



## **Sindsp-C6000 Stand-Alone DSP-Based Unit For Image Capture and Processing**



**Sindsp-C6000** is designed and manufactured by *Sinartis* to be embedded in industrial and commercial systems which need to capture, to process and to display video images, in a stand-alone way (without a personal computer).

The **Sindsp-C6000** image processing unit is a *Texas Instruments Digital Signal Processor (DSP) TMS320C6711*. It is a 32-bit floating-point processor at 150 MHz.



### **TMS320C6711 DSP**

The on board video chip-set encoder/decoder is a new generation one and it is able to multiplex up to 4 color video standard inputs.

The video input section is independent from the video output section, so that the video input and the video output streams can be controlled separately.

The on board synchronous dynamic RAM of 64 Mbytes together with the use of the internal cache, allows an optimized use of the DSP processing power.

The **Sindsp-C6000** image processing *Software* (based on [Texas Instruments IMG67x Image /Video Processing Libraries](#)) can be preloaded on board as *Firmware* on a *flash EPROM*.

The image processing *Software* is preloaded as *Firmware* on a *flash EPROM* and it is executed by the DSP. The *Firmware* can be delivered as a set of basic functions for image acquisition and displaying, or as a set of image processing libraries, or customized for the specified application.

The standard preloaded firmware allows to operate in live mode and CCD integration mode, with the functions of frames averaging, zoom and recursive filtering.

**Sindsp-C6000** can be remotely controlled by a master processing unit (*PLC, CNC, PC, etc.*) by means of standard multi-serial interfaces *RS-232* or *RS-485* (the communication protocol is delivered by *Sinartis* to the customer).

In addition, **Sindsp-C6000** has a color monitor analog output and it is able to control TV cameras in the restart-reset acquisition mode.

### **Applications**

- Stand alone image processing and compression
- Stand-alone vision systems for industrial automation
- X-Ray image processing
- Security and surveillance
- Robotics
- Developing TI DSP-board for imaging.

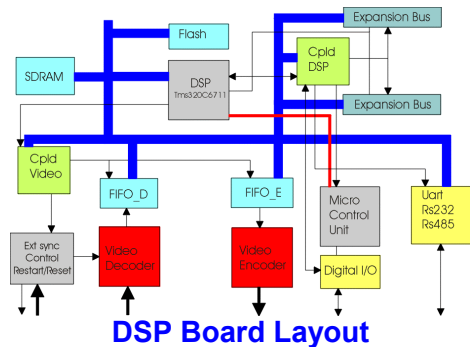
## **Key Features**

### ***Sindsp-C6000***

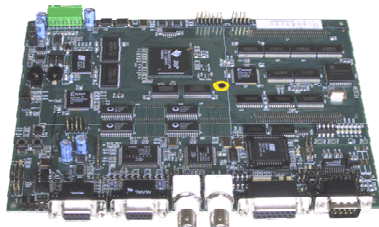
- TI DSP Processor TMS320C6711
- 64 Mbytes SDRAM
- 4 Mbytes Flash EPROM
- Four Video Composite Inputs
- External Sync for Restart-Reset Camera Mode
- CCD - Control Frame - Integration
- Integrated Video Capture, Processing and Display
- Separate FIFOs for Video Input and Video Output
- Composite Video Output
- RS-232/485 Multi-Serial Communication
- Opto-Isolated Digital I/Os
- TI Standard Daughter-Board Connectors
- Customizable Image Processing Firmware Based on TI IMG67X Image/Video Processing Library
- (Optional) CCS TI Development Tools

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## Sindsp-C6000 Stand-Alone DSP-Based Unit For Image Capture and Processing



DSP Board Layout



Sindsp-C6000 board



Front view: display and buttons



Back view: connectors

- DSUB 9 p: camera control
- DSUB 15 p: HD female for 4 video inputs, 1 power output 12 Volt-0.5 A
- BNC connector for 1 video input
- BNC connector for 1 monitor output
- DSUB 15 p: digital I/Os
- DSUB 9 p: serial interface communication

### TECHNICAL SPECIFICATIONS

#### Video input

- PAL, NTSC, CCIR, RS-170
- External sync for restart reset camera

#### Display

- Composite analog color video output (PAL, NTSC)
- 4 lines x 20 characters back lighted LCD display for data inputting and operation modes selection

#### DSP Processor

- Texas Instruments TMS320C6711
- 32 bits floating point 150 MHz

#### Video multiplexer

- MUX on Video decoder: 4 video inputs
- High speed MUX (optional): 4 video inputs

#### Micro-controllers

- Two Micro-controllers (Core 8051). One connected with DSP host port and the other for restart-reset camera control

#### Memory on board

- 64 Mbytes SDRAM @100MHz
- Flash EPROM 4 Mbytes

#### Interfaces

- RS-232 and RS-485

#### Digital I/Os

- 2 +2 Opto - isolated Inputs/Outputs

#### BOX dimensions

- 214mm x 212 mm x 59.5 mm

#### Power in

- +5 Volt - 1A
- +12 Volt 500mA (only for camera powering)

#### Power out

- +12 Volt - 500mA

#### External trigger

- 1 TTL pulse

#### Image Processing Firmware

- Image processing Firmware libraries for industrial applications based on TI IMG62X Image/Video Processing Library.
  - a) Image compression/decompression
  - b) Image analysis
  - c) Picture Filtering /Format Conversion
- Custom image processing firmware

### HOW TO ORDER

Code	Description
8S0940	SINDSP C6000 Boxed Version
8S0825	Cable 5 m BNC-BNC for monitor
8S0846	Cable 3 m DSUB-HD 15p - 4 BNC

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