

**20G Narrowband Switch Element**

**OVERVIEW**

The PM8620 NSE-20G is a monolithic CMOS integrated circuit that performs DS0 and above granularity Space (cross bar ) switching on 32 full duplex STS-12 streams.

The device provides 20Gb/s (258,048 DS0s, 10,752 T1s/VT1.5s, 8064 E1s/VT2s, 384 DS3s/E3s) switching.

The NSE-20G can be combined in applications with the PM5372 TSE and PM5310 TBS devices from the PMC CHESSTM product family and with the PM8610 SBS and PM8611 SBSLITE.

**FEATURES**

- Supports 32 STS-12 equivalent serial ports via 777.6MHz, 8B/10B encoded LVDS links. Each port can be either Serial TelecomBus or Serial SBI336S.
- In SBI mode, switches DS0 or NxDS0 for all T1 and E1 tributaries and aggregate columns for switching T1,

E1, VT1.5, VT2, DS3 and E3 tributaries.

- The NSE-20G can be used with the companion SBS devices to implement a switch fabric scaleable to 20Gb/s.
- In TelecomBus, switches VT1.5, VT2, or STS-1 tributaries.
- Supports switching of arbitrary non-standard octet aggregates.
- Supports unicast, multicast, and broadcast for all switching modes.
- Supports full-duplex, in-band communication channels from the NSE to each SBS or SBSLITE device. These channels can be used to initialize and control the SBS's for fabric monitoring and maintenance.
- Supports "1+1" or "1:n" fabric redundancy in conjunction with the SBSTM or SBSLITETM devices.
- Supports two sets of switch settings and a controlled method of changing settings on STS-12 frame boundaries.

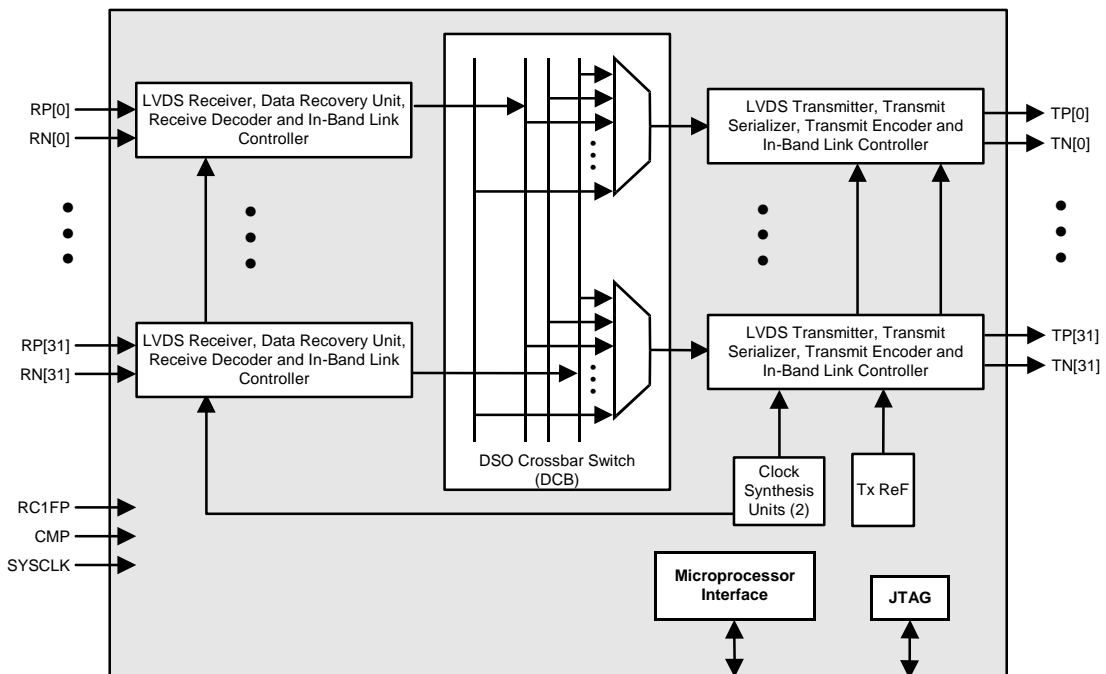
**PHYSICAL CHARACTERISTICS**

- Supports an IEEE P1149.1 JTAG test port.
- Provides 32-bit microprocessor bus interface for configuration, control and status monitoring.
- Low power 1.8 V / 3.3 V 0.18 μm CMOS technology.
- Available in a high density 480 ball 35 mm x 35 mm UBGA.
- -40°C to +85°C Industrial temperature Operation.

**APPLICATIONS**

- T1/E1 SONET/SDH Cross-connects.
- T1/E1 SONET/SDH Add-Drop Multiplexors.
- OC-48 Multiservice Access Multiplexors.
- Channelized OC-12/OC-48 Any Service Any Port Switches.
- Voice Gateways.

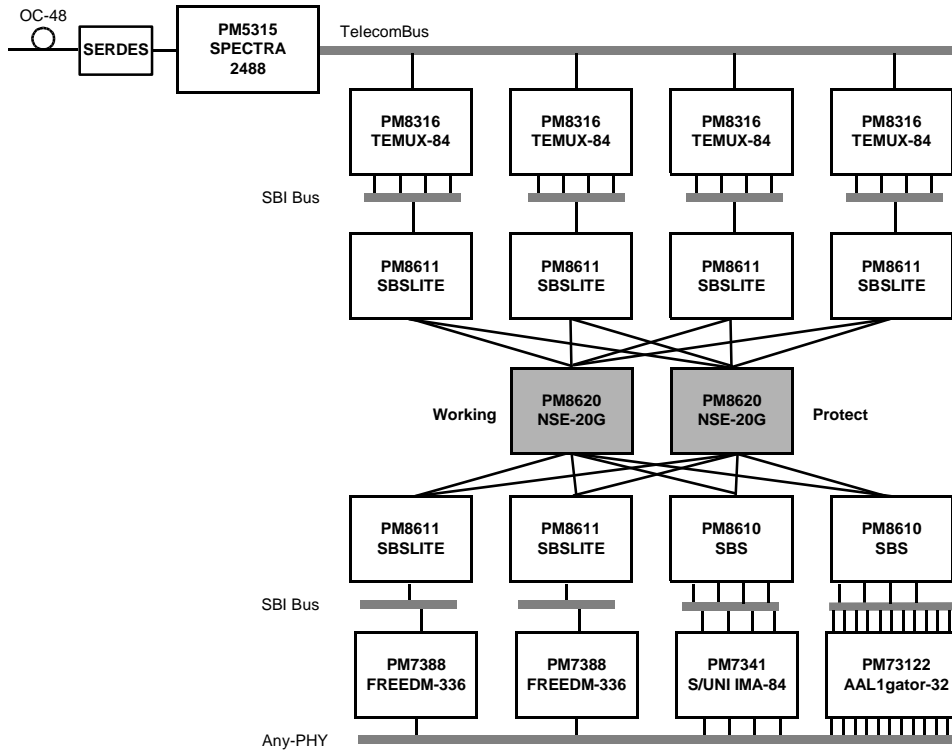
**BLOCK DIAGRAM**



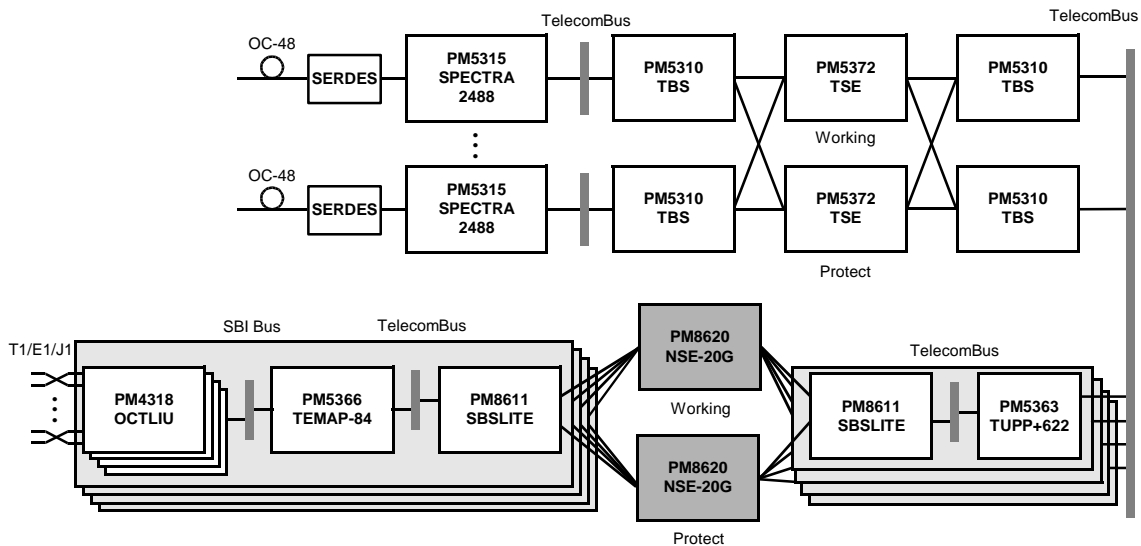
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## TYPICAL APPLICATIONS

### CHANNELIZED OC-48/4xOC-12 ASAP



### NxOC-48 ADM WITH CHESS™ CHIP SET



Head Office:  
 PMC-Sierra, Inc.  
 8555 Baxter Place  
 Burnaby, B.C. V5A 4V7  
 Canada  
 Tel: 604.415.6000  
 Fax: 604.415.6200

To order documentation,  
 send email to:  
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