CXR1000 CompletePBX: Getting Started Guide

Package Contents

- CXR1000 (1U 19" width unit)
- Power cord
- Desktop power supply
- Support hardware for 19" cabinet

- Cable for second telephony module (allows upgrade to second telephony module – see Appendix for details)
- CompletePBX software preinstalled on the hardware

Prerequisites

You will need a computer equipped with an Internet browser. Firefox is recommended. By default, the CXR1000 will get its IP address from your DHCP server. To check the IP address or to set the CXR1000 **static IP** address you will need to connect a keyboard and a display to the CXR1000.

Step 1: Powering Up the Unit

1. For safety reasons, if the line wiring exits the building, it is essential to ground the unit.
   Note: Not properly grounding this device will void your warranty!
   a. Connect a grounding tab to the grounding screw on the rear panel.
   b. Using 12-16 gauge wire, connect the grounding tab to a reliable ground.

Grounding
Power Supply

Figure 1: Grounding Screw on CXR1000 Rear Panel

2. Connect a keyboard and a VGA/SVGA screen.
3. Connect the unit to the LAN.
4. Connect the power cord to the device; turn on the power. The startup process takes about 2 minutes.

Step 2: Submit Warranty Activation Request

At this point activate the product warranty (a pre-requisite for submitting any request for technical support). Go to www.xorcom.com/warranty.html, complete and submit the form found there.

Step 3: Configure or Get the IP Settings for CXR1000

Method 1: If you have a DHCP server: The CXR1000 will get the IP address from the DHCP server. To get the IP address:

1. Login to the CXR1000:

   a. User name: **root**

   b. Password: **!x0rc0m!voip5472#**
   Note: Note the use of the number zero in the password

   The default CompletePBX keyboard configuration is US English. When entering the password, the # (hash) key is shift/3 (i.e. uppercase three).

On UK keyboards, the hash character is located below the backspace, above the right-hand enter key.

2. To get the IP address use the command: `ifconfig eth0` As a result you will get a block of data like this:

```
eth0      Link encap:Ethernet  HWaddr 00:1C:C0:1F:ED:A0
          inet addr:192.168.0.64  Bcast:192.168.0.255  Mask:255.255.255.0
          inet6 addr: fe80::21c:c0ff:fe1f:eda0/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:13221 errors:0 dropped:0 overruns:0 frame:0
          TX packets:3658 errors:0 dropped:0 overruns:0 carrier:0
          collisions:2129 txqueuelen:1000
          RX bytes:5031371 (4.7 MiB)  TX bytes:397301 (387.9 KiB)
          Interrupt:217 Base address:0x2000
```

In this example the CXR1000 IP address is 192.168.0.64.

Method 2: Set up a static IP address:

1. Login into your system as root, as in Method 1.

2. Insert the required variables into `/etc/sysconfig/network-scripts/ifcfg-eth0` :

```
cat > /etc/sysconfig/network-scripts/ifcfg-eth0 <<EOF
DEVICE=eth0
BOOTPROTO=static
IPADDR=192.168.0.64
NETMASK=255.255.255.0
ONBOOT=yes
TYPE=Ethernet
EOF
```

3. Define the default gateway in the `/etc/sysconfig/network` file:
   ```
   GATEWAY=192.168.0.1
   ```

4. Define the DNS server in the /etc/resolv.conf file:
   ```
   nameserver 192.168.0.1
   ```

***Note**: Correct network parameters settings are extremely important for normal CompletePBX functionality.*

Always make sure that the 'localhost' is defined in the /etc/hosts file:

127.0.0.1   localhost.localdomain localhost

Step 4: Configure the CXR1000

If the unit is equipped with FXS ports they are configured as CompletePBX extensions starting from number 1001.

In order to configure your device follow these steps:

a) From a computer's Internet browser enter the CXR1000 IP address (for example http://192.168.0.64).

b) Click on the Administration icon, enter user name **superadmin**, and password **!XORCOM!**

Now you can modify your CXR1000 CompletePBX configuration.

The *CompletePBX Reference Guide* can be found on the Xorcom Web site.

Enabling Calls to/from External Endpoints

To ensure the maximum PBX protection, the **CompletePBX firewall** allows access to the standard SIP signaling ports 5060/udp, 5060/tcp and 5061/tcp only for the SIP endpoints with the following private IP addresses: 10.0.0.0/8; 172.16.0.0/12; and/or 192.168.0.0/16.

In addition, **CompleteSBC** is configured to reject any SIP requests reaching its public interface. To enable VoIP calls you must follow the instructions in the *CompleteSBC Getting Started* document.

Step 5: Protect CompletePBX Against Unauthorized Access

Once you have **fully configured** CompletePBX we highly recommend that you use the following procedures and applications supported in CompletePBX to protect it against unauthorized access:

Change the Linux Password

The password for the Linux root user can be changed by using the Linux `passwd` command.

Credentials to Access CompletePBX

CompletePBX is preconfigured with four administrators, each having a different set of permissions. User **superadmin** is the most powerful, and has full access rights. You must modify the passwords for the remaining three administrators in order to activate them:

a) From a computer's Internet browser enter the CXR1000 IP address (for example http://192.168.0.64).

b) Click on the **Administration** icon, enter user name **superadmin**, and password **!XORCOM!**

c) Navigate to the **Admin** menu, and select **Administrators** dialog.

d) In turn, select each of the remaining three administrators (**admin**, **superuser**, and **user**) and modify the password of each one.

Asterisk Manager Password

Modify the default value of the password for the Asterisk manager and database access:

a) Connect to the CompletePBX Web interface as described in "Step 4: Configure the CXR1000" (above).

b) Navigate to the **Settings** menu, and select **Advanced** dialog.

c) Navigate down to the **Asterisk Manager** section and modify the value of **Asterisk Manager Password** to a value of your choice.

Alternatively you can connect to the PBX via SSH and run the Linux shell based wizard that allows changing Asterisk Manager and Asterisk database passwords:

```
/root/change_password
```

IP Protection

CompletePBX must be installed on a protected LAN and must not be directly connected to the public Internet. The LAN must be protected by a Firewall/NAT router.

Fail2Ban and Firewall

In order to maximize protection from external threats, the **fail2ban** process is activated, in addition to the internal firewall. Use **System Settings** to modify the internal firewall as follows:

a) Connect to the CompletePBX Web interface as described in "Step 4: Configure the CXR1000" (above).

b) Navigate to Admin

c) Navigate down to System Settings and then select Firewall in the menu on the right side of the dialog.

Unit Status LED (Light Emitting Diode) Indicators

The CXR1000 is equipped with varying LED indicators on the front panel, depending on the model.

Digital (BRI ISDN) CXR1000 Models

Digital CXR1000 models (models that have at least one digital ISDN BRI PSTN port) have a vertical array of four status indicators on the left side of the front panel (**Fig 2**).

Fig. 2 – BRI Panel (allows additional 8 FXS or 8 FXO ports)

LED Label	Indication
PHONE	This yellow LED indicates that the CXR1000 is supplying the necessary voltage for analog or ISDN telephone sets.
SYNC	This green LED is the synchronization. It blinks once the CXR1000 is synchronized with the telephony modules.
ACTIVE	This red LED lights up when at least one PSTN / Analog phone is active.
ON	This green LED lights up when the CXR1000 is powered.

Analog (FXS and/or FXO) CXR1000 Models

The LED sets on the front panel of an analogCXR1000 (**Fig. 3**) include:
- 4 LED indicators that indicate device status

- A green LED for each analog line that indicates port status

Figure 3: CXR1000 with 16 analog ports and I/O ports

Note: Analog ports also have a red LED but this LED is never used to show line activity.

Once the unit is active, the status LEDs will indicate the following:

LED	Indication
ON	On – unit is functioning
ACTIVE	On – at least one of the analog ports is currently active
SYNC	Blinking– once ports have been synchronized with the Asterisk server
H/W	Off

For more information about the unit status and port status LED indicators refer to the **Astribank** manual on the Xorcom Web site: www.xorcom.com

Scan the QR code on the front panel of the CXR1000 for easy access to all relevant product info *for this specific product*, including detailed technical documentation, "how to" videos, and more.

Appendix

For pre-assembled CXR1000 models that contain only one telephony module, the unit is supplied with only the first telephony module cable connected to the main board. For units in which a second telephony module is to be installed, use the second cable suppliedin the original packaging and connect it to the right-most slot on the main board, as indicated by the arrow: