IP + PSTN Hybrid Voice Broadcasting Solution



AddPac

AddPac Technology

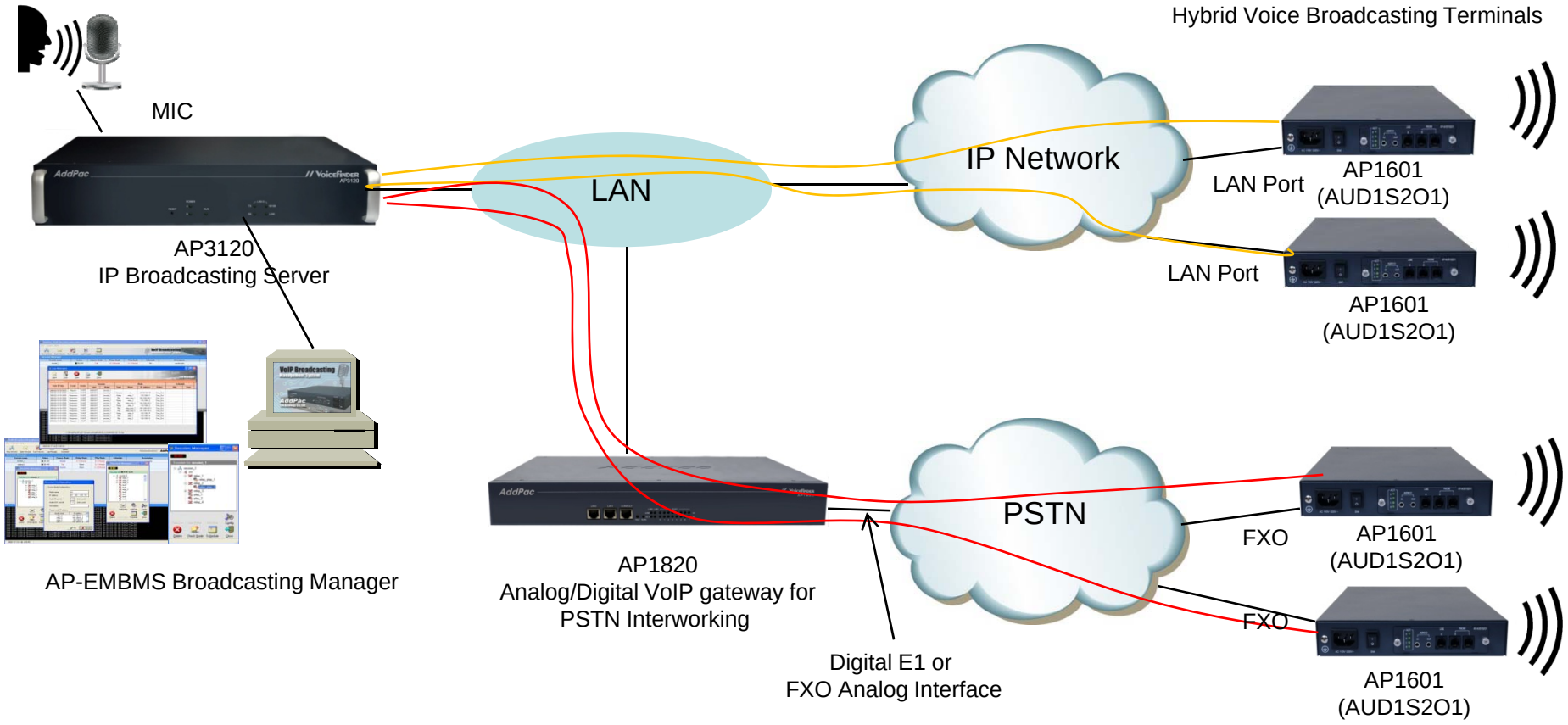
Sales and Marketing

www.addpac.com

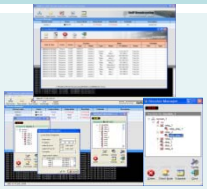
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  - Management Software : AP-MBMS

IP+PSTN Hybrid Voice Broadcasting Service Network Diagram



IP+PSTN Hybrid Voice Broadcasting Product Solution

Broadcasting Management S/W	IP Broadcasting Server	IP+PSTN Hybrid Broadcasting Terminal	Analog/Digital VoIP Gateway (PSTN Custom Signaling Support)	AMP On/Off IP Control Device
 AP-MBMS	 AP3120	 AP1601/ AP1602	 AP1820	 AP-PSB
				

IP Voice Broadcasting Server
AP3120

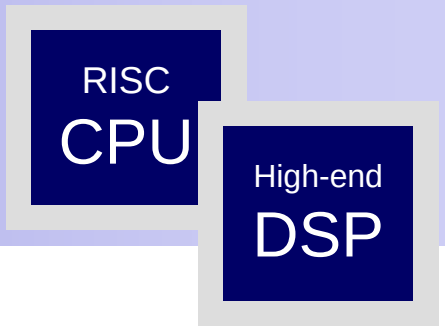
Product Overview

AP3102 IP Voice Broadcasting Server

- IP based Voice Broadcasting Server Solution
- RTP (Real-time Transport Protocol) Support for Media Transmission
- Hardware Architecture for IP Voice Broadcasting Service
- One(1) Module Slot for Audio Encoding & Decoding Service
- VoIP Codec Support (G.711, G.726, etc)
- Unicast and Multicast Broadcasting Scheme
- Enhanced MBMS (Multimedia Broadcasting Management System) Support
- MBMS (Broadcastng Management Software) Support
- Firmware Upgradeable Architecture
- Broadcasting Solution with Outstanding Network Service Capability
- Dual Power Supply for Power Duplication

Hardware Specification

AP3102 IP Voice Broadcasting Server



- RISC Microprocessor Computing Power
- High-end Programmable DSP Hardware Architecture
- One(1) Module Slot for Audio Broadcasting Codec Module
- One(1) Module Slot for Network Interface
- VoIP Audio Encoding/Decoding Service
- Two(2) 10/100Mbps Fast Ethernet Interface
- Option Module : AP-AUDIO2
  - Two(2) 3.5mm Audio Input/Output Interface
- Internal Dual Power Supply

Hardware Specification

AP3102 IP Voice Broadcasting Server

RISC CPU

High-end DSP

Front Side



Power Status LED

LAN Status LED

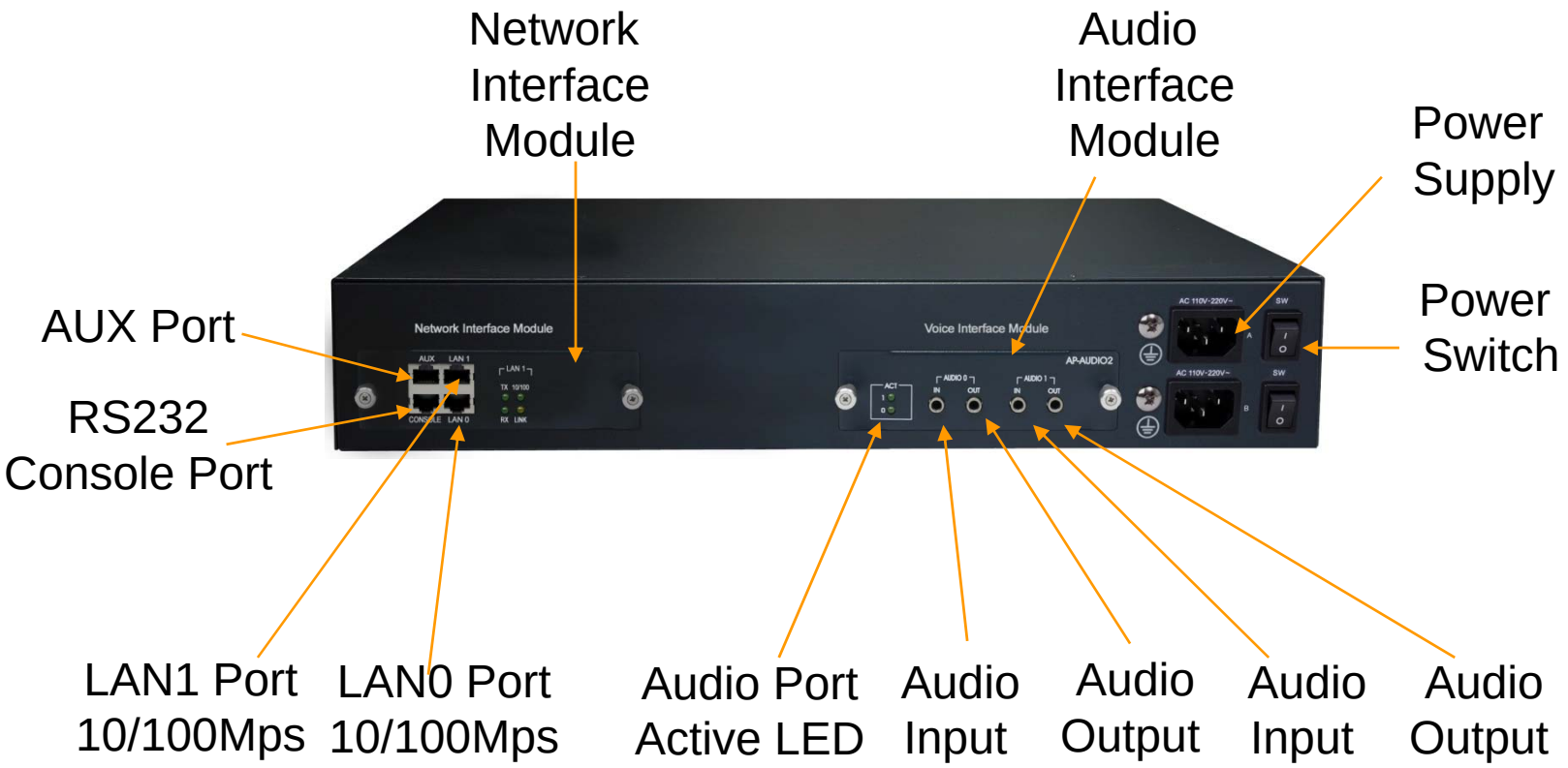
Hardware Specification

AP3102 IP Voice Broadcasting Server

RISC CPU

High-end DSP

Back Side



IP+PSTN Hybrid Voice Terminals

AP1602

IP+PSTN Hybrid Voice Broadcasting Terminal



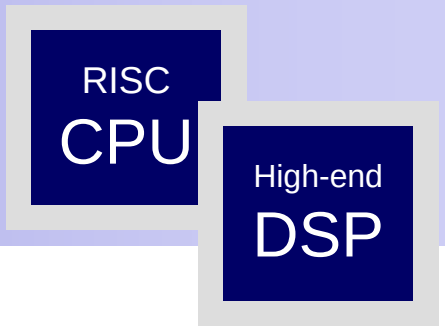
Product Overview

AP1602 Hybrid Voice Broadcasting Terminal

- IP + PSTN Hybrid Voice Broadcasting Terminal Solution
- RTP (Real-time Transport Protocol) Support for Media Transmission
- IP based Audio Broadcasting Terminal Solution (AddPac Proprietary Protocol)
- PSTN Voice Broadcasting Terminal Service Solution
- Hardware Architecture for Audio Broadcasting Terminal Service
- One(1) Module Slot for Audio Encoding & Decoding Service
- Remote Broadcasting Service at terminal side
- VoIP Codec Support (G.711, G.726, etc)
- Unicast and Multicast Broadcasting Scheme
- MBMS (Broadcastng Management Software) Support
- Various Audio Broadcasting Module Support
- On-AIR Blue LAMP
- Firmware Upgradeable Architecture
- Broadcasting Solution with Outstanding Network Service Capability

Hardware Specification

AP1602 Hybrid Voice Broadcasting Terminal



- RISC Microprocessor Computing Power
- High-end Programmable DSP Hardware Architecture
- One(1) Module Slot for Audio Broadcasting Codec Module
- VoIP Audio Encoding/Decoding Service
- ON-AIR Blue LAMP
- Two(2) 10/100Mbps Fast Ethernet Interface
- Option Module : AP-AUDIO2
  - Two(2) 3.5mm Audio Input/Output Interface
- Option Module : AP-AUD1S2O1
  - One(1) 3.5mm Audio Input/Output Interface
  - Two(2) FXS PSTN Analog Interface
  - One(1) FXO PSTN Analog Interface

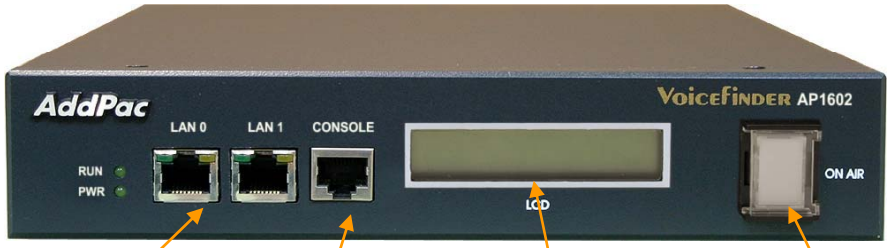
Hardware Specification

AP1602 Hybrid Voice Broadcasting Terminal

RISC CPU

High-end DSP

AP1602 Front Side



Two(2) 10/100Mbps LAN

RS232C Console

Status LCD

On-Air Blue LAMP & Switch

Hardware Specification

AP1602 Hybrid Voice Broadcasting Terminal

RISC CPU

High-end DSP

AP1602 Back Side



Power Supply

Audio Port Active LED

Audio Input

Audio Output

Audio Input

Audio Output

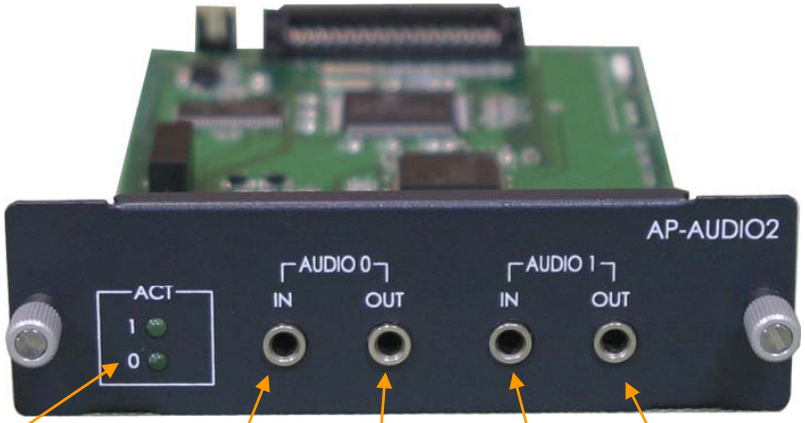
Hardware Specification

AP1602 Hybrid Voice Broadcasting Terminal

RISC CPU

High-end DSP

AP-AUDIO2 Board



Audio Port Active LED

Audio Input

Audio Output

Audio Input

Audio Output

Audio 0 Channel

Audio 1 Channel

Hardware Specification

AP1602 Hybrid Voice Broadcasting Terminal

RISC CPU

High-end DSP

AP-AUD1S2O1 Board



Audio Port Active LED

Audio Input

Audio Output

Audio 0 Channel

LINE Port 0

FXS Port 1

FXS Port 2

Hardware Specification

AP1602 Hybrid Voice Broadcasting Terminal

RISC CPU

High-end DSP

AP1602 Audio Module

Audio Module Type	Audio Module Features
AP-AUDIO2 	Two(2)-Channel Audio In/Out Port
	Audio Encoding/Decoding Service
	Audio IN : MIC IN Audio OUT :Line OUT 3.5mm Stereo JACK
	G.711, G.726, G.729A, G.723.1 Audio Codec

Hardware Specification

AP1602 Hybrid Voice Broadcasting Terminal

RISC CPU

High-end DSP

AP1602 Audio Module

Audio Module Type	Audio Module Features
AP-AUD1S2O1 	One(1)-Channel Audio In/Out Port
	Audio Encoding/Decoding Service
	Audio IN : MIC IN Audio OUT :Line OUT
	3.5mm Stereo JACK
	Two(2) FXS Port Interface (RJ11 x 2)
	One(1) FXO Port Interface (RJ11 x 1)
	G.711, G.726, G.729A, G.723.1 Audio Codec

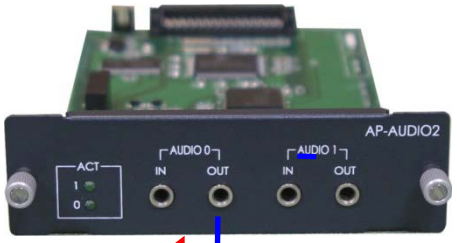
AP-AUDIO2 Module

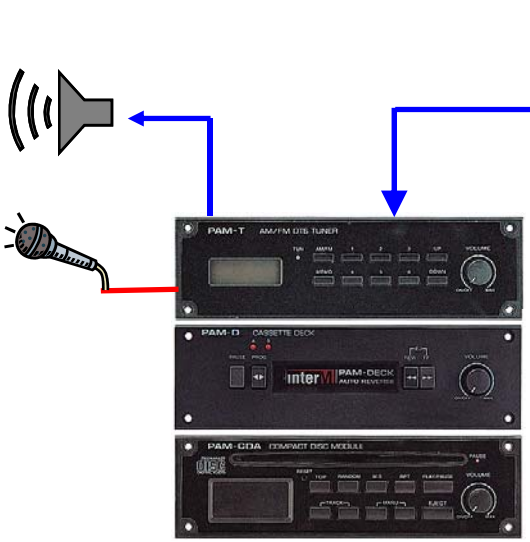
AP1602 Hybrid Voice Broadcasting Terminal

RISC CPU

High-end DSP







3.5mm Line Out JACK

Direct MIC

Headphone

G.7xx Voice codec realizes IP voice broadcasting service
Real time VoIP Broadcasting Service using RTP (Real-time Transport Protoco) Protocol

AP1601

IP+PSTN Hybrid Voice Broadcasting Terminal



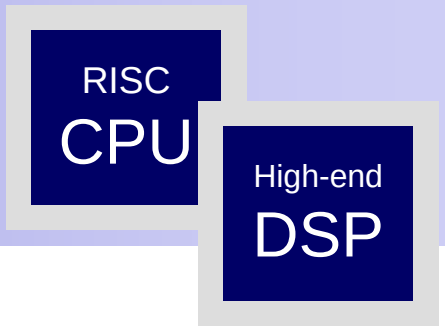
Product Overview

AP1601 Hybrid Voice Broadcasting Terminal

- IP + PSTN Hybrid Voice Broadcasting Terminal Solution
- RTP (Real-time Transport Protocol) Support for Media Transmission
- IP based Audio Broadcasting Terminal Solution (AddPac Proprietary Protocol)
- PSTN Voice Broadcasting Terminal Service Solution
- Hardware Architecture for Audio Broadcasting Terminal Service
- One(1) Module Slot for Audio Encoding & Decoding Service
- Remote Broadcasting Service at terminal side
- VoIP Codec Support (G.711, G.726, etc)
- Unicast and Multicast Broadcasting Scheme
- MBMS (Broadcastng Management Software) Support
- Various Audio Broadcasting Module Support
- On-AIR LAMP
- Firmware Upgradeable Architecture
- Broadcasting Solution with Outstanding Network Service Capability

Hardware Specification

AP1602 Hybrid Voice Broadcasting Terminal



- RISC Microprocessor Computing Power
- High-end Programmable DSP Hardware Architecture
- One(1) Module Slot for Audio Broadcasting Codec Module
- VoIP Audio Encoding/Decoding Service
- ON-AIR LAMP
- One(1) 10/100Mbps Fast Ethernet Interface
- Option Module : AP-AUDIO2
  - Two(2) 3.5mm Audio Input/Output Interface
- Option Module : AP-AUD1S2O1
  - One(1) 3.5mm Audio Input/Output Interface
  - Two(2) FXS PSTN Analog Interface
  - One(1) FXO PSTN Analog Interface

Hardware Specification

AP1601 Hybrid Voice Broadcasting Terminal

RISC CPU

High-end DSP

AP1601 Front Side



One(1) 10/100Mbps LAN

RS232C Console

Status LCD

On-Air LAMP

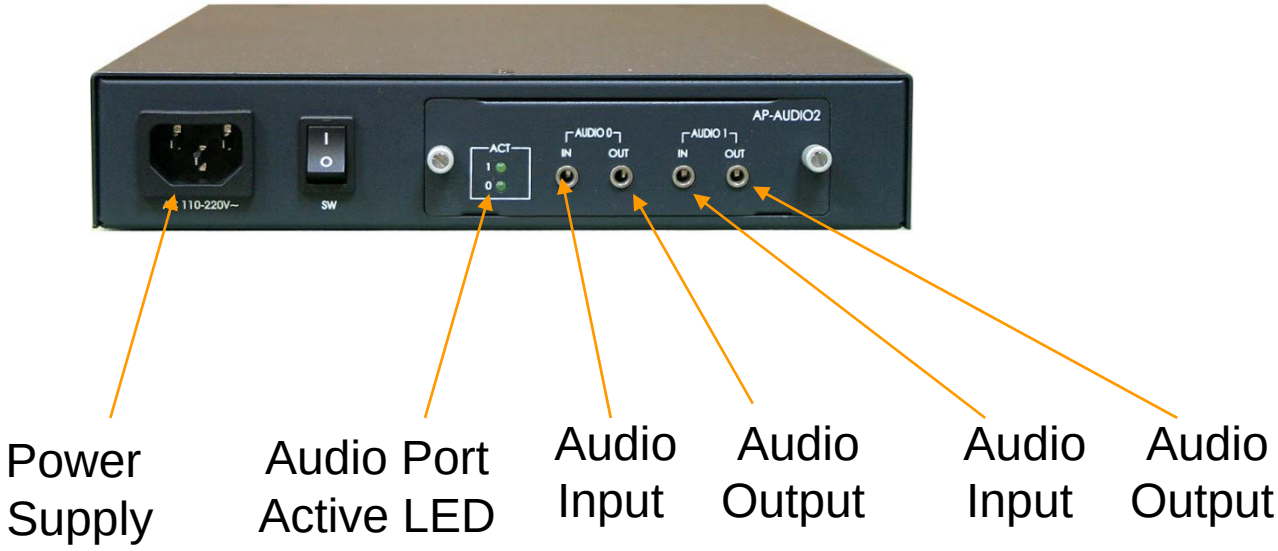
Hardware Specification

AP1601 Hybrid Voice Broadcasting Terminal

RISC CPU

High-end DSP

AP1601 Back Side



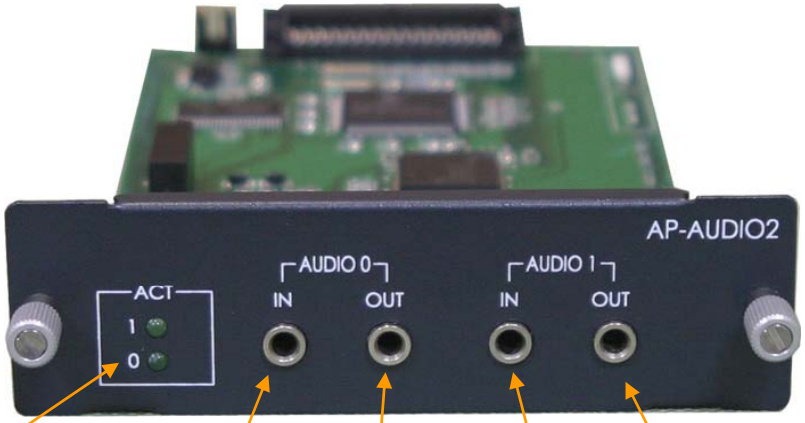
Hardware Specification

AP1601 Hybrid Voice Broadcasting Terminal

RISC CPU

High-end DSP

AP-AUDIO2 Board



Audio Port Active LED

Audio Input

Audio Output

Audio Input

Audio Output

Audio 0 Channel

Audio 1 Channel

Hardware Specification

AP1601 Hybrid Voice Broadcasting Terminal

RISC CPU

High-end DSP

AP-AUD1S2O1 Board



Audio Port Active LED

Audio Input

Audio Output

Audio 0 Channel

LINE Port 0

FXS Port 1

FXS Port 2

Hardware Specification

AP1601 Hybrid Voice Broadcasting Terminal

RISC CPU

High-end DSP

AP1601 Audio Module

Audio Module Type	Audio Module Features
AP-AUDIO2 	Two(2)-Channel Audio In/Out Port
	Audio Encoding/Decoding Service
	Audio IN : MIC IN Audio OUT :Line OUT 3.5mm Stereo JACK
	G.711, G.726, G.729A, G.723.1 Audio Codec

Hardware Specification

AP1601 Hybrid Voice Broadcasting Terminal

RISC CPU

High-end DSP

AP1601 Audio Module

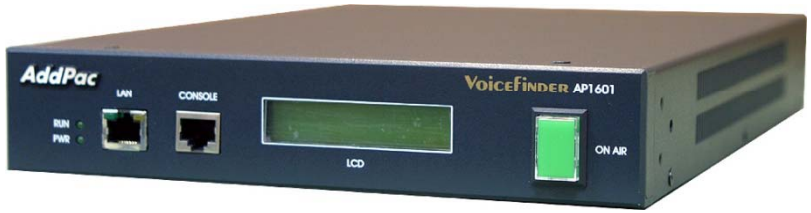
Audio Module Type	Audio Module Features
AP-AUD1S2O1 	One(1)-Channel Audio In/Out Port
	Audio Encoding/Decoding Service
	Audio IN : MIC IN Audio OUT :Line OUT
	3.5mm Stereo JACK
	Two(2) FXS Port Interface (RJ11 x 2)
	One(1) FXO Port Interface (RJ11 x 1)
	G.711, G.726, G.729A, G.723.1 Audio Codec

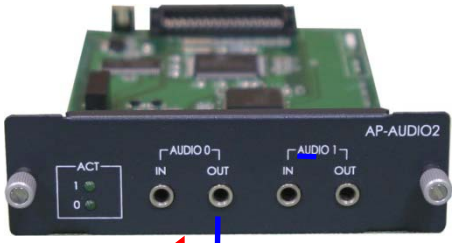
AP-AUDIO2 Module

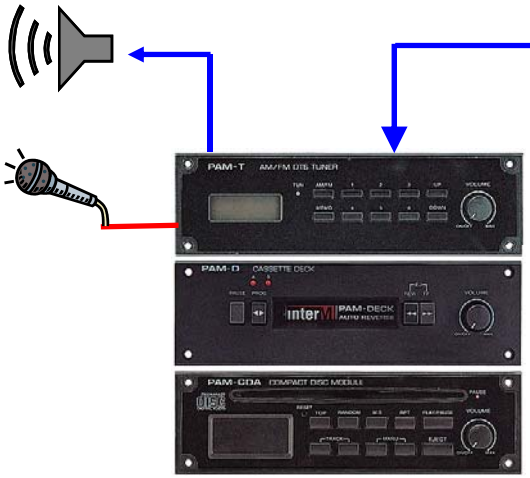
AP1601 Hybrid Voice Broadcasting Terminal

RISC CPU

High-end DSP







3.5mm Line Out JACK

Direct MIC

Headphone

G.7xx Voice codec realizes IP voice broadcasting service
Real time VoIP Broadcasting Service using RTP (Real-time Transport Protoco) Protocol

AP1820

VoIP Gateway for PSTN Broadcasting Service



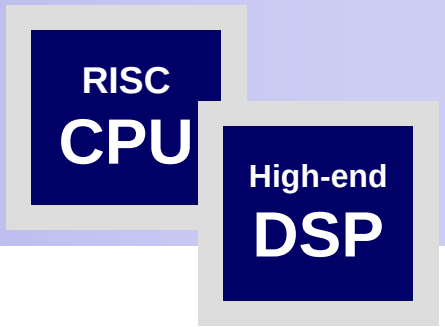
Product Overview

AP1820 VoIP Gateway for PSTN Broadcasting Service

- High Performance VoIP Gateway Solution for PSTN Broadcasting Service
- Custom PSTN Signaling Support for Broadcasting Service
- H.323/SIP Dual Concurrent Stack Embedded
- High Performance RISC & Programmable DSP Architecture
- Two(2) 10/100Mbps Fast Ethernet (IP Share ,etc)
- High Performance LAN-to-LAN Routing Capability
- G.711/G.726/G.723/G.729, T.38 Fax , VAD, etc
- Powerful Network Protocols (PPPoE, DHCP, Static Routing, etc)
- Firmware Upgradeable Architecture
- Advanced Voice QoS Mechanism
- Free Voltage (110~220v) Internal Dual Power Supply for Redundancy
- Rack Mountable Chassis
- Two(2) VoIP Module Slot

Hardware Specification

AP1820 VoIP Gateway for PSTN Broadcasting Service



- **RISC Microprocessor Computing Power**
- **Up to 16 Port Analog VoIP Gateway**
- **Two(2) VoIP Module Slots (Hot-Swap)**

  - 8-Port FXS Card, 8-Port FXO Card, 4-Port FXS 4-Port FXO Card, 4-Port E&M Card, Digital E1/T1 Card
- **Network Interface**

  -Two(2) 10/100Mbps Fast Ethernet (RJ45)
- **RS232C Console Interface**
- **Run LED, LAN LED, Port LEDs**
- **Internal Dual Power Supply**

Hardware Specification

AP1820 VoIP Gateway for PSTN Broadcasting Service

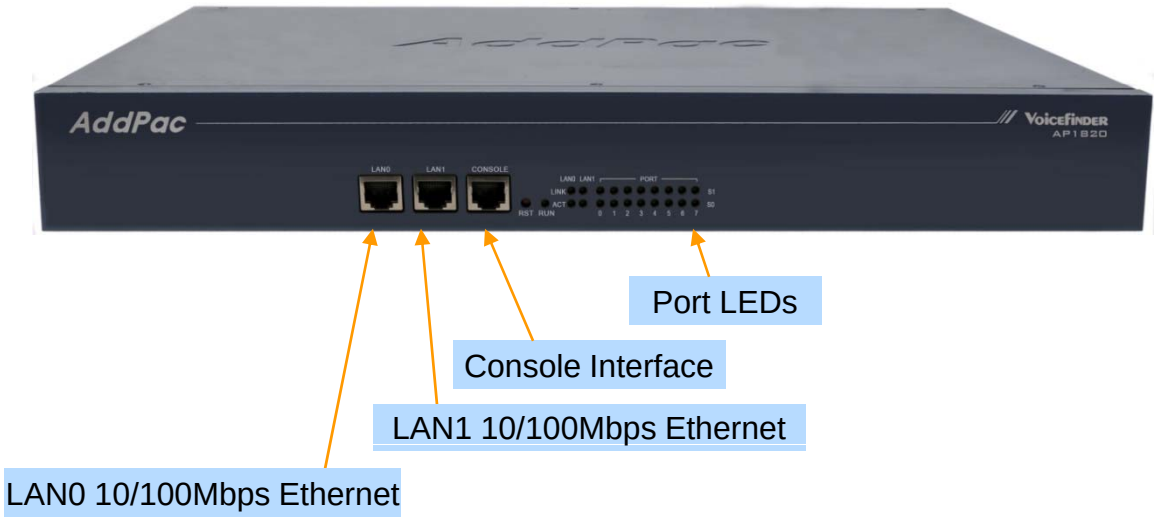
Hardware Specifications

AP1820 VoIP Gateway	Basic Specifications
Voice Interface	Two(2) VoIP Module Slots
	AP-N1-FXS8, AP-N1-FXO8, AP-N1-FXS4O4, AP-N1-E&M4, AP-N1-E1, etc
Ethernet Interface	2-Ports 10/100Mbps Ethernet Interface(RJ-45)
Flash Memory	4 Mbyte High-speed Flash Memory
Base Memory	64 Mbyte High-speed SDRAM
Power Requirement	Power Supply Adaptor / VAC 110~220V, 50/60Hz, 5V 8A
Operating Temperature	0ºC ~ 45ºC (32 ºF ~ 122ºF)
Storage Temperature	-40ºC ~ 85ºC (-40ºC ~ 185ºF)
Relative Humidity	5% ~ 95% (Non-condensing)
Dimensions (H x W x D)	55 x 440 x 267(mm)-19" Rack Mountable Chassis
Weight(kg)	3.5Kg

Hardware Specification

AP1820 VoIP Gateway for PSTN Broadcasting Service

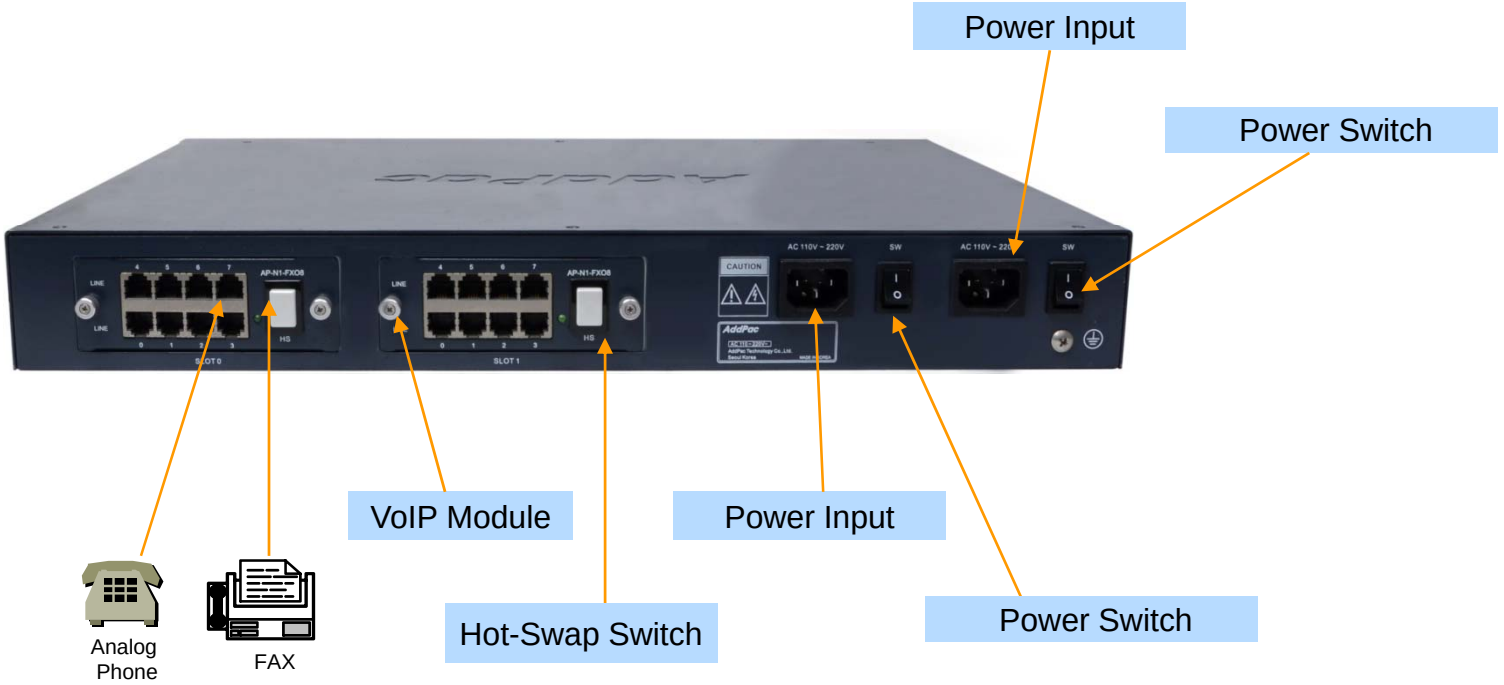
Network interface Configurations
(Front Side)



Hardware Specification

AP1820 VoIP Gateway for PSTN Broadcasting Service

Network interface Configurations (Back Side)



VoIP Modules

AP1820 VoIP Gateway for PSTN Broadcasting Service

DSP

Target	VoIP Modules	Module Features	Module Picture
AP1820	AP-N1-FXS8	8-Port FXS Module	
AP1820	AP-N1-FXO8	8-Port FXO Module	
AP1820	AP-N1-FXS4O4	4-Port FXS&4-Port FXO Module	
AP1820	AP-N1-E&M4	4-Port E&M odule	
AP1820	AP-N1-E1	1-Port Digital E1/T1 Module	

AP-PSB

Power Switching Box

Remote Amplifier Power On/Off Controller



Product Overview

AP-PSB Power Switching Box

- Remote Amplifier Power ON/OFF Controller
- Remove the Background Noise When Mode is not ON-AIR state
- Master(AP1601)-Slave(AP-PSB) based Architecture
- AddPac IP based Voice Broadcasting Total Solution
- Module Type DC, AC based Power On/Off Control
- RS232 or LAN Interface for Command interface between AP1601(terminal) and AP-PSB
- Firmware Upgradeable Architecture(FTP, TFTP)
- Broadcasting Solution with Outstanding Network Service Capability

Hardware Specification

AP-PSB Power Switching Box



- RISC Microprocessor Computing Power
- Module Slots for Power On/Off Control Module
- Power Control Interface
  - DC Input, DC Output
  - AC Input, AC Output (Option)
- Network Interface for Command Control
  - One(1) 10/100Mbps Fast Ethernet (RJ45)
  - One(1) RS-232C Interface (RJ45)

Hardware Specification

AP-PSB Power Switching Box

RISC CPU

Front Side



Power LED

Blank Slot
for AC Input

On-AIR Lamp

RS232 Interface
(RJ45)

LAN Interface
(RJ45)

Hardware Specification

AP-PSB Power Switching Box

RISC CPU

Back Side



Power Input

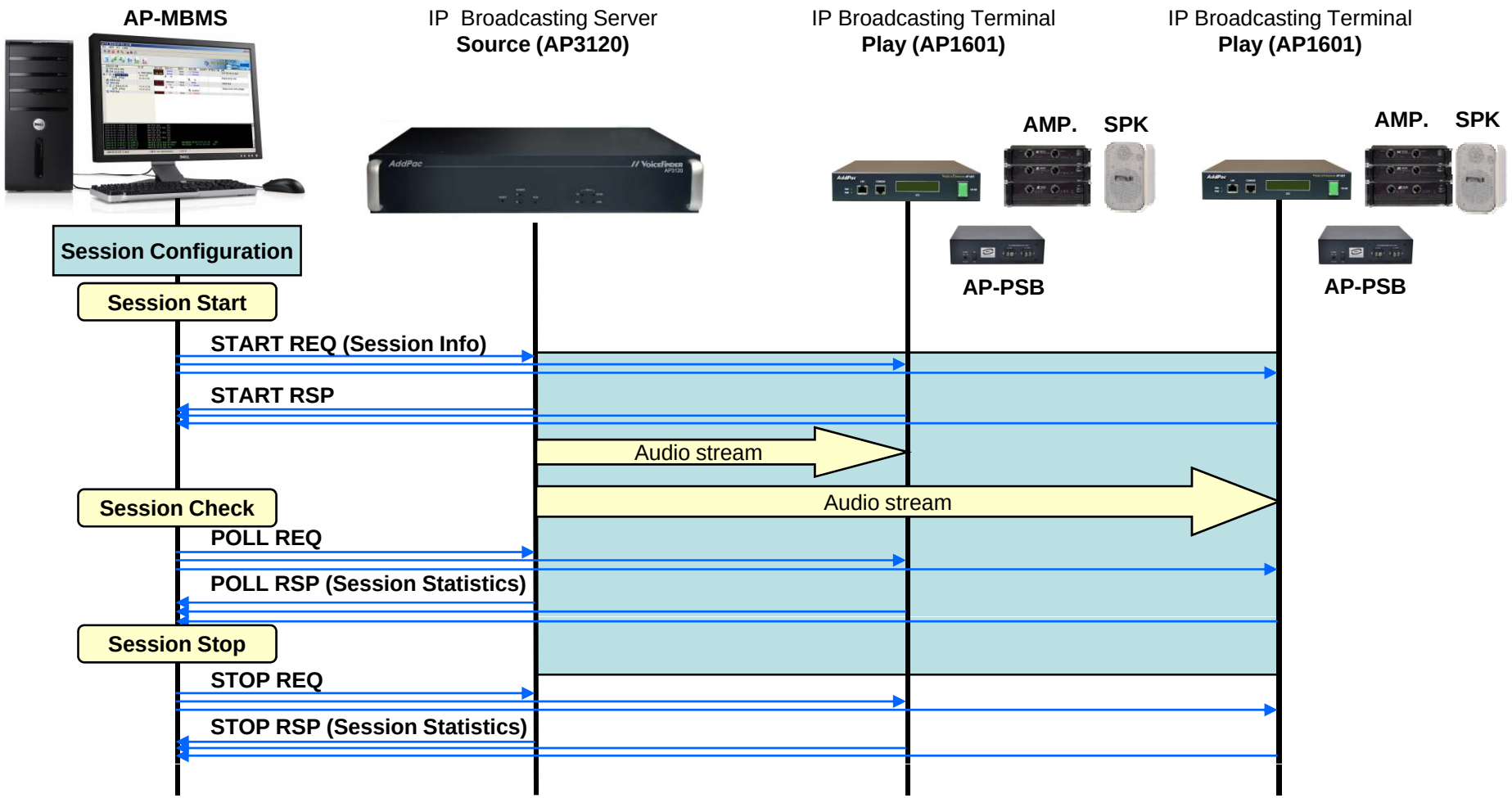
Power ON/OFF Switch

AMP. Power Input

AMP. Power Output

IP Broadcasting Signal Flow

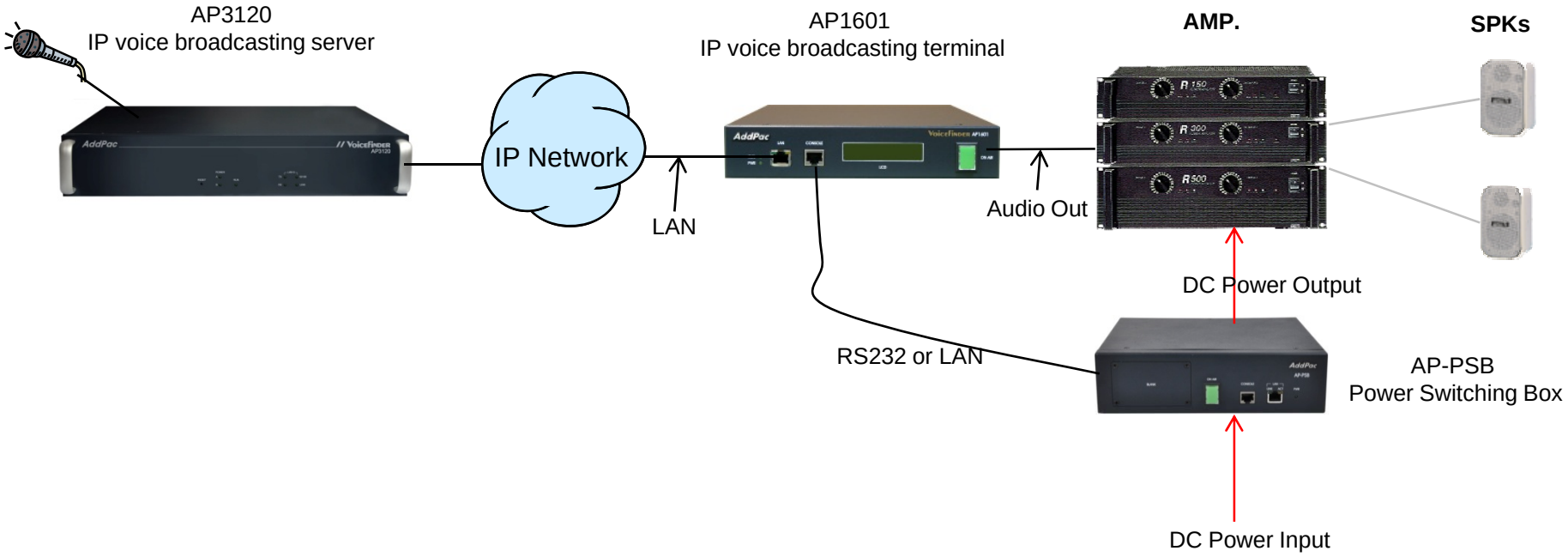
AP-PSB Power Switching Box



PSB Power Control Diagram

AP-PSB Power Switching Box

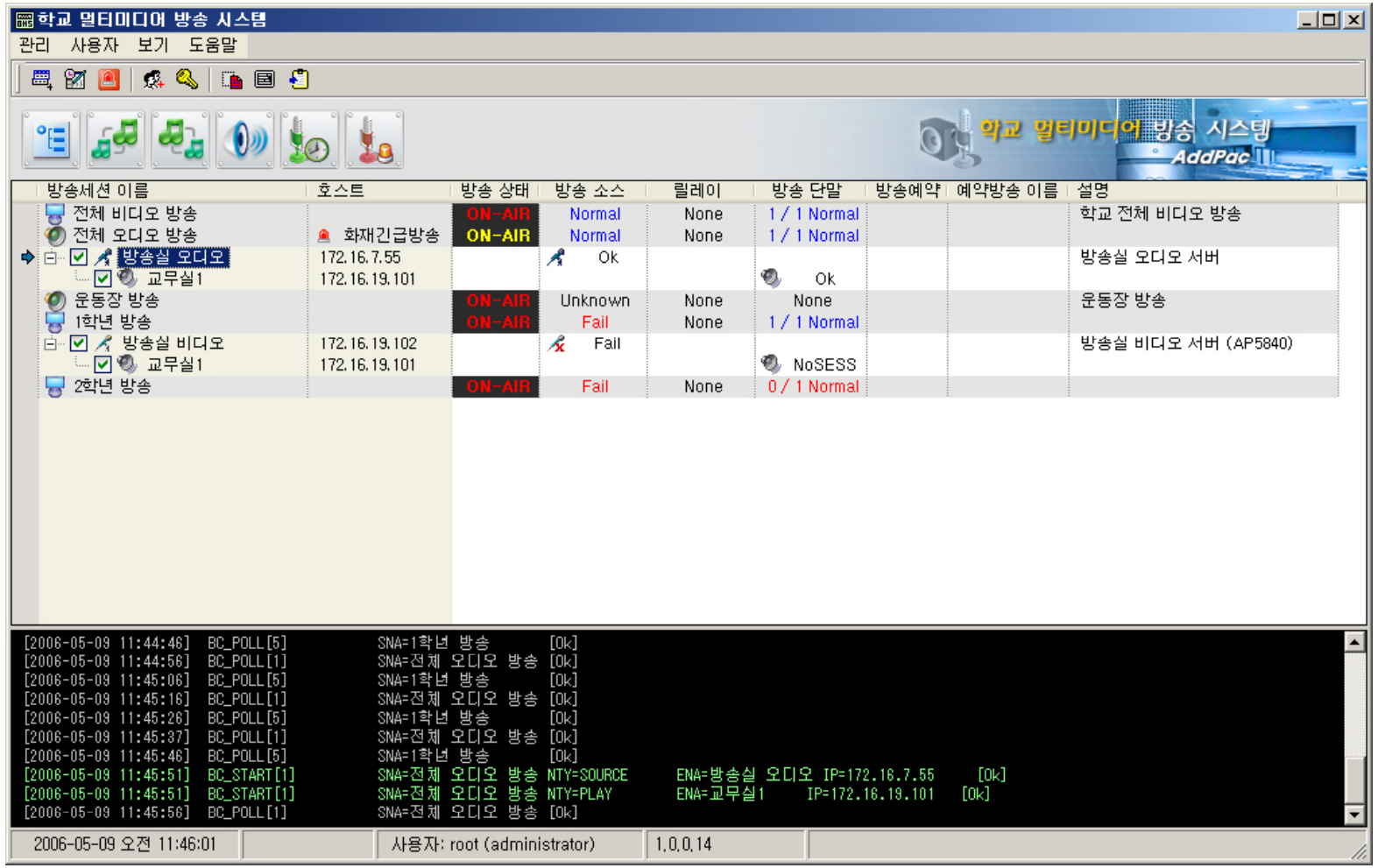
PSB Power Control Diagram



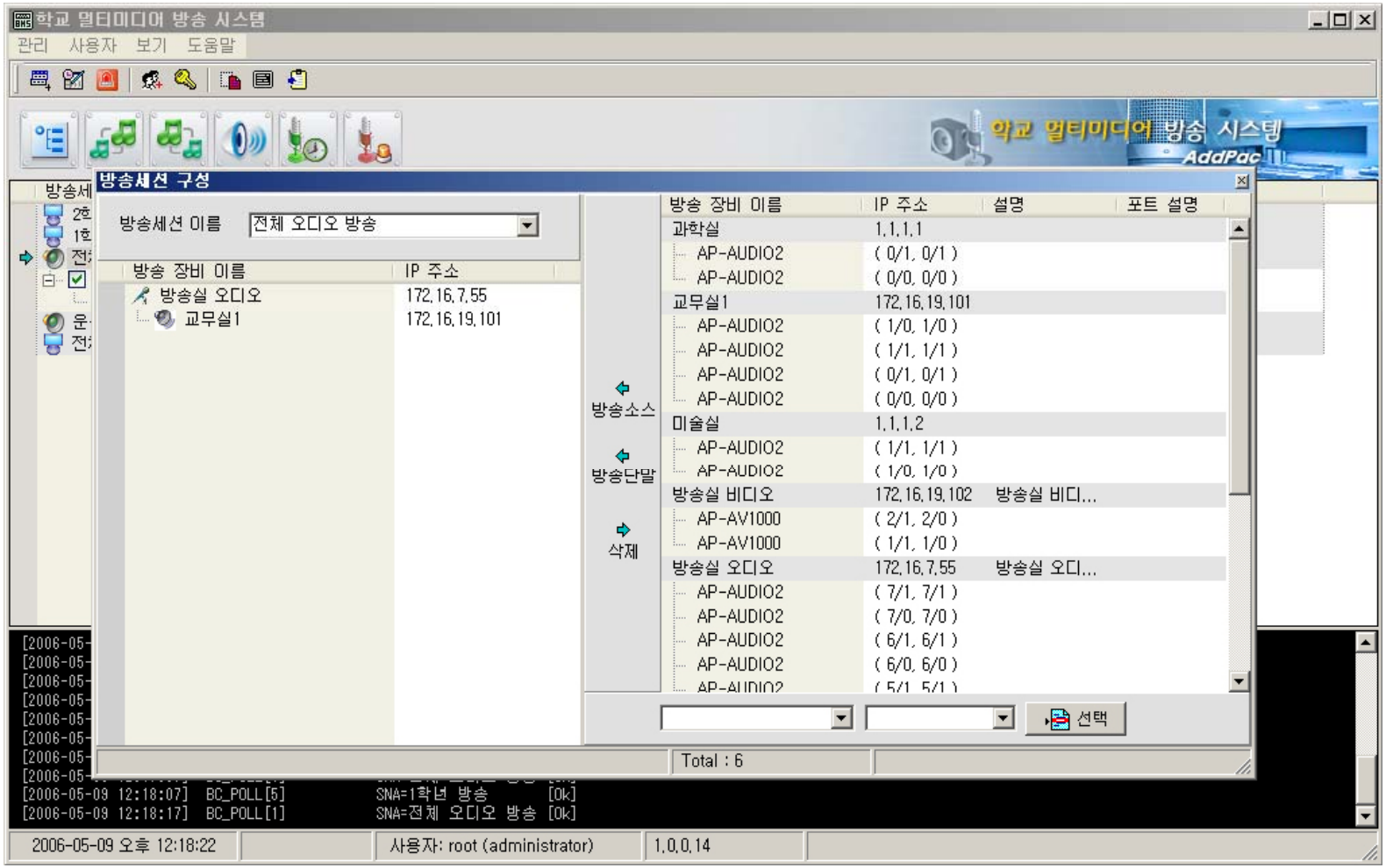
MBMS (Multimedia Broadcasting Management System) 2.0



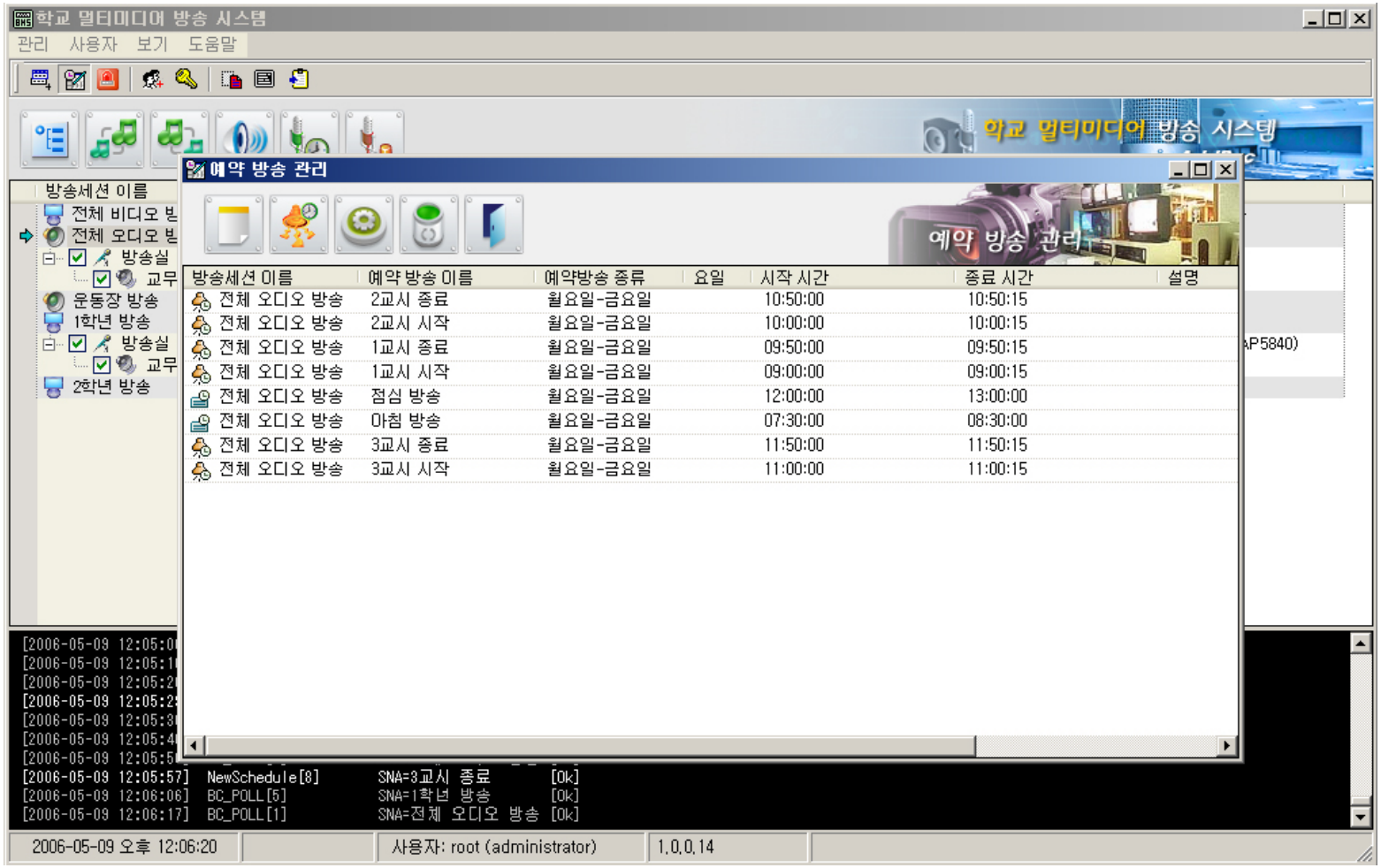
MBMS S/W Startup (Example)



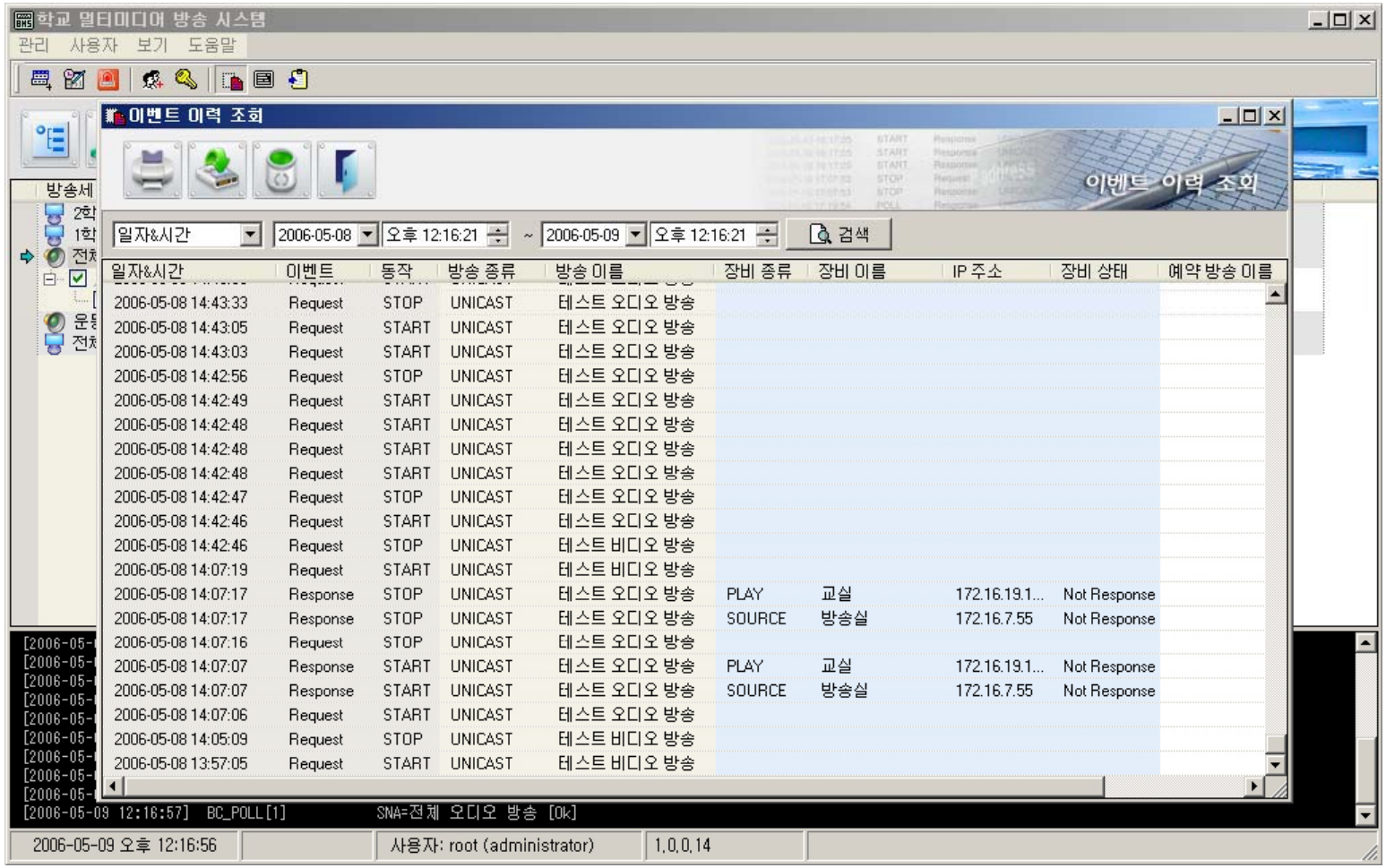
Broadcasting Equipment Management (Example)



Broadcasting Scheduling (Example)



Event Log (Example)



Thank you!

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