

# AP1605

## SIP Audio Broadcasting Terminal

High Performance SIP Audio Broadcasting Terminal



AP1605 SIP Audio Broadcasting Terminal

**AddPac**

**AddPac Technology**

2015, Sales and Marketing

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

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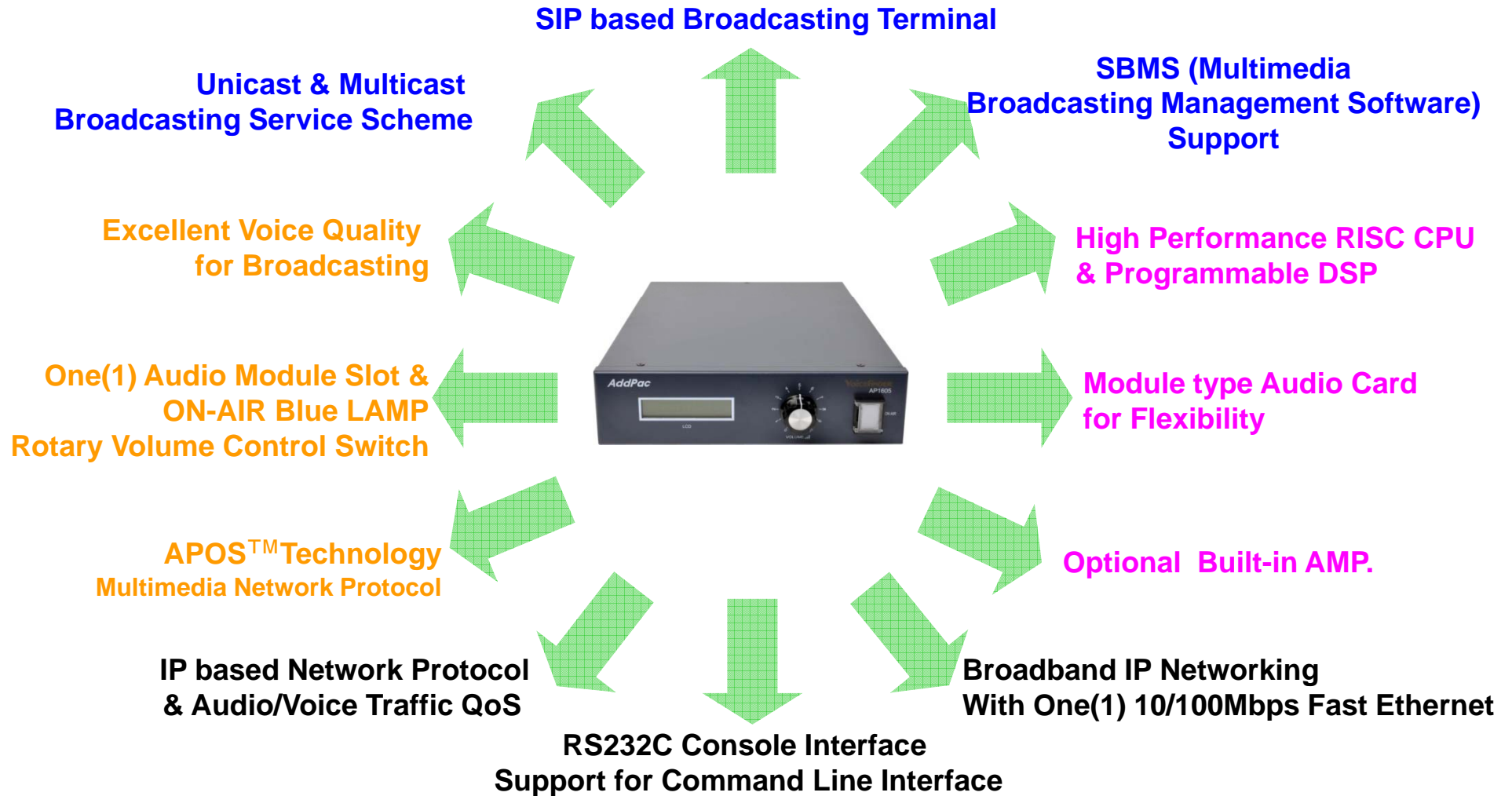
# Product Overview

## AP1605 SIP Audio Broadcasting Terminal

- SIP Protocol based Audio Broadcasting Terminal Solution
- RTP (Real-time Transport Protocol) Support for Media Transmission
- IP based Audio Broadcasting Terminal Solution (AddPac Proprietary Protocol)
- Hardware Architecture for Audio Broadcasting Terminal Service
- One(1) Module Slot for Audio Encoding & Decoding Service
- Remote Broadcasting Service at terminal side
- High Quality Audio Codec Support (High Quality Codec, G.711, G.726, etc)
- Unicast and Multicast Broadcasting Scheme
- SPMS (SIP Paging Management Software) Support
- **Optional Built-In Digital AMP.**
- On-AIR Blue LAMP
- **Volume Control Rotary Switch at front panel**
- High-Quality Audio/Voice Service
- Firmware Upgradeable Architecture
- Broadcasting Solution with Outstanding Network Service Capability

# Product Highlights

## AP1605 SIP Audio Broadcasting Terminal



# Hardware Specification

## AP1605 SIP Audio Broadcasting Terminal

RISC  
CPU

High-end  
DSP

- RISC Microprocessor Computing Power
- High-end Programmable DSP Hardware Architecture
- One(1) Module Slot for Audio Broadcasting Codec Module
- High Quality Audio Encoding/Decoding Service
- ON-AIR Blue LAMP
- Rotary Volume Control Switch
- Option Module : AP-N3-HQA1000
  - One(1) 10/100Mbps Fast Ethernet (RJ45)
  - One(1) RS-232C Interface (RJ45) for Command Line Interface
  - Stereo Audio Input/Output Connector
- Option Module : AP-N3-HQA1000A
  - One(1) 10/100Mbps Fast Ethernet (RJ45)
  - One(1) RS-232C Interface (RJ45) for Command Line Interface
  - Stereo Audio Input/Output Connector
  - Built-in Audio AMP.

# Hardware Specification

AP1605 SIP Audio Broadcasting Terminal

RISC  
CPU

High-end  
DSP

## AP1605 Front Side



Status LCD

Rotary Volume  
Control Switch

On-Air Blue LAMP

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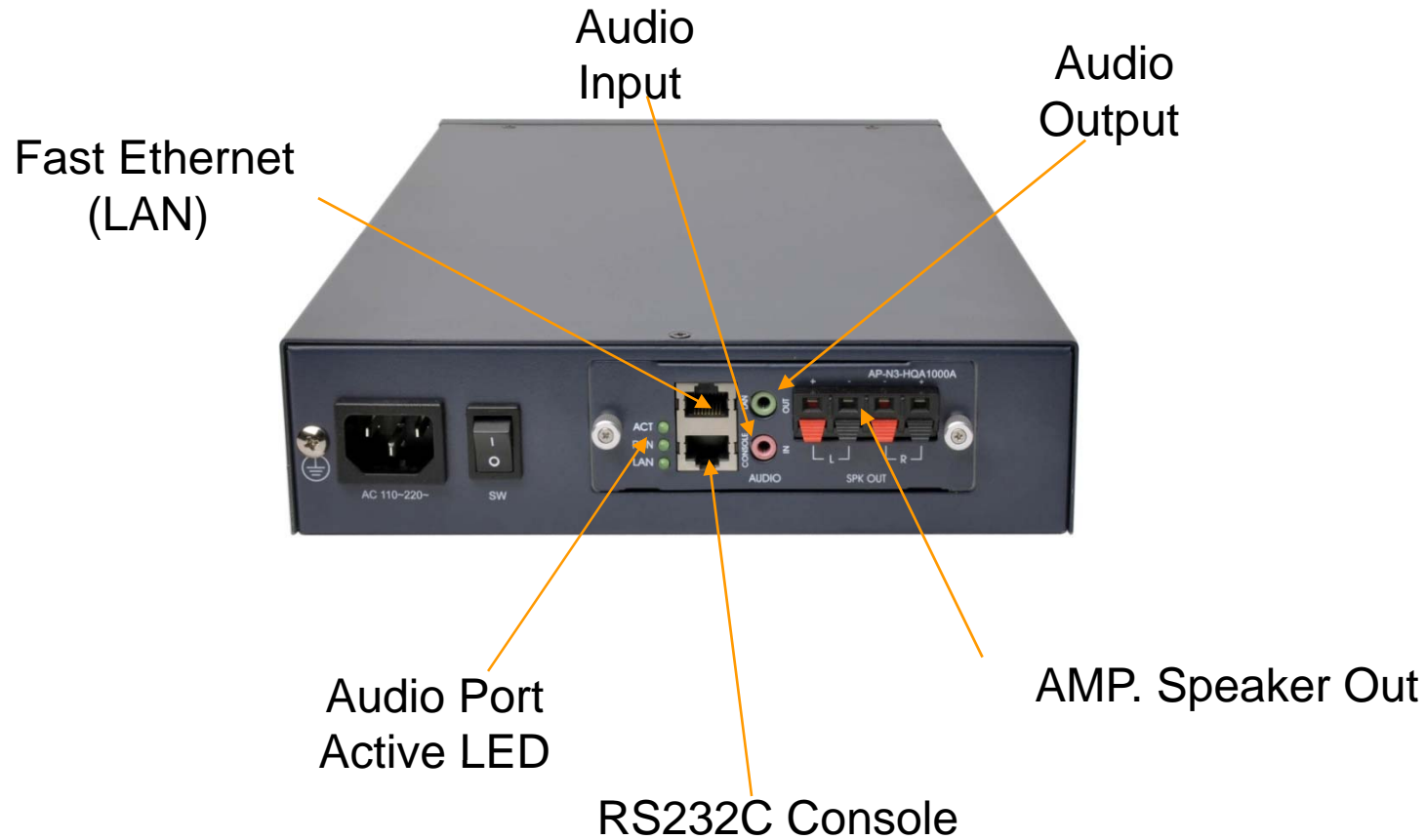
# Hardware Specification

AP1605 SIP Audio Broadcasting Terminal

RISC  
CPU

High-end  
DSP

## AP1605 Back Side



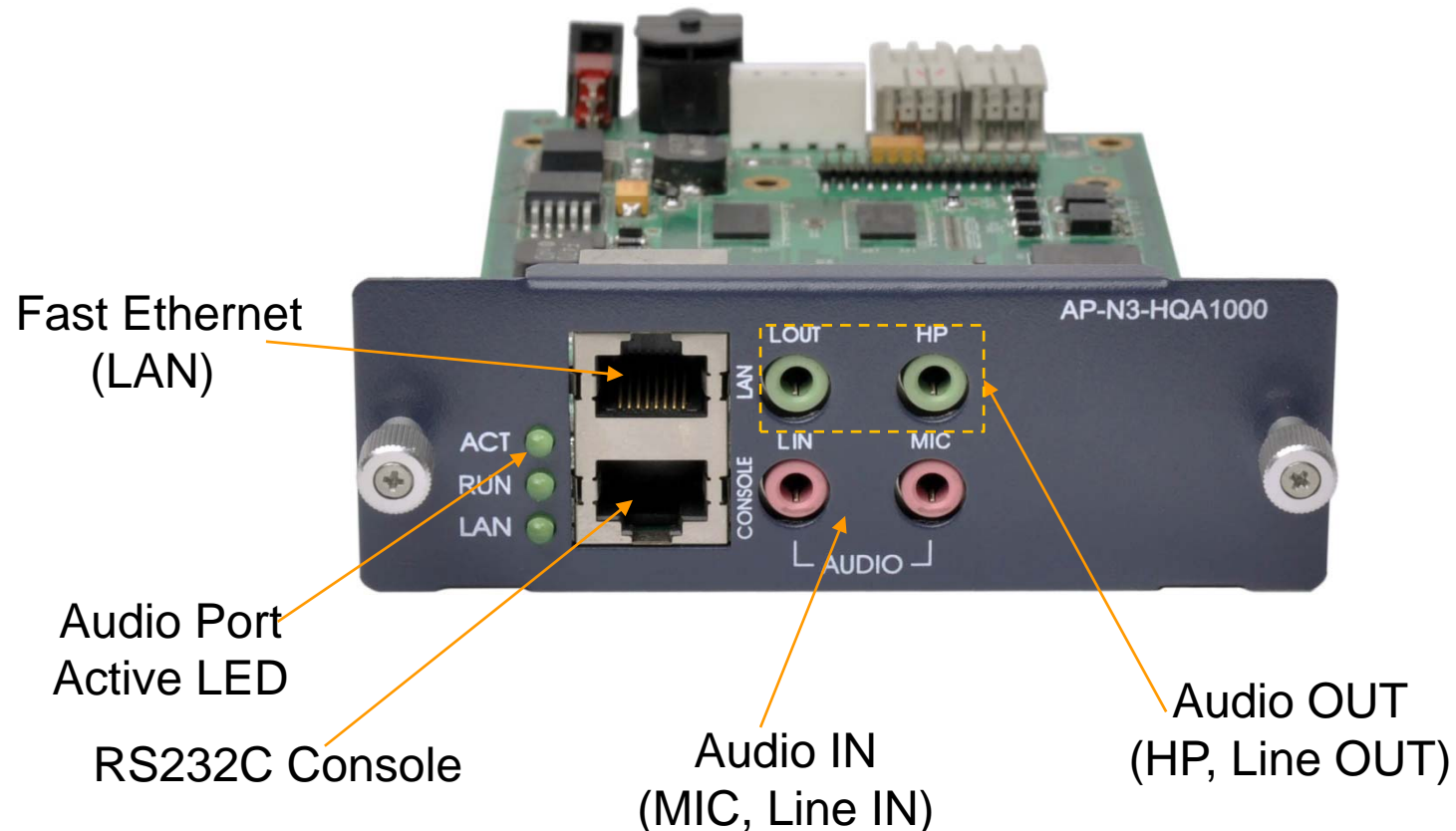
# Hardware Specification

AP1605 SIP Audio Broadcasting Terminal

RISC  
CPU

High-end  
DSP

## AP-N3-HQA1000 Board



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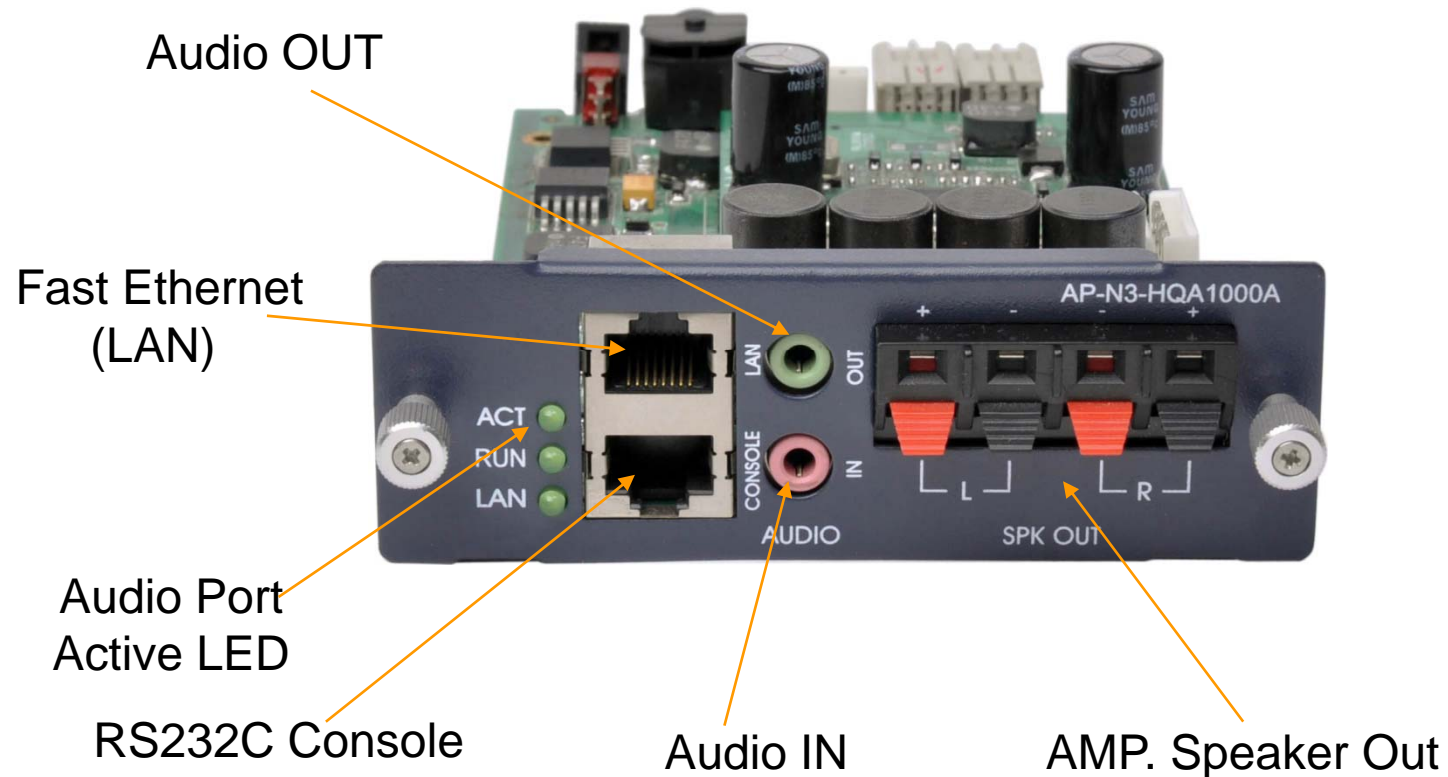
# Hardware Specification

AP1605 SIP Audio Broadcasting Terminal

RISC  
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## AP-N3-HQA1000A Board



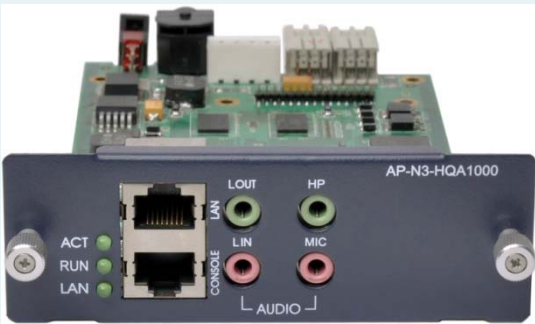
# Hardware Specification

AP1605 SIP Audio Broadcasting Terminal

RISC  
CPU

High-end  
DSP

## AP1605 Audio Module

Audio Module Type	Audio Module Features
AP-N1-HQA1000	One(1)-Channel Audio In/Out Port
	One(1) Fast Ethernet Port
	One(1) RS232C Port
	Audio Encoding/Decoding Service
	Audio IN : MIC, Line IN
	Audio OUT : Headphone, Line OUT
	3.5mm Stereo JACK
	High Quality Codec, G.711 Audio Codec

# Hardware Specification

AP1605 SIP Audio Broadcasting Terminal

RISC  
CPU

High-end  
DSP

## AP1605 Audio Module

Audio Module Type	Audio Module Features
AP-N1-HQA1000A	One(1)-Channel Audio In/Out Port
	One(1) Fast Ethernet Port
	One(1) RS232C Port
	Audio Encoding/Decoding Service
	Audio IN
	Audio OUT
	AMP. Built-in Speaker Out (Left, Right)
	4ohm Speaker : 50Watt
	8ohm Speaker : 30Watt
	High Quality Codec, G.711 Audio Codec

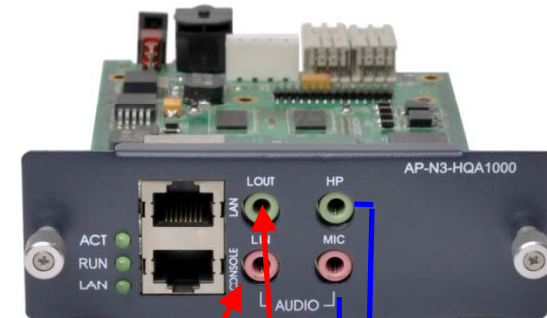


# AP-N3-HQ1000 Module

AP1605 SIP Audio Broadcasting Terminal

RISC  
CPU

High-end  
DSP



Connect with 1:2 Stereo Jack

Connect with 2:1 Stereo Jack

Direct MIC

- High Quality audio codec realizes high quality audio service
- Direct MIC-In/ Headphone In Port for monitoring
- Real time High Quality Audio Band Broadcasting



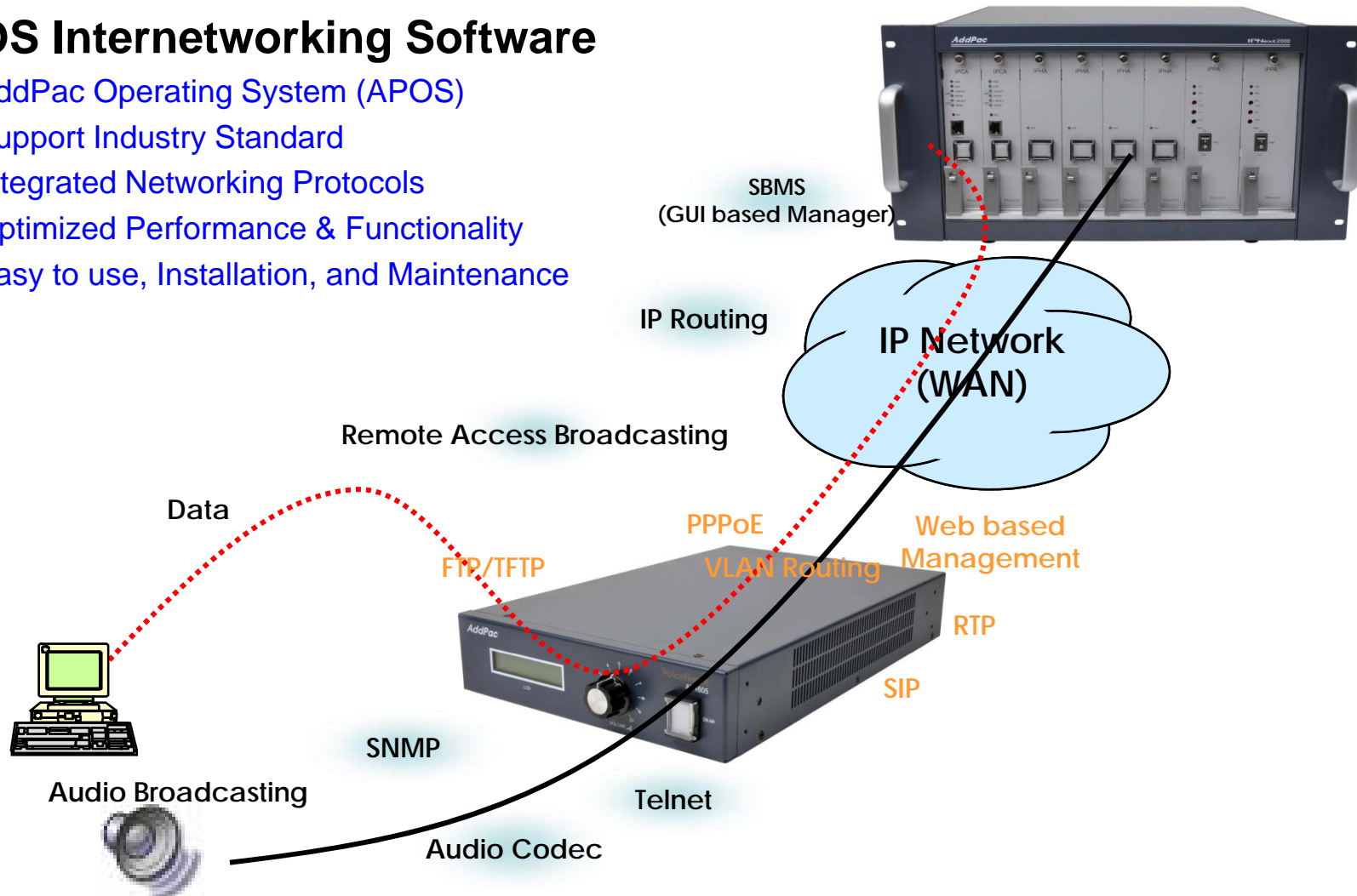
Headphone

# APOS™ Service Features

AP1605 SIP Audio Broadcasting Terminal

- **APOS Internetworking Software**

- AddPac Operating System (APOS)
- Support Industry Standard
- Integrated Networking Protocols
- Optimized Performance & Functionality
- Easy to use, Installation, and Maintenance



# APOS™ Service Features

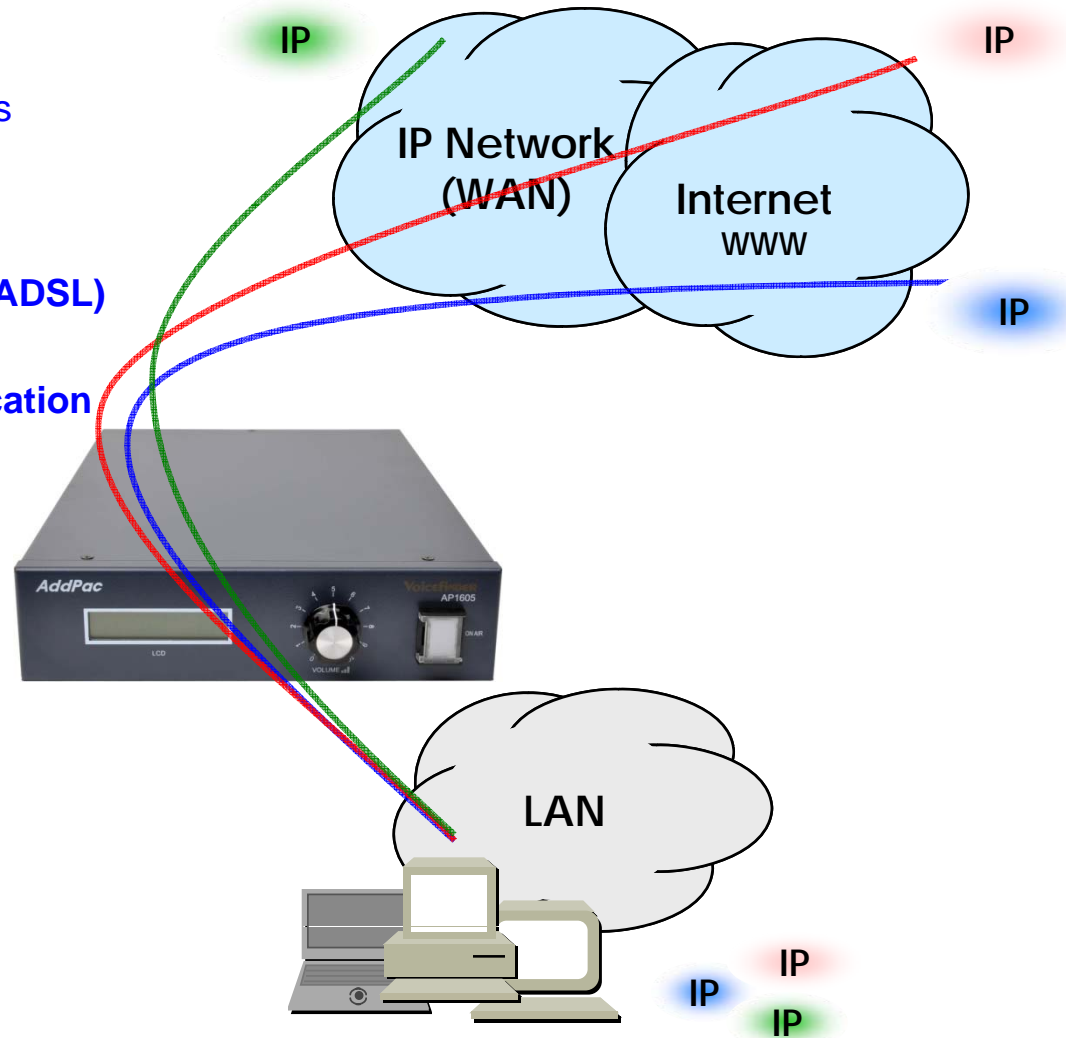
AP1605 SIP Audio Broadcasting Terminal

- **IP Routing Protocols**

- Multi-protocol Internetworking Services
- Static & Default IP routing

- **WAN Protocols**

- Point-to-Point Protocol (PPPoE for ADSL)
- IEEE 802.3 Ethernet
- PPTP support for secure communication



# APOS™ Service Features

## AP1605 SIP Audio Broadcasting Terminal

- **Network Managements**
  - Standard SNMP Agent (MIB v2) Support
  - Remote Management using Console, Telnet
  - Web based Management using HTTP Server Interface
- **Security Functions**
  - Standard & Extended IP Access List
  - Enable/Disable for Specific Network Protocols
  - Multi-level User Account Management
  - Auto-disconnect for Telnet/Console Sessions
  - PPP User Authentication Supports (PAP & CHAP)
- **Operation & Managements**
  - System Performance Analysis for Process, CPU, Connection Interface
  - Debugging, System Auditing, and Diagnostics Support
  - System Booting and Auto-rebooting with Watchdog Feature
  - System Managements with Data Logging
  - IP Traffic Statistics with Accounting

# APOS™ Service Features

AP1605 SIP Audio Broadcasting Terminal

- **Network Protocols**
  - DHCP Server & Relay Functions
  - Network Address Translation (NAT) Function
  - Port Address Translation (PAT) Function
  - Transparent Bridging (IEEE Standard) Function
    - Spanning Tree Bridging Protocol Support
    - Remote Bridging Support
    - Concurrent Routing and Bridging Support
  - Cisco Style Command Line Interface (CLI)
  - Network time Protocol (NTP) Support



# VoIP Service Features

## AP1605 SIP Audio Broadcasting Terminal

- SIP Protocol Service
  - Gateway-based / Endpoint-based registration support
  - Secondary proxy-server assignment function
  - SIP signaling port change function
  - SIP proxy server assignment according to the domain name
  - T.38 real-time fax relay support
  - DTMF relay support with RFC2833 / OPTION message
  - Re-INVITE support

# VoIP Service Features

## AP1605 SIP Audio Broadcasting Terminal

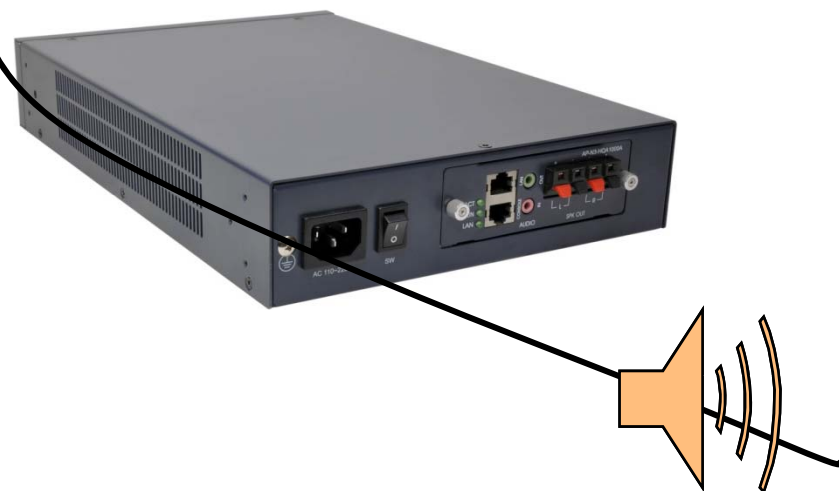
- Audio Codec for AP-HQA Module

- High Quality Audio Codec
- G.711, G.726 Audio Codec

IP Broadcasting

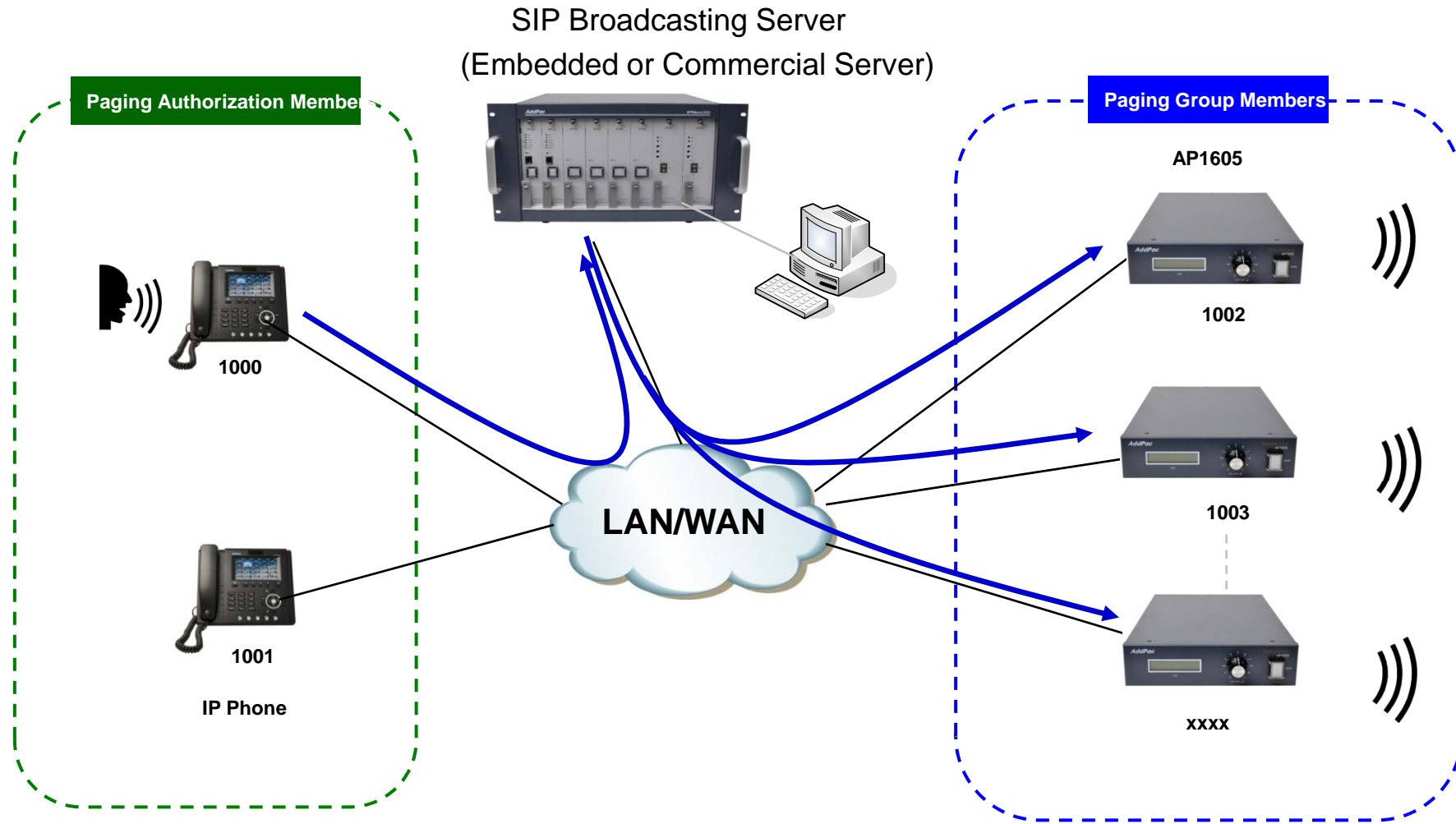
- RTP Protocols

- Redundant RTP packet transmission in case of severe packet loss
- Dynamic jitter buffer management and RTP packet jitter and loss compensation with heuristic & DSP error concealment
- Static jitter buffer setting support
- Voice frame per RTP packet number control for each codec



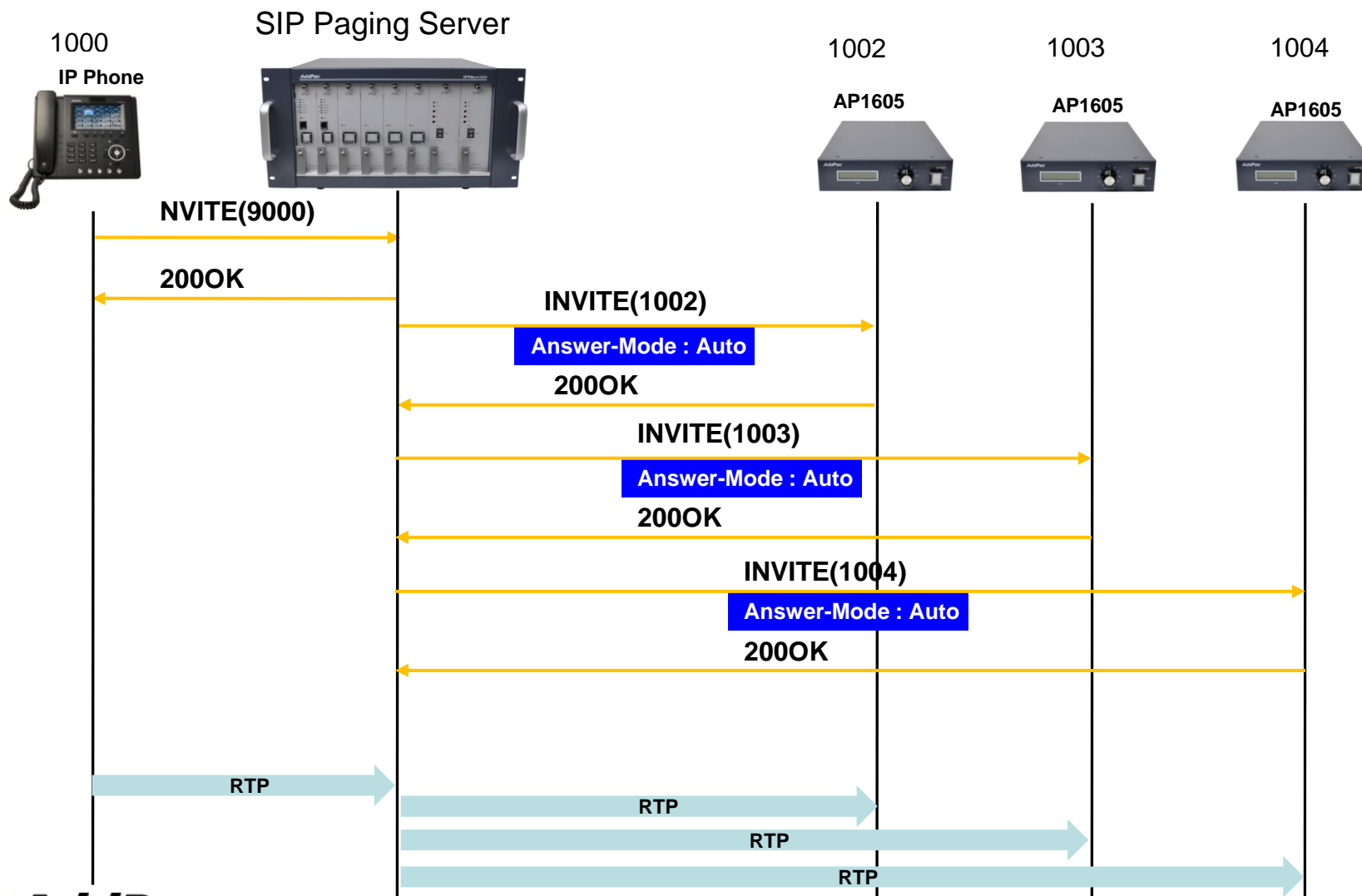
# SIP Broadcasting Network Diagram

AP1605 SIP Audio Broadcasting Terminal



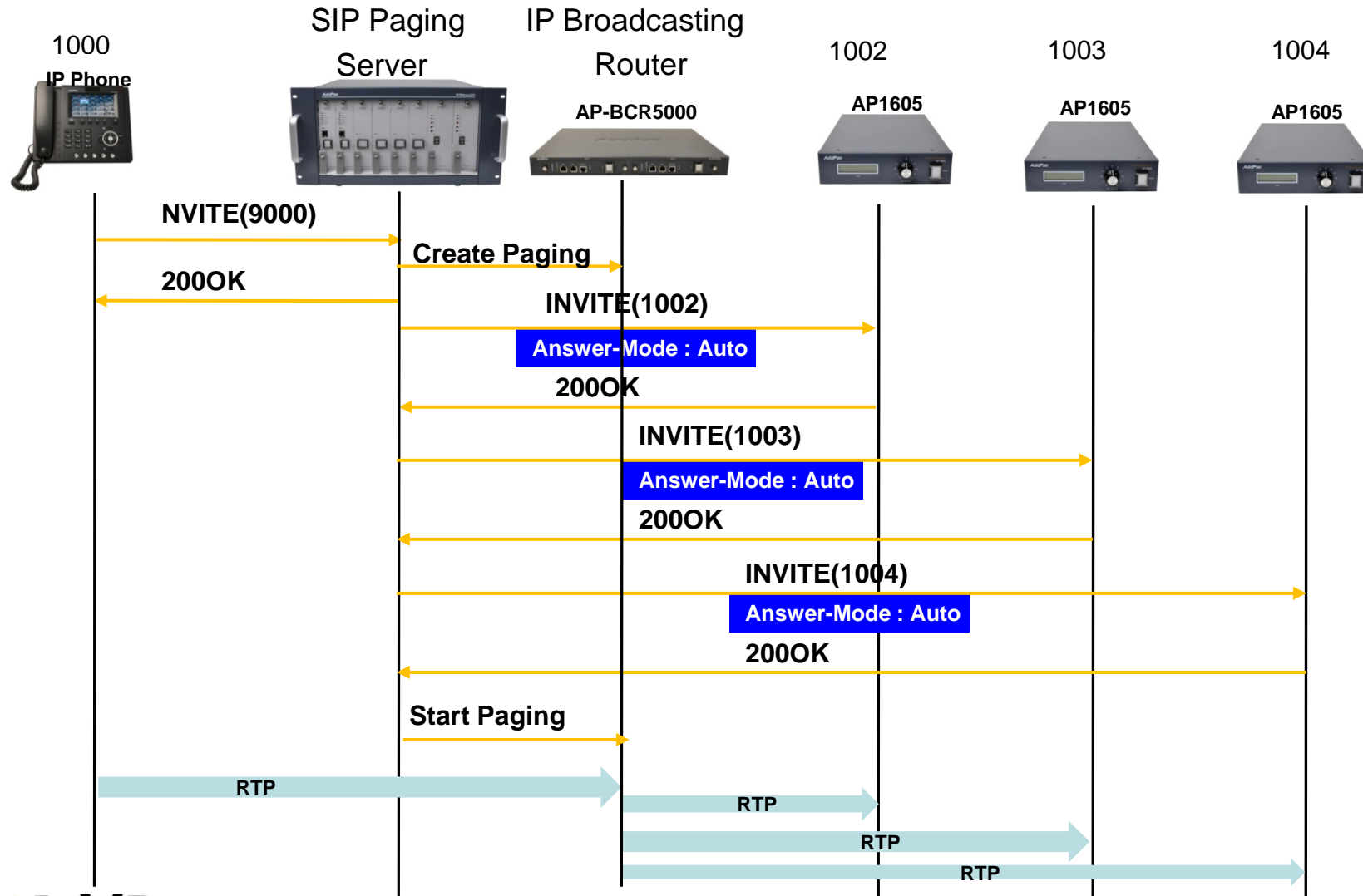
# Paging Group Signaling Flow (Case 1)

AP1605 SIP Audio Broadcasting Terminal








# Paging Group Signaling Flow (Case 2)

AP1605 SIP Audio Broadcasting Terminal



# SIP Audio Broadcasting Solution

SIP Paging Management S/W	SIP Paging Server	IP Audio Broadcasting Router (Relay Server)	HQ Audio Broadcasting Terminal AP1605A
			
<p>Web based SIP Paging Management Software.</p>	<p>Commercial Server Platform (AP-SPS10000), Linux Embedded H/W Platform (AP-SPS2000) Embedded H/W Platform (AP-SPS600)</p>	<p>1:N Audio Broadcasting Router. Gigabit Ethernet Support</p>	<p>Embedded Hardware based Audio Terminal. <b>Volume Control Rotary Switch.</b> One(1) HQ Audio Codec Module. <b>Built-in AMP.</b> G.711 Audio Codec.</p>



# WSMM Configuration for Paging Group

(WSMM : Web based Smart Multimedia Manager)

# Extension – Paging Group

**Smart Multimedia Manager**  
www.addpac.com

Extensions

Modify	Delete	User Portal	Extension Number	Type	Name	Date Created
1			1000	User Extension	Ashley Allen	2015-07-28 12:39:51
2			1001	User Extension	Mary Moore	2015-07-28 12:39:55
3			1002	User Extension	Thomas Taylor	2015-07-28 12:40:00
4			1003	User Extension	Victoria Valdez	2015-07-28 12:40:04
5			1004	User Extension	Olivia Ortiz	2015-07-28 12:40:08
6			1005	User Extension	Linda Lewis	2015-07-28 12:40:12
7			1006	User Extension	George Gale	2015-07-28 12:40:17
8			1007	User Extension	Isabel Irwin	2015-07-28 12:40:21
9			1008	User Extension	William Watson	2015-07-28 12:40:25
10			1009	User Extension	Sarah Scott	2015-07-28 12:40:30
11			1010	User Extension	Nicolas Nelson	2015-07-28 12:40:34
12			1011	User Extension	Emma Evans	2015-07-28 12:40:38
13			1012	User Extension	Rachel Ross	2015-07-28 12:40:43

**Add a Paging Group**

Add

Extension \*  (2~12 digits)

Name \*

Audio Codec

Play beep at start

Play Announcement

**Extensions**  
 Extension

**Paging Group Members**

Name	Extension	Display Name	Multicast
Name	Extension		

**Paging Group**

A paging group has members of user extensions who will receive broadcasting announcement with auto answering by speaker phone. This is half-duplex one-way broadcasting.

**Attendant Queue**

When a call is inbound from trunk or extensions to this queue member and handled by them. Currently, the queue member

**Paging Group**

A paging group has members of user extensions who will receive broadcasting announcement with auto answering by speaker phone. This is half-duplex one-way broadcasting.



# Paging Group Configuration

Smart Multimedia Manager  
www.addpac.com

Extensions

- Extensions
- Directory
- Partitions
- Routing Access Lists
- Terminal Profiles
- Terminals

Trunks

PBX Services

System Admin

Servers

Advanced

Monitoring

Summary

Getting Started GO

Clustering Guide GO

Partitioning Guide GO

Linked in

facebook

YouTube

1:37

Status Add an Extension Paging Group

Add a Paging Group

Add Cancel Advanced Options

Extension \* 9000 (2-12 digits) Check Extension Extension number is valid.

Name \*

Audio Codec G.711U

Play beep at start Beep Sound 3

Play Announcement

Description

A paging group has members of user extensions who will receive broadcasting announcement with auto answering by speaker phone. This is half-duplex one-way broadcasting. Only authorized members can make a paging by dialing the paging extension.

Related Links

- User Extension
- Announcement and Tones
- Partitions

Group Members

Extension	Name
1000	Ashley Allen
1001	Mary Moore
1007	Isabel Irwin
1008	William Watson
1009	Sarah Scott
1010	Nicolas Nelson
1011	Emma Evans
1012	Debra Depp

Paging Group Members

Name	Extension	Display Name	Multicast
Thomas Taylor	1002		Off
Victoria Valdez	1003		Off
Olivia Ortiz	1004		Off
Linda Lewis	1005		Off
George Gale	1006		Off

Specify Phone Number:

Authorization Members

Name	Extension
Thomas Taylor	1002
Victoria Valdez	1003
Olivia Ortiz	1004
Linda Lewis	1005
George Gale	1006

Authorized Members

Name	Extension	Display Name	Multicast
Ashley Allen	1000		Off
Mary Moore	1001		Off

Advanced Options

**Paging Extension**  
This is paging extension number to make the paging by dialing digits.

Play Announcement

Announcement Closing Notification

Repeat Count 1

Retry Count 2

Retry Interval 3 sec

Close on Caller Drop Call

**Play Announcement**  
If enabled, group members will hear announcement at broadcasting. The announcement can be selected among announcement files and can be uploaded at Announcements and Tones menu.

**Group Members**  
These members can receive broadcasting announcement.

**Authorization Members**  
Only these authorized member can start this paging by dialing the paging extension digits.

# Ordering Information

- **AP1605 SIP Audio Broadcasting Terminal Hardware**
  - AP1605 Main Body
  - RISC Microprocessor with High-end Programmable DSP Architecture
  - Option : AP-N3-HQA1000 Module , AP-N3-HQA1000A Module
  - Including Network Cable Set & Power Supply, etc.
- **Built-in APOS Internetworking Software for AP1605**
- **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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