

Gerda™ HMI Solution for Automotive applications

HMI IC solutions for Safer and More Comfortable Vehicles with Advanced Imaging Technology

Contributions

Safety

- Fast Boot in less than 0.5s
- Improved visibility
- Functional Safety : ASIL-B

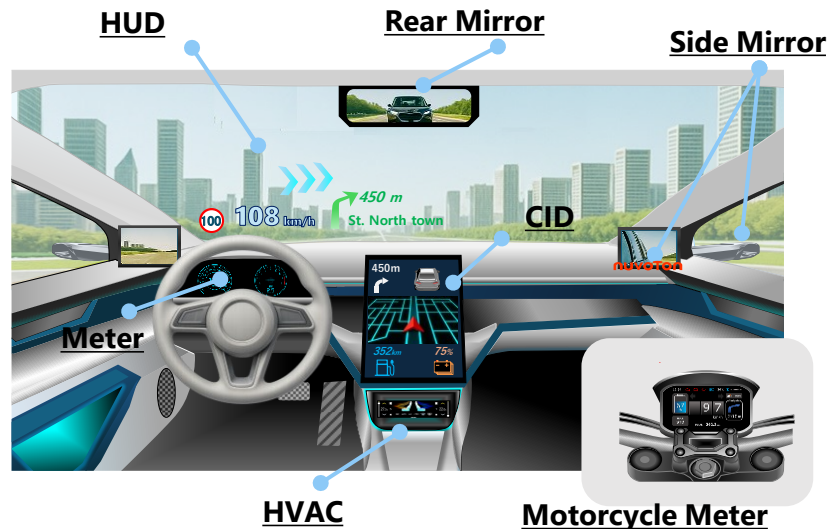
Security

- Program protection : Secure boot

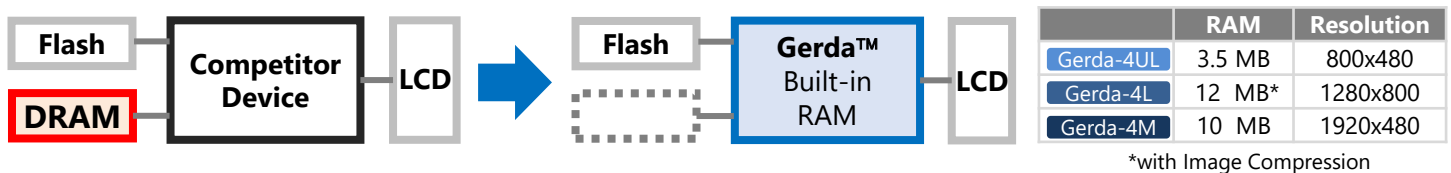
Comfort

- High quality: 2.5D Graphics
- Smartphone Connectivity
- Officially supported by "Qt for MCUs"

Applications



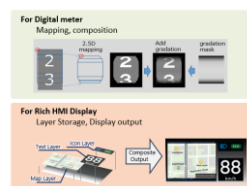
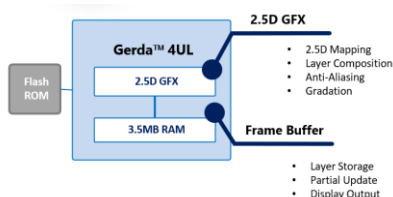
Common Feature – Built-in RAM Solution, Minimal External Memory Dependence



Features for Each Application

Two Wheelers Meter Solution

Improved Rider Convenience With a Compact and Cost-effective system



- Smartphone Connectivity for Navigation Functions
- 2.5D graphics displays (60fps)
- Display adjustment functions improve durability and visibility
- Compact and Cost-effective System with Built-in RAM
- Business card size PCB



The products and product specifications described in this document are subject to change without notice for modification and/or improvement. At the final stage of your design, purchasing, or use of the products, therefore, ask for the most up-to-date Product Standards in advance to make sure that the latest specifications satisfy your requirements.

As of Nov.10, 2026

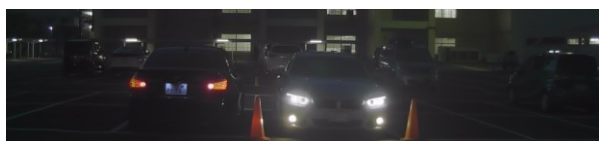
■ Features for Each Application

Electronic Mirror Solution

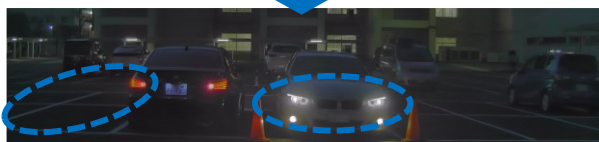
Enhanced Visibility in Harsh Environments and Different Driving Conditions

- Brightens dark areas to improve visibility
- Reduces brightness in headlight-illuminated areas to minimize glare

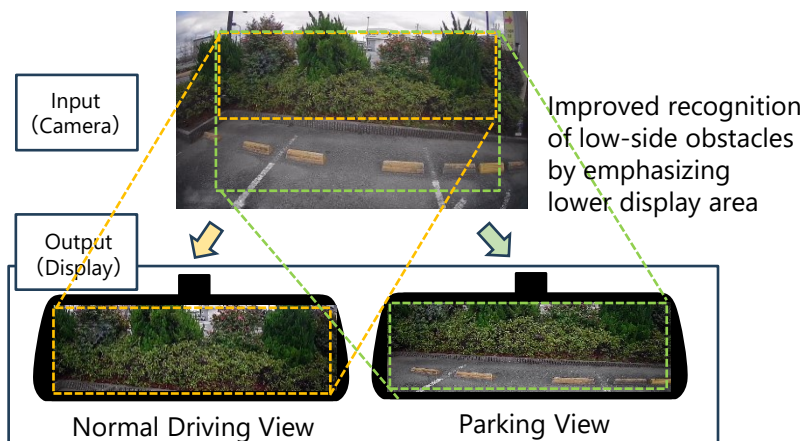
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• Correction ON



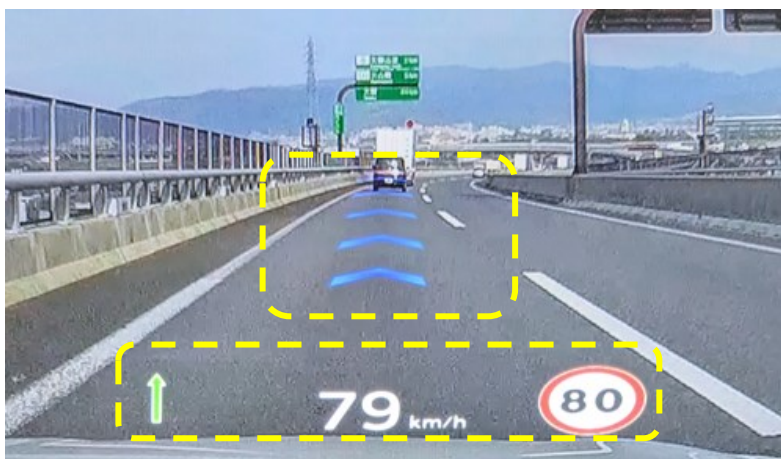
- Smart Display Switching Based on Driving Conditions



HUD Solution

Enhanced Driver Awareness with Clear and Accurate HUD Visualization

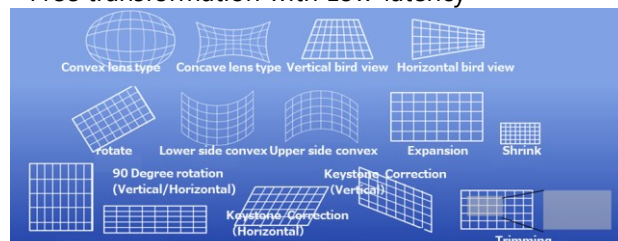
- Dual-image HUD projects navigation and speed information at different depths for improved readability



- Local Dimming Improves contrast for high visibility



- Free transformation with Low-latency



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■ Common Feature – Security and Functional Safety

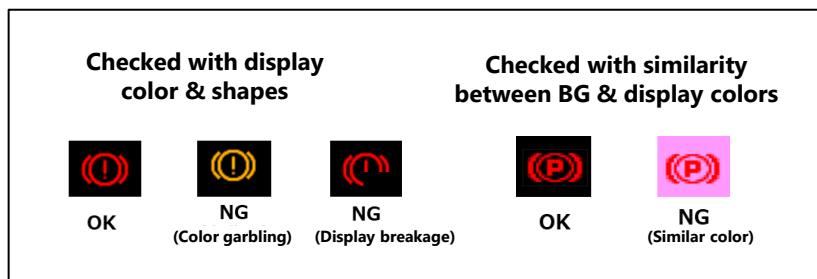
OTA / Secure Boot

- Software updates via network (OTA)
- Only authenticated software can boot
- Robust protection against tampering, impersonation
- ISO/SAE 21434 (CSMS) supported
Cyber Security Management System



Functional Safety for Warning and Critical Information Displays

- Warning indicator icon GFX rendering
- Comparison between expected and actual icon display output



■ Product Specifications

Item		Gerda-4M (KM2KSZ1xx series)	Gerda-4L (KM2KSD4xx series)	Gerda-4UL (KM2KSZ2xx series)
General	Package (Size)	HQFP 216pins 24mm□	HQFP 216pins 24mm□ HQFP 256pins 28mm□	LQFP 100pins 12mm□ LQFP 128pins 14mm□ LQFP 144pins 20mm□
	ASIL	ASIL-B	ASIL-B	ASIL-B
Security		Yes	Yes	Yes
Recommended resolutions		1920x480	WXGA 1280x800	WVGA 800x480
Video input (with pin mux.)		DRGB/REC656/Analog CVBS	DRGB/REC656/Analog CVBS	(128/144 pins) DRGB/REC656/Analog CVBS
	MIPI-DPHY	1xCSI2 4lane	1xCSI2 4lane	-
Video output		DRGB	DRGB	DRGB
	LVDS IF	2x4Lane or 1x4Lane	1x4Lane	1x4Lane
Graphics	Engine	2.5D	2.5D Dual	2.5D
Built-in memory	Embedded RAM	8MB or 10MB	5MB or 6MB (Logical 10/12MB)	3.5MB
Efficient use of frame memory	Image compression (RAM)	-	Yes	-
	Texture compression (ROM)	Yes	Yes	Yes
CPU	CPU Config	ARM Cortex-M7	ARM Cortex-M7	ARM Cortex-M33
Flash IF	Qspi-NOR	Yes	Yes	Yes
Communication IF	Ethernet	Ethernet MAC	Ethernet MAC	(144pins) Ethernet MAC
	Serial	I2C/SSP/UART	I2C/SSP/UART	I2C/SSP/UART
	USB	USB HS	USB HS	-
	CAN	2ch (CAN-FD)*Option	2ch (CAN-FD)*Option	3ch (CAN-FD)*Option
Audio	PWM OUT	Audio DAC (PWM)	Audio DAC (PWM)	Audio DAC (PWM)

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