

IrSimple, a High-Speed Infrared Communications Protocol Adopted as a Global Standard

August 28 2005

ITX E-Globaledge Corporation, NTT DoCoMo, Inc., Sharp Corporation and Waseda University have jointly developed IrSimple(*1), a high-speed wireless communications protocol using infrared. IrDA(*2) (Infrared Data Association), an industry organization that develops and standardizes specifications for infrared communications, has decided to formally adopt the protocol as its standard.

IrSimple achieves faster data transmission speeds (at least 4 to 10 times faster than at present) by improving the efficiency of the current infrared IrDA protocol embedded in many mobile devices such as mobile phones. In addition, the IrSimple protocol also maintains backward compatibility with the existing IrDA protocols.

Incorporating IrSimple in digital consumer electronics devices and home appliances is expected to lead to a significant expansion in applications for this new communications protocol. For example, high-resolution photographs taken with a mobile phone or digital camera can be instantly transferred to a flat-panel TV or printer through a simple operation, similar to that of using a remote control unit.

Main Features of IrSimple

- Faster data transmission speeds (at least 4 to 10 times faster than existing protocols)

- Improved efficiency of the protocol by reducing latency until a receiver/transmitter pair is ready to communicate
- Implementing IrSimple can be done by adding and/or upgrading software for existing IrDA protocols
- Backward compatibility with existing IrDA-enabled communications incorporated into devices or equipment

Comparison with Existing System (IrDA Protocols)

[Comparison of transfer times when transferring a 2-megapixel image (approximately 500K bytes)]

IrSimple-4M protocol(*3) -- Approx. 1 second

IrDA-4M protocol(*3) -- Approx. 4 to 11 seconds

IrDA-115K protocol(*4) -- Approx. 50 to 100 seconds

Notes:

*1 IrSimple refers to simple communications using a high-speed infrared-based wireless communications protocol.

*2 The Infrared Data Association (referred to as the IrDA) is a nonprofit industry-wide organization whose goal is to develop and promote globally adopted specifications for infrared wireless communication. Headquarters in California, US.

*3 Uses the FIR (Fast IrDA) specification for the speed of the physical layer (up to 4 Mbps).

*4 Uses the SIR (Serial Infrared) specification for the speed of the physical layer (up to 115.2 kbps). Currently incorporated in many mobile phones.

Citation: IrSimple, a High-Speed Infrared Communications Protocol Adopted as a Global Standard (2005, August 28) retrieved 27 April 2024 from

<https://phys.org/news/2005-08-irsimple-high-speed-infrared-protocol-global.html>

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