Chipsmall

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

TIMING AND SYNCHRONIZATION
PRODUCT CATALOG

ZARLINK
TIMING & SYNCHRONIZATION

ZARLINK
SEMICONDUCTOR

ZARLINK TIMING PRODUCTS

Line Card Synchronizers

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SyncE/SONET/SDH → ZL30131 / ZL30132 / ZL30145 / ZL30146 / ZL30108

SyncE SONET/SDH

SyncE → ZL30321 / ZL30136

System Synchronizers

PDH

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GR-1244 Stratum 3 G.823, G.824 → ZL30101 / ZL30105

SyncE SONET/SDH

G.8262 EEC Opt 1&2 GR-253 Stratum 3 G.813 (opt 1&2) → ZL30142 / ZL30143

G.8262 EEC Opt 1&2 GR-1244 Stratum 2/3E GR-253 G.812 Type II & III → ZL30130 / ZL30138

QUICK GLANCE SELECTOR GUIDE

LINE CARD SYNCHRONIZATION

Zarlink offers the industry's widest range of phase locked-loops (PLLs) for high performance line card synchronization. Complying with Telecordia and ITU-T jitter performance from T1/E1 up to 10G/OC-192/STM-64, the products support a wide range of input frequencies required for telecom and datacom equipment.

The highly integrated, feature-rich chips—with multiple outputs, redundancy protection, and low-power consumption—help simplify the design of networking equipment that meets the latest performance requirements.

Applications

→ Optical equipment used in DWDM & WDM networks

→ SONET/SDH equipment such as Multi-Service Provisioning Platforms (MSPP)

→ Routers and switches

→ Add-Drop Multiplexers (ADM)

→ Wireless base stations and Node B

→ Wireless base station controllers and radio network controllers

→ Metro Ethernet equipment

→ Integrated Access Devices (IAD)

→ Multi-Service Access Platforms (MSAP)

→ Passive Optical Network (PON) equipment

→ Gateways

→ Digital Subscriber Line Access Multiplexers (DSLAM)

Product Features

→ Meets Ethernet/SONET/SDH jitter generation requirements up to 10G/OC-192/STM-64

→ Multiple PLLs per device for rate conversion

→ Supports ITU-T G.8262 requirements for Synchronous Ethernet slave clocks (EEC option 1 & option 2)

→ Input synchronizes to telecom reference clocks or to Ethernet reference clocks

→ Output generates standard SONET/SDH clock rates or standard Ethernet clock rates

→ Line card redundancy protection such as manual or automatic hitless reference switching

→ Low power consumption

		SyncE/SONET/SDH			SyncE		SONET/ SDH	PDH
		ZL30131	ZL30132	ZL30146	ZL30145	ZL30136	ZL30321	ZL30108	ZL30106
Jitter compliance		up to 10G/ OC-192/ STM-64	up to 10G/ OC-192/ STM-64	up to 10G/ OC-192/ STM-64	up to 10G/ OC-192/ STM-64	Gigabit	Gigabit	OC-3/ STM-1	PDH, OC-3/ STM-1
Number of rate conversion Digital PLLs		2	1	2	1	1	2	1	1
Maximum frequency (MHz)		622.08	622.08	622.08	622.08	125	125	19.44	65.536
Number of SONET/SDH/ Ethernet outputs	CMOS	2	1	1	1	1	2	1	1
	Differential	2	1	1	1	0	0	0	0
Number of PDH/TDM outputs (CMOS)		4	1	1	0	1	4	0	7
Number of frame pulse outputs (CMOS)		2	1	1	0	1	2	2	4
Programmable synthesizers (N x 8 kHz)		2	1	1	0	1	2	0	0
Number of reference inputs		8	3	5	1	3	8	2	3
Sync inputs for output frame pulse alignment		3	3	1	0	3	3	0	2
Package size		9 x 9 mm CABGA	9 x 9 mm CABGA	9 x 9 mm CABGA	9 x 9 mm CABGA	9 x 9 mm CABGA	9 x 9 mm CABGA	5 x 5 mm QFN	10 x 10 mm TQFP

TIMING CARD SYNCHRONIZATION

Zarlink's timing card synchronization products are easy-to-adopt, standards-compliant solutions that deliver critical end-to-end network timing performance while helping equipment manufactures reduce costs and speed time-to-market

The highly integrated, single-chip solutions ease system integration, lower component count and reduce power consumption, while meeting ANSI, ETSI and Telecordia standards as well as the ITU-T Recommendation G.8262 for Synchronous Ethernet timing requirements. Deployed in a range of access, wireless, router and Metro Ethernet applications, Zarlink's timing card synchronization solutions allow service providers to deliver truly reliable voice, video, data and mobile services over packet networks.

Applications

- ➜ Optical equipment used in DWDM & WDM networks
- ➜ SONET/SDH equipment such as Multi-Service Provisioning Platforms (MSPP)
- ➜ Routers and switches
- ➜ Add-Drop Multiplexers (ADM)

- ➜ Wireless base stations and Node B
- ➜ Wireless base station controllers and radio network controllers
- ➜ Metro Ethernet equipment
- ➜ Integrated Access Devices (IAD)
- ➜ Multi-Service Access Platforms (MSAP)

- ➜ Passive Optical Network (PON) equipment
- ➜ Gateways
- ➜ Digital Subscriber Line Access Multiplexers (DSLAM)

Product Features

- ➜ Meets the requirements of ITU-T G.8262 for synchronous Ethernet Equipment slave clocks (EEC Option 1 & Option 2)
- ➜ Generates standard SONET/SDH clock rates or Ethernet clock rates up to 622 MHz
- ➜ Additional programmable output synthesizer generates telecom clock frequencies from any multiple of 8 kHz to 100 MHz
- ➜ Generates several styles of telecom frame pulses with selectable pulse width, polarity & frequency

- ➜ Provides automatic reference switching & holdover during loss of reference input
- ➜ Internal state machine automatically controls mode of operation (free-run, locked, hold-over)
- ➜ Supports master/slave configuration
- ➜ Configurable input to output delay
- ➜ Configurable output to output phase alignment
- ➜ Lowest power for similar solutions

		SyncE/SONET/SDH		
		ZL30138	ZL30130	ZL30143	ZL30142
ITU-T G.8262 (EEC Option 1/Option 2)		✓	✓	✓	✓
GR-1244 SONET Stratum 2/3E		✓	✓		
GR-253 SONET Stratum 3		✓	✓	✓	✓
GR-1244 Stratum 3		✓	✓	✓	✓
GR-1244 Stratum 4/4E		✓	✓	✓	✓
ITU-T G.813 Option 1/Option 2		✓	✓	✓	✓
Number of independent digital PLLs		2	2	2	1
Number of reference inputs		9	9	9	3
Sync inputs for output frame pulse alignment		4	4	4	3
Number of SONET/SDH/ Ethernet outputs	CMOS	2	2	2	1
	Differential	2	2	2	1
Number of PDH/TDM outputs (CMOS)		4	4	4	1
Number of frame pulse outputs (CMOS)		4	4	4	1
Programmable synthesizers (N x 8 kHz)		2	2	2	1
Jitter compliance		up to 10G/OC-192/STM-64	up to 1G/OC-12/STM-4	up to 10G/OC-48/STM-16	up to 10G/OC-48/STM-16
Maximum frequency Ethernet (MHz)		312.5	125	312.5	312.5
Maximum frequency SONET/SDH (MHz)		622.08	622.08	622.08	622.08
Package size		9 x 9 mm CABGA	9 x 9 mm CABGA	9 x 9 mm CABGA	9 x 9 mm CABGA

Product Features

- → Supports standards from Telecordia , ANSI, ETSI & ITU
- → Accepts wide range of common telecom input frequencies
- → Provides a wide range of telecom clocks & frame pulses
- → Holdover accuracy equal to or better than 1.5×10^{-7}
- → Manual or automatic hitless reference switching
- → Simple hardware control interface

	ZL30105	ZL30101	ZL30102	ZL30109	ZL30100
GR-1244 Stratum 3	✓	✓			
GR-1244 Stratum 4/4E	✓	✓	✓	✓	✓
Number of independent digital PLLs	1	1	1	1	1
Number of reference inputs	3	2	3	2	2
Sync inputs for output frame pulse alignment	1	0	1	0	0
Number of SONET/SDH/Ethernet outputs (CMOS)	1	0	0	1	0
Number of PDH/TDM outputs (CMOS)	7	5	7	5	5
Number of frame pulse outputs (CMOS)	4	3	3	4	3
Jitter compliance	up to OC-3/ STM-1	PDH Interfaces	PDH Interfaces	up to OC-3/ STM-1	PDH Interfaces
Maximum output frequency (MHz)	65.536	65.536	65.536	65.536	65.536
Package size	10 x 10 mm TGFP	10 x 10 mm TGFP	10 x 10 mm TGFP	10 x 10 mm TGFP	10 x 10 mm TGFP

RATE CONVERSION PLLs

Zarlink's telecom rate conversion phase locked loops (PLLs) provide accurate and reliable frequency conversion for telecom, enterprise and access equipment. Targeting volume designs, the products deliver required performance with integrated reference monitoring to ensure system reliability.

Applications

➤ Passive Optical Network Terminal (ONT)

➤ Integrated Access Device (IAD)

➤ Voice over IP (VoIP) line cards

➤ Private Branch Exchange (PBX)

➤ Channel bank

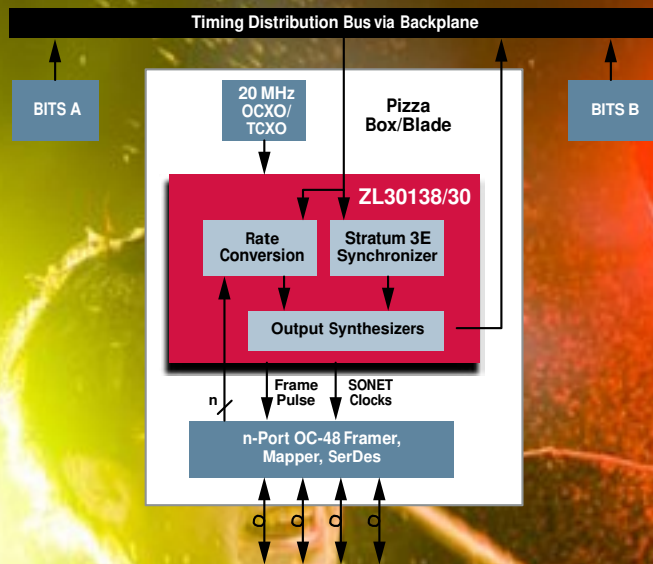## Product Features

➤ Standard input frequencies of 8 kHz, 2.048 MHz, 8.192 MHz, or 19.44 MHz

➤ Provides a selection of telecom frequencies

➤ Less than 0.6 nspp intrinsic jitter on TDM clock outputs

➤ Status output pins for lock indication & reference failure

➤ Goes to free run mode when the reference fails

➤ Provides reset pin for control

➤ Simple hardware control interface
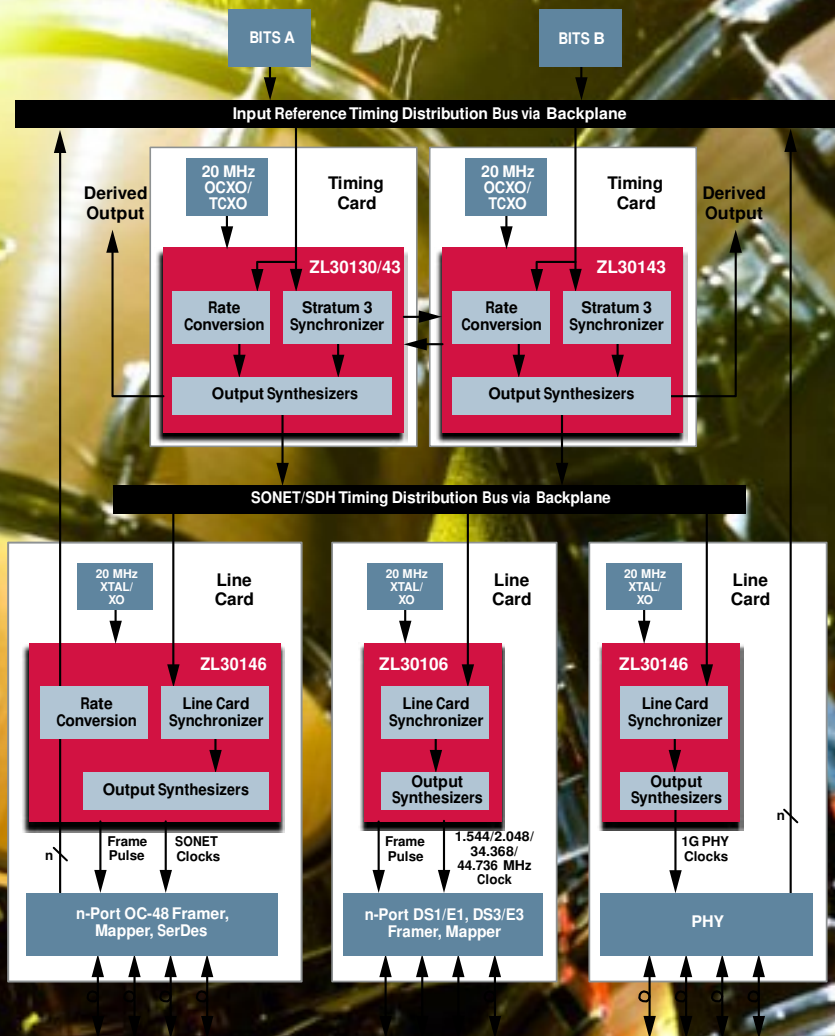
➤ Small package: 5mm x 5mm, QFN package

	ZL30110	ZL30112	ZL30113
Rate conversion DPLL with stand by capability	✓		
Number of reference inputs	1	1	1
Number of CMOS outputs	9	1	1
Synthesizers	65.536 MHz, 100/66 MHz 125 & 25 MHz	2.048 MHz 8.192 MHz	65.536 MHz
Fanout capability	✓		
Number of frame pulse outputs	0	1	1
Package	5 x 5 mm QFN	5 x 5 mm QFN	5 x 5 mm QFN

Distributed Timing For Pizza Box

Timing Distribution Bus via Backplane

BITS A

20 MHz OCXO/TCXO

Pizza Box/Blade

BITS B

ZL30138/30

Rate Conversion

Stratum 3E Synchronizer

Output Synthesizers

Frame Pulse

SONET Clocks

n

n-Port OC-48 Framer, Mapper, SerDes

Centralized System Timing And Blade Applications

BITS A

BITS B

Input Reference Timing Distribution Bus via Backplane

Derived Output

20 MHz OCXO/TCXO

Timing Card

20 MHz OCXO/TCXO

Timing Card

Derived Output

ZL30130/43

Rate Conversion

Stratum 3 Synchronizer

ZL30143

Rate Conversion

Stratum 3 Synchronizer

Output Synthesizers

Output Synthesizers

SONET/SDH Timing Distribution Bus via Backplane

20 MHz XTAL/XO

Line Card

20 MHz XTAL/XO

Line Card

20 MHz XTAL/XO

Line Card

ZL30146

Rate Conversion

Line Card Synchronizer

Output Synthesizers

ZL30106

Line Card Synchronizer

Output Synthesizers

ZL30146

Line Card Synchronizer

Output Synthesizers

n

Frame Pulse

SONET Clocks

Frame Pulse

1.544/2.048/ 34.368/ 44.736 MHz Clock

1G PHY Clocks

n

n-Port OC-48 Framer, Mapper, SerDes

n-Port DS1/E1, DS3/E3 Framer, Mapper

PHY

Zarlink's Timing and Synchronization solutions are based on a founda-
tion of over 20 years of expertise in designing leading-edge products
that ensure maximum network uptime while meeting strict perfor-
mance requirements.

Highly Integrated Solutions: Complete solutions that reduce bill-of-
material costs, board space and power consumption

Simplify Design: Easy-to-adopt products, fully supported by design
tools, evaluation boards, software and dedicated support teams, to
simplify and shorten your design cycle

Standards Compliant: Designed to meet the latest performance
requirements, including ITU-T Recommendation G.8262 for Syn-
chronous Ethernet, to achieve quality of transmission and reliable
carrier-grade services

Our state-of-the-art Line Card and Timing Card synchronization solu-
tions increase performance, reduce costs and keep our customers
ahead of the technology curve.

ZARLINK
SEMICONDUCTOR

www.zarlink.com/timing.htm