# HORIZON



Push-to-Talk over Cellular and Wi-Fi Devices, Services, and Systems

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#### **Communicate. Coordinate. Facilitate.**

**Communicate** instantly with nationwide groups of remote workers using a variety of PoC devices

**Coordinate** worker locations and jobs with centralized dispatching and GPS location tracking

**Facilitate** cost reductions by improving operational efficiencies and quickly solving problems

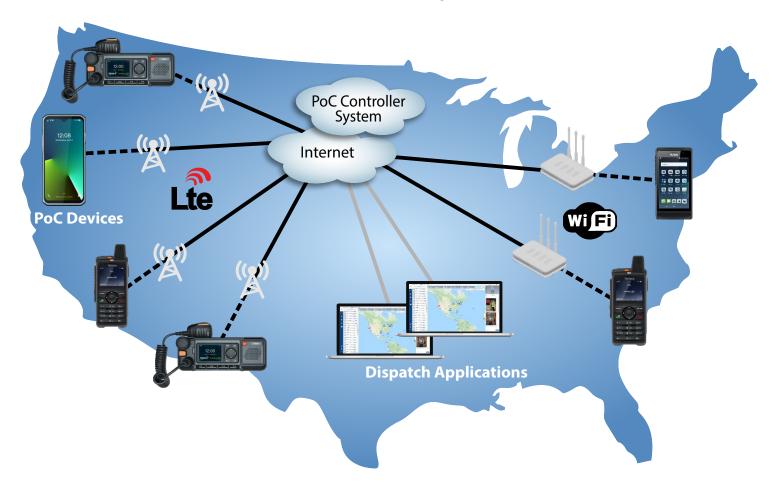


## What is PoC and How Does it Work?

PoC is also referred to as Radio over IP (RoIP). Similar to Voice over IP (VoIP), RoIP devices are handheld two-way radios that access cloud-based PoC services via the internet for voice and video calling. A data plan SIM card (similar to those used in cell phones) is installed in the PoC device to enable access to the internet using the 4G/5G/LTE cellular infrastructure of Mobile Network Operators. Hytera PoC devices access the HORIZON Nationwide PoC cloud controller through the internet using 4G/5G/LTE cellular networks and Wi-Fi networks for wide-area radio communications.

HORIZON subscription-based PoC services are hosted on the cloud using Hytera US Inc HORIZON PoC controllers (network appliances). Third party gateway routers provide connectivity between the 4G/5G/LTE network and the cloud hosted PoC controller.

The result is access to reliable cloud-based services using existing cellular and Wi-Fi networks that require no maintenance or operational expenses. HORIZON Dispatch web browser applications also connect to the PoC cloud server through the internet.



#### Who Uses Push-to-Talk over Cellular?

- Transportation, Shipping, and Logistics
- K12, Colleges, and Universities
- Security Services
- Taxi, Shuttle, and Towing Services
- Construction, Plumbing, and Electrical
- Manufacturing and Industry
- Agriculture
- Hotels, Resorts, and Casinos
- Healthcare, Ambulances, and EMTs
- Any Small to Large Business



## **HORIZON** Key Features

#### **NATIONWIDE COVERAGE**

- PoC leverages 4G/5G/LTE and Wi-Fi networks to provide secure and instant nationwide radio communications
- No need to purchase, operate, and maintain traditional radio network infrastructure

#### INDUSTRY LEADING VOICE QUALITY

• Al-based digital noise suppression that learns human voice and extracts it from background noise in real time, and high-volume speakers for excellent voice quality in loud environments

#### **RAPID DEPLOYMENTS**

- Since the cellular LTE and Wi-Fi radio network infrastructure already exist, PoC systems can be deployed very quickly
- PoC radios work out-of-the-box with SIM cards pre-installed
- No expenses related to owning traditional radio repeater and antenna systems or FCC frequency licenses

#### **INSTANT INDIVIDUAL AND GROUP CALLING**

- Hytera PoC devices support instant individual (one-to-one) and group calls (one-to-many) with the press of a Push to Talk (PTT) button on a radio or from a dispatching application
- Call groups can be set up based All Call Broadcast and Emergency calls, or select teams of radio users based on types of employees, mobile service fleets, employee locations, and type of projects, etc.
- Using groups minimizes distractions by ensuring that only the relevant parties are involved in the conversation

#### **UNLIMITED CHANNELS AND BANDWIDTH**

- The HORIZON PoC platform allows any number of virtual channels and as many call groups as required
- Cellular LTE and Wi-Fi networks also support bandwidthhungry applications like user-initiated video calling

## Hytera PoC Devices

- Nationwide Coverage with 4G/5G/LTE Networks
- Industry Leading Voice Quality with Digital Noise Suppression
- Supports Instant Group and Individual Calling
- Compact and Rugged Radios that are Easy to Use

GPS Location Tracking for the Web-based Dispatching App





PNC360S Compact PoC Radio

#### **INSTANT INDIVIDUAL AND GROUP CALLING**

• Supports instant individual (one-to-one) and group calls (one-to-many) with the press of a Push to Talk (PTT) button on a radio or from a dispatching application

#### **TEXT MESSAGING**

• Users can communicate with each other and dispatch with free-form or pre-programmed text messages

#### **SHARING IMAGES AND VIDEO CALLING**

 PoC devices with cameras can share pictures and initiate individual and group video calls with other PoC devices and Hytera Dispatch applications

#### **GPS LOCATION TRACKING**

- All Hytera PoC devices feature integrated GPS to enable location tracking with Hytera Dispatch applications
- Enables tracking of driver locations and travel routes with time stamps and geofence boundaries

#### **SAFETY FEATURES**

- Emergency buttons on PoC devices enable sending and receiving Emergency Alarms for enhanced worker safety
- Dispatcher can remotely monitor audio and video during emergency situations
- Dispatch can stun (disable) and revive (turn on) remote radios that are lost or stolen, or used maliciously

#### SECURITY AND PRIVACY

• Optional ARC4 and AES 128/256 encryption provides secure and private end-to-end calling

#### **CALL LOGGING AND RECORDING**

- Supports recording group calls as .wav files on the devices
- Capture call content and playback on PC to monitor performance, compliance and legal protection requirements, and enhance customer service

#### ANDROID OPERATING SYSTEM

Hytera PoC devices are powered by the Android platform







**PNC550 PoC Smart Device** 



**PNC560** Smart Device with Scanner

## HORIZON

HORIZON is a subscription-based Push-to-Talk Over Cellular (PoC) service that provides instant individual and group calling over the most advanced and reliable cloud-based communications network.

HORIZON utilizes the 4G/5G/LTE cellular infrastructure of Mobile Network Operators and Wi-Fi networks to access the cloud-based PoC servers.

4G/5G/LTE cellular networks enable unlimited coverage area so radio users are untethered by the range of repeaters and base stations used in traditional radio networks.

HORIZON supports all of the rugged and feature-rich Hytera PoC devices and includes HORIZON Dispatch, a web-based dispatching application that enables centralized group calling and GPS location tracking.

HORIZON is a simple and cost-effective communications solution for small and medium sized businesses, and is scalable to large enterprises with thousands of users.

## **PoC Subscription Service**

The Most Reliable PoC System Available: The most dependable PoC services available through high-capacity cloud servers with geographically diverse hot-standby redundancy for the highest level of service availability.

**Instant Group Communication:** Nationwide group voice and video calling enables swift decision-making and response times.

**Efficient Collaboration:** Enhance teamwork and collaboration by providing a seamless platform for real-time communication among remote and dispersed teams.

**Increased Productivity:** Boost productivity with instant voice and video communication, share images and videos, and run Android business apps.

**Cost-Efficiency:** Reduce communication costs significantly compared to traditional smart phones and calling plans, leading to substantial savings for businesses and individuals.

**Scalable:** Easily add a limitless number of radios. and HORIZON is the only PoC system designed for the large enterprise with complete customer operational control.

## Hytera BRIDGE PoC System Interconnect Solution

Hytera BRIDGE is a compact hardware system configuration that provides a reliable, and cost-effective Radio over IP (RoIP) gateway between Hytera Push-to-Talk over Cellular (PoC) radios and a variety of DMR and analog radio systems.

- Enables group radio connectivity between Hytera PoC radios and analog radios, Tier II and Tier III DMR systems, or Hytera XPT systems.
- Preserves investments in DMR radio systems by providing a cost-effective method to add Hytera PoC radios with nationwide range to an existing DMR system.
- Hytera Bridge can also provide connectivity between two remote DMR radio systems over a PoC Broadband connection.

#### **Hytera BRIDGE DMR/PoC Gateway Application**



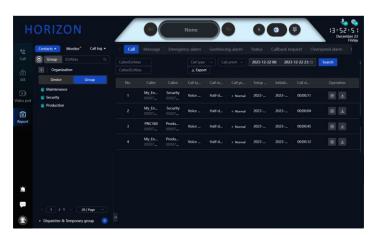
## **HORIZON Dispatch Application**

HORIZON Dispatch is a web-based dispatching and location tracking application that runs on a standard Chrome web browser and supports an unlimited number of simultaneous users with separate dispatcher accounts. There is no need to install and upgrade client software and key dongles, simply sign into the application. The dispatch application supports instant group voice and video calling, texting, sharing images and audio recordings. Worker safety features include sending and receiving emergency alarms, and the dispatcher can activate remote ambient monitoring of audio and video during emergency situations. Dispatchers can also remotely stun (temporarily disable) and revive (turn on) or kill (permanently disable) remote radios that are lost, stolen, or used maliciously. HORIZON dispatch supports a customizable login screen, logo, and app icon to provide a unique, branded look and feel for the app.



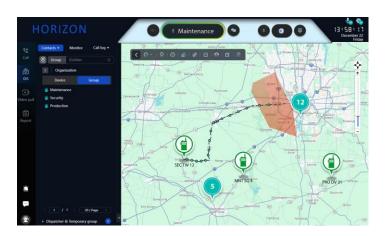
#### **GROUP AND INDIVIDUAL CALLING**

- HORIZON Dispatch leverages 4G/5G/LTE and Wi-Fi networks to provide secure and instant nationwide radio communications
- Instant nationwide group voice and video calling with a customized calling area where the dispatcher can create commonly used groups for dispatch operations
- Quickly and easily put individuals into a special impromptu call group when needed
- Supports full-duplex calls where users can speak any at any time, like on a cell phone



#### **CALL RECORD STORAGE AND REPORTING OPTIONS**

- Instantly review, play, search, and export logs for calls, messages, emergency alarms, geofencing alarms, and overspeed alarms
- Export reports to create tables, statistics, and graphs for private and group voice and video call counts



#### MAP WITH GPS FLEET LOCATION TRACKING

- Enables tracking of driver locations and travel routes with finely selectable time stamp rates
- See real-time GPS tracks and play back historical routes
- Speed and direction with customizable speeding alarm
- Configurable default map zoom level
- Define a virtual geographic boundary based GPS location tracking and receive alarms when workers enter or leave geofence areas



#### **REAL-TIME VIDEO AND MULTIMEDIA**

- View video directly from a camera-enabled PoC device, receive or initiate video calls, share video clips or multimedia messages with users and other dispatchers
- Supports wide-area video conferencing for convenient meetings with workers in the field for solving problems
- Dispatcher can share texts, images, and videos and pictures

## MNC360 PoC Mobile Radio





The Hytera MNC360 PoC mobile radios are professional-grade PoC devices that provide clear nationwide push-to-talk communication, instant group calling, and built in GPS for fleet tracking and dispatching with the HORIZON Dispatch application. Unlike cell-phones, tablets, and handheld devices, the MNC360 is a legal and DOT compliant device for safe communications while driving.

#### **RELIABLE NATIONWIDE COVERAGE**

- Cellular SIM card enables mobile network access for nationwide coverage with cellular LTE connectivity
- Dual LTE paddle antennas improve RX sensitivity by 3dB for excellent reception in weak signal areas

#### **INDUSTRY LEADING AUDIO QUALITY**

- Al-Based digital noise cancellation technology
- · Distortion and howling suppression
- Exclusive patented acoustic speaker cavity and forward facing 4 Watt high-volume speaker
- · Delivers excellent voice quality in loud environments

#### **GPS POSITIONING**

 Highly accurate external GPS antenna enables speed monitoring and real-time location tracking with breadcrumbs and geofencing with the Hytera Dispatch applications

#### **COMPACT AND EASY TO INSTALL**

- Weighing only 10.6 ounces, the MNC360 is compact and narrow for flexible installations
- Rotating mounting bracket for attaching the MNC360 on top of the dashboard or on a vertical surface in the vehicle
- Highly-sensitive, dual LTE antennas reduce the need to install an external antenna (depending on where the MNC360 is installed inside the vehicle)

#### **DESIGNED FOR SAFETY**

- Eyes stay on the road with raised tactile buttons, piano style keys, and lightweight handheld microphone for safe and simple pushto-call operation
- Emergency call button enables instant one-touch emergency calls to dispatcher and other PoC devices
- Speeding and driver fatigue notifications

#### **CLEAR AND BRIGHT DISPLAY**

• The LCD display screen is easily visible even in bright sunlight

#### **FLEXIBLE INTEGRATION**

 With the standard API and SDK, the MNC360 communications capabilities can be integrated into mobile fleet management and telematics applications

#### **RICH WITH ACCESSORIES**

- 3.5mm audio jack for wired earpiece accessories
- Micro USB 2.0 port for connecting and powering a variety of external devices
- Built-in Bluetooth for hands-free microphones and other wireless accessories
- 2-pin port for an external loudspeaker
- See page 13 for MNC360 Accessories



## Hytera Handheld PoC Devices

#### **NATIONWIDE COVERAGE**

 National workforce communication with mobile 4G/5G/LTE cellular. network connectivity using SIM cards

#### **BUILT-IN WI-FI**

• Built-in Wi-Fi supports in-building communications with seamless switching to cellular LTE networks when outside Wi-Fi range

#### **GROUP CALLING**

• Supports one-to-one individual calls, and group calls, and broadcast calls to all users for efficient communication

#### **GPS POSITIONING**

• GPS enables real-time tracking and positioning for the Hytera HALO Dispatch application

#### **HIGH-QUALITY AUDIO**

• Al-based digital noise suppression that learns human voice and extracts it from background noise in real time, and high-volume speakers for excellent voice quality in loud environments

#### **BUILT-IN BLUETOOTH**

• Built-in Bluetooth enables connectivity to earpieces, handheld Push-to-Talk microphones, and other wireless accessories

#### **RELIABLE AND DURABLE**

- Compliant with MIL-STD-810-H for shock and vibration
- IP67 or IP68 rated for water submersion and dust resistance

#### **LONG-LIFE BATTERY**

- Powerful Lithium Polymer battery delivers several days of operation on a single charge.
- Over 24 hours operation (over 40 hours with PNC360S)

#### **TEXT MESSAGING**

 Receive and view text messages sent from the Hytera dispatch app and other Hytera PoC devices

#### **STUN AND REVIVE**

• Dispatcher can remotely stun (disable) or revive (return to service) if the radio is lost or stolen

#### **SAFETY FEATURES**

- Emergency Alarms can be sent to other radios via the one touch programmable button
- Improves worker safety and emergency response time







PNC360S



**PNC550** 



**PNC560** 

Wireless	LTE (FDD-LTE, TDD-LTE, WCDMA, GSM) and Wi-Fi (2.4GHz 802.11) connectivity			+ 5GHz Wi-Fi	
Standard Features	GPS, Bluetooth, Al-Based Digital Noise Cancellation, High-Power Speakers, Android Operating System, Long Life Batteries				
Keypad	Full Keypad	Partial Keypad	Touch Screen	Touch Screen	
Display	2.0" 320 × 240 TFT	1.75" 160 x 128 TFT LCD	5" Gorilla Glass 1280 x 720 WVGA	6.3" Gorilla Glass, FHD+	
Camera	8MP Rear Facing Camera	None	13MP Front Facing Camera, 8MP Rear Facing Camera	8 MP Front Wide-Angle Camera, 8 MP and 48 MP Rear Cameras	
Compliance	MIL-STD-810 G, IP67, ESD IEC 61000-4-2, -4F to +140F Operating Temp.	MIL-STD-810 H, IP67, ESD IEC 61000-4-2,	MIL-STD-810 G, IP68, ESD IEC 61000-4-2, -4 to +140F Operating Temp.	MIL-STD-810 G, IP68, ESD IEC 61000-4-2, -4 to +140F Operating Temp.	
Texting	Receive and send text messages	Receive texts and send preprogrammed messages	Receive and send text messages	Receive and send text messages	
Safety	Emergency button, Dispatcher Stun and Revive, Flashlight	Emergency (programmable) button, Dispatcher Stun and Revive	Emergency button, Dispatcher Stun and Revive, Flashlight	Dispatcher Stun and Revive, Flashlight	
Battery	4,000mAh Li-ion Polymer, ≥24 hours	4,000mAh Li-ion Polymer, ≥45 hours	4,000mAh Li-ion Polymer, ≥24 hours	5,040mAh Li-Ion Polymer, ≥24 hours	
Network SIM	Nano-SIM (8.8mm x 12.3mm)	Nano-SIM (8.8mm x 12.3mm)	2x Nano-SIM, 1x Micro SD	2x Nano-SIM, 1x Micro SD	
Ports	USB Type C Charging port, 3.5mm Audio	Micro USB 2.0, 3.5mm Audio, Dock Charger interface, Car Kit interface	USB 2.0 Type Q Charger Interface, 3.5mm Audio	USB Type-C Charging port, QC3.0 Fast Charging, 3.5mm Audio	
Memory	1GB RAM, 8GB ROM, Micro SD/TF card, Expandable up to 32GB	1GB RAM, 8GB ROM	3GB RAM, 32GB ROM, Expandable up to 64GB	4GB RAM, up to 64GB ROM, Expandable up to 128GB, Micro SD card	

### PNC380S PoC Radio







The Hytera PNC380S PoC device is a feature-rich, and easy-to-operate handheld PoC radio designed for reliable business communications. Like all Hytera PoC devices, the PNC380S supports cellular LTE and Wi-Fi network connectivity, and features AI-based digital noise suppression, built in Bluetooth for wireless accessories, and GPS location tracking for use with the HORIZON Dispatch application. The PNC380S is rugged built to the IP67 standard for water and dust resistance, and the MIL-STD 810G for impact and vibration. It features a powerful 4000mAh Lithium-Ion Polymer battery that delivers up to 24 hours of operation.

#### **CERTIFIED NATIONWIDE COVERAGE**

- PTCRB Certified
- AT&T and T-Mobile approved device fully tested by for reliable nationwide connectivity

#### **HIGH-DEFINITION CAMERA**

• Equipped with a rear-facing 8 megapixel rear camera, the PNC380S enables user-initiated video calls and sending high-resolution pictures to the Hytera HALO Dispatch application and other PoC devices

#### **ERGONOMIC DESIGN**

- Compact and ergonomic design with easy-access buttons enables comfortable one-hand operation
- Reversible belt clip for carrying with screen facing in or out

#### **TFT LCD DISPLAY**

- Display provides high-resolution visibility even in bright daylight
- Easy-to-use menu system with clean and simple navigation

#### **CAR KIT**

- Dash-mount car kit available for safe in-vehicle calling (see page 12)
- · Features optional external speaker, palm microphone, visor microphone, and both wired and Bluetooth Push-to-Talk buttons

#### **TEXT MESSAGING**

- Send, receive, and view text messages between dispatcher and other Hytera PoC devices
- · Also supports sending recorded audio messages

#### **SAFETY FEATURES**

· Built-in LED flashlight

- One-touch Emergency button enables emergency calls to dispatcher and sending alarms to other radios
- Dispatcher can remotely stun (disable) or revive (return to service) if the radio is lost or stolen



## **PNC360S Compact PoC Radio**





The Hytera PNC360S PoC device is a compact and easy-to-operate handheld PoC radio that is surprisingly feature rich for the price. Like all Hytera PoC devices, the PNC360S supports cellular LTE and Wi-Fi network connectivity, and features Al-based digital noise suppression, built in Bluetooth for wireless accessories, and GPS location tracking for use with the HORIZON Dispatch application. The PNC360S is rugged built to the IP67 standard for water and dust resistance, and the MIL-STD 810H for impact and vibration. It features a powerful and fast charging 4000mAh Lithium-Ion Polymer battery that delivers over 40 hours of operation on a single charge.

#### **HIGH-QUALITY AUDIO**

- Digital noise suppression and high-volume speakers for excellent voice quality in loud environments
- Adjustable microphone gain sensitivity feature allows users to adjust the radio settings so that they don't have to speak directly into the microphone, for example, when the radio is being worn on a vest like a remote speaker microphone

#### **TFT LCD DISPLAY**

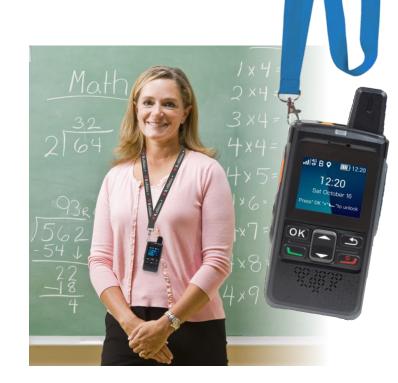
- The TFT LCD display provides high-resolution visibility even under bright daylight
- Supports an easy-to-use GUI menu system with clean and simple navigation

#### **TEXT MESSAGING**

 Receive and view text messages sent from dispatcher and other Hytera PoC devices

#### **EMERGENCY AND SAFETY FEATURES**

- Emergency Alarms can be sent to other radios via the one touch programmable button
- Safety Alert function provides alerts to the user using a pre-recorded voice message sent at predefined time intervals to remind remote users to check in or that a regular task is due
- Dispatcher can remotely stun (disable) or revive (return to service) if the radio is lost or stolen
- Improves worker safety and emergency response time



## PNC560 PoC Smart Device with Scanner



The PNC560 is unified PoC communications device, a mobile Android computer, and scanner for all-in-one ease of use in warehouse, delivery, inventory, and medical applications. Like all Hytera PoC devices, the PNC560 supports cellular LTE and Wi-Fi network connectivity, and features Al-based digital noise suppression, built in Bluetooth, and GPS location tracking for use with the HORIZON Dispatch application. The PNC560 is rugged built to the IP68 standard for water and dust resistance, and the MIL-STD 810G for impact and vibration. It features a powerful and fast charging 5040mAh Lithium-Ion Polymer battery that delivers over 24 hours of operation on a single charge.

#### **BUILT-IN SCANNER**

- The PNC560 features an integrated infra-red scanner head that reads 1D and 2D barcodes in milliseconds from up to two feet away
- Supports a variety of Andriod-based inventory and logistics applications, and an API is available for custom app development





#### **RUNS ANDROID APPS**

• Unified communications device that runs Android 12 business apps

#### **6.3 INCH TOUCHSCREEN DISPLAY**

• Large screen displays more information for multiple operations

#### **THREE HIGH-DEFINITION CAMERAS**

- The PNC560 features three separate high resolution cameras, including an 8MP screen-facing, wide-angle camera, and 8MP telephoto and 48MP wide-angle rear-facing lenses
- Low-light photography and lens stabilization algorithm to reduce motion blurring
- Enables user-initiated video calls and sharing high-resolution images with Hytera Dispatch applications and other PoC devices
- Reads QR codes and supports QR applications

#### **DUAL SIM**

• Dual SIM cards provide flexibility for two network data plans

#### **SECURITY PROTECTION**

- The PNC560 features fingerprint unlock integrated with side power button and biometric face authentication unlock.
- Android secure boot, file-based encryption and safebox file storage

## **PNC550 PoC Smart Device**



The Hytera PNC550 is a Push-to-Talk over Cellular (PoC) radio and handheld smart device designed for nationwide business operations and remote workforce communications. The PNC550 combines the advantages of a compact mobile computer with the instant Push-to-Talk group calling of a professional PoC device. It supports Android business apps to provide unified communications in a single device. Like all Hytera PoC devices, the PNC550 features Al-based digital noise suppression, built in Bluetooth, and GPS location tracking for use with the HORIZON Dispatch application. The PNC550 is rugged built to the IP68 standard for water and dust resistance, and the MIL-STD 810G for impact and vibration. It features a powerful and fast charging 4000mAh Lithium-Ion Polymer battery that delivers over 24 hours of operation on a single charge.

#### **HIGH-DEFINITION CAMERA**

- Features a 13 megapixel rear camera with flash and an 8 megapixel front camera
- Enables user-initiated video calls and sharing high-resolution images with Hytera Dispatch applications and other PoC devices

#### **ERGONOMIC DESIGN**

• Lightweight and ergonomic design with easy-access buttons enables comfortable one-hand operation

#### **5 INCH GORILLA GLASS DISPLAY**

- 5-inch, multi-touch Gorilla Glass display with 1280×720 WVGA resolution
- Supports wet touch and glove touch operation

#### **ANDROID OPERATING SYSTEM**

• Supports popular Android business apps for unified operations and communications



## Hytera PoC Handheld Device Accessories



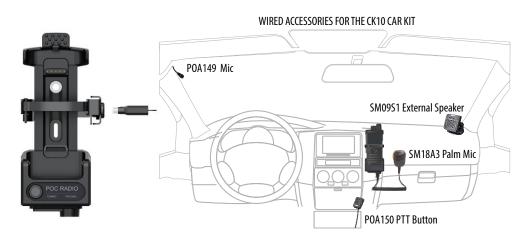
<sup>\*</sup>Dual Pocket chargers have charging slots for both a radio and a battery. \*\*The PNC560 carrying case is available with a handheld strap (POA207), a surface mounting bracket (BRK37), and a belt clip (BCR37 for the POS207)

## Hytera PoC Mobile Device Accessories



## Optional CK10 CAR KIT for the PNC380S PoC Radio

The CK10 CAR KIT is a rugged vehicle mounting assembly that enables the PNC380S to be installed on a vehicle dashboard and comply with DOT requirements. The Car Kit allows the PNC380S to be easily removed for handheld job-site communications. The Car Kit includes a locking bracket, an on/off power button, and ports for external speakers, microphones, and push-to-talk buttons. The CAR KIT also functions as a docking charger for the PNC380S.



## Hytera PoC Protection Plan

The optional Hytera PoC Protection Plan covers repairs for one accidental damage instance within two years of purchase. Must be purchased at the time of initial purchase of the PoC device.



# HORIZON



Push-to-Talk over Cellular and Wi-Fi **Devices, Services, and Systems** 



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**Learn more about Hytera PoC Solutions** 

Visit www.hytera.us/push-to-talk-over-cellular