



MC100 Series User Manual



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Test Environments

CentOS7.0 (Elastix4.0)

Kernel version: 3.10.0-229.14.1.el7.x86_64

DAHDI: 2.10.2

Asterisk: 11.20.0

SS7: chan_ss7 2.1.0

Hardware: A400、A810E、B200E、B400、DE130E

Chapter 1. Overview

1.1 What is MC100 Series?

MC100 Series is an upgrade version of MiniUCS, an open source asterisk-based complete IPPBX solution for SMB. With affordable price, users may easily setup their customized IPPBX.

MC100 Series supports comprehensive protocol processing, including SIP, H.323 protocols in IP side and BRI, PRI, SS7 and some protocols transcoding in CPE.

Taking the full advantages of open source platform, the MC100 Series will be preloaded with Elastix[®], PBX in a Flash[™], FreePBX or trixbox[®] IPPBX software.

Figure 1-1 Front Panel

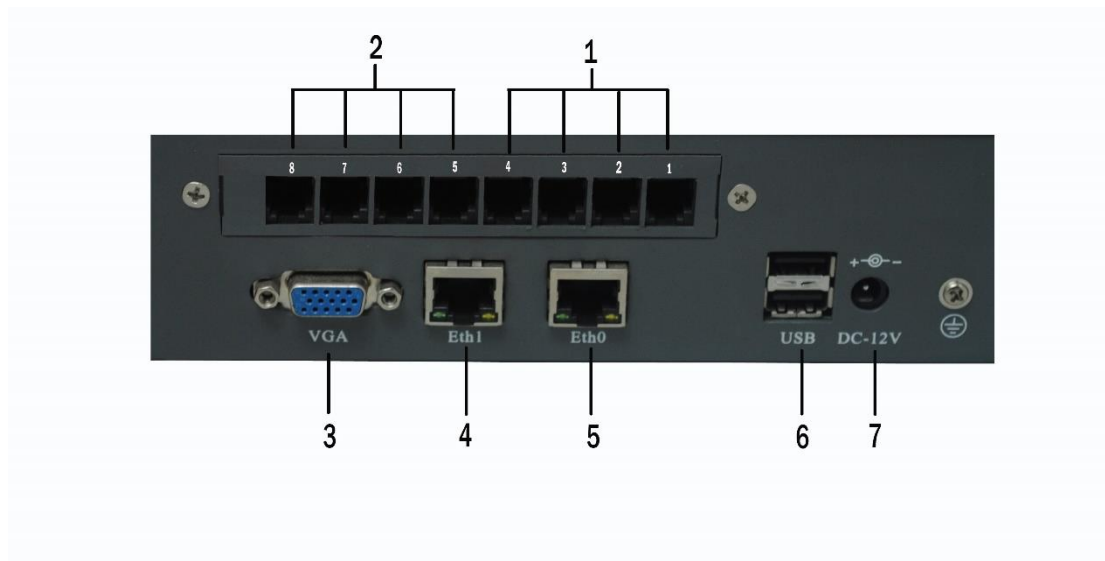


Table 1-1 Description of Front Panel

Interface	Function
1 Port 1-Port4	Analog Telephone Interface (FXS)
2 Port 5-Port8	Analog Telephone Interface (FXO)
3 VGA	VGA monitor connector
4 Eth1	Network interface
5 Eth0	Network interface

6 USB	USB interface
7 PWR	Power socket

Table 1-2 MC100 Series Naming rules

Product Model	Descriptions	
MC100-AXXEXX	A standard for Analog port: The first X is the number of FXS port, the second X is the number of FXO port. E is Ethernet port: The first X is Gigabit (G) or Fast (M), the second X is number of Ethernet port.	MC100-A44EG2: Combination by 4FXS+4FXO (A810E card) , 2 gigabit Ethernet ports MC100-A02EG2: Combination by 2FXO (A400E card) , 2 gigabit Ethernet ports
MC100-BXXEXX	B standard for BRI port: X is the number of NT/TE port E is Ethernet port: The first X is Gigabit (G) or Fast (M), the second X is number of Ethernet port.	MC100-B2EG2: 2 BRI ports (B200E card) , 2 gigabit Ethernet ports
MC100-D(C)XXEXX	D standard for T1/E1 port: X is the number of T1/E1 port *C is with hardware echo cancellation module E is Ethernet port: The first X is Gigabit (G) or Fast (M), the second X is number of Ethernet port.	MC100-D1EG2: 1 E1/T1 port (D130E card) , 2 gigabit Ethernet ports MC100-DC1EG2: 1 E1/T1 port (DE130E card) , 2 gigabit Ethernet ports

Technical Specifications:

- CPU: 1.60GHz Intel Atom Dual core D2600
- 1 M L2 cache, 64 bit instruction
- DRAM: 2 GB DDR3 SDRAM,

- Storage: 1 SATA slot, 1 mSATA Socket
- 2 USB 2.0 Ports
- 2 Ethernet Ports (1000Mbps speed)
- 2 PCIe sockets for voice cards and other expansion
- 1 mini PCI-E socket for extension
- 16 Mbit flash for AMI BIOS
- Voltage range :12V DC supply through DC jack
- 1 VGA port (DB15) for display interface
- Header for LPC bus (use for flash recovery or I/O expansion)
- Low EMI Emission level and high Electro Magnetic Susceptibility
- Rack/Wall Mountable
- Firmware: AMI_UEFI BIOS
- Dimension: 18.1cm × 5.6cm × 15.8cm
- Weight: 1235g (telephony cards not included)

Software & Platform

- Elastix®, trixbox®, PBX in a Flash™, FreePBX

Features

- Modular Design for Telephony Cards Connection
- Intel Atom Dual core D2600(1.60GHz)
- Optional Pre-Loaded Open Source IPPBX System
- Combination of analog, BRI, PRI or transcoding interfaces
- Available for OEM
- Attend Transfer
- Blind Transfer
- BLF Support
- Blacklist
- Callback

- CDR (Call Detail Records)
- Call Forward
- Call Parking
- Call Pickup
- Call Routing
- Call Transfer
- Call Waiting
- Caller ID
- Conference
- Define Office Time
- DDNS
- Dial by Name
- DISA (Direct Inward System Access)
- DIDs
- Distinctive Ringtone
- DND (Do Not Disturb)
- FAX (T.38)
- Firewall
- Follow Me
- IVR (Interactive Voice Response)
- Intercom/Zone Intercom
- Mobility Extension
- Multi-language Prompt
- Music On Hold
- Music On Transfer
- One touch record
- OpenVPN
- Phone Provisioning
- PIN User(PIN Code Control)
- Paging/Zone Paging

- PPPoE
- Queue
- Ring Group
- Route by Caller ID
- Skype Integration (Sky2Sip)
- SMS to Mail/Mail to SMS
- Speed Dial
- Static Route
- Three Way Calling
- Voicemail
- Voicemail to Email
- Voicemail Forwarding
- Web Based Control Panel
- Two Year Warranty

Chapter 2. Hardware Setup

OpenVox New IPPBX supports combinations analog, BRI and PRI telephony cards. Software installation method basic on your options, you can choice A400E, A810E, B400E and DE130E, which corresponding to driver in order are wctdm, opvx24xx, wcb4xxp and opvxd115, each card corresponds to its driver. Pre-installed system is elastix4.0, all drivers are installed before send out, you just need to load drivers and can make New IPPBX work. Now let's take the A400E and DE130E for an example to illustrate software installation. And assume that DE130E need to run in SS7 signaling.

- a) Reload wctdm in /etc/dahdi/modules
- b) amportal stop
- c) service dahdi restart
- d) dahdi_genconf
- e) dahdi_cfg -vvv

- f) amportal start
- g) asterisk -r
- h) dahdi show channels

2.1 Choose Pre-positioned Elastix4.0 System

Default IP: 172.16.99.98

SSH: root/111111

Web: admin/111111

2.2 Choose System to Install

Take centos as example:

```
# yum install bison
# yum install bison-devel
# yum install ncurses
# yum install ncurses-devel
# yum install zlib
# yum install zlib-devel
# yum install openssl
# yum install openssl-devel
# yum install gnutls-devel
# yum install gcc
# yum install gcc-c++
# yum install libxml2
```

The software you have to install:

Libpri	Dahdi	Asterisk
http://downloads.asterisk.org/pub/telephony/libpri/libpri-current.tar.gz	http://downloads.openvox.cn/pub/drivers/dahdi-linux-complete/openvox_dahdi-linux-complete-current.tar.gz	http://downloads.asterisk.org/pub/telephony/asterisk/old-releases/asterisk-11.15.0.tar.gz

Run these commands under `/usr/src`, download and unzip DAHDI, Asterisk and Libpri.

```
# wget
```

```
http://downloads.asterisk.org/pub/telephony/libpri/libpri-current.tar.gz
```

```
# wget
```

```
http://downloads.openvox.cn/pub/drivers/dahdi-linux-complete/openvox_dahdi-linux-complete-current.tar.gz
```

```
# wget
```

```
http://downloads.asterisk.org/pub/telephony/asterisk/old-releases/asterisk-11.15.0.tar.gz
```

```
# tar -xvzf openvox_dahdi-linux-complete-current.tar.gz
```

```
# tar -xvzf asterisk-11.15.0.tar.gz
```

```
# tar -xvzf libpri-current.tar.gz
```

2.3 Install Libpri

Turn to `/usr/src` and run the commands below to install Libpri:

```
# cd libpri-XX
```

```
# make
```

```
# make install
```

2.4 Install DAHDI

Turn to `dahdi-linux-complete-XX` (XX means the version of DAHDI), run these commands to install DAHDI:

```
# cd /usr/src/dahdi-linux-complete-XX
```

```
# make
# make install
# make config
```

2.5 Install Asterisk

Run the commands blow to install Asterisk:

```
# cd asterisk-11.15.0
# ./configure
# make
# make install
# make samples
```

Chapter 3. Configuration

3.1 Load driver

Run these commands to load driver:

```
# modprobe dahdi
# modprobe wct4xpx
# dahdi_genconf
# dahdi_cfg -vvvvvv
```

3.2 Activate Asterisk

```
# asterisk -vvvvvgc
```

Tips

If you have any problem during your operation time, please contact our technical support. Certainly you could find reply or leave messages on [Openvox Forum](#) or [Wiki](#).

Chapter 4 Reference

www.openvox.cn

www.digium.com

www.asterisk.org

www.voip-info.org

www.asteriskguru.com

Tips

Any questions during installation please consult in our forum or look up for answers from the following websites:

[Forum](#)

[wiki](#)