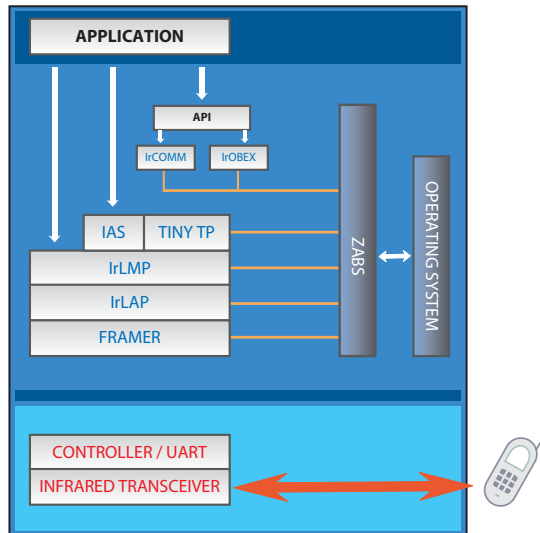




# ZirDA™ Protocol Stack

## 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™ 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