

iPX5000

Series

IP BASED PA SYSTEM



A solution for large area and multiple locations interconnectivity. Transforming conventional systems into digital communications



www.ampereselectronics.com



ISO 9001 : 2008
(Design & Manufacture of Public Address Equipment and Systems)

INTRODUCTION TO IP BASE PA SOLUTION

IP (TCP/IP) based PA system shall be the way of the future. It provides multiple advantages over the conventional systems especially on the cabling infrastructure and the flexibility for future expansion. The possibilities of applications and benefits of digital interconnections are beyond imagination.

Amperes is now a part of the contemporary needs by providing a solution while maintaining the existing setup and turn it into IP system with minimal equipments to be installed. This shall be a cost efficient way of achieving the best of digital world without burning a hole in the pocket.

Newly introduced and tested IP Adaptor (IP Client) and IP Controller (IP Server) shall be the forerunner tools to IP installation. These two products shall be the basic or core components to achieve a full IP solutions.

How shall they be connected? We went to a great length of trying to understand the needs of client and the way installer work. Amperes always try to produce simple yet powerful product with ergonomic design. A simple graphical illustration and a basic engineering knowledge shall be sufficient to apply this product into you installation, making it a system with countless limitations.

INTRODUCTION IPX5000 SERIES IP PRODUCTS

The basic component used to convert the existing system into IP solution shall be the Client Ethernet Adapter (iPX5150) and Ethernet Server (iPX5100). Other components shall be introduced in later date, and the IP features shall be integrated into the equipment itself. Among them shall be IP Desktop Paging Microphone, IP Emergency Paging Panel, IP Music Server, IP Music Player and so on.



iPX5150 ETHERNET CLIENT ADAPTER

iPX5150 shall be used at every point that needs conversion such as at main rack, remote rack at different location or at a remote paging mic that is intended to be linked to the paging system.

iPX5150 converts audio signal and RS485 data form PD Series paging microphone into IP and at the remote end, it converts the IP data into balanced audio output as well as RS485, which shall be connected to zone decoder and audio mixer.

The tremendous advent of Information Technology has great impact on almost everything 'electronics' and there is no exception to Public Address Systems. IP based PA System shall the way of voice communications in buildings in very near future.

iPX5100 ETHERNET SERVER












Each system shall consist one unit of iPX5100 and shall be installed at the main rack, or at the main network switch.

iPX5100 is used to store setup parameters of all Client Adaptors available in the setup, such as priority level, paging routing and etc. Any activities performed by paging mic through Client Adapter shall be processed by iPX5100 Server prior to routing the audio or data to the relevant station.



ADVANTAGES of iPX5000 SERIES

- 
DIGITAL AUDIO TRANSMISSION
 Audio signal is transmitted in digital format thereby provides immunity from noise which would normally occur using analogue signal for long distance transmission.
- 
CHOICE OF CONNECTIVITY
 Communications between main paging station to remote can be achieved using local LAN or WAN, Internet or using Fiber Optic Cable (converter required).
- 
COST SAVINGS
 Significant cost savings on cabling works can be achieved by applying IP, especially in large setup such as university, factory and office complexes.
- 
REMOTE CONTROLS
 As long as there is a broadband connectivity, paging to remote connection shall be achievable. Among applications include paging to train stations, branch offices or factories.
- 
DECENTRALIZED SYSTEM
 Building to building inter connectivity shall be further simplified by using existing IT network whereas in conventional system, a substantial amount of copper cable has to be laid to link to main rack.
- 
SYSTEM EXPANSION FLEXIBILITY
 System can be expanded further to cater for larger area without having to run connecting cabling to the main rack, provided there is a network point in the new location.
- 
MOBILITY
 With readily available Wifi, the paging station can be placed anywhere, thus eliminating the limitations of using wired system.
- 
MULTI LEVEL SYSTEM ACCESS
 Access to the system operation or setup can be tiered according to different levels via the management software (Available soon). This shall prevent unnecessary interference to the system.
- 
MULTIPLE AUDIO BROADCAST
 Multiple BGM source can be broadcasted to entire system with each receiving point having flexibility to select the preferred music source. This flexibility shall not be available in conventional system where only a single source can be broadcasted in the entire setup.

FEATURES :

- DUPLEX TRANSMISSION**
 Communications between Server and Client is duplex, enabling two way paging unlike conventional system which is only single way.
- CONVENIENCE OF INTEGRATION**
 iPX5000 series can be easily integrated with existing Amperes products such as MatriMix Paging, PMX or PD Series of Paging Microphones.
- CONVERSION FLEXIBILITY**
 Existing system of any brand would be able to employ iPX5000 Series with minimal equipment additions or rectifications.
- MULTIPLE APPLICATION**
 With soon available components, apart from paging application, high quality music broadcast and auto voice messaging with flexible routing would be made possible.

IPX5000 IN MULTIPLE LOCATION SETUP

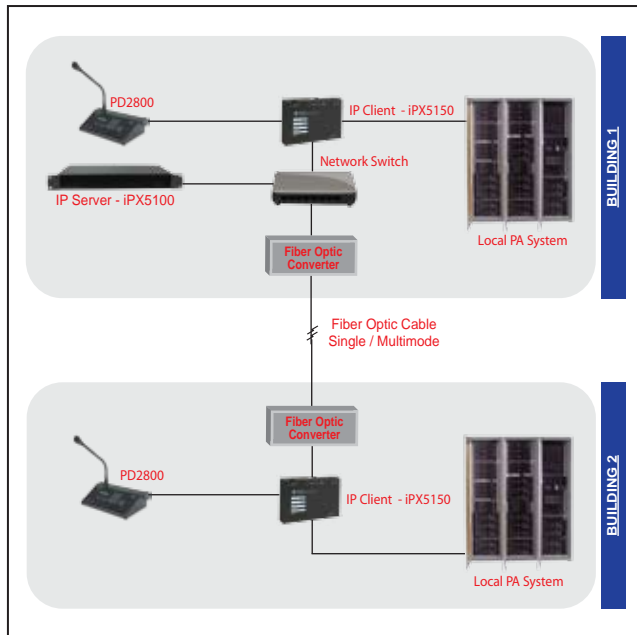
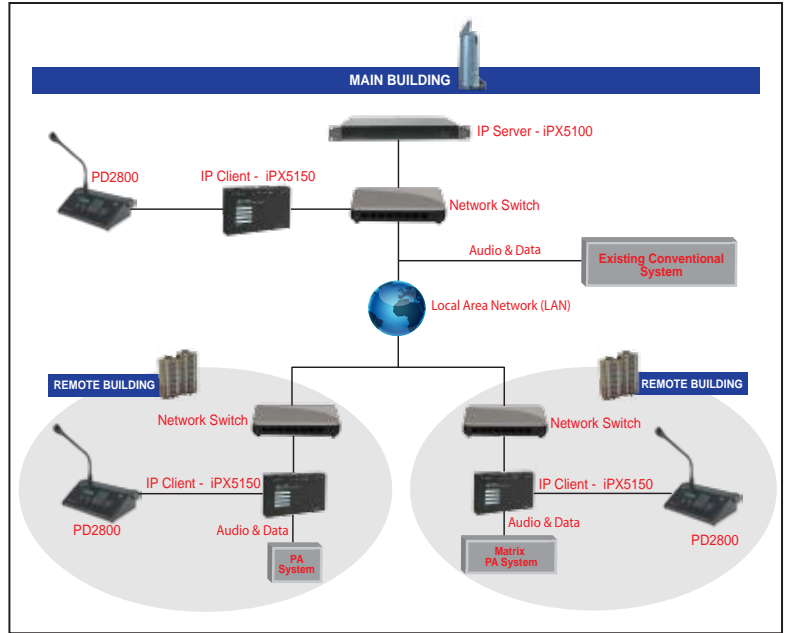
The illustration shows convergence of existing conventional individual systems for a area of multiple buildings.

The main rack shall be installed with iPX5100 server with iPX5150 client adaptor attached to PD paging microphone. Both the client and server shall then connect to the Network Switch.

Remote building with their individual system shall have a Client installed. The connectivity between the buildings and the main rack shall be via LAN.

The main paging station shall be able to page to remote buildings, where as from the remote site, it can be either two way or single, depending on the setting by the user.

Remote systems, whether it was installed with MatriMix Paging or paging station with TD zone decoder are compatible with IPX5000 conversion.



REMOTE CONNECTIVITY VIA FIBER

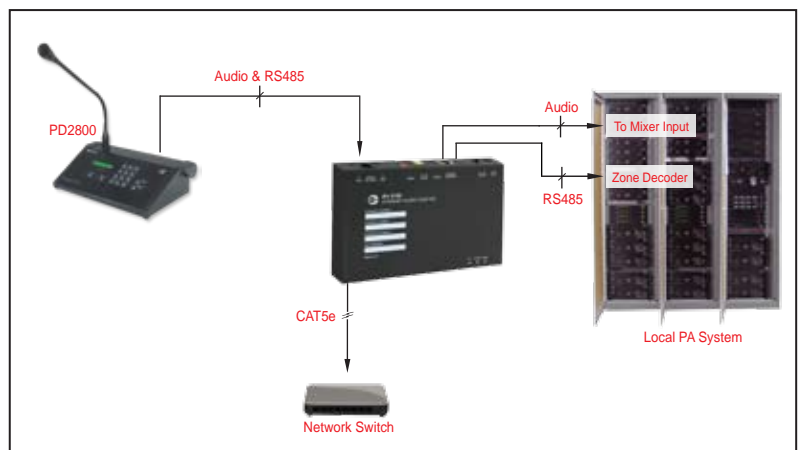
Connectivity between two locations of far distance can be achieved using fiber optic Cable and can be independent from existing LAN infrastructure. IP-Fiber converter which is readily available in the market shall be used together with iPX5100 and iPX5150. Multimode or Single mode fiber accessories and cable shall be used depending on the distance.

Amperes had learnt and understood the needs of customers' requirements and installers working approach, enabling us to create products that are user friendly and reliable.

CONNECTION DIAGRAM

iPX5150 to PD2800 and Mixer

The diagram shows the detailed connections between the Client Adaptor and PD2800 paging mic. The units are assumed to be installed near the rack, which in turn also connected to the mixer.



TECHNICAL SPECIFICATION

SPECIFICATION	IP SERVER - iPX5100	IP CLIENT - iPX5150
Network - LAN Interface - Protocols:	RJ-45, 10Mb/s IP, ICMP, DHCP, TCP, UDP, HTTP, RTP, PASP	RJ-45, 10Mb/s IP, ICMP, DHCP, TCP, UDP, HTTP, RTP, PASP
Audio - Analogue Input (Peak-to-peak) - Input S/N Ratio: - Input Impedances: - Analogue Output (Peak-to-peak): - Output Load Resistance: - Output Load Capacitance: - Total Harmonic Distortion (THD): - S/N Ratio (full scale signal): - Digital Format:	-	2.2 V 86 dB 100 Ohm 1.5 V 30 Ohm 100 pF 0.1% 83 dB IMA ADPCM 64Kbit/sec
Public Address Signaling Protocol (PASP)	- Up to 32 Clients - Up to 8 Session - Maximum 8 Clients per session	- Up to 256 channels - Maximum 8 Clients per session
User Interface:	IE Browser UART (RS232)	IE Browser UART (RS232)
Control:	UART (RS485)	UART(RS485)
Upgrade	Boot Loader and UART (RS232)	Boot Loader and UART (RS232)
Power Requirement : - Voltage - Current:	12 - 24 VDC 350mA	24 VDC 350 mA
Operating Condition : - Temperature : - Humidity :	-20C ~ +75C 80%	-20C ~ +75C 80%
Case: - Dimensions (W x H x D) - Weight	482 x 44 x 180 1.8 kg	200 x 31 x 120 600 g

REAR VIEW



UPCOMING IP BASED COMPONENTS :

- iPX5180 - Paging Mic with sense touch keypad.
- iPX5200 - Music / BGM server
- iPX5250 - Music / BGM input adaptor
- iPX5300 - Music / BGM player

Setup windows can be performed via a notebook through LAN or via WIFI enabled area, a PDA/Smart Phone with IE browser .

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