

M-5 CHANNEL ADAPTER



Freescale Semiconductor, Inc.

FEATURES

- Adapts C-5e NP to POS PHY interfaces
- Enables C-5e NP to support OC-48c bandwidths seamlessly
- Provides MPHY support for connection to SONET framer and mapper devices
- Provides OC-48c PHY support on either the C-5e NP's Channel Processor "front-end" or Fabric Processor "back-end"

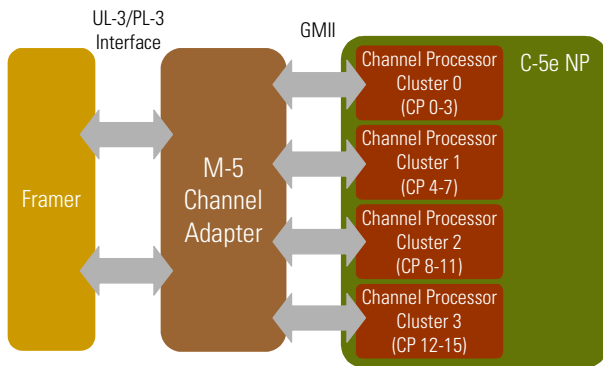
The **M-5™ Channel Adapter**, one of the C-Port family adapter products, is a companion device to the C-5e network processor (NP), extending its interface capabilities.

INTELLIGENT SERVICES AT OC-48c DATA RATES

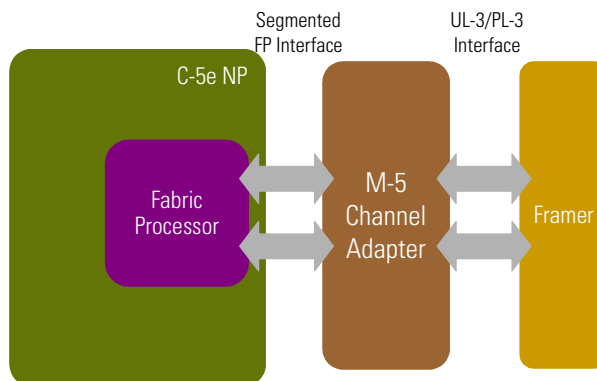
As a stand-alone device, the C-5e NP supports up to OC-48/STM-16 line rates, such as four OC-12/STM-4 streams, full duplex. However, the M-5 channel adapter can be used seamlessly with the C-5e NP to implement higher-speed applications and services that require OC-48c/STM-16 full duplex capabilities and to support channelized applications.

UTOPIA MANIFOLD AND MULTIPLEXER

The M-5 Channel Adapter accepts both PoS Level 3 and Utopia 3 framer interfaces into the C-5e NP's 16 clustered Channel Processors (CPs), as well as its Fabric Processor (FP) interface at up to OC-48c/STM-16 wire speeds. Both SPHY and MPHY framers are supported on the C-5e CPs, and the FP supports SPHY framers. Up to 48 logical interfaces can connect through the MPHY, enabling virtual channelization down to the STS-1 level within an OC-48/STM-16 stream.



FRAMER PORT CONFIGURATION	AGGREGATED DATA RATE	NUMBER OF FRAMER CHANNELS
16 PORTS x OC-3c	OC-48	16
4 PORTS x OC-12c	OC-48	4
1 PORT x OC-48c	OC-48	1
Various	OC-48	Configurable



**For More Information On This Product,
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M-5 CHANNEL ADAPTER PRODUCT HIGHLIGHTS

ITEM		SPECIFICATION
Electrical	Power Consumption	3.0 W @ 104 MHz Typical
	Frequency	80 MHz Typical, 104MHz Maximum
Processing	Throughput	5Gbps aggregate
Configuration	Ingress channels	1 to 48
	Channel rates supported	CP: OC-1, OC-3c/STM-1, OC-12c/STM-4, OC-48/OC-48c/STM-16 FP: OC-48/STM-16
	PDU stream interfaces	For CPs: <ul style="list-style-type: none"> • 32bit @ 80 to 104MHz Utopia Level 3 with optional parity (fixed-sized) ATM for C-5e CPs (16), with both direct and polling status modes • 32bit @ 80 to 104MHz Saturn PoS-PHY Level 3 with optional parity and packet transfer control (variable-sized) IP for C-5e CPs (16) For FP: <ul style="list-style-type: none"> • 32bit @ 80 to 104MHz Utopia Level 3 with optional parity (fixed-sized) ATM for C-5e CPs (16), with direct status mode • 32bit @ 80 to 104MHz Saturn PoS-PHY Level 3 with optional parity and packet transfer control (variable-sized) IP for C-5e CPs (16)
	Mapping	<ul style="list-style-type: none"> • OC-1 maps as 3 M-5 Ingress channels to 1 C-5e CP channel • OC-3c/STM-1 maps as 1 M-5 Ingress channel to 1 C-5e CP channel • OC-12c/STM-4 maps as 1 M-5 Ingress channel to 1 C-5e CP Cluster (4 CP channels) • OC-48c/STM-16 maps as 1 M-5 Ingress channel to 4 C-5e CP Clusters (16 CP channels) or maps as 1 M-5 Ingress channel to 1 C-5e FP channel
	External PHY buses	<ul style="list-style-type: none"> • Up to 4 MPHY for C-5e CPs • 1 SPHY for C-5e FP
	Selected configurations for one aggregated OC-48/STM-16 Channel (C-5e CPs only)	<ul style="list-style-type: none"> • 48 channels @ OC-1 with total aggregated data rate of OC-48/STM-16 • 16 channels @ OC-3c/STM-1 with total aggregated data rate of OC-48/STM-16 • 4 channels @ OC-12c/STM-4 with total aggregated data rate of OC-48/STM-16 • 3 channels @ OC-1, 3 channels @ OC-3c/STM-1, 3 channels @ OC-12c/STM-4 with total aggregated data rate of OC-48/STM-16 • 12 channels @ OC-1, 12 channels @ OC-3c/STM-1 with total aggregated data rate of OC-48/STM-16
	PDU sizes	<ul style="list-style-type: none"> • For ATM: 52Byte cells • For PoS: 28Byte to 9216Byte packets
Other	Layout	352 pin Ball Grid Array (BGA) package
	Operating temperature	-40° to +85°C ambient



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M5ADAPTER-FS/D
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