



Aastra BusinessPhone Communication System

Are you ready for the improved mobility and cost savings of converged communication? BusinessPhone 8.1 from Aastra is an evolutionary step in the process of creating the best communication systems for small and medium-sized enterprises. Whether you need 8 or 250 extensions, you can benefit from high-quality, IP-based communication for voice, data and multimedia traffic.

A reliable, high-quality IP solution

The BusinessPhone IP solution lets you choose whether you want to use a combination of fixed, mobile or IP extensions, or switch over to a purely IP-based solution. Either way, BusinessPhone ensures that voice and stability are of premium quality, as always, and you can still enjoy all the PBX functionality of your current system. By evolving into IP, and integrating your voice and data networks, you'll experience a wide range of benefits. You can set up cost saving voice and video communication, and lower your telecom bill by using solutions like IP networking to connect remote branch offices via the corporate network. Plus, with simplified maintenance, and the ability to quickly implement moves and changes, a single converged network helps decrease the total cost of ownership of your communication system over the long term.

Function Table

Extension functions	
Name	Description
Abbreviated number dialing	Common and individual numbers
Account number	A number, such as a project code, may be keyed in before or during a call for call accounting purposes. As an option, verification of the code against a predefined list can be done, before the user gains access to the system.
Authorization code	By dialing special codes, extensions may be temporarily barred for calls, or class of service may be transferred to another extension
Alpha-tagging	The received/dialed number is analyzed and replaced with the name from a directory, which is presented on the telephone display.
Automatic call back (busy/free extension)	Callers to a busy or unanswered extension may book an automatic call back
Automatic call back (trunk/route)	Callers to a busy trunk or route may book an automatic call back
Automatic re-dial	Initiates automatic re-dial to an external number when busy or on no answer. Up to 5 numbers can be stored
Call list	Stores incoming and dialed numbers of the telephone.
Call metering	Displayed on the telephone display during and after an external call (actual call, last call and accumulated fee) Printouts are also available
Call pick-up	Calls to any extension can be picked up from other extensions (individual, group, common)
Call waiting indication	If dialed extension is busy, a special “call waiting” tone may be sent by the caller to indicate an important call
Camp on busy	Notifies a busy extension that a call is waiting
Conference	Up to six-way, internal and external
Conversation recording	Record a conversation in your own mailbox
Dictaphone function	Record memos in your own mailbox
Display indications	Telephone display can show information such as date and time, temperature, calling number and name, directory entries, and messages from other extensions
Diversion	Automatically diverts calls to another destination, internal or external (direct, on busy, or on no reply)
Dual line access	Allows a second call to be taken during the first call (which is put on hold)
Fax extension	Extensions can be programmed specifically to handle incoming faxes
Flexible CIL format	To be compatible with various Call Information Logging software products
Follow me	Users can request that their incoming calls are transferred to a designated internal or external number
Group (PBX-) hunting	A group of extensions may be called using a common group number. Calls may be distributed to free extensions in a predefined order
Hands-free	Loudspeaker and microphone for conversation without handset.
Hot line	May be initiated immediately or delayed by lifting the handset
Absence Information	All types of telephones can be used to leave voice or text information for callers while the user is absent
Intercom	Single-key, hands-free extension-to-extension calling with automatic answer
Intrusion	Authorized users can intrude into an ongoing call
Message system	Instant text, voice and call-back messages can be sent or forwarded from extension to extension.
Monitoring	Operator may monitor an external call while continuing to put through new calls
Outcall notification	The user can be notified that there is a new message in the voice mailbox with a call to a predefined external number. Messages can be retrieved immediately.
Parking	Ongoing calls may be temporarily parked for later retrieval or pick-up from another extension (common or individual)
Personal greeting	A personal greeting can be recorded in the voice messaging system.
Private trunk line	Provides access only to nominated extensions
Recall	After a predetermined time, calls that have been parked, camped on or transferred without answer recall the initiating extension

Extension functions

Name	Description
Reminder service	Users may set time for reminder, at which the extension gives a special ringing tone
Save/redial	Dialed or incoming numbers are stored for quick call back of incoming answered calls.
Secretary function	Includes direct call, busy indication, call pick-up, intercom and diversion
Supervision	Users may monitor individual directory numbers to determine status, answer incoming calls or call the monitored party
Telephone directory	For internal and external numbers
Transfer	Before or after answering
Unified Messaging	Integration of voice message system, fax and e-mail service

System functions

Name	Description
Alarm function	Allows an alarm signal to be sent from a telephone with a connected Alarm Interface Unit (AIU) to a predefined extension for instance, from a hotel room to the concierge
Answer position(s) for trunks	Re-routing on busy or no answer
Automatic time synchronization with ISDN	Synchronizes with the time information received from public ISDN to enable automatic change of summer/winter time (daylight saving time)
Background music	Music from an external source may be played through phone speakers
Bypass call diversion and follow me	A specific code may be dialed to bypass call forwarding
Call charge control	Individual extension call metering and central call information logging
Class of service to extensions	Varying levels of restriction on access to functions and traffic authorization may be assigned to extensions
Common bell	All extensions may pick a call from an extension that has been predefined as a common bell extension
Computer Telephony	Full-featured CT support according to industry standards (TSAPI, TAPI)
Diagnostic functions	Built-in diagnostic facilities, accessible by using a local PC or via a modem
Directory Service directories	Computer Telephony function to search and retrieve information from external (e.g. LDAP)
Differentiated ring and tone signals	Indicate, for example, whether call is internal, external or call back
Direct In Dialing (DID)	If offered from the network operator
DISA	Enables external dial in with access to all services
Door phone (optional)	One or more extensions may be used to monitor the entrance to premises and control the door lock remotely
Fictive numbers	Up to 1000 logical extension numbers in up to 16 groups, to support hot desking, recognition of incoming call type, fax server applications, etc.
Flexible numbering plan	Up to eight digits with number translation
Integrated Application Server	Integrated BusinessPhone server hosting BusinessPhone applications (e.g. BackStage, BP Management Suite). Applications are pre-installed and pre-configured
ISDN basic functions	BA, PRA, S-interface, T-interface
ISDN supplementary services	CLIP, CLIR, COLP, COLR, DDI, MCID, AOC, MSN, SUB, CF/PR
IP networking	Corporate networking to carry internal voice calls over a private local or wide-area IP network (LAN or WAN).
IP telephony	Integration of Aastra IP-Telephones, BackStage iClient or 3rd party IP clients
IP trunking	Transmission of Voice-over-IP (VoIP) between Local Access and Transport Areas (LATAs) and between countries by long distance carriers around the globe
Least Cost Routing	Automatic selection of the cheapest route in the network
Mobile Extension	Extends features such as transfer, inquiry, monitoring, dialing via CT-application, etc. to a mobile phone

System functions	
Name	Description
Mobile Messaging	Messaging for mobile devices based on SMS. Includes functions like Message Waiting Notification, Meeting Reminder, Send and retrieve via BackStage
Music on hold	From internal or external sources, up to 13 channels, which can be assigned to different groups, based on extension, PBX groups or ACD groups
Networking	Corporate networking of BusinessPhone and MX-ONE systems via analog, digital ISDN and IP lines
Night service	Re-routing of calls during restricted hours
Advanced Operator functions	Identification, parking loops, queue indication, serial calls, metered calls, etc.
PBX groups with parallel or serial distribution	Up to 20 extensions per group, and up to 16 groups per system
PBX group flexible display	PBX group members can have different caller information (first called party, calling party or PBX group name and number) on the display, depending on requirements
Power failure circuit	For battery backup
Pre-recorded voice announcements	For voice mail and absence information
Programming of system parameters via service terminal	Basic system configuration via PC
Remote configuration, service and Suite maintenance	Via built-in V.24 modem or Internet connection. Web browser based Management allows remote system changes and upgrades monitoring, fault analysis and correction
Re-routing	On busy or no answer
Route Optimization	The Corporate Network Route Optimization service gives the possibility to optimize the usage of trunk routes in private networks containing BusinessPhone and MX-ONE systems.
SIP Trunking	Access to an Internet Service Provider SIP based Business Trunking service via Aastra's BRI/PRI SIP Media Gateway
Software-based licensing	Functions and applications can be enabled centrally through a software-based license. Free reference users are available permanently. In addition to a fully open 60-days trial period.
Tandem configuration	A wired (desktop) phone and a cordless (portable) phone or a mobile extension are treated as one logical unit
Tariff calculation	Makes it possible to set up a tariff structure, including your margin, for guests using your telephony system, independent of whether the network operator sends pulses or real costs to the PBX
Tone (DTMF) and pulse dialing	Internal and external
Traffic matrix	Individual control over extension and trunk line access for internal calls
Trunk Call Discrimination	Several levels of restriction on external calling from extensions

Reference users and trial period

A wide range of BusinessPhone solutions are available. In order to get familiar with the features the following functions are permanently available in every BusinessPhone system. In addition a 60-days trial period is available where all functions are available – unlimited.

	Free reference users	60 days trial period
Mobile Extension	2	100
Unified Messaging	2	200
BackStage	2	80
Computer Telephony	80 (=max) **	-
IP telephony	-	12 channels per board*
Networking	Full	Full unlimited
Gateway	-	Open
BusinessPhone Extension Assistant	10	250
Call Center Assistant	2	40

* The free trial period for IP telephony ends after 28 days

** Computer Telephony is standard in every new BusinessPhone system.

The table below is based on typical business configurations, i.e. it can be used as an average.
The actual limitations may differ to some extent, depending on the configuration.

Capacity	BPC*	BP50	BP128i	BP250	Modularity
Extension capacity (theoretical)	300	300	300	300	-
Digital extensions	40	64	128	200 (300 for Hotel systems)	8/16/32
Analog extensions	20	32	128	200 (300 for Hotel systems)	4/8/16
Cordless extensions	64	64	64	210	as per FECU
Mobile extensions	55	100	100	100	5
Operators	3	3	3	3	1
S-Interface terminals	32 (4x 2B+D)	64 (8x 2B+D)	128 (16x 2B+D)	192 (24x 2B+D)	4/8
H.323 clients	128	200	200	200	
CT monitored extensions	80 (Office) 40 (Call Center)	80 (Office) 40 (Call Center)	80 (Office) 40 (Call Center)	80 (Office) 40 (Call Center)	
Trunk Capacity (theoretical)	38	120	120	120	-
Trunk Capacity (typical)	4	30	60	60	-
Analog trunks	8	16	32	60	4/8
Digital trunks PRA	30 (1x 30B+D)	30 (1x 30B+D)	60 (2x 30B+D)	60 (2x 30B+D)	30
Digital trunks with CAS	30 (1x 30B+D)	30 (1x 30B+D)	60 (2x 30B+D)	60 (2x 30B+D)	30
Digital trunks BA	8 (4x 2B+D)	16 (8x 2B+D)	32 (16x 30B+D)	48 (24x 2B+D)	8/16
S-Interface channels	8 (4x 2B+D)	16 (8x 2B+D)	32 (16x 30B+D)	48 (24x 2B+D)	8/16
H.323 trunks	16	32	60	60	4
VoIP channels	16	32	64	64	4/8
Analog tie lines	8	8	16	56	4/8
Base stations	12	12	12	60	1
Free slots for PBAs (except CPU-Dx)	1 **	4	4 + 5	8 + 9 + 9	-
RJ45 sockets available	N/A	N/A	72 + 72	N/A	-

* BPC can be expanded to BP50 capacity by means of the BPC Upgrade License.

** BPC basic configuration includes CPU-D5C and MFU

System cabinet	BP50 / BP Compact	BP128i	BP250
Cabinets, wall-mounted	1	1 or 2	up to 3
Dimensions (HxWxD)	500x400x155mm	125x483x396mm	435x260x300mm
Weight (fully equipped)	13 kg	14,5 kg	19,2 kg



Technical data

Power supply

- **Mains supply:** 110–127VAC $\pm 10\%$, or 220–240VAC $\pm 10\%$
- **Emergency power supply** (battery): –48VDC +8V/–5V

Analog trunk lines

- **Max. line resistance:** 2000 Ohms at –48VDC
- **Make/break ratio:** 33/67ms or 40/60ms
- **DTMF signaling:** ITU-T Q.23/Q.24

Digital trunk lines

- **Channel associated signaling** (CAS) 2Mbit/s interface according to ITU-T G.703 and G.704
- **CAS R2 according to** ITU-T Q.421-424
- **ISDN interfaces according to** ITU-T I.430 (BA), I.431 (PRA), I.440, I.450, I.441, I.451, G.703 (PRA), G.704 (PRA), ETSI CTR3 (BA) and CTR4 (PRA), and Australia specifications

Integrated Application Server (IAS)

- **Operating System:** Windows Server 2003 Embedded Telecom Edition
- **Processor:** Embedded Industrial PC

IP Telephony

- Interfaces: Ethernet 10/100BaseT
- Protocols: IPv4, BOOTP, coding of speech packets according to RTP, DHCP, TCP, UDP, FTP, H.323 v4 incl. Annex M.1, H.225 and H.245, Gatekeeper – Gatekeeper signaling with Location Request procedure
- Voice support: up to 12 gateway calls per IPU
- Voice coder: G.711, G.723.1, G.729ab
- Quality of Service support: queuing prioritization, Type of Service (TOS). DiffServ according to RFC 2474
- Support for IP clients, Networking over IP, IP loop trunking

Environmental Performance

Environmental Declaration

BusinessPhone complies with the standard TR/70 issued by Ecma International – European association for standardized information on communication systems, which are defined as being critical to a product being judged as environmentally sound.



Networking

- Common corporate numbering plan: coordinated, location code based or mixed
- Definition of up to 1000 corporate network nodes
- Corporate network routing with first choice and up to three alternative route choices
- Enhanced set of telephony features via the network

ISDN access

- Basic Rate (2B+D, 144kbit/s)
- Primary Rate (30B+D, 2Mbit/s) Interfaces:
- Q interface (leased-line QSIG)
- T interface (switched public ISDN line with DSS1)

Analog extensions

- Max. loop resistance (incl. telephones) 2500 Ohms
- Current feed: 2x400mA, –48VDC, or 2x800mA, –48VDC
- Impulse speed: 10Hz ±10%
- Make/break ratio: 33/67ms or 40/60ms
- DTMF signaling: ITU-T Q.23
- Timed break of loop: 80–120ms
- Leakage resistance: 40 kOhms

Digital extensions

- Max. line length: 800m with 0.5mm diameter cable

ISDN S-interface

According to ETSI and Australia recommendations, supporting:

- Group 4 fax
- PC with ISDN board
- PC with ISDN board and telephone
- Terminal adapter
- Videophone
- ISDN telephone

Bearer services supported include:

- speech
- unrestricted 64kbit/s
- Unrestricted digital information (with tones/ announcements, 7 kHz)
- 3.1 kHz audio
- Video

Supplementary services supported include:

- Transfer
- Hold
- Suspend

Maximum range:

- Short passive bus: up to 250m
- Extended passive bus: up to 500m

Environmental

Operating temperature:	+5°C to +40°C
Relative humidity:	15–80%
Electrostatic discharge:	>8kV at 30% humidity, complies with IEC 801-2

System programming

- Local programming via V.24 (RS-232) interface
- Web-browser based Management Suite for local (via V.24 or LAN connection) or remote (via built-in) (V.22 modem or Internet connection) configuration, O&M and upgrades

EMC Standards Compliance

Emission: EN 55022 Class A/Class B

Immunity: EN 55024

Regulative Compliance Information: Hereby, Aastra Telecom Sweden AB declares that BusinessPhone BP250, BP50 and BP128i are in conformity with the essential requirements and other relevant provisions of EU directive 1999/5/EC

Digital corporate networking (QSIG standards)

Basic Call Control

ETS 300 172/ISO 11572, ISO 11574 GFP (within the scope of the supported supplementary service listed below) ETS 300 239/ISO 11582 Supplementary services

CLIP, COLP, CLIR: ETS 300 173/ISO 14136

CNIP, CONP, CNIR: ETS 300 238/ISO 13864, 13868

AOC: ECMA 211/212

Protocol compliance

Layer 1: ETS 300 011/ETS 300 012

Layer 2: ETS 300 170

Layer 3: ETS 300 172