

PLS Components

Receiver type A or B

Each PLS room needs to be equipped with a minimum of 4 ceiling receivers. The surface mount receivers are visible as a 4,5 inch diameter round plate, very similar to a smoke detector. A flush mount version with only a very small ½ inch small white microphone visible is available too. The receivers are connected via PoE switches. If necessary WLAN can be used, however this requires a 5V DC power supply for each receiver.

Central Server

A windows or Linux management PLS app need to be installed on an existing or dedicated server. The store license application is the core of the PLS management architecture.

A tablet can be used to visualize the found location, graphical room map and an overview on puck and puck dispenser status.

the puck

The PLS puck is available with or without an ePaper. All pucks can be located by sending an ultrasound signal upon command. They can communicate via RGB LED signals, vibrate or emit a sound alert. The ePaper can display upon command QR codes, graphics, text messages or b/w pictures.

puck dispenser

Is independently working as a device close to a kiosk. The dispenser supplies guests or visitors with a puck if they do not have a smartphone. The dispenser activates and deactivates the pucks and does automatic recharging and monitors puck quality.

Manual puck dispenser

If an automatic process is not needed, the puck can be positioned on any Qi wireless charging device and can be registered and deregistered from PLS by placing it on any standard RFID/NFC reader.

POI warners

An entrance, exit or dedicated area can be defined to monitor in- and outgoing pucks and prevent from unwanted or wanted take away.

Contact Us

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Pyramid order terminal: polytouch® 32 passport with puck dispenser

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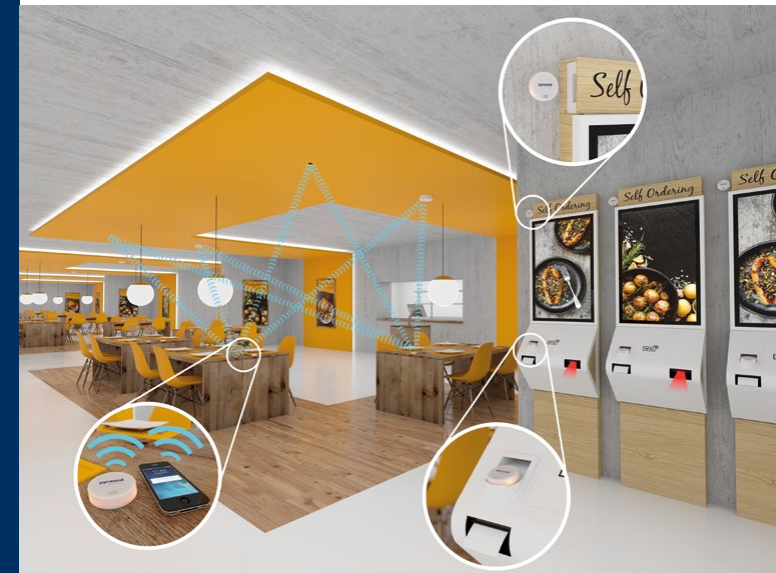
www.pyramid-computer.com

International Patents (registered and pending)

pyramid **pls**
localization system

based on ultrasound

Worlds first accurate indoor localization system





Pyramid Localization System

accurate indoor localization based on ultrasound

Pyramid is introducing the worlds first 6 inch accuracy indoor localization system. Unlike other localization systems which are based on radio frequencies like Bluetooth, WLAN, RFID or light (VLC), Pyramid Computer System PLS is based on ultrasound technology. The globally patented PLS (Pyramid Localizing System) explores the different travel times of an emitted ultrasound signal in order to reconstruct the location of the emitter with an incredible accuracy of 6 inches. The emitter can either be a smartphone, tablet or a low cost puck and works in any private or public environment.



Learn more: www.pyramid-computer.com/pls

Application Areas



HOSPITALITY

Use in hospitality can enable QS Restaurants to allow kiosk or BYOD table orders and identify where exactly a guest to be served is sitting. Waiting time can be reduced to the minimum and QSR profitability grows.



RETAIL

Use in retail can enable to create precise heat maps, help to navigate from any position to a desired product and optimize to work on family's buying list. Also, push notifications can be sent when passing a specific POI i.e. special offer according to customer's historical buying data. In addition, customers can be located and contacted during shopping, i.e. continue shopping while the requested item is retrieved from storage or a free VIP coffee can be delivered.



How Does It Work?

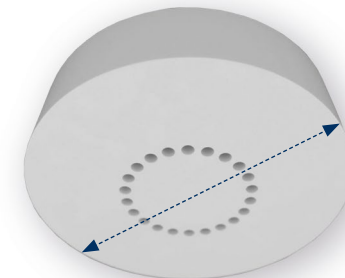
All spaces in which a PLS indoor localization is desired must be equipped with a minimum of 4x4,5 inch diameter large ceiling mounted receivers, connected to the LAN or WLAN network. The receivers are equipped with a ultrasound microphone and a microprocessor. They receive the ultrasound signal coming from the guests/visitors smartphone and measure the difference of the position towards all other receivers. A central management server calculates all data and reports the position in the room. A tablet computer or a mobile device can show the result of all localized persons (smartphones or pucks) on a room map.

The person to be localized needs to have a PLS puck or a BYOD smartphone (IOS, Windows or Android) with loaded App at hand. The device (either if smartphone or puck) will send out inaudible extremely short "tschirp's" as soon as the server asks the device via internet or radio 868/915 MhZ, "Where are you?"

An average restaurant with 100 places will need infrastructure and pucks valued at approx. \$US 10.000. Additional automatic puck dispensers and order kiosks can lead to full restaurant automation without the need of any manual handling. The resulting cost saving is enormous.

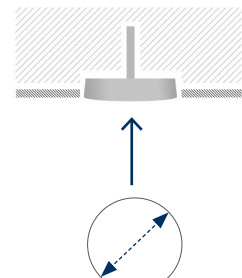
Receiver type

A: Surface mount



ø 4,5 inch

B: Flush mount



ø 1/2 inch