Panasonic
BUSINESS

LinkRay™

Welcoming a New Age of Interactive Signage Communication

LinkRay™

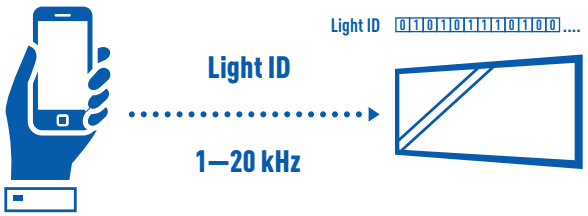
Graphic is simulated.

Introducing LinkRay Technology

LinkRay is a unique information distribution technology that employs visible light to beam information to consumers, and it's poised to revolutionize communication and marketing in the tourism, retail, hospitality, transport, and event-management industries. Selected Panasonic professional displays, as well as LED signboards and conventional posters lit by LED boxes, can transmit information to a smartphone* with a LinkRay-enabled app installed. Potential capabilities include launching mapping applications or transport timetables for tourists; reporting traffic conditions in real time; offering coupons and product information in retail environments; or accessing apps designed to enhance the experience at cultural institutions, all in the device's native OS language. Instantaneous, accessible from a distance, and resistant to interference, LinkRay also provides invaluable marketing analysis tools for targeted advertising aimed at opt-in users, and can help optimize environments for increased sales and service.

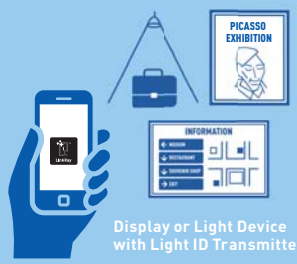
* Smartphones that meet minimum OS version and camera performance requirements only.

LinkRay™



Download the Application

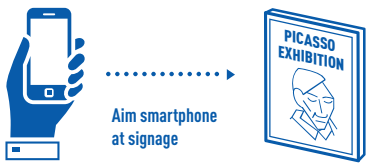
Aim Phone at Light ID Transmitter



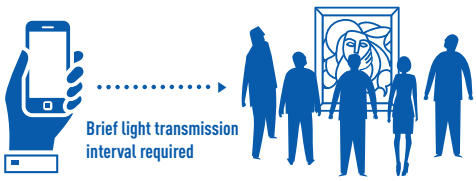
Content Delivered

Benefits of LinkRay

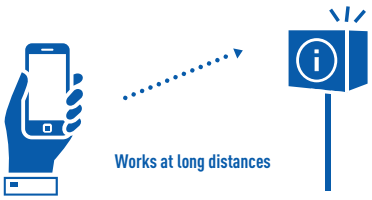
LinkRay provides an unprecedented user experience by harnessing mobile technologies.



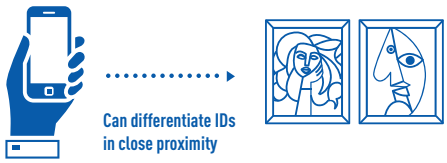
Fast and Intuitive



Works in Crowded Spaces

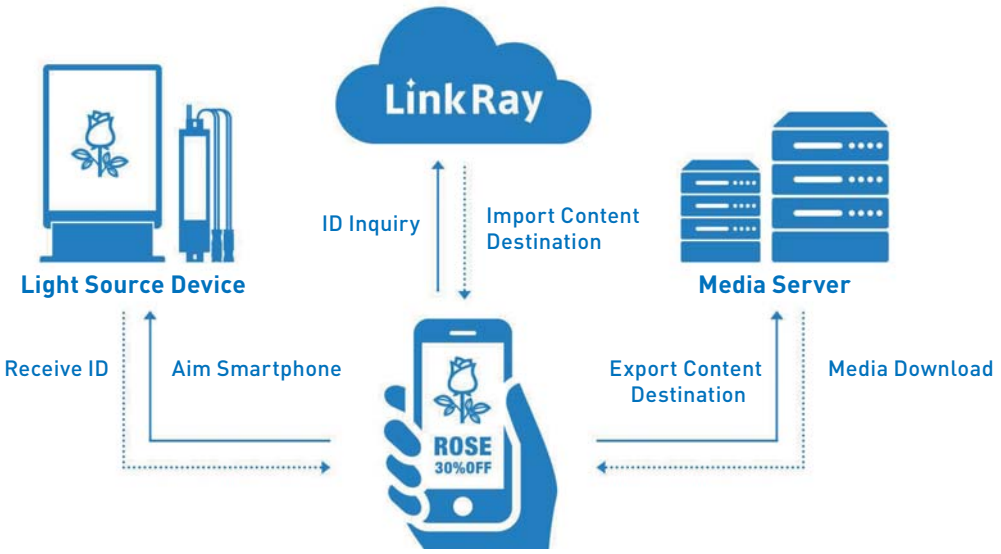


Effective at a Distance



Supports Multiple IDs in Close Proximity

LinkRay System Configuration



System Limitations

- Direct sunlight may disrupt correct Light ID decoding. Operation in direct sunlight is not recommended.
- Maximum distance is up to five times the width of the lighting device (e.g., for a 55-inch digital signage display, maximum distance would be approximately 6 m (19.6 ft.).

Applications for LinkRay

Panasonic provides a dedicated LinkRay Solution app for iOS/Android™. Users can download to supported smartphones and tablets free. Panasonic also provides an SDK (Software Development Kit) that enables collaboration with third-party app developers.

Standard Application (Free)

LinkRay Solution

Download on the App Store | GET IT ON Google Play

SDK

Panasonic provides a Software Development Kit that interfaces with the LinkRay Solution allowing third-party businesses to create customized applications to suit specific roles.

Supported Operating Systems

iOS Devices	iOS 8.0 and later
Android Devices	Android 5.0 and later

Note: Some devices may not operate correctly even if minimum requirements are met.
To get the latest information concerning devices tested for compatibility, please visit the Panasonic LinkRay website: **http://panasonic.net/avc/LinkRay**

Product Lineup

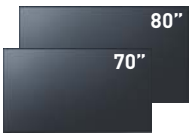
Note that users must sign a Light ID License contract (sold separately) to operate a LinkRay platform. Fees are based on number of Light IDs used.

LCD Displays

Panasonic offers the following LinkRay transmission displays. The products support USB Media Player functions or connection to a STB (Set Top Box), and control multiple IDs externally.

55-inch TH-55SF1H
49-inch TH-49SF1H
42-inch TH-42SF1H

24/7 operation | DIGITAL LINK | Narrow | Portrait



80-inch TH-80SF2H
70-inch TH-70SF2H

Available from Winter 2017

Model No.	TH-42SF1H	TH-49SF1H	TH-55SF1H
Size	42-inch	49-inch	55-inch
Panel / Backlight	IPS / E-LED		
Brightness	700 cd/m²*1		
Contrast	1,300:1		
Power Consumption	155 W	175 W	190 W
Dimensions (W x H x D)	947 x 541 x 72*2 mm	1,093 x 623 x 72*2 mm	1,229 x 699 x 72*2 mm
Weight	Approx. 15.5 kg	Approx. 19.2 kg	Approx. 24.9 kg

*1 Panel brightness is equivalent to approximately 75 % of maximum specified when Light ID is transmitted. Displayed images may flicker due to a change in brightness during Light ID transmission, and is not due to product malfunction.
*2 57 mm without handle.

Modulators

Variable ID Modulator

AL-A001 GL-1

LinkRay modulator designed to connect to LED signboards or LED modules for Light ID transmission. Supports control of multiple external IDs.

Note: AC Adapter required (sold separately).

Fixed ID Modulator

LinkRay modulator designed to connect to LED signboards or LED modules for Light ID transmission. Supports control of a single external ID continuously. Constant-voltage power supply is required.

Available from Summer 2017

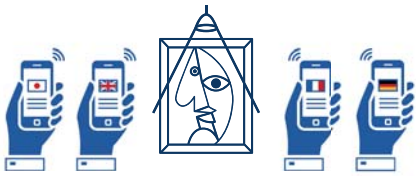
Constant Voltage Power Supply for Fixed ID Modulator

An external power supply designed for use with Fixed ID Modulator.

Available from Summer 2017

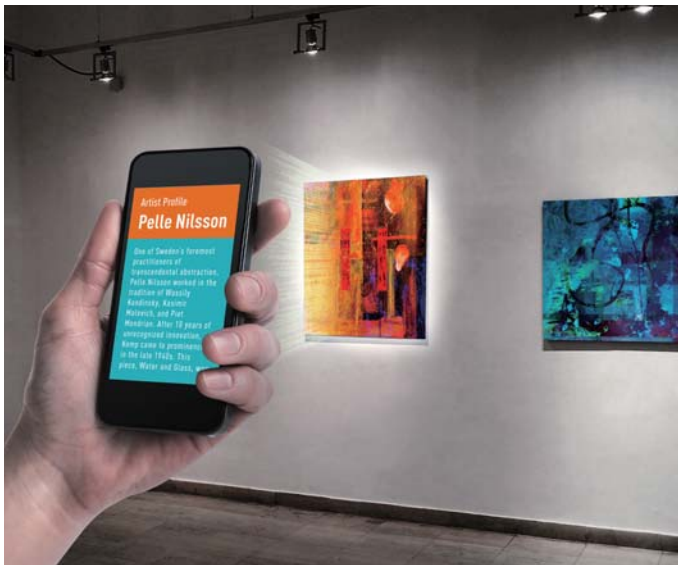
Supporting Inbound Travelers in Any Language

LinkRay enables transportation hubs, such as airports, to improve service levels and reduce stress by delivering customized content in the language native to a visitor's device. This information could range from simple sign and map translation to providing directions with third-party mapping apps to supplying information on available services within facilities. Navigating high-stress environments becomes easy for tourists, enhancing their experience.

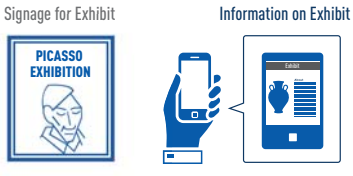


Automatically adapts language according to device OS settings

Information Delivery that Enhances Value

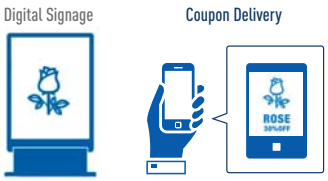


Interactive content that enhances exhibits at cultural facilities, such as museums, art galleries, and tourist centers, as well as material supporting retail items, can be provided instantly, deepening understanding or supplying more detailed marketing material on products. This helps to drive sales. LinkRay technology reduces the need for extraneous POS materials, reducing cost and clutter, so items or exhibits can be displayed to maximum effect.

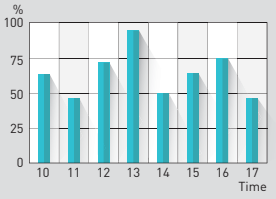


Increase Buyer Motivation with Augmented Signage

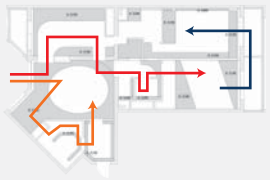
Presenting detailed product information together with promotional coupons or discount codes instantly within a built-for-purpose app helps to create a sales-positive environment. Tailoring information for individual customers can help increase foot traffic in shops and increase click-throughs to online stores.



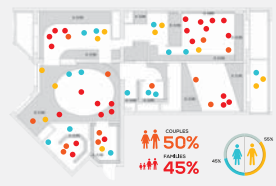
Market Effectively by Visualizing Consumer Intention



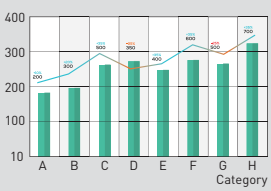
Access Log Display



Traffic Flow Analysis



Heat Map Display

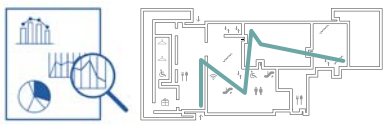


Visitor Interest Ranking

Graphic is simulated.

Tools for analyzing the frequency of access to Light ID transmitters yields invaluable information that can be applied in various practical ways, such as adjustment of point-of-sale displays and optimization of shopfloor layouts to achieve desired sales outcomes.

Visitor traffic flow can be charted on a store floor map complete with Light ID access history



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Notes on the Introduction of System and Service

- Please be aware that fees apply for facility installation and separate systems development
- A contract as LinkRay service operator must be created before use. In addition to initial costs, charges per ID used apply
- No charges apply for end-users of this service

Precautions for Usage

- Do not let Light ID interfere with barcodes when using a barcode reader. Barcode reader will not operate correctly
- Striped patterns might appear on filmed images (footage shot by security cameras, for example)
- Direct ambient light or reflected light may reduce LinkRay's receiving performance. Further, the transmitter cannot operate in direct sunlight.

Panasonic System Communications Company Europe, a Division of Panasonic Marketing Europe GmbH, Hagenauer Straße 43, 65203 Wiesbaden, Germany.

All information included here is valid as of January 2017.
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