected to a 10 Mbps Ethernet network. The LED will flash on and off when Ethernet packets are being transmitted or received.

Pin	Signal
1	ETx+
2	ETx-
3	ERx+
4	-
5	-
6	ERx-
7	-
8	-

## Connecting to a Serial Device

Use properly wired serial cables to connect the UC-8112 to serial devices. The serial ports of the UC-8112 use the 5-pin terminal block. The ports can be configured by software for RS-232, RS-422, or 2-wire RS-485. The precise pin assignments are shown in the following table:

Terminal Block



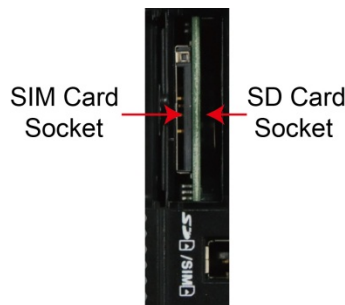
RS-232/422/485 Pinouts

Pin	RS-232	RS-422	RS-485
1	TXD	TXD+	-
2	RXD	TXD-	-
3	RTS	RXD+	D+
4	CTS	RXD-	D-
5	GND	GND	GND

## Inserting the SD and SIM Card

The UC-8112 comes with an SD socket for storage expansion, and a SIM card socket that can be installed with a SIM card for cellular communication. The SD card/SIM card sockets are located on the lower part of the front panel. To install them, remove the screw and the protection cover to access the socket, and then plug the SD card and the SIM card into the sockets directly. Remember to push in on the SD card or SIM card first if you want to remove them.

The SD card will be mounted at /mnt/sd.



### ATTENTION

The UC-8112 does not support SD hot swap and PnP (Plug and Play) functionality. It is necessary to remove power source first before inserting or removing the SD card.

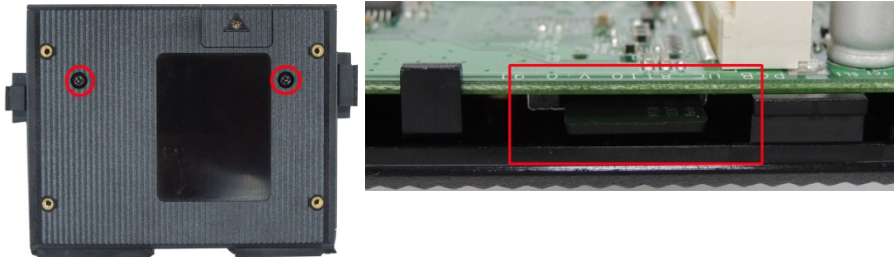
## USB Port

The UC-8112 provides 1 USB 2.0 full speed port (OHCI), type A connector, which supports a keyboard or mouse, as well as an external flash disk for storing large amounts of data.

## Inserting a Micro SD Card

The UC-8112 comes with a micro SD card socket for storage expansion. Follow these steps:

1. Remove the screws on the side panel, and take off the cover.
2. Insert the micro SD card into the socket. Make sure you insert the card in the correct direction.

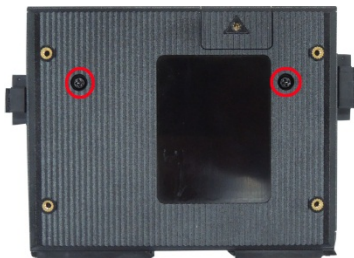


3. Replace the cover to complete the installation.

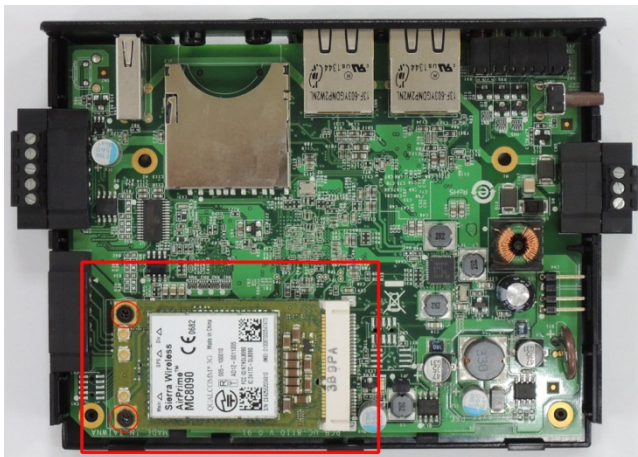
## Installing the Cellular Module

The UC-8112 provides a PCIe socket for installing a cellular socket. Follow these steps:

1. Remove the screws on the side panel, and take off the cover.



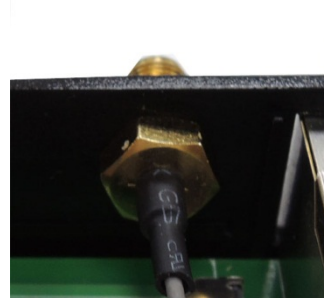
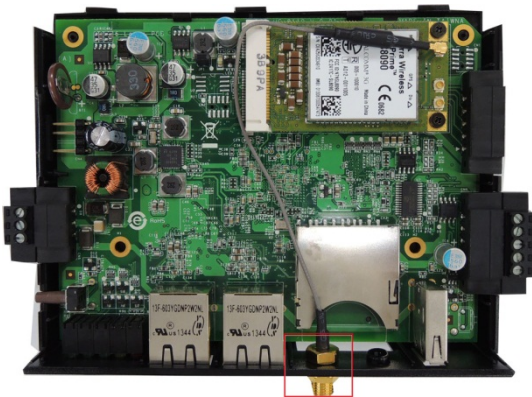
2. Find the location of the PCIe socket. Insert the cellular module into the socket, and then tighten the screws to fasten the socket.



- Next, you need to install the antenna cable. There are two antenna connectors on the cellular module. Connect the cable to either connector.

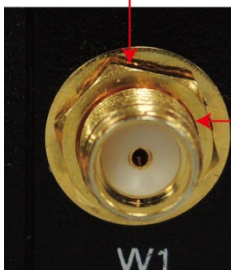


- Plug the other end of the cable into the connector on the front panel of the UC-8112. Remove the black plastic cover first.



- Install the connector; place the locking washer first, and then tighten the nut.

**Locking Washer**



**Nut**

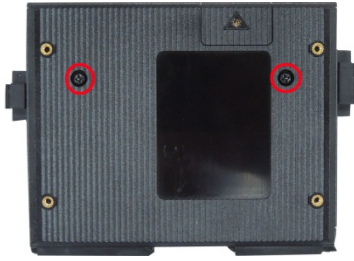
- Connect the antenna to the connector.



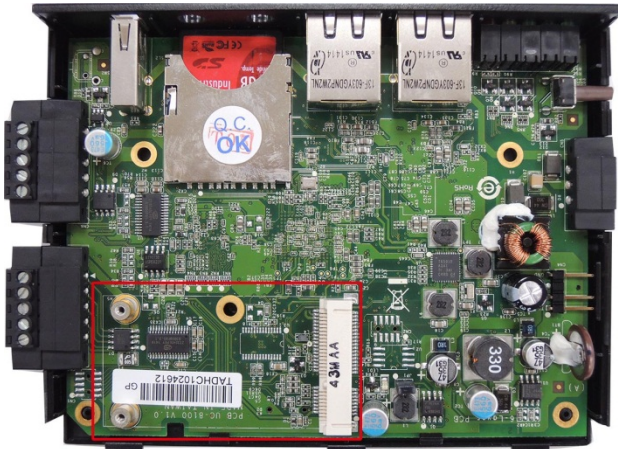
# Installing the Wi-Fi Module

Follow these steps to install the Wi-Fi Module to the UC-8112-LX computer.

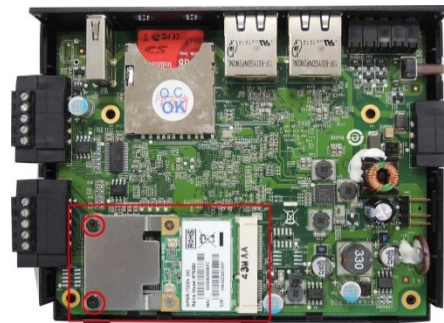
1. Remove the screws on the side panel, and take off the cover.



2. Find the location of the PCIe socket. Insert the cellular module into the socket, and then tighten the screws to fasten the socket.



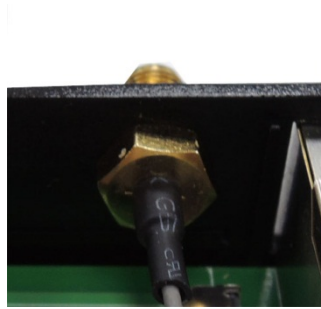
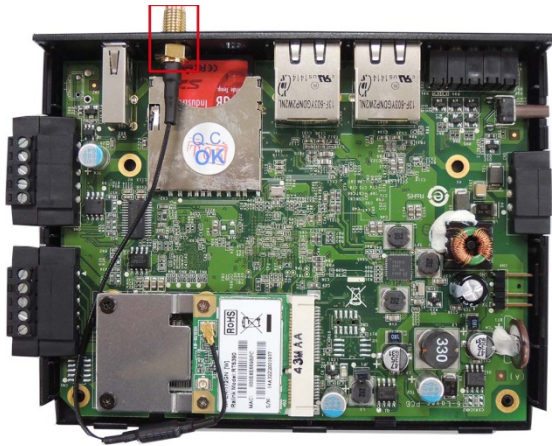
3. Use the two silver screws to fasten the stabilization bracket to the Wi-Fi module. Make sure you connect the bracket in the correct direction. Insert the Wi-Fi module into the PCIe socket, and then fasten with the bracket into place using the two black screws.



4. Next you need to install the antenna cable. There are two antenna connectors on the Wi-Fi module. Connect the cable onto either connector.

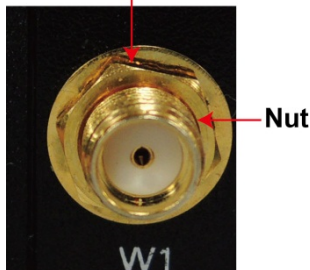


4. Install the other end of the cable onto the connector on the front panel of the UC-8112. Remove the black plastic cover first.



5. Install the connector; place the locking washer first, and then tighten the nut.

**Locking Washer**



6. Connect the antenna to the connector.



# Remote Configuration and Management

---

This chapter describes how to use the web-based tool, Webmin, to remotely configure and management the UC-8112-LX computer. Webmin is a web-based system configuration tool that helps users to configure various functions, such as user management, disk quota setting, services or configuration files, as well as modify and control open source apps, such as Apache HTTP Server, PHP orMySQL.

The following topics are covered in this chapter:

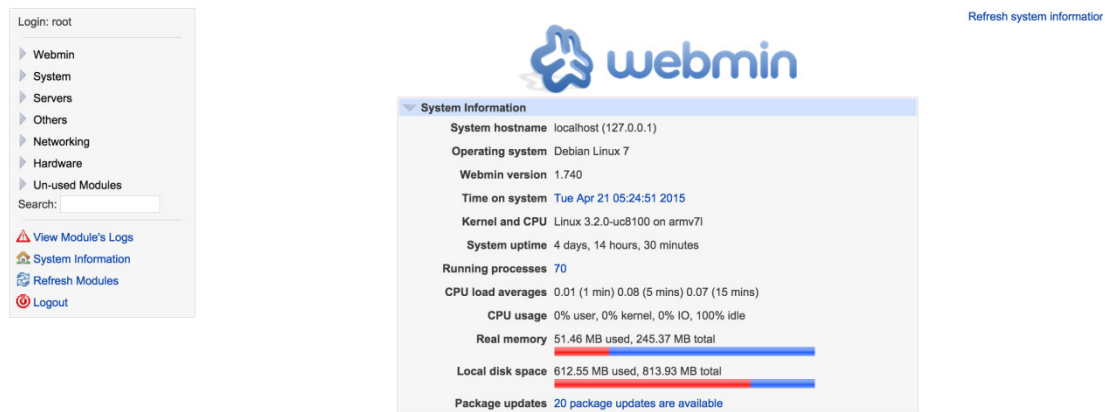
- ❑ **Connecting to the UC-8112 via Webmin**
- ❑ **Configuring Webmin**
  - Change Language and Theme
  - Webmin Action Logs
  - Webmin Configuration
  - Webmin Users
- ❑ **Configuring System**
  - Bootup and Shutdown
  - Disk and Network Filesystems
  - Initial System Bootup
  - Running Processes
  - Scheduled Cron Jobs
  - Software Package Updates
  - Software Packages
  - System Documentation
  - System Log
- ❑ **Configuring Server**
  - Apache Webserver
  - DHCP Server
  - Read User Mail
- ❑ **Configuring Others**
  - Command Shell
  - File Manager
- ❑ **Configuring Networking**
  - Bandwidth Monitoring
  - Linux Firewall
  - Network Configuration
- ❑ **Hardware**
  - Partitions and Local Disks
  - System Time
- ❑ **Viewing More Options**
  - View Module Logs
  - System Information
  - Refresh Modules
  - **Logout**

## Connecting to the UC-8112 via Webmin

Use an Ethernet cable to connect to your laptop or computer to the LAN1 port of the UC-8112 computer. Use a browser and connect with the following address:

**https://192.168.3.127:10000**

When successfully connected to the UC-8112, the following figure will appear:



Provide the following information for Username and Password:

**Username: root**

**Password: root**

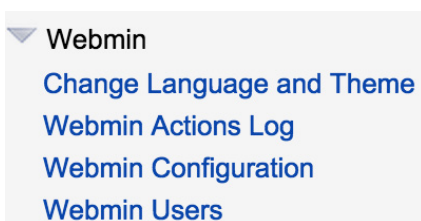
The main menu options will be displayed on the left, and the main information of the UC-8100 will be shown in the middle.

Check all of the information for the UC-8112 computer, and then configure the UC-8112 using the menu options on the left.

You may also connect the UC-8112 computer to the network, and remotely connect to the IP address of the UC-8112 computer.

## Configuring Webmin

When you click **Webmin**, four options will be displayed. Click the option related to the item or items you would like to configure.



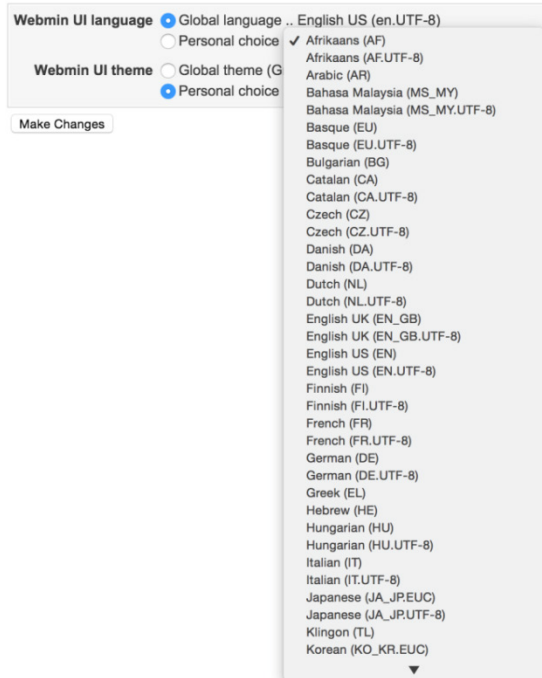


## Change Language and Theme

You may change the language from the Personal choice drop-down list, or use the default value, Global language, English as the Webmin UI language.

### Change Language and Theme

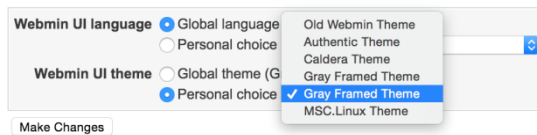
This module can be used to change the language that modules are displayed in and the theme that controls Webmin's appearance, for your Webmin account only.



You may also change the theme of the Webmin UI from the Personal choice drop-down list.

### Change Language and Theme

This module can be used to change the language that modules are displayed in and the theme that controls Webmin's appearance, for your Webmin account only.



## Webmin Action Logs

When the file log function has been enabled, you may find the action log here. If you wish to search the logs in all modules, select **In any module**; if you wish to search the logs in the specific module, select the module in the drop-down list of **In module**. In addition, you may also search the logs by date; select from **Actions on dates** option. You may also search the logs that contain a specific description; provide the description in the **Action description contains** field. When finished, click **Search** to start searching.

[Module Config](#)

### Webmin Actions Log

**Note** - [Logging of file changes](#) is not currently enabled, so the details of logged actions will not include changed files or commands executed.

Search the Webmin log for actions ..

Actions in module In any module  
 In module <Not in any module>

Actions on dates At any time  
 For today only  
 For yesterday only  
 During the last week  
 Between / Jan / ... and / Jan / ...

Action description contains

Show full action descriptions?  Yes  No

Search

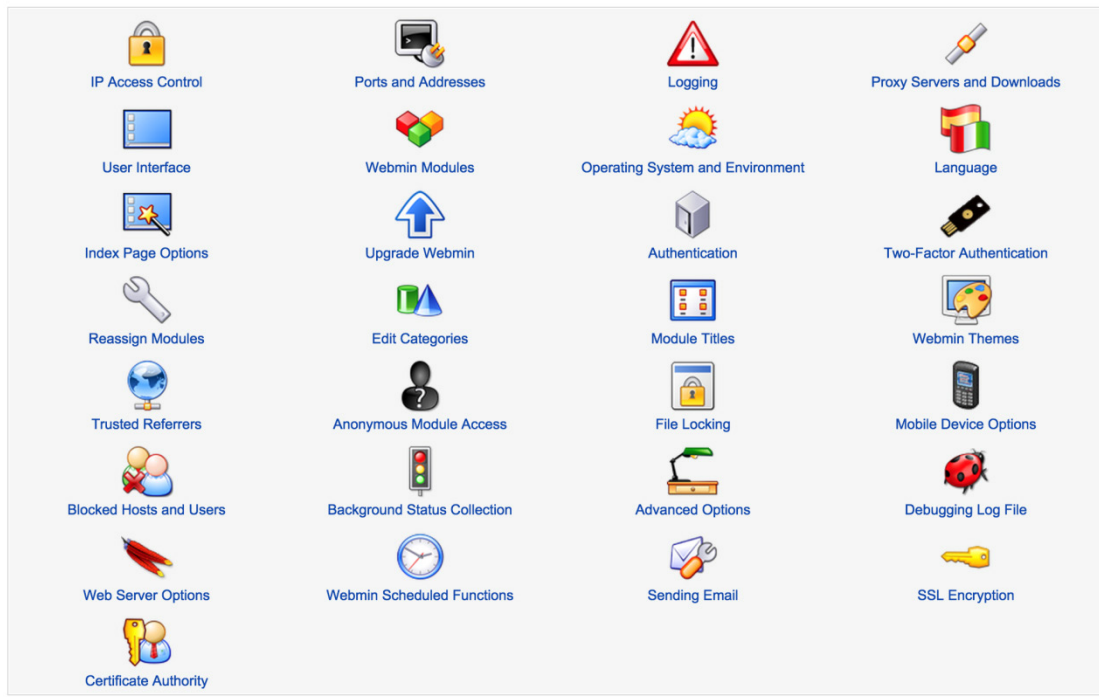
# Webmin Configuration

This option contains various configuration tools that help users to configure the UC-8112 computer.

[Module Config](#)

## Webmin Configuration

Webmin 1.740



## IP Access Control

This option helps you configure the IP address control for the UC-8100 computer. You may allow or deny the specific IP addresses. You may also decide whether or not to resolve the hostname on every request, or use the remote IP address provided by proxy server. When finished, click Save. For other configurations, click **Return to Webmin configuration**.

[Module Index](#)

## IP Access Control

The Webmin server can be configured to deny or allow access only from certain IP addresses using this form. Hostnames (like foo.bar.com) and IP networks (like 10.254.3.0 or 10.254.1.0/255.255.255.128 or 10.254.1.0/25 or 10.254.1.5-10.254.97.127) can also be entered. You should limit access to your server to trusted addresses, especially if it is accessible from the Internet. Otherwise, anyone who guesses your password will have complete control of your system.

**Access control options**

Allowed IP addresses  Allow from all addresses  Only allow from listed addresses  Deny from listed addresses

Include local network in list

Resolve hostnames on every request?  Yes  No

Trust remote IP address provided by proxies?  Yes  No

IP access control using TCP-wrappers is not available, as the Authen::Libwrap Perl module is not installed.

[Return to Webmin configuration](#)

## Logging

This option allows you to configure the log functions. You may decide to enable or disable logging function. Other functions are also provided. Users may configure all settings on this page. When finished, Click **Save**. For other configurations, click **Return to Webmin configuration**.

[Module Index](#)

### Logging

Webmin can be configured to write a log of web server hits, in the standard CLF log file format. If logging is enabled, you can also choose whether IP addresses or hostnames are recorded, and how often the log file is cleared. When enabled, logs are written to the file `/var/webmin/miniserv.log`.

When logging is enabled, Webmin will also write a more detailed log of user actions to the file `/var/webmin/webmin.log`. This log can be viewed and analysed with the Webmin Actions Log module to see exactly what each Webmin user has been doing.

**Webserver logging options**

Logging active?  Enable logging  Disable logging

Log resolved hostnames?  Yes  No

Use combined log format (including referrer and user agent)?  Yes  No

Periodically clear log files?  Yes, every  hours  No

Users to log  Log actions by all users  Only log actions by ..

root

Modules to log  Log actions in all modules  Only log actions in ..

Apache Webserver

BIND 4 DNS Server

BSD Firewall

Bandwidth Monitoring

Bootup and Shutdown

Include Webmin logins and logouts in actions log?  Yes  No

Log changes made to files by each action?  Yes  No

Record all modified files before actions, for rollbacks?  Yes  No

Permissions for log files  Default

Also log to syslog?  Yes  No

[Return to Webmin configuration](#)

## Proxy Servers and Downloads

This option allows users to configure the HTTP proxy and FTP proxy. Fill in the specific fields. When finished, click **Save**. For other configurations, click **Return to Webmin configuration**.

[Module Index](#)

### Proxy Servers and Downloads

[Proxying](#) [Downloading](#)

If the host on which Webmin is running is behind a firewall of some kind, you may need to set the proxy server to use for accessing web and FTP sites. Certain modules, such as Software Packages, will use these proxies when downloading files or programs.

**Proxy servers**

HTTP proxy  None

FTP proxy  None

No proxy for

Username for proxy

Password for proxy

Source IP address for HTTP connections  Default

Try direct request if proxy is down?  Yes  No

[Return to Webmin configuration](#)

## User Interface

This option allows users to configure the user interface settings, such as background color, text color, and link color, etc. When finished, click **Save**. For other configurations, click **Return to Webmin configuration**.

[Module Index](#)

### User Interface

This form allows you to edit user interface options used by all modules. When entering colours, each must be specified using the standard RGB system, where each value is a hex number from 00 to ff.

**User interface options**

Page background  Default  RRGGBB hex color

Normal text  Default  RRGGBB hex color

Table background  Default  RRGGBB hex color

Table header  Default  RRGGBB hex color

Link text  Default  RRGGBB hex color

Display login and hostname (for non-framed themes)

Hostname to display in Webmin

Prepend username to page titles?  Yes  No

Prepend hostname to page titles?  Yes  No

Send feedback to  feedback@webmin.com

Allow sending of feedback?  Yes  Only to address above  No

Format for displayed dates

Help window width  Default (400)

Help window height  Default (400)

---

File chooser size  Default  X

User chooser size  Default  X

Multiple users chooser size  Default  X

Date selector size  Default  X

## Webmin Modules

This option allows users to install modules on the UC-8100 by retrieving the module files from the specific locations. When finished, click **Save**. For other configurations, click **Return to Webmin configuration**.

[Module Index](#)

### Webmin Modules

[Install](#) [Clone](#) [Delete](#) [Export](#)

Webmin modules can be added after installation by using the form to the right. Modules are typically distributed in .wbm files, each of which can contain one or more modules. Modules can also be installed from RPM files if supported by your operating system.

**Install Module**

Install from  From local file  ...

From uploaded file

From ftp or http URL

Standard module from [www.webmin.com](http://www.webmin.com)  ...

Third party module from  ...

Ignore dependencies?  Yes  No

Grant access to  Grant access only to users and groups :   Grant access to all Webmin users

[Return to Webmin configuration](#)

## Operating System and Environment

This option allows users to display the operating system and environment detected by Webmin. When necessary, you may update or upgrade the operating system and environment from this option. When finished, click Save. For other configurations, click Return to Webmin configuration.

[Module Index](#)

### Operating System and Environment

This page displays the operating system detected by Webmin at install time, and the system that is currently detected. If they are different, you can choose to have Webmin's OS information updated, which may be necessary if you have recently upgraded.

You can also change the search path used by Webmin when running programs, and the shared library path passed to any programs.

**Host operating system**

Operating system according to Webmin Debian Linux 7

Internal OS code used by Webmin debian-linux 7

Detected operating system Debian Linux 7

---

Program search path

Include system's own search path?

Library search path

Extra Perl library paths

Additional environment variables

Variable name	Value

[Return to Webmin configuration](#)

## Language

This option allows users to view the language of the Webmin. You may change the language from the drop-down list of Display in language. When finished, click Save. For other configurations, click Return to Webmin configuration.

[Module Index](#)

### Language

This page allows you to choose which language Webmin will use for displaying titles, prompts and messages

**Webmin Language**

Display in language English US (EN.UTF-8)

Character set for HTML pages  Determined by language

Use language specified by browser?  Yes  No

[Return to Webmin configuration](#)

## Index Page Options

This option allows users to configure the index page appearance of the Webmin. Select the options from the following figure. When finished, click **Save**. For other configurations, click **Return to Webmin configuration**.

[Module Index](#)

### Index Page Options

This page allows you to control the appearance of the main Webmin menu. Some options may only be effective when using the default theme.

**Index Page Options**

Number of columns  Default

Categorise modules?  Yes  No

Default category

Show version, hostname and OS in title?  Yes  No

Go direct to module if user only has one?  Yes  No

After login, always go to module

Show Webmin updates on System Information page?  Yes  No

Show module updates on System Information page?  Yes  No

[Return to Webmin configuration](#)

## Upgrade Webmin

This option allows users to upgrade the Webmin version. You may upgrade from files in different locations. When finished, click **Upgrade Webmin**. For other configurations, click **Return to Webmin configuration**.

[Module Index](#)

### Upgrade Webmin

**Upgrade Webmin** [New module grants](#) [Update modules](#) [Scheduled update](#)

This form allows you to upgrade your entire Webmin installation to a new version by upgrading its Debian package. You can install from a local .deb file, an uploaded file or from the latest version at [www.webmin.com](http://www.webmin.com). Just as with a manual upgrade, all your config settings and third-party modules will be kept.

**Upgrade Webmin from**  From local file

From uploaded file  No file chosen

From ftp or http URL

Latest version from [www.webmin.com](http://www.webmin.com)

**Upgrade options**  Upgrade even if new version is the same or older?  
 Disconnect all other users?

[Return to Webmin configuration](#)

## Authentication

This option allows users to configure the authentication settings. You may configure all settings in this figure. When finished, click **Save**. For other configurations, click **Return to Webmin configuration**.

[Module Index](#)

### Authentication

When enabled, password timeouts protect your Webmin server from brute-force password cracking attacks by adding a continuously expanding delay between each failed login attempt for the same user.

**Authentication and session options**

**Password timeouts**  Disable password timeouts  
 Enable password timeouts

**Failed login blocks**  Block hosts with more than  failed logins for  seconds.  
 Block users with more than  failed logins for  seconds.  
 Also lock users with failed logins

**Log failures to syslog?**  Yes  No

**Authentication type**  Disable session authentication  
 Enable session authentication

**Authentication options**  Auto-logout after  minutes of inactivity  
 Offer to remember login permanently?  
 Show real hostname instead of name from URL?  
 Record logins and logouts in Utmp?

**Pre-login banner**  No pre-login page  
 Show pre-login file  ...

**Local authentication**  Always require username and password  
 Allow login without password for matching users from localhost

**Password source**  Use PAM for Unix authentication, if available  
 Never use PAM for Unix authentication

**Password options**  Support full PAM conversations?  
 Pass on PAM status to other modules?  
 If PAM is unavailable or disabled, read users and passwords from file  columns  and

**Expired password change**  Change expired passwords via PAM  
 Change passwords with command:

**Password expiry policy**  Always deny users with expired passwords

## Two-Factor Authentication

This option allows users to enable the addition device when logging. Select from the drop-down list in Authentication provider. When finished, click **Save**. For other configurations, click **Return to Webmin configuration**.

[Module Index](#)  
[Help..](#)

### Two-Factor Authentication

Two-factor authentication allows Webmin users to enable use of an additional authentication device when logging in, such as a one-time passcode generator. Users must individually enroll with the selected authentication provider after it is enabled on this page.

**Two-factor authentication options**

Authentication provider

[Return to Webmin configuration](#)

## Reassign Modules

This option allows users to configure the category to which each module is assigned. You may reassign these modules to different categories. When finished, click **Change Categories**. For other configurations, click **Return to Webmin configuration**.

[Module Index](#)

### Reassign Modules

This form allows you to configure which category each module is displayed under on the Webmin index page.

Module category assignments			
Apache Webserver	Servers	Bandwidth Monitoring	Networking
Bootup and Shutdown	System	Change Language and Theme	Webmin
Command Shell	Others	DHCP Server	Servers
Disk and Network Filesystems	System	File Manager	Others
Initial System Bootup	System	Linux Bootup Configuration	Hardware
Linux Firewall	Networking	Linux RAID	Hardware
Network Configuration	Networking	OpenVPN + CA	Servers
Partitions on Local Disks	Hardware	ProFTPD Server	Servers
Read User Mail	Servers	Running Processes	System
Scheduled Commands	System	Scheduled Cron Jobs	System
Sendmail Mail Server	Servers	Software Package Updates	System
Software Packages	System	System Documentation	System
System Logs	System	System Logs NG	System
System Time	Hardware	Usermin Configuration	Webmin
Webmin Actions Log	Webmin	Webmin Configuration	Webmin
Webmin Users	Webmin		

[Change Categories](#)

[Return to Webmin configuration](#)

## Edit Categories

This option allows users to edit the name of the categories shown in Webmin. You may use the default ID name or provide a new name. When finished, click **Save Categories**. For other configurations, **click Return to Webmin configuration**.

[Module Index](#)

### Edit Categories

Edit categories in language:  [Change](#)

This form allows you to rename the existing Webmin categories and create new ones to assign modules to. The top part of the table is for changing the descriptions of the built-in categories, while the bottom part is for adding new category IDs and descriptions.

ID	Displayed description
servers	<input checked="" type="radio"/> Default <input type="radio"/> Custom <input type="text"/>
cluster	<input checked="" type="radio"/> Default <input type="radio"/> Custom <input type="text"/>
webmin	<input checked="" type="radio"/> Default <input type="radio"/> Custom <input type="text"/>
other	<input checked="" type="radio"/> Default <input type="radio"/> Custom <input type="text"/>
net	<input checked="" type="radio"/> Default <input type="radio"/> Custom <input type="text"/>
syslet	<input checked="" type="radio"/> Default <input type="radio"/> Custom <input type="text"/>
info	<input checked="" type="radio"/> Default <input type="radio"/> Custom <input type="text"/>
system	<input checked="" type="radio"/> Default <input type="radio"/> Custom <input type="text"/>
hardware	<input checked="" type="radio"/> Default <input type="radio"/> Custom <input type="text"/>
<input type="text"/>	<input type="text"/>

[Save Categories](#)

[Return to Webmin configuration](#)



## Module Titles

This option allows users to specify additional titles for the modules. Select the module from the Module drop-down list, and then provide a new title in the **New title** field. When finished, click **Save**. For other configurations, click **Return to Webmin configuration**.

[Module Index](#) Module Titles

This page allows you to specify alternate titles for Webmin modules, to override their standard descriptions.

Module	New title
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

Save

[Return to Webmin configuration](#)

## Webmin Themes

This option allows users to select the Webmin themes from the drop-down list. When finished, click **Change**. For other configurations, click **Return to Webmin configuration**.

[Module Index](#) Webmin Themes

[Change theme](#) [Install theme](#) [Delete themes](#) [Export themes](#)

Themes control the appearance of the Webmin user interface, including icons, colours, backgrounds and the layout of pages. The selection box below can be used to choose one of the themes installed on your system.

Current theme :

[Return to Webmin configuration](#)

## Trusted Referrers

This option allows users to configure the trusted referrers list. When finished, click **Save**. For other configurations, click **Return to Webmin configuration**.

[Module Index](#) Trusted Referrers

This page allows you to configure Webmin's referrer checking support, which is used to prevent malicious links from other websites tricking your browser into doing dangerous things with Webmin. However, if you have links to Webmin from your own websites that you don't want to be warned about you should add those sites to the list below.

Referrer checking enabled?  Yes  No

Trusted websites

Save

[Return to Webmin configuration](#)

## Anonymous Module Access

This option allows users to grant the access to the specific modules for the clients that do not need to log in. Provide the information for the specific fields. When finished, click **Save**. For other configurations, click **Return to Webmin configuration**.

[Module Index](#) Anonymous Module Access

This page allows you to grant access to selected Webmin modules and paths without clients needing to login. For each module path that you enter below (such as /custom or /passwd) you must also enter the name of a Webmin user whose permissions will be used for access to the module. You should be **VERY** careful when granting anonymous access, as insufficient IP access controls or granting access to the wrong module may allow attackers to take over your system.

URL path	Webmin user
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

[Return to Webmin configuration](#)

## File Locking

This option allows users to lock specific files to prevent concurrent modification, which could lead to file corruption. When finished, click **Save**. For other configurations, click **Return to Webmin configuration**.

[Module Index](#) File Locking

By default, Webmin will obtain a lock on any file that it modifies in order to prevent concurrent modification by multiple processes, which could lead to file corruption. This page allows you to selectively or totally disable locking if it is causing problems.

**File locking settings**

Lock all files

Never lock files

Only lock files and directories ..

Lock all files and directories except ..

[Return to Webmin configuration](#)

## Mobile Device Option

This option allows users to select the theme for the mobile device. When finished, click **Save**. For other configurations, click **Return to Webmin configuration**.

[Module Index](#) Mobile Device Options

**Options for mobile browsers**

Theme for mobile browsers:

Force use of HTTP authentication?  Yes  No

Additional user agents for mobile browsers:

URL hostname prefixes for mobile browsers:

[Return to Webmin configuration](#)

## Blocked Hosts and Users

If you have blocked hosts and users, you may view the list here. For other configurations, click **Return to Webmin configuration**.

[Module Index](#)

### Blocked Hosts and Users

No hosts or users are currently blocked by Webmin.

[Return to Webmin configuration](#)

## Background Status Collection

This option allows users to decide if they want to collect the status in the system background. When finished, click Save. For other configurations, click Return to Webmin configuration.

[Module Index](#)

### Background Status Collection

**Status collection job settings**

Collect system status in background?  Never  Every  minutes

Collect available package updates?  Yes  No

Collect drive temperatures?  Yes  No

Units for temperatures  Celsius  Fahrenheit

Save

[Return to Webmin configuration](#)

## Advanced Options

This option provides the advanced options for Webmin. Users may configure these settings with their needs. When finished, click **Save**. For other configurations, click **Return to Webmin configuration**.

[Module Index](#)

### Advanced Options

**Advanced and experimental options**

Temporary files directory  Default (/tmp/.webmin)

Clear temp files in non-standard directory?

Maximum age of temporary files  Unlimited  7 days

Per-module temporary directories

Module	Directory
<input type="text" value=""/>	<input type="text" value=""/>

Pre-load Webmin functions library?  Yes  No

Text files to pre-cache?  None  English language text files  Files matching shell patterns

Umask (unset permission bits) for created files  Default

Allow modification of immutable files?  Yes  No

CPU priority for scheduled jobs  Default  Priority level

IO class for scheduled jobs

IO priority for scheduled jobs

Save

[Return to Webmin configuration](#)

## Debugging Log Files

This option allows users to debug log files. Users may configure the settings to debug log files. When finished, click **Save**. For other configurations, click **Return to Webmin configuration**.

[Module Index](#)

### Debugging Log File

**Webmin debug log file options**

Debug log enabled?  Yes  No

Events to log

- Scripts starting and stopping
- Files opened for reading
- Files opened for writing
- Other file operations
- Operations on processes
- Configuration file diffs
- Commands executed
- Network connections made
- SQL executed

Debugging log file  Default (/var/webmin/webmin.debug)

Maximum size for log file  Default (10 MB)  bytes

Script types to debug  Web interface CGIs  Command line  Background jobs

Modules to write debug logs for  Log actions in all modules  Only log actions in ..

- Apache Webserver
- BIND 4 DNS Server
- BSD Firewall
- Bandwidth Monitoring
- Bootup and Shutdown

[Return to Webmin configuration](#)

## Web Server Options

This option allows users to configure the web server settings. When finished, click **Save**. For other configurations, click **Return to Webmin configuration**.

[Module Index](#)

### Web Server Options

**Options for Webmin's built-in webserver**

Client-side cache time for static files  Webmin default (7 days)  Time in seconds

Path regular expression	Cache time in seconds
	86400

Show stack trace for error messages?  Yes  No

Show Perl errors in browser?  Yes  No

Gzip compress static files?  Only if pre-compressed .gz file exists  Never  Use pre-compressed file and compress dynamically

URL format for redirects  Path only  Protocol, host, port and path

[Return to Webmin configuration](#)

## Webmin Scheduled Functions

This option allows users to view the current scheduled jobs on the modules. You may select to delete or run these functions. For other configurations, click **Return to Webmin configuration**.

[Module Index](#)

### Webmin Scheduled Functions

Webmin module	Function name	Parameters	Run at
<input type="checkbox"/> Scheduled Cron Jobs	cleanup_temp_files		Every 3600 seconds
<input type="checkbox"/> System Status	scheduled_collect_system_info		Every 300 seconds

[Return to Webmin configuration](#)

## Sending Email

This option allows users to configure the setting for sending emails, and the text for email content. When finished, click **Save**. If you want to send the email immediately, click **Send Email**. For other configurations, click **Return to Webmin configuration**.

[Module Index](#) Sending Email

This page controls how Webmin sends email, such as from scheduled backups or background monitoring. It also effects email sent using the Read User Mail module.

**Mail sending options**

Local mail server

Send email using  Local mail server command

Via SMTP to local mail server

Via SMTP to remote mail server

Use SSL encryption?

Use default port  Use port number

SMTP server authentication  Don't authenticate

Login as  with password

SMTP authentication method

From address for email from Webmin  Default (webmin@localhost)

Address

This form can be used to send a test email with the settings above, to ensure that mail is being delivered correctly.

**Send test message**

Send message to

Message subject

Message contents 

```

Mail server:
Sent via: Local mail server
SMTP login: None
SMTP authentication: Default

```

## SSL Encryption

This option allows users to configure the SSL encryption settings. When finished, click **Save**. For other configurations, click **Return to Webmin configuration**.

[Module Index](#) SSL Encryption

[SSL Settings](#) [Current Certificate](#) [Per-IP Certificates](#) [Self-Signed Certificate](#) [Certificate Signing Request](#) [Upload Certificate](#)

The host on which Webmin is running appears to have the SSLey Perl module installed. Using this, Webmin supports SSL encrypted communication between your browser and the server. If you are accessing your Webmin server over the Internet, then you should definitely consider using SSL to prevent an attacker capturing your Webmin password. Warning - only turn on SSL support if you have a browser that supports SSL, and there is no firewall blocking **https** requests between your browser and the Webmin host.

**SSL support**

Enable SSL?  Yes  No

Private key file

Certificate file  Same file as private key

Separate file

Redirect non-SSL requests to SSL mode?  Yes  No

SSL protocol version  Detect automatically

SSL protocol versions to reject  SSLv2  SSLv3

Allow compressed SSL connections?  Yes  No

Force use of server-defined cipher order?  Yes  No

Allowed SSL ciphers  Detect automatically

Only strong PCI-compliant ciphers

Only strong ciphers with perfect forward secrecy

Listed ciphers

Additional certificate files (for chained certificates)

[Return to Webmin configuration](#)

## Certificate Authority

This option allows users to configure the certificate authority. All detailed descriptions are displayed on this page. When finished, click **Save**. For other configurations, click **Return to Webmin configuration**.

[Module Index](#)

### Certificate Authority

Your Webmin server is already setup as a certificate authority. You can use this form to set it up again, but any certificates already issued to users will no longer work.

**Create new CA certificate**

Authority name

Email address

Department

Organization

State

Country code

RSA key size  Default (2048)   bits

If you have already setup a CA on another Webmin server, you can paste its certificate below instead of setting up a new CA. This will allow users from the other server to be recognised by this server as well.

**Edit CA certificate**

## Webmin Users

This option allows users to check, delete or create a new user for Webmin. In addition, you may create new Webmin Groups for different purposes.

[Module Config](#)

### Webmin Users

#### Webmin Users

[Select all](#) | [Invert selection](#) | [Create a new Webmin user](#).


Webmin Users
<input type="checkbox"/> root

[Select all](#) | [Invert selection](#) | [Create a new Webmin user](#).


#### Webmin Groups

No Webmin groups defined.


[Create a new Webmin group](#).




Configure Unix User Synchronization




Configure Unix User Authentication




View Login Sessions




Two-Factor Authentication



Setup RBAC



Password Restrictions



User and Group Database

## Configuring Unix User Synchronization

If you have created a new Webmin group, you may check the users on this page.

[Module Index](#)

### Unix User Synchronization

No Webmin groups have been defined on your system. At least one group must be created to set the access for created users.

[Return to user list](#)

## Configuring Unix User Authentication

This option allows users to manage user authentication. Users may decide or deny access for specific Unix users. When finished, click **Save**. For other configurations, click **Return to Webmin configuration**.

[Module Index](#)

### Unix User Authentication

This page allows you to configure Webmin to validate login attempts against the system user list and PAM. This can be useful if you have a large number of existing Unix users who you want to give access to Webmin.

**Unix user authentication settings**

Allowed Unix users  Only allow Webmin users to login  Allow Unix users listed below to login ..

Allow	User or Group	As Webmin user
<input type="checkbox"/>		root
<input type="checkbox"/>		root

Allow users who can run all commands via sudo to login as root

Treat logins that only pass PAM validation as

Additional restrictions  Allow all Unix users  Only allow listed Unix users  Deny listed Unix users

Deny Unix users whose shells are not in file  ...

[Return to user list](#)

## View Login Sessions

This option allows users to check the current user login status. You may also cancel access to specific users and force them to log in again.

[Module Index](#)

### Current Login Sessions

Current Webmin session logins are listed below. To cancel an existing session and force the user to login again, click on its session ID.

Session ID	Webmin user	IP address	Logged in at	
kRiyBtuUbhkRk0LYfDA0q.	moxa	192.168.31.100	20/Apr/2015 08:44	<a href="#">View logs..</a>
VjjH2mnOLWhTOG7Yws3wC.	root	192.168.27.213	20/Apr/2015 08:44	<a href="#">View logs..</a>
ESd/kOB2SqFmYoWF32Zhh/	root	192.168.27.213	20/Apr/2015 08:30	<a href="#">View logs..</a>
/l6MLD8aHyPCVgseN2frU.	root	192.168.27.213	20/Apr/2015 07:05	<a href="#">View logs..</a>
QGvVqDV2bvzp9yvJP5VgQ/	root	172.16.4.8	19/Apr/2015 23:18	<a href="#">View logs..</a>
Jr0rtnP/870cCaymCf5BC1	root	172.16.4.24	19/Apr/2015 14:38	<a href="#">View logs..</a>
EhoaXPwkYyofKVli76lCp0	root	10.1.31.125	17/Apr/2015 15:47	<a href="#">View logs..</a>
I/CUXlvrQe3VB/m2X2uz11	root	172.16.4.20	16/Apr/2015 23:12	<a href="#">View logs..</a>
arY0XJ2BbMuTwodO2r71i.	root	172.25.9.139	16/Apr/2015 09:26	<a href="#">View logs..</a>
6R4opjhN82xK.sCgk6WsA1	root	172.25.9.139	16/Apr/2015 09:25	<a href="#">View logs..</a>
MFQR6cCfqLbbJX0QxtB6G.	root	192.168.31.100	16/Apr/2015 09:05	<a href="#">View logs..</a>
0o0hq3tCf4MJpFyCccTfu1	root	172.16.4.17	15/Apr/2015 14:02	<a href="#">View logs..</a>

[Return to user list](#)

## Two-Factor Authentication

If you have enabled two-factor authentication, you may check the status of the two-factor authentication on this page.

[Module Index](#)

### Two-Factor Authentication

Two-factor authentication has not been enabled on this system yet, but can be turned on using the [Webmin Configuration](#) module.

## Setup RBAC

This option allows users to set up RBAC.

[Module Index](#)

### Setup RBAC

Webmin's RBAC integration provides a way for user module and ACL permissions to be determined from an RBAC (Role Based Access Control) database, rather than Webmin's own configuration files. Once RBAC support is enabled, any user for whom the **RBAC controls all modules and ACLs** option is selected will have his capabilities determined by RBAC rather than Webmin's own access control settings.

RBAC is only supported on Solaris at the moment, and so cannot be used on this Debian Linux system.

[Return to user list](#)

## Password Restrictions

This option allows users to configure the password settings. When finished, click **Save**. For other configurations, click **Return to Webmin configuration**.

[Module Index](#)

### Password Restrictions

**Webmin password enforcement options**

Minimum password length  No minimum  \_\_\_\_\_ letters

Regular expressions passwords must match

Human-readable description for regular expression

Days before password must be changed  Change never required  \_\_\_\_\_ days

Days before un-changed password locks account  Account is never locked  \_\_\_\_\_ days

Disallow passwords containing username?  Yes  No

Disallow dictionary word passwords?  Yes  No

Number of old passwords to reject  No limit on password re-use  \_\_\_\_\_ passwords

[Return to user list](#)



## User and Group Database

This option allows users to configure the user and group database settings. When finished, click **Save**. For other configurations, click **Return to Webmin configuration**.

[Module Index](#) User and Group Database

**Options for database backend for users and groups**

Use only local files to store users and groups

Use MySQL database

Hostname   
 Username   
 Password   
 Database name

Use PostgreSQL database

Hostname   
 Username   
 Password   
 Database name

Use LDAP server

Hostname   
 Connection encryption  None  SSL  TLS  
 Username   
 Password   
 Create under DN   
 Object class for users   
 Object class for groups

Add new users to database selected above  Add new users to local files

[Return to user list](#)

## Configuring System

When you click **System**, nine options will be displayed. Click an option to proceed with configuration.

- ▼ System
- [Bootup and Shutdown](#)
- [Disk and Network Filesystems](#)
- [Initial System Bootup](#)
- [Running Processes](#)
- [Scheduled Cron Jobs](#)
- [Software Package Updates](#)
- [Software Packages](#)
- [System Documentation](#)
- [System Logs](#)

## Bootup and Shutdown

This function allows users to enable specific actions when the system boots up or shuts down.

Module Config Bootup and Shutdown  
 Boot system : SysV init

Create a new bootup and shutdown action.

Action	At boot?	Description
<input type="checkbox"/> apache2	No	Start/stop apache2 web server
<input type="checkbox"/> boot_scripts.sh	No	Enable service provided by daemon.
<input type="checkbox"/> bootlogs	Yes	Various things that don't need to be done particularly
<input type="checkbox"/> bootmisc.sh	No	Some cleanup. Note, it need to run after mountnfs-bootclean.sh.
<input type="checkbox"/> checkfs.sh	No	Check all filesystems.
<input type="checkbox"/> checkroot-bootclean.sh	No	Clean temporary filesystems after
<input type="checkbox"/> checkroot.sh	No	Check to root file system.
<input type="checkbox"/> cron	Yes	cron is a standard UNIX program that runs user-specified
<input type="checkbox"/> dbus	Yes	D-Bus is a simple interprocess messaging system, used
<input type="checkbox"/> halt	No	
<input type="checkbox"/> heartbeat	Yes	High-availability services.
<input type="checkbox"/> hostname.sh	No	Read the machines hostname from /etc/hostname, and
<input type="checkbox"/> hwclock.sh	No	
<input type="checkbox"/> isc-dhcp-server	Yes	Dynamic Host Configuration Protocol Server
<input type="checkbox"/> killprocs	No	executed by init(8) upon entering runlevel 1 (single).
<input type="checkbox"/> kmod	No	Load the modules listed in /etc/modules.
<input type="checkbox"/> logd	Yes	ha_logd logging daemon
<input type="checkbox"/> mtd	Yes	/etc/mtd is user-editable and static. This script
<input type="checkbox"/> mountall-bootclean.sh	No	Clean temporary filesystems after
<input type="checkbox"/> mountall.sh	No	
<input type="checkbox"/> mountdevsubfs.sh	No	Mount the virtual filesystems the kernel provides
<input type="checkbox"/> mountkernfs.sh	No	Mount initial set of virtual filesystems the kernel
<input type="checkbox"/> mountnfs-bootclean.sh	No	Clean temporary filesystems after
<input type="checkbox"/> mountnfs.sh	No	Network file systems are mounted by
<input type="checkbox"/> mtab.sh	No	Update the mount program's mtab file after
<input type="checkbox"/>	Yes	Run /etc/init.d/mx_uc8100 if it exist

Click a button to perform the associated function.

Click this button to switch your system from the current runlevel to the selected one. This will cause all the actions in the current level to be stopped, and then all the actions in the new runlevel to be started.

Click on this button to immediately reboot the system. All currently logged in users will be disconnected and all services will be re-started.

Click on this button to immediately shutdown the system. All services will be stopped, all users disconnected and the system powered off (if your hardware supports it).

## Disk and Network Filesystems

This option allows users to mount the system files to the UC-8100 computer. Select the file from the Type drop-down list, and then click Add mount.

Module Config Disk and Network Filesystems Search Docs..

Add mount Type: Apple Filesystem (hfs)

Mounted as	Type	Location	Used	In use?	Saved?
/ (Root filesystem)	New Linux Native Filesystem (ext4)	/dev/root	75%	Yes	No
/run	RAM/Swap Disk (tmpfs)	tmpfs	0%	Yes	No
/run/lock	RAM/Swap Disk (tmpfs)	tmpfs	0%	Yes	No
/proc	Kernel Filesystem (proc)	proc		Yes	No
/sys	Kernel Filesystem (sysfs)	sysfs		Yes	No
/dev	RAM/Swap Disk (tmpfs)	tmpfs	0%	Yes	No
/run/shm	RAM/Swap Disk (tmpfs)	tmpfs	0%	Yes	No
/dev/pts	Pseudoterminal Device Filesystem (devpts)	devpts		Yes	No

Add mount Type: Apple Filesystem (hfs)

# Initial System Bootup

This option allows users to create or delete the initial process file when the computer is booting up.

Help.. Search Docs..  
 Module Config Initial System Bootup

Select all. | Invert selection. | Create a new init process.

ID	Active?	Bootup runlevel	Action	Process
<input type="checkbox"/> id	Yes	2	After system boot	
<input type="checkbox"/> si	Yes	None	During system boot	/etc/init.d/rcS
<input type="checkbox"/> ~	Yes	S	Wait	/sbin/sulogin
<input type="checkbox"/> i0	Yes	0	Wait	/etc/init.d/rc 0
<input type="checkbox"/> i1	Yes	1	Wait	/etc/init.d/rc 1
<input type="checkbox"/> i2	Yes	2	Wait	/etc/init.d/rc 2
<input type="checkbox"/> i3	Yes	3	Wait	/etc/init.d/rc 3
<input type="checkbox"/> i4	Yes	4	Wait	/etc/init.d/rc 4
<input type="checkbox"/> i5	Yes	5	Wait	/etc/init.d/rc 5
<input type="checkbox"/> i6	Yes	6	Wait	/etc/init.d/rc 6
<input type="checkbox"/> z6	Yes	6	Respawn process	/sbin/sulogin
<input type="checkbox"/> ca	Yes	1, 2, 3, 4, 5	Ctrl-Alt-Del	/sbin/shutdown -t1 -a -r now
<input type="checkbox"/> kb	No	None	Special key combination	/bin/echo "Keyboard Request--edit /etc/inittab to let this work."
<input type="checkbox"/> pf	Yes	None	Power goes down	/etc/init.d/powerfail start
<input type="checkbox"/> pn	Yes	None	Power fail	/etc/init.d/powerfail now
<input type="checkbox"/> po	Yes	None	Power is restored	/etc/init.d/powerfail stop
<input type="checkbox"/> 1	No	2, 3, 4, 5	Respawn process	/sbin/getty 38400 tty1
<input type="checkbox"/> 2	No	2, 3	Respawn process	/sbin/getty 38400 tty2
<input type="checkbox"/> 3	No	2, 3	Respawn process	/sbin/getty 38400 tty3
<input type="checkbox"/> 4	No	2, 3	Respawn process	/sbin/getty 38400 tty4
<input type="checkbox"/> 5	No	2, 3	Respawn process	/sbin/getty 38400 tty5
<input type="checkbox"/> 6	No	2, 3	Respawn process	/sbin/getty 38400 tty6
<input type="checkbox"/> T0	Yes	2, 3	Respawn process	/sbin/getty -L ttyO0 115200 vt102
<input type="checkbox"/> T0	No	2, 3	Respawn process	/sbin/getty -L ttyS0 9600 vt100
<input type="checkbox"/> T1	No	2, 3	Respawn process	/sbin/getty -L ttyS1 9600 vt100
<input type="checkbox"/> T3	No	2, 3	Respawn process	/sbin/mgetty -x0 -s 57600 ttyS3

If you want to delete something, select the ID and click **Delete Selected Processes** at the bottom of this page.

<input type="checkbox"/> 6	No	2, 3	Respawn process	/sbin/getty 38400 tty6
<input type="checkbox"/> T0	Yes	2, 3	Respawn process	/sbin/getty -L ttyO0 115200 vt102
<input type="checkbox"/> T0	No	2, 3	Respawn process	/sbin/getty -L ttyS0 9600 vt100
<input type="checkbox"/> T1	No	2, 3	Respawn process	/sbin/getty -L ttyS1 9600 vt100
<input type="checkbox"/> T3	No	2, 3	Respawn process	/sbin/mgetty -x0 -s 57600 ttyS3

Select all. | Invert selection. | Create a new init process.

Click this button to apply the current SysV Init Configuration by running the command `telinit q`. Be aware that any mistakes in your configuration may make the system unusable when this command is run.

You may also click **Create a new init process** to create a new one.

Module Index Edit Process

**Process Details**

ID

Active?  Yes  No

Bootup runlevel  0  1  2  3  4  5  6  a  b  c

Action

Process

[Return to process list](#)

# Running Processes

This option allows users to view the current running processes.

[Help..](#)  
[Module Config](#)

## Running Processes

[Display](#) : [PID](#) | [User](#) | [Memory](#) | [CPU](#) | [Search](#) | [Run..](#)

Real memory: 245.37 MB total / 193.30 MB free / 136.22 MB cached    Swap space: 0 bytes total / 0 bytes free

ID	Owner	Size	Command
3132	root	27372 kB	/usr/sbin/rsyslogd -c5
18189	root	21868 kB	/usr/local/libexec/qmi-proxy
18203	root	17864 kB	/usr/share/webmin/proc/index_size.cgi
9979	root	16404 kB	/usr/bin/perl /usr/share/webmin/miniserv.pl /etc/webmin/miniserv.conf
15482	proftpd	8296 kB	proftpd: (accepting connections)
2322	root	6088 kB	/usr/sbin/sshd
2197	root	6024 kB	/usr/sbin/dhcpd -q -cf /etc/dhcp/dhcpd.conf -pf /var/run/dhcpd.pid
28338	root	5020 kB	ha_logd: read process
28339	root	5020 kB	ha_logd: write process
2490	root	4248 kB	-bash
3647	root	4128 kB	dhclient wwan0
2148	root	3384 kB	/usr/sbin/cron
2353	tss	3232 kB	/usr/sbin/tcsd
18181	root	3172 kB	awk {print \$2}
2437	root	2788 kB	/bin/login --
2145	messagebus	2588 kB	/usr/bin/dbus-daemon --system
18211	root	2492 kB	ps --cols 2048 -eo user:80,ruser:80,group:80,rgroup:80,pid,ppid,pgid,pcpu,vsz,ni ...
656	root	2288 kB	udevd --daemon
26211	root	2284 kB	udevd --daemon
26212	root	2284 kB	udevd --daemon
2407	root	2248 kB	/bin/bash /sbin/chk_signal
18179	root	2248 kB	/bin/bash /sbin/chk_signal
1	root	1688 kB	init [2]
18210	root	1368 kB	sh -c ps --cols 2048 -eo user:80,ruser:80,group:80,rgroup:80,pid,ppid,pgid,pcpu, ...
2415	root	1344 kB	/sbin/push_btn

Click Search to search for a the specific process. You can also terminate or kill a process by clicking the specific buttons.

[Help..](#)  
[Module Config](#)

## Running Processes

[Display](#) : [PID](#) | [User](#) | [Memory](#) | [CPU](#) | [Search](#) | [Run..](#)

Owned by  ...  Matching

Using more CPU than  %

Using filesystem  /

Using file  ...

Ignore search processes in result

ID	Owner	CPU	Started	Command
7045	root	70.0 %	05:55	/usr/share/webmin/proc/index_search.cgi

# Scheduled Cron Jobs

This option allows users to view the current scheduled cron jobs, or create a new scheduled cron job.

[Module Config](#)

## Scheduled Cron Jobs

Find Cron jobs matching

[Select all.](#) | [Invert selection.](#) | [Create a new scheduled cron job.](#) | [Create a new environment variable.](#) | [Control user access to cron jobs.](#)

User	Active?	Command	Move
<input type="checkbox"/> root	Yes	/etc/cron.daily/bsdmainutils /etc/cron.daily/dpkg /etc/cron.daily/apt-show-versions /etc/cron.daily/man-db /etc/cron.daily/logrotate /etc/cron.daily/passwd /etc/cron.daily/apache2 /etc/cron.daily/apt	
<input type="checkbox"/> root	Yes	/etc/cron.weekly/man-db	
<input type="checkbox"/> root	Yes	[ -x /usr/lib/php5/maxlifetime ] && [ -d /var/lib/php5 ] && find /var/lib/php5/ ...	

[Select all.](#) | [Invert selection.](#) | [Create a new scheduled cron job.](#) | [Create a new environment variable.](#) | [Control user access to cron jobs.](#)

To create a new cron job, click the **Create a new scheduled cron job** button, and enter the information in the fields as required. When finished, click **Create**.

[Module Index](#)

## Create Cron Job

**Job Details**

Execute cron job as

Active?  Yes  No

Command

Input to command

Description

---

**When to execute**

Simple schedule .. Hourly   Times and dates selected below ..

Minutes	Hours	Days	Months	Weekdays																																																																																																																																													
<input checked="" type="radio"/> All	<input checked="" type="radio"/> All	<input checked="" type="radio"/> All	<input checked="" type="radio"/> All	<input checked="" type="radio"/> All																																																																																																																																													
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Note: Ctrl-click (or command-click on the Mac) to select and de-select minutes, hours, days and months.

---

**Date range to execute**

Run on any date

Only run from  / Jan  /  ... to  / Jan  /  ...

You may also create a new environment variable by clicking the **Creating a new environment variable** button. When finished, click **Create**.

[Module Index](#)

## Create Environment Variable

Note - This environment variable setting will only apply to Cron jobs after it in the list of jobs on the module's main page.

**Environment variable details**

For user

Active?  Yes  No

Variable name

Value

Add environment variable  Before all Cron jobs for user  After all Cron jobs

[Return to cron list](#)

If you want to allow some users to access the cron jobs, click the **Control user access to cron job** button. When finished, click **Save**.

Module Index Control Cron Access

This form allows you to control which users can create and run cron jobs.

Allow all users  
 Allow only listed users  ...  
 Deny only listed users  ...

[Return to cron list](#)

## Software Package Updates

This option allows users to update the software package on the UC-8100 computer. Select the package, and then click Update Selected Packages. You may also click Refresh Available Packages to view the packages to be updated.

Module Config Software Package Updates

States to display: Installed | Only updates | Only new

Find packages matching:

Found 20 matching packages ..  
[Select all.](#) | [Invert selection.](#)

Package	Description	Status	Source
<input checked="" type="checkbox"/> dpkg	armhf Debian package management system	New version 1.16.16	Wheezy
<input checked="" type="checkbox"/> dpkg-dev	all Debian package development tools	New version 1.16.16	Wheezy
<input checked="" type="checkbox"/> file	armhf Determines file type using "magic" numbers	New version 5.11-2+deb7u8	Wheezy
<input checked="" type="checkbox"/> libapache2-mod-php5	armhf server-side, HTML-embedded scripting language (Apache 2 module)	New version 5.4.39-0+deb7u2	Wheezy
<input checked="" type="checkbox"/> libdpkg-perl	all Dpkg perl modules	New version 1.16.16	Wheezy
<input checked="" type="checkbox"/> libldap-2.4-2	armhf OpenLDAP libraries	New version 2.4.31-2	Wheezy
<input checked="" type="checkbox"/> libmagic1	armhf File type determination library using "magic" numbers	New version 5.11-2+deb7u8	Wheezy
<input checked="" type="checkbox"/> libmysqlclient18	armhf MySQL database client library	New version 5.5.43-0+deb7u1	Wheezy
<input checked="" type="checkbox"/> libssl1.0.0	armhf SSL shared libraries	New version 1.0.1e-2+deb7u16	Wheezy
<input checked="" type="checkbox"/> libtasn1-3	armhf Manage ASN.1 structures (runtime)	New version 2.13-2+deb7u2	Wheezy
<input checked="" type="checkbox"/> libxml2	armhf GNOME XML library	New version 2.8.0+dfsg1-7+wheezy4	Wheezy
<input checked="" type="checkbox"/> mysql-common	all MySQL database common files, e.g. /etc/mysql/my.cnf	New version 5.5.43-0+deb7u1	Wheezy
<input checked="" type="checkbox"/> ntpdate	armhf client for setting system time from NTP servers	New version 4.2.6.p5+dfsg-2+deb7u4	Wheezy
<input checked="" type="checkbox"/> openssl	armhf Secure Socket Layer (SSL) binary and related cryptographic tools	New version 1.0.1e-2+deb7u16	Wheezy
<input checked="" type="checkbox"/> php5	all server-side, HTML-embedded scripting language (metapackage)	New version 5.4.39-0+deb7u2	Wheezy
<input checked="" type="checkbox"/> php5-cli	armhf command-line interpreter for the php5 scripting language	New version 5.4.39-0+deb7u2	Wheezy
<input checked="" type="checkbox"/> php5-common	armhf Common files for packages built from the php5 source	New version 5.4.39-0+deb7u2	Wheezy
<input checked="" type="checkbox"/> php5-mysql	armhf MySQL module for php5	New version 5.4.39-0+deb7u2	Wheezy
<input checked="" type="checkbox"/> ppp	armhf Point-to-Point Protocol (PPP) - daemon	New version 2.4.5-5.1+deb7u2	Wheezy
<input checked="" type="checkbox"/> tzdata	all time zone and daylight-saving time data	New version 2015b-0wheezy1	Wheezy-updates

[Select all.](#) | [Invert selection.](#)

You may also perform the scheduled checking options at the bottom of this page. When finished, click **Save**.

<input checked="" type="checkbox"/> ppp	armhf Point-to-Point Protocol (PPP) - daemon	New version 2.4.5-5.1+deb7u2	Wheezy
<input checked="" type="checkbox"/> tzdata	all time zone and daylight-saving time data	New version 2015b-0wheezy1	Wheezy-updates

[Select all.](#) | [Invert selection.](#)

**Scheduled checking options**

Check for updates on schedule?  No  Yes, every

Email updates report to

Action when update needed  Just notify  Install security updates  Install any updates

## Software Packages

This option allows users to search for installed packages, or install a new package. You may also upgrade all packages on this page.

Help..  
Module Config
Software Packages
Search Docs..

---

**Installed Packages**

Search For Package:  Package Tree

---

**Install a New Package**

Select the location to install a new Debian DPKG package from..

From local file  ...  
 From uploaded file  No file chosen  
 From ftp or http URL   
 Package from APT

---

**Identify a File**

Enter a command or the pathname of a file to search the Debian DPKG database for.

Search For:  ...

---

**Upgrade All Packages**

**APT package upgrade options**

Resynchronize package list (update)  Yes  No

Upgrade mode  Distribution upgrade (upgrade-dist)  Normal upgrade  Don't upgrade

Only show which packages would be upgraded  Yes  No

## System Documentation

This option allows users to search the system documentation. Type key words in the **Search for** field, and then click **Search**.

Help..  
Module Config
System Documentation

---

**System documentation search**

Search for

Match all  Match any

Match  Name only  Name and contents

Search in  Manual pages  
 Webmin help  
 Package documentation  
 Perl module documentation  
 Google search engine

---

When searching documentation from another module, allow searching in ..

Manual pages  Webmin Help  Package documentation

Perl module documentation  Google search engine

# System Log

This option allows users to view and edit the current system log, or create a new system log.

Module Config Search Docs..

### System Logs

Add a new system log.

Log destination	Active?	Messages selected	
File /var/log/auth.log	Yes	auth,authpriv.*	<a href="#">View..</a>
File /var/log/syslog	Yes	*.*; auth,authpriv.none	<a href="#">View..</a>
File /var/log/cron.log	No	cron.*	
File /var/log/daemon.log	Yes	daemon.*	<a href="#">View..</a>
File /var/log/kern.log	Yes	kern.*	<a href="#">View..</a>
File /var/log/lpr.log	Yes	lpr.*	<a href="#">View..</a>
File /var/log/mail.log	Yes	mail.*	<a href="#">View..</a>
File /var/log/user.log	Yes	user.*	<a href="#">View..</a>
File /var/log/mail.info	Yes	mail.info	<a href="#">View..</a>
File /var/log/mail.warn	Yes	mail.warn	<a href="#">View..</a>
File /var/log/mail.err	Yes	mail.err	<a href="#">View..</a>
File /var/log/news/news.crit	Yes	news.crit	<a href="#">View..</a>
File /var/log/news/news.err	Yes	news.err	<a href="#">View..</a>
File /var/log/news/news.notice	Yes	news.notice	<a href="#">View..</a>
File /var/log/debug	Yes	news.none; mail.none	<a href="#">View..</a>
File /var/log/messages	Yes	mail,news.none	<a href="#">View..</a>
Users :omusrmsg:*	Yes	*,emerg	
File /dev/tty8	No	*.=notice; *.=warn	
Named pipe /dev/xconsole	Yes	*.=notice; *.=warn	
File /var/log/apache2/error.log	Yes	Apache error log	<a href="#">View..</a>
Output from dmesg	Yes	Kernel messages	<a href="#">View..</a>
File /var/webmin/miniserv.error	Yes	Webmin error log	<a href="#">View..</a>

Add a new system log.

View log file:

Click this button to make the current configuration active by killing the running syslog process and restarting it.

Click the system log you want to edit, and then provide the relevant information. Click **Save**. You may also delete this log by clicking **Delete**.

Module Index Edit System Log

**Log destination**

Log to  File

Sync after each message?

Named pipe

Local users

All logged-in users

Syslog server on

Logging active?  Yes  No

---

**Message types to log**

Facilities	Priorities
<input type="radio"/> <input type="text" value="auth authpriv"/> Many	<input type="radio"/> None <input checked="" type="radio"/> All <input type="radio"/> At or above.. <input type="text"/>
<input checked="" type="radio"/> <input type="text" value=""/> Many	<input checked="" type="radio"/> None <input type="radio"/> All <input type="radio"/> At or above.. <input type="text"/>

[Return to system logs](#)

Click **Add a new system log**, and find the log you want to add in the specific field. When finished, click **Save**.

Module Index Add System Log

**Log destination**

Log to  File

Sync after each message?

Named pipe

Local users

All logged-in users

Syslog server on

Logging active?  Yes  No

---

**Message types to log**

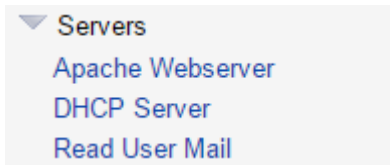
Facilities	Priorities
<input checked="" type="radio"/> <input type="text" value=""/> Many	<input checked="" type="radio"/> None <input type="radio"/> All <input type="radio"/> At or above.. <input type="text"/>

[Return to system logs](#)



# Configuring Server

Click **Server**. Three options will be displayed. Click the appropriate option to continue the configuration you would like to take care of.

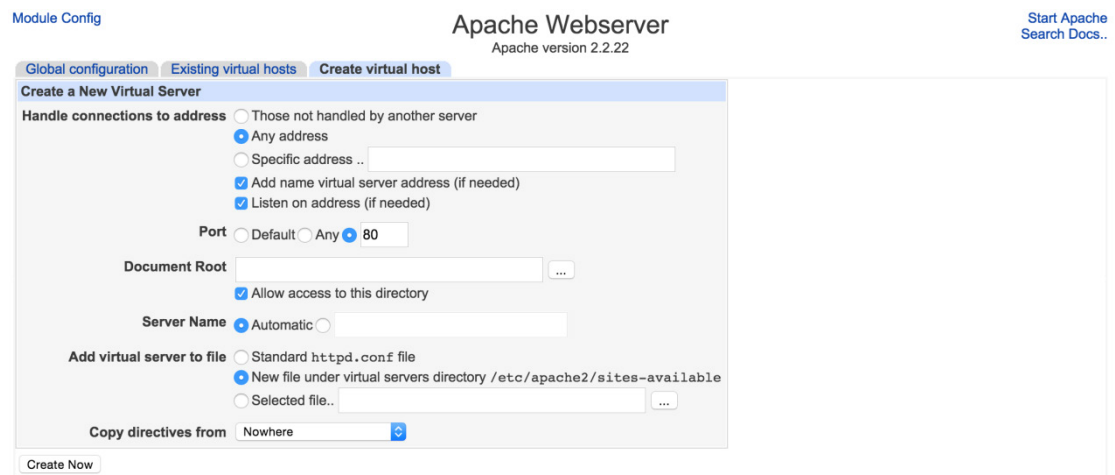


## Apache Webserver

This option allows users to view or delete the current Apache Webservers. You may also create a virtual host on this page.



Click **Create virtual host**. You may configure the settings of the virtual host. When finished, click **Create Now**.



# DHCP Server

This option allows users to configure the DHCP server settings. Various functions are also provided, including Edit Client Options, Edit TSIG-keys, Manually Edit Configuration, List Active Leases.

Module Config
DHCP Server
Search Docs..

ISC DHCPd version 4.2.2

### Subnets and Shared Networks

Select all. | Invert selection. | Add a new subnet. | Add a new shared network.

10.10.0.0

Select all. | Invert selection. | Add a new subnet. | Add a new shared network.

[Delete Selected](#)

---

### Hosts and Host Groups

No hosts or groups have been defined.

[Add a new host.](#) | [Add a new host group.](#)

---

### DNS Zones

No DNS zones have been defined yet.

[Add a new DNS zone.](#)

---

<a href="#">Edit Client Options</a>	Edit DHCP client options that apply to all subnets, shared networks, hosts and groups
<a href="#">Edit TSIG-keys</a>	Edit TSIG-keys (used for authenticating updates to DNS servers)
<a href="#">Manually Edit Configuration</a>	Edit configuration file manually text
<a href="#">Edit Network Interface</a>	Set the network interfaces that the DHCP server listens on when started.
<a href="#">List Active Leases</a>	List leases currently issued by this DHCP server for dynamically assigned IP addresses.
<a href="#">Apply Changes</a>	Click this button to apply the current configuration to the running DHCP server, by stopping and restarting it.
<a href="#">Stop Server</a>	Click this button to stop the running DHCP server on your system. When stopped, DHCP clients will not be able to request IP addresses.

To edit the subnet settings of the current DHCP server, click the icon and then start configuring. When finished, click **Save**.

Module Index
Edit Subnet

#### Subnet Details

Subnet description	<input type="text"/>		
Network address	<input type="text" value="10.10.0.0"/>	Netmask	<input type="text" value="255.255.255.0"/>
Address ranges	<input type="text" value="10.10.0.25"/> - <input type="text" value="10.10.0.50"/>	<input type="checkbox"/> Dynamic BOOTP ?	<input type="checkbox"/> Dynamic BOOTP ?
Shared network	<input type="text" value="&lt;None&gt;"/>		
Boot filename	<input checked="" type="radio"/> None	Default lease time	<input checked="" type="radio"/> Default
Boot file server	<input checked="" type="radio"/> This server	Maximum lease time	<input type="radio"/> [ ] secs
Lease length for BOOTP clients	<input checked="" type="radio"/> Forever	Server name	<input checked="" type="radio"/> Default
Dynamic DNS enabled?	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> Default	Lease end for BOOTP clients	<input checked="" type="radio"/> Never
Dynamic DNS reverse domain	<input checked="" type="radio"/> Default	Dynamic DNS domain name	<input checked="" type="radio"/> Default
Allow unknown clients?	<input type="radio"/> Allow <input type="radio"/> Deny <input type="radio"/> Ignore <input checked="" type="radio"/> Default	Dynamic DNS hostname	<input checked="" type="radio"/> From client
Can clients update their own records?	<input type="radio"/> Allow <input type="radio"/> Deny <input type="radio"/> Ignore <input checked="" type="radio"/> Default	Groups directly in this subnet	<input type="text"/>
Server is authoritative for this subnet?	<input type="radio"/> Yes <input checked="" type="radio"/> No		
Hosts directly in this subnet	<input type="text"/>		

[Save](#)
[Edit Client Options](#)
[List Leases](#)
[Delete](#)

[Add a new host.](#) | [Add a new host group.](#)

---

### Address Pools for Subnet

No address pools defined

[Add an address pool.](#)

[Return to subnet list](#)

## Read User Mail

You can read user's email here.

[Module Config](#)

### Read User Mail

None of the supported mail servers (Exim, Qmail, Postfix and Sendmail) were detected on your system. You will need to adjust the [module configuration](#) to set the mail server and possibly mail paths manually.

To configure the email settings, click module configuration. When finished, click **Save**.

**Configuration**  
For module Read User Mail

Configurable options for Read User Mail

User interface options

Width to wrap mail messages at

Width to wrap composed mail messages at  Don't wrap  
 80 columns (standard)  
 Other size

Mail messages to display per page

Show To: address in mailboxes?  Yes  No

Show buttons at top for  Mailboxes and mails  Mailboxes only  Never

Show pager arrows at bottom for  Mailboxes and mails  Mailboxes only  Never

Show button to delete entire mailbox?  Yes  No

Show number of messages in sent mail folder?  Yes  No

Forward messages with quoting?  Yes  No

Ask for confirmation before deleting?  Yes  
 No  
 For mbox files larger than

Show message body as

Use HTML editor for composing?

HTML quoting mode  Message below <hr>  
 Message inside <blockquote>

Record the reading of mail in the Webmin Actions Log?  Yes  No

## Configuring Others

Click **Others**. Two options will be displayed. Click the appropriate option to take further action.



## Command Shell

This option allows users to manually execute the command shell from the system. Type the command in the field, and then click **Execute command**.

[Module Config](#)

### Command Shell

Enter a shell command to execute in the text field below. The cd command may be used to change directory for subsequent commands.

Execute command:

Execute previous command `/sbin/iptables -A FORWARD -i eth0 -o wwan1 -j ACCEPT`

## File Manager

This is an additional plug-in function.

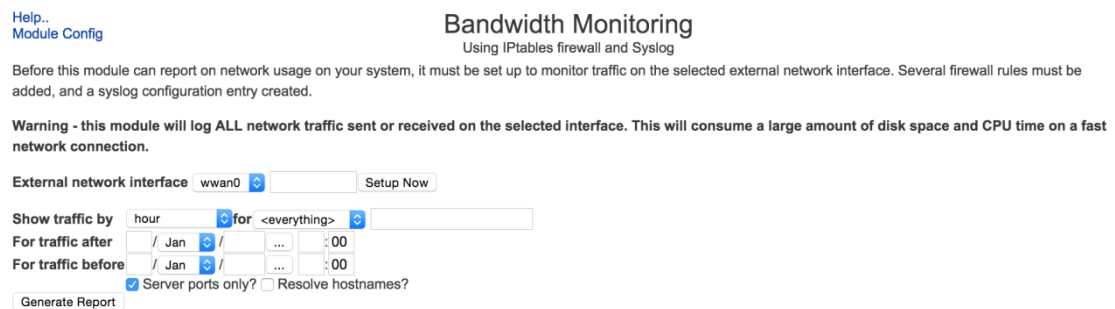
# Configuring Networking

Click **Networking**. Three options will be displayed. Click the appropriate option to take further action.

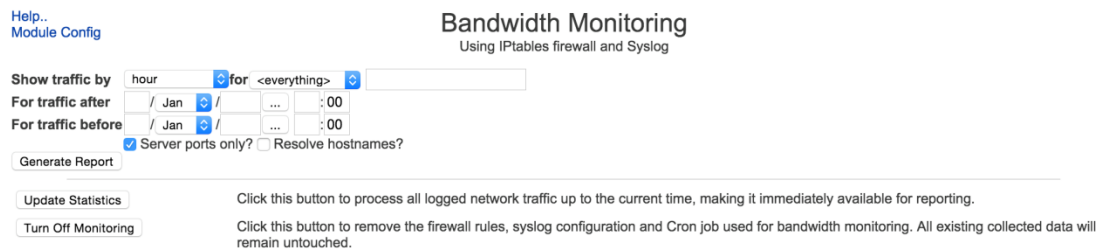


## Bandwidth Monitoring

This option allows users to configure the network interface and the bandwidth condition.



Select the network interface, and then click **Setup Now** for additional configuration. When finished, click **Save**.



## Linux Firewall

This option allows users to configure the firewall settings. You may also reset the firewall configuration on this page.



# Network Configuration

## Network Interfaces

This option allows users to activate, view, or apply the current network interfaces. Select the functions you wish to use.

Module Index Network Interfaces

[Active Now](#) [Activated at Boot](#)

Interfaces listed in this table will be activated when the system boots up, and will generally be active now too.

Select all. | [Invert selection.](#) | [Add a new interface.](#) | [Add a new bridge.](#)

Name	Type	IPv4 address	Netmask	IPv6 address	Activate
<input type="checkbox"/> eth0	Ethernet	192.168.3.127	255.255.255.0		Yes
<input type="checkbox"/> eth1	Ethernet	192.168.4.127	255.255.255.0		Yes
lo	Loopback	No address configured	None		Yes

Select all. | [Invert selection.](#) | [Add a new interface.](#) | [Add a new bridge.](#)

[Return to network configuration](#)

## Routing and Gateways

This option allows users to configure the routing and gateways configurations. When finished, click **Save**.

Module Index Routing and Gateways

[Boot time configuration](#) [Active configuration](#)

This section allows you to configure the routes that are activated when the system boots up, or when network settings are fully re-applied.

**Routing configuration activated at boot time**

Default router  None (or from DHCP)  Gateway  eth0

Act as router?  Yes  No

Static routes	Interface	Network	Netmask	Gateway
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Local routes	Interface	Network	Netmask
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

[Return to network configuration](#)

## Hostname and DNS Client

This option allows users to configure the hostname and DNS client configuration. When finished, click **Save**.

Module Index Hostname and DNS Client

**DNS Client Options**

Hostname   Update hostname in host addresses if changed?

Resolution order

DNS servers

Search domains  None  Listed ..

[Return to network configuration](#)

## Host Addresses

This option allows users to add a new host address or delete the existing one.

Module Index Host Addresses

Select all. | Invert selection. | Add a new host address.

IP Address	Hostnames
<input type="checkbox"/> 127.0.0.1	localhost, Moxa

Select all. | Invert selection. | Add a new host address.

[Return to network configuration](#)

## Hardware

Click **Hardware**. Two options will be displayed. Click the appropriate option to take further action.

▼ Hardware

- [Partitions on Local Disks](#)
- [System Time](#)

## Partitions and Local Disks

This option allows users to edit the disk partitions. You may edit IDE parameters, or erase all partitions on the existing disks.

Module Config Edit Disk Partitions

SD-Card device 2

Cylinders: 2000895 | Partition format: MSDOS

Add primary partition.

Number	Type	Extent	Size	Start	End	Used by
1	Windows FAT32		32768 blocks	2048	67583	
2	Linux		835584 blocks	329728	2000895	/
3	Linux		131072 blocks	67584	329727	

Add primary partition.

Change settings for an IDE drive, such as the DMA mode, standby timeout and number of sectors read.

Delete all existing partitions and create a new partition table with a different format.

[Return to disk list](#)

Click the partition you want to edit, and then configure the settings. When finished, click Save.

Module Index Edit Partition

SD-Card device 2

**Partition Details**

Location /dev/mmcblk0	Device file /dev/mmcblk01
Type FreeBSD UFS	Extent 2048 - 67583 of 31264
Status Not in use	Size 32768 blocks

Create Filesystem:  Builds a new filesystem of the selected type on this partition, permanently erasing any existing files. You must do this after creating a new partition or changing an existing one.

[Return to list of partitions](#)

## System Time

This option allows users to configure system time and hardware time. When finished, click **Apply** or **Save**.

Help.. Search Docs..  
 Module Config

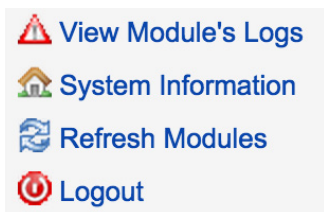
[Set time](#) [Change timezone](#) [Time server sync](#)

This form is for changing the system's current time, which is used by all running processes. On operating systems that have a separate hardware clock, it can be used to set that too.

System Time					
Date	20	Month	April	Year	2015
Hour	08	Minute	23	Second	20
Apply Set system time according to hardware time					
Hardware Time					
Date	20	Month	April	Year	2015
Hour	08	Minute	23	Second	20
Save Set hardware time according to system time					

## Viewing More Options

Four more options can be found in the left lower corner of the Webmin window. Click an option for details.



## View Module Logs

This option allows users to view the log files.

Module Index Search Results

Logged actions between 13/Apr/2015 and 20/Apr/2015 ...

Action	Module	User	Client Address	Date	Time
Disabled bandwidth monitoring	Bandwidth Monitoring	root	192.168.31.100	20/Apr/2015	02:45
Setup bandwidth monitoring on interface wlan0	Bandwidth Monitoring	root	192.168.31.100	20/Apr/2015	02:45
Disabled bandwidth monitoring	Bandwidth Monitoring	root	192.168.31.100	20/Apr/2015	02:44
Updated statistics	Bandwidth Monitoring	root	192.168.31.100	20/Apr/2015	02:44
Deleted module Backup Configuration Files	Webmin Configuration	root	172.25.9.139	17/Apr/2015	04:49
Deleted module Heartbeat Monitor	Webmin Configuration	root	172.25.9.139	17/Apr/2015	04:49
Deleted module Webmin Servers Index	Webmin Configuration	root	172.16.4.20	16/Apr/2015	23:34
Deleted module Webalizer Logfile Analysis	Webmin Configuration	root	172.16.4.20	16/Apr/2015	23:34
Deleted module WU-FTP Server	Webmin Configuration	root	172.16.4.20	16/Apr/2015	23:34
Deleted module Shoreline Firewall	Webmin Configuration	root	172.16.4.20	16/Apr/2015	23:34
Deleted module Shorewall6 Firewall	Webmin Configuration	root	172.16.4.20	16/Apr/2015	23:34
Deleted module System and Server Status	Webmin Configuration	root	172.16.4.20	16/Apr/2015	23:34
Changed module configuration		root	172.16.4.20	16/Apr/2015	23:30
Installed 31 package(s) from APT	Software Packages	root	172.16.4.20	16/Apr/2015	23:28
Deleted module idmapd daemon	Webmin Configuration	root	172.16.4.20	16/Apr/2015	23:18
Deleted module Squid Report Generator	Webmin Configuration	root	172.16.4.20	16/Apr/2015	23:17
Deleted module Voicemail Server	Webmin Configuration	root	172.16.4.20	16/Apr/2015	23:17
Deleted module TCP Wrappers	Webmin Configuration	root	172.16.4.20	16/Apr/2015	23:17
Deleted module Text Login	Webmin Configuration	root	172.16.4.20	16/Apr/2015	23:17
Deleted module Upload and Download	Webmin Configuration	root	172.16.4.20	16/Apr/2015	23:17
Deleted module Users and Groups	Webmin Configuration	root	172.16.4.20	16/Apr/2015	23:17
Deleted module SSH Server	Webmin Configuration	root	172.16.4.20	16/Apr/2015	23:17
Deleted module Samba Windows File Sharing	Webmin Configuration	root	172.16.4.20	16/Apr/2015	23:17
Deleted module Network Services	Webmin Configuration	root	172.16.4.20	16/Apr/2015	23:17
Deleted module Network Services and Protocols	Webmin Configuration	root	172.16.4.20	16/Apr/2015	23:17
Deleted module SMART Drive Status	Webmin Configuration	root	172.16.4.20	16/Apr/2015	23:17

You may also export the files in CSV format. Select the file and then click **Export as CSV**.

Ran command cell_mgmt start	Command Shell	root	172.25.9.139	16/Apr/2015 10:02
Ran command cell_mgmt stop	Command Shell	root	172.25.9.139	16/Apr/2015 10:02
Ran command ls	Command Shell	root	172.25.9.139	16/Apr/2015 06:00
Ran command /sbin/iptables -A FORWARD -i eth0 -o wwan0 -j ACCEPT	Command Shell	root	172.25.9.139	16/Apr/2015 06:00
Ran command /sbin/iptables -t nat -A POSTROUTING -o wwan0 -j MASQUERADE	Command Shell	root	172.25.9.139	16/Apr/2015 05:59
Ran command echo 1 > /proc/sys/net/ipv4/ip_forward	Command Shell	root	172.25.9.139	16/Apr/2015 05:58

Export as CSV.

## System Information

This item allows users to view the current system information.



**System Information**

**System hostname** localhost (127.0.0.1)

**Operating system** Debian Linux 7

**Webmin version** 1.740

**Time on system** Mon Apr 20 08:25:10 2015

**Kernel and CPU** Linux 3.2.0-uc8100 on armv7l

**System uptime** 3 days, 17 hours, 30 minutes

**Running processes** 70

**CPU load averages** 0.00 (1 min) 0.04 (5 mins) 0.06 (15 mins)

**CPU usage** 0% user, 0% kernel, 0% IO, 100% idle

**Real memory** 54.93 MB used, 245.37 MB total

**Local disk space** 612.23 MB used, 813.93 MB total

**Package updates** 20 package updates are available

## Refresh Modules

This item allows users to refresh the current modules on the UC-8112 computer.

### Refresh Modules

Checking for usable Webmin modules ..  
 .. found 60 with installed applications, 56 not installed.

## Logout

Click Logout to exit Webmin. You may log in again or close your browser to exit the system.

**Logout successful. Use the form below to login again.**

**Login to Webmin**

You must enter a username and password to login to the Webmin server on 192.168.31.96.

**Username**

**Password**

Remember login permanently?



## Wireless Module Settings

---

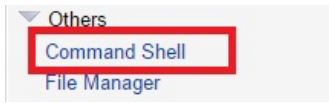
This chapter describes how to configure the Wi-Fi and cellular modules for the UC-8112-LX computer.

The following topics are covered in this chapter:

- ❑ **Enabling Cellular Module**
  - Configuring the Cellular Module
- ❑ **Configuring the Wi-Fi Module**
- ❑ **Bridging the Cellular to Serial Interface**
  - UDP Server to Serial Device
  - UDP Client to Serial Device
  - TCP Server to Serial Device
  - TCP Client to Serial Device
- ❑ **Configuring the IPSec Settings**

# Enabling Cellular Module

Locate **Command Shell** in the **Others** drop-down list.



Provide the required commands in the Command Shell field.



# Configuring the Cellular Module

To enable and dial up the cellular module, type the following command:

```
cell_mgmt start
```

To disable and disconnect the cellular module, type the following command:

```
cell_mgmt stop
```

To power off the cellular module, type the following command:

```
cell_mgmt power_off
```

To power on the cellular module, type the following command:

```
cell_mgmt power_on
```

To keep the UC-8112 computer constantly connecting to the network, type the following command.

```
keep_alive
```

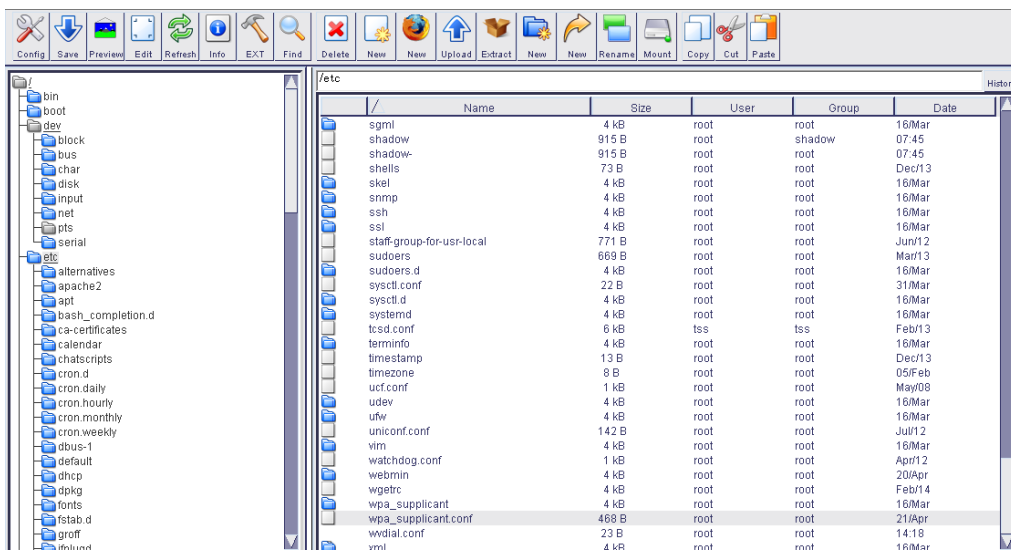
To enable the routing function of the cellular module, type the following command.

```
lte_router
```

Note that once the routing function has been enabled, the device connecting to the LAN 2 port of the UC-8112 computer can connect to the network via the cellular module. Remember to enable the device's DHCP function.

# Configuring the Wi-Fi Module

You need to edit the Wi-Fi configuration file to enable the Wi-Fi module on the UC-8112. Connect to the UC-8112 computer and locate the configuration file at this path: **/etc/wpa\_supplicant.conf**.



## Configuring SSID and Password

To configure the SSID and password, edit the following content:

```
### Open system ###
#network={
#  ssid="Open"
#  key_mgmt=NONE
#}
#####
```

## Configuring the WEP SSID and WEP key

To configure the WEP SSID and WEP key, edit the following content:

```
##### WEP #####
#network={
#  ssid="WEP-ssid"
#  bssid=XX:XX:XX:XX:XX:XX
#  key_mgmt=NONE
#  wep_key0=KEY
#}
#####
```

## Configuring WPA/WPA2 SSID/Password/PSK

To configure the SSID and password for WPA/WPA2, edit the following content:

```
##### WPA/WPA2 PSK #####
#network={
#  ssid="WES_AP"
#  proto=WPA WPA2 RSN
#  key_mgmt=WPA-PSK
#  pairwise=TKIP CCMP
#  group=TKIP CCMP
#  psk="123456789"
#}
#####
```

## Connecting to the Wi-Fi AP

To connect to the Wi-Fi AP you have just configured, type the following command in the Command shell field:

**wi-fi\_router**

Module Config

Command Shell

Enter a shell command to execute in the text field below. The cd command may be used to change directory for subsequent commands.

Execute command:

When the UC-8100 computer has successfully connected to the Wi-Fi AP, you may connect your computer to the LAN2 port on the UC-8100, so that your computer can connect to the network.

# Bridging the Cellular to Serial Interface

This section describes how to enable the UC-8112 to communicate with peripheral devices.

## UDP Server to Serial Device

Type the following command in the Command Shell so that the signal between the DUP server and serial device can be transmitted:

```
socat UDP-SENDTO:REMOTE IP:REMOTE PORT  
file:/dev/ttyM0,nonblock,raw,echo=0,waitlock=/var/run/ttyM0,b115200
```

## UDP Client to Serial Device

Type the following command in the Command Shell so that the signal between the DUP client and serial device can be transmitted.

```
socat UDP-SENDTO:REMOTE IP:REMOTE PORT  
file:/dev/ttyM0,nonblock,raw,echo=0,waitlock=/var/run/ttyM0,b115200
```

## TCP Server to Serial Device

Type the following command in the Command Shell so that the signal between the TCP server and serial device can be transmitted.

```
socat -v TCP-LISTEN: LISTEN PORT,reuseaddr,fork  
file:/dev/ttyM0,nonblock,raw,echo=0,waitlock=/var/run/ttyM0,b115200
```

## TCP Client to Serial Device

Type the following command in the Command Shell so that the signal between the TCP client and serial device can be transmitted:

```
socat TCP:REMOTE IP:REMOTE PORT  
file:/dev/ttyM0,nonblock,raw,echo=0,waitlock=/var/run/ttyM0,b115200
```

## Configuring the IPSec Settings

To set up the IP address of the IPSec server, edit the following file: **/etc/ipsec-tools.conf**

```
## Flush the SAD and SPD
#
flush;
spdf flush;
## Some sample SPDs for use racoon
#
spdadd 10.10.10.78 10.10.10.10 any -P out ipsec
esp/transport//require;
#
spdadd 10.10.10.10 10.10.10.78 any -P in ipsec
esp/transport//require;
```

Note that **10.10.10.10** is the IP address of the remote host.

To configure the setup key, edit the following file: **/etc/racoon/racoon.conf**

```
log notify;
path pre_shared_key "/etc/racoon/psk.txt";
path certificate "/etc/racoon/certs";
remote anonymous {
    exchange_mode main,aggressive;
    proposal {
        encryption_algorithm aes_256;
        hash_algorithm sha256;
        authentication_method pre_shared_key;
        dh_group modp1024;
    }
    generate_policy off;
}
sainfo anonymous{
    pfs_group 2;
    encryption_algorithm aes_256;
    authentication_algorithm hmac_sha256;
    compression_algorithm deflate;
}
```

To configure the pre-shared key, edit the following file: **/etc/racoon/psk.txt**.

```
- 10.10.10.10 1234567890
- /etc/init.d/setkey restart
/etc/init.d/racoon restart
```

Note: Authentication Mode

- Pre-shared key
- X.509

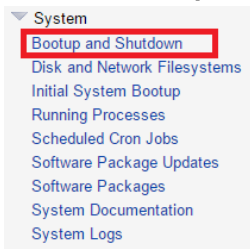
In this example, **10.10.10.10** is the IP address of the host, while **1234567890** is the pre-shared key.

To start the IPSec configuration, run the following commands:

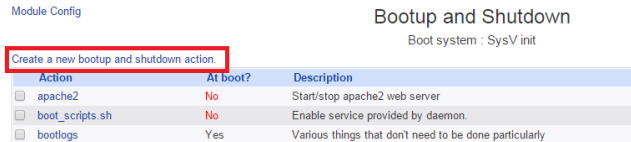
```
/etc/init.d/setkey restart
/etc/init.d/racoon restart
```

Take the following steps to enable the IPsec function when the system starts up:

- 1.
2. Locate the **Bootup and Shutdown** option in Webmin.

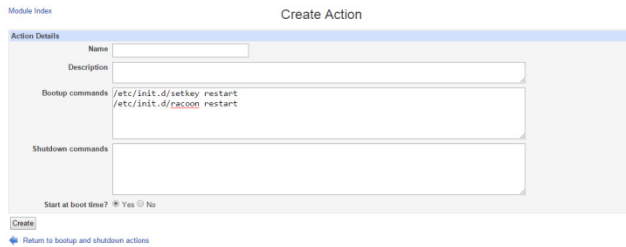


3. Click **Create a new bootup and shutdown action.**



4. Enter the following commands in the Bootup commands field:

**/etc/init.d/setkey restart**  
**/etc/init.d/racoon restart**



5. When finished, click **Create.**

# 6

## Data Acquisition

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This chapter describes how to use the UC-8112 computer to acquire data from an ioLogik E1242 RTU controller.

The following topics are covered in this chapter:

- **Acquiring Data**

## Acquiring Data

The UC-8112-LX Start Kit comes with an ioLogik E1242 RTU controller. To acquire data from the controller, use the following commands in the Command Shell field.

To read the value from Digital Input 0:

```
Em2240 -d 192.168.31.66 -i 0
```

To read the value from Analog Input 0:

```
Em2240 -d 192.168.31.66 -i 1
```

To set Digital Input to high level:

```
Em2240 -d 192.168.31.66 -o 1 -s 1
```



# A

## Regulatory Approval Statements

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This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**Class A:** FCC Warning! This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the users will be required to correct the interference at their own expense.



**European Community**



### **WARNING**

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.