



eCockpit

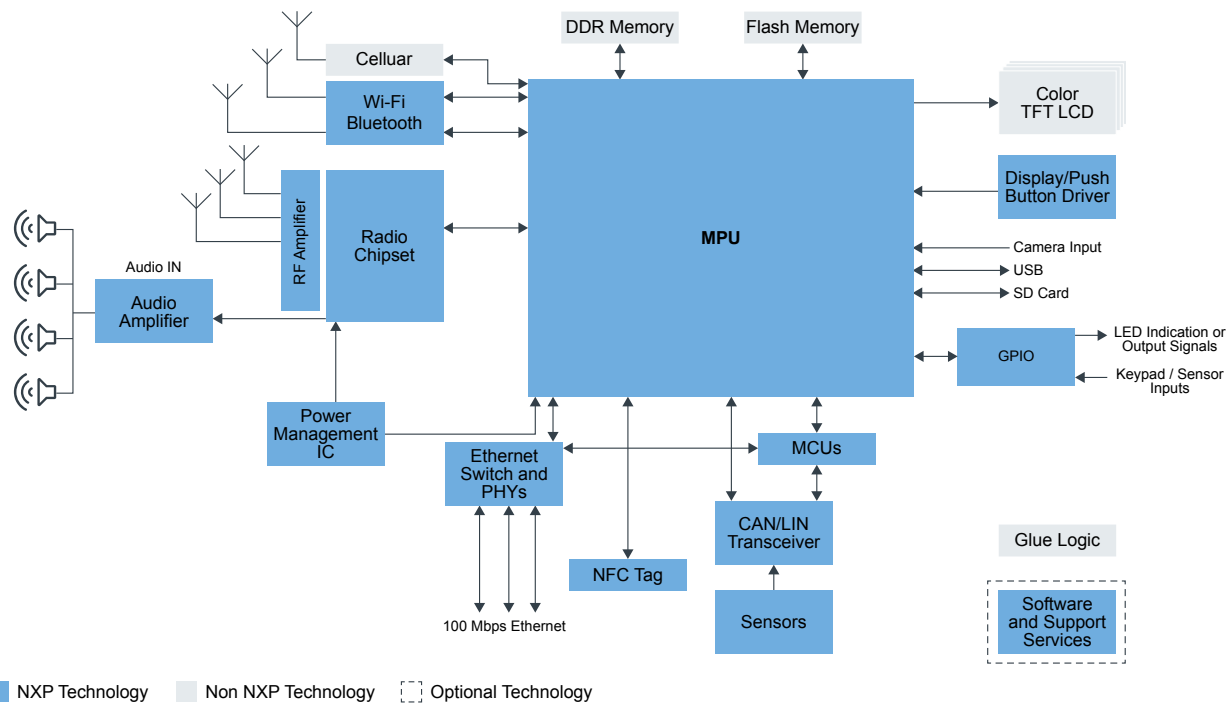
Last Updated: Dec 6, 2023

In recent years, we have seen the complexity of infotainment systems increasing every day.

The amount of information to process and represent in a useful way is increasing, requiring powerful and flexible hardware solutions with high-performance graphics capabilities and a large range of interfaces.

NXP offers dedicated automotive applications processors along with Software Defined Radio (SDR) and audio amplifier solutions to satisfy all OEM requirements and specifications. NXP's extensive selection of automotive discrete and networking products, improved radio performance and advanced audio algorithms power a full infotainment system solution.

eCockpit Block Diagram

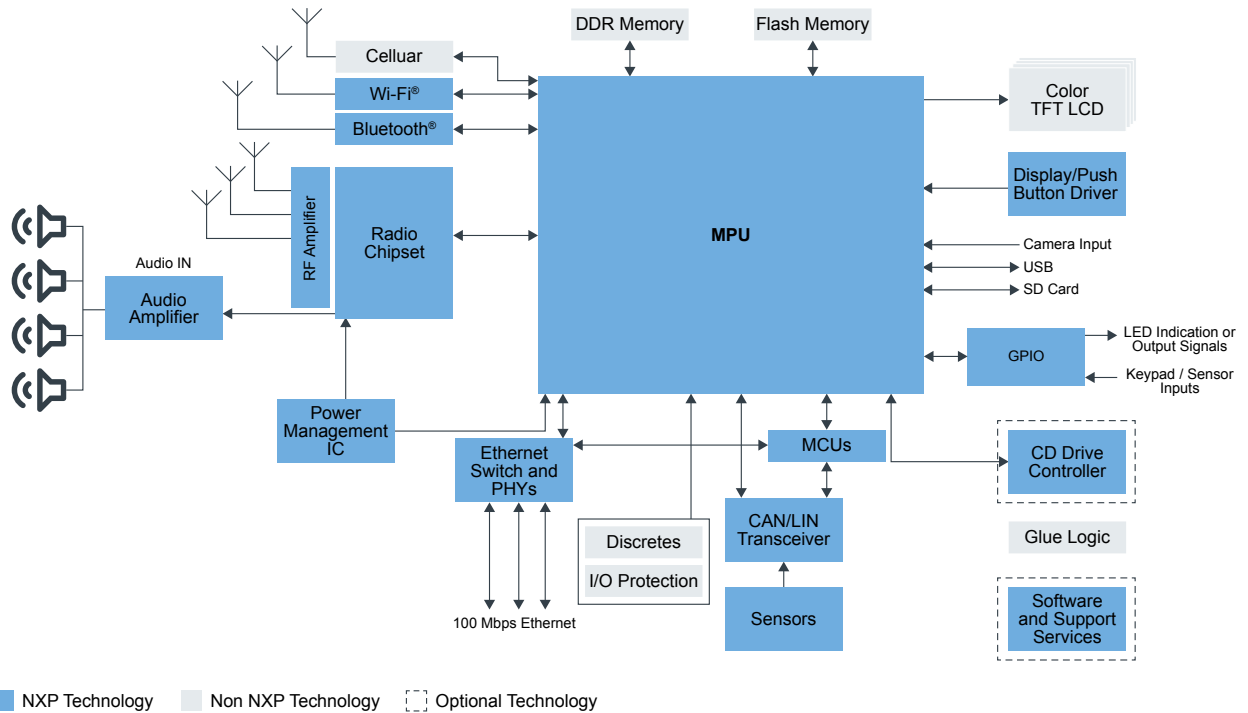


Recommended Products for eCockpit

MPU	<ul style="list-style-type: none"> • i.MX8: i.MX 8 Family – Arm® Cortex®-A53, Cortex-A72, Virtualization, Vision, 3D Graphics, 4K Video • i.MX8X: i.MX 8X Family – Arm® Cortex®-A35, 3D Graphics, 4K Video, DSP, Error Correcting Code on DDR
RF Amplifier	<ul style="list-style-type: none"> • TLH501x: ALNA – Low Noise Active Antenna Amplifier
Wi-Fi / Bluetooth	<ul style="list-style-type: none"> • 88Q9098: 2.4/5 GHz Dual-Band 2x2 Wi-Fi® 6 (802.11ax) + Bluetooth® 5.3 Automotive Solution
Microcontrollers (MCUs)	<ul style="list-style-type: none"> • MPC5xxx Microcontrollers: MPC5xxx Microcontrollers

Radio Chipset	<ul style="list-style-type: none"> • TDF8541: I²C-Bus Controlled 4 x 45 W Power Amplifier • SAF4000: Multi-Standard Software Defined Radio Processor With Integrated Audio
Audio Amplifier	<ul style="list-style-type: none"> • Car Audio Amplifiers: Car Audio Amplifiers
Display/Push Button Driver	<ul style="list-style-type: none"> • Automotive LCD Drivers: Automotive LCD Drivers • Automotive Lighting LED Driver ICs: Automotive Lighting - LED Driver ICs
CD Drive Controller	<ul style="list-style-type: none"> • Audio Converters: Audio Converters
CAN/LIN Transceiver	<ul style="list-style-type: none"> • TJA1128: LIN Mini System Basis Chip • TJA144x: Automotive CAN FD Transceiver Family • TJA1462: CAN Signal Improvement Capability Transceiver with Standby Mode • TJA1463: CAN Signal Improvement Capability Transceiver with Sleep Mode • Automotive LIN Solutions: Automotive LIN Solutions
Power Management IC	<ul style="list-style-type: none"> • FS5600: Automotive Dual Buck Regulator and Controller with Voltage Monitors and Watchdog Timer • PF8101-PF8201: 9-Channel Power Management Integrated Circuit (PMIC) for High-Performance Processing Applications • PF81-PF82: 12-Channel Power Management Integrated Circuit (PMIC) for High-Performance Processing Applications • PF7100: 7-Channel Power Management Integrated Circuit for High Performance Applications, Fit for ASIL B Safety Level • VR5500: High Voltage PMIC with Multiple SMPS • VR5510: Multi-Channel (9) PMIC for S32G Processor – 8 High Power, 1 Low Power, Fit for ASIL D Safety Level • MMPF0100: 14-Channel Configurable PMIC • PF5020: Multi-Channel (5) PMIC for Automotive Applications – 4 High Power and 1 Low Power, Fit for ASIL B Safety Level • PF5024: Multi-Channel (4) PMIC for Automotive Applications – 4 High Power, Fit for ASIL B Safety Level
Sensors	<ul style="list-style-type: none"> • Sensors: Sensors
Wi-Fi / Bluetooth	<ul style="list-style-type: none"> • 88Q9098: 2.4/5 GHz Dual-Band 2x2 Wi-Fi[®] 6 (802.11ax) + Bluetooth[®] 5.3 Automotive Solution
Software	<ul style="list-style-type: none"> • i.MX Software: i.MX Software and Development Tools • Professional Support for Processors and Microcontrollers • NXP Engineering Services: NXP Engineering Services
Ethernet Switch and PHYs	<ul style="list-style-type: none"> • TJA1120: TJA1120, ASIL B Compliant Automotive Ethernet 100BASE-T1 PHY Transceiver • SJA1110: Multi-Gig Safe and Secure TSN Ethernet Switch with Integrated 100BASE-T1 PHYs • SJA1105PQRS: SJA1105PEL/QEL/REL/SEL Series Ethernet Switches • TJA1104: TJA1104, MACsec Enabled ASIL B Compliant Automotive Ethernet 100BASE-T1 PHY Transceiver • TJA1103: TJA1103, ASIL B Compliant Automotive Ethernet 100BASE-T1 PHY Transceiver • TJA1101: TJA1101B, IEEE 100BASE-T1 Compliant Automotive Ethernet PHY Transceiver
NFC Tag	<ul style="list-style-type: none"> • NCx3310: NFC Forum-Compliant Tag IC with I²C for Automotive
GPIO	<ul style="list-style-type: none"> • PCAL9722: 22-Bit SPI I/O Expander with Agile I/O Features • PCAL9714: 14-Bit SPI I/O Expander with Agile I/O Features

Head unit Block Diagram



Recommended Products for Head unit

NFC	<ul style="list-style-type: none"> • NCx3310: NFC Forum-Compliant Tag IC with I²C for Automotive
Wi-Fi / Bluetooth	<ul style="list-style-type: none"> • 88Q9098: 2.4/5 GHz Dual-Band 2x2 Wi-Fi® 6 (802.11ax) + Bluetooth® 5.3 Automotive Solution
RF Amplifier	<ul style="list-style-type: none"> • TLH501x: ALNA – Low Noise Active Antenna Amplifier
MPU	<ul style="list-style-type: none"> • i.MX6D: i.MX 6Dual Processors - Dual-Core, 3D Graphics, HD Video, Multimedia, Arm® Cortex®-A9 Core • i.MX8: i.MX 8 Family – Arm® Cortex®-A53, Cortex-A72, Virtualization, Vision, 3D Graphics, 4K Video

	<ul style="list-style-type: none"> • i.MX8X: i.MX 8X Family – Arm® Cortex®-A35, 3D Graphics, 4K Video, DSP, Error Correcting Code on DDR
Radio Chipset	<ul style="list-style-type: none"> • SAF4000: Multi-Standard Software Defined Radio Processor With Integrated Audio
Audio Amplifier	<ul style="list-style-type: none"> • Car Audio Amplifiers: Car Audio Amplifiers
Display/Push Button Driver	<ul style="list-style-type: none"> • Automotive LCD Drivers: Automotive LCD Drivers • Automotive Lighting LED Driver ICs: Automotive Lighting - LED Driver ICs
CD Drive Controller	<ul style="list-style-type: none"> • Audio Converters: Audio Converters
CAN Transceiver	<ul style="list-style-type: none"> • TJA144x: Automotive CAN FD Transceiver Family • TJA1043: High-Speed CAN Transceiver with Standby and Sleep Mode • Automotive LIN Solutions: Automotive LIN Solutions
Power Management IC	<ul style="list-style-type: none"> • FS5600: Automotive Dual Buck Regulator and Controller with Voltage Monitors and Watchdog Timer • PF81-PF82: 12-Channel Power Management Integrated Circuit (PMIC) for High-Performance Processing Applications • PF8101-PF8201: 9-Channel Power Management Integrated Circuit (PMIC) for High-Performance Processing Applications • PF7100: 7-Channel Power Management Integrated Circuit for High Performance Applications, Fit for ASIL B Safety Level • VR5500: High Voltage PMIC with Multiple SMPS • VR5510: Multi-Channel (9) PMIC for S32G Processor – 8 High Power, 1 Low Power, Fit for ASIL D Safety Level • MMPF0100: 14-Channel Configurable PMIC • PF5020: Multi-Channel (5) PMIC for Automotive Applications – 4 High Power and 1 Low Power, Fit for ASIL B Safety Level • PF5024: Multi-Channel (4) PMIC for Automotive Applications – 4 High Power, Fit for ASIL B Safety Level
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View our complete solution for [eCockpit](#).

Note: The information on this document is subject to change without notice.

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