

Comma iTA *Intelligent Telephony Adapter*

Getting Started



<http://www.farsouthnet.com>

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Welcome to the world of Comma intelligent Asterisk™ solutions! This leaflet will help you to get started with your new Comma iTA.

For further information see <http://farsouthnet.com/mediawiki>

Technical datasheet may be found at: <http://farsouthnet.com/resource-center>

Description

The standard Comma iTA contains PRI, BRI and FXS/FXO telecom interfaces. The multi-PRI Comma units, Comma iTA-2P/3P/4P, contains $n * \text{PRI}$ telecom interfaces, where $n = 2, 3, 4$.

The FXS/FXO, or analog positions are numbered a1, a2, a3, a4. Where a mix of FXO and FXS exist, FXS modules will occupy the lower numbered positions. Each position has 8 ports, numbered as shown.

The BRI positions are number d1 and d2, with 4 ports each.

The remaining connectors are Earth, Power, E1 PRI and 100Base-T LAN, as shown.

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

- Flashing red = no network
- Solid yellow = in boot state
- Flashing green/red = manager or stream error (check software configuration)
- Solid green = OK

Hardware Installation

1. Comma iTA is powered by the included 12 VDC adapter. *Important:* The earth wire and terminal supplied with the adapter should be connected to the Earth terminal of the Comma iTA unless an alternative earthing arrangement is provided in a rack installation environment.
2. Connect Comma iTA LAN port to an Ethernet port on the Asterisk server via a crossed-over Ethernet cable, or connect to a LAN switch using a standard cable. For Multi-PRI Comma units, connect all LAN ports to a switch.
3. Connect FXS ports to telephones, fax machines etc. using standard RJ-11 cables.
4. Connect FXO ports to telco lines, PBXs, etc. using standard RJ-11 cables.
5. Connect BRI ports to telco NT equipment or PBXs using standard S/T RJ-45 cables.
6. Connect PRI port to telco NT equipment or PBXs using standard E1 balanced RJ-45 cable.

Software Installation

1. The Comma Manager software must be installed on the host server (normally this is the Asterisk machine).
2. The Asterisk machine must support the following:
 - a. Zaptel or DAHDI (no patches required) for PRI and analog
 - b. mISDN with Comma patches for BRI
3. If the host server is connected directly to the Comma iTA, ensure that it has a fixed IP address on the Ethernet port that is used.

Ubuntu 8.04 compatible packages are available at <http://fsnpub.dnsalias.com/apt>

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

Identification

From the host server, type the following:

```
comma-ls -v
```

The device will be identified by its MAC address if connected correctly, and the hardware configuration and software versions will be listed. With multi-PRI devices, one entry will be displayed for each PRI.

Configuration

Edit the configuration file (normally /etc/comma.conf) and add a section for the device (Multi-PRI requires one section per PRI), following the examples in the file. Ensure that the MAC address is correct, and choose an IP address in the same subnet as the connected Ethernet interface.

Edit Zaptel and mISDN configuration files to match the configuration of the Comma unit.

Start comma manager (/etc/init.d/commamgr start)

Start Zaptel, mISDN and Asterisk.

NOTE: The Comma unit is reconfigured from the information on the server on every power-up or reset.

Auto-Configuration

It is possible to generate the configuration files automatically using the comma-ls tool. The iTA must be connected to the network port indicated in the command, and powered on. See the examples below:

```
comma-ls -g -t comma -i eth0 192.168.1.2 255.255.255.0 > comma.conf
```

```
comma-ls -g -t dahdi -i eth0 192.168.1.2 255.255.255.0 > dahdi/system.conf
```

```
comma-ls -g -t misdn -i eth0 192.168.1.2 255.255.255.0 > mISDN.conf
```

Logging and Diagnostics

1. The command line interface of the Comma iTA may be accessed from the Comma Manager directory by typing:

```
comma-console <IP ADDRESS>
```

Note: With Multi-PRI devices each PRI will have a separate IP address.

2. A log is maintained while the Comma Manager is running, typically found at /var/log/comma.log.

```
less /var/log/comma.log
```

Firmware Upgrade

The embedded firmware is downloaded to the Comma unit from the server at every power-up or reset. In order to upgrade:

1. Copy the new image file to /var/comma/
2. Update the appimage=XXX configuration record in the configuration file to the new file name
3. Restart Comma iTA:

```
comma-ls -r
```

4. In an Ubuntu based system, updating the package `commaimg` will result in updated firmware:

```
sudo aptitude update  
sudo aptitude install commaimg
```