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Data is transmitted from an LED set up near the store

Viewing through a smartphone

Display of visual in front of the store

Casio showed a prototype of a **visible light communication system** using smartphones at CES.

Visible light communication (VLC) transmits digital signals by flashing light in frequencies visible to the naked eye. VLC has potential applications in many fields including augmented reality (since it can use a wide range of light-producing sources including monitors, LED lighting and signage, and because it can be read from a distance without impacting people or electronic equipment).

Casio has been a member of the Visible Light Communications Consortium since it was initiated in 2004.

This prototype system demonstrates how Casio aims to broaden the application of VLC and propose specific uses to drive rapid adoption.

Smartphone-to-smartphone communication was demonstrated by the prototype. The system flashes smartphone screens to achieve visible light communication (VLC). When someone takes a photo with a smartphone camera, the subjects simply turn their smartphone screens toward the camera device to display personal information or messages in the photo. The images and information are shared on the spot among everyone’s smartphones, so that it can be combined with social media to simultaneously “make friends” while taking photos.

- Can simultaneously receive data from up to five smartphones for display in a single photo

- Displays message balloons of up to 120 characters, with customizable balloon shapes and image frames
- Automatically saves information on the photo taker's smartphone, such as e-mail addresses, telephone numbers, and social network usernames
- Twitter upload tweets the image containing the messages

Information transmission to smartphones using LED and digital signage: this also creates a system that lets users to receive info from a shop (or advertiser) by viewing digital signage or an LED light source placed in front of the shop through a smartphone camera.

The information can be received from a remote location, as long as the camera can detect the flashing light. Shops can start using their existing monitors to disseminate information right away, only needing to dedicate a small area to flash the light (…a10 cm2 light source is recognizable at distances up to 10 meters and is equivalent to approximately 2.1% of the area of a 42" monitor).

- Displays messages, URLs, images or other information on smartphones
- Displays information in real time, such as for time-sensitive advertising
- Disseminates information in-store and to pedestrians, using just a small light source
- Uses existing monitors to start disseminating information with minimal effort

Go Casio Shows VLC Prototype