OC-48/STM-16 Framer – POSIC2GB™

Features

- OC-48/STS-48/STM-16, OC-12/STS-12/STM-4, OC-3/STS3/STM-1 rates, concatenated and nonconcatenated
  - Complies with ITU-Standards G.707/Y.1322 and G.783
  - Complies with Bellcore GR253 rev.1, 1997
  - Channelized operation: supports 16xOC-3/STM-1 and 4xOC-12/STM-4 within OC48 stream
  - Supports TUG3 mapping in SDH mode
- Full duplex mapping of ATM cells over SONET/SDH
  - Complies with ITU-Standards I 432.2
- Full duplex mapping of packet-over-SONET/SDH: IETF RFC 1619/1662/2615 (HDLC/PPP)
- Generic Protocol Encapsulator/Decapsulator delineates packets/frames with length-CRC frame construct
  - Generic Framing Procedure (GFP) per ANSI T1X1.5
- User-programmable encapsulation
- User-programmable clear channel transport
- User-programmable SONET/SDH bypass
- Programmable frame tagging engine for packet pre-classification enables features such as
  - MPLS label lookup and tagging
  - PPP: LCP and NCP tagging
  - PPP control packets optionally sent to host CPU interface
  - MAC/layer 3 address lookup and tagging
- Programmable A1A2 processing bypass in Rx direction with frame sync input
- Complete section overhead (SOH), line overhead (LOH), and path overhead (POH) processing
- APS extraction, CPU interrupt generation, and programmable insertion of APS byte
- Line side APS port interface
- Provision for protection switching on SONET/ SDH port
- Programmable PRBS generator and receiver
- Serial port to access line/section data communication channel (DCC) and voice communication channel (VCC)
- Full duplex UTOPIA/OIF-SPI (POS-PHY) level 3 interface
- 16-bit/32-bit host CPU interface bus (Motorola/Intel class)
- JTAG and boundary scan
- Glueless interface with Cypress CYS25G0101DX OC-48 PHY
- 0.18-µm CMOS, 504-pin BGA package
- +1.8V for core, +3.3V for LVTTL I/O, +1.5V/+3.3V for HSTL/LVPECL I/O supply and +0.75V/2.0V reference

Applications

- Multiservice nodes
- ATM switches and routers
- Packet routers
- Multi-service routers
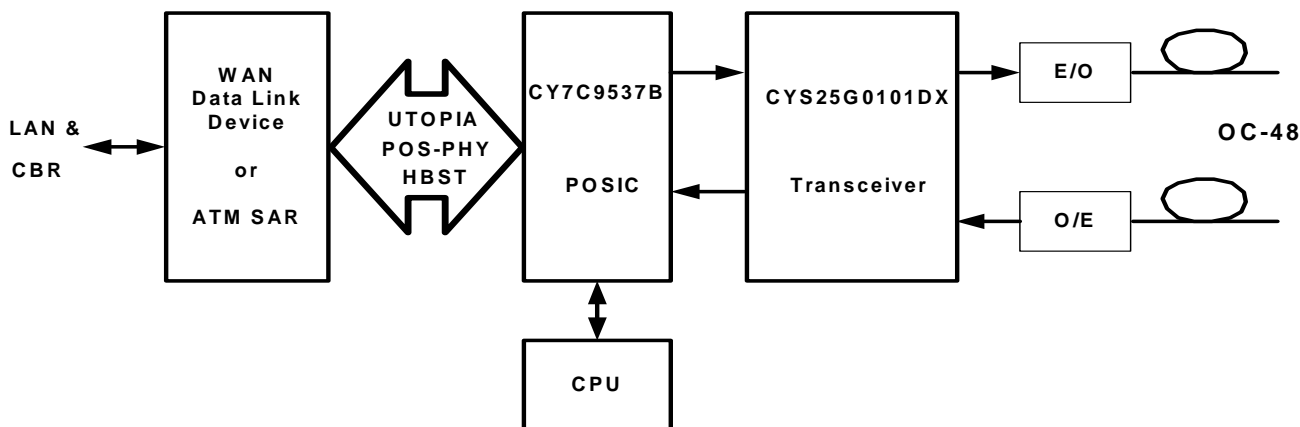- SONET/SDH/add-drop mux for packet/data applications
- SONET/SDH/ATM/POS test equipment

Figure 1. POSIC2GB™ System Application Diagram