

### Features

- Allows up to 4 Ethernet Switches to be stacked together.
- Entire Stack can support up to 128 ports.
- Provides up to 800 Mb/s of bandwidth per segment in a ring topology.
- Utilizes low cost LVDS PHY's to facilitate the link between stacked switches.
- Any learned address is automatically learned in hardware by all switches in the stack.
- Maintains packet ordering throughout the stack.
- Connects directly to a LS201 or a LS211 LAN Switching Element.
- Low cost, scalable solution for stackable switched Ethernet.
- 3.3V CMOS technology with 5V tolerant I/O's.
- 256 Pin Ball Grid Array (BGA) package.

### Description

The LS202 StackLink™ is a highly integrated stacking controller for 10/100/1000 Mbit Ethernet switching. It integrates a memory controller, queue manager, address data path, and PCI interface. When combined with an I-Cube Switching Element like the LS201 27 Port LAN Switching Element or the LS211 49 Port LAN Switching Element, the LS202 provides a low cost stackable switched Ethernet solution.

The LS202 allows users to stack up to four Ethernet switches (up to 128 ports) together by providing 800Mb/s of bandwidth per segment. Low Voltage Differential Signaling (LVDS) PHY's are used to facilitate the connection between the stacked switches.

Figure 1 gives an overview of the functional blocks that make up the LS202.

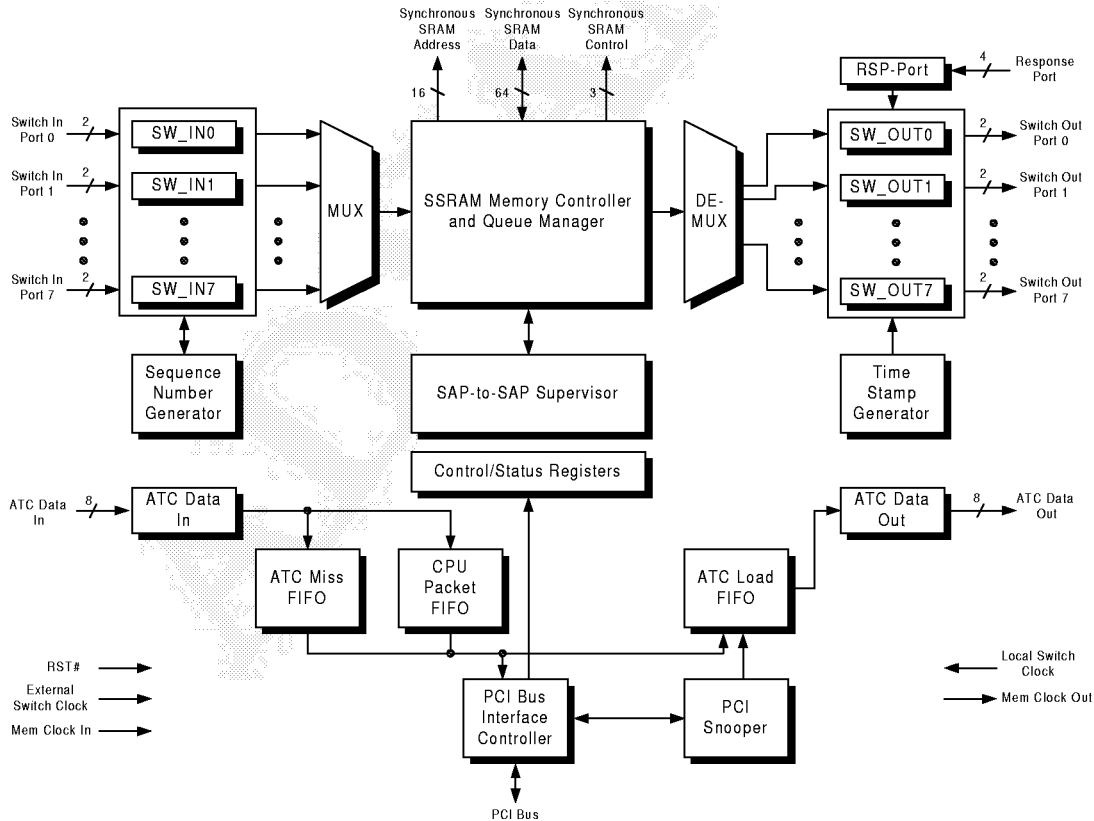


Figure 1: LS202 Functional Block Diagram



# LS202 StackLink Mini Data Sheet- Ethernet Switch Stacking Controller

## Introduction

The LS202 is a LAN switch stacking controller for the LS Ethernet SwitchSet™. When combined with other members of the LS family it provides the backbone of a scaleable switching architecture. The key to these features lies in the use of I-Cube's Digital Crosspoint Switch (DCS) technology for the switch fabric.

Figure 2 shows how the LS202, LS1000 Gbit port controller, LS120 quad 10/100 Mbit port controller and LS211 49-port LAN switching element can be combined to create a stackable workgroup switch. Variations of this architecture can be used for backbone or Gigabit Ethernet switch applications.

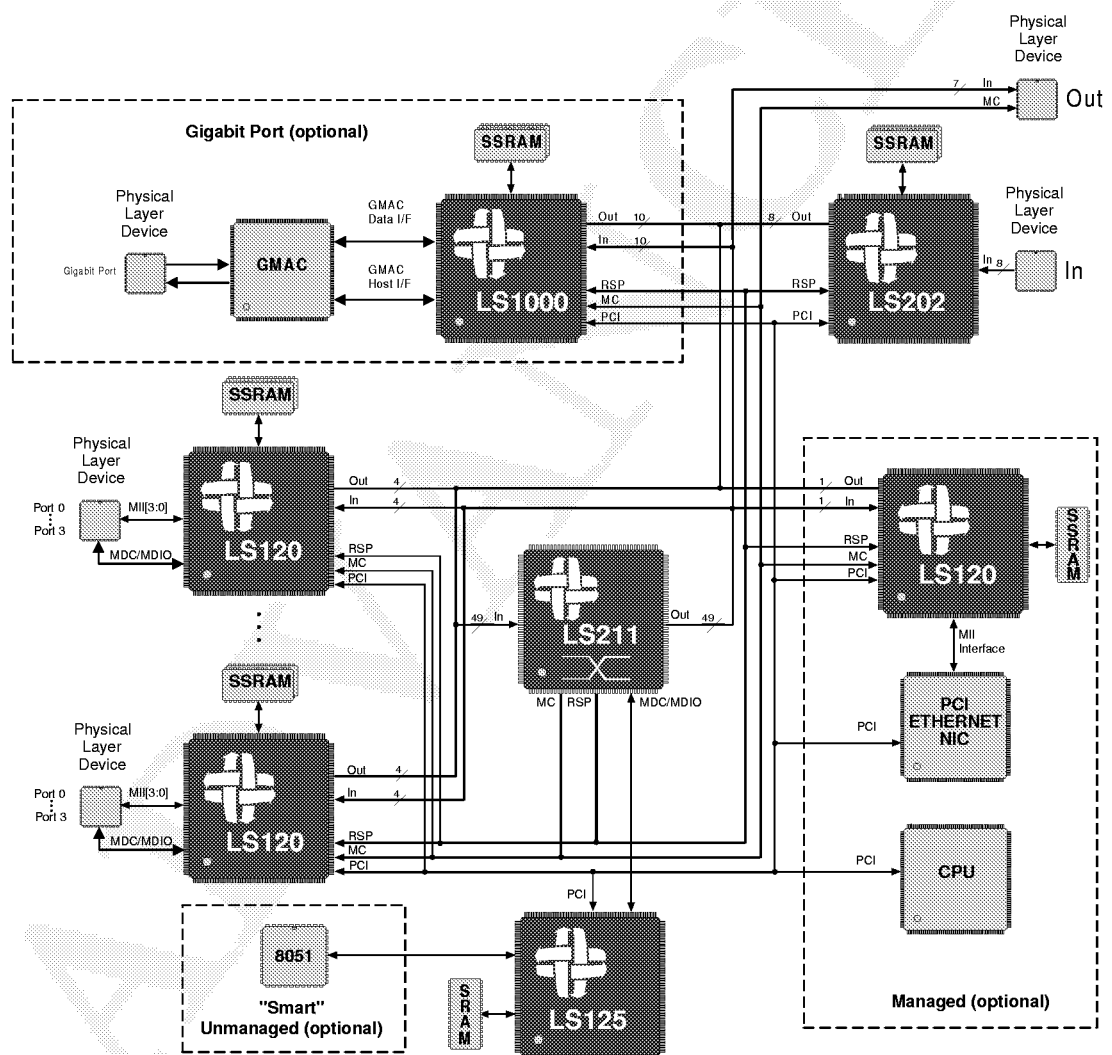


Figure 2: LS Based Workgroup Switch

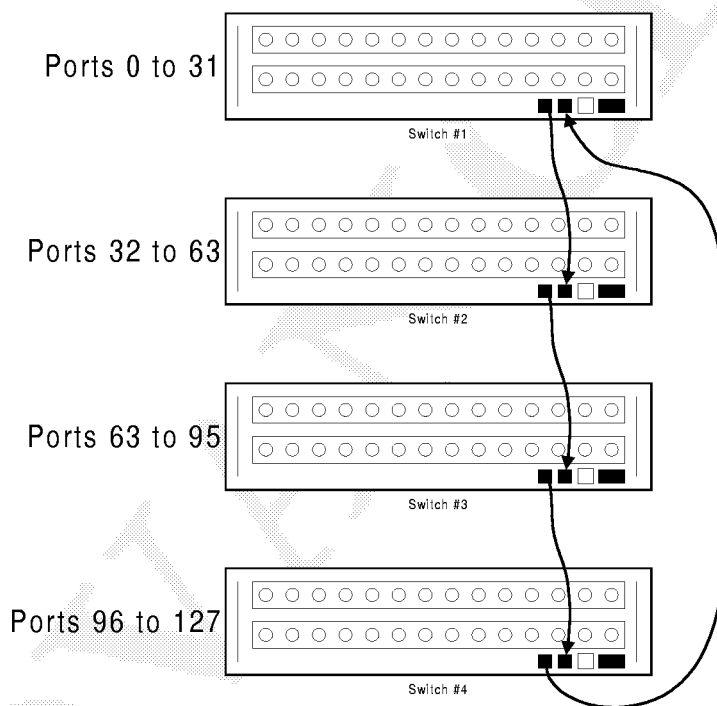


## LS202 StackLink Mini Data Sheet- Ethernet Switch Stacking Controller

Switch management functions are handled by a CPU and an optional standard Ethernet network interface controller (NIC). The CPU, NIC, and the port interfaces are connected via a PCI management bus. This bus is used to transfer management packets between the CPU and the NIC. The CPU also uses the PCI Bus to access control registers located in the LS120s and the NIC.

“Smart” unmanaged switches are handled by using a low cost CPU that is connected directly to the LS125  $\mu$ Access Interface. The smart unmanaged CPU is used to configure the switch and can be used to provide a basic user interface (e.g., dip switches, serial interface, or front panel LED's).

Figure 3 shows how four switches could be stacked together.



**Figure 3: LS Based Switch Stack**

### LS202 Functional Blocks

The primary functional blocks that make up the LS202 are:

- Memory Controller and Queue Manager
- Address Data Path
- PCI Interface
- Switch Input Buffer with Data Deserializer
- Switch Output Buffer with Data Serialzier
- SAP to SAP Supervisor