

Genoa's Keshet IC family enables multi-primary displays featuring Genoa's ColorPeak™ Multi-Primary Color (MPC) technology. All such displays include a multi-primary color module designed with the support of Genoa's system engineers.

Based on Genoa's proprietary color algorithms, the Keshet chip performs multi-primary conversion and powerful color manipulation to ensure outstanding image quality. It converts incoming video signals to multi-primary color space, resulting in the highest attainable color performance with significantly improved brightness efficiency. The flexibility of the Keshet family permits its use in systems based on a variety of display technologies such as LCD TV and micro-display rear and front projection. Within each of these technologies, the Keshet chip allows customers to tailor solutions offering diverse system performance (color gamut, brightness) according to their needs and applications. For example, it permits the reproduction of any standard color space such as sRGB, Rec. 709, NTSC, Adobe RGB, subject of course to the physical gamut constraints of the display.

The Keshet IC is a slave device requiring only Flash memory and a controller, and operates at the pixel level, converting the uncompressed video stream in pipeline mode, without any buffering. The various family members support video resolutions up to 1080p and UXGA and different numbers of primaries.

Keshet Features

- Converts to 4, 5, or 6 primary colors, matching the color module design
- Enables user primary color definition
- Supports all resolutions up to UXGA, 1080p
- Supports YCbCr and RGB input signals, up to 10 bits per channel
- Compatible with HDTV or SDTV standard inputs
- Enables the output of up to 2^{48} colors
- Multi-primary Gamma correction
- Maintains excellent grey tracking
- Color Fix – Correction of color cross-talk and distortions
- Supports predefined Picture Smart Modes
- Versatile image quality controls
- Performs color manipulation at the pixel level
- No change to video control signals
- Supports variety of Host controllers
- Flexible design through storage of system parameters and smart mode data

ColorPeak technology features:

- High brightness efficiency
- Film-like color gamut support
- Pleasing appearance of natural objects such as flesh tones, wood and fabrics
- CBR – Color Breakdown Reduction in sequential color systems
- MPTTR – Multi-Primary Transition Time Recovery in sequential color systems



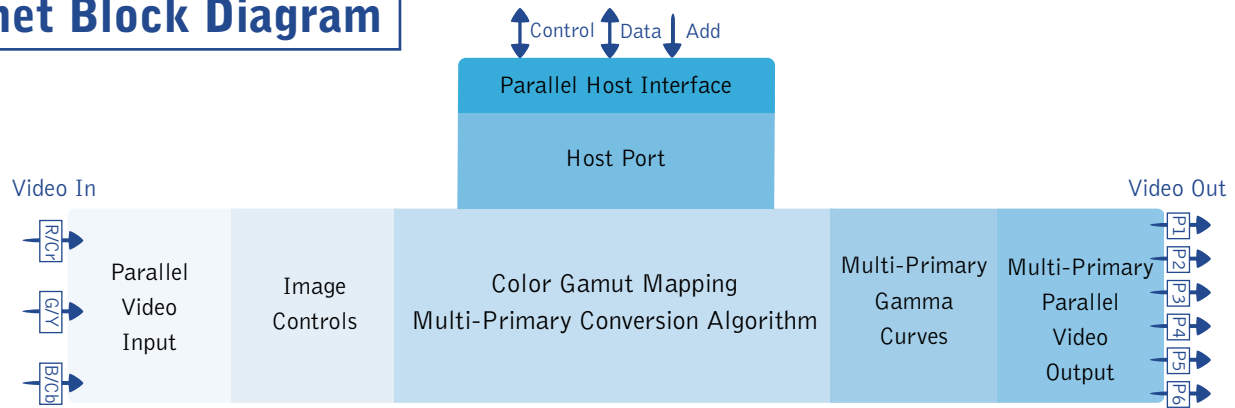
Benefits

- Enables unprecedented image quality, with wider color gamut and much higher brightness efficiency
- Converts video to multi-primary color at all resolutions up to full HD (1080p) or UXGA
- Family of chips – match performance to system requirements

Applications

- Active Matrix TFT LCD panels with 4-6 primary colors
- Single panel micro-display projection systems, with 4-6 primary colors
- Multi panel micro-display projection systems, with 4-6 primary colors
- Multi-primary double-stacked configuration of projectors

Keshet Block Diagram



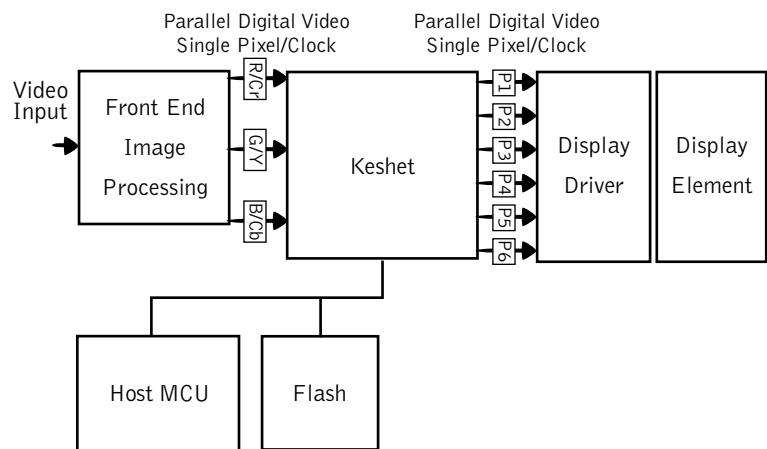
Specifications

- Package: 176-LQFP
- 0.4mm pitch
- Lead free
- Operating voltage 1.5V/3.3V
- Temperature range: -10° to + 70° C

Keshet Package

- The Keshet Test Board and Keshet Evaluation Board provide platforms for fast prototyping
- Software drivers and application utilities
- Genoa provides on-site engineering support for easy integration of Keshet IC into customer system

System Block Diagram



Keshet Family

	GMP1024	GMP1025	GMP1034	GMP1026
Number of Primaries	4	5	4	5, 6
Maximum Resolutions	SXGA, 720p	SXGA, 720p	UXGA, 1080p	UXGA, 1080p



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