



SYSTEM SOLUTIONS

➤ for equipment manufacturers

overview

Arcturus has been developing embedded systems for over 17 years and during this time has amassed a significant portfolio of hardware, middleware, tools and expertise. System Solutions provide an excellent way to access our core skills and capabilities to help accelerate your product development.

Arcturus System Solutions are specialized engagements designed for equipment manufacturers. They help manufactures traverse the complex requirements of IP based communication systems, while meeting the advanced features demanded by applications in healthcare, transportation and buildings. System Solution engagements are comprised of a mix of hardware, middleware, services and support.

Each engagement is structured individually to meet the specific needs of the project. Dedicated engineering and project-level resources work directly with you to identify requirements, execute on project deliverables, ensuring a smooth process from development to deployment.

Arcturus offers simple engagement packages to help get development moving quickly.

Healthcare



Buildings

Transportation

Arcturus
➤ *empower embedded.*

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Key Related Technologies

System Solutions leverage Arcturus middleware and hardware platforms. Specialized features are available to meet supervision, control and failure detection requirements. Solutions are designed to meet or exceed industry guidelines for intelligibility performance.

Benefits

- Voice communication with intelligibility enhancements
- Camera based video surveillance and streaming
- System level workflow development
- Central operator controls
- Performance reporting
- Active supervision and fault detection
- Integration capability with 3rd party equipment and devices
- Central management of configuration and firmware
- Branding and customization

Hardware

Key Features

- From 1 to 6 audio channels
- Multiple communications services (video, VoIP, PA Paging, recorded announcements)
- Various operating modes – Push to Talk (PTT), Push to Call (PTC), Radio Over IP (RoIP), 4-wire handset, hotline, intercom, IP speaker, covert device
- MIPI or USB camera input support

Physical Layer Communication

- Ethernet
- Wi-Fi
- LTE

Peripheral Expansion Interfaces

- I2C, SPI, UART
- PCIe, SDIO, USB

Middleware

Related Arcturus Middleware Stacks

- Voice and Video Middleware – communications and surveillance
- Management Middleware – configuration and firmware management
- Mbarx Secure IoT – central operations

Key Features

Fault Detection

- SIP server failover support
- Network failure detection

Performance Reporting

- Active testing of acoustic performance
- Call quality detection
- Realtime system reporting

Audio

- Background level detection and compensation
- Audio intelligibility enhancements
- Voice progress messages and announcements
- Specialized audio event sensor algorithms

Video

- USB or MIPI camera input
- Remote camera controls
- Live video streaming and stream control
- H.264 or mJPEG format / various frame rates and resolutions

Central Operator Controls (device)

- Audio gain controls
- Covert operation
- Manual test triggers

Central Operator Workflow (system)

- Mbarx Site Controller – interconnection of remote sites
- Mbarx Operations Controller – system wide notification and presentation

Management

- WebUI with branding options
- Remote file-based provisioning
- Mbarx System Manager – site-wide management tool

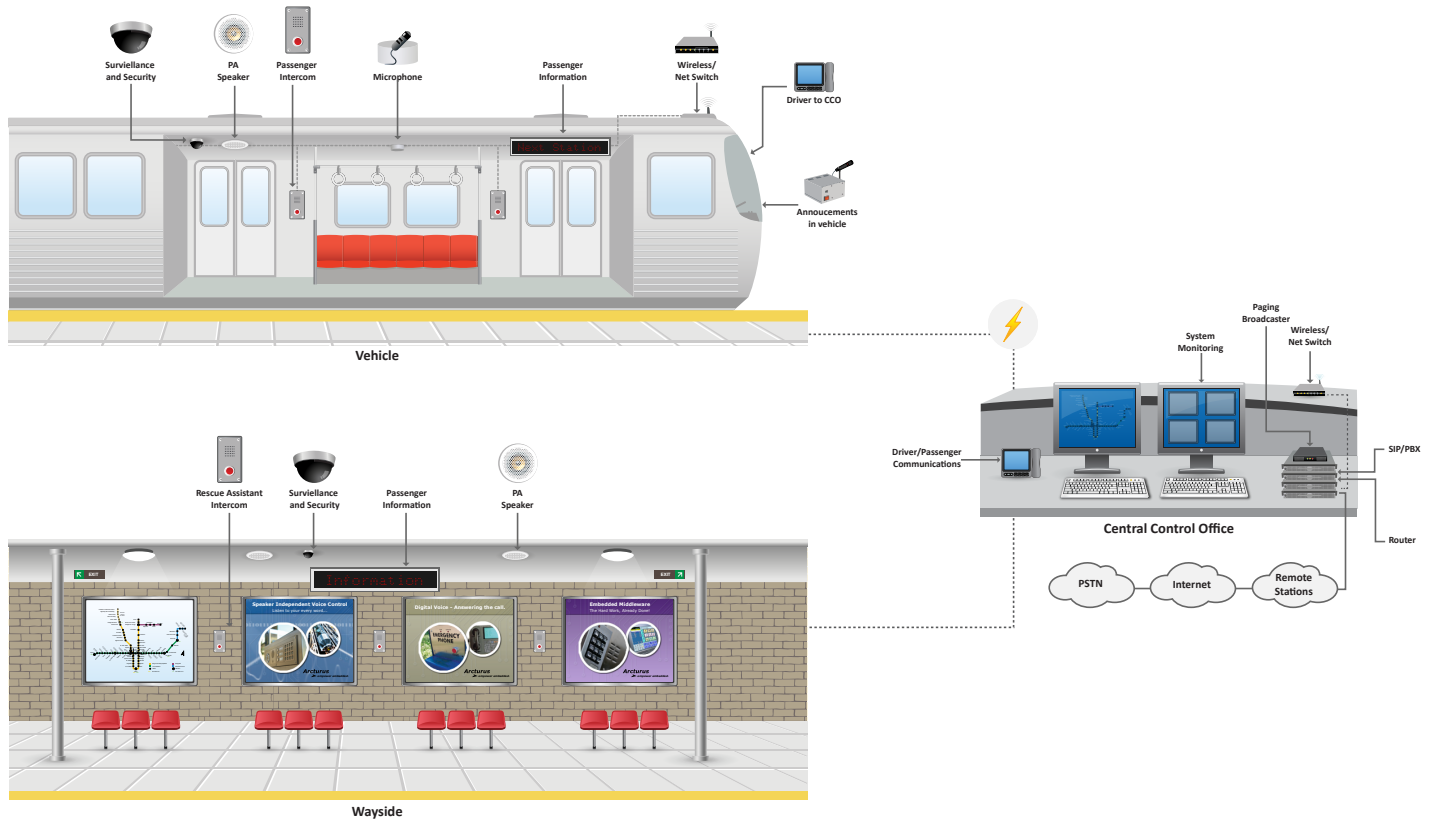
Host Protocol and Integration

- I/O interface for HMI (e.g.: push-buttons/LEDs)
- LCD for HMI
- I/O interface for M2M (for interconnect with other equipment)
- RS232 serial host protocol interface
- TCP/IP socket host protocol interface

Branding Options

- Web User Interface
- Mbarx tools, including System Manager
- Mbarx Operations Controller

Transportation



Arcturus transportation system solutions target passenger information, safety, and operator communication in vehicles, stations, wayside systems, central control and airports. They are designed to meet or exceed NEMA recommendations for audio intelligibility and can include central management tools, self-test functions and integration with other systems or equipment.

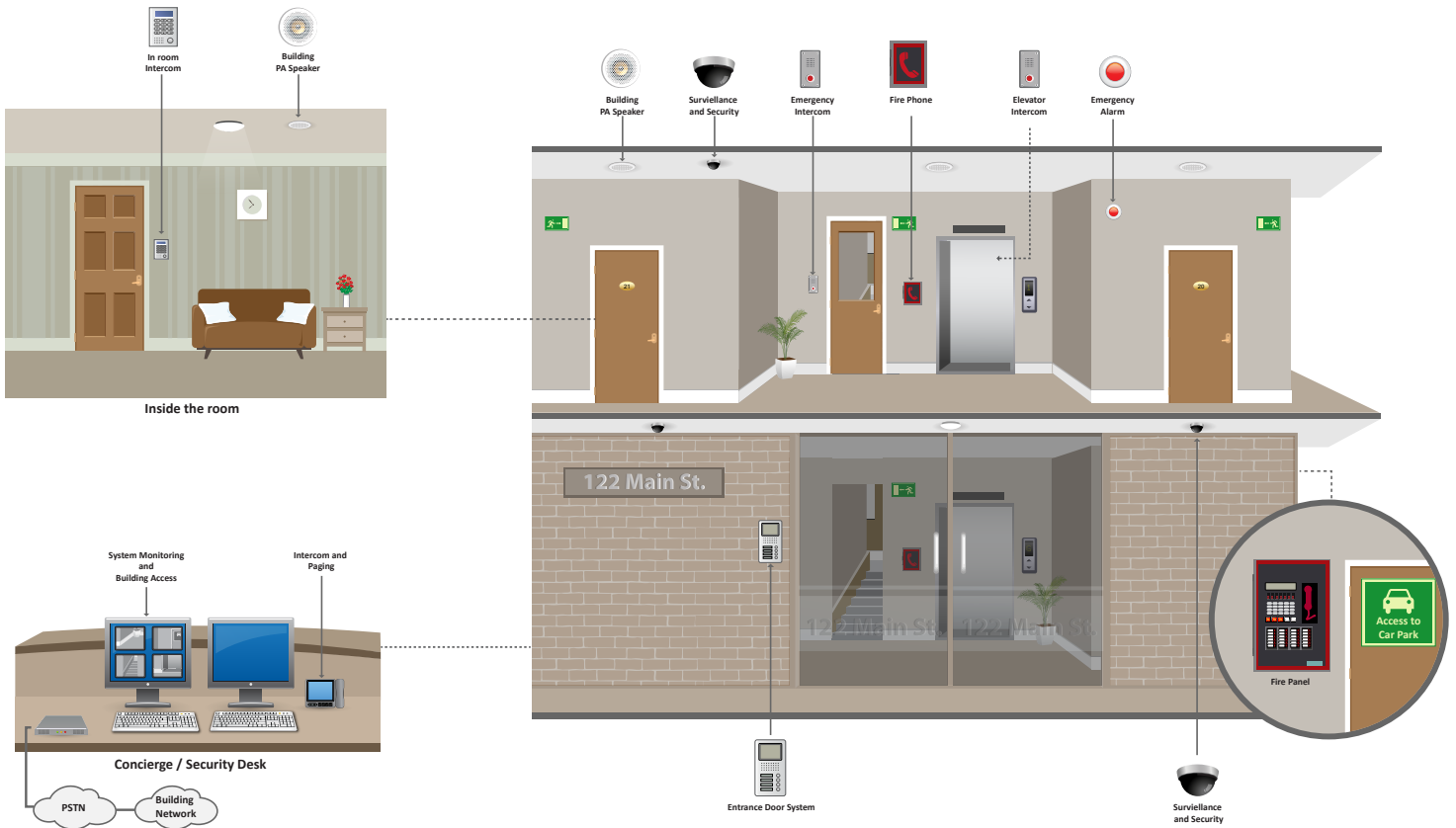
Arcturus system solutions are available to help equipment manufacturers meet the specialized requirements of transportation system applications including:

Applications

- Wayside, passenger and driver comms
- Two-way voice, digital intercoms, passenger assistance alarms
- Station stop or informational announcements and sequencing
- System wide and zone paging
- Camera based surveillance of vehicle, wayside or station
- Radio-Over-IP (RoIP) backhaul and convergence
- Wi-Fi radio systems, beltacks
- Central operation workflow
- System-wide management



Buildings



Arcturus building system solutions target fire, security, surveillance, information, safety and access control systems. Solutions are designed to meet or exceed NEMA and NFPA audio intelligibility recommendations for two-way voice and PA paging and can incorporate camera based video surveillance. Tools are available to support local or remote management, workflow control for on-site personnel, installer access, troubleshooting and maintenance. Hardware systems can integrate directly with devices such as ID readers, door controllers, sensors, horns or lights.

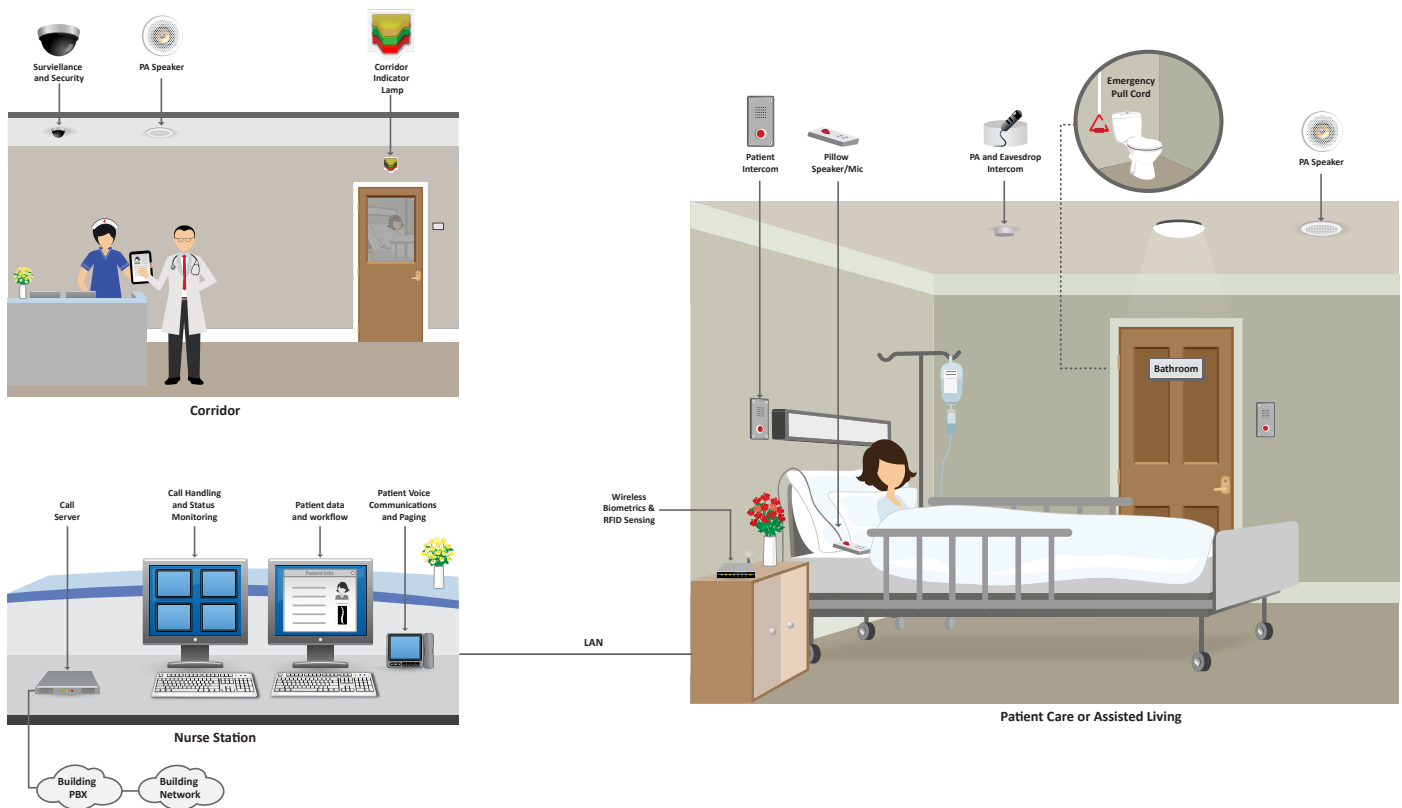
Arcturus system solutions are available to help equipment manufacturers meet the specialized requirements of building system applications including:

Applications

- Public Address (PA) systems and mass notification
- Fire and alarm panel audio controllers
- School paging systems, campus wide notification
- Digital intercoms and push-to-call devices with voice and video
- Elevator call buttons and rescue assistance
- Building access controllers and door entrance systems
- Camera based safety and security surveillance
- Two-way voice home monitoring systems



Healthcare



Arcturus healthcare system solutions combine active device status supervision using a direct connection to a local care station or remote central monitoring station. Audio communications are designed to meet or exceed NEMA recommendations and video feed can be provided to improve situational awareness. Systems can integrate with wired or wireless sensors, assistance buttons or body worn trackers and the solution offers integration options to support third-party equipment such as corridor lights, audio alerts, activity trackers, biometrics and wandering.

Arcturus system solutions are available to help equipment manufacturers meet the specialized requirements of communications devices in healthcare including:

Applications

- Nurse call and patient care voice and video intercoms
- In-home healthcare monitoring and personal assistance
- Assisted and independent living
- Patient wandering and tracking
- Camera based surveillance for situational awareness

With Arcturus solutions it is possible to create centrally operated patient response systems that meet or exceed NEMA audio intelligibility recommendations, while offering tight-integration with existing equipment and work flow.

