etherstack
P25 Protocol Stack Software
P25 Interoperability Assured

APCO P25_ Base Station

Building an APCO P25 Base Station?

Etherstack's off-the-shelf APCO P25 products provide the fastest, lowest risk and most cost effective path to market.

Written in highly portable ANSI C/C++, our feature-rich APCO P25 software is designed to be integrated onto your platform with ease.

APCO P25 Base Station Application + Protocol Stack

Etherstack has a comprehensive range of TIA APCO P25 compliant Base Station and Repeater options.

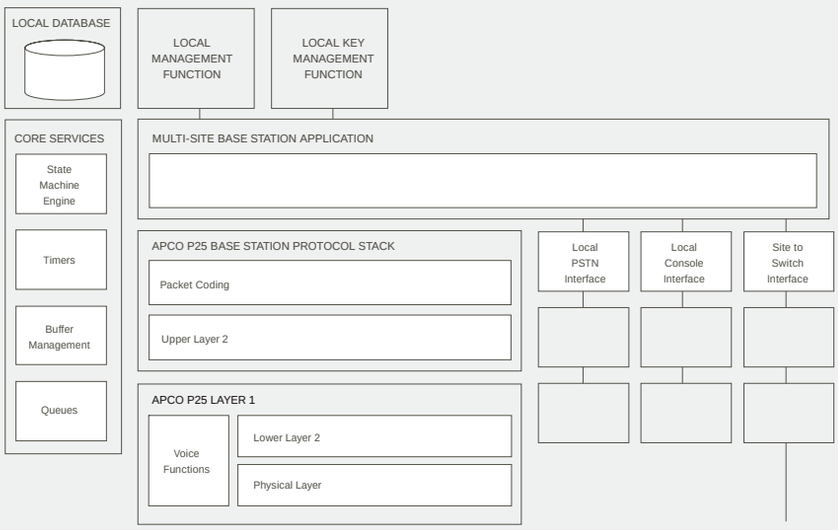
We offer three standard Base Station variants, depending on your requirements – APCO P25 Conventional only, APCO P25 Trunked (Single Site) and APCO P25 Trunked (Multiple Site). The most sophisticated of these supports full Trunked and Conventional operation and all mandatory Call Types, Supplementary Services and System Broadcasts. It employs a multi-site half-leg call model to defer call setup decisions to central arbitration and includes single site fallback and a wide area site-to-switch protocol.

Naturally, all our standard products can be customised to suit your requirements.

Our protocol software is constructed as a set of layered components (Layers 1, 2, 3 and Base Station Application Layer) for a cleaner, more adaptable architecture. These components can be supplied individually or together, and can be split across multiple processors if necessary (for example, the upper layers and application can run on a Base Station processor while the lower layers reside on the Base Station's transceivers).

Features

- Three variants available, depending on your requirements:
  - APCO P25 Conventional Only
  - APCO P25 Trunked (Single Site) + Conventional
  - APCO P25 Trunked (Multiple Site) + Conventional
- All APCO P25 Call Types
- All APCO P25 Supplementary Services
- OTAR
- SNDCP Packet Data
- Phase 2 Trunking Upgradeable
- Full integration, testing, servicing and support from highly experienced APCO engineers
- Comprehensive Test Tool suite for rigorous pre and post-integration testing
- Product customisation service
- Shipped with source code, full design documentation and well-defined interfaces
- Ongoing updates for cutting edge compliance with TIA Standard



Other Etherstack Factsheets.

APCO P25 Mobile / APCO P25 Base Station / APCO P25 Off-Air Monitor / APCO P25 Data Service Node / Metropolis P25 Core Network

APCO P25 Base Station Application + Protocol Stack Features

Conventional Variant

- P25 FDMA Common Air Interface
- Analogue repeater (Optional)
- All Conventional Voice Call types (Unit to Unit, Unit to Group, System Call)
- Conventional PSTN Calls (Unit to PSTN, PSTN to Unit/Group)
- Emergency Calls
- Telephone/PSTN interconnect
- Type 3 DES Encryption (Optional)
- Over-The-Air-Rekeying (OTAR)
- All APCO P25 Supplementary Services (Call Alert, Short Message, Status Update, Status Query, Emergency Alarm, Radio Unit Monitor)
- All Conventional APCO P25 Extended Functions (Radio Check and Radio Transmit Inhibit / Uninhibit)
- All Conventional APCO P25 System Status Procedures (RFSS Status Broadcast, Network Status Broadcast, Adjacent Site Broadcast and System Service Broadcast)
- Network Access Control/NID
- Confirmed & Unconfirmed Data
- Local Site Management Interface support
- Local Key Management Interface support
- Local PSTN Interface support
- Local Data interface support
- Site Alarm Reporting

Trunked Version (Single Site) Variant

- All Conventional variant features, plus:
- Trunked Control Channel
- All Trunked Voice Call types (Unit to Unit, Unit to Group, Announcement Group Call, Broadcast Call, System Call)
- Trunked PSTN Calls (Unit to PSTN, PSTN to Unit/Group) including support for PSTN dialling types.
- All Data Call types (Unit to Unit, Unit to Group). Note that these procedures are expected to be deprecated and replaced by SNDCP.
- Radio Detach (Forced Deregistration)
- All System Status Procedures (including Protection Parameter Broadcast and Secondary Control Channel Broadcast)
- FNE Calls (such as from consoles)
- SNDCP Data
- OTAR over SNDCP
- Roaming Support
- Type 3 Voice and Data Protection
- Type 3 Control Channel Protection
- Management of local channel resources
- Secondary (and multiple) Control Channels (Optional)
- Call Timers
- Site, System and WACN IDs

Trunked Version (Multiple Site)

- All features of the previous two variants plus:
- Wide Area Trunked Call Support (Unit, Group, PSTN, FNE etc…)
- Wide Area Roaming Support
- Interconnect to Core Switching Network (wide area call control)
- Remote management functions (Such as subscribers, site alarms, site configuration etc…)
- Packet or circuit interconnect support

Market Expertise

Etherstack has substantial APCO experience and intellectual property – our APCO engineers are market leaders in the timely delivery of APCO products to clients around the world. We are an active member of the TIA APCO P25 Standards development process and systematically update our APCO-P25 products in accordance with the ongoing TIA standardisation process.

As a result, our protocol software forms a benchmark for APCO P25 interoperability.

Open Site Switch Interface

Etherstack's Base Station exposes an open interface with API that Switched Network vendors can use to interface to their own switching solution. Clients without a custom solution can use Etherstack's Metropolis APCO P25 Core Network Switching product, which is fully interoperable with our Base Station software.

Integration and Test Services

Our protocol software is abstracted from the underlying hardware and operating system by a "Core Services" module responsible for managing timing, memory and other services. This module is ported to your target without alteration to the protocol software. Our engineers are expert at this and can do the job for you on site.

All protocol products are shipped with test plans, custom automated test tools, and test scripts. The protocol product and tests are deployed within a unique simulation environment that allows software development to be completed in isolation from the hardware platform.

We also have a range of products for testing integrated APCO P25 Base Stations.

Our Off-Air Monitor can snoop inbound and outbound frequencies of an APCO P25 channel simultaneously, and move channels to shadow a mobile in and out of calls. Traffic in both directions is dynamically displayed in raw binary and interpreted form on a Graphical User Interface. We have also developed reference APCO P25 Mobile and Base Station Applications to simulate inbound and outbound traffic on the air interface.

Turnkey Development

Etherstack is skilled at developing third-party products from scratch, and places high emphasis on the quality of its requirements appraisal, support and documentation.

Contact us if you require customisation or development of a wireless protocol product.

Warranty and Support

Etherstack offers a comprehensive warranty and support package for our product range. Our package keeps you up to date, with the latest standard offerings.

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