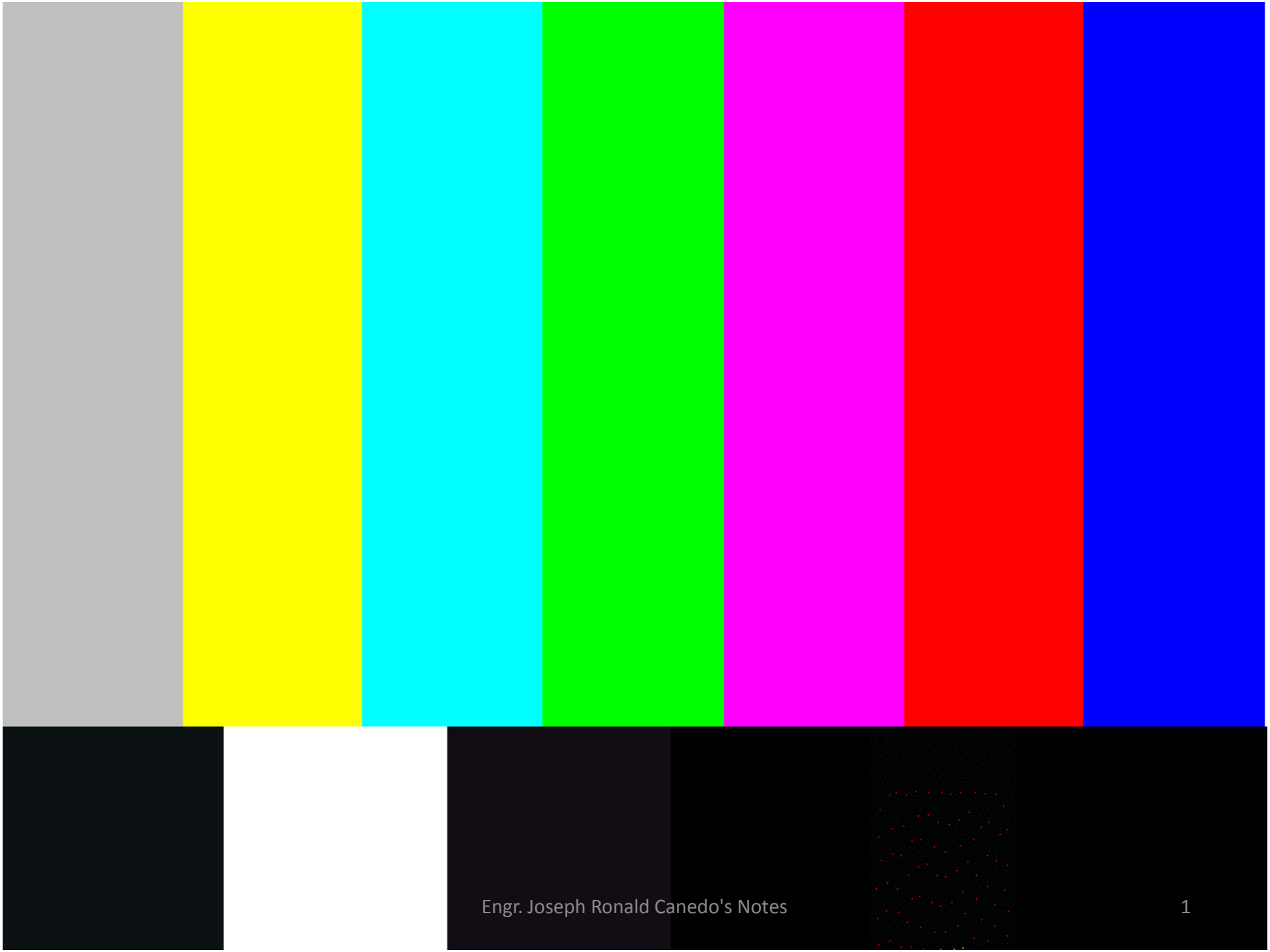


IrDA

by:
Joseph Ronald Cañedo

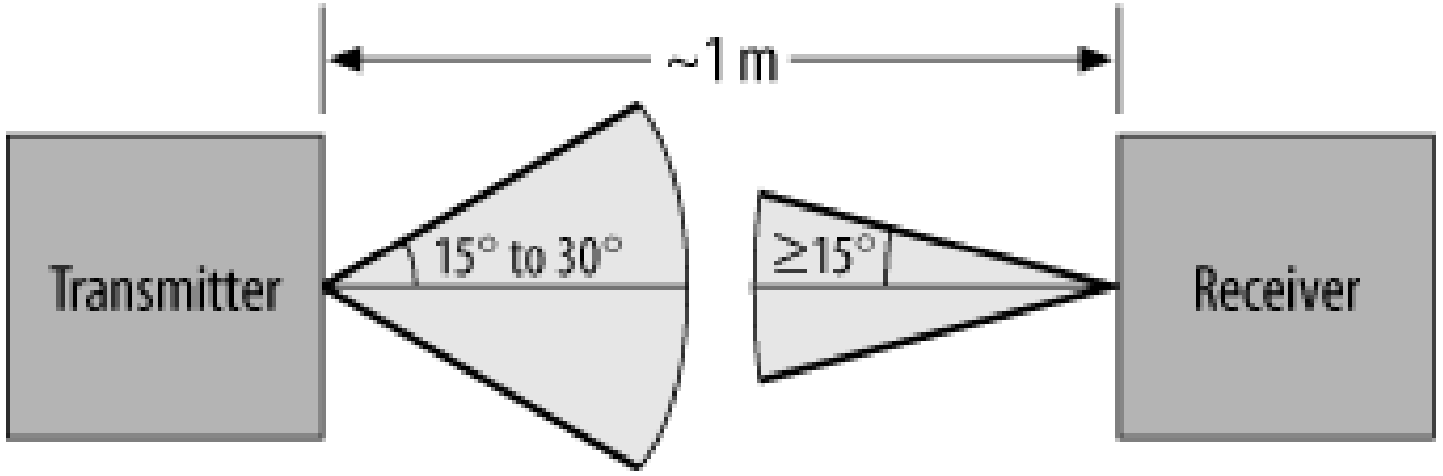
Introduction to IrDA

- IrDA is the infrared transmission standard commonly used in computers and peripherals.
- IrDA, which stands for "**Infrared Data Association**," is a consortium of over 150 companies that maintain and develop the standard.
- IrDA owes it origins to the infrared communication links used in Hewlett-Packard calculators, known as HP-SIR (Hewlett-Packard Serial Infra Red).
- The IrDA standard has expanded on HP-SIR significantly and provides a range of protocols that application software may use in communication.

Introduction to IrDA

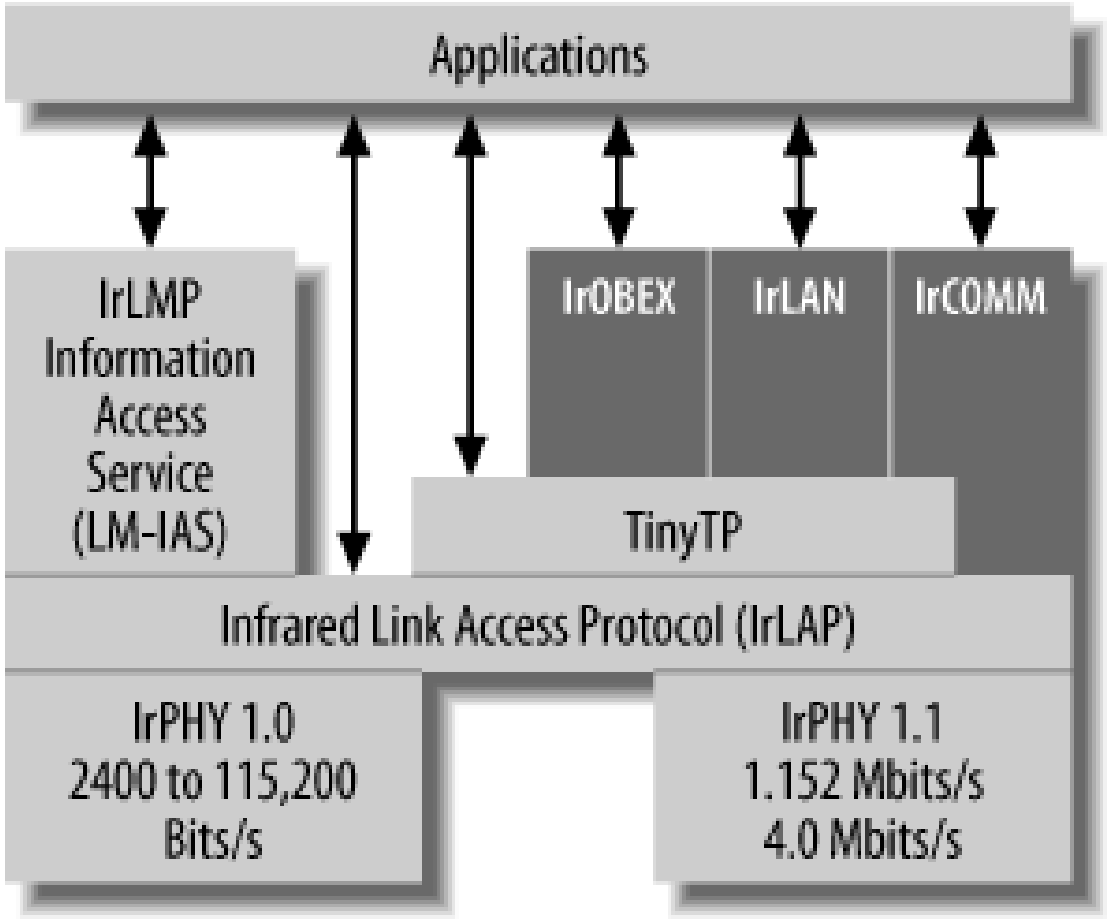
- The basic purpose of IrDA is to provide device-to-device communication over short distances.
- Mobile devices, such as laptops, present a problem when they must be connected to other machines or networks.
- Chances are the correct cable is not at hand, or one of the machines is not configured correctly to allow networking to take place.
- When the users are nontechnical types, this can be a real problem.
- IrDA was developed as the solution to this problem.
- With IrDA, no cables are required, and standard protocols ensure that devices can exchange information seamlessly.

Introduction to IrDA



IrDA transmission and viewing angles

Introduction to IrDA



IrDA protocol layers

Introduction to IrDA

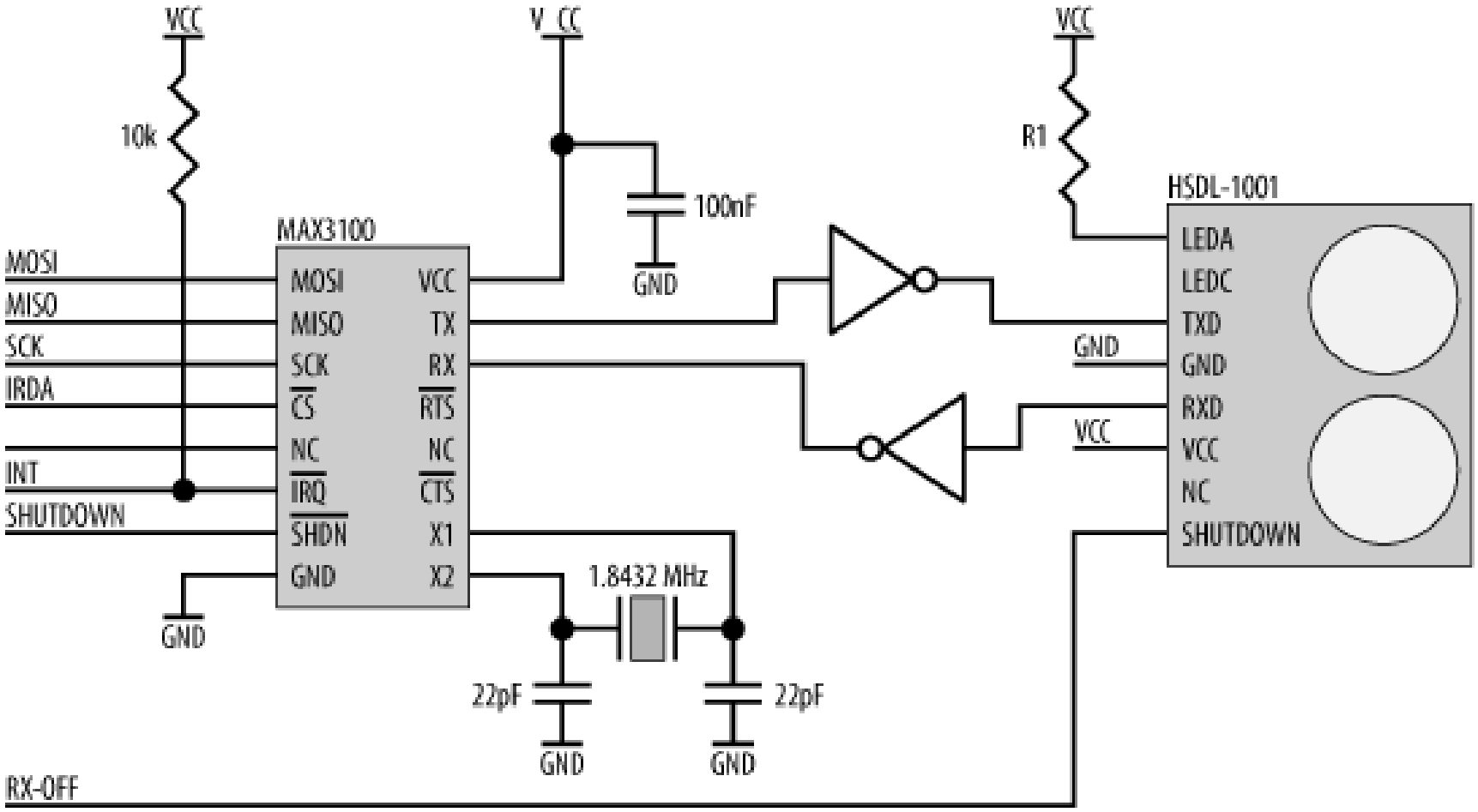
A 4 Mbps data packet

An IrDA Interface

- For IR transmission and reception, you can use an individual IR LED and an IR photodiode detector. Alternatively, you can use combined IR transceivers that incorporate both the IR LED and photodiode, along with support components.

IrDA transceivers

An IrDA Interface

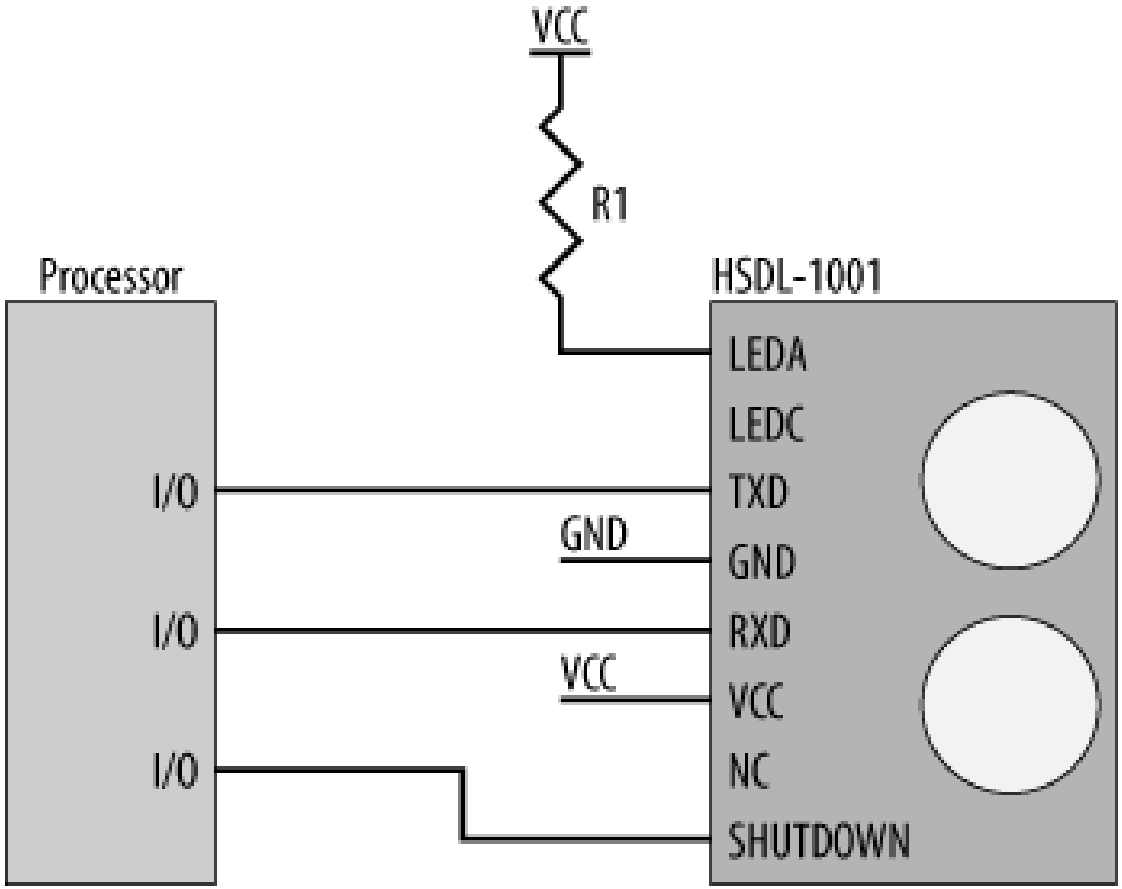


IrDA interface for an embedded computer

Other Infrared Devices

- Your TV, VCR, DVD player, air conditioner, and a host of other devices all have infrared ports for receiving commands from their remote controls.
- The bad news is that none (or at least very few) are IrDA-compliant. Appliance manufacturers tend to do their own thing, and often at their own weird baud rates too. So the previous circuit, which is IrDA-compliant, may or may not work with a particular appliance.

Other Infrared Devices



A crude infrared interface