

M-SERIES

Dream Chip's Real-time Pixel Processor for automotive applications is a scalable and configurable High Dynamic Range (HDR) capable image signal processor (ISP). The processing pipeline consists of all necessary modules allowing to output HDR tone-mapped images of highest possible quality. The M-Series provides support for Multi context switching up to 4 sensors in different configurations.

Features:

- Up to 4 real time input video interfaces (28-Bit (26 bit valid))
- Scalable up to 64MP with a throughput up to 1.4 giga pixel/ second.
- Bayer pixel support (RGGB) and Clear pixel support (RCCB, RCCC)
- Bad pixel correction
- Bilateral denoising
- Black level compensation
- Color correction
- Cropping of output pictures
- Decompanding
- Downscaling support
- Dual video Output (Human Vision and Machine Vision)
- Enhanced debayering
- HDR tone mapping to match 10-bit or 12-bit rendering devices
- Input sampling on positive and negative sample clock
- Lens shade correction
- Monochrome sensor support
- RGB independent programmable gamma correction for sensor adaptation
- RGB Look-up table for color dehazing
- RGB-IR 2×2 and 4×4
- Sharpening and blurring filter
- **Extended Statistics**
 - For Automatic White Balance (AWB) measurement and control
 - For Auto Exposure (AE) measurement and control
 - Multiple histogram measurements
- Safety features for ISO26262

Deliverables:

- Soft IP
- Example software drivers and application
- User Manual, Programming Guide
- Sensor calibration and tuning tools
- ISP simulator