



IC35160T



IC35160G

The IntraCore® 35160 Series is Asanté's most powerful, flexible family of Layer 2 backbone, core and distribution level aggregation switches. Tailor this IntraCore® switch with hardware and software to precisely match your network needs—today and in the future.

High Port Count **Single Chip** Gigabit Solution for Layer 2 switching.

Choose from **two design** versions:

- 12 ports 10/100/1000BaseT with 4 ports auto-selectable GBIC/1000BaseT Copper
- 12 ports GBIC for Fiber backbones with 4 ports auto-selectable GBIC/1000BaseT Copper

Deploy **QOS** schedules and priorities (voice, video, audio, image) throughout your network with **Multicasting** technologies: IP multicast with IGMP, manual population of multicast tables, IEEE 802.1p queues to support VOIP, Video and ERP type applications.

**Multiple Management Options:** SNMP, Web, Telnet, RMON, console

**Software Redundancy:** Two banks for storing firmware

**Jumbo Packet:** Will support frames up to 16384 bytes with user configurability

**Security:** Port based, Station detection, Duplicate IP address

**VLAN:** 1024 VLANs supported with IEEE802.1Q tagging

Emergency backup, **Emergency Power Supply** provides optional redundant power.



## Introduction

The IntraCore® 35160 Layer 2 family of Gigabit Ethernet switches is Asante's most powerful, flexible range of backbone and aggregation switches.

With 16 ports of Gigabit Ethernet offered in two design options, your cost of ownership is reduced considerably over other vendors switches by using mix and match GBIC/Copper ports.

By using a single-chip state-of-the-art architecture with shared memory, wire speed switching at Layer 2 is achieved on all ports.

## Quality of Service

In the simplest sense, Quality of Service (QoS) means providing consistent, predictable data delivery service. In other words, satisfying customer application throughput requirements including timing, bandwidth and service prioritization.

QoS is to the ability of a network element (e.g. an application, host or router) to have some level of assurance that its traffic and service requirements can be satisfied. To enable QoS requires the cooperation of all network layers from top-to-bottom, as well as every network element from end-to-end. Any QoS assurances are only as good as the weakest link in the "chain" between sender and receiver.

For network's that require more than just performance switching, the IntraCore® 35160 has a comprehensive array of multicasting and Quality of Service tools to provide tailored service levels in operations that involve Voice, Video, Image and Data traffic.

With future upgrade options that include Classification and filtering based on Layer 2 packets, Layer 3 protocols and Layer 4 protocols (TCP, UDP) and remapping priorities using DiffServ Code Point (DSCP), traffic flows can be identified and managed by MAC address, VLAN, Port, source and destination address.

## Jumbo Packet Support

Jumbo Packet transmission is a requirement seen largely in Higher Education, Research and Distributed Scientific computing environments, this commonly involves high level traffic flows of web, video and database transaction processing between host and client.

Our implementation of Jumbo Packet support allows users to manually configure oversize frames of up to 16384 bytes to be transmitted. Asanté's end-to-end Jumbo Packet support includes FriendlyNET® GigaNIX network cards also.

## Low Cost Failure Backup Power Option

New to Asanté is the provision of an optional DC backup power supply to ensure continued operation in situations of primary power failure. Used with Uninterrupted Power Supplies, Asanté IC 35160 can ensure high productivity and extremely low downtime on mission critical networks.

The IC35-EPS12 operates at 12VDC and is used in standby mode simultaneously on-line with the 90-260VAC primary power system. Should the primary power fail, the IC35-EPS12 automatically goes live

and both LED indication on the switch hardware and SNMP alarms will be enabled.

## Market Applications

This family of switches is ideally positioned for those organizations and businesses that operate web based, multimedia and high performance networks including, MTU, Higher Education, Scientific Research, E-Business Enterprise applications (SAP, ERP, CRM, and SCM) in Manufacturing, Retail, and Public Services including Government and Healthcare where control of latency and jitter along with traffic management by user and service type is critical.

Use the IC35160 for aggregating multiple workgroups of 10/100 24/48 port switches (IC3524/48), connecting multiple Gigabit Fiber or copper backbones in the network core or even distributing bandwidth within the data center to servers.

## **FEATURES**

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<b>Single-Chip Layer 2 Switch:</b>	Forwarding rate of 24 million packets per second at full wire speed over all network interfaces in a unit 32 Gbps switch fabric (per unit) minimizes blocking and latency Runs cooler and more reliably than older, multi-chip designs
<b>Extensible Platform:</b>	Choose from 2 popular Gigabit configurations with auto-selectable switching - 12 ports 10/100/1000BaseT and 4 dual function ports of GBIC/1000BaseT - 12 ports GBIC and 4 dual function ports of GBIC/1000BaseT  Run multi-mode or singlemode fiber 1000 Mbps (1000BaseSX/LX/LH/LZ) using GBIC transceivers Run standard Category 5E UTP copper cables up to 100 meters at 1000 Mbps (1000BaseT)
<b>Class of Service/Qos</b>	Multiple priority queues ensure mission critical applications get the bandwidth and priority they need. IEEE802.1p: 8 queues per port.  Chargeable, upgrade firmware available in first half 2003 will enable Packet classification and filtering based on Layer 2 packets, Layer 3 protocols and Layer 4 traffic types TCP and UDP also remapping of traffic flows using DiffServ and based on MAC address, VLAN, L2-4.
<b>Multicasting support:</b>	Internet group management protocol (IGMP) optimizes multicast bandwidth by allowing multicast traffic only to registered users; minimizes denial of service attacks from unknown sources. 256 multicast groups are supported. Manual population of the multicast table is available, static entries in the multicast table are saved to FLASH.
<b>Virtual LANs:</b>	Logically organize nodes into 1024 port based VLANs compliant with IEEE 802.1Q with VLAN Tagging Overlapping VLANs are ideal for sharing and segmenting traffic and security.
<b>Addresses</b>	Supports 2000 MAC addresses with MAC address ageing management and MAC/IP address table display
<b>Port Mirroring</b>	On ingress only in first release firmware.
<b>Port Security</b>	Station move detection and Duplicate IP address detection with ONE trusted addresses per port.
<b>Spanning Tree</b>	IEEE 802.1D supported
<b>Jumbo Packets</b>	Supports frames, user configurable up to 16384 bytes
<b>Flow Control</b>	IEEE 802.3x supported
<b>Management</b>	
Graphical User Interface:	WEB type HTML browser-based with password protection for local and remote management
Console Interface:	Menu-driven telnet or out-of-band via front panel console port
Command Line:	Version 2 firmware introduces CLI support for all features
SNMP:	SNMP v1 supported with MIB II, RMON, 802.1Q, 802.1p, Bridge MIB and Asante private MIB

RMON:	4 Groups (Stats, History, Alarms, Events)
Front Panel:	Graphical representation of unit with real-time network status
General Information:	Software version, dual firmware banks; admin, system and bootstrap info; switch address and uptime system clock
Statistics:	User-configurable graph types (bar chart, line chart, table); counters (since up, rate, since reset) for RX/TX/Error for each port and unit. Table view also shows current, peak average and total packets for each port
Port Configuration:	State (forwarding, blocking), status (enabled, disabled), link status (up, down) and mode (speed, duplex); auto negotiation, flow control, priority and security. Detailed statistics include TX counters (total frames, total bytes, dropped frames), RX counters (total frames, total bytes, unicast, non-unicast), frame counters (multicast, broadcast, by packet sizes), collisions and errors (undersized, oversized, CRC/alignment, fragments, FCS, late events, total)
<b>Firmware Configuration</b>	Configuration files uploading/downloading Image files downloading for updating firmware, TFTP

## SPECIFICATIONS

<b>Connectors:</b>	Gigabit Ethernet with Auto-Uplink™ (10/100/1000BaseTX): RJ-45 or GBIC holder for GBIC transceiver module Console: Serial (RS-232): DB9
<b>Status Indicators:</b>	Separate link-activity, speed (10/100/Gigabit) and duplex (full or half) LEDs for each port; system power, emergency backup power.
<b>Physical Characteristics</b>	
IntraCore® 35160-T:	17.5 x 10.0 x 1.8 inches (444 x 254 x 46 mm), 8.0 lbs (3.6 Kg)
IntraCore® 35160-G	17.5 x 14.0 x 2.7 inches (444 x 355.6 x 68.58 mm), 9.0 lbs (4.1 Kg)
Mounting:	Install into a standard 19-inch rack (1 RU height) or placed on a desktop; rackmount kit and rubber feet included
<b>Environmental Range</b>	
Operating Temperature:	32° to 104° F (0° to 40° C)
Relative Humidity:	10% to 90% non-condensing
Power:	Auto-switching, 90/260 VAC, 50/60 Hz; grounded IEC cord
Redundant DC Power:	12 VDC Auto switching from main 110/260 VAC for emergency backup
<b>Standards Compliance</b>	
IEEE:	IEEE 802.1D spanning tree and bridge filters IEEE 802.1p prioritization (class of service) IEEE 802.1Q virtual LAN (VLAN) IEEE 802.3x full duplex and flow control IEEE 802.3z 1000BaseSX over 50 micron multi-mode fiber; maximum distance 1,804 feet (550 meters) IEEE 802.3ab 1000BaseT over Category 5 UTP (4 pairs); maximum distance 328 feet (100 meters) IEEE 802.3u 100BaseTX over Category 5 UTP (2 pairs); maximum distance 328 feet (100 meters) IEEE 802.3 10BaseT over Category 3 UTP (2 pairs); maximum distance 328 feet (100 meters)
IETF:	RFC 1155 SMI RFC 1757 RMON RFC 1157 SNMP RFC 1493 Bridge MIB RFC 1213 MIB II Asanté Private MIB
Safety:	UL 1950, CUL, TUV/GS,
Emissions:	FCC Class A, CE
<b>Technical Support and Warranty</b>	
IntraCare™:	IntraCare: Free technical support and advanced warranty support for 3 years. Includes free telephone support, 24-hour support via web and ftp, complete product warranty with 2nd business day (within US) advanced replacement and software maintenance agreement.
AsanteCare:	Optional extended technical support and product warranty for additional years.

## ORDERING INFORMATION

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Model	Description	Asanté Part Number*
IntraCore® 35160-T	12-port 10/100/1000, and 4 dual function ports GBIC/1000BaseT copper. Layer 2	99-00747-01
<b>Accessories</b>		
IC35-EPS12	Emergency Redundant Power Supply, 12 VDC for IC3548/35160/35516	99-00777-01
GBIC 1000SX**	1000BaseSX GBIC multimode SC connectors	99-00549-01
GBIC 1000LX**	1000BaseLX GBIC multimode 1km/singlemode 10km	99-00550-01
GBIC 1000T**	1000BaseT GBIC metal 100 metres	99-00673-01
GBIC 1000TP**	1000BaseTP GBIC plastic 100 metres	99-00647-07

For international part numbers, please refer to sales.

\*\*See GBIC datasheet and Asanté price list for additional GBIC's and GBIC price bundles.



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