MOTOROLA SOLUTIONS

ASTRO® 25

INTEGRATED VOICE AND DATA

Glossary

System Release AN2024.HS, AN2024.1, 2022.HS, 2022.1, 2021.1, 2020.HS, 2020.1, 2019.x, 7.18

MARCH 2025

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Document History

Version	Description	Date
MN005956A01-A	Original release of the ASTRO ® 25 *Glossary*. Applies to system releases A7.18, A2019.1 and A2019.2.	September 2019
MN005956A01-B01	Revised for system release A2020.1.	June 2020
MN005956A01-C	Revised for system release A2020.HS.	August 2020
MN005956A01-D	Revised for system release A2021.1.	December 2020
MN005956A01-E	New definitions: ● Analog 4-Wire Conventional ● Analog IP Conventional ● Centralized Conventional Sites ● Conventional Subsystem ● Digital Conventional ● Digital IP Conventional ● MCG 8000 ● MDC1200 ● MDC1200 Conventional ● MDC1200 IP Conventional	October 2021
MN005956A01-F	Updated definition: ● Conventional Site Controller	May 2022
MN005956A01-G	Revised for the 2022.HS and 2022.1 system releases.	September 2022
MN005956A01-H	New definition: ● MC-EDGE Updated definition: ● SDM3000 Removed definitions: ● Centralized UEM Mode ● MOSCAD Remote Terminal Unit	June 2023
MN005956A01-J	New definition: ● AXS Dispatch Console Updated definitions: ● ASTRO Control Interface Module ● Console Applications Processor ● Console Dispatch Status	September 2023

Version	Description	Date
	• Console Subsystem • Conventional Site Controller • Core Console Site • External Paging Encoder Port • Function Tone • General Purpose Input/Output Module • Integrated Paging • MC-EDGE • MKM 7000 Console Alias Manager • Remote Console Site • Supervisor Takeover • Zone Database Server	
MN005956A01-K	Revised for the AN2024.HS and AN2024.1 system releases.	September 2024
MN005956A01-L	Updated definition: • Channel Cluster	March 2025

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Contents

Glossary

10/100Base-T An Ethernet standard that connects devices directly to an Ethernet switch/hub. Maximum transfer rate is 10 or 100 Mbps.

Abacus IC A custom integrated circuit providing a digital receiver Intermediate Frequency (IF) backend.

Access Code Index (ACI) A digital code that is part of the Network Access Code (NAC). The ACI ensures that a radio communicates with the proper site and not one of its co-channel neighbors.

Acoustic Crossmute A feature that guards against undesirable effects resulting from the acoustic feedback due to physical console proximity.

Active Directory (AD) A service that stores information about networks and domains used on Microsoft Windows computers. Active Directory provides information on objects, organizes them for easy retrieval and access, allows users and administrators to access them, and allows the administrator to set up security for the directory.

Active Site Controller A site controller that has control of the external interfaces shared by redundant site controllers. Also referred to as being in the “Active” state or “Online.”

Address Resolution Protocol (ARP) A protocol that defines the rules for mapping an IP address to a physical machine address that is recognized in the local network.

Adjacent Control Channel (ACC) A channel that allows radios to learn about the control channel frequencies, availability status, and service capabilities of nearby sites.

Adjacent Status Broadcasts (ASBs) Information sent over the Control Channel (CC) about the existence and status of adjacent sites. Information within the ASBs includes site status, site capability information (system service class), and active CC frequency information.

Advanced Digital Privacy (ADP) A proprietary Motorola Solutions encryption/decryption algorithm.

Advanced System Key (ASK) A feature that prevents unauthorized radio programming and protects certain programming fields or limits the range of programming fields in Customer Programming Software (CPS).

Affiliation A process that identifies a radio's location and talkgroup affiliation to the system as the radio moves through the coverage area. The radio sends its talkgroup information to the Zone Controller (ZC). The radio registers to a site, sending talkgroup information to the ZC, and affiliates with a talkgroup.

Affiliation Display A network management application that monitors how radio users travel between different sites in a zone and how they communicate with other members of their assigned talkgroup. This software also monitors how radio users communicate with members outside of their talkgroup within a particular zone. This application is part of the Private Radio Network Management (PRNM) Suite.

Agency Group A top-level (root) Security Group for all other Security Groups that exist within an Agency.

Agent A network-management software application that resides in a managed device. An agent has local knowledge of management information and translates that information into a form compatible with Simple Network Management Protocol (SNMP). The application collects network and terminal information for devices specified in the Management Information Base (MIB).

Air Traffic Information Access (ATIA) Data packets that contain talkgroup and site affiliation and deaffiliation information for each radio user in a particular zone. The Air Traffic Router (ATR) collects this radio traffic information from the Zone Controller (ZC) and broadcasts an information stream of these packets on the network.

Air Traffic Router (ATR) A server that receives air traffic information from the Zone Controller,

creates Air Traffic Information Access (ATIA) packets, and broadcasts them as the ATIA stream on the network. Various clients listen to this stream to perform their functions.

Algorithm Identifier The name of the encryption algorithm used to encrypt the received information. For example, DES is an algorithm identifier.

Abbreviation: ALGID

AllStart A talkgroup setting that controls how a call grant is handled. AllStart requires that all affiliated talkgroup members, consoles, Archiving Interface Server (AIS), critical sites, and other required resources are available for a requested call before the call can begin. If some of the affiliated resources are not available, the system returns a busy signal to the initiating radio.

American Standard Code for Information Interchange (ASCII) The American Standard Code for Information Interchange is a character-encoding scheme originally based on the English alphabet that encodes 128 specified characters - the numbers 0-9, the letters a-z and A-Z, some basic punctuation symbols, some control codes that originated with Teletype machines, and a blank space - into the 7-bit binary integers.

Analog 4-Wire Conventional An operational mode for radio resources (such as base stations) attached to the ASTRO system by using a circuit based interface to the ASTRO radio network infrastructure. The interface of the Analog Conventional Channel (circuit-based, typically 4-Wire E&M) is located at a Conventional Channel Gateway (conventional channel interface).

Synonym: Analog Conventional Channel

Analog IP Conventional An operational mode for radio resources (such as base stations) attached to the ASTRO system. In Analog IP Conventional, an IP based protocol is used for voice and signaling in communication between base stations and a Conventional Channel Gateway.

Synonym: Analog IP Conventional Channel

Anchor Zone The zone in which the telephone interconnect device is connected to the Public Switched Telephone Network (PSTN) for the duration of a telephone interconnect call.

Announcement Group (AG) A special group that is used to address a number of normal groups associated to the announcement group.

Answer Supervision The functionality for a Private Branch Exchange (PBX) to be signaled the exact moment when the called party has answered. Used mainly for billing purposes.

Answer Threshold A timer that is used for determining when a call is considered to be active (in the conversation state). Answer threshold is used when answer supervision is not available.

APCO Project 25 (P25) A suite of digital radio communication standards that brings together representatives of federal, state and local government agencies, created by the Association of Public Safety Communications Officials (APCO). These agencies and other user organizations evaluate basic technologies in advanced land mobile radio to find solutions that best serve the needs of the public safety marketplace.

Abbreviation: Project 25

Application Programming Interface (API) An interface implemented by a software program that enables it to interact with other software.

Archiving Interface Server (AIS) A server that serves audio and related information to third-party call logging hardware for audio archiving at a MCC 7500 Dispatch Console site. The AIS comprises of an application platform with the appropriate additional elements: hardware (voice cards) and AIS application software. The AIS acts as an intermediary between the third-party audio logging solution and the trunking system, hiding the proprietary interfaces from the third-party audio logging solution.

Association of Public Safety Communication Officials (APCO) An organization that is dedicated to the professional development, implementation and operation of law enforcement, fire/rescue, EMS, 911, and other emergency response communications systems.

ASTRO® 25 A Motorola Solutions standard for wireless digital trunked communications.

ASTRO® 25 Outdoor Location Solution A service that provides location data for both persons

(using portables) and vehicles (using mobiles) over both the ASTRO® 25 Trunking or Conventional IV&D and Enhanced Data systems using VHF band, UHF range 1, UHF range 2, 800 MHz, and 700 MHz and over the HPD System.

ASTRO® 25 Advanced Messaging Solution (AMS) A solution that enables sending and receiving messages and running database queries directly from data-enabled ASTRO two-way radios.

ASTRO Control Interface Module (ACIM) A feature that adds the serial control protocol to the GGM 8000 to allow exchanging control information between a dispatch console and a consolette.

ASTRO conventional A standard for wireless analog or digital conventional communications.

Audio Bridge A bi-directional analog amplifier that allows audio to pass between both types of dispatch consoles and the base station.

Audio Patch (AP) A patch is a generic term that allows one console to tie two or more resources together to share audio transmissions. An audio patch in a trunked system has multiple groups assigned and patched together at the audio plane level.

Audio Throughput Delay An audio delay that is measured from a syllable spoken into a microphone of a user interface to the unmuting of that syllable at a speaker of another user interface for an unencrypted call. Transmission delay times are based upon the conditions that a channel and a console resource are available for the call, no other calls are in queue, and adequate bandwidth is available on all links in the system.

Authentication Center (AuC) A proprietary software application related to the Radio Authentication feature that includes a key management function for authentication in the system and stores the Authentication Keys (K) for all the radios in the system in the database. The AuC includes a client, server, and database.

Authentication Center Client A computer used to support the radio authentication feature.

Abbreviation: AuC Client

Authentication Center Server A server used to support the radio authentication feature.

Abbreviation: AuC Server

Authentication Infrastructure Key (Ki) A key that is used to encrypt the Key Encryption Keys (KEKm) that are delivered to entities over the system infrastructure. The Authentication Centre (AuC) Server is responsible for generating a unique Ki for the Zone Controller (ZC).

Authentication Key (K) A secret key that is used to validate a radio's ability to operate on the radio system.

Auto Attendant (AA) A service that plays an appropriate voice announcement when a call is received on a non-Direct Inbound Dialing (DID) interface as part of the telephone interconnect feature.

Auto-KLK A configurable parameter which turns Key Loss Key Rekeying feature on and off system-wide, as well as per unit.

Automatic Frequency Control (AFC) An electronic mechanism that maintains the transmitter frequency over time and temperature within a specific tolerance.

Automatic Power Control (APC) An electronic mechanism that controls the RF transmitter power of a subscriber relative to the distance between the subscriber and the fixed receiving site. As the subscriber gets closer to the site, the transmitter power reduces.

Automatic Registration Service (ARS) A protocol that resides in the Customer Enterprise Network (CEN) used by Intelligent Middleware (IMW) between data-enabled ASTRO subscriber units and the Presence server.

Automatic Retry Request (ARQ) A feature used to retry corrupted data packets.

Automatic Route Selection (ARS) A private branch exchange (PBX) feature that allows a system to route a telephone call over the most appropriate carrier and service offering based on factors such as the type of call (for example, local, local long

distance), the user's class of service (CoS), the time of day, and the day of the week.

Automatic Vehicle Location System (AVLS AVL) A system that allows to display the location of vehicles equipped with GPS units on workstations equipped with map displays.

Automation Library A tool in the VMware® Smart Assurance™ Network Configuration Manager that stores system tests, standards, policies, saved commands, templates, and folders used for configuring network devices.

Autonomous Access (AA) A type of access that occurs when a Packet Data Channel (PDCH) is already set up at a specific site controller and the system automatically grants the subscriber unit access to the PDCH. Also, used for Automated Attendant, which allows land-to-mobile calls to be handled without the use of a human attendant position. It is a type of voice announcement used with the Enhanced Telephone Interconnect (ETI) feature.

Auxiliary Input/Outputs A function that allows the organization to control external devices through relay closures and to determine the state of external devices through input buffers from the dispatch console.

Abbreviation: Aux I/O

Auxiliary Pair An element available in the Elite Dispatch application and configurable in the Elite Admin application that is two momentary Auxios of different types that are bonded. Auxiliary Pair is a convenient way of controlling the current state of a device or a feature and the state of an action triggered for this device or feature by a dispatch operator.

Availability Number A parameter that is set in the Multisite Subsystem Remote Site object, which is used to specify the percentage of traffic channels required to malfunction before the subsystem ignores a subsite.

AXS Dispatch Console A software-based dispatch console that requires no external hardware connections to perform dispatch operations. The AXS Dispatch Console can be located inside the ASTRO® 25 Radio Network Infrastructure (RNI) at a console site or conventional subsystem. AXS Dispatch Console is supported in 2022.HS, 2022.1, 2021.1, 2020.HS, and 2020.1 system releases.

Backhaul Links Network links outside the boundaries of the ASTRO® network used to transport radio network traffic. They are typically leased from network providers.

Backup and Recovery Server A device that provides centralized backup and restore (BAR) services to return the devices to an operational state.

Abbreviation: BAR Server

Backup and Restore (BAR) A service that backs up data in case of a loss and sets up systems that allow data recovery when a data loss occurs.

Backup Preparation The first part of a backup process for Network Management (NM) server applications. The second part of the process is transferring the data to the Backup and Restore (BAR) service.

Backward Compatibility A feature that makes it possible to use features available in releases previous to the release in which the product was introduced.

Bandwidth Provisioning Supplying the initial system with adequate bandwidth required to provide an efficient transport for system services, such as voice calls, data service, and network management.

Base Station (BS) A fixed radio frequency transceiver that is used in wireless voice and data communications.

Synonym: Base Radio, Repeater

Base Station Identification (BSI) The assigned station identification callsign issued for the system by the local licensing authority. In the U.S., this is the Federal Communications Commission (FCC) for non-federal government customers, and the National Telecommunications and Information Administration (NTIA) for government customers.

Base Station Identifier (BSI) An automatic, recurring transmitted signal from fixed stations that indicates the identity of the base station or system. This identity can then be traced back to the licensee.

Base Transceiver Subsystem (BTS) A Base Station that serves as the radio frequency (RF) interface between the radios and the system infrastructure.

Broadcast Control Channel (BCCH) A channel transmitted by the Base Transceiver Subsystem (BTS) at all times, that contains cell information. It is monitored by radios, which can use its power to measure signal strength.

Broadcast Data Messaging A broadcast data messaging service that follows a slightly different trigger for context activating broadcast data registrations. At system start-up, the Packet Data Gateway (PDG) completes context activation for each broadcast ID configured into it after having verified connectivity to the Gateway GPRS Support Node (GGSN).

Bulk Download A feature of the network management system where the Provisioning Manager (PM) builds the configuration files and sends the files to the Unified Network Configurator (UNC). The PM identifies the target devices for each file. When the UNC receives the file, it manages the download of the files to the Zone Controller (ZC). The ZC receives this bulk download of configuration data, subscriber data, and Home Zone mapping updates from the UNC. The zone controller uses this information to populate its Group Home Location Register (GHLR) and Individual Home Location Register (IHLR). This is a method of performing a Full Configuration Distribution (Force Initialize Configuration) or Configuration Change Distribution (Delta Configuration Distribution).

CAI Data Encryption Module (CDEM) An optional component that provides secure data encryption and decryption services for the ASTRO® 25 Conventional with Integrated Data feature. The CDEM is located in the Radio Network Infrastructure (RNI) and connects to the Radio Network Gateway (RNG) component of the Packet Data Gateway (PDG) virtual machine through an Ethernet crossover cable.

Call Congestion A measurement defined as the ratio of calls lost to the total number of calls attempted.

Cancel Lock A Radio Control Manager (RCM) radio command that cancels the last Selector Lock command for a selected radio, unlocking the radio's selector.

Cancel Regroup A Radio Control Manager (RCM) radio command that cancels the last Regroup command for selected radios and removes the radios from the regrouped talkgroup, allowing the radios to return to their original talkgroups.

Cancel Regroup and Lock A Radio Control Manager (RCM) radio command that allows an RCM user to send a Cancel Regroup command and then a Cancel Lock command for all selected radios.

Carrier Noise Level The noise level resulting from undesired variations of a carrier in the absence of any intended modulation.

Carrier Operated Relay (COR) An output from the station indicating it is receiving carrier. Also known as the base station's M-Lead.

Carrier Squelch A feature that responds to the presence of an RF carrier by opening or unmuting (turning on) a receiver's audio circuit. A squelch circuit silences the radio when no signal is being received, suppressing the channel noise.

Central Index A searchable repository that contains historical information about people, property, entities, and contacts in PremierOne Records.

Centralized Authentication (CA) A feature that provides one control point for identification, authentication, and authorization services. It also addresses identity management within the ASTRO® 25 network through a centralized user credentials database.

Centralized Conventional Sites Conventional sites that are not part of the distributed conventional subsystem architecture (conventional only sites, dispatch sites, repeater sites, simulcast prime sites, simulcast subsite sites).

Centralized Event Logging (CEL) An optional security feature available for ASTRO® 25 systems that captures Operating System (OS) events generated by most devices in the Radio Network in the form of event messages.

Synonym: syslog

Certificate Authority (CA) A network authority that issues and manages security credentials and public keys for message encryption. The Certificate Authority (CA) signs all digital certificates that it issues with its own private key. The corresponding public key is contained within the certificate and is called a CA certificate.

Channel A group of characteristics such as transmit/receive frequency pair, radio parameters, and potentially encryption encoding.

Channel Associated Signaling (CAS) A signaling method where each call has its own associated signaling channel.

Channel Bank The network infrastructure element that multiplexes channel data from a site or subsystem onto the T1/E1 line for transport. The channel bank allows the system to combine different types of equipment or subsites onto a common T1/E1 line for transport between sites.

Channel Cluster A group of devices that support the same simulcast or non-simulcast voting channel or channels. In the cluster, base radio ports on MLC 8000s at subsites can be associated with an MLC 8000 comparator, or with a GCM 8000 or GRV 8000 Comparator (for digital conventional IP-based channels).

Channel Marker A distinct, short-duration, audible tone heard over the mobile subscriber and console speakers that can be sent over a talkgroup or analog conventional channel. Its primary purpose is to inform radio/console users that the conventional channel or the trunked talkgroup is currently involved in a high priority situation.

Channel Rate The data rate at which information is transmitted through the channel, typically stated in bits per second (bps).

Channel Service Unit (CSU) A device used to terminate a DS-1 or DS-0 [56/64 kb/s] digital circuit. The CSU also performs line-conditioning, protection, loop-back, and timing functions.

Channel Spacing A frequency difference from the center of one channel to the center of the next adjacent channel that is typically measured in kilohertz.

Channelized E1 A link that supports the ability to have many different serial bit streams of different speeds. Each serial bit stream consists of one or multiple DS0s. The WAN Switch that supports Channelized E1 links is able to split the available physical 30 or 31 channels into groups and treat each group as a separate serial bit stream.

Channelized T1 A digital carrier modulation method in which each T1 link is divided into 24 channels, each having a maximum data speed of 64 Kbps and capable of supporting a unique application that can run concurrently with, but independently of, other applications on different channels.

Clear Calls Non-secure, non-encrypted calls. These calls are not protected from eavesdropping by unauthorized persons.

Co-Channel A channel that is on the same frequency as another channel.

COHub An IP PBX media gateway by NEC that contains the hardware and software to interface a digital Time-Division Multiplexing (TDM) circuit to a private network. This media gateway uses industry standard RJ48 connector. The COHub media gateway also uses a broadband Ethernet connection to communicate with ASTRO® 25 system.

Command Monitor A pane in the Radio Control Manager (RCM) main window that allows viewing the progress of all commands submitted to the system.

Common Access Channel (CACH) A part of the Common Air Interface (CAI) for a Time Division Multiple Access (TDMA) system.

Common Air Interface (CAI) An Association of Public Safety Communications Officials (APCO) standard governing the transmission of digital information. Used by Telecommunications Industry Association (TIA) Project 25 standards body to refer to standardized Over The Air (OTA) interface.

Common Key Encryption Key (CKEK) A key that is assigned to a group of units for encrypting keys within an Over-The-Air Rekeying (OTAR) command delivered using the group OTAR method. It is provisioned on the trunking system but only used for conventional OTAR channels.

Common Key Reference (CKR) A number that is used for all secure private calls in the radio system. This setting should correspond with CKR settings in the Key Management Facility (KMF). Subscribers must also be provisioned with this CKR.

Comparator A band-independent device that acts as a subsystem-wide signal collector, voter, and distributor. The comparator is designed for use in simulcast trunking systems that use a 9600 bps control channel. With multiple base stations operating on the same frequency, it is possible for field radios to simultaneously hit multiple sites when transmitting.

Compatible 4-level Frequency Modulation (C4FM) A digital modulation requiring a non-linear or constant envelope transmitter using Quadrature Phase Shift Keying-compatible (QPSK-C) modulation to work with a Compatible Frequency Discriminator Detection (CFDD) compatible receiver.

Compatible Frequency Discriminator Detection (CFDD) A receiver which uses Quadrature Phase Shift Keying-compatible (QPSK-C) modulation.

Compatible Quadrature Phase Shift Keying (CQPSK) An AM transmitter which uses Quadrature Phase Shift Keying-compatible (QPSK-C) modulation. Linear, compatible OTA with C4FM, basis of P25 Phase 2 6.25 FDMA.

Computer Aided Dispatch (CAD) A console feature that allows dynamic reconfiguration of the system by using a computer.

Computer Aided Dispatch Interface (CADI) An interface that enables the user to remotely manage a network through an Application Programming Interface (API).

Configuration/Service Software (CSS) An ASTRO® 25 system software application used to configure, maintain, and troubleshoot individual devices in a radio system, such as a simulcast site controller.

Console Dispatch Interface (CDI) An interface used for overall management and maintenance of the connections between a software application and the dispatch system.

Console Dispatch Status An application that is used in AXS and 7500E Dispatch Console to setup and point to proxy server connections for MCC 7100 and 7500E Dispatch Consoles deployed outside the ASTRO® 25 Radio Network Infrastructure (RNI). For the inside ASTRO® 25 RNI configurations, the Console Dispatch Status is only used for licensing and encryption.

Console Features API An interface that allows for the real-time monitoring and control of a dispatch communication system.

Console Site A collection of dispatch consoles that are networked from a common location.

Console Site Proxy A server that enables a connection between WAVE Tactical System and ASTRO Conventional System. The WAVE to ASTRO Conventional Console Site Proxy uses the LMR Multicast Proxy (LMP) to mimic a console site. The LMP has one interface on the ASTRO console site network, and the other interface connects to the WAVE Radio Gateway (WRG) by using the WAVE Tactical network.

Console Subsystem A collection of console sites for the AXS, MCC 7500E, and MCC 7500 VPM Dispatch Console subsystem that includes dispatch consoles, Archiving Interface Servers, mass storage units, playback devices, conventional servers, and ancillary equipment such as site gateways, etc.

Console Subsystem Interface (CSSI) The P25 standard for connecting dispatch console subsystems to a P25 RF subsystem through a wireline interface.

Console Subsystem Interface 8000 (CSSI 8000) An ASTRO® 25 feature that provides an enhanced interconnectivity solution for third-party consoles to interface with the ASTRO® 25 system.

Console Takeover A feature that enables a dispatch console to interrupt a subscriber audio source on a call, and take over as the current audio source for the talkgroup call.

Console Telephony Media Gateway An Integrated Services Router (ISR) router device for

the Cisco Private Branch Exchange (PBX) solution with embedded PBX software used with the MCC 7500 VPM Dispatch Console that provides an interface to the Public Switched Telephone Network (PSTN) for sending and receiving telephone calls with the dispatch console in an ASTRO® 25 system.

Console User A user of dispatch console or as a user of Archiving Interface Server (AIS), who attaches to the network through a dispatch console or AIS, and receives the relevant telecommunication service treatment, as specified for dispatch consoles or Archiving Interface Servers.

Constant Envelope (CE) A modulation which follows the sloping waveform, but does not require linear amplifiers. The bit rates are more limited than in the case os linear transmitters.

Context Activation A process by which data call registration and service activation is implemented by the ASTRO® 25 Integrated Voice and Data (IVD) communication system.

Context Deactivation A process when resource allocation timers, data service timers, or data service configuration parameters dictate that a data call is to be deactivated.

Control RP (CRP) A multicast Rendezvous Point (RP) that controls traffic.

Controlling Zone A zone that coordinates the resources for a call. For group calls, the designated Home Zone (HZ) of the group is always the Controlling Zone for the call, regardless of where the group members are affiliated. For individual calls, the controlling zone is the zone from which the voice service is being requested.

Conventional Call Counts A measure of the managed conventional audio traffic at the site. The counts indicate the maximum number of simultaneous conventional calls desired/expected at the site.

Conventional Channel Gateway (CCGW) A site gateway that enables trunked system users to incorporate analog conventional channels into their dispatch operations without the requirement for separate hardware networks or channel banks. The CCGW provides analog call detection, vocoding and devocoding of audio, station keying and dekeying through Tone Remote Control (TRC) or E&M relay, and tone LOBL (Line Operated Busy Light) detection (for parallel console interoperation).

Conventional Channel Group A Provisioning Manager (PM) parameter that groups a set of conventional channels within the system.

Conventional IP Comparator A device that supports the voting operation of IP conventional channels in the ASTRO® 25 system.

Conventional Site Controller A DSC 8000 Conventional Site Controller or a GCP 8000 site controller with conventional software, which provides a way for console and radio users at the Dispatch Console site to maintain communications over conventional resources local to that site when the console site is unable to maintain wide area operation.

Conventional Subsystem A distributed architecture that enables the creation of mesh networking between conventional hub locations. The purpose of the distributed conventional subsystem is to provide continuous conventional operations within local operational areas when the communication with the master site is lost.

> **Abbreviation:**CSub
> **Synonym:**Distributed Conventional Subsystem

Conventional Talkgroup A feature that provides a group separation of voice communications on Digital Conventional Channels and Digital IP Conventional Channels. Subscribers and console operators using the same talkgroup can communicate with each other, and users of other talkgroups do not hear them. When a transmission is made to a certain talkgroup, only users monitoring that talkgroup hear the transmission. Also, talkgroups provide for separation of emergency alarms. After a talkgroup is assigned to a conventional channel, it cannot be used on a different channel or be used for trunked operation.

Conventional Unit ID A Provisioning Manager (PM) parameter that uniquely identifies the physical console within a conventional channel group.

Cooperative WAN Routing (CWR) Hardware that allows pairs of core and exit routers to interface directly with site and interzone links through a simple, reliable, and passive relay panel.

Core Console Site A console site for the Dispatch Console subsystem, that is connected to the Master Site LAN. The configuration of the Console Site link type by a Network Management (NM) user determines whether the Console Site is a Remote Console Site or a Core Console Site.

Core Security Management Server (CSMS) A virtual machine that functions as a management entity for network security in the system. The CSMS manages the components in the Network Interface Barrier (NIB) and is equipped with anti-malware management software and, optionally, remote user authentication management software.

Coupled A relation between two dispatch consoles in which the audio is fed from the speaker of one (receiving) console to the microphone of another (transmitting) console. The acoustic feedback, when both consoles are involved in a call on the same resource, can have undesirable audio effects such as echoing at the receiving terminals (consoles/radios).

Custom Alert Tone A user-created alert tone with an audio file processing software application that can override the default alert tones provided by Motorola Solutions. The custom files must meet the required audio file specifications, file location, and naming conventions.

Customer Network Interface (CNI) A common access point between the ASTRO® 25 radio network and the Customer Enterprise Networks (CENs) at the physical and logical layers. The CNI design includes the physical LAN and/or WAN links that provide the connectivity, the routing and IP addressing involved, and the application interaction across the interfaces.

Cyclic Redundancy Check (CRC) A code that detects data transmission errors. Transmitted messages are divided into predetermined lengths that are divided by a fixed divisor. According to the calculation, the remainder is appended onto the message and sent. When the message is received, the computer recalculates the remainder and compares it to the transmitted remainder. If the numbers do not match, an error is detected.

Data Agency Group (DAG) An organizational group for Enhanced Data subscribers. All Enhanced Data subscribers must be members of only one Data Agency Group (DAG). Contention for Enhanced Data site utilization is based on DAG membership.

Data Collection Device (DCD) A device that can be connected to capture and analyze traffic that passes over the HPD GCP 8000 Site Controller switch ports.

Data Encryption Standard-XL (DES-XL) A proprietary version of a United States government encryption/decryption standard. “XL” refers to synchronous mode software counter addressing encryption as implemented in ASTRO® 25 digital products.

Data Services A feature that enables radio subscribers to connect mobile data devices to their ASTRO® 25 subscriber units for wireless access to fixed enterprise data networks through the trunking infrastructure. It is available for implementation on ASTRO® 25 Integrated Voice and Data systems.

Data Total Area Coverage A low-speed, packet-switched, wireless data network technology deployed in the United States as the ARDIS network. DataTAC transfers data up to 19.2 Kbps in the 800 MHz band.

Abbreviation: DataTAC

Datagram Service A service at the network layer in which successive packets may be routed independently from end to end. There is no call setup phase. Datagrams may arrive out of order.

De-Key To turn the transmitter off (to release the Push-to-Talk switch).

De-Militarized Zone (DMZ) A network that interconnects other networks, namely the Radio Network Infrastructure (RNI) and the Customer Enterprise Network (CEN). Coordinated IP spaces are required to route traffic between them.

Synonym: Peripheral Network

Deaffiliation A process that deassociates a radio from a talkgroup when it powers down, or when the radio changes talkgroups or sites.

Default/Predefined Alert Tone An unconfigurable alert tone provided by Motorola Solutions. The number of the provided custom alert tones can be up to 15.

Delta Configuration Distribution The distribution of only the changed configuration parameters in the Provisioning Manager (PM) application. A full distribution of the database is called a Force Initialization.

Device Definition Package (DDP) A set of parameters that is required to discover and manage a device. The DDP files created with Fault Management Toolkit are imported into the Unified Event Manager (UEM) application. For the number of device instances managed by the UEM, proper license must be populated.

Differential Quadrature Phase Shift Keying (DQPSK) A modified Quadrature Phase Shift Keying (QPSK) modulation technique which relies on the difference between successive phases of a signal rather than the absolute phase position.

Digital Access Cross-Connect Switch (DACS) A data concentrator and organizer for T1/E1-based systems.

Digital Conventional An operational mode for conventional radio resources where a P25 conventional compliant equipment is connected to the Radio Network Infrastructure (RNI) by a V.24 interface to a Conventional Channel Gateway.

Synonym: Digital V.24 Conventional Channel

Digital Fixed Station Interface (DFSI) A standard conventional IP audio protocol that interfaces Fix Radio Subsystems to Base Radios. This protocol allows conventional GTR 8000 base radios to communicate with third party dispatch consoles over IP interface, or allows the ASTRO 25 system to dispatch third party stations. Base radio with DFSI interface cannot reside within the ASTRO network GTR 8000 base radio supports DFSI for either analog or digital channels (mixed mode is not supported). The ASTRO 25 system can also dispatch either analog or digital third party channels, but not mixed mode.

Digital IP Conventional An operational mode for conventional radio resources where a P25 conventional compliant equipment is connected to the Radio Network Infrastructure (RNI) by an Ethernet based interface to a Conventional Channel Gateway.

Synonym: IP Conventional

Digital Vehicular Repater System (DVRS) A self-contained 10W radio base station integrated with remote mount APX™ series mobile radios. It improves portable radio coverage by using the higher power of the mobile radio in the vehicle to extend the range of the portable back to the radio system. The DVRS is also available as a standalone repeater for local repeat only.

Digital Voice International-XL (DVI-XL) A Motorola Solutions proprietary encryption algorithm. “XL” refers to synchronous mode “software counter addressing” encryption as implemented in ASTRO® 25 system digital products.

Digital Voice Protection (DVP) One of the several encryption algorithms used to provide secure voice radio transmissions.

Digital Voice Protection-XL (DVP-XL) A Motorola Solutions proprietary encryption algorithm. “XL” refers to synchronous mode “software counter addressing” encryption as implemented in ASTRO® 25 digital products.

Direct Attached Storage (DAS) A system or data storage device attached without a network device to a server or workstation. For example: an enclosure holding a number of hard disk drives.

Direct Inbound Dialing (DID) A select number of digits that are associated with a specific radio user that allows a landline caller to reach the user directly. The IP Private Branch Exchange (PBX) forwards the dialed digits to the Zone Controller (ZC).

Disaster Recovery A set of procedures that are performed to recover a system or device functionality.

Dispatch Console A type of equipment that consists of an advanced dispatch system, which provides dispatch capabilities to the trunked system and conventional radio systems, including the ability to connect calls between these systems.

Synonym: Console

Domain Controller (DC) A server that responds to security authentication requests within a Windows domain. It provides Domain Name Services (DNS), Active Directory, and RADIUS

services to all supported devices. All Domain Controllers are peers of each other.

Synonym: Authentication Server

Domain Name System (DNS) A hierarchical naming system for computers, services, or any resource that is connected to the Internet or a private network.

DS1 A T-carrier signaling scheme that is widely used to transmit voice and data between devices with the maximum data transmission rate of 1.544 megabits per second.

Dual Function Tone A Tone Command consisting of a High Level Guard Tone (HLGT), Function Tone 1 (FT1), Function Tone 2 (FT2), and (sometimes) a Low Level Guard Tone (LLGT).

Dual Mode Equipment Equipment which transmits and receives information using either the APCO Project 25 standard digital signals or current analog standard signals without modification or interfacing devices.

Duplex A functionality that allows to transmit (talk) and receive (listen) at the same time without interruption as in the standard telephone system. Applies mainly to telephone interconnect. Full Duplex allows both people to talk and listen simultaneously. There is a perfect continuity in the conversation with little or no loss in message clarity.

Dynamic Conventional Gateway (DCG 9000) An IP based channel gateway that interconnects the console with Base Radios and comparators in ASTRO® 25 Conventional Fixed Radio Subsystems. The DCG 9000 software runs as a docker service within the Shared Scalable Platform. The DCG 9000 replaces the conventional gateway part of the GGM 8000 for MSI IP digital channels and introduces the DFSI IP analog and IP digital channel interface.

Dynamic Dual Mode (DDM) An ASTRO® 25 radio communication system feature that provides the ability for DDM-capable subscriber radios to dynamically operate in either one of two modes of operation: Frequency Division Multiple Access (FDMA) or Time Division Multiple Access (TDMA) without subscriber radio intervention when roaming and making calls in the system.

Dynamic Dual Mode Talkgroup An access type configuration value that enables configuring the talkgroup to operate in either Frequency Division Multiple Access (FDMA) or Time Division Multiple Access (TDMA) mode.

Dynamic Frequency Blocking (DFB) A feature that prevents a channel from interfering with another channel. When a channel is in use, any channels listed as interfering with that channel are made unavailable (blocked).

Dynamic Network Access Code (DNAC) A code generated by base radios that contains the System ID and the Access Code Index (ACI). This code ensures that radios or base stations transmit and receive DNAC signals that are different between each site and system. Using different DNACs allows a radio or base station to ignore signals from distant sites or from other systems.

Dynamic Sub-Band Restriction (D-SBR) A channel utilization method, which determines the appropriate channel to use at an RF site when both 700 MHz and 800 MHz channel resources are available. D-SBR for channel utilization is based on the capabilities of the mobile/portable radios and can improve utilization of 700 MHz channel resources at an RF site providing both 700 MHz and 800 MHz channels.

Dynamic System Resilience (DSR) A feature that supports a primary zone core and backup zone core established at two geographically separate master site locations to protect against a catastrophic failure of zone core equipment at a single location. The backup core provides the same level of redundancy as the primary core. If either zone core were to fail, the other zone core would take over. The DSR feature provides redundancy for voice, transport, and other subsystems by establishing two zone cores for a given zone at two geographically separate master site locations.

Dynamic Transcoder A Windows-based virtual machine running on a Virtual Management Server (VMS) host. The Dynamic Transcoder implements a feature called Dynamic Transcoding.

Dynamic Transcoding A feature that allows talkgroup calls and unit-to-unit (private) calls to communicate between TDMA channels and FDMA channels at different sites. Dynamic Transcoding also allows channels in dynamic sites to be granted

in TDMA mode in the same call that includes an FDMA-only channel at another site, thus preserving channel bandwidth at the TDMA-capable site.

Edge Availability with Wireline Console A feature in an ASTRO® 25 radio system that provides a Trunking subsystem (Tsub) architecture. The purpose of the Trunking subsystem is to provide continuous operations within local operational areas in the event communication with the master site is lost.

Electronic Serial Number A number created by the U.S. Federal Communications Commission (FCC) that uniquely identifies a wireless communications device.

Embedded Password A hard-coded password. Different ASTRO® 25 system applications and administrative scripts use embedded accounts to communicate with other applications, such as databases and Lightweight Directory Access Protocol (LDAP) servers. Motorola Solutions provides the capability to change, back up and restore embedded passwords for non-interactive accounts on specified devices. This functionality is for the local device and does not manage account passwords across devices.

Emergency Alarm Comments Short messages associated with a radio that sends an Emergency Alarm. The text is added in the Provisioning Manager (PM).

Encrypted Integrated Data (EID) A feature that provides data encryption services to ASTRO® 25 Integrated Voice and Data (IVD) IP Bearer services between the Customer Enterprise Network (CEN) and subscriber radios. The encryption service provides data encryption, decryption, and authentication between each EID enabled subscriber radio and a PDEG Encryption Unit (a device in the CEN).

Encryption Key A numeric code used in combination with an encryption algorithm that is used to encrypt and decrypt data, voice or Over-The-Air-Rekeying (OTAR) messages.

Encryption Mode A mode that determines whether data or keys are transferred in the network as encrypted or unencrypted. The two encryption modes are clear (red) and encrypted (black).

End of Call (EOC) A control message from the Zone Controller (ZC) that indicates the end of a trunked group call.

End of Mobile Transmission (EOMT) A control message from the Zone Controller (ZC) that indicates the end of a mobile transmission during a group call.

Enhanced Alert Tones A feature that increases the number of the alert tones that can be used with the dispatch console. It also provides increased flexibility in using the alert tones as it makes it possible to replace the predefined and unconfigurable alert tones provided by Motorola Solutions with alert tones customizable according to user's needs.

Enhanced Data An inbound-only packet data service optimized for applications that periodically send short messages from a subscriber or attached device to a host in the Customer Enterprise Network (CEN). Enhanced Data introduces a new type of data channel to support short, periodic inbound data messages, such as GPS location. Enhanced data allows a dispatcher to track the location of a subscriber unit, and allows text messaging between the subscriber unit and the dispatcher.

Enhanced Instant Recall Recorder (EIRR) A licensed application that is installed as part of the Dispatch Console software. The IRR software makes it possible to record audio traffic on the dispatch console on which it is installed. By using the IRR application the dispatch operator can replay the recorded audio traffic to, for example, verify a specific piece of information.

Enhanced Patch A patch group that makes it possible to hear audio from all the resources in the patch in the headset or the speaker for selected audio without having to select them manually.

Enhanced Telephone Interconnect (ETI) A feature that provides a way to connect the radio communication system to the Public Switched Telephone Network (PSTN) or an external IP network, so that a subscriber radio user can dial fixed telephones (cellular phones included) and initiate a half duplex phone conversation. Likewise, a landline telephone user can dial ASTRO® 25 system radios when the Enhanced Telephone Interconnect feature is employed on the system.

Essential Remote Site A site where the availability number is set to 100. Remote sites with transmit capabilities in the Single Transmitter/ Receiver Voting Radio Frequency subsystem are by default an essential site.

Expansion Hub A non-intelligent switching and interface module that connects to the GCP 8000 site controller to provide support for additional GTR 8000 base radios beyond what the site controller can support on its own. One expansion hub (XHub) can support up to six GTR 8000 base radios.

Abbreviation:XHub

Explicit Other Band Trunking A method of defining transmit and receive frequencies on a given channel in the ASTRO® 25 system. The channels defined as explicit enable the use of two very different frequencies for transmitting and receiving. When transmitting on a channel using an explicitly-defined frequency, the site sends the Tx and Rx frequencies. Trunking systems typically use a standard 800 MHz full range of Tx/Rx pairs of frequencies. Other band trunking uses frequencies outside of this standard trunking range.

External Paging Encoder Port A feature that allows an external tone paging encoder to be used with a Dispatch Console to provide tone-paging services.

Failsoft A fallback method of communication used if a site or subsystem cannot perform wide area or site trunking operations (for simulcast subsystems, this includes scenarios when a subsite cannot connect to the prime site). In failsoft mode, each channel works as a single-channel, conventional repeater.

Failure Random Holdoff Time (FRHOT) The maximum amount of time that radios are told to wait when a site fails before registering to a new site.

Failure Random Holdoff Time - Group (FRHOT-G) The time generated by the Zone Controller (ZC) sent to radios after a site level failure has occurred at wide area (WA) sites that are adjacent to the failed site. A radio that detects a site level failure and is able to lock to a WA site, shall register in a random time period up to the time specified by FRHOT-G. If no site level failures are occurring at sites adjacent to a WA site, the WA site shall broadcast the minimal FRHOT-Norm.

Failure Random Holdoff Time - Individual Unit (FRHOT-IU) The time generated by Zone Controller (ZC) sent to radios after a site level failure has occurred at wide area (WA) sites that are adjacent to the failed site. A radio that detects a site level failure, and is able to lock to a WA site shall register in a random time period up to the time specified by FRHOT-IU. If no site level failures are occurring at sites adjacent to a WA site, the WA site shall broadcast the minimal FRHOT-Norm.

Fallback Zone Controller (ZC) A Zone Controller in a Trunking subsystem.

Fault Management (FM) A feature that allows the user to monitor operation status, display fault information, perform diagnostics on the system, and provide notification of managed object malfunctions.

Fault Management Toolkit A Windows-based, standalone, offline software application used to establish the device definition, which includes set of parameters to discover and manage a device. The Device Definition Package (DDP) files created with Fault Management Toolkit are imported into the Unified Event Manager (UEM) application. The Fault Management Toolkit supports Simple Network Management Protocol (SNMP) v1 and v3 messaging and requires devices to be MIB-2 compliant.

Field Programmable Gate Array (FPGA) A device that is responsible for routing audio and control data between the MACE Integrated Circuits (ICs) and the Digital Signal Processors (DSPs) in the Voice Processor Module (VPM) hardware.

Firmware Computer instructions that reside as read-only software on the flash memory of a radio.

Fixed Network Equipment (FNE) Base stations and repeaters.

Flash A non-volatile memory device similar to an EEPROM. Flash memory can be erased and reprogrammed in blocks instead of one byte at a time.

FLASHcode A 13-digit code which uniquely identifies the System Software Package and Software Revenue Options that are enabled in a

particular subscriber radio. FLASHcodes are only applicable for radios which are upgradeable through the FLASHport process.

FLASHport A Motorola Solutions term that describes the ability of a radio to change memory. Every FLASHport radio contains a FLASHport EEPROM memory chip that can be software written and rewritten to, again and again.

Flexible Site and InterZone Links (FSIL) A feature that provides an alternative backhaul solutions for the dedicated T1/E1 links used for network transport in Motorola's ASTRO® 25 site and InterZone links.

Flow Control A mechanism for managing the rate of data transmission between devices or nodes in a network so that the receiver can handle all the incoming data. Flow control is used to manage the flow of data/packets in cases where the sending device can send data much faster than the receiver can handle it.

Force Initialization A full configuration distribution in the Provisioning Manager (PM) application. The distribution of only the changed configuration parameters is called a Delta Configuration Distribution.

Fortinet Firewall Manager Firewall manager for Fortinet FortiGate firewalls in the ASTRO® 25 system. Provides the security feature of logging and reporting traffic. In the ASTRO® 25 system, firewall management may be performed locally at the Fortinet firewall, or using a Fortinet FortiManager, depending on the type of firewalls implemented in the system and the system configuration.

Synonym: FortiManager

FortiToken A solution that provides two-factor authentication for remote service users through the use of hard or mobile tokens. The tokens are configured on the Fortinet RNI-DMZ firewall by using the firewall's web-based user interface. With FortiToken enabled, service users who remotely log on to the system are asked to provide their domain credentials and a one-time password generated by their token.

Four Wire E&M 4-wire (2-pair) transmission path for the voice signal.

Abbreviation: 4W E&M

Four-Wire Interface (4W) An interface in which transmission and reception is performed on a different copper pair.

Frame Relay A simplified form of connection-based, packet-switching service in which synchronous frames of data are routed to destinations indicated on the header information. Frame Relay assumes an error-free physical link and therefore does not guarantee data integrity. Error detection and correction responsibility is left with the end devices. Frame Relay uses the synchronous High-level Data Link Control (HDLC) frame format up to 4096 octets in length. Each frame contains a start flag, two octets that contain the information required for multiplexing across the link, the data information (payload), two octets generated by a Cyclic Redundancy Check (CRC) of the rest of the octets between the flags, and the end flag.

Frequency Generation Unit A unit that generates ultra-stable, low-phase noise master clock and other derived synchronization clocks that are distributed throughout the communication network.

Frequency Reference Holdover An ability that provides an optional backup for the frequency and time references supplied to the base radios either through a TRAK 8835-3 SSR, or a TRAK 9100 SSR at IP simulcast remote sites with high availability.

Full-duplex (FD) A two-way communications method in which the communication may occur in both directions simultaneously.

Fully Qualified Domain Name (FQDN) An address that consists of a host and domain name, including top-level domain.

Function Tone The short tone bursts that follow the High Level Guard Tone (HLGT). These bursts are mapped to functions in the station. For instance, setting the repeat mode, choosing a frequency, etc. Typically function tone is 40 ms in length. Dual function tone is needed if encryption is supported. AXS, MCC 7500E, and MCC 7500 VPM Dispatch Consoles do not support encrypted analog conventional stations, thus only single function tone is required.

Functional Coexistence A situation in which the features must continue to operate in a mixed-

console system as they do in a homogenous system of only one console type.

Functional Interoperation A situation in which the users must not perceive any functional difference when invoking the console interoperability feature from either console type and when monitoring the status of the feature from either console type.

G.728 START An audio plane message defined in the XIS protocol indicating that audio packets are about to start for a transmission on a particular station.

G.728 STOP An audio plane message defined in the XIS protocol indicating that audio packets associated with a transmission on particular station have all been sent.

Gateway GPRS Support Node (GGSN) A network component that provides general packet radio service (GPRS) network access to external hosts to communicate with mobile subscribers. The GGSN acts as a fixed relay point between the external hosts and the mobile subscribers.

General Packet Radio Service (GPRS) A packet-switched mobile data service on the 2G and 3G cellular communication system's global system that is used for mobile communications (GSM).

General-Purpose Input/Output Pins whose function is programmable.

GGM 8000 A modular multi-purpose network communications platform, designed to interconnect devices and networks within ASTRO® 25 system. This hardware replaces the MNR S6000 and MNR S2500 platforms.

Global Positioning System (GPS) A method of location that is based on reception of multiple satellite signals by a device on the ground or in an airplane. GPS is a Global Navigation Satellite System (GNSS), launched by the U.S. Department of Defense and operated by U.S.A. Air Force Space Command (AFSPC).

Global Positioning System Receiver (GPSR) A part of the GPS system that supplies frequency and time reference for equipment at the system core and simulcast sites.

Abbreviation: GPS Receiver

GPB 8000 Reference Distribution Modules Devices that provide integrated Ethernet LAN switching, eliminating the external LAN switches. The RDM also provides redundant integrated site reference distribution utilizing two GPS receivers as timing reference sources to all the base radios at the remote site, eliminating the need for the Simulcast Site Reference at the remote site.

GPRS Tunneling Protocol (GTP) A group of communications protocols that is used to carry packet data traffic between the Packet Data Router (PDR) and the Gateway GPRS Support Node (GGSN).

GPW 8000 Receiver A receive-only conventional (digital) base radio.

Group Call Service Timeout A time that an assigned channel resource remains active and keyed up in message trunking.

Synonym: Hang Time

Group Home Location Register A Home Location Register that stores information for talkgroups that are home to that zone.

Group Home Zone A controlling zone for calls that were originated by a zone's talkgroup members, regardless of where they are located in the system at the time they originate the call.

Group Radio Set Identifier An identifier that is shared by a group of units. Group-delivered Over-The-Air-Rekeying (OTAR) messages are addressed to the Group RSI. It is provisioned or changed in units through Unit OTAR Full Updates to each unit in the group.

Abbreviation: Group RSI

Group-Based Service A talkgroup voice-based service that includes Talkgroup Calls, Multigroup Calls, Emergency Calls, and Group Regrouping.

GRV 8000 Comparator A device that supports multi mode IP conventional channels in the ASTRO® 25 system or conventional analog channel, either IP-based and/or circuit (4 Wire) based. When operating in circuit mode, GRV 8000 needs a G-Series Subsite Link Converter (GSLC) to communicate with base radios.

G-Series Subsite Link Converter (GSLC) A converter used to translate between the IP interface of GRV 8000 Comparator in analog mode, and the 4 Wire interface of base radios in analog voting/ simulcast system.

Guard Tone The frequency used to inform the base station that it is going to receive a Tone Remote Control (TRC) command. Also the frequency used to tell the base station to remain keyed. There are multiple different frequencies used throughout the world. It is typically 2175 Hz in North America.

Half duplex A two-way communications method in which the communication may occur only in one direction at a time.

Header Compression A mechanism that compresses the IP header in a data packet before the packet is transmitted. Header compression reduces network overhead and speeds up the transmission of data packets.

Heart Saver Tone An alarm where the volume grows increasingly loud over time. Heart saver tones are devised to protect the health of the responders. This kind of alert lessens the risk of a heart attack caused by a sudden, loud alert.

Heartbeat Authentication (HA) An encryption method used in the Packet Data Gateway (PDG). The primary core Packet Data Router (PDR) and backup core PDR exchange authenticated heartbeats after a key is set on both active and backup PDRs. The heartbeat message contains the number of sites connected to the RNG and the operational health of the PDR itself. Status is verified by monitoring the HA link.

Heartbeat Authentication Link A status for the Packet Data Router (PDR) that indicates whether the Heartbeat Authentication (HA) link is up or down.

Abbreviation: HA Link

High Availability for Trunked IVD and HPD An optional feature which introduces redundant components into the data subsystem to ensure maximum service reliability for Classic Data (IVD), Enhanced Data, and HPD in case of hardware failure. This feature provides redundancy for the Packet Data Gateway (PDG), Gateway GPRS Support Node (GGSN), and Customer Network Interface (CNI) path equipment.

Abbreviation: HA Data

High Level Guard Tone (HLGT) The initial tone of a Tone Remote Control (TRC) sequence begins with a HLGT. Typically a 120 ms burst of guard tone at an elevated level.

High Performance Data (HPD) A system that provides an efficient and reliable wireless transport medium for standard IP packet transfer, with raw data rates up to 96 kbps. This data rate allows service for medium bandwidth applications, such as still image transfers, vehicle location services, and constrained web browsing services. An HPD system may be colocated with an existing Integrated Voice and Data (IVD) system or as a standalone system.

High Speed Unit Data Card A T1/E1 interface card that resides in a channel bank for T1/E1 access.

Abbreviation: HSU Data Card

Home Location Register (HLR) A database located in each zone that receives a master copy of individual and talkgroup information from the User Configuration Server (UCS) for call processing. The HLR also contains mobility information for individuals and talkgroups on a per zone level.

Home Zone (HZ) A zone in which a radio or talkgroup is primarily located. The home zone is designated to be the zone where the radio user and talkgroups are most active. The home zone is the controlling zone for group calls.

HPD Broadcast Data A feature that provides broadcast data message distribution to all HPD registered modems that are part of an agency Broadcast Group instead of generating a separate message for each individual recipient.

Hybrid Site Links A feature that allows customers to use both T1/E1 and Ethernet to connect from an ASTRO 25 site to an ASTRO 25 Core/Master site.

Implicit Other Band Trunking A method of defining transmit and receive frequencies on a given channel. When transmitting on a channel using an implicitly-defined frequency, the site sends only the transmit frequency, with the receive

frequency being a standard calculated offset from the transmit frequency. Trunking systems typically use a standard 800 MHz full range of frequencies. Other band trunking uses frequencies outside of this standard trunking range.

Inbound Call A call generated from a subscriber and destined to monitoring dispatch consoles or other subscribers.

Inbound Signaling Packet (ISP) A data packet from the radio to the zone controller that contains identification information for accessing the system, zone, and one or more specific talkgroups.

In-Call User Alert A feature that provides the ability to send a call alert signal from a console or radio to a target radio regardless of which service the radios may be in when the alert signal is sent.

Individual Home Location Register (IHLR) The database that stores information for individual radios that are home to that zone.

Individual Home Zone A zone that the radio is located in most of the time and that is configured in the Provisioning Manager (PM). Each radio in the system has an Individual Home Zone.

Individual-Based Service An individual voice-based service that includes Private Calls, Landline-to-Radio Interconnect Calls and Radio-to-Landline Interconnect Calls.

InfoVista® A customizable performance management application that reports and graphs a wide variety of data from multiple devices, such as gateways, the Ethernet LAN switch, and the WAN switch. InfoVista® resides on the Performance and Security Management Server (PSMS). Starting from System Release 2021.1 InfoVista is not supported.

Integrated Paging A feature that provides the ability for AXS, MCC 7500E, and MCC 7500 VPM Dispatch Console users to manage and send manually created and pre-defined pages to radio users. Pages may be analog tone pages or system pages (trunked call alerts are an example of a system page).

Integrated Voice and Data (IVD) A feature of a ASTRO® 25 trunked communication system that provides voice and data communication services integrated into one trunked communication system. It involves the IP transport of voice and data over trunked data channels.

Intelligent Middleware (IMW) A communication platform and data processing solution that is used for the integration of Customer Enterprise Network (CEN) services and subscriber radio networks. It provides translation, format, and interface services between the CEN applications and associated radio systems.

Interconnect Subsystem The telephone interconnect equipment in the zone. Telephone interconnect capability allows radio users to access the Public Switched Telephone Network (PSTN).

Interfering Channel Any RF channel whose frequency interferes with another channel.

Internal radio Random Hold Off Time (IRHOT) A time internal to the radio that represents how long a radio waits to register after certain failures and recoveries of RF sites. This timer is a last resort in controlling radio registrations during certain failures and recoveries of RF sites.

Inter-RF Subsystem Interface (ISSI) An inter-system network gateway interface for Project 25, which utilizes an available ASTRO® 25 Zone Controller site link to connect over a wireline P25 ISSI interface, to another network with another site gateway similarly connected.

Inter-RF Subsystem Interface 8000 (ISSI 8000) An ASTRO® 25 feature that provides an enhanced interconnectivity solution for P25 compatible systems to interface with the ASTRO® 25 system.

Inter-RF System Gateway (ISGW) An Inter-RF System Gateway (server application) providing support for the ASTRO® 25 ISSI 8000/CSSI 8000 feature(s). The ISSI 8000 feature provides an enhanced interconnectivity solution for P25 compatible systems to interface with the ASTRO® 25 system while the CSSI feature provides an enhanced interconnectivity solution for third-party consoles to interface with the ASTRO® 25 system.

InterZone (IZ) Call processing that involves more than one zone in the system.

InterZone Control Path (IZCP) A communication path between a zone controller in one zone and a zone controller in another zone.

InterZone Trunking A state in which calls are trunked between a pair of zones. The following must be in place for InterZone trunking: users in each zone, an active InterZone control path, group home zone maps entered in both zones, and an active and enabled audio rendezvous point in each zone.

Intra-Prime Site Link The extended Ethernet LAN link between the Primary Prime Site and Secondary Prime Site for a Simulcast Subsystem supporting geographically redundant prime sites. The Intra-Prime Site link is supported by two Ethernet LAN Switches operating over a Layer 2 network employing dual transport links with full end-to-end link redundancy.

Intrusion Detection Sensor Server (IDSS) A server that is part of the optional Network Interface Barrier (NIB). The IDSS provides intrusion traffic monitoring of network traffic through the network security firewall, and works with the firewall to detect anomalies and protect against potential attacks.

IP Link Converter (IPLC) A device based on the GGM 8000 hardware platform that allows users with fielded CENTRACOM Gold Elite and MCC 5500 consoles to replace circuit connectivity with IP connectivity and transition digital/mixed mode RF channels to G series RF channels. The Conventional IP to Circuit Link Converter to allow ASTRO® 25 customers the ability to replace V.24 digital/mixed mode RF channels with G-Series and/or MLC 8000 devices while still employing existing ASTRO® 25 core equipment.

IP Packet Capture An application that captures transactions between network elements in an ASTRO® 25 system and collects performance data for Virtual Management Servers (VMSs) in the zone where IP Packet Capture is located. The application captures network activity in the form of IP packets that pass through the designated devices and gathers statistics for the monitored servers. IP Packet Capture provides easy access to current and historical records of network traffic and server performance statistics for diagnostic purposes and timely system repair. The application ensures minimal issue investigation times.

> **Abbreviation:** IPCAP

IP Packet Loss Ratio (IPLR) A ratio of total lost IP packet outcomes to total transmitted IP packets in a population of interest.

IP Packet Transfer Delay (IPTD) The time necessary for the packet to reach its destination.

IP PBX Media Gateway Hardware that converts signals (both signaling and voice) between IP and non-IP networks, under the control of the IP Private Branch Exchange (PBX) server. An IP PBX media gateway is not needed if landline telephones are connected through an IP network.

IP Private Branch Exchange Server A server that provides call control and administration through a network management application that provides configuration and fault management of the IP PBX server and IP PBX media gateways.

> **Abbreviation:** IP PBX Server
> **Synonym:** UNIVERGE 3C Unified Communications Manager

IP Simulcast Prime Site Backhaul Switch A device that provides a link aggregation point for the network when Ethernet links are implemented between an IP Simulcast prime site and IP Simulcast subsites. Two prime site backhaul switches are required for each IP simulcast prime site that utilizes Ethernet links.

J state USB “Bus idle” state.

Just a Bunch of Disks/Just a Bunch of Drives (JBOD) Computer hard disks that have not been configured according to the Redundant Array of Independent Disks (RAID) system.

K core A hub site in a conventional system, in which the conventional site controller is located. This hub site supports other conventional hub sites and conventional base radio sites in the system.

Key Encryption Key (KEK) A key that encrypts traffic keys when they are delivered over the air.

Key ID An ID number associated with a key. This enables the system to use a key when encrypting or decrypting voice, data, or over-the-air-rekeying (OTAR) commands, without revealing the actual key variable.

Key Identification (KID) A feature that identifies the encryption key in systems with multiple encryption keys.

Key Loss Key (KLK) A key that enables a Key Management Facility (KMF) to restore a unit's Unique Key Encryption Key (UKEK) after it has been erased by using the unit's KLK to receive Over-The-Air Rekeying (OTAR) commands.

Key Loss Key Rekeying A feature that enables a Key Management Facility (KMF) to restore a unit's Unique Key Encryption Key (UKEK) after it has been erased by using the unit's Key Loss Key (KLK) to receive Over-The-Air-Rekeying (OTAR) commands. A proprietary warm-start and proprietary modify key OTAR commands are used to restore the UKEK.

Key Management Facility (KMF) A central repository of symmetric encryption keys that provides a strategic method for managing symmetric keys for secure user equipment (UE) and infrastructure devices. The KMF system includes a KMF server, a KMF CryptR hardware unit, and a KMF client.

Key Management Message (KMM) A series of commands and responses between a Key Management Facility (KMF) and secure devices, such as subscribers, that carry out the key management and secure configuration of the devices.

Key Variable Loader (KVL) A portable, handheld, rugged device that is used to transfer encryption keys to a target device. Encryption keys can be entered manually by the KVL user, auto-generated by the KVL, obtained from or shared with another KVL, or downloaded from a Key Management Facility (KMF).

Keyindex A number that identifies a particular version of a key within a cryptogroup.

Keyset A keyset is a group of keys that secure devices use for the same crypto period. It allows managing the keys in the keyset as a single entity. The keys in the keyset share a common keyindex.

Synonym: Indexset

KMF Client A client that provides the main user interface in the Key Management Facility (KMF) system.

KMF CryptR A hardware device connected by Ethernet to the Key Management Facility (KMF) Server that provides encryption services for the KMF.

KMF Server A server that hosts the Key Management Facility (KMF) Server application, handles key management messages (KMMs), manages Over-The-Air Rekeying (OTAR) operations, and stores all key material and configuration settings.

L core The designator for a single zone, small scale, non-redundant (L1) or redundant (L2) zone core.

Latched Alert Tone An alert tone that is sent for a predefined period of time after Alert Tone button is pressed on the toolbar of the Elite Dispatch application. Latched alert tone can be stopped before the predefined time ends by pressing the Alert Tone button again.

License Manager (LM) A software that hosts and serves licenses to enable the usage of features and functionalities.

Line Operated Busy Light (LOBL) A circuit that inhibits transmission by parallel consoles on a shared conventional radio resource. Parallel consoles interpret the LOBL signal as an indication that another console is transmitting on the resource and, as a result, do not allow simultaneous transmissions on the resource.

Linear Simulcast Modulation (LSM) A modulation for 12.5 kHz P25 simulcast transmitters.

Linearized Amplifier A radio final amplifier in which the output is mostly linearly proportional to the input, usually a class AB amplifier.

Link Access Procedure for D channel (LAPD) A data transmission procedure that is used in Integrated Services Digital Network (ISDN) systems on the D channel.

Link Op A dispatch console at a console site that is responsible for the Netcomm2 link to the Zone Controller (ZC).

Logging Server A device that captures and forwards call control information and audio information to the logging recorder where it is recorded for later playback.

Logical Channel Identifier (LCH_ID) A number that uniquely identifies a Base Radio (BR) at the Site.

Lost Key Encryption Key (LKEK) A lost key used to encrypt traffic keys when they are delivered over the air.

Low Level Guard Tone (LLGT) A part of a Tone Remote Control (TRC) sequence. In conventional systems, if the base station is to remain keyed, the last function tone is followed by low level guard tone. As long as an LLGT is present, the station remains keyed. When voice is transmitted, the voice is summed with low level guard tone before routing it to the station in order to keep the station keyed.

Low Speed Data (LSD) Data embedded in digital voice.

M1/M2 or M3 Zone Core System architectures of the zone core. M1/M2 designates a single zone, non-redundant or redundant zone core. The M3 designates a multi-zone capable, redundant zone core.

MAC Port Lockdown A feature that provides the capability to lock an Ethernet switch port to the MAC addresses that are expected in the normal system configuration, so that unexpected MAC addresses cannot use the port.

MAC Signaling Block (MSBK) The basic transport unit on the air interface that is used to carry data MAC Signaling Messages (MSMs).

Managed Device A managed device is a network node that contains a Simple Network Management Protocol (SNMP) agent and resides on a managed network. Managed devices collect and store management information and make this information available to the network management system using SNMP. Managed devices, sometimes called network elements, can be gateways, access servers, switches, bridges, hubs, computer hosts, or printers.

Management Information Base (MIB) A formal description of a set of network objects that can be managed using the Simple Network Management Protocol (SNMP). The format of the Management Information Base (MIB) is defined as part of the SNMP.

Manufacturer's Identity (MFID) An eight-bit field identifying manufacturer of the radio equipment.

Master Site A geographical location containing the ASTRO® 25 or DIMETRA core equipment and any colocated equipment from another subsystem, such as command and control. Cores for two zones or more can be colocated at a master site. For the Dynamic System Resilience (DSR) feature, a master site also refers to two zone cores that are colocated and sharing transport equipment.

MCC 7100 IP Dispatch Console A software-based dispatch console that requires no external hardware connections to perform dispatch operations. The MCC 7100 IP Dispatch Console can be located inside the ASTRO® 25 Radio Network Infrastructure (RNI) at a console site or conventional subsystem. It can also be deployed outside the ASTRO® 25 RNI and connected over the Internet through a firewall to a console proxy located inside the ASTRO® 25 RNI.

MCC 7500 Archiving Interface Server A server that provides an interface between the radio system and a third-party logging recorder. It is used to serve audio and related information to third-party call logging hardware for audio archiving at a dispatch console site. The AIS is a personal computer with associated Motorola Solutions proprietary hardware and software.

Abbreviation: MCC 7500 AIS

MCC 7500 Dispatch Console An IP-based dispatch console system.

MCC 7500 Enhanced Console Telephony A feature that provides radio system dispatchers the ability to answer and initiate phone calls from an MCC 7500 Dispatch Console with Voice Processor Module (VPM). This feature allows a dispatcher to patch a radio user in the field to a phone caller, talk with emergency and support personnel, or contact other agencies over the phone.

MCC 7500E Dispatch Console A software-based dispatch console that requires no external hardware connections to perform dispatch operations. The MCC 7500E IP Dispatch Console can be located inside the ASTRO® 25 Radio Network Infrastructure (RNI) at a console site or conventional subsystem. It can also be deployed outside the ASTRO® 25 RNI and connected over the Internet through a firewall to a console proxy located inside the ASTRO® 25 RNI.

MCC 7500E Improved Telephony A feature that provides radio system dispatchers the ability to answer and initiate phone calls from an MCCE Dispatch Console. This feature allows a dispatcher to patch a radio user in the field to a phone caller, talk with emergency and support personnel, or contact other agencies over the phone. This solution utilizes Console PC Host and WAVE Tactical engine. The WAVE Tactical engine acts as Session Initiation Protocol (SIP) user agent to the telephony gateway in order to initiate and receive phone calls.

MC-EDGE A hardware platform used for the MC-EDGE Network Fault Management (NFM) Remote Terminal Units (RTUs) and the Console Aux I/O Server.

MCG 8000 A Conventional Channel Gateway that provides the interface between the IP network and conventional sites in ASTRO® 25 system by translating the voice and data into the format needed for each individual site type. The MCG 8000 supports circuit based, serial, and Ethernet based interfaces to conventional base stations.

MDC1200 Motorola Data Communications, also known as Stat-Alert. A standard of data communication on analog channels that uses 1200 baud data rate.

MDC1200 Conventional An operational mode for analog base stations or other radio resources with circuit based interface to the ASTRO radio network infrastructure. The interface (circuit-based, typically 4-Wire E&M) of the MDC1200 Conventional station is located at Conventional Channel Gateway. In addition to conventional features, an extra MDC1200 signaling is used on the channel that allows dispatchers to use a set of supplementary data services defined in MDC1200 standard.

MDC1200 IP Conventional An operational mode of radio resources with an IP based interface to the ASTRO radio network infrastructure. The interface of the MDC1200 IP Conventional stations is located at a Conventional Channel Gateway. In addition to conventional features, an extra MDC1200 signaling is used on the channel that allows dispatchers to use a set of supplementary data services defined in MDC1200 standard.

Media Gateway A device that converts digital media streams between different types of networks.

Media Module The MM710 (digital) and MM711 (analog) media cards used for telephone interconnect.

Message Indicator (MI) A bit vector that is used to initialize encryption.

Message Trunking A trunking mode that requires that resources for each message (or call) are individually requested and allocated across the control channel, with the ability to hold the working channel for multiple transmissions between call participants.

Metallic Service Unit Card A feature that provides the physical access connections and the switching capability to test active DS1 lines and DS0 channels.

Abbreviation: MSU Card

MKM 7000 Console Alias Manager An optional feature that provides a site-level method for creating, editing and distributing the Radio Unit ID Aliases used on the AXS, MCC 7500E, and MCC 7500 VPM Dispatch Consoles.

Abbreviation: MKM 7000 CAM

Mobile Data Terminal (MDT) A portable computer device that is mounted in a vehicle to allow digital communication between the vehicle and a central network/office.

Mobile Station (MS) A portable/mobile radio.

Mobile Switching Office (MSO) A physical location that houses one or more master sites.

Momentary Alert Tone An alert tone that is sent only when Alert Tone button is pressed on the toolbar of the Elite Dispatch application.

Momentary Override A Provisioning Manager (PM) parameter that provides the console with the ability to momentarily override a default Common Key Reference (CKR) used to make a secure transmission (encryption) by allowing utilization and selection of other CKRs from a list of preconfigured CKRs.

MOTOPATCH A release of operating system (OS) updates for Windows and Linux devices within the ASTRO® 25 radio system.

Motorola Advanced Crypto Engine (MACE) Processors responsible for encrypting and decrypting audio in the Voice Processor Module (VPM) hardware.

Motorola Configuration Console An application installed on the Key Management Facility (KMF) Server and Authentication Center (AuC) Server and Client used to perform various management tasks for the server and client.

Motorola Digital Communications (MDC) A signaling scheme permitting the transfer of data communications at the rate of 1200 bits per second. Designed specifically for high reliability in the land-mobile radio environment. Digital encoding allows a much greater amount of information to pass over the channel with each message than with alternative tone encoding methods. Some features include: PTT ID, Emergency, Call Alert, Emergency Alarm, Voice Selection Call (SelCall), Radio Check, and Monitor.

Motorola Redundancy Manager A redundancy solution used in the KMF (Key Management Facility) and AuC (Authentication Center) servers, providing replication, synchronization, and monitoring of data between the main and standby servers.

Motorola Supervisory Control and Data Acquisition Network Fault Management (MOSCAD NFM) An integrated solution that provides the operator and network engineer with the required tools to configure, monitor, and control devices in ASTRO® 25 communication sites.

Motorola Windows Common Operating System A Windows-based system for all Windows-based devices, available in Open Virtualization Format (`.ovf`) and `.iso` formats. It contains a default Operating System configuration, tools to apply identity, and device drivers.

Multigroup Two or more talkgroups that are combined into a permanent multigroup in trunked systems. Calls to the multigroup reach all members of the talkgroups that comprise the multigroup.

Multigroup Call A call addressed to all radios of a specific multigroup and its associated talkgroups.

Multilink Frame Relay A protocol that is used to bundle multiple T1/E1 links together providing one logical link.

Multiselect (MSEL) A console feature that allows the console operator to select multiple talkgroups and transmit to all of them simultaneously.

Multisite Subsystem A site architecture that consists of a prime site and several remote sites operating as a unit. From the master site's perspective, the multisite subsystem is considered one site. The multisite subsystem can be implemented as either a single transmitter receiver voting (STRV) subsystem, a simulcast subsystem or a trunking subsystem (Tsub).

Multizone Capable A multizone capable (which can be used as a single zone as well) master site configuration with up to five virtual management servers, a redundant Zone Controller (ZC), and transport equipment.

Multizone-Level An operation or function that operates across zone boundaries.

Narrow Band (NB) A Federal Communications Commission (FCC) term that refers to one voice path in 12.5kHz of spectrum.

Network Attached Storage (NAS) A hardware storage device that is used to support Backup and Restore services providing an archive for backing up applications on virtualized platforms.

Network Interface Barrier (NIB) A set of hardware and software components that provide boundary enforcement and attack detection network security features. The NIBs safely enable use of the system's defined interfaces for

integrated data, network management, computer-aided dispatch, and billing.

Network Interface Card (NIC) A networking interface card that is used to connect a device to a network. The NIC is where the physical connection to the network occurs.

Network Management (NM) A set of software tools that supports the management of a complex radio communications system and its component parts, which include radios, computers, and internet working components.

Network Management Client An application that is used to access the network management servers.

Abbreviation:NM Client

Network Management Server Applications Private Network Management Servers that reside in virtual containers. The term Network Management Server applies to the application rather than the physical hardware. These server applications include: UNC, UEM, ZDS, ZSS, and SSS.

Abbreviation:NM Server Applications
Synonym:NM Servers

Network Management Subsystem (NMS) A collection of equipment whose function is to help provide for the management of the overall system. This would include the servers that support fault management, contain the databases and data distribution elements used for the system configuration information, and support performance and security elements of the network management solution. In addition, this includes the client software used to access the above servers and, which can typically be run from various locations in the system.

Abbreviation:NM Subsystem
Synonym: Network Management System

Network Management User A person who helps to administer the system through exercising of the FCAPS functionality of the Network Management Subsystem (NMS) from one of the appropriate Network Management (NM) client applications.

Abbreviation:NM User

Network Policy Server (NPS) A server used for Remote Access Dial In User Service (RADIUS) authentication.

Non-Tactical Mode A mode of radio operation that determines how a radio behaves in an emergency situation. In non-tactical mode (also called revertive mode), the radio reverts to a pre-configured “emergency” talkgroup to issue an emergency alarm or call.

Synonym: Revertive Mode

Object Identifier (OID) A string of numbers that uniquely identifies managed objects in a Management Information Base hierarchy. An OID is a long sequence of numbers, coding the nodes, separated by dots used for the creation of Device Definition Package (.ddp) files. Top-level MIB object IDs (OIDs) belong to different standard organizations. Vendors define private branches, including managed objects, for their own products.

Operations Support System (OSS) Servers and applications that are used for managing the network infrastructure centrally.

Other Band Trunking (OBT) A channel assignment protocol used in the VHF and UHF bands where there is no fixed Tx to Rx repeater offset frequency. Trunking systems typically use a standard 800 MHz full range of frequencies. Other band trunking uses frequencies outside of this standard trunking range. These other frequency ranges include: 700 MHz, VHF (136-174 MHz) and UHF (380-470 MHz and 450-520 MHz).

Outbound Call A call generated from dispatch consoles and destined outbound to a Mobile Subscriber (MS).

Outbound Signaling Packet (OSP) A data packet sent from the Zone Controller (ZC) to the radio, which contains the channel assignment and service information for the radio to access a site within the zone.

Out-of-Band-Management (OOBM) A solution that involves the use of a dedicated channel for managing network devices. This allows the network operator to establish trust boundaries in accessing the management function to apply it to network resources.

Over-The-Air-Programming (OTAP) An ASTRO® 25 Integrated Voice and Data (IVD) service for programming subscriber units over the ASTRO® 25 IVD air interface.

Over-The-Air-Rekeying (OTAR) A feature that provides systems with a way to rekey subscribers at their current physical location by using over-the-air commands. It eliminates the need to obtain the subscriber and connect it directly to the Key Variable Loader (KVL) for rekeying.

Over-The-Ethernet-Keying (OTEK) A feature that provides key management for consoles in ASTRO® 25 systems through the Key Management Facility (KMF), which is installed on a Customer Enterprise Network (CEN).

P25 Phase 1 A deployment phase for a suite of standards established by APCO for the manufacturing of interoperable digital two-way wireless communications products. Phase 1 standards focuses on FDMA operation for a 12.5 kHz bandwidth.

P25 Phase 2 A deployment phase for a suite of standards established by APCO for the manufacturing of interoperable digital two-way wireless communications products. Phase 2 standards focuses on FDMA operation for a 12.5 kHz bandwidth and TDMA operation for a 6.25 kHz bandwidth for improved radio frequency spectrum utilization.

Packet Data Channel (PDCH) A radio frequency resource that is used for the IP transport of data in an ASTRO® 25 or DIMETRA trucked communication system.

Packet Data Gateway (PDG) An optional device that supports packet data services for the radio system. The PDG consists of two applications: Packet Data Router (PDR) and Radio Network Gateway (RNG).

Packet Data Router (PDR) An application that provides a logical interface between the GPRS Gateway Support Node (GGSN) router and the Radio Network Gateway (RNG). The PDR forwards outbound data traffic to the RNG.

Participating Zone A zone that contains one or more users who are involved in a call that is controlled by another zone.

Participating Zone Controller A Zone Controller (ZC) that is active in a call or busy, but that does not necessarily have overall control of the call.

Patch A console feature that permits resources of different types to communicate directly.

Patch Call The act of routing a voice call from one group or conventional channel to other groups and/or dispatch console private calls or conventional channels. The patch operation is done through a dispatch console. For trunking talkgroups, the patch can be either regrouping (talkgroups in the patch are regrouped into a common supergroup) or non-regrouped (all talkgroups are assigned a separate RF resource) or a combination of both. The "regroupable" capability is selectable on a talkgroup basis.

Patch Call Patch Reserve A mechanism that enables the console to add a talkgroup to the patch group.

Path Diversity A term used to describe the capability of a system to route information through alternate or multiple network paths to assure reliability. An example of a system that uses alternate paths is a system with redundant gateways. ASTRO® 25 systems use redundant gateways at the zone core and, as an option, the design can also implement redundant site gateways at the subsystem level. Redundant site gateways, together with redundant transport paths (T1s), provide higher reliability than the single gateway and single T1 implementation.

PDEG Encryption Unit A device that provides two network interfaces, which effectively splits the Customer Enterprise Network (CEN) into two subnets: the CEN red subnet and the CEN black subnet. The CEN's red subnet is considered the trusted subnet and the black subnet is considered untrusted. Thus, data is encrypted when passing through the black subnet.

Physical Identifier (PID) A physical memory slot where a key variable is stored.

Point-to-Point (PTP) A broadband wireless connectivity solution that is deployed in the ASTRO® 25 system. It is used to create a wireless bridge between sites and/or devices where T1/E1 cables would normally be used.

Polling A process in which a device sends what is known as a "hello" command to each device in the system as a way to cause subscribers to transmit delayed acknowledgements of group-delivered, Over-The-Air-Rekeying (OTAR) messages, rather than waiting for the subscribers to respond on their own with Push-To-Talk (PTT) commands.

Power Efficiency Package A feature that provides low standby power consumption functionality designed for deployments that uses power generated from alternate energy sources such as solar or wind. The Power Efficiency Package hardware includes a modified transceiver, power amplifier, power supply, fan, and optional TCXO transceiver option card, along with additional software configurations through the Configuration/ Service Software (CSS). Available for supported GTR 8000 base radios and GPW 8000 receivers.

Presence Entity A subscriber unit Device ID and User Name. That is, they are entities for which a Watcher may want presence status and attribute information including the IP address with which the Presence Entity is associated.

Presence Service A service that provides the ability for applications in a network to obtain and dynamically track information about the attributes and status of subscriber units.

Primary Prime Site The prime site in a Simulcast Subsystem where two site controllers resides in a geographically separate and redundant (primary) prime site to support the geographically redundant prime site feature where the primary prime site and secondary prime site interface over an Intra-Prime Site link to ensure wide area trunking operation is still possible upon possible failure of the entire Primary Prime Site.

Primary Talkgroup A talkgroup to which a radio is attached by default. This is the talkgroup that the radio user primarily uses for communication. The primary talkgroup is assigned in the Provisioning Manager (PM).

Private Automatic Branch Exchange (PABX) A telephone system within an enterprise that switches calls between enterprise users on local lines while allowing all users to share a certain number of external phone lines and to connect with the Public Switched Telephone Network (PSTN).

Private Call Ring The maximum length of time in seconds that the target radio is given to respond to a private call request.

Synonym: Ring Time

Private Radio Network Management Suite A set of software applications and tools developed by Motorola Solutions to manage the radio system and its components, such as resources, users, and infrastructure.

Abbreviation: PRNM Suite

Private-Line Tone Squelch (PL) A continuous sub-audible tone that is transmitted along with the carrier.

Programming Over Project 25 (POP25) The feature allows an organization to configure a radio remotely from the enterprise network by sending a sequence of commands over-the-air through the ASTRO® 25 Integrated Voice and Data (IVD) system.

Provisioning Manager (PM) A network management application that creates and configures radio, console, group and user objects, and conventionally configures and provisions the ASTRO® 25 network devices.

Provisioning Manager Auditing A feature that provides a convenient way of recording configuration changes in the system, which allows the administrator to track configuration data modifications and audit the system configuration data and its users. In the Provisioning Manager, audit records store the details of a user action, such as a description of the event, the time and date of the action, its initiator, source, type, or agency, providing the values from before and after the action.

PRX 7000 Console Dispatch Status An application that displays a list of MCC 7100 or 7500E Dispatch Consoles connected to the PRX 7000 Console Proxy, along with the quality of their connection (link health).

PRX 7000 Console Proxy An application that converts multicast audio packets (delivered inside the ASTRO® 25 RNI) to unicast audio packets and sends them outside of the ASTRO® 25 RNI to an MCC 7100 or 7500E Dispatch Console.

PTT-ID Access The form of access to a new or existing (for example, group) call where it is required that the accessing Mobile Subscriber (MS) send a Push-to-Talk (PTT) request with UNIT ID (on the control channel) before it may be granted access.

Public Switched Telephone Network (PSTN) A telephone network, traditionally a wired network, that requires the public user to address or dial the destination using a telephone number for a temporary connection.

Push-to-Talk ID An 8-digit alphanumeric ID sent to the zone controller to identify the radio and its permissions on the system.

Abbreviation: PTT ID

PuTTY An application that is certified for initiating interactive sessions in Secure Shell (SSH) or other protocols. PuTTY can be installed on Windows-based devices.

QPSKC Family A form of digital modulation which can use a C4FM FM transmitter or a CQPSK AM transmitter with a Compatible Frequency Discriminator Detection (CFDD) compatible receiver. This modulation method is a blend of 4level Frequency Shift Keying (FSK) and p/4 DQPSK, which allows operation using either a transmitter with a frequency modulator using a class C power amplifier or a transmitter with an AM modulator using a linear class AB power amplifier. The CFDD compatible receiver is used for either transmitter.

Quad Integrated Communications Controller (QUICC) The main processor for the Voice Processor Module (VPM), which serves as the main switching engine for the Network Interface Card (NIC). The PowerQUICC switches the 100BaseT Ethernet bus IP packets to/from the serial buses to the MACE devices. The QUICC is also responsible for receiving and sending control packets to/from a radio network.

Rack Unit (RU) A space 1.75 inches high in a mounting system, or rack, which is used to house electronic equipment. Standard rack widths are 19, 23, or 30 inches.

Radio Application Programming Interface (RAPI) A proprietary application programming interface that is used to communicate with, and control, a radio modem. RAPI supports Mobile Data Communication (MDC) compatible services including Short Fixed Message, Long Fixed Message, and Emergency messages.

Radio Authentication A feature that prevents unwanted (and potentially dangerous) subscribers from accessing the network. Each subscriber radio attempting to access the network is verified by the system infrastructure to prove that they are genuine.

Radio Control Manager (RCM) A network management application that issues commands to radios and monitor events from radios. It can also be used to create, view, print, schedule, and export standard reports on RCM activity. This application is part of the Motorola Solutions Private Radio Network Management (PRNM) Suite.

Radio Frequency Subsystem (RFSS) The RF infrastructure that is bounded by the five open APCO Project 25 interfaces and three standard computer network gateway interfaces. It is the RF equipment and related nonstandard peripheral equipment that provides a standardized RF communication channel. One of the APCO Project 25 interfaces is the Common Air Interface (CAI). For Motorola Solutions systems, the RF-Subsystem, or RFSS, equates to a “zone”.

Abbreviation: RF-Subsystem, RFS

Radio Management (RM) A software application that provides functions for managing and programming an entire fleet of radios. The solution consists of four components: server, client, job processor, and device programmer.

Radio Management Client (RMC) The feature that allows viewing and defining certain codeplug and/or template values of all radios within the radio fleet.

Radio Network Gateway (RNG) A processing module in the Packet Data Gateway (PDG) that provides a logical interface between the Packet Data Router (PDR) and radio frequency subsystem

within a zone to support data calls to subscriber radios.

Radio Network Infrastructure (RNI) Devices that constitute the Motorola Solutions radio network system excluding the De-Militarized Zone (DMZ) and the Customer Enterprise Network (CEN).

Radio Set Identifier (RSI) A number that identifies each radio in order for Over-the-Air-Rekeying (OTAR) messages to be directed to the proper radio.

Radio Speaker Microphone (RSM) A speaker microphone that is present on a radio.

RapidIO (RIO) An architecture that defines a high-performance, packet-switched, interconnect technology designed for passing data and control information between microprocessors, Digital Signal Processors (DSPs), communication and network processors, system memory, and peripheral devices within a system.

Receive Autokey A feature used on trunking systems to allow a device to automatically select the proper key from between two keysets for use in decrypting a received call.

Receive Diversity An option available for APCO 25 TDMA operation. It uses two antennas (Branch A and Branch B) to improve the inbound (receiver) signal quality to the GTR 8000 base radios for incoming TDMA calls.

Synonym: Dual Branch Receive Diversity

Receiving Zone The zone that receives a radio request. This zone may or may not become the controlling zone for a call.

Recovery Random Holdoff Time (RRHOT) The time sent by the Zone Controller (ZC) to radios after a site returns to Wide Area (WA) trunking at WA sites adjacent to the site returning to the WA trunking mode. A radio that detects a site level recovery is allowed to roam back to the recovered site in a random time period up to the time specified by this timer.

Reference Vocoder The particular implementation of the APCO Project Vocoder available from Digital Voice Systems Incorporated as Model VC-20-PRJ25. This is the agreed upon reference implementation of the APCO Project 25 Vocoder.

Registration A function that a radio uses to send radio site information to the Zone Controller (ZC) when powering up or moving between sites.

Registration Area (RA) The location in which a subscriber radio registers with the system.

Regroup The act of consolidating multiple groups into a single, temporary group (supergroup) so that all talkgroups in the supergroup share the same RF resource and, hear a common audio stream.

Rekeying Loading of a key into a subscriber or group of subscribers. Rekeying is done using either the Key Variable Loader (KVL) or Over-the-Air-Rekeying (OTAR) through a Rekey command in a Full Update.

Remote Access Server A network access component device typically providing remote access to a master site.

Remote Authentication Dial-in User Service/ Remote Access Dial In User Service (RADIUS) An authentication method that is based on the implementation of access control through user identifiers.

Remote Console Site A console site that is not connected to the Master Switching Office (MSO) core transitional LAN in the AXS, MCC 7500E, and MCC 7500 VPM Dispatch Console subsystem. The remote console site can be connected to the MSO through one of possible WAN link types, such as X.21 links, T1 links, and E1 links. The configuration of the console site's link type by a Network Management (NM) User determines whether the console site is a remote console site or a core console site.

Remote Site An RF site, OSS site, NMS site, console site, or Mobile Switching Office (MSO).

Remote Terminal Unit (RTU) An electronic device that is controlled by a microprocessor. It is used to transmit data to Supervisory Control and Data Acquisition (SCADA) systems.

Rendezvous Point (RP) A router in the network that is managing a particular multicast group.

Repeat The act where the system retransmits a Mobile subscriber's (MS's) audio signal.

Replication A feature that shares data between redundant resources, such as software or hardware components, to ensure consistency between redundant resources. Replication involves copying the entire database or subsets of the database to other servers in the network.

Requested Access (RA) The request made by a subscriber radio for a Packet Data Channel (PDCH). It is necessary when a PDCH is not already set up and available for the site.

Resource A general term that refers to a radio channel and its associated feature set as grouped and arranged into a graphic tile on the computer monitor. A resource may be a talkgroup or private call window.

Resource Configuration API A set of functions that is used to retrieve configuration and aliasing information pertaining to the dispatch system.

Resource Identifier (RID) A logical construct used to uniquely identify communications systems resources.

Resource Manager Essentials (RME) A suite of Web-based applications that manage the LAN switches and the Multilayer Switch Feature Card (MSFC) router cards on the LAN switch.

Resource Voting The process of determining which simulcast subsystem channels are in service and which channels are out of service.

Retry Opportunities A feature that guarantees the delivery of an Over-the-Air-Rekeying (OTAR) command that was not acknowledged by a secure device when it was originally sent. When a non current subscriber with OTAR commands pending registers on the system, the Key Management Facility (KMF) retries sending the pending commands.

RF Cross Busy A condition that exists when two repeaters or conventional channel stations with the same transmit frequency are physically too close to each other. If both transmit at the same time, their transmissions would interfere and the subscribers would receive unintelligible audio. The RF Cross Busy feature prohibits this condition by preventing two stations with the same transmit frequencies in overlapping coverage areas from transmitting at the same time.

RF Cross Mute A feature that provides the dispatch console user with a way to specify and control what receive frequencies should be muted at an operator position when a transmit frequency on another conventional channel is the same as the receive frequency of the conventional channel being listened to, and the coverage area of the two conventional channels overlap.

Ruthless Preemption An emergency handling mode that allows an emergency call to terminate the call with the lowest priority at all sites involved to handle the emergency.

Scalable Adaptive Modulation (SAM) A Telecommunications Industry Association (TIA) standard modulation that supports 700MHz High Speed Data; 50-150kHz.

SDM3000 A hardware platform used for the SDM3000 Remote Terminal Unit (RTU), and the MCC 7500 Aux I/O Server.

Secondary Control Channel Broadcast (SCB) Information sent over the control channel at a specific site. Information within the site control boards inform the subscriber units about the existence, and status of secondary control channels at the current site.

Secondary Prime Site The prime site in a Simulcast Subsystem where one site controller resides in a geographically separate and redundant (secondary) prime site to support the geographically redundant prime site feature. The primary prime site and secondary prime site interface over an Intra-Prime Site link to ensure wide area trunking operation is still possible upon possible failure of the entire Primary Prime Site.

Secure Database A database in encryption mode that holds all of the encryption keys.

Secure File Transfer Protocol (SFTP) A program that uses Secure SHell (SSH) to transfer files. Unlike standard FTP, it encrypts both

commands and data, preventing passwords and sensitive information from being transmitted in the clear over the network. The two ways to use SFTP are: graphical SFTP clients and command line SFTP.

Secure Voice (SV) An overlay service that allows secure (digitally encrypted) communication between dispatch consoles and radio units in the field. Encryption/decryption services are provided by the system endpoints: console, logging interface, and field radio units, so communication remains secure between the source and the destination.

Security ID (SID) A value used to authenticate access to an application.

Select Audio Destination The select speaker on a dispatch console on which audio is presented. Select Audio Destination is determined on a talkgroup by talkgroup basis.

Select Speaker The speaker at a dispatch console where audio from the selected trunking talkgroup or conventional channel is heard (the selected talkgroup/channel is the one that the dispatcher would transmit on).

Sending Loudness Rating (SLR) An International Telecommunications Union (ITU) specification that defines the level input to the system, taking into account variations and gains from the user interface point.

Serial Peripheral Interface (SPI) An interface used by a microcontroller to communicate to modules and Intergrated Circuits (ICs) through the CLOCK and DATA lines.

Service Request A formal request for a service in the Customer Service Request.

Serving GPRS Support Node (SGSN) A node that is responsible for the delivery of data packets from and to the mobile stations within its geographical service area. Its tasks include packet routing and transfer, mobility management (attach/detach and location management), logical link management, and authentication and charging functions.

Session Authentication Information (SAI) Authentication material that contains the Session Authentication Key (KS) and Random Seed (RS).

Session Authentication Key (KS) A key that is used to authenticate a radio by the system.

Signal-to-Noise Ratio A measure that compares the level of a desired signal to the level of background noise. It is defined as the ratio of signal power to the noise power, often expressed in decibels.

Abbreviation: s/n

Simple Network Management Protocol (SNMP) An application-layer protocol that facilitates the exchange of management information/alarms/alerts between network devices.

Simplex An operation of a radio system in only one direction at a time, transmit or receive. Most common with conventional radio use.

Simulcast A two-way radio system topology that uses multiple transmitters on the same frequency in separate locations to transmit the same signal. The simulcast topology is desirable in areas where frequencies are scarce, and in areas where physical barriers (for example, mountains and buildings) can cause deficiencies in signal coverage. This system may contain circuit-based or IP-based simulcast technology. Also known as simultaneous broadcasting.

Simulcast Prime Site The site where audio information is received and distributed in a simulcast subsystem. The main equipment includes the site controller and comparator.

Simulcast Remote Site The sites where the simulcast base stations are located.

Synonym: Subsite

Single Transmit Receiver Voting Subsystem A radio frequency subsystem providing radio communication support in the VHF/UHF frequency bands. An STRV subsystem contains a single transmit site and at least one or more STRV remote sites. An STRV subsystem must include an STRV prime site, an STRV transmit remote site (if not already colocated with the STRV prime site), and STRV receive-only remote sites.

Abbreviation: STRV Subsystem

Single Zone Non-Redundant A single zone master site configuration with a single Virtual Management Server (VMS) containing the non-redundant Zone Controller (ZC) and Network Management (NM) applications. This configuration is equipped in non-redundant transport equipment.

Single Zone Redundant A single zone master site configuration with a second Virtual Management Server (VMS) containing the redundant Zone Controller (ZC), and added redundant transport equipment.

Site Control Path (SCP) The path between the Zone Controller (ZC) and the Site Controllers (SC). Also, a Unix command used to copy files and directories securely between remote hosts without starting an FTP session or logging into the remote systems explicitly.

Site Controller (SC) A control interface between a site and the zone controller that manages and controls the site and channels, administers broadcasts, provides a time and frequency reference signals to the base radios, and monitors the base radios and RFDS equipment. It can also provide redundant site control support to the site.

Site Gateway Hardware that interconnects devices and networks within a system.

Site Reference Signal An output signal generated from a highly stable oscillator.

Site Selectable Alert (SSA) A periodically repeating voice announcement. An SSA may occur when receiving a voice transmission.

Site Trunking Local trunking operations after remote site and audio link failures. The site controller performs all call processing. No communication links exist to other sites.

SmartConnect An APX NEXT application service which automatically switches your voice communications to broadband if you lose radio coverage.

SmartLocate An APX NEXT application service which enhances safety by keeping dispatchers better informed with the officers' GPS coordinates.

SmartMapping An APX NEXT application service which provides precise location information in a map view on the radio's display. For example, a police officer can see the location of other officers as icons on a map, quickly locate officers in distress, and tap on these icons to send each other alerts or communicate with them through the radio.

SmartMessaging An APX NEXT multimedia communication tool which allows users to securely share videos, pictures, texts and voice notes across extended teams. A dispatcher, for example, can send pictures of a suspect to a group of officers in a specific location, or share videos with a group of officers before they arrive at the scene of an incident.

SmartProgramming An APX NEXT application service which allows radio software updates to be accepted anytime and anywhere, by using the higher speed bandwidth and extended coverage of the LTE network.

SNMP Community String A text string that acts as a password. It is used to authenticate messages that are sent between the management station (the SNMP manager) and the device (the SNMP agent). The community string is included in every packet that is transmitted between the SNMP manager and the SNMP agent. After receiving an SNMP request, the SNMP agent compares the community string in the request to the community strings that are configured for the agent.

Software Download Manager (SWDL) An application that can transfer only, install only, or transfer and install new software to devices in either clear or secure mode. The new software can be installed either locally at a site or on the Network Management Subsystem (NMS).

Solutions Support Center (SSC) A Motorola Solutions service center that uses specialized tools and remote diagnostics to monitor and support customer solutions. The Network Monitoring System manages/filters/correlates event volume to 10-15% of raw alarm data and identifies important alarms out of the large number of alarms generated from networks. The specialized tools allow MSI to view the actual device that is malfunctioning and capture a log summary of date, time and possible cause of the event.

Spanning Tree Protocol (STP) A network protocol that prevents bridge loops and the resulting broadcast traffic that potentially could degrade or halt traffic. This protocol ensures a loop-free topology by assigning traffic to go through only one bridge to handle a message sent between two computers within the network.

Squelch A term that describes the effect of muting of audio circuits when received signal levels fall below a pre-determined value. With carrier squelch, all channel activity that exceeds the radio's preset squelch level can be heard.

Standalone Core An unpopulated zone that is present when devices are shared between a primary core and a backup core at a master site. The unpopulated second zone is the standalone core due to the use of the second zone's IP address space, even though that zone has no zone controllers, RF sites, consoles, etc.

Synonym: Phantom Zone

Standby Site Controller A site controller that does not have control of the external interfaces shared by redundant site controllers. Also referred to as being in the Standby or Offline state.

Star Topology A type of LAN topology, generally known as a star topology, is one in which the end points on a network are connected to a common central device by point-to-point links. The information arriving at the common device is broadcast to all the end point devices; each device is responsible for determining whether the information is intended for it or not.

Static Routing A routing technique that is often used in simple networks in which routes can be pre-configured and do not change during system operation. When static routing is used, routing tables in the routers are pre-configured and are not dynamically updated. Static routing is often used in the routers that are connected to the intrazone site links.

Static RP A statistically configured set of Rendezvous Points (RPs) in the Protocol Independent Multicast (PIM) routing system of a multizone system. A single file maintained by Network Management describes all possible IP multicast ranges and their assigned RPs, ensuring consistency of the static RP set across the entire system. Each router executes the commands in this file at initialization time. The file is called staticRP.

Static Sub-Band Restriction (S-SBR) A channel utilization method that determines the appropriate channel to use at an RF site when both 700 MHz and 800 MHz channel resources are available and is based on the SBR status of the talkgroup. To support talkgroup calls for SBR radios, configure a talkgroup to use S-SBR for channel selection (utilization).

Station Control A capability that allows the Dispatch Console to command an entity such as a base station, attached to a conventional channel to perform some function, for example, turn repeat on.

Steady State The average arrival rate of some event. The distribution of the inter-arrival times of the events is exponentially distributed.

Store and Forward (S&F) A feature that enables the Key Variable Loader (KVL) to store responses to Key Management Messages (KMM) commands which it receives from the Key Management Facility (KMF). The messages are forwarded to the KMF the next time the KVL connects to the KMF.

Storm Plan A Radio Control Manager (RCM) command that issues a set of predefined commands, which are easily executed in an emergency or expected situation, such as a parade. The details of Storm Plans are defined and set up using the Provisioning Manager (PM) and distributed to the RCM.

Sub-Band Restricted (SBR) Subscriber radios that can only operate in a portion of a frequency band or a specific frequency band are considered restricted to that portion of the frequency band. While actually not "sub-band" restricted, subscriber radios that only operate in the 800 MHz band in systems that provide both 700 MHz and 800 MHz channel resources may be considered "restricted" to that band and identified as SBR radios. SBR radios are static and dynamic.

Subnet Mask A 32-bit number expressed as four octets used to identify and separate the network portion and host portion of a 32 bit IP address. For example, a subnet mask of 255.0.0.0 identifes the first octet (255) as the network portion and the last

three octets (0.0.0) as the host portion for a Class A IP address.

Subscriber Group Identifier (SGID) A subscription used by a group of users when it is authenticated by the infrastructure. It consists of the Wide Area Communications Network (WACN) ID, System ID, and Group ID, 48 bits.

Subscriber Unit (SU) A terminal unit that typically communicates wirelessly with the fixed network.

Synonym: Mobile Subscriber, Mobile Subscriber Unit

Subscriber Unit Identifier (SUID) A programmed subscription used by the Subscriber Unit (SU) when it is authenticated by the infrastructure. It consists of the Wide Area Communications Network (WACN) ID, System ID, and Subscriber ID.

Supervisor Takeover A feature that allows a supervisor in a dispatch room to control whether or not a device that is not an AXS, MCC 7500E, or MCC 7500 VPM (for example, a deskset) can access an analog conventional base station that is controlled by an AXS, MCC 7500E, or MCC 7500 VPM Dispatch Console.

Switching and Routing Center (SRC) A rack containing the Cooperative WAN Routing (CWR) components, the LAN switches, and gateway routers. The SRC is built in the factory under a single model number with options for increased capacity, redundant site links, and interzone capability.

Switchover A transition to a standby replica of a server, system, or network that results from the failure of the active instance in redundant solutions.

Syslog Viewer A Web-based application with a simple user interface, developed by Motorola Solutions to enable accessing and viewing logs in the ASTRO® 25 system.

System Health Application Suite A software suite that monitors the location and talkgroup affiliations of subscribers as they move within the coverage zone of a system and monitor trunking activity and radio call traffic for an individual zone in near real time.

System ID A 12-bit Registration Area within a Wide Area Communications Network (WACN) that is used in combination with a WACN ID to form a unique subsystem identifier.

System Manager A person or a set of people with the highest level of system permissions. System Managers have configuration and fault information for all zones.

System Service Broadcast (SSB) Information sent over the control channel at or about a specific site. Information within the SSBs include site status and site capability information.

System Statistics Server (SSS) A server application that provides data storage for statistics data. For systems with more than one zone, this statistics server collects and stores system-wide statistical information from each Air Traffic Router (ATR).

Tactical Mode A mode of radio operation that determines how a radio behaves in an emergency situation. In tactical mode, the radio sends an emergency alarm on the currently affiliated talkgroup. This setting is pre-configured in the radio through Radio Service Software (RSS).

Talkgroup ID A unique number that refers to a specific talkgroup defined on the system. The assignable range is from 80000001 to 80065534.

Talkpath The alternating division of time used for APCO 25 TDMA voice calls within a 12.5 kHz radio frequency.

Tandem Vocoding A situation in which an audio stream is vocoded using vocoder A, de-vocoded, re-vocoded using vocoder B, and de-vocoded again. Although it usually results in the degradation of the audio signal when lossy-compression vocoders are used, it may be unavoidable when communications span differing system types.

Target Radio The radio whose operation is affected by an outbound radio command function or a radio selected to receive a call, Call Alert, or telephone interconnect call is being initiated.

Target Zone The zone to which a radio that is the target of a call, command, or service is currently affiliated.

TDMA-only Talkgroup An access type configuration value that configures the talkgroup to operate only in the Time Division Multiple Access (TDMA) mode, which can provide two voice calls per channel.

Telephone Media Gateway (TMG) A device based on the Voice Processor Module (VPM) hardware that translates audio between the ASTRO® 25 AMBE audio and IP PBX server G.711 audio. The Telephone Media Gateway supports both encrypted and clear audio to and from the ASTRO® 25 network. All audio exchanged with the IP PBX server is clear.

Telephony Firewall An optional firewall used for secure IP network connectivity between a Customer Enterprise Network (CEN) and the Enhanced Telephone Interconnect (ETI) subsystem.

Terminal Emulator A program that emulates a "dumb" video terminal within some other display architecture, for example, HyperTerminal or ProComm.

Terminal Server Hardware that provides serial access to Network Management (NM) servers and network transport equipment in the zone. The terminal server has a separate direct RS-232 connection to each of its supported devices. When used to support remote analog access, the terminal server is often referred to as the Remote Access Server (RAS) or Analog Remote Access (ARA) server. When used to support out-of-band management, the terminal server is often referred to as the Out-of-Band management server.

Throttle A term that refers to controlling the pace at which messages are launched. Throttling is normally utilized in case of increased load on the system to slow down messages or events to reduce the rate at which messages or events are sent or triggered and therefore to prevent an overload.

Throughput Delay The total time in ms between the initiation of a voice or data signal by pressing Push-to-Talk (PTT), until the reception and identification of the identical signal at the received output speaker or other device.

Time Division Multiple Access (TDMA) A channel access method that allows several users to share the same frequency channel by dividing the signal into different time slots.

Time Division Multiplexing (TDM) A method of transmitting and receiving independent signals over a common signal path by means of synchronized switches at each end of the transmission line so that each signal appears on the line only a fraction of time in an alternating pattern.

Tone Remote Control (TRC) A system that controls remote RF or other devices by using audio tones on the link to the device. The TRC sequence comprises of three basic elements: High Level Guard Tone (HLGT), Function Tone (FT), and Low Level Guard Tone (LLGT).

Top of Queue An emergency queue mode that indicates emergency calls have highest priority and receive the next available repeater.

Traffic Encryption Key (TEK) A symmetric key that is used to encrypt voice, data, or Over-The-Air Rekeying (OTAR) messages and is assigned to Common Key References (CKRs). For OTAR, the TEK is used to outer layer encrypt the Key Management Messages (KMMs).

TRAK A system providing ultrastable frequency time and reference signals, referenced to the GPS satellite system.

Transmission Delay The time in ms that is required for transmission of a voice frame or data packet through a communication channel.

Transmission Trunking A trunking mode that allows to end a call session by releasing the Push-to-Talk (PTT) button or switch.

Transmitter (Tx) An electronic device that generates and amplifies a radio-frequency carrier, modulates the carrier with information, and radiates the resulting signal from an antenna.

Transport Network Management (TNM) The applications, such as InfoVista®, that manage the transport network.

Transport Network Performance Server (TNPS) A server that the InfoVista® application resides on, known as the InfoVista server.

Synonym: InfoVista server

Trunked Radio Communications A computer controlled communications system that allocates speech channels on demand by selecting one randomly from the group of channels available.

Trunked Simulcast Prime Site Geographic Redundancy (TPSGR) Protection against single points of failure that may occur within the prime site. A TPSGR configuration geographically separates a Redundant Comparator prime site (15 or 32 capacity) into two separate locations. Each half of the prime site is referred to as a split-prime site.

Trunking Call Counts The measure of the managed trunked audio traffic at the site. The counts indicate the maximum number of simultaneous trunked calls desired/expected at the site.

Trunking Signaling Block (TSBK) A specific P25 Common Air Interface (CAI) block of data used to send non-voice information.

Trunking State The ability of a system or site to perform normal trunking operations. Each site has a trunking state and a pair of zones have trunking states relative to each other.

Trunking Subsystem (TSub) An ASTRO® 25 subsystem architecture that provides dispatch and mobility services within a local area when normal system-wide area communication is not possible. Under normal operation, all calls are processed under the zone core Zone Controller (ZC) control. The remote site devices (Trunking site controllers, consoles, conventional channel gateways) utilize the ZCs in the zone core. When connectivity to the zone core is lost, a fallback ZC located in the Trunking Subsystem (Tsub ZC) automatically provides the necessary call control for voice services.

Trunking Voice Access Time The time that is measured from a user initiating a Push-to-Talk (PTT) on the system to the resource being granted and the start of the transmission on that assigned resource. Trunking voice access times are based upon three conditions: a channel and a console resource are available for the call, there are no other calls in queue, and adequate bandwidth is available on all links in the system.

Tsub Server A Virtual Management Server (VMS) at the Trunking subsystem prime site. The Tsub Zone Controller, IP Packet Capture device, Domain Controller, and an optional Dynamic Transcoder (XCDR) reside in the same Virtual Management Server (VMS).

Two-Wire Interface (2W) An interface in which transmission and reception is performed on the same copper pair.

Ultra High Frequency (UHF) A term for the International Telecommunication Union (ITU) Radio Band with a frequency range of 300 to 3000 MHz.

Unchannelized E1 A line that supports a 2.048 Mbps bit stream with 1 or 2 time slots (Time slots 0 and optionally 16) used for framing and alarm and control signaling. Slot 16 may or may not be available depending on the Service Provider. In the unchannelized case, 30 or 31 of the 32 DS0s are used as a single serial bit stream of 1.920 Mbps or 1.984 Mbps respectively.

Unconfirmed Message Delivery The efficient use of packet data channels by reducing the size of messages to fit within an allocated transmission time slot. The reduction in size is accomplished by removing the retry and acknowledgment phase of confirmed messaging.

Unified Event Manager (UEM) A network fault manager that is provided with numerous communication systems. Its functions include device discovery, supervision, and synchronization.

Unified Network Configurator (UNC) A configuration management application for the ASTRO® 25 radio system that manages the following devices: gateways/routers, switches, terminal servers, base radios, site controllers, comparators, Voice Processor Modules, SmartX Site Converters, and Telephone Media Gateways. The UNC provides two applications for network management: VMware® Smart Assurance ™ and Unified Network Configurator Wizard. These applications are launched through a Web browser. Updates made in the Provisioning Manager (PM) application must be distributed to the UNC before they are active in the system.

Unified Network Configurator Device Server (UNCDS) A part of the High Capacity Unified

Network Configurator (UNC) configuration, which allows the UNC to manage up to 15000 devices.

Unified Network Configurator Wizard (UNCW) A configuration management application that is part of the Unified Network Configurator (UNC). It automates configuration file changes by providing forms that are filled out according to specified system parameters.

Unique Key Encryption Key (UKEK) A multi-character key typically assigned by the Crypto/ Security Officer for the system, which is used to communicate with other secure equipment such as a Key Management Facility (KMF).

Unit ID (UID) An identifier that is used to deliver a telecommunication service to a specific subscriber, mobile service unit, or dispatch console. It can be used to direct telecommunication services to the specific device irrespective of the current association of the device to a user. Also known as Working Unit ID (WUID).

UNIVERGE 3C A third-party software application developed by NEC for use with the Enhanced Telephone Interconnect feature in an ASTRO® 25 system.

UNIVERGE 3C Unified Communications Manager (UCM) A server delivered by NEC that is also called the IP PBX Server in the Enhanced Telephone Interconnect (ETI) feature in an ASTRO® 25 system.

Synonym: IP PBX Server

Universal Resource IDentifier (URID) A logical construct used to uniquely identify communications systems resources.

USB Audio Interface Module (USB AIM) An external device that interfaces a dispatch console with various peripheral devices such as a headset, microphone, footswitch, external paging encoder, local logging recorder, and so forth. The USB AIM also supports generic local auxiliary outputs.

User-Based Security Model (USM) A security model that is related to SNMPv3. Security is based on users who are assigned specific names, credentials, and privileges.

User Configuration Server (UCS) A server that contains the network database and stores information on system users.

User Datagram Protocol (UDP) A part of the IP protocol suite that offers a way to directly connect, send and receive datagrams over an IP network with minimum protocol overhead. UDP does not acknowledge or check for missing, out-of-sequence, or duplicate packets. UDP is often used in place of the TCP (Transfer Control Protocol) when reliable, guaranteed delivery is not required.

User Requested Standby (URS) A state applied by the Unified Network Configurator (UNC) that disables automatic switchover, which is used for Dynamic System Resilience (DSR) feature support. Conversely, the Standby state enables automatic switchover.

Vehicular Interface Port (VIP) A connector that allows the control head to operate external circuits and receive inputs from external circuits. Typical applications for VIP outputs are: external horn/lights, alarm, and hornring transfer.

Very High Frequency (VHF) A term for spectrum bandwidth occupied by 136 - 174 MHz.

Virtual Management Server (VMS) An ESXi-based physical server platform that hosts virtual machines. Each VMS acts as a standalone device with its own operating system, configuration, and applications.

Visitor Location Register (VLR) A database containing information on all radios currently in the zone that are based in another zone. The VLR manages a local copy of zone-specific information for individuals and VLR talkgroups. This information includes subscriber database information and site location information for both the individual and the talkgroup. Each zone has a VLR.

VMware® Smart Assurance™ Network Configuration Manager A configuration management application that is a part of the Unified Network Configurator (UNC). Formerly known as VoyenceControl and EMC Ionix Network Configuration Manager.

Vocoder A type of voice coder that consists of a speech analyzer and a speech synthesizer, which converts analog speech into digital signals for transmission, and digital signals back into artificial speech sounds for reception.

Voice Card An embedded card containing Digital Signal Processor (DSP) resources for the processing of clear (unencrypted) audio. The Voice Card provides vocoding and audio processing services.

Voice Operated eXchange (VOX) A switch that operates when a sound is detected and exceeds a certain threshold. It is used in voice transmission to automatically switch on a transmitter when a user speaks and switch off when the user stops speaking.

> **Synonym:** Voice Operated Switch, Voice Operated Transmission

Voice over IP (VoIP) A function that uses IP as a transport mechanism for voice applications.

Voice Processor Module (VPM) A module that combines the functionality of a voice card, an encryption card, dedicated auxiliary input/output ports, and line interface circuitry (T1/E1 interfaces) in one chassis. It is designed as a flexible platform that can be used in different subsystems by changing the software.

Voltage Standing Wave Ratio (VSWR) The ratio of maximum voltage to minimum voltage along the line. Expresses the degree of match between the transmission line and the terminating element (antenna). When VSWR is 1:1, the match is perfect, a VSWR of 1.5:1 corresponds to 96% power efficiency.

Voting A method of improving the talk-back range from a portable or mobile subscriber unit (MSU). The signal sent from the devices is picked up by receivers, which are connected to a device called a comparator. The comparator performs an evaluation of all received signals and selects the signal with the best quality for distribution to the rest of the system.

Warm Start A procedure that is initiated by the Key Management Facility (KMF) when there is a need to communicate securely with a unit that does not have any Traffic Encryption Keys (TEKs) in common with the KMF. This procedure sends a TEK to the unit that is common with one in the KMF so they can communicate securely. When a protected communications session is established, the KMF rekeys the radio.

Watcher An application program that interfaces with the Intelligent Middleware (IMW) to obtain status and attribute information about presence entities.

WAVE Tactical A software platform and suite of applications that supports secure instant communications across any IP network.

Wide Area Communications Network ID (WACN ID) A number that references a specific network of systems that are connected to one another.

Wide Operation A normal operation in a multiple site or multiple zone communication system, when remote sites can access the controlling point (Zone Controller).

Wideband (WB) A broadcast frequency communication channel. A system is wideband when the message bandwidth significantly exceeds the coherence bandwidth of the channel.

Wideband Air Interface (WAI) The interface between the Fixed Network Equipment (FNE) and the Mobile Radio (MR), or directly between MRs in a wideband system. This protocol is used in HPD systems as the equivalent of the Common Air Interface (CAI) in Integrated Voice and Data (IVD) ASTRO® 25 radio systems.

Wild Card A keyboard character that can be used to represent one or many characters, such as * or ?.

Windows Install Framework The application used to install files that are located on the Windows Supplemental media for the BAR client, Logging client, and also PuTTY.

Working Group ID (WGID) A unique ID within a Registration Area, for example a System ID.

X-Zone Infrastructure Signaling (XIS) An audio protocol that is used in APCO 25 systems. The Telephone Media Gateway (TMG) is responsible for translating XIS packets with AMBE encoded

audio into RTP packets with G.711 (A-law or u-law) voice encoding.

Zeroize An Over-the-Air-Rekeying (OTAR) command sent to an individual subscriber that erases all of the keys in the subscriber. The subscriber must be serviced directly with a Key Variable Loader (KVL) to restore secure operations.

Zone A geographical region covered by the system. The zone design comprises sites to allow intra-zone communications and roaming between sites/subsystems within a zone.

Zone Controller (ZC) A redundant server application that provides call processing for wide area radio communications and telephone interconnect calls.

Zone Core The equipment in a master site that is not part of radio access, command and control, or network connectivity. Only one core (sometimes referred to as a master site) exists per zone. The L core is a small scale version of M1/M2 zone core. The term small scale is used to distinguish this zone core from the larger M1/M2 zone core. The K core is labeled as conventional-only zone core as this core contains the conventional site controller (does not contain a zone controller).

Zone Core Protection (ZCP) A feature that requires additional firewalls and Mediation LAN switches. The core routers and exit routers connect to Mediation LAN switches. These connections allow traffic from remote sites into the ZCP firewalls at the master site. The firewall monitors traffic and applies policies and rules to determine what traffic is safe to allow into the zone core. A Centralized Event Logging (CEL) server can be added to collect Syslog messages from Event Logging clients in the remote sites and Mediation LAN, and an Intrusion Detection System (IDS) switch can be added to monitor traffic from both the Mediation LAN switch and the Demilitarized Zone (DMZ) switch.

Zone Database Server (ZDS) A Private Network Management (PNM) server that functions as a low-level Lightweight Directory Access Protocol (LDAP) server for the LDAP clients in dispatch console sites and site gateway (conventional channel interface) sites. The LDAP server on each ZDS is active at all times, so ZDS LDAP clients can pull configuration data from either ZDS in a zone.

Zone Network Management An ASTRO® 25 subsystem that includes Virtual Management Server (VMS)1 (ZC1, Zone Statistics Server, Air Traffic Router), VMS2 (ZC2, Unified Event Manager), Network Management Client, CSMS, and more.

Zone Statistics Server (ZSS) A server application that collects and stores zone-wide statistical information regarding call processing traffic. This traffic is derived from the Air Traffic Information Access (ATIA) stream supplied by the Air Traffic Router (ATR). Network management applications use this information to create reports on resource usage and performance.

ZoneWatch (ZW) A network management application that monitors trunking activity and radio call traffic for an individual zone in near real time. This application is part of the Private Radio Network Management (PRNM) suite.