

Jan 19, 2021

## Panasonic's Large-screen HUD Incorporated in the Nissan Rogue

**Osaka/Tokyo** - The large-screen HUD (Head-Up Display) developed by Automotive Company, Panasonic Corporation is installed in a new model crossover SUV, the Rogue (released for the North American market in October 2020) from Nissan Motor Corporation (hereinafter Nissan).



Rogue (Photo courtesy of Nissan Motor Corporation)



Appearance of HUD



HUD screen image projected onto a windshield (Photo courtesy of Nissan Motor Corporation)

The HUD is a system which presents a variety of information such as vehicle speed, navigation instructions, and ProPILOT<sup>\*1</sup> driver assist information in the driver's line of sight by projecting it on the windshield. Since the display is projected near the center of driver's field of view, it reduces the burden on the driver by reducing eye movements and enhances the smooth interaction between driver and system.

\*1 ProPILOT: Driver assistance technology for highway use in single-lane traffic developed by Nissan Motor Corporation

With its expertise in optical technologies acquired through development of digital cameras, Panasonic has applied the high precision free-form mirror and the high-intensity PGU (Picture Generation Unit) to the HUD, successfully providing a large, bright, sharp screen with minimal distortion (field of view: 7 degrees × 3 degrees).

### Overview of the developed technologies:

#### (1) High precision free-form mirror

Panasonic's HUD uses a high precision free-form mirror to which the company applied its lens design and molding technologies originally developed for digital cameras. This minimizes the HUD unit while allowing projection of a low-distortion image on the large screen in the limited space in the vehicle.

## (2) High-intensity PGU

Panasonic's proprietary backlight design for the HUD, which was developed based on the lighting technology for LCDs, provides the drivers with a clear image even under conditions that might have made it difficult to see the display, such as under direct sunlight or while wearing sunglasses.

Panasonic strives to take a leading position in the field of HUDs, which are expected to see widespread use in the future. Leveraging the strength of the development and delivery of HUDs, Panasonic will contribute to the creation of safe, secure, and comfortable driving environments.

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\* The images are fit and composited for convenience, so they may not be exactly the same as actual ones.

### About Panasonic

Panasonic Corporation is a worldwide leader in the development of diverse electronics technologies and solutions for customers in the consumer electronics, housing, automotive, and B2B businesses. The company, which celebrated its 100th anniversary in 2018, has expanded globally and now operates 528 subsidiaries and 72 associated companies worldwide, recording consolidated net sales of 7.49 trillion yen for the year ended March 31, 2020. Committed to pursuing new value through innovation across divisional lines, the company uses its technologies to create a better life and a better world for its customers. To learn more about Panasonic: <https://www.panasonic.com/global>.

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