

# FLI2310

# Digital Video Format Converter Product Brief



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The FLI2310 is a highly integrated digital video format converter for Flat Panel TV and digital projectors. It uses patented deinterlacing and post processing algorithms from Faroudja<sup>®</sup>, coupled with highly flexible scaling, a wide variety of aspect ratio conversions, and other special video enhancing features to produce the highest quality image.

#### INPUTS -

- Input all industry standard and non-standard video resolutions, including 480i (NTSC), 576i (PAL/SECAM), 480p, 720p, 1080i, and VGA to SXGA
- Digital input, 8-bit Y/Cr/Cb (ITU-R BT656), 8-bit Y/Pr/Pb, 16-bit Y Cr/Cb (ITU-R BT601), 24-bit RGB, YCrCb, YPrPb
- Input pixel rate up to 75 MHz maximum

#### **OUTPUTS** -

- Output resolutions include 480p, 576i, 576p, 720p, 1080i, 1080p, and VGA to SXGA
- Interlaced or Progressive output
- Output is digital 24-bit RGB, YCrCb, YPrPb (4:4:4), or 16/20-bit Y Cr/Cb (4:2:2)
- Output pixel rate up to 150 MHz maximum

#### FRONT END PROCESSING -

- Motion Adaptive Noise Reduction Improves picture quality for off-air material.
- Cross Color Suppressor (CCS) Removes cross color artifacts in composite video signals due to poor Y/C separation in standard 2D video decoders, eliminating the need for expensive 3D video decoders.

#### FORMATS -

 Input color manipulation matrix supports all color spaces: RGB, YPrPb, 4:4:4 YCrCb, 4:2:2 YCr/Cb, ITU-R BT656, ITU-R BT601  Output supports digital RGB, YPrPb, 4:4:4 YCrCb, 4:2:2 YCr/Cb

#### **DEINTERLACING -**

- Per-pixel Motion Adaptive Deinterlacing
- Patented FilmMode Processing Used for proper de-interlacing of 3:2 and 2:2 pulldown material.
- Edit Correction Film content is continuously monitored for any break in sequence caused by "bad edits" and quickly compensates for the most effective reduction in artifacts.
- DCDi™ by Faroudja Video is analyzed on a single pixel granularity to detect presence or absence of angled lines and edges, which are then processed to produce a smooth & natural looking image without visible artifacts or "jaggies".

#### SCALING -

- High Quality Fully Programmable Two Dimensional Scaler
- Aspect Ratio Conversion for "Anamorphic" or "Panoramic" (non-linear)
- Display 4:3 images on 16:9 displays and vice versa, including Letterbox to Fullscreen, Pillarbox and Subtitle Display Modes

#### FRC -

• Tearless Frame Rate Conversion, 50/60/72/75/100/120 Hz.

#### **SPECIFICATIONS -**

- 2-Wire control interface
- 0.18u technology, 1.8V/3.3V operation
- 208 pin PQFP package

#### **MEMORY** -

 32-bit wide SDRAM (i.e. one 2Mx32bit, or two 1Mx16bit), up to 166 MHz operation

Genesis Microchip Inc.

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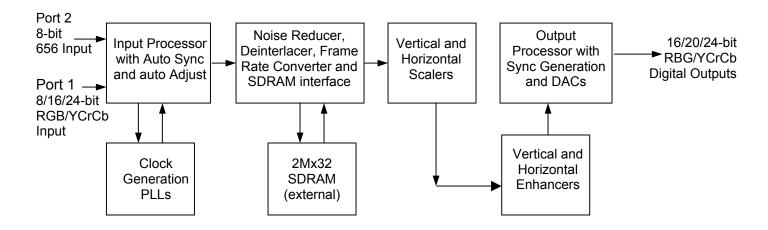
#### TrueLife™ ENHANCER -

Two dimensional, non-linear, luma & chroma video enhancer brings out details in the picture, producing a more life-like image

### **Applications**

- LCD TV
- PDP TV
- LCOS/DLP Projection TV
- Digital Projectors

# **Chip Block Diagram**



#### **System Block Diagram**

# **Flat Panel TV Application**

