Technical Specification

Compact PBX IP302

Interfaces

2 x Ethernet**:**	RJ-45, 10/100-BASE-TX auto negotiation Power over LAN (IEEE 802.3af) Both interfaces individually addressable LED display for activity and 100Mbit modus
2 x analog interface	international RJ-11 2 x LEDs for Link
1 x ISDN BRI	optionally configurable TE/NT mode LEDs for Link Step-by-step license registration
Compact Flash	prepared for Compact Flash Cards Type I

Hardware

Power supply:	Mains adapter (primary: 110-240 V, 50 Hz, secondary: 40V DC 375mA) or Power over LAN (IEEE 802.3af)
Memory:	16 MB DRAM, 8 MB Flash Remote firmware update
CPU:	RISC CPU for protocol processing Digital Signal Processor (DSP) for voice data processing for up to 4 channels
Operation environment:	Operation temperature 0°C to +45°C Humidity 10% to 90% non-condensing Storage temperature -10°C to +70°C
Housing:	210 x 134 x 32 mm Can be fitted in 19" equipment using an additional frame (optional), 1 height unit
Weight:	680 g

Voice over IP

total:	H.323 version 4 incl. H. 225, H.235, H.245 and RAS Gatekeeper routed signaling, H.450
	Session Initiation Protocol (SIP)
	RTP real time protocol
	RTCP real time control protocol
Fax over IP:	T.38 real time fax
H.323 Services:	H.450.1
	H.450.2 Call transfer
	H.450.3 Call diversion
	H.450.4 Call hold
	H.450.5 Call Pick-up
	H.450.6 Call waiting
	H.450.8 Name identification
	H.450.9 Call Completion busy (CCBS) and Call Completion no Reply (CCNR)
	H.450.11 Call Intrusion
RAS protocol:	support for external gatekeeper
DTMF:	H245 Alphanumeric or Signal Type
additional VoIP-Features:	H.245 fast connect
	En-block dialing
	Overlapped sending
SIP Services:	Basic Call (call, accept, hang-up)
	Digest-Authentication (registration und establish call)
	Hold / Retrieve
	Call Transfer
	Message Waiting Indication
	... following services are based on innovaphone PBX
	Call forwarding (CFU, CFB, CFNR)
	Broadcast-Group
	Pickup
Quality of Service:	TOS und DiffServ
	IEEE 802.1p / 802.1q
Voice Encoding:	G.711 A-law / µ-law (64 kbps),
	G.723.1 (5.3 and 6.3 kbps),
	G.729A (16 kbps)
	G.726 (32 kbps),
	VAD (Voice Activity Detection),
	CNG (Comfort Noise Generation),
	Dynamic Jitter Buffering
Echo Compensation:	G.168

Administration

Access:	via HTML/Web-Browser Password protected authentication
Troubleshooting:	Logs and Traces Status display of interfaces and connections PING SNMP Traps sending
Update:	Configuration recording/sending Boot code and firmware update via HTML upload Automatic update via Update-Server

Data routing

DSL:	PPPoE Manual/automatic connection after boot
VPN:	PPTP Tunneling Up to 32 tunnels simultaneously Encoding via MPPE
NAT:	for transformation of official IP Addresses into private IP Addresses and vice versa

additional IP Protocols

DHCP	dynamic host configuration protocol - IP interfaces settings
ICMP	Internet control message protocol - for Ping tests
SNMP	sending traps to the management software

Routing of Telephone connections

Connections	VOIP-ISDN, ISDN-ISDN, VOIP-VOIP
Re-Routing	configuration of alternative routes
Billing:	automatic Call Detail Records (CDR) generation

Calling Number Mapping

Automatic Dialtone generation European and US Standard

HTTP Interface	plays recorded messages deposed on a web server
ISDN Protocols	EDSS1, QSIG
QSIG-Interworking	QSIG ECMA V.2

Supplementary services

Call Transfer:	with consultation call
Call Hold / Retrieve:	with support of Music on Hold (MoH)
Call Waiting:	inclusive signaling of second call information
Calling Line Identification	with support of rerouted calls
Calling Name Identification:	Name display
3 party conference:	of internal and external subscriber
Pickup:	pickup calls for subscriber in the same group
DTMF:	DTMF tone generation and detection
Security:	Password protected configuration
General volume setting:	predefined volume setting for each device

Program interfaces

PBX-API:	SOAP API, XML interface for external software to control the PBX
TAPI	Microsoft Telephony API, access to supplementary services for Windows applications
VoIP-CAPI	Common–ISDN-API, ISDN compatible interface for applications (optional)
CDR	Call Detail Records, complete call information for billing software optional in HTTP or as Syslog simultaneously two target addressable

Additional functions

Multiple registrations	registration of one subscriber to multiple devices
	registration of multiple subscribers to one device
	especially for home office user, using the same extension for both locations
Phone book	provides central access to an external phone book database
	database access via LDAP
Location concept	integration of branch offices to the central PBX
	inclusive local breakout
	inclusive mapping of local numbers for emergency calls
Redundancy concept	multiple innovaphone PBX installations in a network
	inclusive external stand-alone phones
	takeover of standby PBX without losses
Rollout tool	central updates for different groups of devices in the network
Access control filter	free configurable for trunk access, for international call or special service number
	inclusive recursive filter to include other locations
Ring tone generation:	automatic ring tone generation related to the European or NA standard
DTMF:	H.245 alphanumeric or signal type
Security	password protected administration
	encrypted authorization with H.235
Music on Hold	internal or external via software interface or CD player (IP 21)
Waiting queue	multiple waiting queues simultaneously
	configurable time before call acceptance
	configurable announcement before call acceptance
Time:	exact time information via timeserver
	SNTP-Client & Server