

# AP-SPS180

## SIP Paging Server

High-performance Next Generation SIP Paging Server Solution



### Product Overview

(Without notice, following described technical spec. can be changed)



# **AddPac**

## **AddPac Technology**

Sales and Marketing

[www.addpac.com](http://www.addpac.com)

# Contents

- Product Overview
- Hardware Specification
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- Software Service
- Network Service and Features
- SIP IP Phone for Paging Service
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- Paging Scenario & Service Features
- Ordering Information

# Product Overview

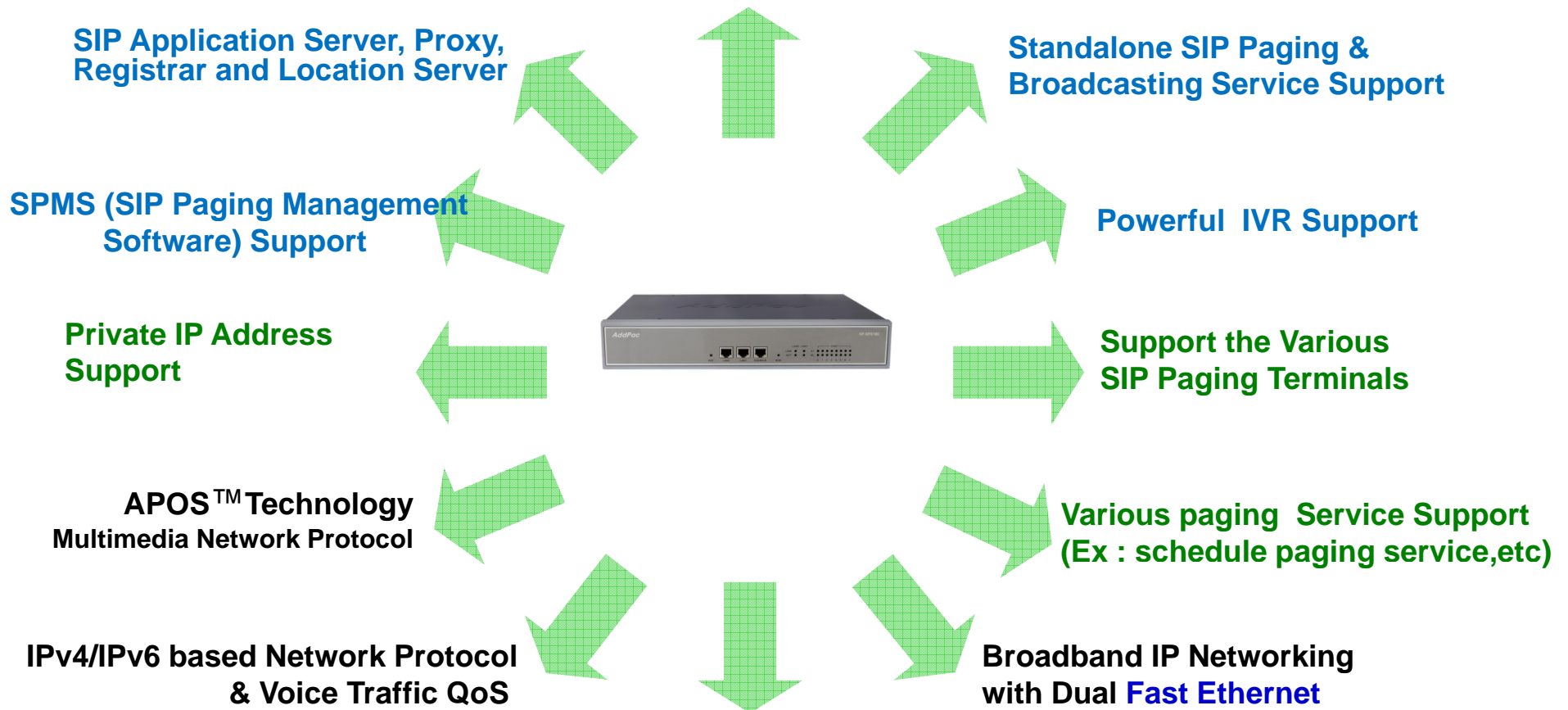
## AP-SP180 SIP Paging Server

- SIP Application Server, Proxy, Registrar and Location Server
- SIP Paging Server Service
- Standalone SIP Paging & Broadcasting Service Support
- Legacy IP-PBX Clone Mode Support (Trunk, etc)
- RTP(Real-time Transport Protocol) Support for Unicast and Multicast Paging Service
- Internal & External RTP Routing Service Support
- Web based SPMS(SIP Paging Management Software) Support
- Various Paging Service Mode Support (Ex : Scheduled Broadcasting, etc)
- Various SIP Paging Terminal Support (SIP Paging Terminal, SIP Phone, etc) beside AddPac Terminal
- Paging Service Support via SIP IP Phone
- Paging Service Support via AddPac Smart Communicator (PC based AddPac Multimedia Manager)
- TTS Paging Service Support (Option)
- High Performance RISC Architecture
- Powerful Network Protocols (PPPoE, DHCP, Static Routing, etc)
- **Private IP Address Support (ex : Wifi AP Environment)**
- Firmware Upgradeable Architecture

# Product Highlights

AP-SPS180 SIP Paging Server

## Advanced SIP Paging Server



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# Hardware Specification

## AP-SPS180 SIP Paging Server

- RISC Microprocessor Computing Power
- Main Chassis
  - Network Interface
    - Two(2) 10/100Mbps Fast Ethernet
    - One(1) RS-232C Console (RJ45)
  - Two(2) VoIP Module Slots for FXS, FXO etc

# Hardware Specification

AP-SPS180 SIP Paging Server

Front Side



LAN1 (10/100Mbps)

LAN0(10/100Mbps)

Console Port

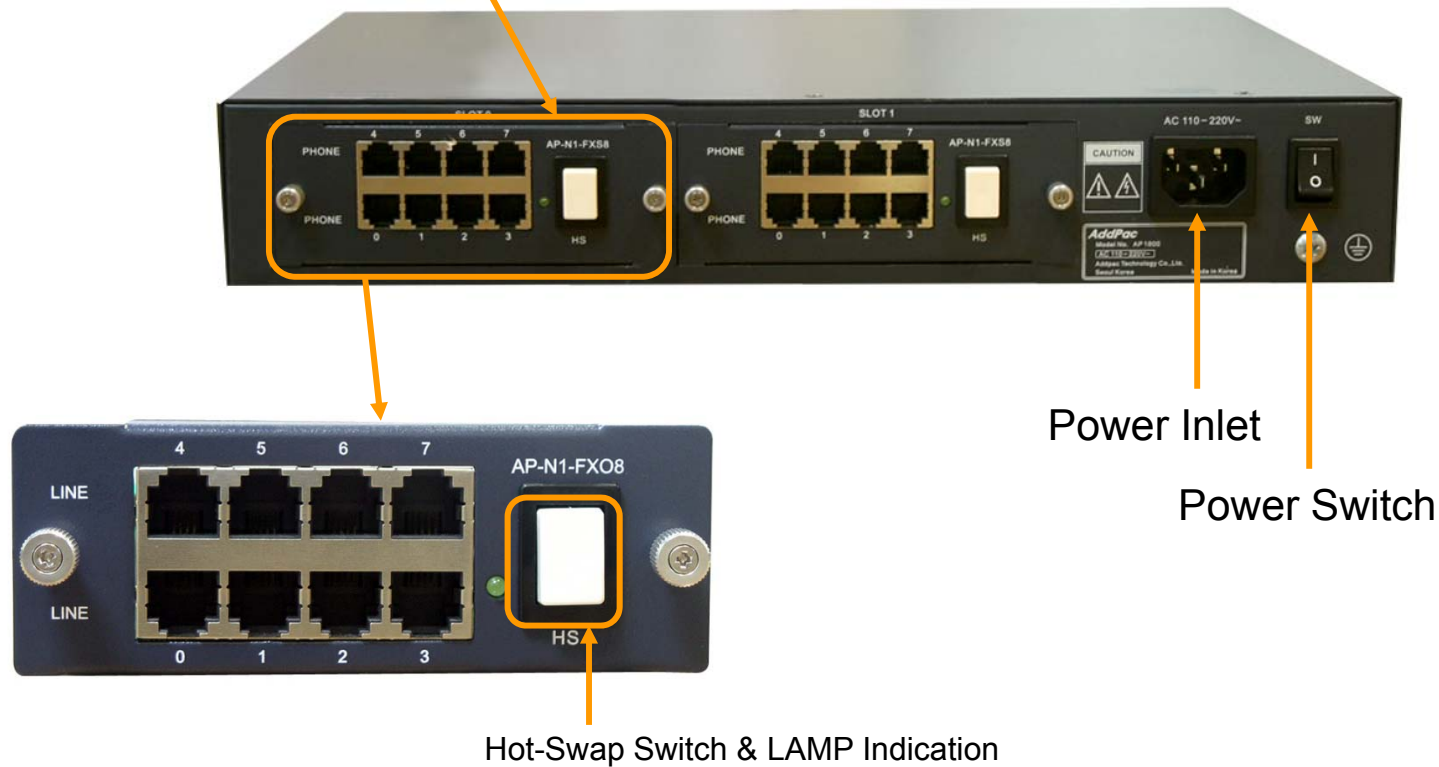
[www.addpac.com](http://www.addpac.com)

# Hardware Specification

## AP-SPS180 SIP Paging Server

### Back Side



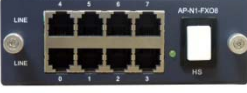

PSTN Interface Module



# Hardware Specification

AP-SPS180 SIP Paging Server

## PSTN Interface Module (Option)

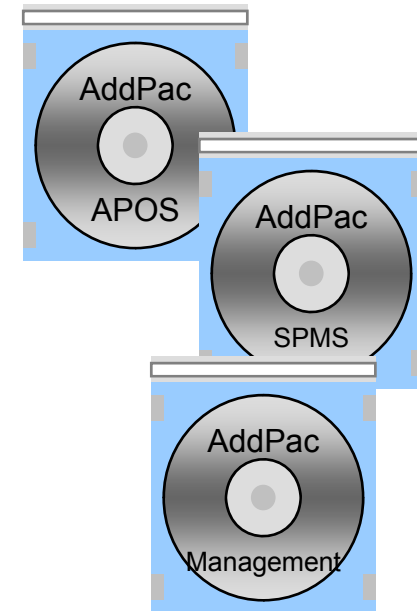
<b>AP-N1-FXS8</b>	 A black 8-port FXS voice processing module with RJ11 ports numbered 0-7 and a central switch labeled 'HS'.	8-Port FXS Voice Processing Module (8 x RJ11)
<b>AP-N1-FXO8</b>	 A black 8-port FXO voice processing module with RJ11 ports numbered 0-7 and a central switch labeled 'HS'.	8-Port FXO Voice Processing Module (8 x RJ11)
<b>AP-N1-FXO4S4</b>	 A black 8-port voice processing module with RJ11 ports numbered 0-7 and a central switch labeled 'HS'.	4-Port FXO and 4-Port FXS Voice Processing Module (8 x RJ11)
<b>AP-N1-E1T1</b>	 A black 1-port VoIP digital E1/T1 interface module with an RJ45 port and a central switch labeled 'HS'.	1-Port VoIP Digital E1/T1 Interface Module(1xRJ45)



# Software Service

AP-SPS180 SIP Paging Server

- Built-in AddPac APOS Internetworking Software
  - Scalability, Functionality, and Stability Features
  - Advanced SIP Paging Server Service Features
  - QoS Control Features
- Web based SPMS  
(SIP Paging Management Service) Support
- Various Broadcasting Management Service
- Firmware Upgradeable Architecture
- Industry Standard Network Protocol Features



# SIP Signaling Service and Features

## AP-SPS180 SIP Paging Server

- **Signaling Server**

- SIP Application Server, Proxy, Registrar and Location Server (RFC3261)
- Multiple ITSP Trunk with SIP & H.323 Accounts Support
  - IP UA Client Role for Registering to ITSP SIP Server

- **IVR & Auto Attendant**

- Default Auto Attendant Support
- Interactive Voice Response (IVR)
  - Provides with GUI-based Smart IVR Scenario Editor
  - Upload/Download Scenario by Smart IVR Scenario Editor
  - Supports Multiple Concurrent Scenarios
  - Supports Recordable IVR Prompts

# Network Service and Features

## AP-SPS180 SIP Paging Server

- **Basic Network Protocols**
  - ARP, IP, IPv6, TCP, UDP, ICMP, ICMPv6, SCTP, IGMP, MLD
- **Routing Protocol**
  - IPv4 : Static
  - IPv6 : Static
- **Service Protocol**
  - FTP, Telnet, TFTP, DHCP Server/Relay, SNMP Server
  - CDP (Cisco Discovery Protocol)
  - DNS Resolver , DDNS(nsupdate)
  - Bridge
  - Syslog
  - IP/IPv6 policy control (QoS)
  - VPDN (Virtual Private Dial-up Network : L2TP Server)

# Network Service and Features

## AP-SPS180 SIP Paging Server

- **IPv4/IPv6 Interworking**
  - NAT/PAT for IPv4
  - IP connect (formerly ip-share) and device cascade for IPv4
  - IP/IP, IP/GRE tunneling
  - NAT-PT
  - 6to4, Autoconfig tunneling
- **IPv4 Address Configuration**
  - Fixed (Static)
  - DHCP
  - PPPoE
- **IPv6 Address Configuration**
  - Fixed (Static)
  - EUI-64
  - Autoconfig (Neighbor Advertisement and Solicitation)

# Network Service and Features

AP-SPS180 SIP Paging Server

- **Miscellaneous**
  - Standard & Extended IPv4/IPv6 Access List
  - Multi-level User Account Management
  - IP accounting
  - fsh (Embedded file system shell)
  - STUN Client

# Network Service and Features



AP-SPS180 SIP Paging Server

- **SNMP MIBs**
  - MIB-II
  - RMON MIBs (Statistics, History, Alarm, Hosts Group)
  - RFC2465 Management Information Base for IP Version 6: Textual Conventions and General Group
  - RFC2466 Management Information Base for IP Version 6: ICMPv6 Group
  - RFC2452 IP Version 6 Management Information Base for the Transmission Control Protocol
  - RFC2454 IP Version 6 Management Information Base for the User Datagram Protocol
  - AddPac Enterprise MIBs
  - etc



# SIP Phones for Paging Service

# IP Phones for AddPac IP-PBX

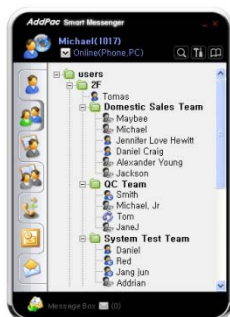
	AP-IP300	AP-IP250	AP-IP230	AP-IP160	AP-IP120	AP-IP90
						
LCD Size	4.3 Inch Color LCD	4.3 Inch Color LCD	5 Inch Color LCD	4 Text Line Graphic LCD	4 Text Line Graphic LCD	4 Text Line Graphic LCD
Touch Screen	N/A	Support	Support	N/A	N/A	N/A
Speed-Dial Keys	25 Key with Presence LED	Touch Screen based 25 Keys	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	G.711/G.726/G.729/G.723
Signaling	H.323/SIP	H.323/SIP	H.323/SIP	H.323/SIP	H.323/SIP	H.323/SIP
3-Party Conversation	Support	Support	Support	Support	Support	Support
LAN Port	2	2	2	2	2	2
PoE(Optional)	Support	Support	Support	Support	Support	Support
FXO(Optional)	Support	Support	Support	Support	Support	Support



# Smart Communicator

## AP-SMP100 SIP Soft Phone (Video/Voice)

- MS-Window based SIP Soft-Phone
- Smart Multimedia (Video/Voice) Soft-Phone
- SIP Real-time Audio/Video Broadcasting Terminal Solution
- Built-In Smart Messenger Function
- Up to 30fps with HD-Resolution
- Video Conference Call Support (AddPac External MCU Inter-working)
- Advanced Voice/Video Traffic QoS
- SIP, H.323\* Signaling Support
- Support Various Call Signal via AddPac SIP Paging Server





# SIP Paging Terminals

# SIP Paging Terminal & Solution

SIP Paging Management S/W	SIP Paging Servers	SIP Paging Terminals	SIP Phone for Paging Service
 <p>AP-SPMS</p>	 <p>AP-SPS2000</p>	 <p>AP601</p>	 <p>AP-IP300 + AP-PT20x2</p>
	 <p>AP-SPS600</p>	 <p>AP1602</p>	 <p>AP-IP120 + AP-PT20x2</p>
	 <p>AP-SPS180</p>	 <p>AP1605</p>	 <p>Soft SIP Phone</p>

# AP601

## SIP Paging Terminal



# Product Overview

## AP601 SIP Paging Terminal

- SIP based Voice Broadcasting Terminal Solution
- Hardware Architecture for Voice Broadcasting Terminal Service
- Remote Broadcasting Service at terminal side
- High Quality Voice Codec Support (High Quality Codec, G.711, G.726, etc)
- RTP/UDP Protocol Support
- Unicast and Multicast Broadcasting Scheme
- SPMS (SIP Paging Management Software) Support
- One(1) channel SPK/MIC Port
- Volume Control Button Support (Up, Down)
- Option (AP601A) : AMP. Built-in
- High-Quality Audio/Voice Service
- Firmware Upgradeable Architecture
- Broadcasting Solution with Outstanding Network Service Capability
- External Power Supply

# Hardware Specification

AP601 SIP Paging Terminal

RISC  
CPU

High-end  
DSP

- RISC Microprocessor Computing Power
- High-end Programmable DSP Hardware Architecture
- High Quality Audio Encoding/Decoding Service
- One(1) 10/100Mbps Fast Ethernet (RJ45)
- One(1) RS-232C Interface (RJ45)
- SPK/MIC Audio Interface Support
- Volume Control Button Support (Up, Down)
- External Power Supply Support
- Option : 30Watt Digital AMP. Built-in (AP601A)

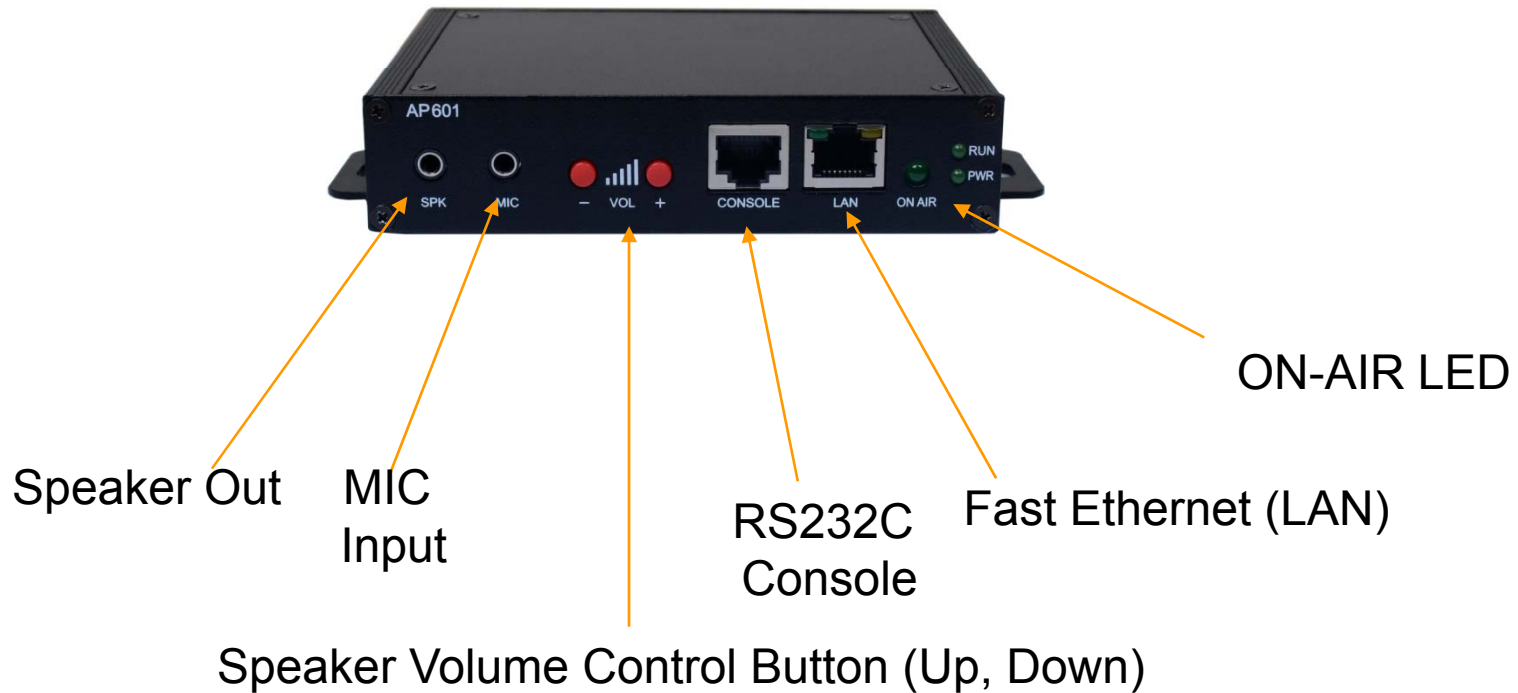
# Hardware Specification

AP601 SIP Paging Terminal

RISC  
CPU

High-end  
DSP

## Front Side



# Hardware Specification

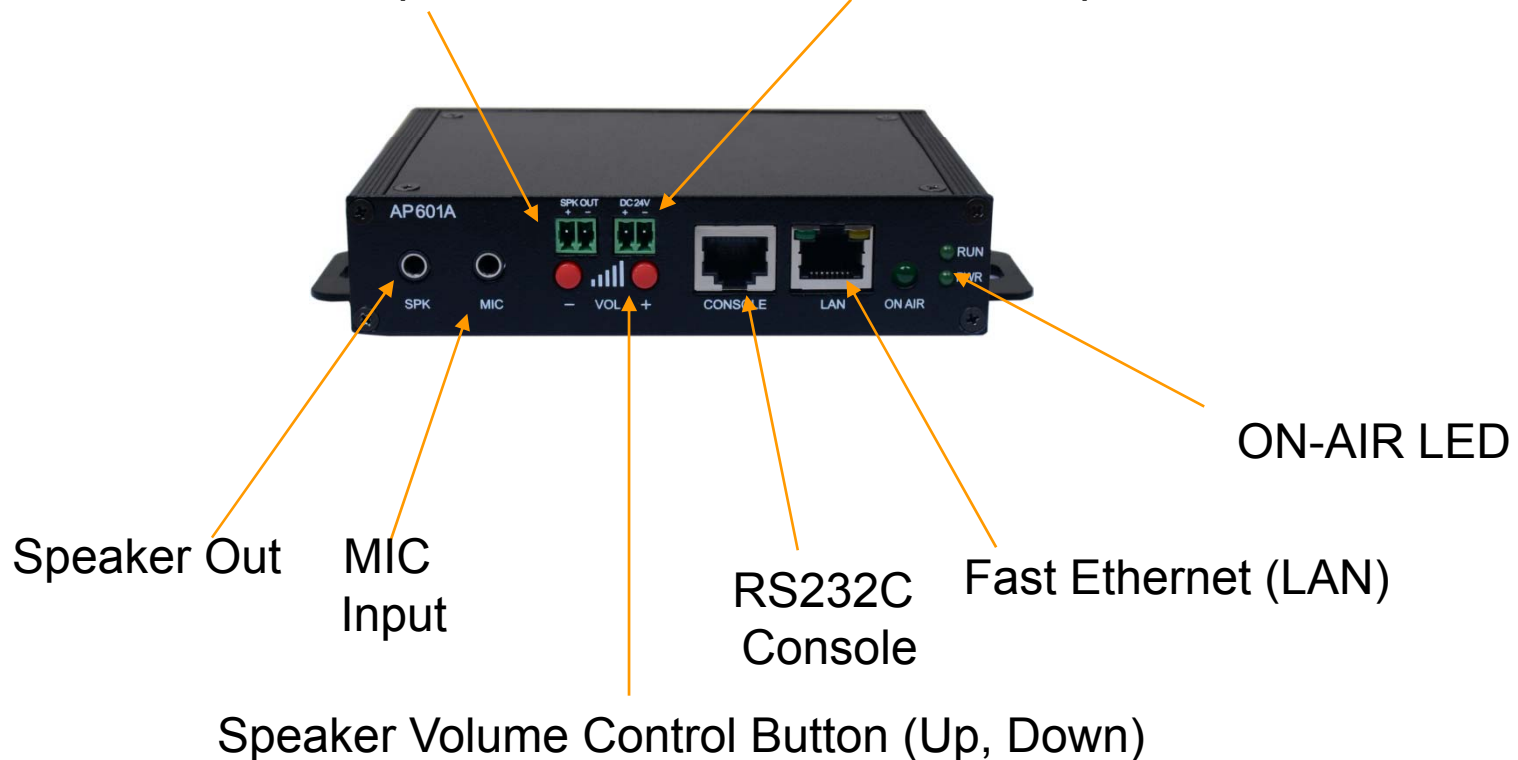
AP601 SIP Paging Terminal

RISC  
CPU

High-end  
DSP

## Front Side (AMP. Built-In Model : AP601A)

AMP. Speaker Out    24V DC Power Input for Internal AMP.





# Hardware Specification

AP601 SIP Paging Terminal

RISC  
CPU

High-end  
DSP

## Back Side



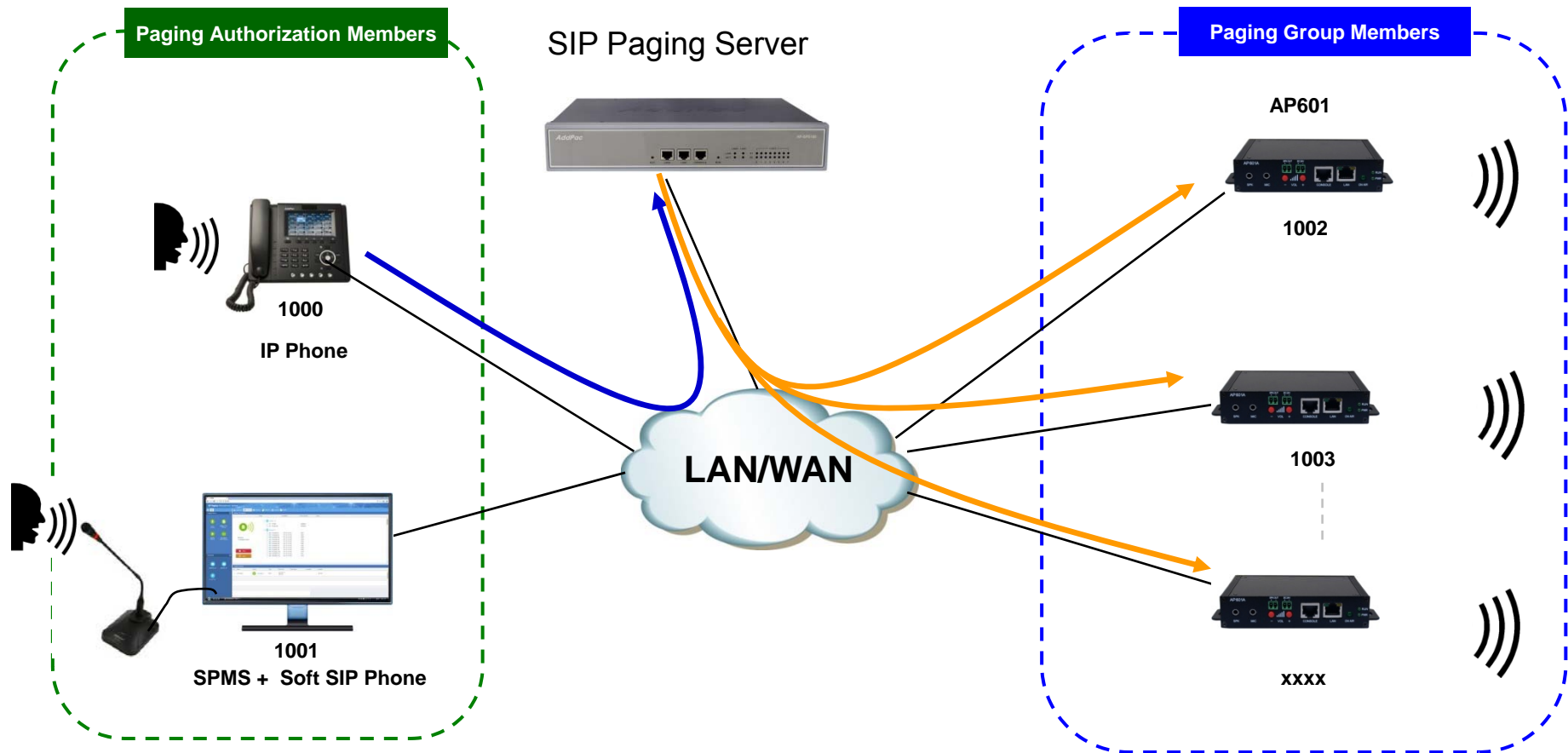
External Power  
Supply Adaptor

Power Switch

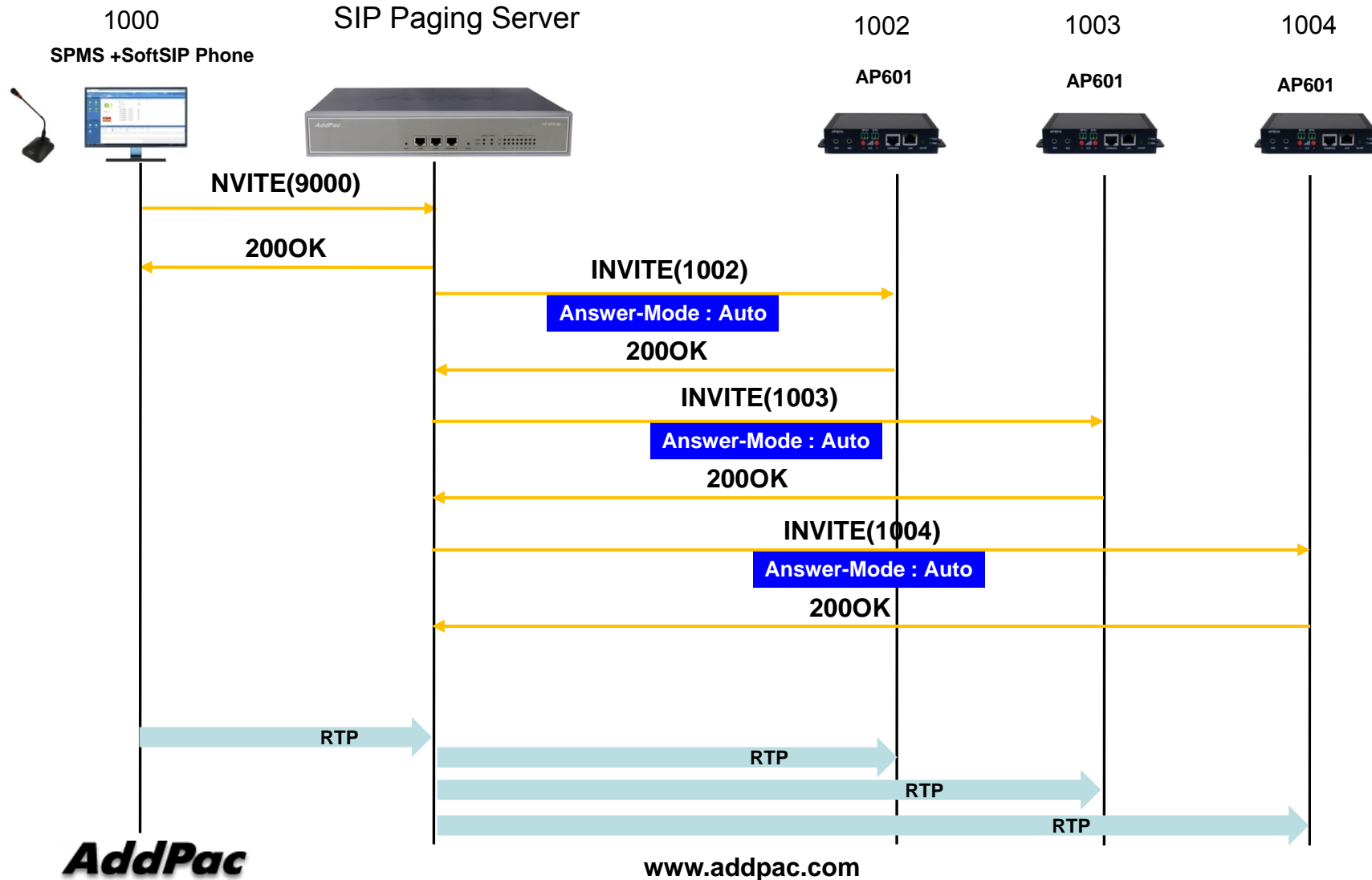



# SIP Paging Server Service Diagram

# SIP Broadcasting Network Diagram



# Paging Group Signaling Flow (Standalone Mode)



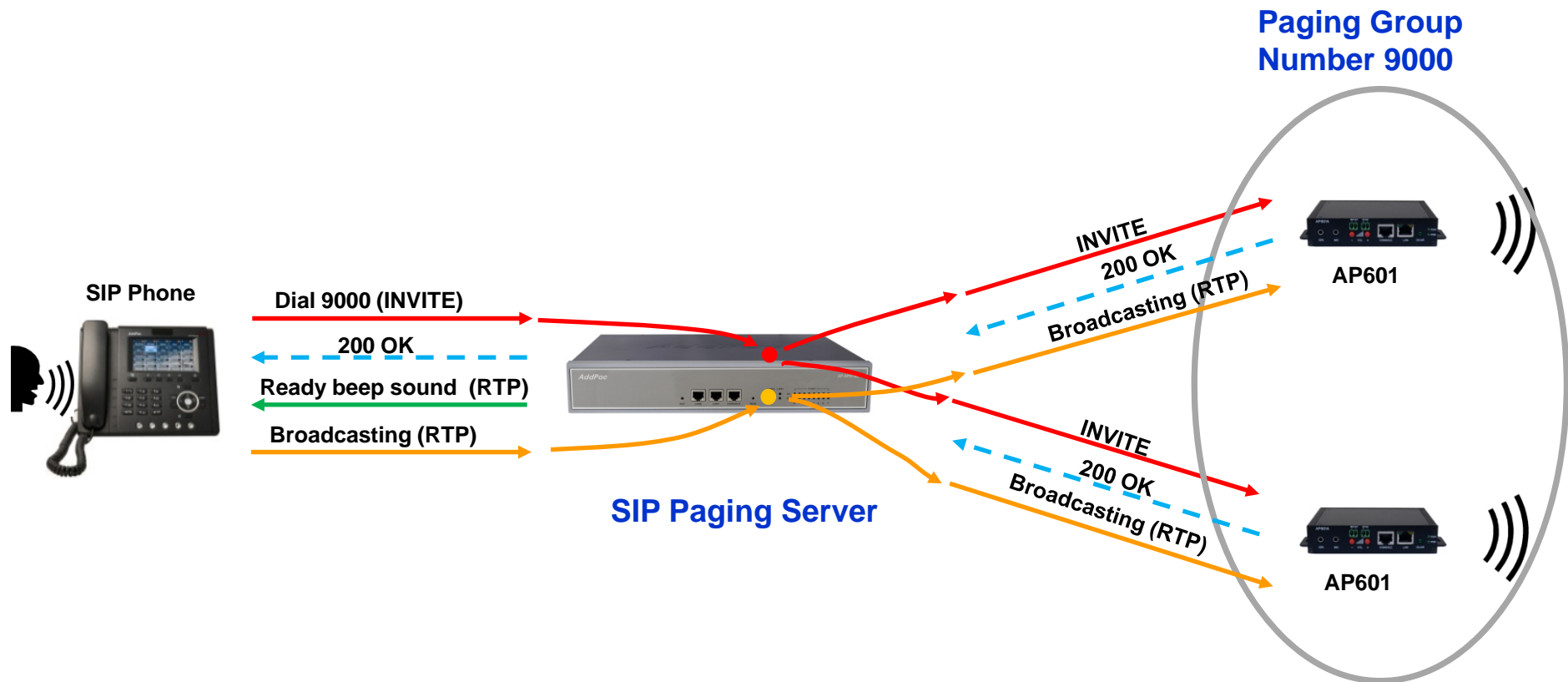


# Paging Scenarios & Service Features

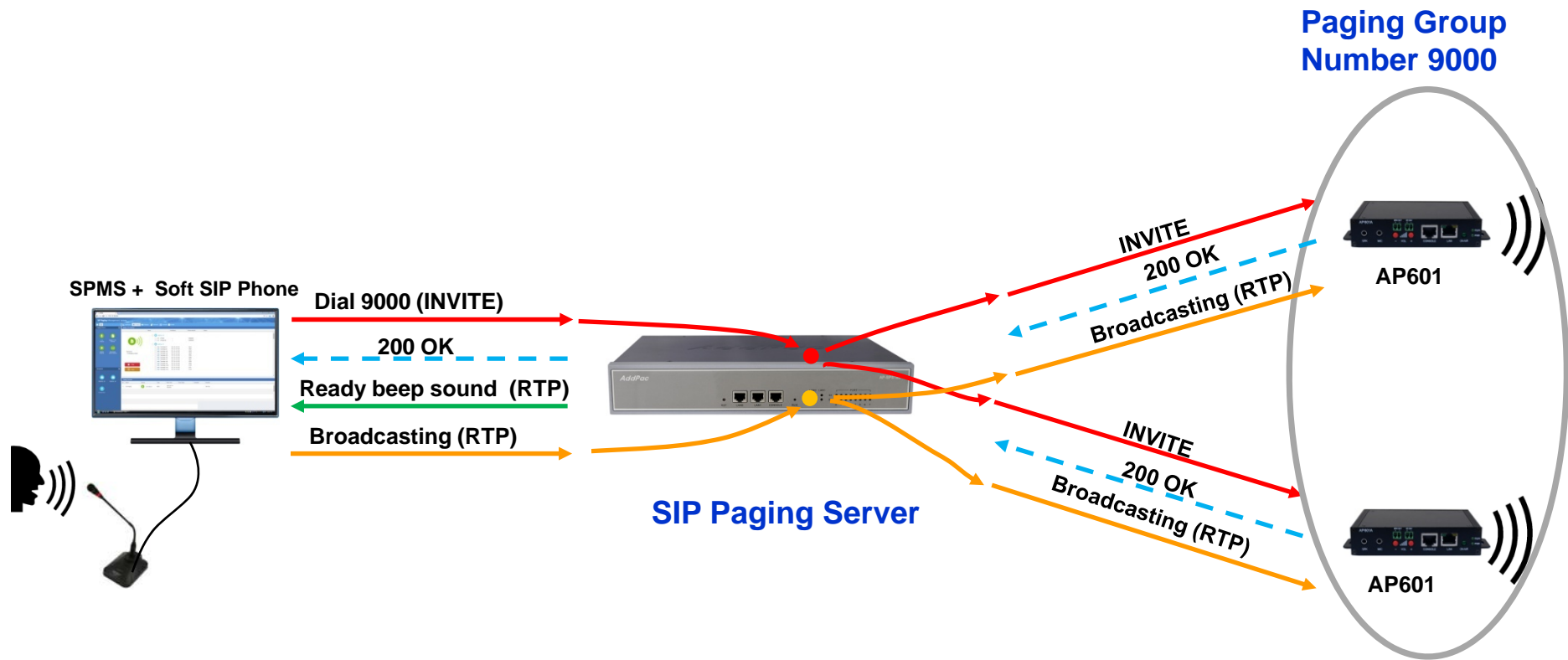
# Paging Scenarios

- SIP Phone Initiated Real-Time Paging
- Soft SIP Phone Initiated Real-Time Paging
- SIP Phone Initiated Real-Time Paging via PBX
- SIP Phone Initiated Real-Time Paging to PBX
- SIP Paging to and from PSTN/Mobile Network
- Web Controller Initiated Real-Time Paging
- Add-hoc Paging with IVR
- Recorded Paging with Simultaneous Casting
- Recorded Paging with Individual Casting
- TTS (Text to Speech) Paging
- Audio and SMS Paging by HTTP API
- Scheduled Paging

# SIP Phone Initiated Real-Time Paging

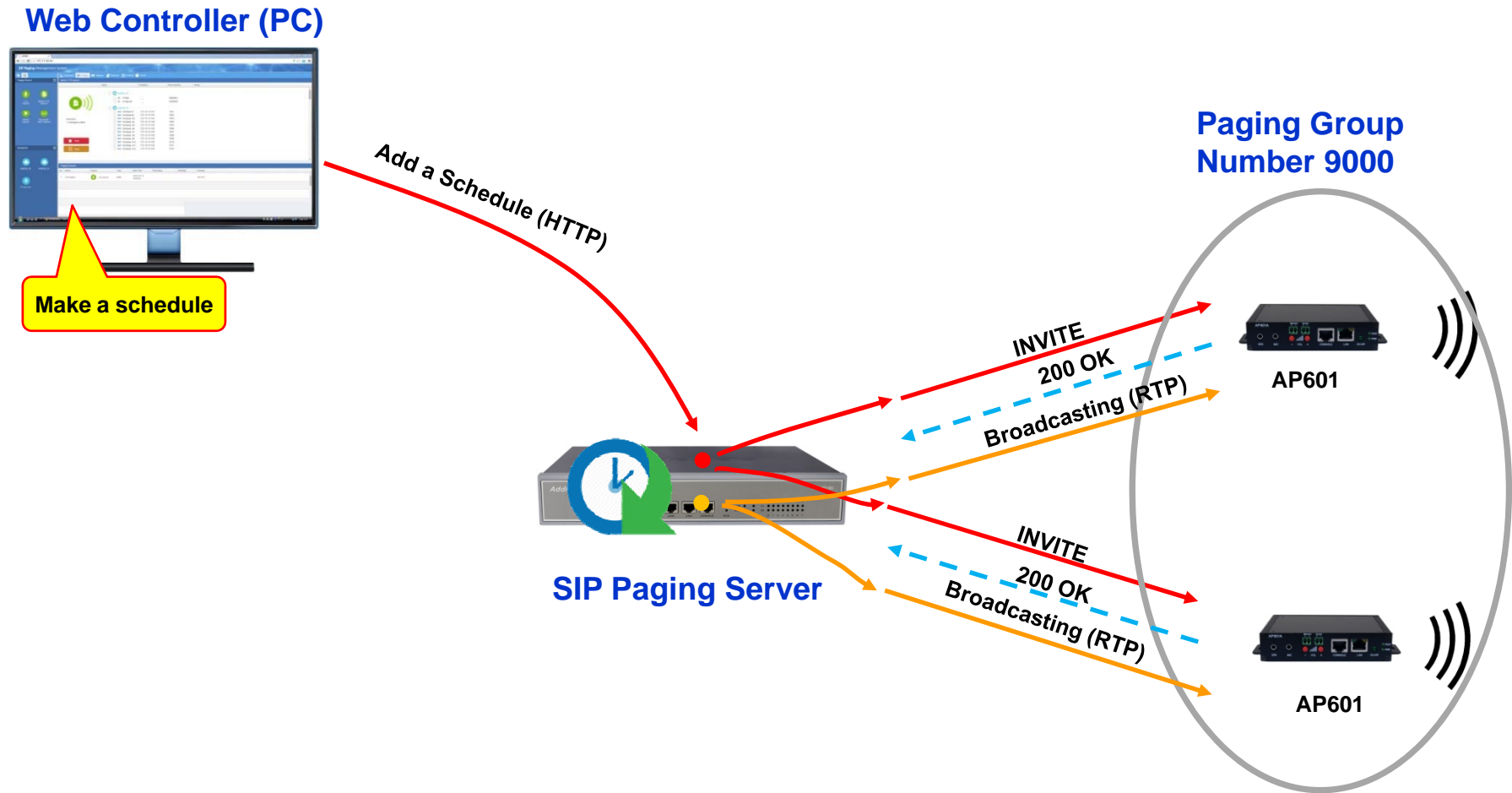


# Soft SIP Phone Initiated Real-Time Paging





# Scheduled Paging





# SIP Paging Management Software (SPMS)

# Contents

- SIP Paging Management Software Overview
  - Paging Device Management
  - Paging Group Management
  - Access Authority Management
  - Real-time and Recorded Paging
  - One Click Paging
  - Scheduled Paging
  - HTTP API Paging
  - TTS Paging
  - SMS Paging

# SIP Paging Management System GUI Initial Screen

**SIP Paging Management System**

Dashboard | Paging | Devices | Resource | Schedule | Events

**Paging Group**

- Live Paging
- Notice TTS Paging
- Media Paging
- Recorded Voice Paging

**Welcome to SIP Paging Management System**

Root (Administrator)  
Last login at June 06 10:37:20 AM (172.16.63.150)

**Unread Alarms**

- 12:34:10 AP1602 #23(2918) connection terminated.
- 10:12:45 AP1602 #25(2915) connection terminated.

**Getting Started**

- Terminal**  
A terminal can be a paging source or recipient. The internal terminal is registered to this paging server.
- Trunk**  
A trunk is a call routing path to other SIP servers such as IP-PBX.
- Paging Source**  
A paging source could be a live terminal or a media file.
- Paging Recipients**  
A paging recipients could be a terminal or a set of terminals.
- Paging Group**  
A paging group has a source and recipients with paging settings and number.

**Active Paging**

- Notice TTS paging (05:12)
- Live Paging (00:38)
- Media Paging (07:12)

**Status**

**Terminals**

Registered: [Progress bar] Unregistered: [Progress bar]

**Paging Server**  
172.17.50.65

Memory: 80% Storage: 60% Network: [Status]

**Trunks**

- External IP-PBX 192.168.100.102
- External Trunk 192.168.100.102

Favorite Paging Group with Source

Active Paging Sessions

# Paging Device Management

**SIP Paging Management System**

Dashboard | Paging | **Devices** | Resource | Schedule | Events

Terminals | Trunks | CTI Port

Select item

No	Name	Type	Phone Number	SIP User Name	IP Address	Status	Modify	Delete
1	Front Door AP-VAC50	Internal	1001	1001	172.16.114.200	● Registered		
2	Secretary IP Phone	Internal	1000	1001	172.16.114.201	● Registered		
3	IP Phone #1	External	2564120	2564120	-	● Unregistered		

# Paging Group Management

The screenshot displays the SIP Paging Management System interface. The top navigation bar includes Dashboard, Paging, Devices, Resource, Schedule, and Events. The main content area is divided into several sections:

- Paging Source:** A sidebar on the left contains icons for Live Source, Notice TTS Source, Media Source, and Recorded Voice Source. A yellow callout box labeled "Paging source" points to this section.
- Recipients:** A sidebar on the left shows AddPac 2F, AddPac 5F, and B Section. A yellow callout box labeled "Paging Groups" points to this section.
- Notice TTS Source:** The main area shows a tree view of resources. Under "AddPac 5F", there is a list of terminals from #1 to #12. A yellow callout box labeled "Paging Organizer" points to this list. Below the tree, there is a "Resource > Emergency Ment" section with "Stop" and "Save" buttons.
- Paging Session:** A table at the bottom shows a single session:
 

No	Name	Source	Type	Start Time	Time Status	Schedule	Duration
1	Live Paging	Live Source	Audio	2016-04-15 20:08:59			00:10:21

# TTS Paging

The screenshot shows a web application interface for SIP Paging Management. The top navigation bar includes links for Dashboard, Paging, Devices, Resource, Schedule, and Events. Below this, there are tabs for Media, TTS, and Recorded. The main content area displays a table with the following data:

No	Name	Play	Size	Update Time	Delete
1	Announce.wav		3,758 KB	2016-04-14 13:23:12	
2	Secretary IP Phone		12,234 KB	2016-04-15-16:19:23	

# Scheduled Paging Management

The screenshot displays the 'SIP Paging Management System' interface. At the top, there is a navigation bar with icons for Dashboard, Paging, Devices, Resource, Schedule (selected), and Events. Below this is a sub-navigation bar with 'Calendar' and 'List' options. The main area shows a calendar for April 2016, with navigation buttons for Day, Week, and Month views. The calendar grid shows dates from March 27 to April 30. A yellow event is scheduled for April 20th at 2:44 pm.

Sun	Mon	Tue	Wed	Thu	Fri	Sat
Mar 27, 2016	28	29	30	31	Apr 1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20 Today 2:44 pm	22	23	
24	25	26	27	28	29	30



# Events

SIP Paging Management System					
<span>Dashboard</span> <span>Paging</span> <span>Devices</span> <span>Resource</span> <span>Schedule</span> <span>Events</span>					
<span>Latest 1day</span> <span>Select item</span> <span>Search</span> <span>Refresh</span>					
ID	Date Time	Level	Category	Message	
1	2016-04-16 09:10:16	Information	Paging	Paging ' Notice TTS Paging ' Started	
2	2016-04-16 14:12:16	Warning	Paging	5F VP300 connection terminated	
3	2016-04-17 11:43:22	Warning	Paging	System Start up	
4	2016-04-19 15:10:59	Critical	Paging	System Shutdown	

# Ordering Information

- AP-SPS180 SIP Paging Server
  - AP-SPS180 SIP Paging Server Main Body
  - High-performance RISC CPU
  - 2-ports 10/100Mbps Fast Ethernet and 1-port RS-232C Console
  - Internal Power Supply
  - Including Network Cable Set & Power Supply Cable, etc.
  - **PSTN Interface Modules (Option)**
- Built-in APOS Internetworking Software for AP-SPS180
- Including 1 Year Hardware Warranty
- Product Documents
  - Install and Operation Guide (PDF)
- Pricing
  - AddPac Technology Regional Sales Manager
  - Authorized Sales and Marketing Representatives
  - Please Contact [www.addpac.com](http://www.addpac.com)



# Thank you!

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