# AL460 HD-FIFO Modules

*High Speed Memory Buffer for HD Video Applications*

## Introduction

The AL460A-7-PBF and AL460A-13-PBF modules are designed to assist companies in evaluating and validating the AL460A HD-FIFO chip for use as a high speed memory buffer in HD video applications. Each module has two embedded AL460 HD-FIFO chips operating in parallel, expanding the bus width to 32-bits. Control signals and data bus signals are available on two 50-pin connectors. An HSMC Adaptor Board is available for interfacing the modules with Altera's Cyclone III FPGA Starter Kit for further solution verification/validation.
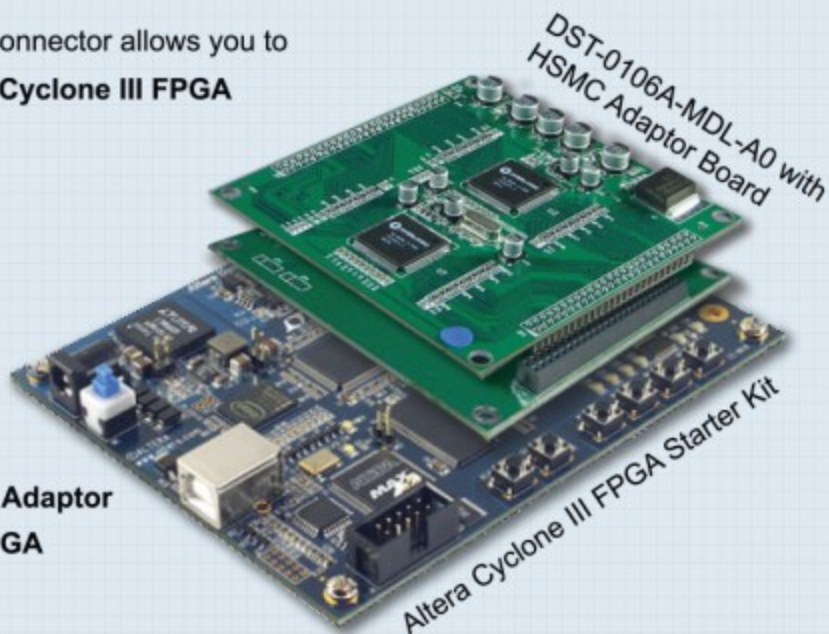
### ■ Features

- Programmable I/O control
- Selectable Polarity control
- 3.3V power supply
- Maximum 4.8 Gbps throughput
- Maximum 150 MHz, 32-bit synchronous sequential read/write operations

### ■ Features

- 256 Mbit density, 8M x 32-bit FIFO memory
- Supports double buffer mode (4M x32-bit upper and lower frames access)

## AL460 HD-FIFO Module, HSMC Adaptor Board and Altera Cyclone III FPGA Starter Kit

An Adaptor Board with an HSMC connector allows you to interface the Module with **Altera's Cyclone III FPGA Starter Kit.**
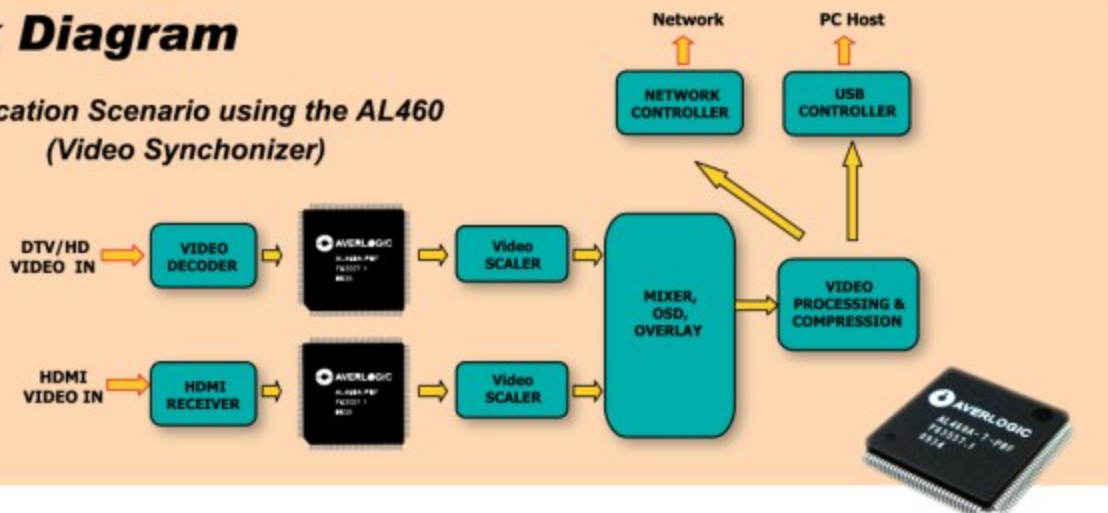
# ALTERA ®

**Quick and Easy benching and validation using the HSMC Adaptor Board and Altera Cyclone III FPGA Starter Kit.**

DST-0106A-MDL-A0 with HSMC Adaptor Board

Altera Cyclone III FPGA Starter Kit

## Block Diagram

### Application Scenario using the AL460 (Video Synchonizer)



### AL460 Module specs (RoHS compliant)

- AL460A-7-PBF or AL460A-13-PBF (x2)
- Dimensions: 80 mm x 80 mm
- Parallel AL460A chips provide a 32-bit I/O bus
- 3.3V input from existing system or external power supply
- 2.5V Ultra low dropout linear regulator LP3852
- Clocking: 14.31818 MHz on-board Crystal
- Connectors: Low profile 25x2 2.0 mm male header (x2)

### HSMC Adaptor Board specs (optional)

- Dimensions: 80 mm x 80 mm
- Connectors: Low profile 25x2 2.0 mm female header (x2) and HSMC

### HD-FIFO Applications

- HD video capturing and editing systems
- Switcher or format converter box
- Scan rate converters
- Time base correction (TBC)
- Frame synchronizer
- HD digital video camera buffering
- Up to 1080p video stream data

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### AL460 HD-FIFO Advantages

AL460 HD-FIFO is a proprietary technology designed to overcome issues commonly hindering and limiting other frame buffer devices found in FPGA solutions (e.g. SDRAM, DDR ...). In contrast, AverLogic's HD-FIFO requires significantly less in I/O pins and logic resources, thus significantly reducing latency times.

Furthermore, the AL460 HD-FIFO is designed with a straightforward bus interface, reducing implementation and debugging efforts, and helping customers develop faster and more efficiently.

## Ordering Information

| Module Only Ordering Information | DST-0106A-MDL-A0 (150 MHz) |
| --- | --- |
| | DST-0106A-MDL-A1 (75 MHz) |

| Chip Only Ordering Information | AL460A-7-PBF (150 MHz) |
| --- | --- |
| | AL460A-13-PBF (75 MHz) |

| * Module + Adaptor Board Ordering Information | AL460A-7-EVB-A0 (150 MHz) |
| --- | --- |
| | AL460A-13-EVB-A0 (75 MHz) |

* Altera system not included in package