



Amperes IP Based Paging System

the future starts here

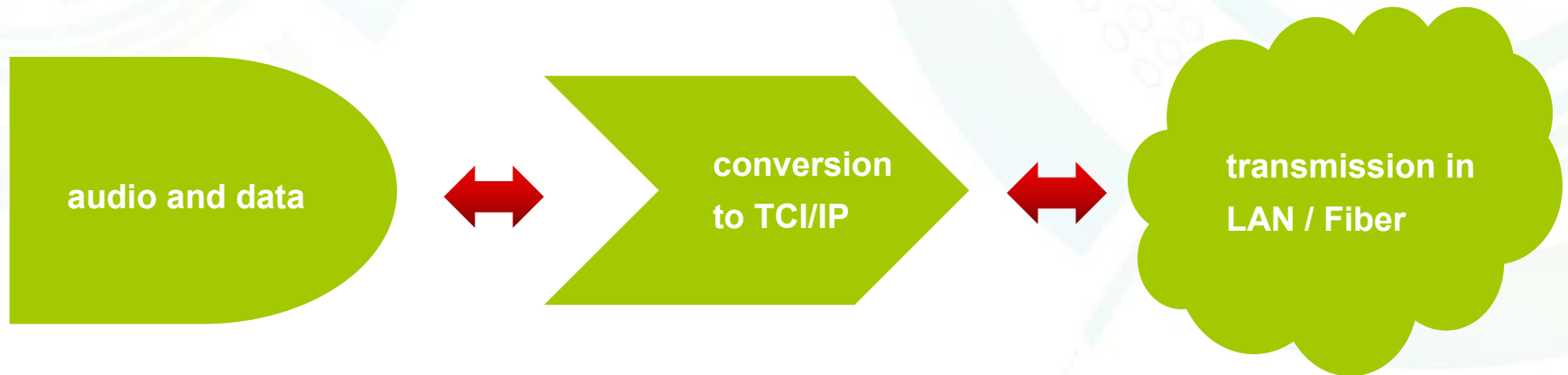




Fundamentals :

Transmission of Audio Paging and Controls via TCP/IP using LAN / Internet, in which :

- Audio includes Voice or Music with format such as ADPCM, MP3, WAV etc
- Controls include RS485 data or any other appropriate data





1

Advantages

- Able to link large systems in a single network
- Expandable for future expansions

Main System



Direct Link to Main System
via LAN or through dedicated
fiber network / LAN

Sub Systems



Further sub link



Sub Systems





2

Advantages

- Less cablings as compared to conventional system for system interlink (Lower cost for large distributed system)



Main System



Fiber link to Sub System

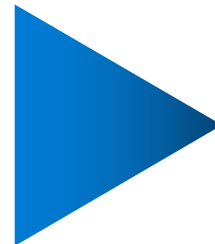
Sub Systems



Example :

Sub System with 20 zones ; cable required are

- 20 x 2 Core 2.5mm or higher size
2 x 2 Core 2.5 for 24V DC overriding
2 Pair screen cable for audio
2 Pair screen for data
- Outdoor cablings (armoured)



**2 Core Fiber (SM / MM)
or
Not Required if existing LAN used**

3

Advantages

- Long distance voltage drop (cabling loss) avoided



Main System



2.5 mm Cable

Speakers in
Sub Building

Reference :

Cable loss table for various cable size at Page 34

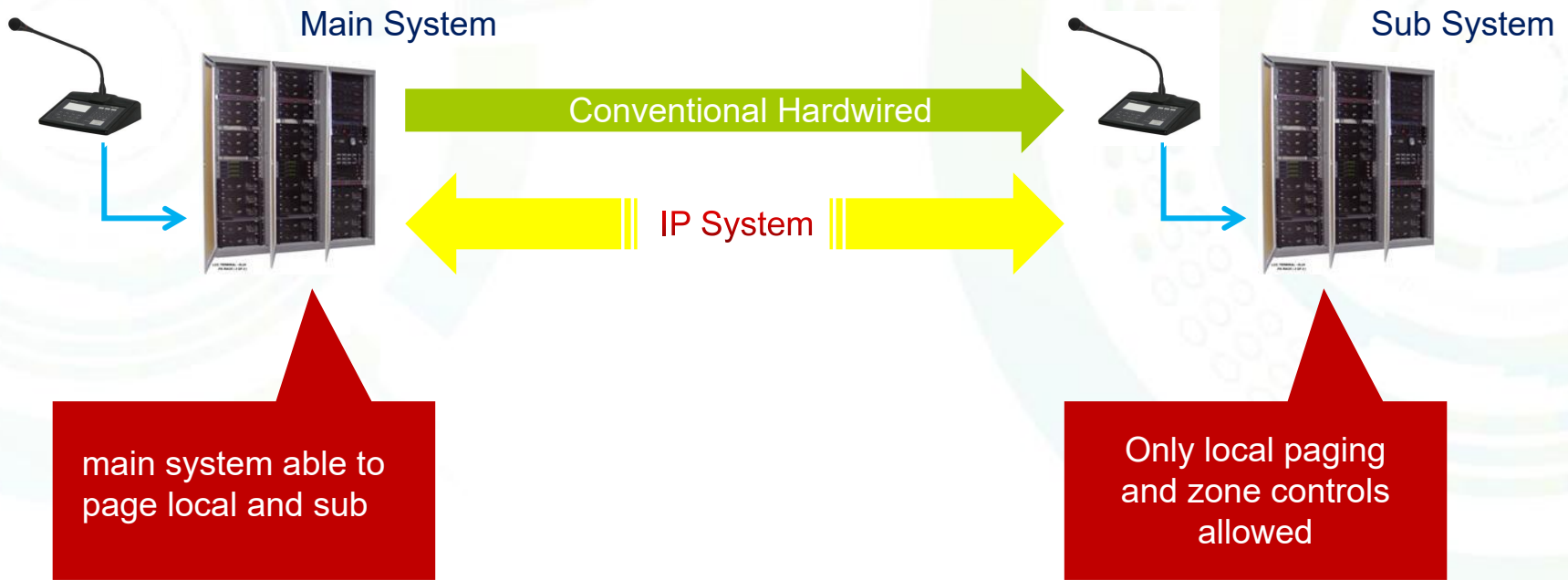
- Cable length subjected to :
 - permissible total loss
 - total load
 - cable size
- Loss calculator available in webpage such as <https://www.tlcdirect.co.uk/Technical/Charts/VoltageDrop.html>



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Advantages

- Allows bidirectional paging and controls



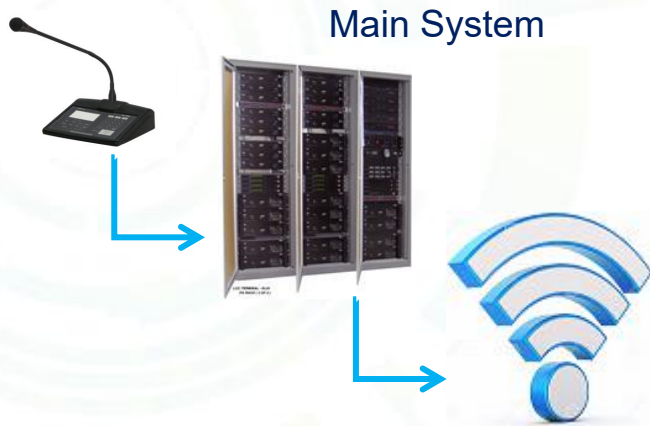
Controls include remote monitoring, zone controls and other settings



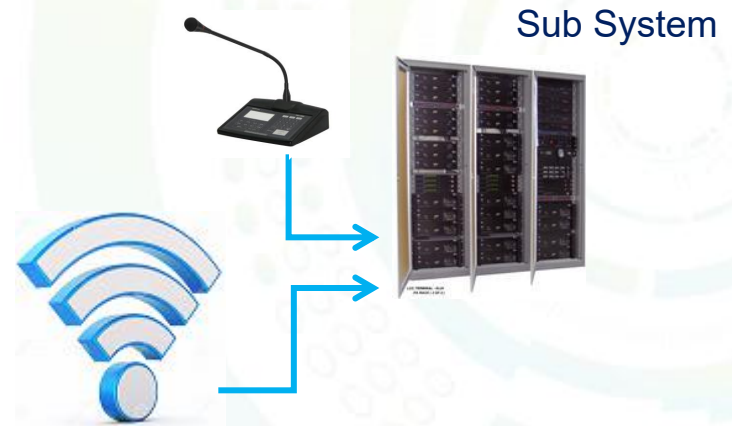
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Advantages

- Wireless connectivity solutions



- When hardwiring not possible
- Long distance
- More economical than laying cable



- WIFI router
- Point to Point wireless link



Disadvantages



1

Latency

Small latency as compared to direct connection from audio output

milliseconds latency can be easily unnoticed



2

Network Crash

Possible network crash if using existing LAN and other difficulty in managed network system such as firewall settings

Use dedicated network / fiber link for PA or related ELV system ; apart from office main network



3

Cost Matter

It is more costly for smaller system with single rack as compared to larger distributed systems

On equipment wise, Amperes offers the most economical solution as compared to others of similar range



What Amperes iPX can offer

- 1** Conversion of existing analogue / digital system into IP at a fraction of cost without much change to the setup
- 2** Less proprierty equipment, SDK available for external interface
- 3** Communication breakdown in LAN would not affect local operation
- 4** Modular ; only install related equipment according to requirement

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Q and A



Thank you for listening to this session

