

Socionext Introduces ISO26262 Certified Smart Graphic Display Controllers

4th Generation Smart Graphic Display Controllers Enable Panoramic and Multi-displays

[Langen/Germany and Yokohama/Japan. July 15, 2022] --- Socionext, a global leader in the design and development of innovative System-on-Chip products, has announced a new series of smart display controllers, "SC1721/ SC1722/ SC1723 Series", certified with ISO26262 for functional safety. Samples will be available at the end of July 2022.

The automotive industry is currently undergoing major transformations that occur approximately once every 100 years. The E/E (Electrical/Electronic) architecture, which is the system structure of automobiles, is changing from a distributed architecture to a domain/zone architecture. Automakers are adopting integrated cockpit systems linking multiple displays, such as meters, In-Vehicle Infotainment (IVI), and head-up displays. Larger display size and screen resolution are also driving the demand for improved image quality. Due to the changes, complying with the ISO26262 functional safety standard is critical for new automotive ADAS and infotainment systems development.

Socionext has been developing smart display controllers for automotive applications for many years. This fourth generation is equipped with an APIX®3 SerDes-repeater function that allows daisy-chaining of multiple smart display controllers, enabling up to four display connections in a chain. Compared to the previous generation, this function greatly improves the wiring efficiency of the vehicle and facilitates the cooperation of multiple displays. In addition, the company's proprietary SEERIS™ 2D graphics IP is integrated with cutting-edge functions, such as LED control and pixel compensation by Local Dimming, and Warping-on-the-fly dynamic interpolation of the Warp Map. Socionext improves vehicle safety by adding a mechanism to monitor external LED driver error detection and internal algorithm, and supports functional safety (ASIL-B) by complying with the ISO26262 development process.

These features enable new architectures, such as panoramic displays for dashboards, to meet a growing trend of larger multi-display applications.

SC1721/ SC1722/ SC1723 Series Main Lineup and Specifications

	SC1721AH5	SC1722AK3	SC1723AK3
Package – Pin	EP-LQFP-216	TE-BGA-437	TE-BGA-427
Size	24mm x 24mm	23mm x 23mm	23mm x 23mm
Video Output Resolution example	1920 x 1080	3840 x 1080	3840 x 2160
Video Output	Dual LVDS, OpenLDI	Dual LVDS, OpenLDI	eDP 5.4Gbps 4lane
APIX®3 SerDes-repeater* ¹	Rx: 2 x 3Gbps with HDCP2.3 Tx: 1 x 3Gbps	Rx: 2 x 3Gbps or 1 x 6Gbps with HDCP2.3 Tx: 1 x 6Gbps	Rx: 2 x 6Gbps with HDCP2.3 Tx: 1 x 6Gbps
Video Input* ¹	LVDS, OpenLDI	LVDS, OpenLDI	LVDS, OpenLDI
Local Dimming	512 LED block	512 LED block	1024 LED block
Warping-on-the-fly	Yes	No	No
ISO26262 ASIL-B compliant development process	Yes	Yes	Yes

*1: APIX®3 SerDes-repeater or Video Input is exclusive depending on the lineup.

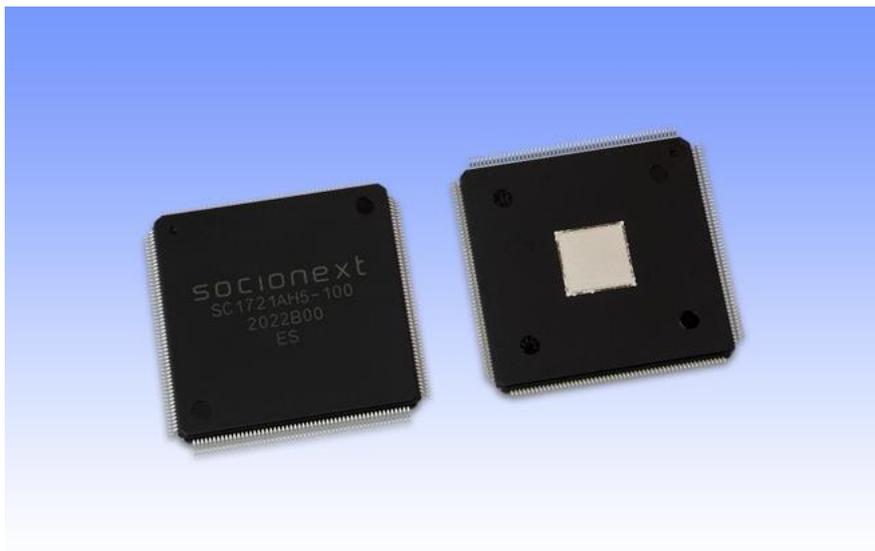
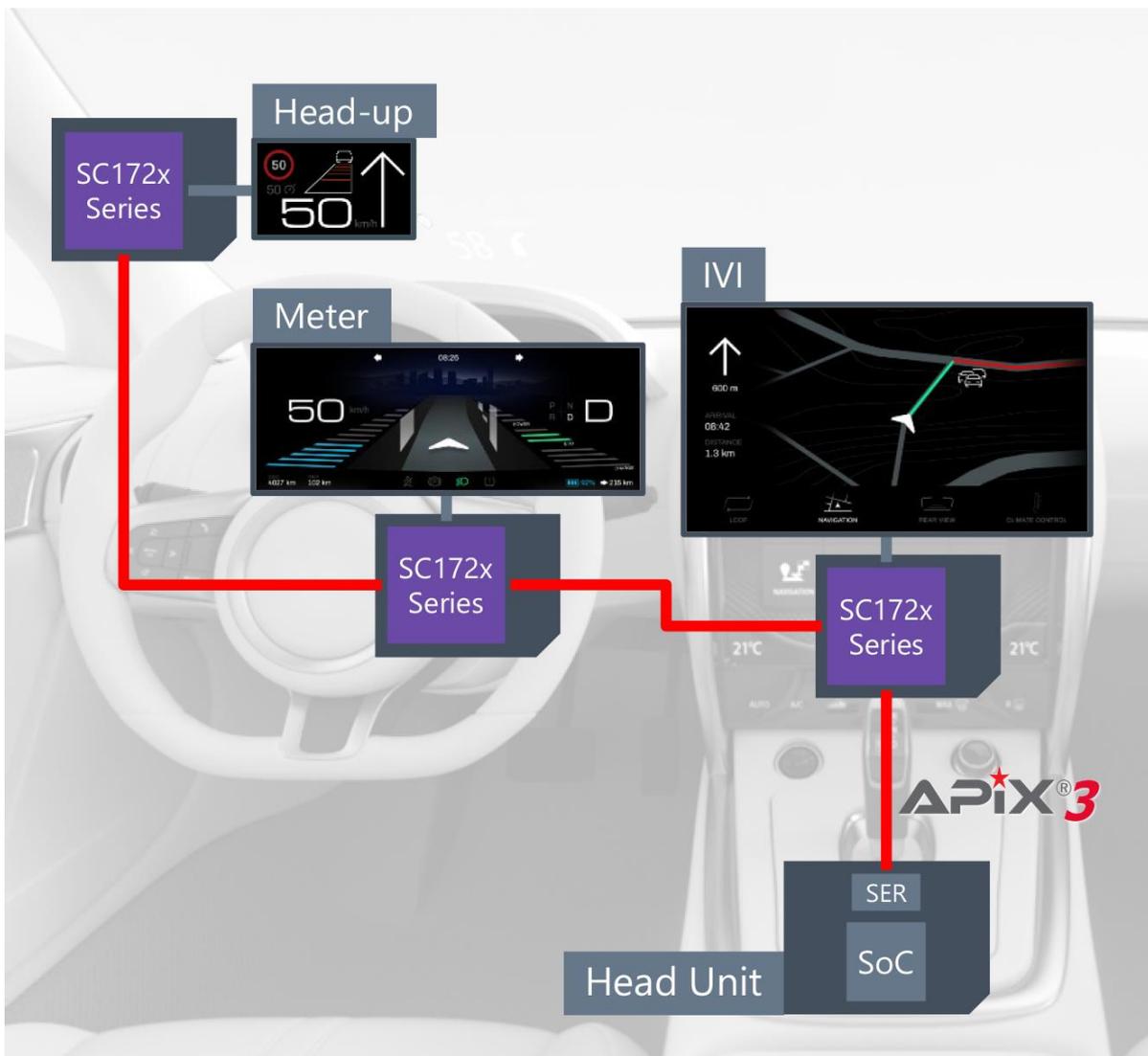


Photo: SC1721AH5

[Click to Enlarge](#)

System Configuration



About Socionext Inc.

Socionext Inc. is a global SoC (System-on-Chip) supplier and a pioneer of a unique “Solution SoC” business model through decades of industry experience and expertise. Socionext contributes to global innovation in advanced technologies including automotive, data center, networking, and smart devices. As a trusted silicon partner, Socionext delivers superior features, performance, and quality that differentiate its customers’ products and services from their competition.

Socionext Inc. is headquartered in Yokohama, and has offices in Japan, Asia, United States and Europe to lead its development and sales activities. For more information, visit <https://www.socionext.com/en/>.

About Socionext Europe GmbH

Socionext Europe (SNEU) plays a major role in the worldwide activities of Socionext Inc., one of the world’s leading fabless SoC suppliers. Its Headquarters is in Frankfurt, Germany with offices in Munich, Germany and Maidenhead, UK. The Munich Design and Support Center, a leader in embedded graphic solutions, specializes in hardware and software product development for the automotive sector. Maidenhead supports Socionext’s IP Development & Engineering Center with a focus on ultra-high speed data conversion IP. Socionext Europe offers customers a range of innovative Custom SoC solutions for today’s state-of-the-art applications with total support from start to finish. For more information please visit [our website](#), email: info@eu.socionext.com or connect with us on [Facebook](#), [LinkedIn](#), [Twitter](#) and [YouTube](#).

All company or product names mentioned herein are trademarks or registered trademarks of their respective owners. Information provided in this press release is accurate at time of publication and is subject to change without advance notice.