

BLF(Busy Lamp Field) Function for Asterisk Free-PBX



AddPac

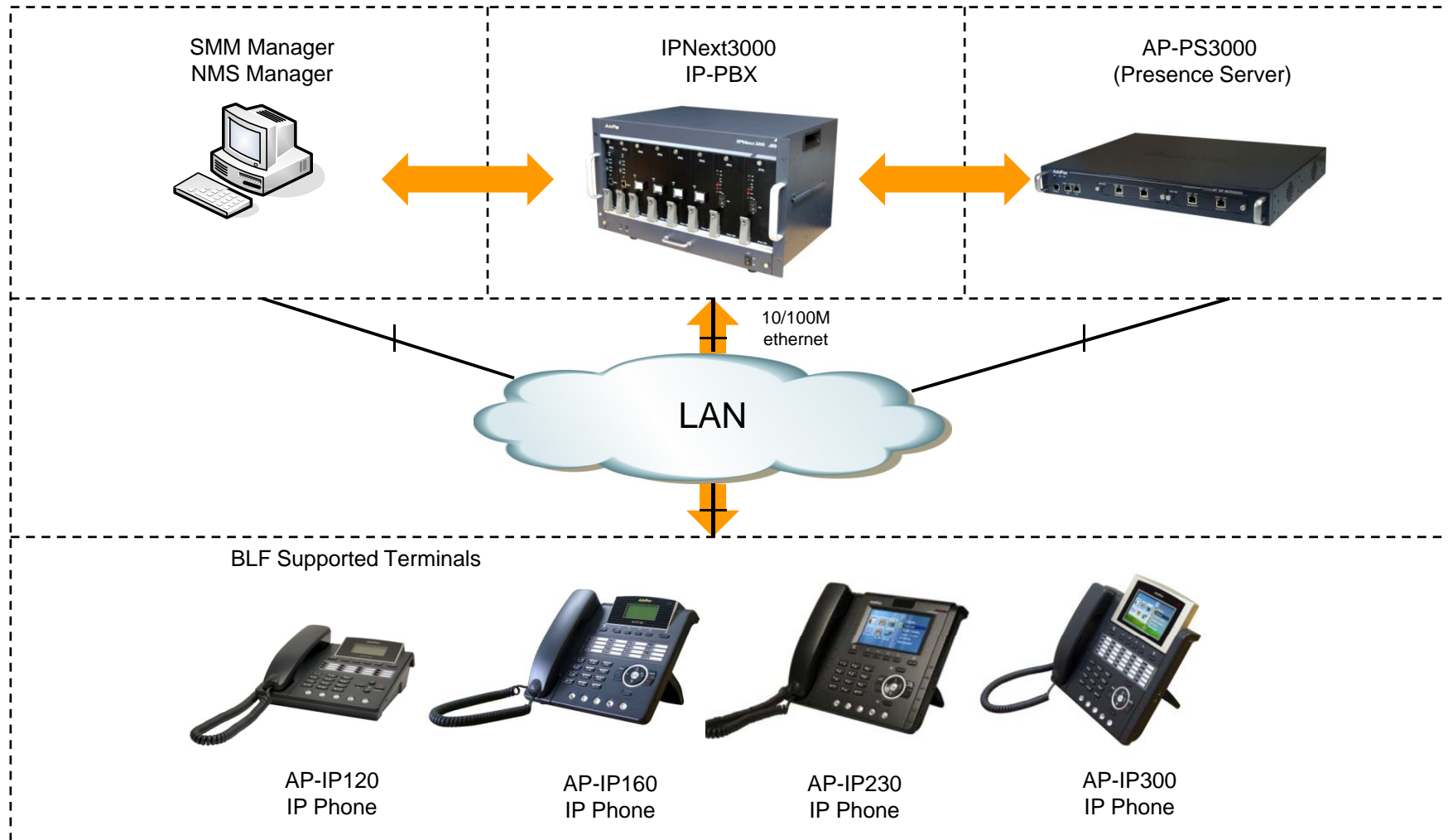
AddPac Technology

2011, Sales and Marketing

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BLF Service Diagram



BLF IP-Phone Example (1/2)



BLF IP-Phone Example (2/2)

- **BLF (Busy Lamp Field)**

The Busy Lamp Field (BLF) feature allows you to program a key that monitors whether or not another user is on a call.

The BLF Key also acts as a Speed Dial key to the monitored user's number, and as a Call Pickup key on behalf of the monitored user.

The appearance of the LED indicator for the BLF key is as follows:

Line Status	BLF Indicator	Description
Idle (On hook)	Off	The user being monitored is not on a call, nor dialing a call. The BLF key can be used as a speed dial key to the monitored user.
Off hook/Outgoing call	Solid Red	The monitored user is in the process of placing a call. The BLF key can be used as a speed dial key to the monitored user.
Incoming call	Flashing Red	A call is incoming for the monitored user. Press the BLF key to pick up the call on behalf of the monitored user.
Connected call	Solid Red	The incoming call has been answered by the monitored user. The BLF key can be used as a speed dial key to the monitored user.

BLF Protocols

- **RFC 4235 – Dialog Event Package**

RFC 4235 defines the mechanism for an endpoint to subscribe to the state of any dialog involving another endpoint. RFC 4235 is an instantiation of the SIP Specific Event Notification Framework (RFC 3265) and defines the dialog event package. It also defines the behavior of the device (subscriber) and the Application Server in the context of subscriptions to the dialog event package.

- **RFC 4662– Resource Lists**

RFC 4662 defines an aggregating mechanism that allows for subscribing and notifying for a list of resources. This is useful in the context of the Attendant Console application whether the device needs to subscribe to a large number of resources.

- **Compatibility**

- AddPac IP-PBX
- Asterisk IP-PBX
- BroadWorks IP-PBX

WEB for BLF(1/2)

AddPac | **VoiceFinder IP120**

System
Network
Phone Book
VoIP
SIP
Service
Auto Upgrade
Status

DTMF Relay mode
 Default(rtpband)
 via RTP(RFC2833)
 via Signal(out-of-band)
 via H.245 alphanumeric(H.323 only)
 Dual(both RTP & Signal)
 INFO(SIP INFO)
 SIP INFO of Cisco style
 Enblock INFO

Local Ringback tone
 Disable
 Enable Local ringback
 Enable Local ringback tone on receiving ALERT
 Enable Local ringback tone on sending SETUP(pseudo)

Timer
30 fxs-reorder-duration : 0-3600 default:30 (secs)
30 fxs-linelock-duration : 0-3600 default:30 (secs)
10 initial-digit-timeout value : 1-600 default:10 (secs)

Feature Code
****** Direct Pickup :
*8
*72 Call Forward
*73 Call Forward
1001

Feature Code for BLF
- A call is incoming for the monitored user. Press the BLF key to **pick up** the call on behalf of the monitored user.
- The phone calls to IP-PBX with a called number (Feature Key + monitored user's phone number).

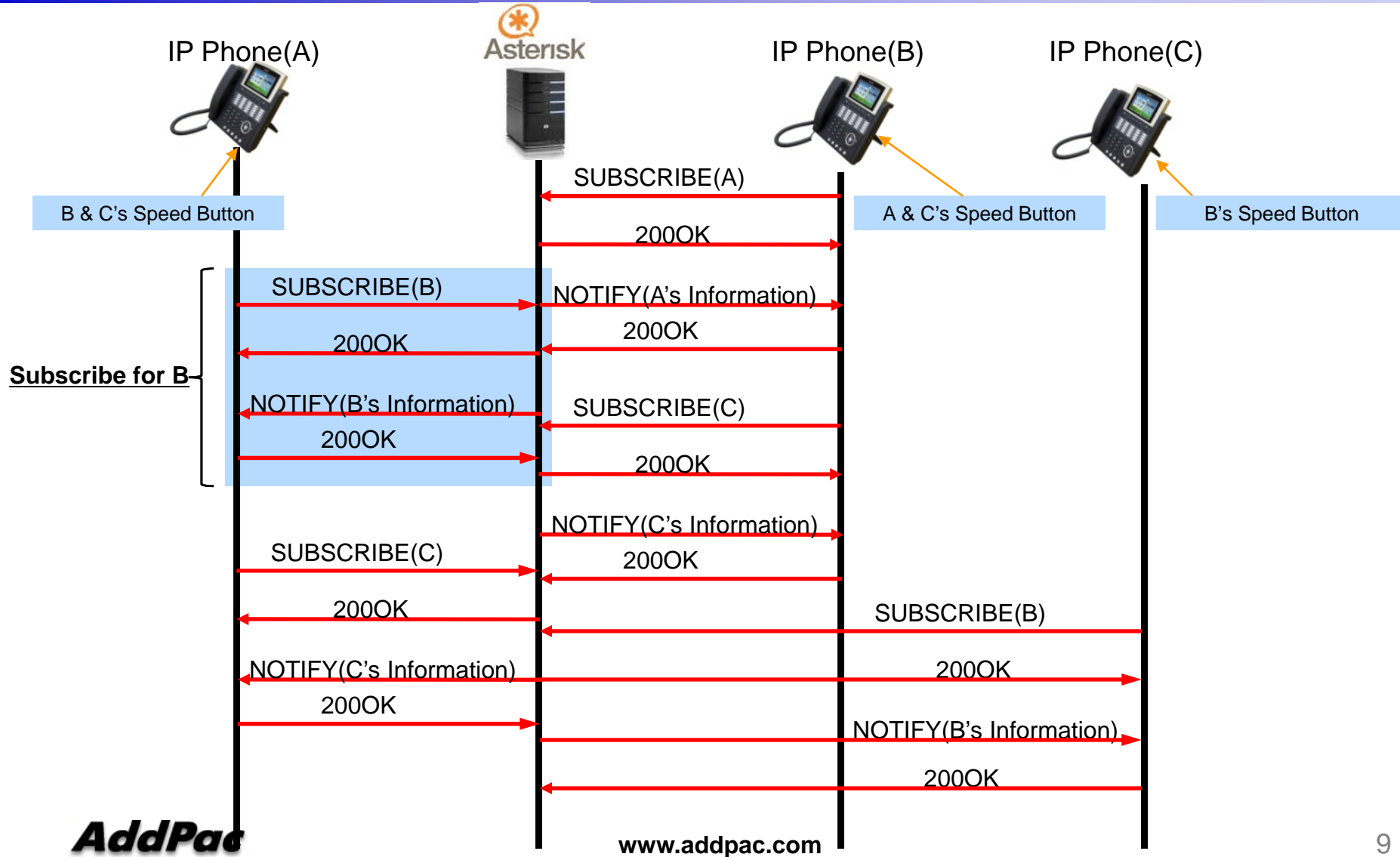
WEB for BLF(2/2)

The screenshot displays the AddPac VoiceFinder IP120 web interface. The top navigation bar includes the AddPac logo and the title 'VoiceFinder IP120'. A left sidebar contains a menu with options: System, Network, Phone Book (highlighted with a red dashed box), VoIP, SIP, Service, Auto Upgrade, and Status. The main content area is titled 'Phone Book Information' and features a table with three columns: 'Button Index', 'Phone Number', and 'Name'. The table contains 12 rows. The first three rows are populated with data: (1, 4005, ohs), (2, 4006, cbg), and (3, 4010, abc). The remaining rows (4-12) are empty. A yellow callout box with a black border and a pointer to the table contains the text 'User can edit BLF keys for the motoring users.' Below the table is an 'update' button.

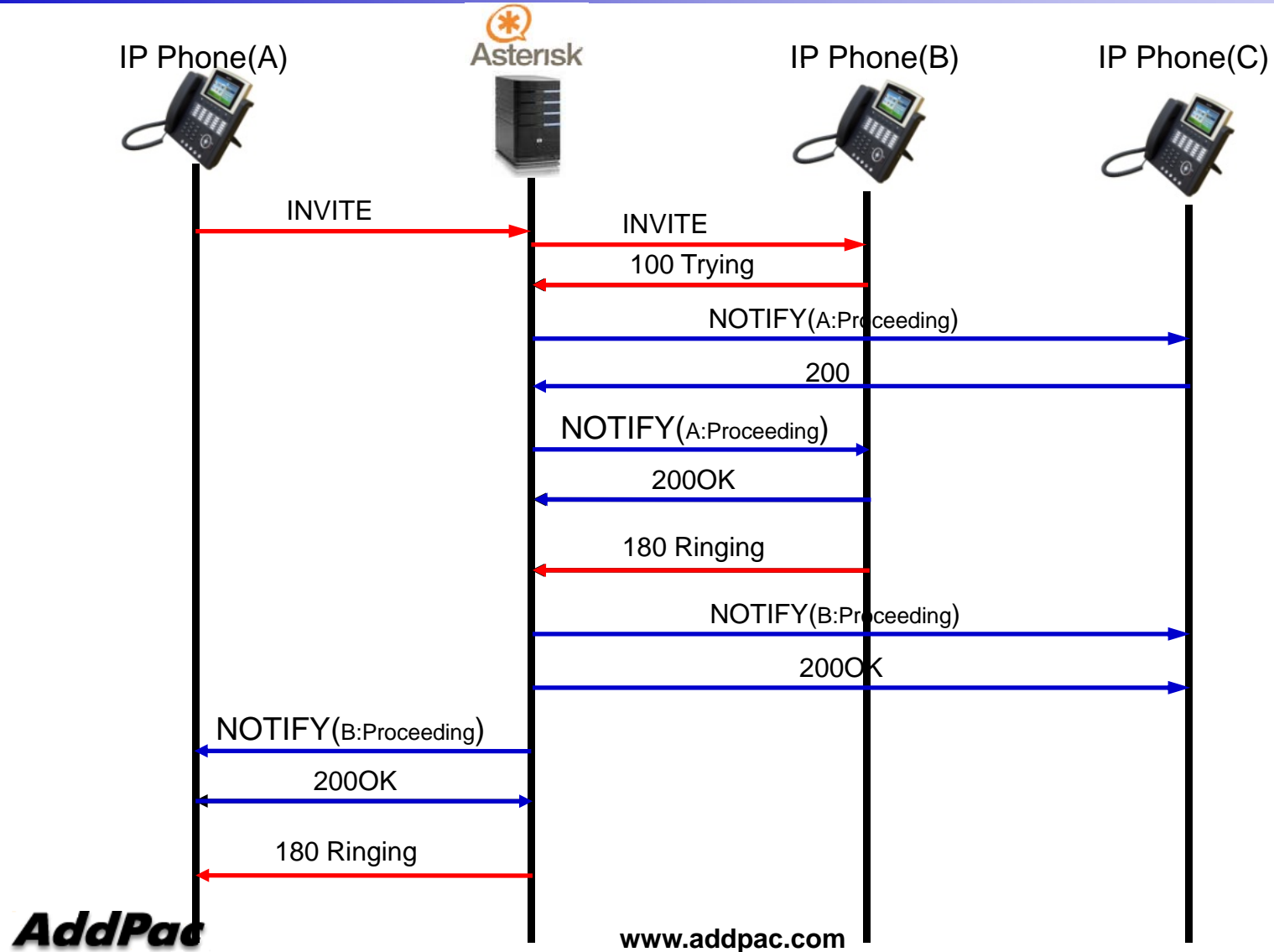
Button Index	Phone Number	Name
1	4005	ohs
2	4006	cbg
3	4010	abc
4		
5		
6		
7		
8		
9		
10		
11		
12		

update

BLF Message Flow Example(1/2)



BLF Message Flow Example(2/2)



BLF Message Example(1/2)

SUBSCRIBE sip:4010@172.16.60.177 SIP/2.0
Via: SIP/2.0/UDP
172.16.9.16:5060;branch=z9hG4bKba4d6e05a410
From: <sip:4008@172.16.60.177>;tag=ba4d6e05a4
To: sip:4010@172.16.60.177
Call-ID: ba731e4d-03a1-6eec-8005-0002a4ffff18@172.16.9.16
CSeq: 10 SUBSCRIBE
Date: Sat, 01 Jan 2011 00:24:42 GMT
User-Agent: AddPac SIP Gateway
Contact: <sip:4008@172.16.9.16>
Accept: application/dialog-info+xml
Expires: 180
Event: dialog
Content-Length: 0
Max-Forwards: 70

NOTIFY sip:4008@172.16.9.16 SIP/2.0
Via: SIP/2.0/UDP
172.16.60.177:5060;branch=z9hG4bK07b39dd0
Max-Forwards: 70
From: sip:4010@172.16.60.177;tag=as677b750c
To: <sip:4008@172.16.60.177>;tag=ba4d6e05a4
Contact: <sip:4010@172.16.60.177:5060>
Call-ID: ba731e4d-03a1-6eec-8005-0002a4ffff18@172.16.9.16
CSeq: 103 NOTIFY
User-Agent: FPBX-2.9.0(1.8.3.2)
Subscription-State: active
Event: dialog
Content-Type: application/dialog-info+xml
Content-Length: 203

```
<?xml version="1.0"?><dialog-info
xmlns="urn:ietf:params:xml:ns:dialog-info" version="1"
state="full" entity="sip:4010@1
72.16.60.177"><dialog id="4010"><state>terminated</state>
</dialog>
</dialog-info>
```

BLF Information for '4010'

BLF IP Phone Comparison Table

	AP-IP300 	AP-IP230 	AP-IP160 	AP-IP120 	AP-IP90 
LCD Size	4.3 Inch Color LCD	5 Inch Color LCD	4 Text Line Graphic LCD	4 Text Line Graphic LCD	4 Text Line Graphic LCD
Touch Screen	N/A	Support	N/A	N/A	N/A
Speed-Dial Keys	25 Key with Presence LED	Touch Screen based 25 Keys	16 Key with Presence LED	12 Key with Presence LED	N/A
Voice Codec	G.711/G.726/ G.729/G.723	G.711/G.726/ G.729/G.723	G.711/G.726/ G.729/G.723	G.711/G.726/ G.729/G.723	G.711/G.726/ G.729/G.723
Signaling	H.323/SIP	H.323/SIP	H.323/SIP	H.323/SIP	H.323/SIP
3-Party Conversation	Support	Support	Support	Support	Support
LAN Port	2	2	2	2	2
PoE(Optional)	Support	Support	Support	Support	Support
FXO(Optional)	Support	Support	Support	Support	Support



AP-IP300 IP Phone

IP Phone

AP-IP300 Premium IP Phone

Main Features

- 4.3 Inch Color LCD Display
- 25 Speed-Dial Keys with User Presence LED
- 4 Soft Key for Call Control
- Various Function Keys
- H.323/SIP Concurrent VoIP Signaling Stack Embedded
- High-performance Voice Codec Support
 - G.711/G.726/G.729/G.723, etc
- Two(2) 10/100Mbps Fast Ethernet (IP Share ,etc)
- High Quality Speaker Phone Features (Acoustic Echo Canceller)
- Powerful Network Protocols (PPPoE, DHCP, Static Routing, etc)
- Firmware Upgradeable Architecture
- VPMS (VoIP Plug&Play Management System) for Large Scale Deployment
- Advanced Voice QoS Mechanism

IP Phone

AP-IP300 Premium IP Phone

RISC
CPU

High-end
DSP

Hardware Specification

- RISC Microprocessor Computing Power
- 4.3 Color LCD
- 25 Speed Dial Keys with User Presence LED
- High-end Programmable DSP Hardware Architecture
- High quality Audio and Voice Interface
 - Stereo Audio Input & Output Connector
- Network Interface
 - Two(2) 10/100Mbps Fast Ethernet
 - One(1) USB 1.0 Interface
- PSTN Interface
 - One(1) FXO(RJ11) interface
- Power Supply
 - *External DC adaptor (5V)*
 - *Power Switch*
 - *PoE (Power over Ethernet)*

IP Phone

AP-IP300 Premium IP Phone

RISC
CPU

High-end
DSP

Hardware Specification



AddPac

www.addpac.com

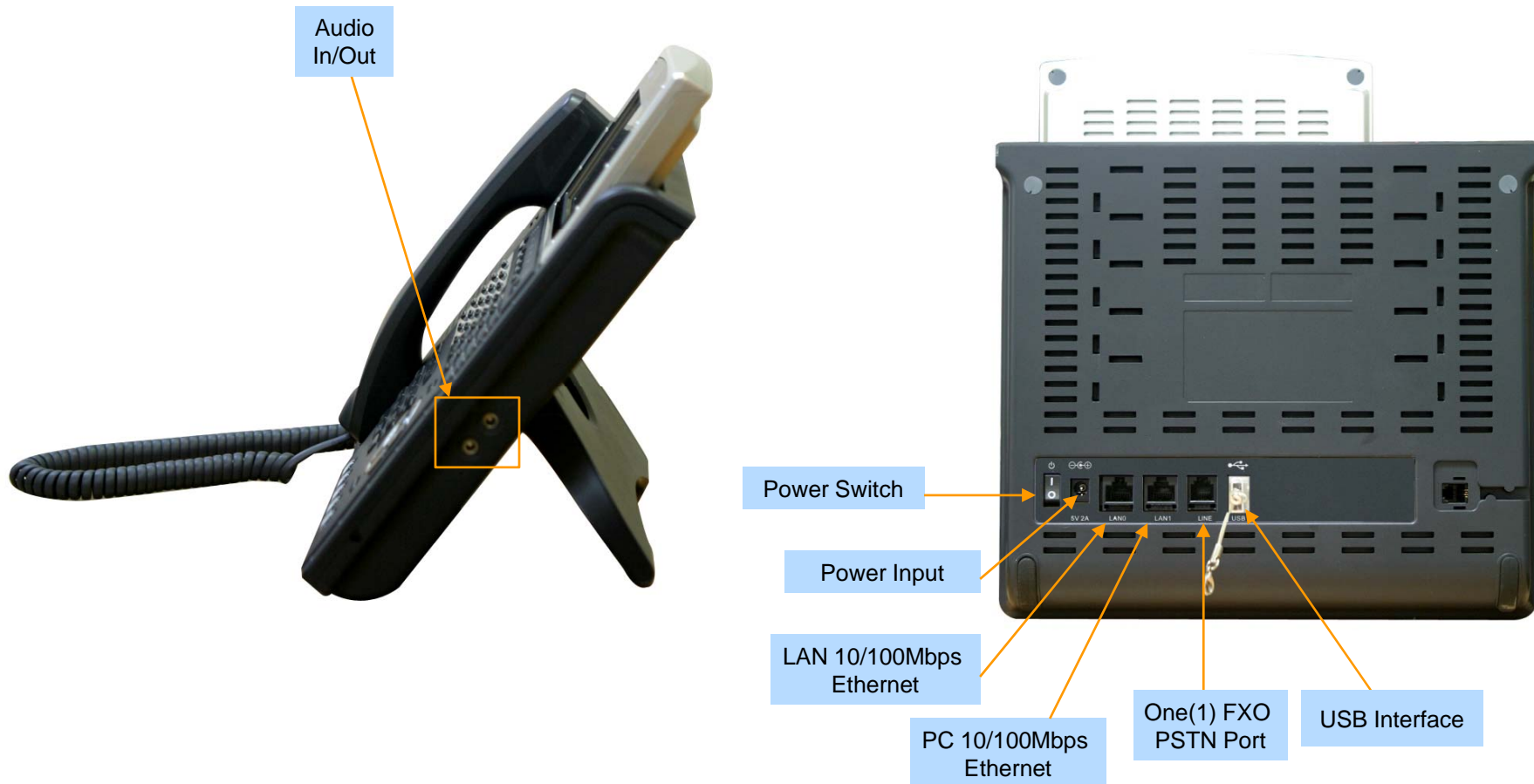
IP Phone

AP-IP300 Premium IP Phone

RISC
CPU

High-end
DSP

Hardware Specification





AP-IP230 IP Phone

IP Phone

AP-IP230 Premium IP Phone

Main Features

- 5 Inch Color LCD Display, Touch Screen
- Touch Screen based 25 Speed-Dial Keys
- 4 Soft Key for Call Control
- Various Function Keys
- H.323/SIP Concurrent VoIP Signaling Stack Embedded
- High-performance Voice Codec Support
 - G.711/G.726/G.729/G.723, etc
- Two(2) 10/100Mbps Fast Ethernet (IP Share ,etc)
- High Quality Speaker Phone Features (Acoustic Echo Canceller)
- Powerful Network Protocols (PPPoE, DHCP, Static Routing, etc)
- Firmware Upgradeable Architecture
- VPMS (VoIP Plug&Play Management System) for Large Scale Deployment
- Advanced Voice QoS Mechanism

IP Phone

AP-IP230 Premium IP Phone

RISC
CPU

High-end
DSP

Hardware Specification

- RISC Microprocessor Computing Power
- 5 Inch Color LCD with Touch Screen
- High-end Programmable DSP Hardware Architecture
- High quality Audio and Voice Interface
 - Stereo Audio Input & Output Connector
- Network Interface
 - Two(2) 10/100Mbps Fast Ethernet
 - One(1) USB 1.0 Interface
- PSTN Interface
 - One(1) FXO(RJ11) interface
- Power Supply
 - *External DC adaptor (5V)*
 - *Power Switch*
 - *PoE (Power over Ethernet)*

IP Phone

AP-IP230 Premium IP Phone

Hardware Specification

RISC
CPU

High-end
DSP

5 Inch
LCD with Touch
Screen



AddPac

www.addpac.com

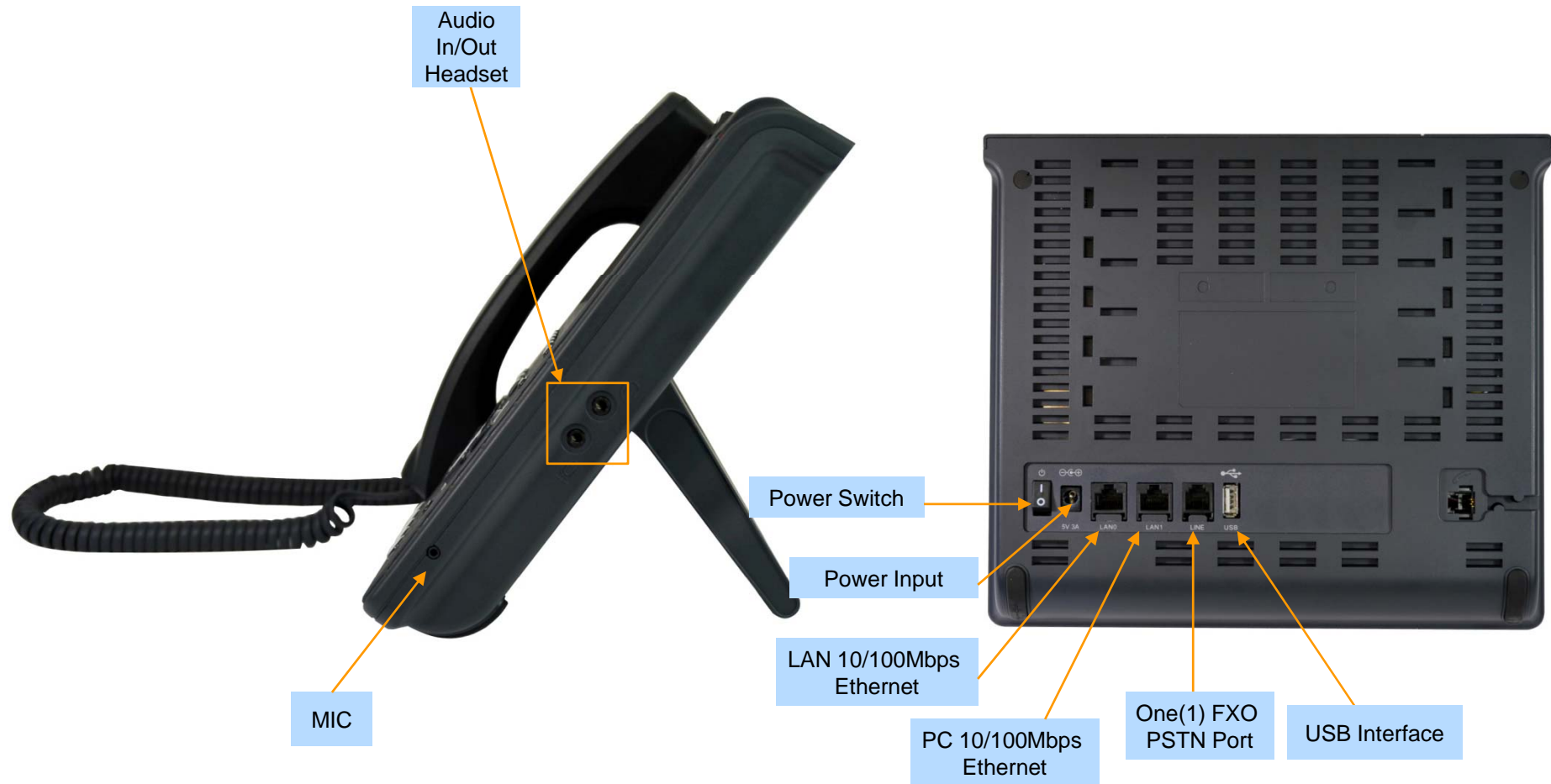
IP Phone

AP-IP230 Premium IP Phone

RISC
CPU

High-end
DSP

Hardware Specification





AP-IP160 IP Phone

IP Phone

AP-IP160 IP Phone

Main Features

- 4 Text Line Graphic LCD Display
- 16 Speed-Dial Keys with User Presence LED
- 4 Soft Key for Call Control
- Various Function Keys
- H.323/SIP Concurrent VoIP Signaling Stack Embedded
- High-performance Voice Codec Support
 - G.711/G.726/G.729/G.723, etc
- Two(2) 10/100Mbps Fast Ethernet (IP Share ,etc)
- High Quality Speaker Phone Features (Acoustic Echo Canceller)
- Powerful Network Protocols (PPPoE, DHCP, Static Routing, etc)
- Firmware Upgradeable Architecture
- VPMS (VoIP Plug&Play Management System) for Large Scale Deployment
- Advanced Voice QoS Mechanism

IP Phone

AP-IP160 IP Phone

RISC
CPU

High-end
DSP

Hardware Specification

- RISC Microprocessor Computing Power
- 4 Text Line Graphic LCD
- Navigation Key for Menu Search
- High-end Programmable DSP Hardware Architecture
- High quality Audio and Voice Interface
 - Stereo Audio Input & Output Connector
- Network Interface
 - Two(2) 10/100Mbps Fast Ethernet
- PSTN Interface
 - One(1) FXO(RJ11) interface
- Power Supply
 - *External DC adaptor (5V)*
 - *Power Switch*
 - *PoE (Power over Ethernet)*

IP Phone

AP-IP160 IP Phone

RISC
CPU

High-end
DSP

Hardware Specification



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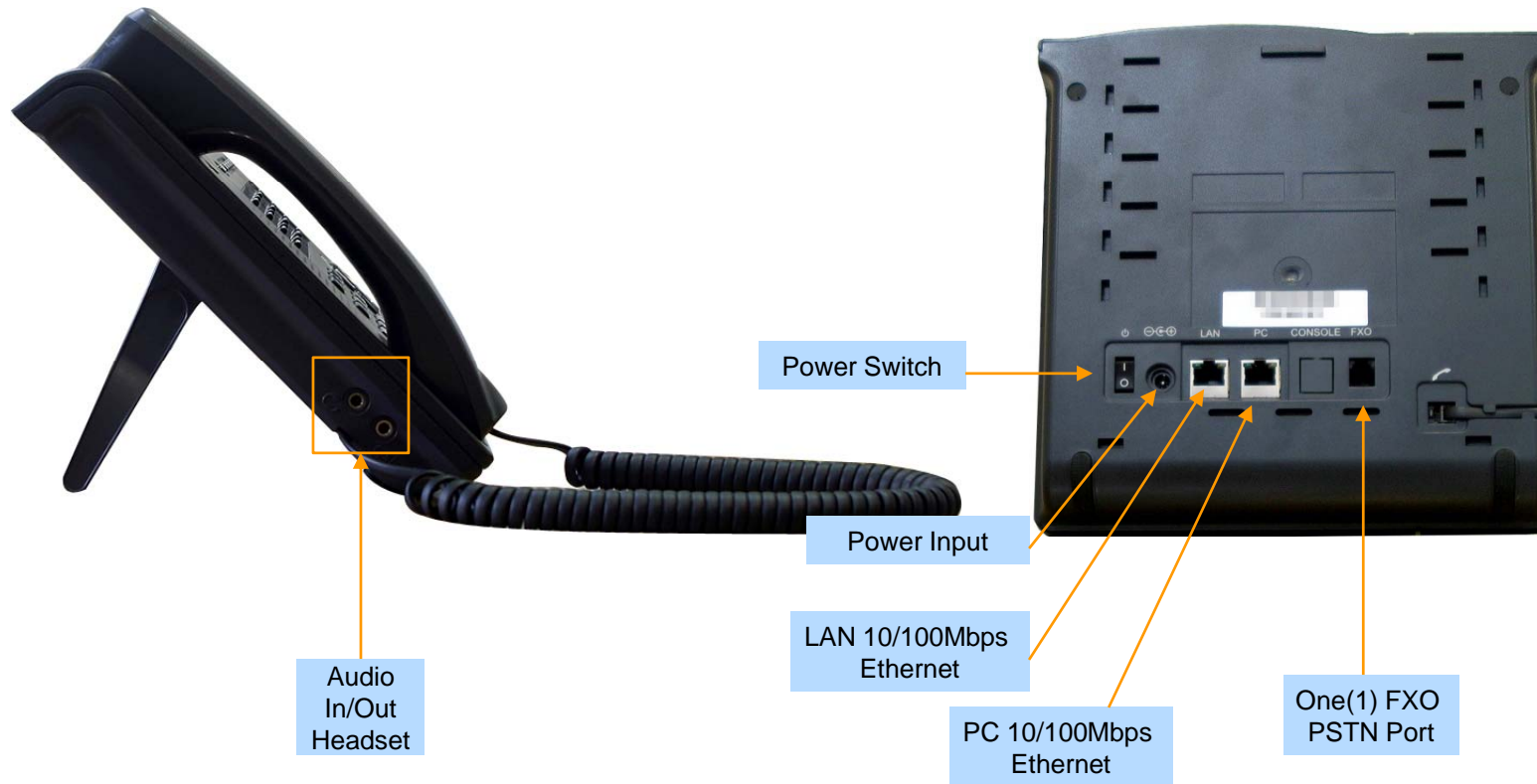
IP Phone

AP-IP160 IP Phone

RISC
CPU

High-end
DSP

Hardware Specification





AP-IP120 IP Phone

IP Phone

AP-IP120 IP Phone

Main Features

- 4 Text Line Graphic LCD Display
- 12 Speed-Dial Keys with User Presence LED
- 4 Soft Key for Call Control
- Various Function Keys
- H.323/SIP Concurrent VoIP Signaling Stack Embedded
- High-performance Voice Codec Support
 - G.711/G.726/G.729/G.723, etc
- Two(2) 10/100Mbps Fast Ethernet (IP Share ,etc)
- High Quality Speaker Phone Features (Acoustic Echo Canceller)
- Powerful Network Protocols (PPPoE, DHCP, Static Routing, etc)
- Firmware Upgradeable Architecture
- VPMS (VoIP Plug&Play Management System) for Large Scale Deployment
- Advanced Voice QoS Mechanism

IP Phone

AP-IP120 IP Phone

RISC
CPU

High-end
DSP

Hardware Specification

- RISC Microprocessor Computing Power
- 4 Text Line Graphic LCD
- Navigation Key for Menu Search
- High-end Programmable DSP Hardware Architecture
- High quality Audio and Voice Interface
 - Stereo Audio Input & Output Connector
- Network Interface
 - Two(2) 10/100Mbps Fast Ethernet
- PSTN Interface
 - One(1) FXO(RJ11) interface
- Power Supply
 - *External DC adaptor (5V)*
 - *PoE (Power over Ethernet)*

IP Phone

AP-IP120 IP Phone

RISC
CPU

High-end
DSP

Hardware Specification





AP-IP90 IP Phone

IP Phone

AP-IP90 IP Phone

Main Features

- 4 Text Line Graphic LCD Display
- 4 Soft Key for Call Control
- Various Function Keys
- H.323/SIP Concurrent VoIP Signaling Stack Embedded
- High-performance Voice Codec Support
 - G.711/G.726/G.729/G.723, etc
- Two(2) 10/100Mbps Fast Ethernet (IP Share ,etc)
- High Quality Speaker Phone Features (Acoustic Echo Canceller)
- Powerful Network Protocols (PPPoE, DHCP, Static Routing, etc)
- Firmware Upgradeable Architecture
- VPMS (VoIP Plug&Play Management System) for Large Scale Deployment
- Advanced Voice QoS Mechanism

IP Phone

AP-IP90 IP Phone

RISC
CPU

High-end
DSP

Hardware Specification

- RISC Microprocessor Computing Power
- 4 Text Line Graphic LCD
- Navigation Key for Menu Search
- High-end Programmable DSP Hardware Architecture
- High quality Audio and Voice Interface
 - Stereo Audio Input & Output Connector
- Network Interface
 - Two(2) 10/100Mbps Fast Ethernet
- PSTN Interface
 - One(1) FXO(RJ11) interface
- Power Supply
 - *External DC adaptor (5V)*
 - *PoE (Power over Ethernet)*

IP Phone

AP-IP90 IP Phone

RISC
CPU

High-end
DSP

Hardware Specification





Thank you!

AddPac Technology Co., Ltd.
Sales and Marketing

Phone +82.2.568.3848 (KOREA)

FAX +82.2.568.3847 (KOREA)

E-mail : sales@addpac.com