

General Description

The NorthBridge Semiconductor A6MUxx family are single chip multi-channel UARTs with an integrated Motorola/Intel CPU bus interface. The family includes 3 devices; the 8 channel A6MU08, the 16 channel A6MU16 and the 32 channel A6MU32.

Each member of the family has independent, high performance UARTs with 128 byte transmit and receive FIFOs and selectable data rates up to 1Mbps. The FIFOs reduce the CPU overhead and maximize system bandwidth. Additionally each UART also has independent baud rate generators, character time out and interrupt processing.

In addition to increased performance and FIFO size, the A6MUxx family also provides enhanced features including superior flow control as well as maintaining industry standard 16550 compatibility.

The NBS A6MUxx family also features a hardware selectable CPU bus interface. A selector pin allows for the choice of either an Intel or Motorola style bus.

A6MUxx UART flow control and interrupt thresholds are fully programmable and readable. Transmit and Receive FIFO levels are also readable. These features allow for the creation of highly efficient and fast driver applications. The addition of software reset enables recovery from unforeseen error conditions allowing drivers to restart gracefully.

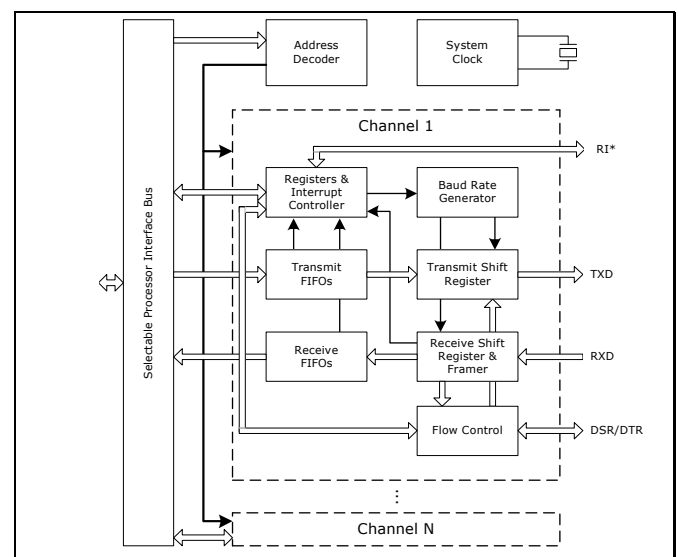
Applications

- Multi-channel serial IO boards
- Industrial controllers
- FAX/MODEM concentrators
- Supervisory / maintenance terminals
- Universal Form Factor PCI Bus Add-in Card
- Remote Access Servers
- Network Management
- Factory Automation and Process Control
- Point-of-Sale Systems
- Multi-port RS-232/RS-422/RS-485 Cards

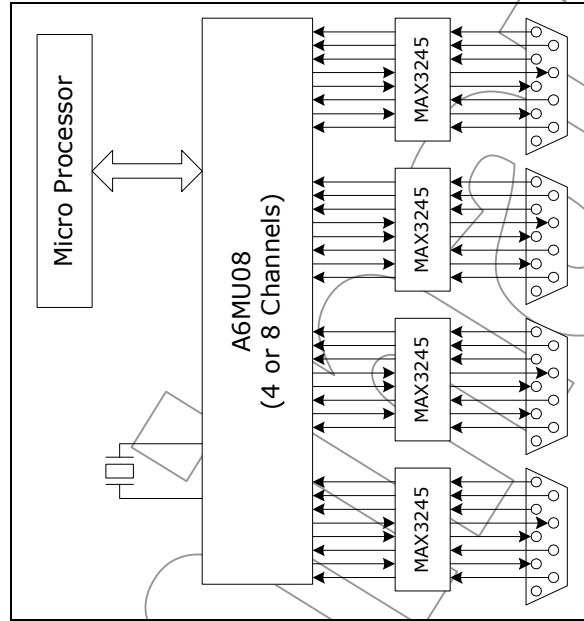
Features

- Multiple, independent high performance UART channels
 - A6MU08 – 8 UARTs
 - A6MU16 – 16 UARTs
 - A6MU32 – 32 UARTs
- Independent baud rate selection for each channel
- Baud Rates up to 1Mbps
- UARTs compatible with industry standard 16550 UART
- Deep 128 byte Transmit and Receive FIFOs for each channel
- Selectable Intel/Motorola CPU Interface
- All Modem control functions available
- Prioritized interrupts
- DSR/DTR Hardware Flow control
- XON/XOFF Software Flow Control
- Global Interrupt Status and Readable FIFO Flags
- Programmable Transmit and Receive FIFO Flags and interrupts.
- Each UART has separate register set for independent control
- RS-485 Half Duplex Control
- Sample Drivers/API

Functional Block Diagram



Typical Application



Selection Guide

Part #	#Channels	Temp	Package
A6MU08-CQ352C	8	0-70°C	cq352
A6MU16-CQ352C	16	0-70°C	cq352
A6MU32-CQ352C	32	0-70°C	cq352
A6MU08-CQ352I	8	-40-85°C	cq352
A6MU16-CQ352I	16	-40-85°C	cq352
A6MU328-CQ352I	32	-40-85°C	cq352

Customizations

NorthBridge Semiconductor is a distinctive manufacturer of electronic components. Due to our innovative process technology, NorthBridge Semiconductor can tailor many features and timing parameters – to our customer’s specifications in order to accommodate a wide variety of applications without incurring additional large costs. Traditional semiconductor manufacturers must anticipate all applications and situations, which

increases the die size (cost) and greatly escalating the complexity (and possibility of failures) of the devices. If your application does not fit the foreseen purposes, then additional external circuitry must be added, increasing costs.

By contrast, NorthBridge Semiconductor provides core functionalities and allows the customer to tweak the design to fit their needs. This means no wasted die space (lower cost); simpler, more reliable circuitry and fewer external support parts.