



AN UNFAIR ADVANTAGE

Teradek's Serenity will not only save you development cost and accelerate your time to market, it will leave your competitors green with envy. This is because Serenity is specified to be the most cutting edge Digital Video Recorder (DVR), Digital Video Server (DVS), or hybrid platform that today's technology allows. The scalable design easily addresses the standalone, value DVR market segment, but also

includes enough revolutionary new features to appeal to the most discerning enterprise DVR/DVS customer. With industry first features like real time, full resolution, High Profile H.264 compression on each channel, a Hi-Def 1080i HDMI video output, a built in network router, and a low BOM cost, Serenity will separate you from the pack. And with it's high efficiency hardware based compression architecture, the low power consumption and ROHS compliant design will leave the planet a little greener too.

SERENITY PLATFORM SPECIFICATION

AUDIO / VIDEO INPUTS AND OUTPUTS

Up to 16 analog NTSC / PAL composite video inputs. Terminated in 75 Ω . Choose between rear panel for BNC or RCA type connectors.

HDMI 1.3 output, capable of 1080i output simultaneously displays 6 x D1 resolution tiles

16 Audio inputs, line level, on Terminal Block connector 1 audio output, line level, RCA connector. 2ch Audio over HDMI

COMPRESSION / DECOMPRESSION

All 16 channels feature Real time (30 frames/sec), full D1 (4CIF) resolution, High Profile H.264 video compression, for a total of 480 fps per unit.

Frame-rate, bit-rate, resolution, GOP size independently configurable per channel, and on the fly

Secondary compression of any channel (H.264, MJPEG) for dual streaming applications *

High Profile, H.264 (or MPEG2) video decoding of up to 16 channels of D1 video **

AAC compression of all 16 channels of Audio, synchronized to video streams

BUILT IN VIDEO PROCESSING, ANALYTICS

FPGA based video pre-processing and post processing with access to raw, uncompressed video and composited OSD graphics.

Sophisticated motion detection, object classification and tracking, trip line detection per camera

Built in image stabilization removes shaking and vibrations, yet maintains full motion video from PTZ cameras without artifacts

HOST PROCESSOR

Freescale PowerPC 8315 SOC, e300 core, up to 400MHz

128 MB DD2-266MHz

32 MB NAND flash

8 MB NOR FLASH

256 kbits serial EEPROM

STORAGE OPTIONS

2 built in SATA 2.0 3 Gb/s controllers, can be used for internal hard disk drives, or optical drive

External storage can be added using USB2 or Ethernet devices

PERIPHERAL AND I/O INTERFACES

2 x 1000BASE-T Gigabit Ethernet ports (one WAN, one LAN), 4 x 100BASE-T Fast Ethernet ports (LAN) ***, 1 x SGMII expansion port ****

4 x USB2.0 ports

2 x RS-232 serial ports

2 x Alarm inputs

2 x Alarm outputs

1 Relay with Common, NO, NC terminals

POWER REQUIREMENTS AND CONSUMPTION

ATX compliant power connector, 20W power consumption for 480fps encoding, excluding peripherals and hard drives.

DIMENSIONS

6.75"x6.75" (171x171mm) MicroATX compliant PCB dimensions and mounting holes

* Secondary compression may not be possible on all channels simultaneously, depending on configuration.

** Simultaneous decoding and encoding of all channels may not be possible, depending on configuration.

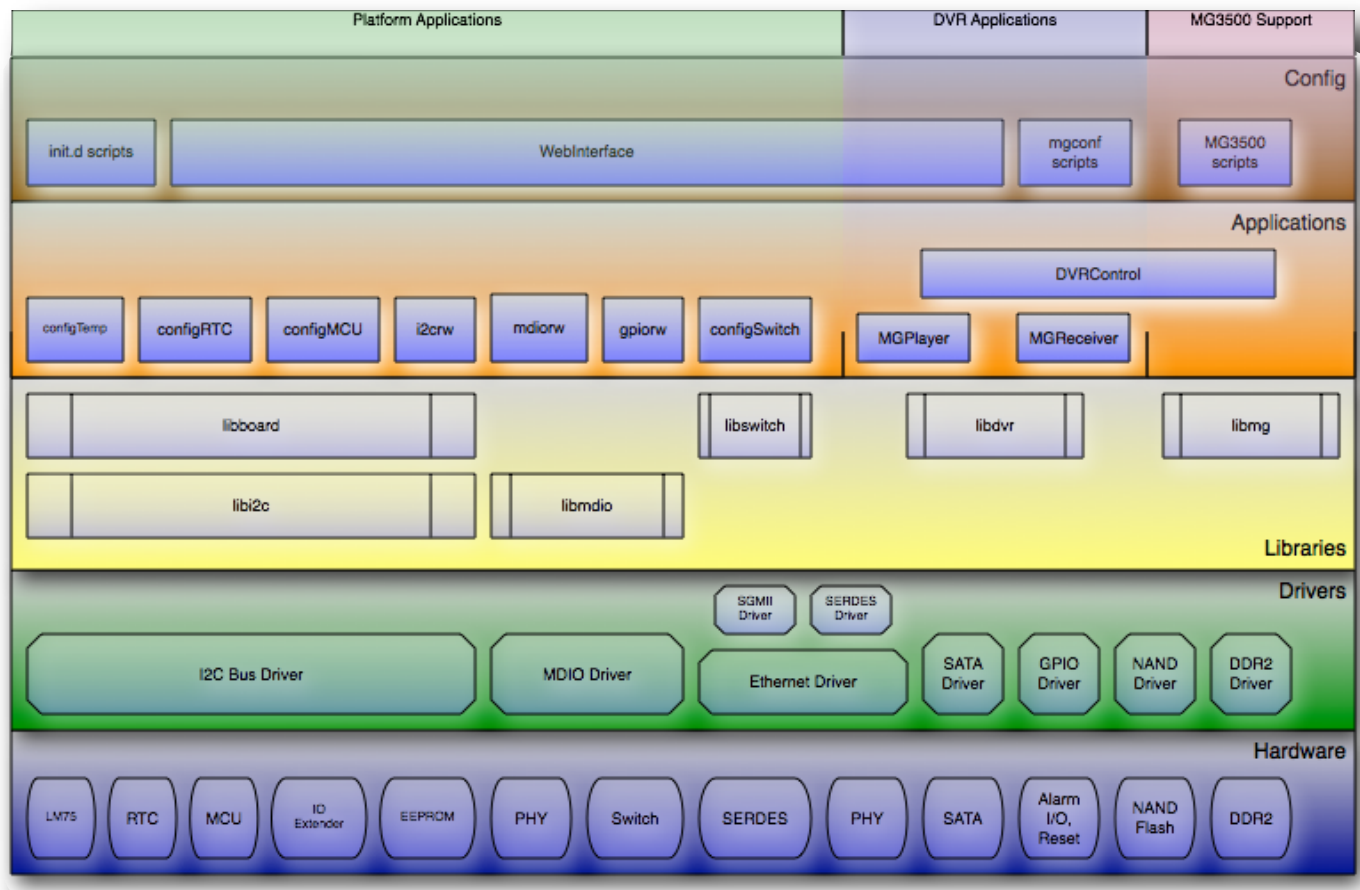
*** Spare port are available, but not routed to connectors,**** Spare port available on high speed LVDS connector

JUMP START YOUR SOFTWARE DEVELOPMENT

We agree, software is the best way to differentiate your product from the competition. That is why we not only provide you with a complete and ready to manufacture hardware design, but a comprehensive and solid base for developing your differentiated unique video application. For less than the typical commercial embedded OS

tools cost, you will receive all the necessary drivers, libraries, and example code needed to build a DVR / DVS system. The standards based, easy to use and well documented application and build environment allows you do add your own code, or integrate any open source software that could further enhance your product. Our flexible license agreement allows for low or no royalty re-use, and the best of all, you do not need to buy any development tools apart from a host computer running Linux.

SOFTWARE ARCHITECTURE



SERENITY SOFTWARE DEVELOPMENT KIT SPECIFICATION

BOARD SUPPORT PACKAGE

Full featured Linux 2.6.23 BSP for Freescale MPC8315 SoC, including device drivers for all peripherals, libraries, and sample applications to demonstrate all of Serenity's custom design hardware capabilities.

DVR/DVS PACKAGE

Basic DVR functionality : Record, Playback, Search. Drivers, libraries, and sample applications included

Basic DVS functionality : Network discovery, configuration, RTSP session management, RTP streaming of live or playback video over TCP or UDP

Complete DVR filesystem, including multiple camera management, metadata support, continuous recording, hierarchical recording to allow fast indexed searching, all the needed utilities to create, monitor, and maintain filesystem integrity

Comprehensive web based GUI to configure and control all Serenity's functions, including remote firmware upgrade

MG3500 PACKAGE

Device drivers, libraries and sample applications s to communicate directly with multiple MG3500s over ethernet based backbone

Scripts and applications to instantiate arbitrary combination encoder, decoder, and display objects.

Configure, control and monitor multiple MG3500 encoders / decoders, On Screen Display, etc.

All specifications subject to change without notice.