



Cortina Systems® IXF193xx Framer: Information Source and Collateral

Application Note

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Revision History

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Template Conversion <ul style="list-style-type: none"> Changed the document number for the <i>Cortina Systems® XEK19301 Evaluation Kit Platform User Guide</i> from 250753 to 400833.
Revision 1.0 Revision Date: 1 June 2007
First Release from Cortina Systems, Inc.

1.0 Abstract

This Application Note explains the Information Sources & Collateral available for the Cortina Systems® IXF193xx Bandwidth Aggregation and Channelizer Device (IXF193xx Framer) and outlines the type of information they contain.

Note: Before accessing the collateral listed in this document, please sign the appropriate non-disclosure agreement (NDA) and fax it to Cortina Sales.

2.0 Overview

The Information Sources available for the IXF193xx Framer are listed below. Carefully compiled to cater for a wide array of information needs, they address and anticipate a broad spectrum of customer questions.

All of the listed information is available from Cortina:

- *Product Preview*
- *Datasheet*
- *Errata*
- *Application Notes*
- *User Guides*
- *Quick Start Guide*
- *Software Models*
- *Configuration Files*
- *Evaluation System*

3.0 Description of Information Sources & Collateral

3.1 Product Preview

The Product Preview is a reference document containing a general overview.

The following information can be found in the Product Preview:

- Feature list
- Easy-to-read general overview

Releases: No regular release intervals; releases as required.

Table 1 Product Preview Documents

Document Title	Document Number
Cortina Systems® IXF19301 Bandwidth Aggregation & Channelizer Device with Virtual Concatenation Product Preview	273836
Cortina Systems® IXF19303 Bandwidth Aggregation & Channelizer Device Product Preview	273835
Cortina Systems® IXF19303 Bandwidth Aggregation & Channelizer Device with Virtual Concatenation Product Preview	273834
Cortina Systems® IXF19325 Bandwidth Aggregation & Channelizer Device with Virtual Concatenation Product Preview	273957

3.2 Datasheet

The Datasheet is a comprehensive reference document containing a general overview, detailed feature descriptions, configuration instructions and device specifications.

The following information can be found in the Datasheet:

- Feature list
- Easy-to-read general overview
- Detailed description for each functional block: Line/Aggregation Port Interface, SONET/SDH Framer, STS-1 TSI, VCU Processor, Data Mappers/Demappers, SPI-4.2 Interface, CPU Interface and Overhead Serial Ports
- Ball Map
- Pin assignments and signal descriptions
- Register tables for all configuration, status, interrupt and enable bit-fields
- Channel configuration and reconfiguration instructions
- Electrical, mechanical and thermal specifications (see [Cortina Systems® IXF193xx Framer/Mapper Thermal Design Considerations Application Note](#) for more details)
- JTAG specifications

Releases: No regular release intervals; releases as required.

Table 2 Datasheet Documents

Document Title	Document Number
Cortina Systems® IXF19301 Bandwidth Aggregation and Channelizer Device with Virtual Concatenation Datasheet	308670
Cortina Systems® IXF19302 Bandwidth Aggregation and Channelizer Device Datasheet	308671
Cortina Systems® IXF19303 Bandwidth Aggregation and Channelizer Device with Virtual Concatenation Datasheet	308672
Cortina Systems® IXF19325 Bandwidth Aggregation and Channelizer Device with Virtual Concatenation Datasheet	308673

3.3 Errata

The IXF193xx Framer Errata document is an update to specifications listed in its Affected Documents/Related Documents section (in most cases to the Datasheet). It is a compilation of device errata, specification clarifications, and specification changes.

The Errata:

- Lists bugs and shortcomings found in silicon
- Explains impact on specified features
- Proposes workarounds whenever possible
- Clarifies specification details
- Communicates termination of support for specific features

Releases: Published after design and system verification and on an as needed basis.

Table 3 Errata Document

Document Title	Document Number
Cortina Systems® IXF193xx B1 Bandwidth Aggregation and Channelizer Device Errata	313889

3.4 Application Notes

Application Notes discuss configurations in great detail focusing on specific applications. They concentrate on the basic functionality and corresponding register settings involved in this specific mode. The Application Notes come with complete configuration code listings in a “pseudo-C style” notation. These listings are based on application-specific configuration files (.txt files) available for the chip. The configuration files can be uploaded to the Evaluation System via the Cortina Systems® Optical Components Management Software (OCMS) Graphical User Interface (GUI).

Releases: No regular release intervals.

Table 4 Application Note Documents

Document Title	Document Number
Connecting the Cortina Systems® IXF193xx Framer/Mapper to a 622 Mbps/2.5 Gbps SONET/SDH Backplane Application Note	251989
Cortina Systems® IXF193xx Framer/Mapper Virtual Concatenation (VC) and Link Capacity Adjustment Scheme (LCAS) Processing Application Note	273846
Cortina Systems® IXF19301, IXF19302, XF19303, and IXF19325 Framer/Mapper Design and Layout Guide	280066
Cortina Systems® IXF193xx Framer/Mapper Thermal Design Considerations Application Note	305781
Cortina Systems® IXF193xx Bandwidth Aggregation and Channelizer Device SDRAM Interface Application Note	308725
Cortina Systems® IXF19301, IXF19302, IXF19303, and IXF19325 Framer B2/B3 Bit Error Rate Threshold Calculation Application Note	308536
Cortina Systems® 45×45 mm EBGA-B vs. UBGA Package Comparison White Paper	305806
Cortina Systems® IXF193xx Bandwidth Aggregation and Channelizer Device Clocking Schemes Application Note	310788
Cortina Systems® IXF19301, IXF19302, IXF19303, and IXF19325 Framer/Mapper SPI-4.2 Interface Application Note	311396
Cortina Systems® IXF193xx Package Thermal Models Application Note	400011
Cortina Systems® IXF193xx Framer/Mapper ATM Cell Rate Adaptation FPGA Implementation Application Note	400012

3.5 User Guides

User Guides introduce customers to the subject in question, describing how to apply the covered product. For the IXF193xx Framer, User Guides are available for Evaluation Boards/Systems and Application Programming Interfaces.

Releases: No regular release intervals. User Guides are published when the product in question is released.

Table 5 User Guide Documents

Document Title	Document Number
Cortina Systems® XEK19301 Evaluation Kit Platform User Guide	400833
Cortina Systems® XEK19301 Framer/Mapper Evaluation Board Configuration Guide	305161
Cortina Systems® IXF193xx Bandwidth Aggregation and Channelizer Device API User Guide	273920
Cortina Systems® IXF API User Guide	250603

3.6 Quick Start Guide

The IXF193xx Framer Evaluation Board Quick Start Guide is a document that provides step-by-step instructions on how to quickly bring-up the evaluation board and associated software.

Releases: No regular release intervals. Quick Start Guide is published when the product in question is released.

Table 6 Quick Start Guide Document

Document Title	Document Number
Cortina Systems® XEK19301 Evaluation Board Quick Start Guide	304621

3.7 Software Models

The IXF193xx Framer Software Models are provided for customer board thermal, signal integrity and manufacturing analyses and simulations.

- B1 BSDL Files
- IBIS Model
- Thermal Models

Releases: No regular release intervals. Software Models are published when the product in question is released.

Table 7 Software Models

Software Model Name	Model Version
ixf_19301_b1.bsd	1.4
ixf_19302_b1.bsd	1.3
ixf_19303_b1.bsd	1.3
ixf_19325_b1.bsd	1.3
IXF193xx.ibs	2.3a
ixf193xx_2r.pdml	2.4
ixf193xx_Delphi.pdml	2.4
ixf193xx_det.pdml	2.4

3.8 Configuration Files

Configuration Files contain application-specific configuration information for initializing and operating the Evaluation System. Loaded into the Evaluation System's GUI (Graphical User Interface), then uploaded for execution in the Tcl Scripting Engine, they set up the Evaluation System to run in a specific mode of operation. See the [Cortina Systems® XEK19301 Framer/Mapper Evaluation Board Configuration Guide](#) for more details on each configuration file.

- IXF193xx-Tcl-Library-cfg1.tcl
- IXF193xx-Tcl-Library-cfg2.tcl
- IXF193xx-Tcl-Library-cfg3.tcl

- IXF193xx-Tcl-Library-cfg4.tcl
- IXF193xx-Tcl-Library-cfg5.tcl
- IXF193xx-Tcl-Library-cfg6.tcl
- IXF193xx-Tcl-Library-cfg7.tcl
- IXF193xx-Tcl-Library-cfg9.tcl
- IXF193xx-Tcl-Library-cfg13.tcl
- IXF193xx-Tcl-Library-cfg16.tcl
- IXF193xx-Tcl-Library-XGMAC.tcl
- IXF193xx-Tcl-Library-CMI.tcl

Releases: No regular release intervals. A wide spectrum of applications is covered by verified Configuration Files. New files are created per customer request.

3.9 Evaluation System

Contact Cortina for more information on the following collateral: Evaluation System & Accessories (including UI Installation Package and SW API Driver Library).

Releases: No regular release intervals. IXF193xx Framer Evaluation Systems are assembled per customer request.

Please contact your local Sales representative at sales@cortina-systems.com to obtain an IXF19301 EVB Loaner Agreement. Please review, sign and fax this agreement back to your local Sales representative prior to receiving the XEK19301 Evaluation Kit.

Table 8 XEK19301 Kit Standard Hardware (Sheet 1 of 2)

Part Number	Qty	UOM	Description
XEK19301 (MM#875353)	1	EA	Evaluation Kit for IXF193xx Framer device (which includes the other items in this table).
XEB70050-02	1	EA	Evaluation Board. Primary platform used to evaluate OC-48 on the line port interface. Includes IXF193xx Framer device and Board Control FPGA (BC_FPGA).
XEB72380 REV-01	1	EA	ATX Power Supply.
NANOENG-GBP-OEM-4F-32D	1	EA	Microprocessor board. The Bright Star Engineering* nanoEngine microprocessor board is based on the Intel* StrongArm* technology.
XEB72358	1	EA	SPI-4/SFI-4 Loopback Board. SPI-4 P2 interface with industry-standard 300-pin MSA connector.
XEB72361	1	EA	ATX Power Interface Board.
XEB72025	1	EA	500-to-300-pin Interposer Board. Used with Quad OC-48/12 Board to adapt to J1 connector.
XEB70642653-07	1	EA	Quad OC-48/12 Board. SFI-4 interface with industry standard 300-pin MSA pinout.
N/A	1	EA	BGA Socket. Used to seat the IXF193xx Framer device.

Table 8 XEK19301 Kit Standard Hardware (Sheet 2 of 2)

Part Number	Qty	UOM	Description
N/A	1	EA	XEK19301 Evaluation Kit Software CD-ROM
304621	1	EA	<i>Cortina Systems® XEK19301 Evaluation Board Quick Start Guide</i>
Note: This list represents the standard (quad OC-48) configuration. Due to variations in customer-specific evaluation requirements, kit contents may vary slightly. Package contents does not include Ethernet, optical, or serial cables.			



For additional product and ordering information:

www.cortina-systems.com