socionext™
for better quality of experience

Smart Display Controllers

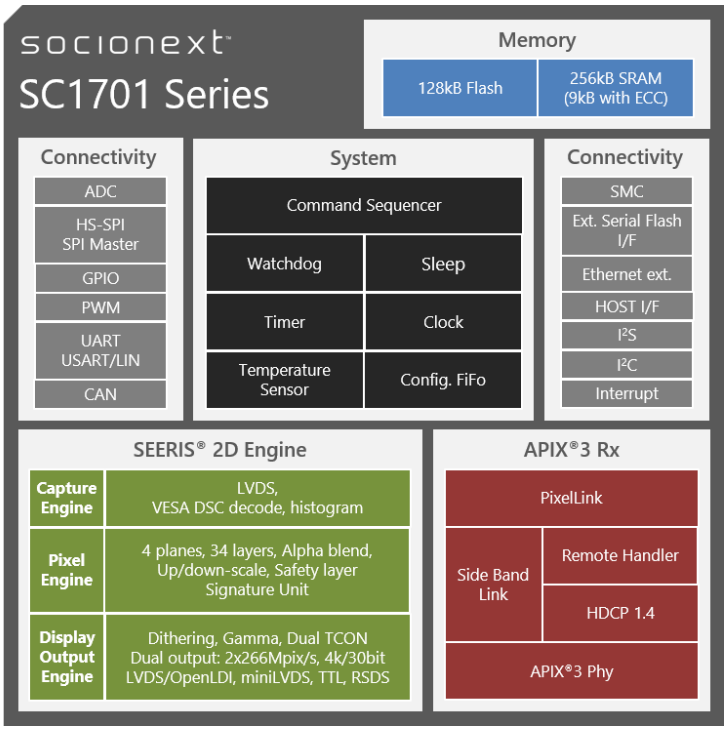
SC1711AH5 Series - SC1701BK3 Series - SC1701BH5 Series

Next Generation In-Vehicle Remote Display Controllers supporting Domain Architecture

Enables highly optimized and cost effective solutions for a broad range of in-vehicle remote display uses. Reduces the overall BOM and allows the realization of competitive and cost optimized systems. Performs all graphics processing, including safety and integrity related functions by its signature unit. Utilizing two display controllers allows flexible architectures with more than one display in a single chain. The future-proof design supports through its video link up to 12 Gbps uncompressed or equivalent to 28 Gbps video data by utilizing VESA DSC compression method.

Key features:

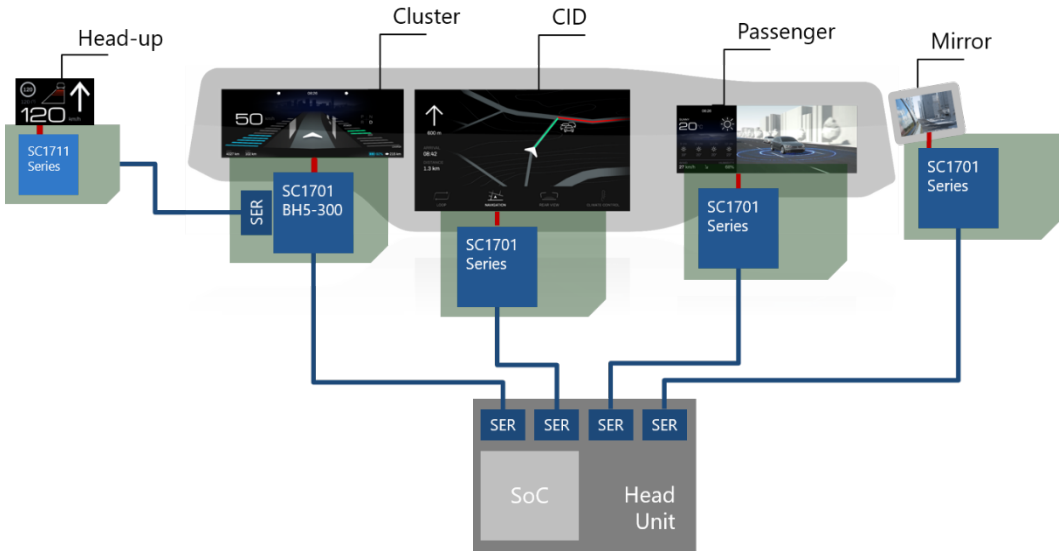
- 4k Resolution (3840 x 2160 @ 60Hz / 30bpp)
- Socionext SEERIS™ 2D Graphics Engine
- Dual Display Controller and dual TCON integrated
- Signature Unit and Safety layer
- Video Capture Interface (Dual LVDS)
- Optional APIX®3 receiver up to 12 Gbps with HDCP 1.4
- Ethernet extension support through APIX®3
- VESA DSC decompression up to 3:1 ratio
- Display Output Interfaces (oLDI, miniLVDS, RSDS, TTL)
- Touch Controller connectivity and Audio Generator
- Wide range of peripherals for external connectivity
- Spread Spectrum Modulation to reduce EMI
- AEC-Q100 qualification
- Support for Automotive Safety and Integrity (ASIL B)
- 2 package variants for design and BOM flexibility



Smart Display Controller Lineup

Features	SC1711AH5-10N	SC1701BK3-100	SC1701BH5-100	SC1701BH5-300
Package – Pin	EP – LQFP – 176	HS – BGA – 319	EP – LQFP – 216	EP – LQFP – 216
Size, Pitch	20x20mm, 0.4mm	23x23mm, 1.0mm	24x24mm, 0.4mm	24x24mm, 0.4mm
2D Core	Socionext SEERIS™-MVL	Socionext SEERIS™-MVL3		
Video Channels	1	2	1	
Video Output Resolution	1280x480 @ 60fps (24bit)	1x3840x2160 @ 60fps (30bit) 2x2560x1600 @ 60fps (30bit)	1x1920x1200 @ 60fps (30bit)	1x1920x1080 @ 60fps (30bit)
Video Output	TCON-RSDS; TTL dual LVDS (OpenLDI)	Dual TCON-RSDS 2x 6 pair miniLVDS, TTL 2x dual LVDS (OpenLDI)	TCON-RSDS 6 pair miniLVDS, TTL dual LVDS (OpenLDI)	TCON-RSDS TTL dual LVDS (OpenLDI)
Video Formats Decompression	RGBA, Indexed, Grey Scale @ 10 bits per component	RGBA or YUV4:4:4 / 4:2:2 VESA DSC v1.2 (2:1/3:1)	RGBA or YUV4:4:4 / 4:2:2 VESA DSC v1.2 (2:1/3:1)	RGBA or YUV4:4:4 / 4:2:2
Pixel Speed	144MHz	2x266MPix/s or 1x533Mpix/s	160MPix/s	140MPix/s
Signature Units	4	16 / 2 x 8	16	8
Image Processing	CLUT, Matrix, Dither, Gamma, Sprites, α blending	CLUT, Matrix, Dither, Gamma, Sprites, α blending, scaling		CLUT, Matrix, Dither, Gamma, Sprites, α blending
Audio	I²S over APIX®2, Sound Generator	I²S over APIX®3, Sound Generator		Sound Generator
APIX® Down – Up	APIX®2 @ 1Gbps - 187 Mbps	APIX®3 @ 12Gbps - 187 Mbps	APIX®3 @ 6Gbps - 187 Mbps	-
Content Protection	-	HDCP 1.4 (APIX®3)		-
Network	MII - Ethernet over APIX®2 @ 100 Mbps	MII - Ethernet over APIX®3 @ 100 Mbps		MII
Daisy Chain	-	Yes, requires external Tx	-	
Video input / Capture	-	Dual LVDS (OpenLDI)		
SRAM – Flash	128k - 56k	256k (9kB ECC) - 128k		
Standard I/O	USART-LIN, I²C, GPIO, PWM, ADC, HS-SPI	USART-LIN, I²C, GPIO, PWM, ADC, HS-SPI, CAN listener		
Stepper Motor Control	6			
Qualification	AEC-Q100, Ta -40 ... +105°C			

Display Domain Architecture



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