MAVESC69
openGear® A/V Encode Card

MAVESC69 is Ittiam’s field-proven off-the-shelf openGear® card based on TMS320DM8169 Processor from Texas Instruments. MAVESC69 is a video encoding platform with a built-in cross-point switch to select 2 out of 8 3G/HD-SDI or 4 out of 8 SD-SDI inputs. The platform is capable of encoding multi-channel HD/SD video over a wide range of encoding bit-rates.

MAVESC69 can be leveraged to create differentiated, cost-effective video encoding solutions for industrial, broadcast and defense applications. ARM Cortex™-A8 on MAVESC69 serves as the application processor for running Ittiam’s optimized system software and communicating with a C64x DSP for high-speed video processing.

MAVESC69 hardware platform is offered along with System Software comprising of Board Support Package (BSP), Codecs, Media Framework and Application/UI software for video encoding use cases. Other offerings include a ready-to-manufacture Hardware Design License.

System Software

Ittiam offers System Software on MAVESC69 to enable single or multi-channel server use cases. Lowest per-channel power-consumption and best-in-class streaming latency is delivered through software optimizations at every level – media codecs, device drivers, streaming protocols and multimedia framework. An efficient scheduler maximizes the efficiency of operation across multiple cores and coprocessors. Centralized configuration management, device management, firmware upgrade and UI complete the System Software offering.

Ittiam provides Media SDK that realizes the use cases for a encoding and streaming system. Comprehensive web-based GUI and user-friendly documentation enable customers to jump-start their own system realization.

HIGHLIGHTS

• openGear® Card based on TI’s TMS320DM8169 Processor for live streaming and monitoring applications
• 8x 3G/HD/SD-SDI Inputs
• Cross-point switch to select 2 out of 8 3G/HD-SDI or 4 out of 8 SD-SDI inputs
• Capture and encode of 3G/HD/SD-SDI video inputs with embedded audio inputs
• H.264 video encoding, AAC audio encoding

Platform Highlights

MAVESC69 is an openGear® compliant card for remote monitoring of multiple audio/video channels over IP network. This card encodes multiple video, audio over SDI (2x3G or 2xHD or 4xSD) and outputs them to a web client over HTTP protocol. MAVESC69 occupies two slots in OG3-FR / DFR-8321 openGear® Frame and can be populated in all even number slots of the openGear® Frame except slot number 20.
Specifications

Processing Power
TMS320DM8169 - 1.35GHz ARM Cortex A8
- 1.125 GHz C674x+ DSP

Memory Capacity
256MByte NAND Flash, 1GB DDR3 SDRAM

FPGA
Xilinx Spartan-6 FPGA (XC6SLX25)

Audio/Video Inputs
8x 3G/HD/SDI
  BNC Connectors (Rear I/O Module)
  6 channel mono audio over each SDI

Data/Communication Interfaces
1x 10/100/1000 Base-T Ethernet (through Rear IO Module)
1x 1000 Base-X (SGMII) through mid-plane connector
1x CAN

Debug Interfaces
RS-232, JTAG

Power Input
+12V DC Through mid-plane connector

Power Consumption
24 W (Typical)

Dimensions
12.79” x 3.025” (324.8mm x 76.83mm)

Temperature Range
0°C to +40°C (Operating)
-40°C to +85°C (Storage)

Video Standards
1080p60/59.94, 1080i59.94/50, 720p/59.94/50, 625i25, 525i29.97

Video / Audio Encoding
H.264 MP Level 3.0 4:2:0 encoding
3x Stereo AAC-LC 48kHz (per video channel)

Streaming
HTTP Streaming (Flash container format)

Pre/Post Processing
Resizing

Control Protocol
Remote control and monitoring from DashBoard
Server via CAN interface

System Management:
Camera disconnect/reconnect handling
Dynamic change to input video standard
Statistics, Logs

About Ittiam
Ittiam Systems Private Limited, headquartered in Bangalore, India, is a technology company focused on providing cutting-edge multimedia solutions for a wide range of products as well as cloud services. With its wide range of components, SDKs, applications, hardware platforms, turnkey systems and cloud based workflows, Ittiam offers solutions to Automotive, Broadcast, Consumer & Mobility and Industrial & Defense Markets.
Ittiam operates through its network of offices and representatives around the world. Embedding Ittiam IP inside, annual volume of customers’ products shipped such as Smartphones, Tablets, Broadcast, Video Communication and Wi-Fi Devices is in several tens of millions units.

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neonCaster Gen I
neonCaster Gen II NPM, neonCaster Gen II Clove
neonCaster I/O Boards (Nova) for NPM / Clove
HD A/V Encode/Decode Cards
PCIe Video Encode Card

Other Hardware Products from Ittiam