The key features of the MCS100 include:

- **Real-time H.264/AVC video encoding**
- **Programmable Baseline Profile, Main, and High Profile Level 4.1 (I/P/B frames)**
- **Context-based Adaptive Variable Length Coding (CAVLC) and Context Adaptive Binary Arithmetic Coding (CABAC) entropy coding techniques for greater compression efficiency**
- **Single-pass VBR encoding up to 25Mbps with programmable ‘minimum’ and ‘maximum’ bitrate parameters**
- **Single-pass CBR encoding up to 25Mbps with programmable ‘average’ bitrate parameter**
- **Quarter-pixel accuracy**
- **Programmable GOP structure supporting IPB frame, IP frame, and I frame only interval**
- **Multi-slice encoding for improved error resiliency and lower latency**
- **Low latency encoding for time critical applications (as low as 20msec)**
- **Support for multiple input resolutions and sizes including the following formats:**
  - 1080p: 1920 x 1080 (NTSC and PAL)
  - 720p: 1280 x 720 (NTSC and PAL)
  - D1: 720 x 480 (NTSC), 720 x 576 (PAL)
  - 4CIF: 704 x 480 (NTSC), 704 x 576 (PAL)
  - VGA: 640 x 480 (NTSC), 640 x 576 (PAL)
  - CIF: 352 x 240 (NTSC), 352 x 288 (PAL)
  - QVGA: 320 x 240 (NTSC), 320 x 288 (PAL)

A powerful pre-processing module provides image enhancing features, such as noise reduction and smoothing, scaling, and statistics gathering on the image to assist in the mode decision process.
Audio Encoder
- Embedded ARC Sound Digital Signal Processor (DSP)
- DSP architecture enables new audio formats to be added by changing firmware
- Supports MPEG-4 Advanced Audio Coding (AAC) low Complexity, Linear PCM, MPEG-1/2, MP3, AC3, and G.711
- Data resolution up to 24-bits/sample
- 8, 16, 24, 32, 44.1, and 48KHz audio sampling frequencies

Composite Processing
- Support NTSC (M/3/4.43), PAL (B/D/I/G/H/M/N/Nc/60), and SECAM (B/D/G/K/L) standards for CVBS format.
- Automatic detection of switching among worldwide standards (PAL/STSC/SECAM)
- Automatic gain control (AGC) with white peak mode
- Adaptive Digital Line Length Tracking (ADLLT)
- Chroma transient improvement (CTI)
- Luminance digital noise reduction (DNR)
- Teletext, closed captioning (CC), extended data service (EDS), and wide-screen signaling (WSS)
- Offers certified Macrovision copy protection detection on composite for all worldwide formats (PAL/NTSC/SECAM)
- Color controls for hue, brightness, saturation and contrast, also controls for Cr and Cb offsets
- A free-run output mode for stable timing when no video input is present

HDMI Receiver
- 225MHz HDMI 1.3 receiver
- Deep color support, xvYCC Enhanced colorimetry, Gamut metadata
- Repeater support
- High-bandwidth digital content protection (HDCP 1.3)
- Adaptive equalizer for cable lengths up to 30 meters
- Internal EDID RAM
- 720p-/1080i-/1080p-component HD formats support

Management & Configuration
- Support HTTP and other Internet-related protocols.
- Support proprietary IP Address setting

SPECIFICATIONS

HD Video Encoding
- H.264 MPEG-4 AVC compression
- High Profile at Level 4

SD Video Encoding
- H.264 MPEG-4 AVC compression
- High Profile at Level 4

Video Resolutions
- 1920 x 1080p (24)
- 1920 x 1080i (50/59.94/60)
- 1280 x 720p (50/59.94/60)
- 720 x 576i (50)
- 720 x 480i (59.94)
- 704 x 576i (50)
- 704 x 480i (59.94)

Audio Encoding
- MPEG-1 Layer II stereo
- MPEG-2 AAC stereo

Video Input
- BNC composite input
- HDMI input

Multicast IP Stream output
- RJ-45 Ethernet 10/100 IP-based MPEG2 Transport Streams output

Audio Input
- RCA Stereo Audio input
- HDMI input

Dimensions & Weight
- W x D x H - 200 x 208 x 130 mm
- 150g

Power Requirement
- 12VDC
- MCP2100 Chassis 100-240VAC 50/60Hz 400W redundant

Environmental
- Operating Temperature 0°C to 70°C

VIDEO SOURCES

MCS 100 ENCODER

NETWORK

PC

MAC

SET TOP BOX

TV