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Access to a new world of feature rich, connected anywhere telephony, at low cost and low risk

Com.X2 provides a scalable and powerful telephony solution for the Enterprise Business

Com.X2(G) is a flexible and feature-rich SIP Gateway solution in a 19" rack mount format

Zero hardware obsolescence, optional SIP Gateway upgrade to full featured Com.X2 IP PBX



Feature highlights

- Packaging: Multiple 1U * 19" rack mount OR optional 4U wall mount rack
- SIP trunks: up to 60 simultaneous G.729 CODEC's
- Base system supports 1 to 8 PRI and/or 8 to 16 BRI and up to 64 FXS / FXO ports
- Seamless expansion by means of additional rack mount Comma iTA units and an Ethernet interconnect
- Network Protocols and Services: PPP / PPPoE, HDLC, IPv4, DNS, VPN, NTP, SSH, HTTP, VLAN
- Routing: Static, NAT, NAT traversal, Port Forwarding, SIP ALG
- Firewall: Policies, Access Control Lists, Inbound/Outbound Filters, DMZ
- SIP Gateway features: Multiple "FlexPath" call routing priorities, Call Recording, B2BUA, Advanced Diagnostics (SIPp & Wireshark), Nagios based reporting, T.38 fax, register 2 local extensions
- Budget Router feature: Trunk port "minutes per month" allocation (support of "premicell" contracts)
- QoS: "ViBE" integration, Voipex (UK)
- QoS (pending upgrade): Traffic Classes, TOS, Service Classes, Traffic Shaping
- PBX capacity:
 - 250+ Users: IP phone or Analogue phone POTS support
 - 120 simultaneous calls
 - IP phone support: Yealink, Polycom, SNOM, Siemens Gigaset, Aastra, Alcatel
- PBX feature set: Yealink & Polycom Phone Provisioning, Voice Mail-to-email, IVR, Queues, Conferences, Music on Hold, Hot Desk'ing, "Click to Dial" integration, Class of Service calls, Call Backs, Ring Back Indication ...
- Call Recording "Call Manager": 500,000+ minutes on device, archiving to external devices
- Web-based GUI: User friendly, install and configuration "wizard"
- Remote Management: Monitoring, Backup & Restore, Call flow analysis, Configuration Audit
- TMS support: MAN3000, TNG, Unison, A2Billing and others
- ICASA type approval (TE-2009/023)

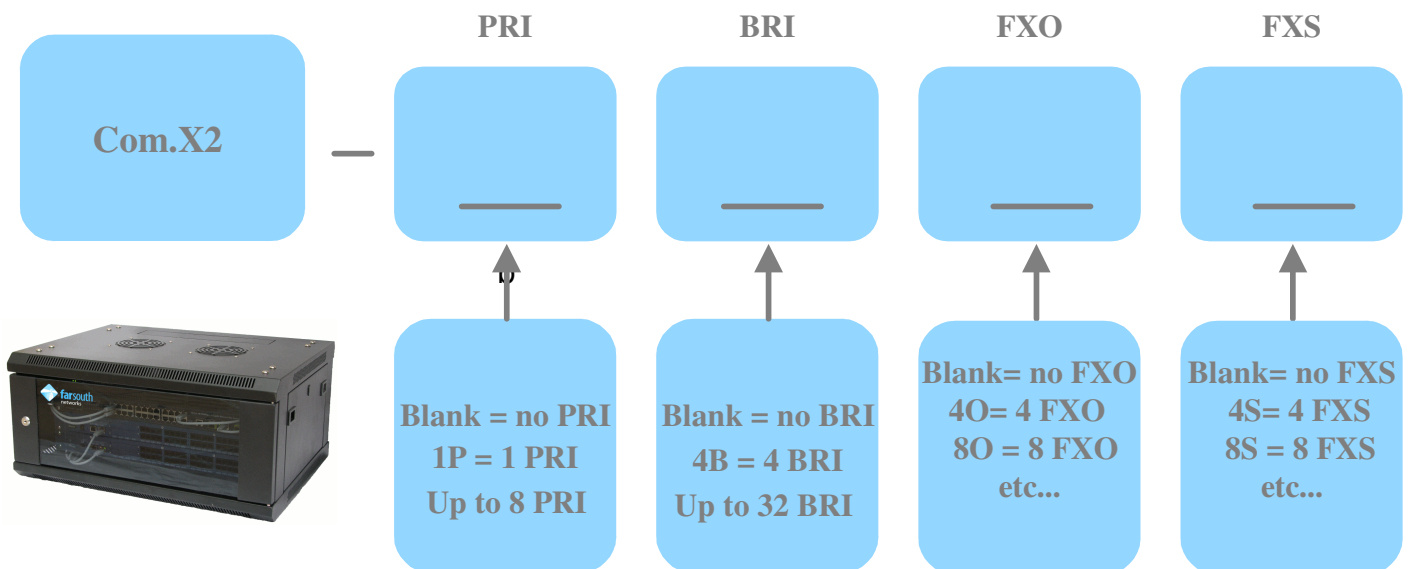


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Ordering Information

Part Number Generator

The Com.X2 is modular, with the ordering code made up as follows. Not all combinations are possible.



Note:

Com.X2 platforms support a near unlimited number of PRI, BRI, FXO and FXS ports

Com.X2(G) SIP Gateway feature set support with support for PBX license upgrade

Com.X2(P) defines a full PBX feature set available

Part number examples (many other build options are available):

Com.X2(G)-16B	SIP Gateway with telephony support for 16 BRI
Com.X2(G)-4P	SIP Gateway with telephony support for 4 PRI
Com.X2(G)-8P	SIP Gateway with telephony support for 8 PRI (optional expansion to 120 * G.729)
Com.X2(P)-8B64S	IP PBX with telephony support for 8 BRI and 64 FXS
Com.X2(P)-2P240S	IP PBX with telephony support for 2 PRI and 240 FXS

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Technical Specifications

Host Processing Platform				
CPU	Available options include: Dual Atom D510 1.8GHz			
Memory	2GB DDR2 standard			
Storage	Dual RAID 320GB SATA HDD			
I/O Ports	2 x GbE (Additional 2 x GbE ports via optional PCIe expansion card) 6 x USB 2.0, 1 x RS-232			
Operating System	Ubuntu Linux 8.04 LTS			
Telephony Interfaces				
	Primary Rate	Basic Rate	Analog (FXS)	Analog (FXO)
Voice Ports	30, 60, 90, 120, ... (E1)	8, 16, ...	4, 8, 16 ... 256	4, 8, 16 ... 256
Physical	RJ-45	4 / 8 x RJ-45	RJ-11	RJ-11
Electrical	E1/G.703 120Ω T1/G.703 100Ω	S/T TE or S/T NT (software selection)	Zone dependent, software programmable DC and AC characteristics. Balanced sinusoidal ringing (3 REN)	Zone dependent, software programmable impedance matching.
Protection	Power cross Inter-building	-	Power cross Inter-building	Power cross Inter-building
Conformance	TBR 4	TBR 3		Country-dependent
Voice Features				
Echo Cancellation	Hardware based G.165 type adaptive echo cancellation per channel Up to 64 channels at 16 ms or 32 ms Up to 32 channels at 64 ms			
Hardware CODECs	-	-	G.711 A-law or μ-law	G.711 A-law or μ-law
Software CODECs	G.711, G.726, iLBC, GSM G.729A (optional with license purchase)			
Fax and Modem	Packet-network synchronization and G.711 provide transparent fax/modem support			
Signaling				
Signaling System	ISDN PRI - ETSI ISDN PRI - NI-2 E1-CAS T1-CAS	ISDN BRI – ETSI ISDN BRI - NI-2	Loop-start DTMF	Loop-start DTMF
Other Features	Configurable network clock synchronization	Configurable network clock synchronization	Caller ID transmission Hook flash Distinctive ring	Caller ID reception
Packet Interfaces				
VoIP	SIP + RTP IAX2 + RTP			
Administration				
Management	Web based GUI, including platform backup and restore			
Logging	Log (with configurable levels)			
Field upgrade	Application and firmware remote upgrade from hosted repository			
Call Detail Records	MySQL database for CDR			
Physical Characteristics				
Power	220V, 50Hz & 12VDC, 5A via external AC/DC adapter (supplied)			
Environmental	0°C - 40°C			
Dimensions	427mm x 200mm x 43mm			
Mounting	Desktop, rack mount (mounting kit supplied)			
Certification				
Safety	IEC 60950-1:2001 & SANS 60950-1:2003			
EMC	CISPR 22 Class B (emissions) & IEC 61000-4-3 (immunity)			
Other	TBR 3, TBR 4, ICASA TE-001 (South Africa)			

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Refer to Com.X Product Overview and Com.X Administrators Guide for feature set specification, available at: <http://farsouthnet.com/support/manuals/>

Gateway Feature Set

The short list of features provided below is common across all Com.X(G) platforms:

SIP Gateway Features		
<ul style="list-style-type: none"> Remote Management: <ul style="list-style-type: none"> Monitoring & Diagnostics Backup and restore Call flow analysis 	<ul style="list-style-type: none"> Call Recording Manager: <ul style="list-style-type: none"> 60GB SSD: 300,000min (.wav) 320GB HDD: "near unlimited" 	<ul style="list-style-type: none"> Security: <ul style="list-style-type: none"> Firewall policy Access Control lists In/Outbound filter DMZ
<ul style="list-style-type: none"> Networking (DHCP, DNS, NTP, HTTP, VPN, SSH) 	<ul style="list-style-type: none"> Routing: Static, NAT, Forwarding, SIP ALG 	<ul style="list-style-type: none"> Budget Trunk routing (minutes/month based routing)
<ul style="list-style-type: none"> B2BUA mode 	<ul style="list-style-type: none"> SIP / (TCP or UDP) and IAX2 trunks 	<ul style="list-style-type: none"> QoS: ViBE management
<ul style="list-style-type: none"> SIP proxy registration 	<ul style="list-style-type: none"> Register 2 phones (emergency calls) 	<ul style="list-style-type: none"> T.38 fax
<ul style="list-style-type: none"> Trunk to Trunk routing 	<ul style="list-style-type: none"> Outbound route configuration (LCR) and multi-level trunk fail-over 	<ul style="list-style-type: none"> Diagnostics tools: SIPp and Wireshark
<ul style="list-style-type: none"> Fail2Ban security module 	<ul style="list-style-type: none"> Nagios: Platform monitor & Reporting 	<ul style="list-style-type: none"> Cause Code Translation

PBX Feature Set

Inclusive of the SIP Gateway features listed above, Com.X(P) PBX short list feature set includes:

PBX Features		
<ul style="list-style-type: none"> Analogue and IP phone configuration 	<ul style="list-style-type: none"> Announcements, Paging and Intercom 	<ul style="list-style-type: none"> Ring groups & Queues
<ul style="list-style-type: none"> IP-phone support: SNOM, Yealink, Polycom, Gigaset, Aastra and more... 	<ul style="list-style-type: none"> Music on Hold (uploaded and streaming) 	<ul style="list-style-type: none"> Outlook integration ("Click to Dial")
<ul style="list-style-type: none"> Yealink & Polycom IP Phone auto-configuration from spreadsheet 	<ul style="list-style-type: none"> Feature Codes & Pin Sets 	<ul style="list-style-type: none"> Ring Back indication
<ul style="list-style-type: none"> Unlimited voice mail & voice mail to email 	<ul style="list-style-type: none"> UPS (Proline) management 	<ul style="list-style-type: none"> Skype Connect
<ul style="list-style-type: none"> Conferencing 	<ul style="list-style-type: none"> Auto-attendant / IVR 	<ul style="list-style-type: none"> Follow me and Divert
<ul style="list-style-type: none"> Listening in on calls – "spy" feature 	<ul style="list-style-type: none"> Call back 	<ul style="list-style-type: none"> Hot-desk'ing
<ul style="list-style-type: none"> Parking lots & Directed Pick-ups 	<ul style="list-style-type: none"> Follow me and divert 	<ul style="list-style-type: none"> Blocking extensions & trunks, Call time limits
<ul style="list-style-type: none"> "Flexpath" routing: <ul style="list-style-type: none"> Class of Service Partitioning / Multi-tenant Trunk to trunk Gateway 	<ul style="list-style-type: none"> Inbound route configuration (Conferences, Day/Night, Ring Groups, Voice mail, IVR, Phonebook) 	<ul style="list-style-type: none"> Operator Panel (FOP2): 15 users free, unlimited users with license update
<ul style="list-style-type: none"> E-mail support (voice mail & alerts) 	<ul style="list-style-type: none"> Parking lots & Directed Pick-ups 	<ul style="list-style-type: none"> Call Barging
<ul style="list-style-type: none"> Voice mail blasting 	<ul style="list-style-type: none"> Immediate dialling 	<ul style="list-style-type: none"> Directory / Phonebook
<ul style="list-style-type: none"> Day / Night mode 	<ul style="list-style-type: none"> Directed Pickup 	<ul style="list-style-type: none"> Number transformation
<ul style="list-style-type: none"> DISA support 	<ul style="list-style-type: none"> HTTP Dialer ("Click to dial" integration) 	<ul style="list-style-type: none">