



farsouth
networks

Quick Start Guide

<http://www.farsouthnet.com>

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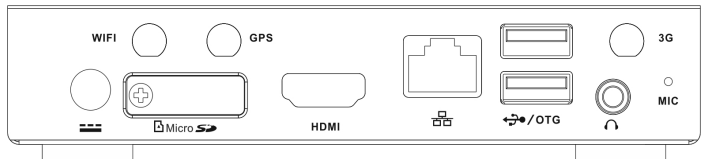
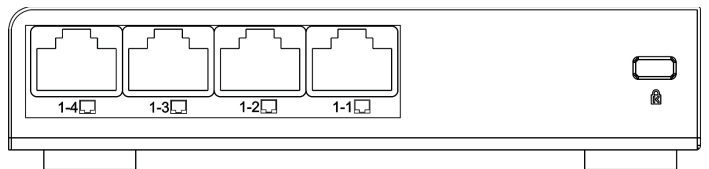
Welcome to the world of Com.X intelligent Asterisk™ solutions! This leaflet will help you to get started with your new Wanderbox solution. This getting started guide addresses networking and installation of the Wanderbox unit and should be read in conjunction with the Com.X Administrator's guide.

Product user manuals and Administrator's guide are available at:

<http://www.farsouthnet.com/support/manuals/>

For common technical questions about our Gateway and PBX products visit Far South Networks SIP Gateway and IP PBX Wiki at:

<https://sites.google.com/view/comx-wiki/>



Description

The above diagrams show rear and side views of the Wanderbox and its available connections. One 4-port slot is available for a Digital (RJ45) or Analogue line card (RJ11), numbered 1-1 to 1-4. The slot can accommodate a 4 port Digital Basic Rate ISDN (BRI) or a 4-port Analogue MITA (mini-intelligent telephony adapter) card (202S, 4S, 4O) or an additional MITA LAN (RJ45) port. The slot also accommodates for an ACM (Advanced Communications Module), providing a 2 port Digital Primary Rate Interface (PRI) and 2 port LAN capabilities. Single / dual LTE capability is an optional integrating extra. All telephony hardware interfaces are modular, availability thereof is dependent on the Wanderbox built to order.

Port configuration is based on the Wanderbox build:

Build 8X-xxxx-XExxx	Card Type	Port 1-1	Port 1-2	Port 1-3	Port 1-4
8X-202S-XExx	1 x Mita 202S	FXS	FXS	FXO	FXO
8X-4S-XExx	1x Mita 4FXS	FXS	FXS	FXS	FXS
8X-4O-XExx	1 x Mita 4FXO	FXO	FXO	FXO	FXO
8X-4B-XExx	1 x Mita 4BRI	BRI	BRI	BRI	BRI
8X-SX-XExx1L	1 x Mita LAN	N/A	N/A	N/A	LAN 2
8X-SX-XExxAG	1 x LTE	FMC 1		FMC 2	
8X-2P-XExx	1 x ACM	PRI 1	PRI 2	LAN 3	LAN 2

Fail-over support:

In the case of 202S cards, when the unit is powered down, Port 1(FXS) connects internally to Port 4(FXO) and Port 2(FXS) connects to Port 3(FXO), via **bypass** circuitry.

In the case of an ACM card, fail-over support exists for PRI and LAN interfaces. When the unit is in a powered down state, PRI 1 is connected to PRI 2 and LAN 3 is connected to LAN 4.

This provides a lifeline service during power failure.

Ethernet interfaces:

Two 10/100/Base-T LAN interfaces are provided and designated as Eth0 & Eth1 in the user interface. Additional 10/100/Base-T LAN interfaces can be provided with a Mita LAN or ACM card, port designations will begin from Eth2 to Eth3.

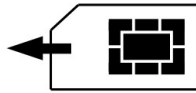
The remaining connectors are 12V, 2.5A DC input, USB / COM, Wi-Fi antenna connector and an On/Off button. Depending on the build 2 LTE connectors can be made available upon request.

Basic information for status LED's:

LED type	Code	Description
Front panel Status	Blue - Solid	Booting / boot complete
	Blue - Off	Boot error
	Orange - Solid	Unconfigured state
	Green - Solid	System OK / configured state
	Red - Solid	System error
MITA	Green - On	Powered on, booted and fully functional
	Green - Flashing	Card networking activity
	Orange - Solid	Boot state/ Unconfigured state
	Red - Flashing	Fault diagnostic status
	Off	Powered off
LAN	Green - Flashing	Card networking activity
	Orange - Solid	100Mbps link achieved
	Orange - Off	10Mbps link achieved
LTE	Status: Green - Slow pulse	Network searching / idle
	Green - Fast pulse	Data transfer ongoing
	3G/LTE	Future Use

Hardware Installation

1. Ensure adequate Wanderbox Duo chassis ground (zero impedance to earth bar) and surge protection mechanisms are suitably installed.
2. The Wanderbox Duo is powered using a 12VDC PSU included with your unit. Connect the power adapter to the server and to mains supply and turn the server on. FSN does not recommend using PSU's other than it's supplied PSU
3. Connect any Comma iTA units to any available LAN ports using Cat5e cables.
4. Connect the Wanderbox Duo server to a LAN switch using the first Ethernet port (Eth0) using 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.
9. SIM installation:
 - 9.1. Ensure the system is powered off before SIM installation.
 - 9.2. Remove the FMC access cover with the use of a standard pozi screw driver.
 - 9.3. To Insert, push a standard size SIM card into the designated slot with chip facing in the upward direction.
 - 9.4. The SIM card is secured once a click is heard.
 - 9.5. To remove, gently push in on the SIM card to release then slide the card out.



Accessing the Wanderbox server

1. The Wanderbox server requests its IP address from the LAN / WAN via physical Ethernet port LAN1, (labelled eth0 on the networking tab). This interface can be re-configured with a static IP from the GUI, accessed by dropping down the "Start" menu and selecting "Configuration". Navigate to the Network and cascading "Connections" tabs. Select "eth0", right click, edit and uncheck "DHCP Client", then edit "IP Address" as desired.

Interfaces						
Name	Description	Hardware Address	Enabled	Auto/DHCP	IP	Netmask
eth0	lan1	78:ae:0c:02:1f:c1	Yes	Yes	192.168.0.122	255.255.255.0
eth1	lan2	78:ae:0c:02:1f:c2	Yes	No	192.168.101.1	255.255.255.0

Network Interface Configuration [X]

Interface Servers Routes

Name:

Description:

DHCP Client

Enabled

IP Address: ⓘ

Network mask:

Gateway:

Default Metric:

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

2. The Wanderbox server can be accessed using the GUI, SSH client or a serial port:
 - For GUI and SSH access, enter the IP address assigned to the unit via DHCP, or one of the statically configured IP's into your web browser or terminal session.
 - For console port access, the user will require a USB-A M-M cable connected to the designated 'COM' port on the device.
 - Please refer to the Administrator's guide for more detail.

SSH	GUI	Serial port
<i>user: comma</i>	<i>user: admin</i>	<i>user: comma</i>
<i>password: farsouth</i>	<i>password: admin</i>	<i>password: farsouth</i>

3. Wanderbox **Wi-Fi** Access Point connectivity:

WiFi AP Information	
WLAN standards	IEEE 802.11b/g/n, 2.4GHz
Interface	wlan0
Channel	1
ssid	Defaulted to the system serial number, eg. "FSN8Xxxxxx"
wpa_passphrase	wanderbox

- Duo and that your laptop or tablet supports WPA2 /PSK.
- On your device go to Wi-Fi settings and locate the SSID of your Wanderbox "FSN8Xxxxxx"
- You will now be prompted for a pass_phrase. The pass_phrase may be changed in the GUI under networking.
- On connecting successfully you will receive an IP address and the unit will be the gateway address on your Wi-Fi network settings.
- Open your browser (chrome is recommended) and browse to the IP address in the browser address bar.

Network

Name	Description	Auto/DHCP	IP	Netmask
eth0	lan1	Yes	-	-
eth1	lan2	No	192.168.101.1	255.255.255.0
eth3	slot1	No	192.168.105.1	255.255.255.0
eth4	lan2	No	192.168.114.1	255.255.255.0
eth5	lan3	No	192.168.115.1	255.255.255.0
eth6	rsvd1	No	192.168.116.1	255.255.255.0
eth7	int1	No	192.168.117.1	255.255.255.0
VLAN 1.103		No	-	255.255.255.0
ppp1	FMC1	Yes	-	-
ppp2	FMC2	Yes	-	-
WLAN0		No	192.168.104.1	255.255.255.0

The Wanderbox server is pre-configured with fixed IP addresses for the internal comma device and WLAN.

Logging and Diagnostics

1. From the Comma-GUI, select the Monitoring menu for an extensive monitoring suite.
2. The Manager log will log events from all comma devices attached to the server.
3. The System log will display system events and messages from various processes on the server.
4. The Asterisk service has its own tab with multiple log files to monitor all events related to the process.
5. SIP Gateway": ISDN and Analogue support
 - Important note when installing a WB MKII as a "SIP Gateway", inline between Telco network (NT element) and a PBX (TE element), for correct PDH network timing recovery between the Telco and PBX, the following connections need to be established:
 - PRI 1 and 3: Connect to the Telco interface (set the Com.X PRI to TE mode)
 - PRI 2 and 4: Connect to the PBX interface (set the Com.X PRI to NT mode)
6. For further technical and configuration details refer to: <https://sites.google.com/view/comx-wiki/>