# Concatenated ATM Base Input /Output (BIO-C) Module for the GX 550® Multiservice WAN Switch



The Concatenated ATM Base Input /Output (BIO-C) Module performs all Layer 2 and Layer 3 functions required to support OC-48c/STM-16 trunking applications on the GX 550® Multiservice WAN Switch. The BIO-C module provides 2.5 Gbps of processing on a single thread, enabling it to support services between OC-12c/STM-4 and OC-48c/STM-16. Because the BIO-C supports much higher speed services than previous GX 550® BIO modules, it requires the higher performance Node Processor 2 (NP2), as well as the OC-48c/STM-16c Physical Interface Module and the improved Switch Fabric 2 (SF2). These features enhance the capabilities of the GX 550® switch and can provide you with the superior performance, scalability and network design flexibility you need to grow your ATM multiservice network.

## Applications

- Scale core network trunks to 2.5 Gbps
- Support NNI/Direct Trunking, UNI services and service aggregation between OC-3c/STM-1, OC-12c/STM-4 and OC-48c/STM-16
- Aggregate DSL traffic through SONET/SDH Optical rings

## Features

- Ten BIO-C modules per GX 550® switch
- Extensive 1,000,000 cell buffers
- Full Permanent Virtual Circuit (PVC) and Switched Virtual Circuit (SVC) support for up to 128,000 connections (mix of PVC, SVC, or transit circuits)
- Fast circuit setup and rerouting — up to 5000 circuits per second per switch
- Exclusive BIO-C statistics daughter card — provides user-configurable comprehensive support for up to 256,000 Virtual Circuit (VC) statistics per BIO module

## Benefits

- Help achieve lower transport cost-per-bit with network trunk scaling support to 2.5 Gbps
- Ensure compliance with third-party carrier contracts through per-VC queuing and traffic policing capabilities
- Enable APS cost reductions by supporting two OC-48c/STM-16c physical modules per BIO-C (Provides SONET/SDH ring redundancy)
- Help lower per-VC cost with increased VC support (256K) per BIO
- Aid SONET/SDH infrastructure cost reductions using channelization

## Technical Specifications

| Description | Specifications |
|---|---|
| 1. **Protocol Features Supported** | |
| *ATM:* | ATM Forum: ILMI 4.0 IISP, PNNI 1.0, B-ICI 1.1, TM 3.0/3.1/4.0 |
| | ITU: G.707, G.783, I.371, I.610, Q.701-710, Q.2100, Q.2110, Q.2130, Q.2140, Q.2610, Q.2724, Q.2761-2764, Q.2722, Q.2931, Q.2971 |
| | ANSI: T1.231 |
| | IETF: RFC 1595 |
| | ATM QoS support: CBR, rt-VBR, nrt-VBR, and UBR/ABR |
| *Frame Relay:* | Interworking (FRF.5, FRF.8) |
| *Optical:* | OIF: UNI 1.0, SONET/SDH Supports framing, performance monitoring, alarm handling, and optical signaling |
| *Multiservice Switch Operating Software (MXOS™) R9.0* | Carrier-class, innovative software for increased switch reliability and network scalability. IP/MPLS Feature pack available for advanced IP services delivery |

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## Specifications *(continued)*

| Description | Specifications |
|---|---|
| 2. **Upgrade Features** | |
| Hot-swappable for in-service installation | |
| 3. **Network Synchronization** | |
| • External and Internal Stratum 3 clock timing | |
| • Supports Stratum 3E and system timing capacities | |
| 4. **Operations, Administration and Maintenance** | |
| • Telcordia GR-253/SDH ITU G.707 for for Intra-card APS, TR-474, GR-1100, GR-1110, GR-1248, GR-1343, ITU 1.610 | |
| • *n* circuit ATM Management | |
| • F4/F5 Segment AIS, RDI and end-end loopbacks | |
| • TM 4.0 hardware/software and TM 4.1 hardware – compliant traffic policing (GFR-ready hardware) | |
| 5. **Network Management** | |
| Managed by Navis® Integrated Network Management Systems | |
| Simple Network Management Protocol (SNMP) v1.1 | |
| 6. **Physical Dimensions** | |
| Size: | 1.7" x 19.7" x 13.9" (4.3 cm x 50 cm x 35.3 cm) |
| 7. **Power** | |
| Voltage: | 150 watts |
| 8. **Environmental** | |
| Temperature range: | 32° to 104° F (0° -40° C) |
| 9. **Regulatory Compliance** | |
| Environmental/NEBS®: | GR-63-CORE, GR-1089-CORE |
| Safety: | UL® 1950 3rd edition |
| Immunity: | EN55022 Class A (CISPR)<br>EN50082-1<br>EN61000-3.2, 3.3 |
| EMC: | FDA Class 1<br>FCC Part 15 Class A |

Specifications subject to change without notice. Contact your Lucent representative for information on availability and upgrades. Lucent reserves the right to change, modify, transfer or otherwise revise this publication without notice.

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