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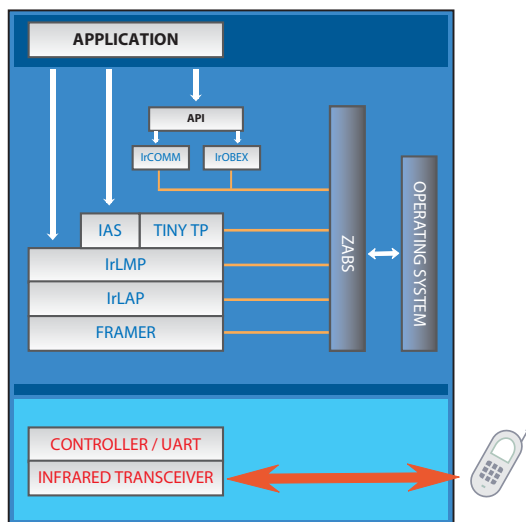
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ZirDA™ Protocol Stack

IrDA Software for eZ80Acclaim!™ MCUs

ZIRDA ARCHITECTURE



OVERVIEW

- Provides a total infrared data transfer solution
- Supports the eZ80Acclaim!™ family of microprocessor and microcontroller devices and ZiLOG's ZHX-series IrDA transceivers
- Configurable, Scalable, and Modular in Design

ZiLOG's ZirDA™ is a highly optimized IrDA-compliant protocol stack. It is a layered set of embedded protocols that provides a total data transfer solution over the infrared medium. Designed for use with ZiLOG's award-winning eZ80Acclaim!™ microcontrollers and ZHX-series IrDA transceivers, ZirDA™ supports all mandatory IrDA protocols and provides easy-to-use APIs. ZirDA™ targets portable office equipment applications, wireless serial adapters, cell phones, PDAs, pagers, digital cameras, and emerging markets such as fixed IrDA online access beacons.

FEATURES

- Complete IrDA Stack Functionality
- Rapid Application Development
- Emulate Serial Ports Through IrCOMM
- Information Access Service
- High-Level Flow Control Using TinyTP
- Multiple Logical Channels on a Single Physical Link Using IrLMP
- Reliable Connection Through IrLAP
- Compile-Time Configurable
- Supports Security and Power Savings
- Built on ZiLOG's ZDS II Integrated Development Environment

Scalable and modular in design, the ZirDA™ protocol stack provides an extensive feature set and easy-to-use APIs. It helps you get your product to market faster and increases reliability because it provides modules that handle low-level IrDA functions. Based on ZiLOG's Real-Time Kernel RZK, ZirDA™ is meant to be integrated with the main user application software required to complete the wireless IrDA communication system.

ZirDA™ is compatible with ZDS II, ZiLOG's Integrated Development Environment that provides compiling, debugging, and project-building tools for quick and efficient embedded application development. A sample IrDA monitor application is included to demonstrate ZirDA™ features.



ZirDA™ Protocol Stack

ZirDA™ Features

Complete IrDA Stack Functionality

ZirDA™ includes the SIR framer, IrLAP, IrLMP, IAS, and TinyTP protocol implementations. Optional add-in services include IrCOMM (3-wire RAW, IrLPT) and IrOBEX.

Rapid Application Development

Uses built-in functions to handle low-level IrDA functions such as IAS connection establishment.

Emulate Serial Ports Through IrCOMM

Supports legacy applications that require serial ports over IrDA without modification using ZirDA™'s extensive APIs.

Information Access Service

Supports all mandatory IAS services. Application developers can set IAS class and attribute name sizes in a configuration file to reduce RAM usage.

High-Level Flow Control Using TinyTP

Supports all the mandatory services of TTP. Per-channel flow control keeps data moving smoothly. Supports SAR (Segmentation and Reassembly).

Multiple Logical Channels on a Single Physical Link Using IrLMP

ZirDA™'s IrLMP allows services of one device to communicate with identical services in a peer device without interference from other services using the same IrLAP connection. Supports Exclusive Access Mode. The number of supported LSAP connections is configurable to meet RAM requirements.

Reliable Connection Through IrLAP

ZirDA™'s IrLAP provides a point-to-point reliable connection that supports services such as Discovery, Address Conflict Resolution, connection establishment, data transfer, and flow control. Application developers set QOS parameters by calling a simple API.

Compile-Time Configurable

All options are compile-time configurable.

Supports Security and Power Savings

Provides APIs that allow all of the managed peripherals to operate in power-save mode when not in use.

Built on ZiLOG's ZDS II Integrated Development Environment

ZDS II provides industry-leading tools that speed development and reduce time to market. ZDS II includes a full-featured ANSI C-compiler and debugger, and is a part of all eZ80Acclaim!™ development kits.

With ZirDA™ protocol software, ZiLOG's eZ80Acclaim!™ Flash MCUs, and ZHX-series IrDA transceivers, ZiLOG provides the embedded industry's first complete Flash-based solution for wireless IrDA connectivity, thus maintaining upgradeability and reducing development cycle time and cost of ownership.

Ordering Information

Part Number	Description
EZ800000100SIO	ZirDA™ Protocol Stack Object Code
EZ800000100SIS	ZirDA™ Protocol Stack Source Code

Supported eZ80Acclaim!™ Devices:

- eZ80F91 256KB Flash, 50 MHz MCU
- eZ80F92 128KB Flash, 20 MHz MCU
- eZ80L92 20/50 MHz MPU