

Com.X10

Quick Start Guide

Version 1.02, July 15, 2014



<http://www.farsouthnet.com>

Welcome to the world of Com.X, changing the communications landscape for good.

This leaflet will help you to get started with your new Com.X10 solution. This getting started guide addresses networking and installation of the Com.X10 unit and **SHOULD** be read in conjunction with the Com.X

Administrator's guide: <http://www.farsouthnet.com/wp-content/uploads/2011/06/Com.X-administrator-guide-1.3-ver3.0.4.pdf>

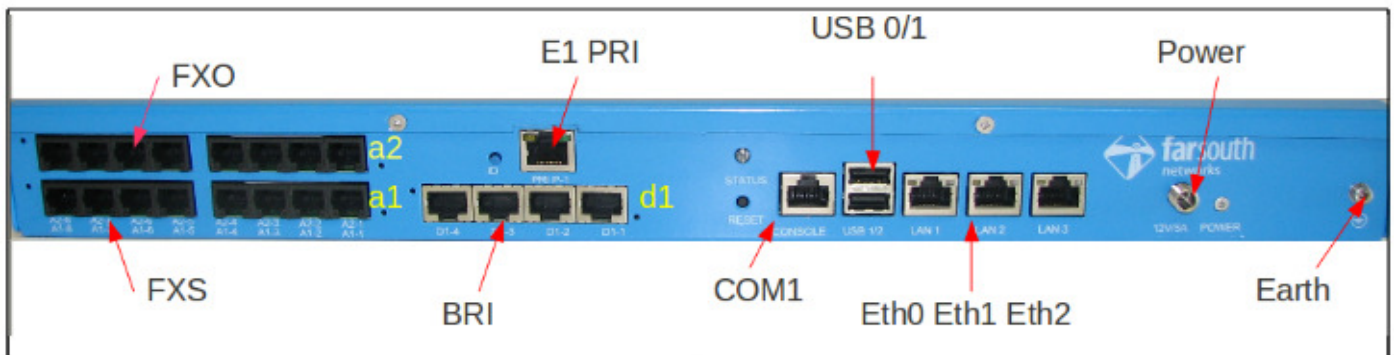
For product user manuals and user guides are available at: <http://www.farsouthnet.com/support/manuals/>

Description

The Com.X10 supports two variants of hardware build:

1. Traditional PBX: ISDN and/or Analogue support
2. IP Gateway: ISDN only (no analogue support)

"Traditional PBX": ISDN and Analogue support



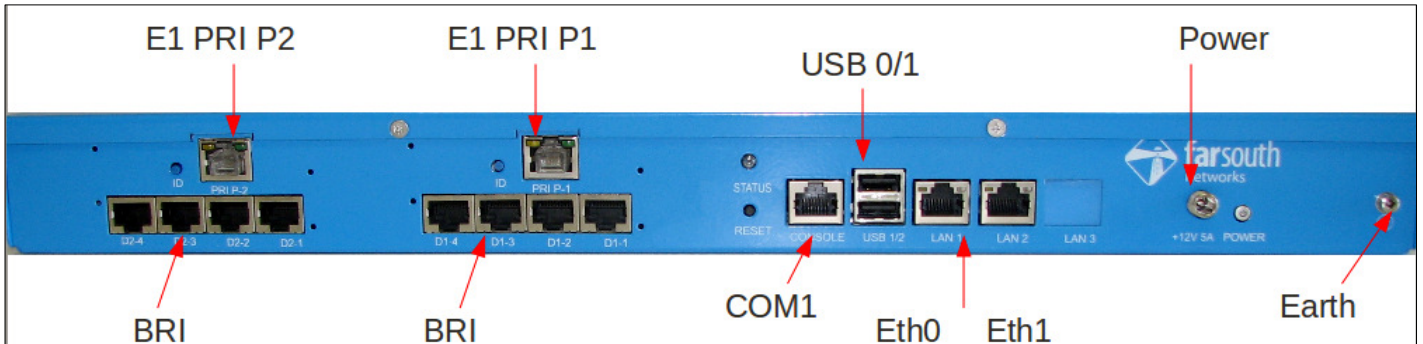
The figure above shows the rear panel view of the "traditional PBX" Com.X10 build variant. This layout has a casing that supports Primary Rate ISDN (1 PRI port), Basic Rate ISDN (4 BRI ports) and Analogue telephony ports (up to 16 ports FXS or FXO) and any combination thereof. All telephony hardware interfaces are modular, availability of thereof is dependent on the Com.X10 build to order.

Two 8-port slots are available for Analogue line cards, numbered a1 & a2. Each a1 & a2 slot may be installed with octal FXO or octal FXS cards, providing eight RJ11 ports, numbered 1 to 8. Thus each analogue RJ11 interface is designated a1-1 to a1-8 and a2-1 to a2-8.

A single 4-port slot is available for Basic Rate ISDN (BRI) interfaces, numbered d1. The d1 slot may be installed with a quad BRI card, providing four RJ45 ports, numbered 1 to 4. Thus each BRI interface is designated d1-1 to d1-4.

A single Primary Rate ISDN (E1 PRI) interface is provided, designated E1 PRI.

"IP Gateway": ISDN support only



The figure above shows the rear panel view of the "IP Gateway" Com.X10 build variant. This layout has a casing that supports Primary Rate ISDN (up to 2 PRI ports) and Basic Rate ISDN (up to 8 BRI ports) and any combination thereof. All telephony hardware interfaces are modular, availability of thereof is dependent on the Com.X10 build to order.

Two 4-port slots are available for Basic Rate ISDN (BRI) interfaces, numbered d1 & d2. Each BRI slot may be installed with a quad BRI card, providing four RJ45 ports, numbered 1 to 4. Thus each BRI interface is designated d1-1 to d1-4 and d2-1 to d2-4.

Two slots are available for Primary Rate ISDN (E1 PRI) interface, numbered E1 PRI P1 & E1 PRI P2. Each PRI slot may be installed with a PRI card, providing one RJ45 ports, numbered P1 and P2.

Each Com.X10 variant features up to three 10/100/1000Base-T LAN interfaces, designated LAN1 (Eth0), LAN2 (Eth1) & LAN3 (Eth2).

The remaining connectors are Earth (chassis ground), Power, COM1 (serial port) and USB0 & USB1.

The front panel LED (not shown) displays basic diagnostic information as follows:

Code	Description
Flashing red	No network
Solid yellow	Boot state
Flashing green/red	Manager or stream error (check software configuration)

Solid green

OK

Hardware Installation

Important: Refer to the Com.X10 Installation Guide for important safety instructions, installation guidelines, wiring and surge protection mechanisms and recommendations.

Available for download at: <http://www.farsouthnet.com/wp-content/uploads/2013/08/com.X10-installation-guide.pdf>

1. Ensure adequate Com.X10 chassis ground (zero impedance to earth bar) and surge protection mechanisms are suitably installed.
2. The Com.X10 server is powered using the 12VDC power adapter included with your unit. Connect the power adapter to the server and to mains supply and turn the server on.
3. Connect any Comma iTA units to any available second and third LAN ports (Eth1, Eth2) using Cat5e cables.
4. Connect the Com.X10 server to a LAN switch using the first Ethernet port (Eth0) using and a Cat5e cable.
5. Connect FXS ports to telephones, fax machines etc. using standard Cat3, twisted pair cables.
6. Connect FXO ports to telco lines, PBXs, etc. using standard Cat3, twisted pair cables.
7. Connect BRI ports to telco NT equipment or PBXs using standard S/T RJ-45 cables.
8. Connect PRI port to telco NT equipment or PBXs using standard E1 balanced RJ-45 cable.

Accessing the Com.X10 server

1. Default access details for the Com.X10 are:
user: comma
password: farsouth
2. The Com.X10 server GUI can be accessed using the url `http://<ip>`, where `<ip>` is the IP address assigned to the unit via DHCP or one of the statically configured IPs. All administrative tasks elaborated on below can be performed from the Com.X GUI. Please refer to the Com.X Administrator's guide for more detail.
3. The Com.X10 server can also be accessed via its serial port using a null-modem cable with the following settings:
baud rate: 115200

```
data bits: 8
stop bits: 1
parity: none
```

4. The Com.X10 server requests its IP address from the LAN / WAN via physical Ethernet port LAN1, (labelled the eth0 interface in the Operating System). This interface can be re-configured with a static IP in /etc/network/interfaces as follows:

```
auto eth0
iface eth0 inet static
address xxx.xxx.xxx.xxx
netmask 255.255.255.0
```

Note that the Operating System networking will need to be restarted after this configuration change:

```
sudo /etc/init.d/networking restart
```

Networking

1. The Com.X10 server comes pre-installed with Ethernet interfaces configured as follows:

Interface	DHCP client	IP	Netmask
eth0	Yes	-	-
eth1	No	192.168.101.1	255.255.255.0
eth2	No	192.168.102.1	255.255.255.0
eth3	No	192.168.103.1	255.255.255.0

2. The Com.X10 server comes pre-installed with the following software:
 - a. DAHDI with Dynamic span patches for PRI and analog
 - b. mISDN with Comma patches for BRI
 - c. Asterisk
 - d. Comma-GUI
3. The Com.X10 server is pre-configured with fixed IP addresses on the Ethernet ports which a Comma iTA is connected to.

Ubuntu 10.04 compatible packages are available at <http://fsnpub.dnsalias.com/apt>

For User Guide and Developer information please see <http://farsouthnet.com/mediawiki>

Configuration

1. The Com.X10 has been pre-configured with each Comma iTA device sold with the unit (/etc/comma.conf), including the MAC address and IP address configuration of each unit.
2. The Dahdi and mISDN configuration files have also been pre-configured to match the configuration of the Comma units.
3. The comma manager, Dahdi, mISDN, Asterisk and Comma-GUI start automatically on system start-up.

NOTE: The Comma iTA unit is reconfigured from the information on the server on every power-up or reset. Firmware upgrades made available on the Com.X10 server thus become active on the next Comma iTA restart.

Identifying connected Comma iTAs

1. From the GUI, select the Hardware panel. A Scan of the network will list additional devices.
2. Alternatively, from the server, type the following:

```
comma-ls -v
```
3. Connected Comma iTA devices will be identified by their MAC addresses and IP addresses if connected correctly, and the hardware configuration and software versions will be listed.
4. If IP addresses are not listed, the unit may be connected in the wrong order. Connect the units to different Com.X10 Ethernet ports. The units' MAC addresses can be viewed with their interface configuration in /etc/comma.conf in order to determine the correct connection order.

Logging and Diagnostics

1. From the Comma-GUI, select the Monitoring menu for an extensive monitoring suite
2. The command line interface of the Comma iTA may be accessed from the Comma Manager directory by typing:

```
comma-console <IP ADDRESS>
```
3. A log is maintained while the Comma Manager is running, typically found at /var/log/comma.log:

```
less /var/log/comma.log
```
4. The Com.X10 server system log keeps a record of system warnings and errors and can be viewed as follows:

```
less /var/log/syslog
```
5. The Asterisk PBX server command line can be accessed from the server as follows:

```
sudo asterisk -vvvr
```