INNOVATIVE SEMICONDUCTORS, INC.

PRODUCT BRIEF

ISI-738

Backplane PHY IP like TI TSB14C01

IEEE 1394

IEEE 1394 is a high-speed serial bus standard that allows video and audio consumer devices to communicate quickly, reliably, and inexpensively with a PC and with each other.

FlexFire™ Architecture

Innovative Semiconductors' FlexFire architecture is based on a set of parameterized building blocks that can be quickly and easily configured to support a wide range of 1394 applications. The FlexFire 1394a family includes general purpose and application-specific cores for Link Layer Controllers as well as a PHY.

ISI-738 Backplane PHY Core

The ISI-738 provides the transceiver functions to implement a single-port node in a backplane-based 1394 network, and supports transfer speeds of 50 or 100 Mbits/sec.

The ISI-738 is pin and register-compatible with Texas Instruments' TSB14C01 Backplane PHY chip, for use in IEEE 1394-1995-based systems. A single bit can be set to configure the ISI-738 for use in 1394a-based systems, in which the backplane PHY register set is defined.

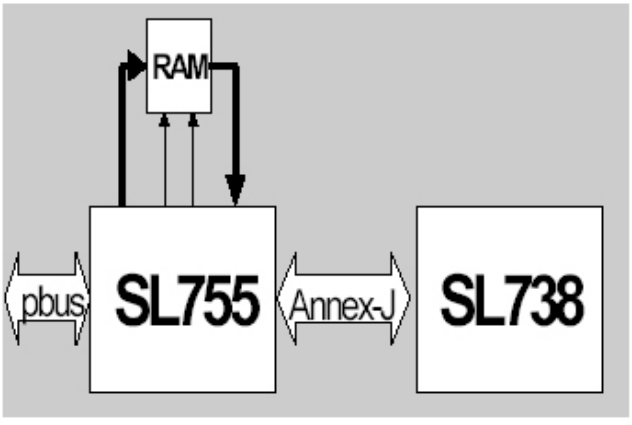
The ISI-738 provides two terminals for transmitting, two for receiving, and a single terminal to control drivers for data and strobe. The core does not drive the backplane directly – this function must be provided externally.

Features

- Operates in both 1394-1995 and 1394a backplanes
- Implements 1394a Backplane PHY register set
- Single bit configures core for 1394-1995 operation or 1394a operation
- Supports 50 and 100 Mbits/sec transfer rates
- Performs clock recovery and synchronizes incoming data to local clock
- Performs system initialization and arbitration
- Separate transmitter and receiver
- Includes encode and decode functions for data strobe bit-level encoding
- Interoperates with Innovative's line of application- specific Link Layer cores, and with commercially available Link Layer Controller chips
- Available in synthesizable RTL
- Includes a comprehensive test bench and validation suite, synthesis scripts, and user documentation

FlexFire™ 1394a Core Family

- ***ISI-755**: General purpose Link*
- ***ISI-758**: Link compatible with Texas Instrument's GPLynx™*
- ***ISI-760**: 1394a Link with DMA*
- ***ISI-770**: Audio/Video Link with 5C encryption*
- ***ISI-730**: 1394a Cable PHY*
- ***ISI-738**: 1394 Backplane PHY*



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