



Com.X1 is both a flexible and feature-rich Hybrid-PBX and IP-Gateway solution in a single 1U box.

Com.X1 provides a scalable and powerful telephony solution for small to medium installations.

Features

- 1U rack-mount or desk mount unit
- Seamless VoIP and legacy TDM telephony convergence
- Base system supports 1 x PRI, up to 4 x BRI, up to 16 x FXS/FXO ports, and 30+ VoIP extensions
- Seamless expansion by means of additional rack mount Comma iTA units and an Ethernet interconnect
- VoIP trunking: 16+ simultaneous SIP calls
- CODEC's: G.726, SPEEX, iLBC, GSM & G.729a
- I/O: 3 * LAN, 10/100Base-T Ethernet & 2 * USB2.0
- Sophisticated PBX feature set: Voice Mail, Call Recording, Auto-Attendant / IVR, Call Detail Records, Call Queuing, Conference, Music on Hold, Roaming Extensions, CTI, and many others
- Powerful IP-Gateway features: "FlexPath" call-routing, "behind PBX working" supports satellite offices
- Telephone Management System (TMS) support
- GUI web-based management - user friendly, install and configuration "wizard"
- Integrated GUI support for SNOM, Yealink, Atcom & Siemens Gigaset IP-phones
- Platform configuration backup and restore to external "devices" & collating of remote inventory
- Online updates from (Debian/Ubuntu based package management)
- License updates: IP-Gateway upgrade to full PBX feature set
- ICASA type approval

Com.X1 *the Complete Telephony Solution in a Box*

Data Sheet

Technical Specifications

Host Processing Platform

CPU	Via C7 1.5 GHz
Memory	1GB DDR2 standard
Storage	250GB SATA HDD / 8 GB Compact Flash (optional)
I/O Ports	3 x 10/100 Base-T LAN, 2 x USB 2.0, 1 x RS-232, VGA (optional)
Operating System	Ubuntu Linux 8.04 LTS

Telephony Interfaces (per unit)

	Primary Rate	Basic Rate	Analog (FXS)	Analog (FXO)
Voice Ports	30 (E1), 24 (T1)	8	4, 8, 16	4, 8, 16
<u>Note:</u> Telephony port expansion supported via connection of Comma iTA units				
Physical	RJ-45	4 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, SPEEX, 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

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VoIP	SIP + RTP IAX2 + RTP
Administration	
Management	Comma Proxy Manager (CPM) manages internal telephony hardware and all externally connected telephony adapters (Comma iTA)
Logging	Log (with configurable levels) is continuously spooled onto host server by CPM
Field upgrade	Application and firmware upgrade remotely over network
Call Detail Records	MySQL database for CDR
Physical Characteristics	
Power	12VDC, 5A via external AC/DC adapter (supplied)
Environmental	0°C - 40°C
Dimensions	427mm x 200mm x 43mm
Mounting	Desktop, 1U rack mount (mounting kit supplied)
Certification	
Safety	IEC 60950-1:2001 & SANS 60950-1:2003
EMC	CISPR 22 Class B
Other	TBR 3, TBR 4 (pending), ICASA TE-001 (S. Africa)

PBX Feature Set

The following is a list of features common across all Com.X1 platforms:

Feature	Description
Auto-Attendant (IVR)	"Press 1 to reach Banking, press 2 to reach opportunity desk...."
Voicemail	Standard voicemail that can be retrieved from telephone handset.
Voicemail-to-Email	Voicemail can be send to e-mail that can be retrieved whenever e-mail is downloaded. Standard *.wav sound-file.
Hot Desk	Multiple users can use one phone by logging in with a pin code.
Music-on-Hold	
Analogue & IP Phones	Supports both Analogue and IP phone extensions.
Ring-All (Blast Group)	Calls can ring at switchboard AND secretary AND station nurse.
Call Forwarding	Calls can be forwarded to ring at required destination if person is not available at normal extension.
Name Directory	"Enter the first 3 digits of the 1 st name of the person you wish to speak to"
Direct Incoming Dials	Calls straight through to switchboard
Routing by DIDs	Calls straight through to extensions
VoIP-Ready	An alternative means of communication is VoIP, where traditional PBX's often need a special adapter to be VoIP capable.
Remote Extensions/Employees	Can be connected to the system from any location providing there is internet availability.
Branch Office Support	Remote login support eliminates wasting time to solve problems
Conference Bridge	All remote parties can join into conference call facility from any location providing there is internet availability.
Extension Groups	More than one extension per department. All extensions can ring at the same time or as preferred.
Paging / Zone Paging	
Intercom/Zone Intercom	
Advanced Call Forwarding	Call forwarding activated from handset or done remotely on server by service provider
Call Return	If no answer or extension is busy
PSTN Fallback	In the event of ADSL failure, fallback to Telco trunk (FXO or ISDN) lines.
Call centre functionality	Unlimited Call Queues
Featured A.C.D	Automatic Call Distribution (calls may be routed to various queues depending on the client selecting options from an IVR)
Call Parking Area	A call can be parked and retrieved from anywhere within the building
Drag & Drop Call Control	On screen activity on all calls
Presence Management	Users can use a web-page to retrieve voicemails, and also set what actions to take if they are busy or unavailable
Group & User Permissions	Allow certain groups or users to have access to the Com.X1 configuration screen for routine tasks – this requires a trained person who will be involved in local Com.X1 support.
Shortcuts (Hotkeys)	* (Based on Handset)
Agent Login/Logout	Pin code per agent
Call Barging (active)	Current active calls can be interrupted in case of an emergency
Call Monitoring (passive)	On screen activity on all calls
Web Access to Recordings	Messages and call recordings can be accessed remotely.
On-the-Fly Recording	On-demand recording
Call forward on busy (follow-me)	Forward calls to cell phone or any required number
Call forward on no-answer (follow-me)	Forward calls to cell phone or any required number