

POE

keiga

Audio Introduction

25 Years of *Reliability*

AUDIO AMPLIFIER & IOT DEVICE ODM / JDM / OEM
SOFTWARE / HARDWARE / MANUFACTURING

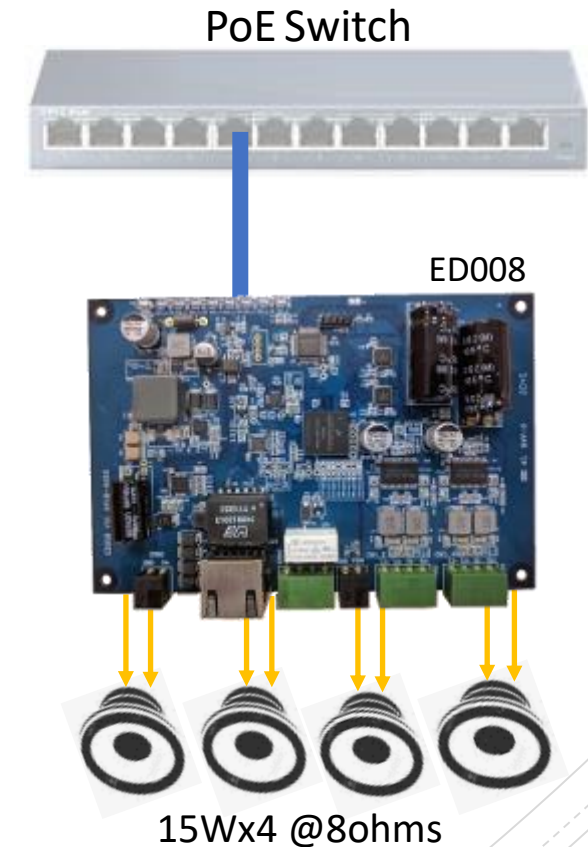


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PoE Audio

Using one **Ethernet** cable to deliver **sound** and **power**

- Replacing both costly heavy resistance audio cable and power cable
- Digital sound streaming/transmitting within an IT network via Ethernet cable
- Deliver sound power as high as 71W, that is more than enough for most home and commercial audio needs



What is Ethernet

Commonly used cable in the IT Network

- Ethernet cable is used for IT devices to transmit/receive data only
- It has 8 wires inside each cable. 4 of them are used for standard IT data exchanges
- The other undefined 4 wires have not been used by the IT standards



What is PoE (Power over Ethernet)

Power & Data in One Cable

- Some proprietary systems have been using 2 of the undefined wires to deliver point-to-point low wattage DC power between devices
- An example would be security DVR to a camera.
- New technology allows us to use all 8 wires to provide up to 100W DC power from the power source along with digital data



IEEE PoE Standards

IEEE 802.3 af / at / bt

- IEEE has standardized PoE for universal uses
- Devices can be connected to an IT Switch/Router, not only interchanging data but also acquiring DC power

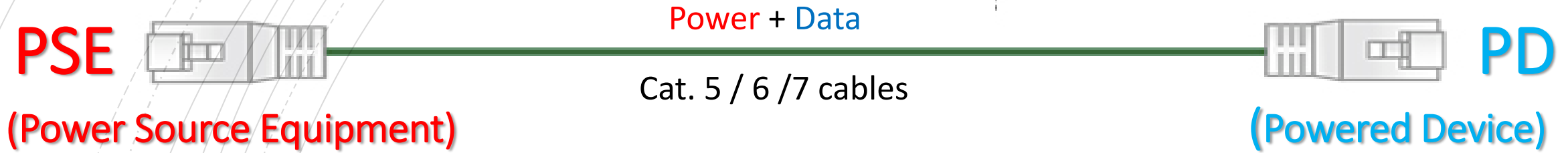
15W
PoE
2003
IEEE 802.3af

30W
PoE+
2009
IEEE 802.3at

60W
PoE++
2018
IEEE 802.3bt

100W
POE++
2018
IEEE 802.3bt

IEEE PoE Definitions



- **PSE** are devices that provide power on the Ethernet cable, such as a network Switch or Router with PoE capability.
- **PD** are any devices powered by PoE, such as audio amplifiers, lighting, etc.
- The maximum distance between a PSE and PD is 100 meters.

IEEE PoE Definitions

PSE and PD Ratings

- Due to the safety and power losses within the distant cable, wattages are defined separately for PSE and PD.

	802.3af PoE	802.3at PoE+	802.3bt PoE++	802.3bt PoE++
PSE Max. Power	15.4W	30W	60W	100W
PD Rated Power	12.95W	25.5W	51W	71W

PoE Applications

More Power More Applications

Security Camera



IP Phone



POS Terminal



IT Device



Door Phone



Security Alarm



Display



PTZ Camera



Lock



Lighting



Kiosk



Digital Signage



Temp Sensor



Curtain Motor



Power Source



Ceiling Fan



Audio



PoE 12.95W

PoE+ 25.5W

PoE++ 51W/71W



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THANK YOU!**