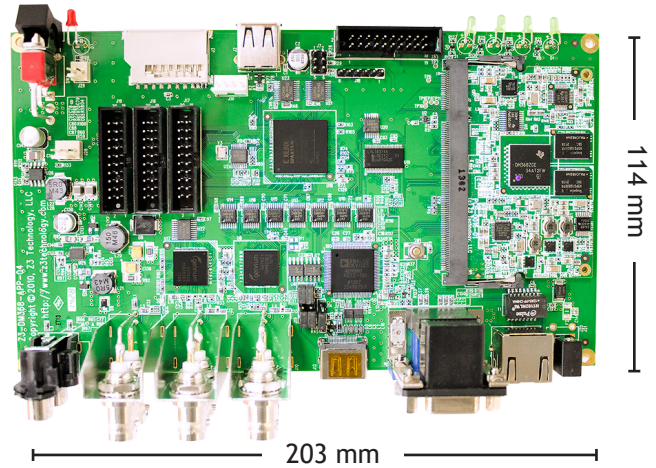# Z3-DM368-VI-RPS
Rapid Production Starter Kit

Z3 Technology®

The Z3-DM368-VI-RPS starter kit provides the hardware and software needed to quickly handle SDI, ASI, component, composite or RGB video. The Z3-DM368-VI-RPS is capable of producing high quality H.264 real-time encode and decode in resolutions of up to 1080p at 30 fps. This cost-effective, compact solution is ready to be deployed in customized applications. The hardware provided includes one Z3-DM368-MOD-0x System on Module card and one Application (I/O) Board, the Z3-DM368-APP-0x, which provides advanced video input and output capabilities. The bundled software includes all necessary components for the user to develop their own advanced multimedia, graphics and DSP applications.

203 mm · 114 mm

FC CE

BENEFITS

> Versatile encoding modes such as: low latency, low bitrate and high quality

> Production-proven, fully integrated hardware and software audio/video system

> Easily controlled through RS-232 or an HTTP-based GUI

> Full A/V synchronization even after hours of recording

> Ready to use, out-of-the-box commands for encoding, decoding and streaming

APPLICATIONS

Broadcast Video

Video Security and Surveillance

Medical and Industrial Video

Digital Signage

Commercial and Educational Video

Customized Applications*

*Contact Z³ Technology for Customized Product Options

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Hardware

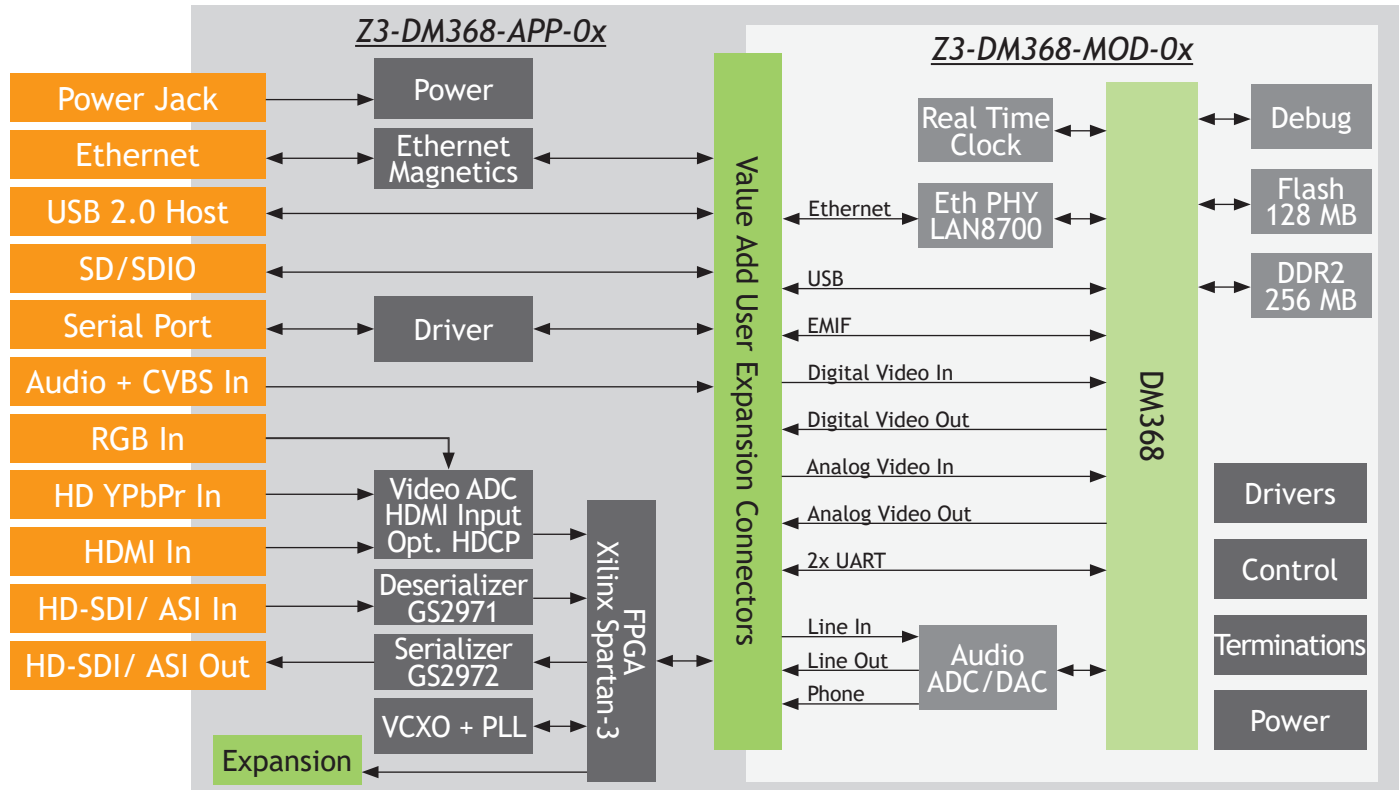|	
Module	Z3-DM368-MOD-0x
Application Board	Z3-DM368-APP-0x
Processor	ARM9
Video Inputs	HD-SDI, HDMI, Component, Composite and RGB
Video Outputs	ASI and HD-SDI
Video Codecs	H.264 and MPEG-2
Audio Interfaces	Analog Stereo, Embedded HDMI and Embedded SDI
Audio Codecs	AAC, G.711 and PCM
Additional Interfaces	Ethernet, SD Card, USB 2.0 and Serial

Software

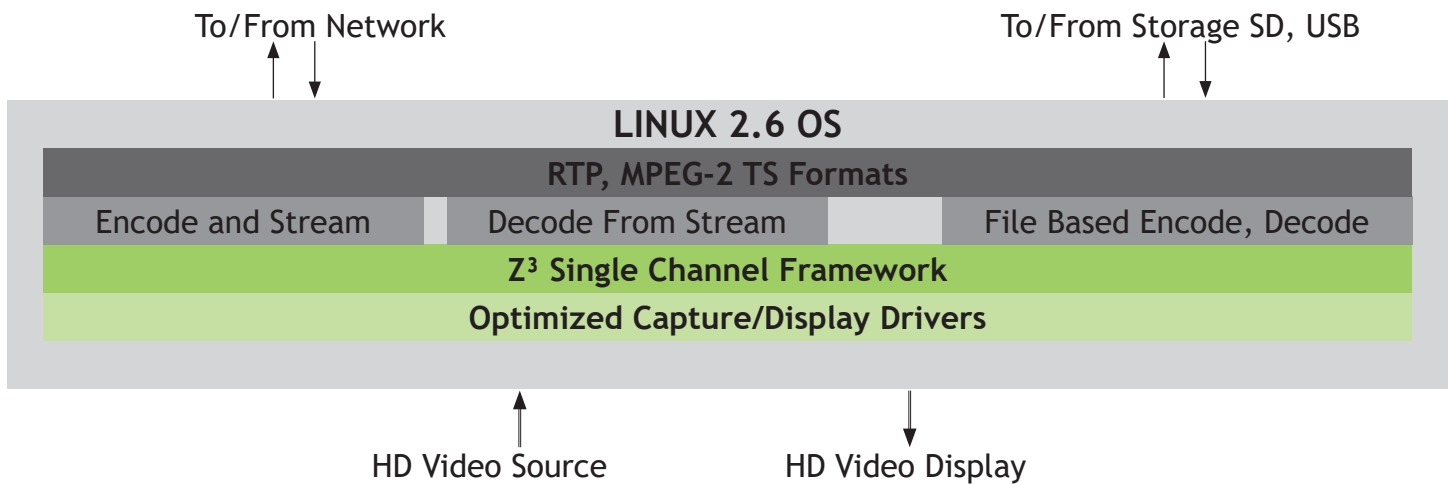|	
Software Development	Texas Instruments® DVSDK, Z³ Technology software components for DVSDK, Z³ Applications
Operating System	Linux 2.6 (root file-system, NAND boot, tool chain and flash programming tool), u-boot
Encoding Resolutions	H.264 video from QCIF to 1080p/i at 30 fps
Output Formats	RTP, MPEG-2 TS and MPEG-2 TS over RTP
Decoding Resolutions	H.264 video from QCIF to 1080p/i at 30 fps if encoder is DM368 based, otherwise max of 720p30
Input Formats	RTP, RTSP, MPEG-2 TS and MPEG-2 TS over RTP
Features	• Closed Captioning (EIA-608, EIA-708) • Low latency mode • Flexible resizer to allow full frame display of smaller resolutions • Fully controllable parameters: resolution, max bitrate, GOP size and on-the-fly bitrate control • Source code license available*

Specifications

Module Size	68 x 44 mm (2.68 x 1.73 in)
Application Board Size	203 x 114 mm (7.99 x 4.49 in)
Power Supply	12V
Power Consumption	2.6W

HW Block Diagram

Z3-DM368-VI-RPS

Z3-DM368-APP-0x

- Power Jack → Power
- Ethernet → Ethernet Magnetics
- USB 2.0 Host
- SD/SDIO
- Serial Port → Driver
- Audio + CVBS In
- RGB In
- HD YPbPr In → Video ADC HDMI Input Opt. HDCP
- HDMI In
- HD-SDI/ ASI In → Deserializer GS2971
- HD-SDI/ ASI Out → Serializer GS2972
- VCXO + PLL

FPGA Xilinx Spartan-3

Expansion

Value Add User Expansion Connectors

Z3-DM368-MOD-0x

- Real Time Clock
- Ethernet → Eth PHY LAN8700
- USB
- EMIF
- Digital Video In
- Digital Video Out
- Analog Video In
- Analog Video Out
- 2x UART
- Line In
- Line Out
- Phone → Audio ADC/DAC

DM368

- Debug
- Flash 128 MB
- DDR2 256 MB
- Drivers
- Control
- Terminations
- Power

SW Block Diagram

To/From Network

To/From Storage SD, USB

LINUX 2.6 OS

RTP, MPEG-2 TS Formats

| Encode and Stream | Decode From Stream | File Based Encode, Decode |

Z³ Single Channel Framework

Optimized Capture/Display Drivers

HD Video Source

HD Video Display

Z³ Technology is the market leader in providing production-ready embedded multimedia solutions and systems. From our founders to our world-class engineers to our sales and customer service team, we understand your requirements and speak your language. Our experience allows us to provide cost-effective solutions to meet your multimedia product requirements. With the assistance of our robust worldwide distribution and sales networks, we can provide a simple solution for your multimedia needs.