APCO P25 Phase 1 and 2 Mobile Station Protocol Stack

P25 Phase 1 and Phase 2, available separately or together as a complete solution for modern, narrowband communications.

Options Available:
- Phase 1 Conventional (includes Analog and Simulcast)
- Phase 1 Conventional + Trunked
- Phase 1 and 2, Conventional + Trunked
- Phase 2 Only

Upgrade path between all options.
Etherstack engineers specialize in radio communications software. With over fifteen years of experience and an international client base, Etherstack combines wireless protocol software design with all-IP soft switching expertise derived across professional mobile radio, military and cellular communications. We work closely with our customers to achieve technical excellence, successful delivery at fixed price, ongoing support and software that can be reused.

Software Reuse
Protocol software represents a key investment. It is important you can reuse it on future platforms and in derivative products to save money, reduce risk, speed time-to-market and respond quickly to changing market requirements. Code reuse is our priority. We specialize in highly modular operating-system agnostic software that can be ported to a wide range of embedded platforms.

Working with Etherstack
We consider ourselves an extension of your engineering team. You have full visibility of our engineering products and processes. We also provide support as required to ensure delivered software meets your requirements as you go to market. While you concentrate on platform, package and service differentiation in an ever more complex market, we take care of the standards-based software.

Evolving Standards, Evolving Software
We have developed an advanced embedded software test system to ensure our code can be maintained across different radio platforms as the TIA standards and radio features evolve. This allows automated software testing and debug analysis during development, integration, field trials and as new features are introduced over time.

APCO P25 Mobile Station Protocol Stack
Etherstack’s widely fielded P25 trunking, conventional, simulcast and analog protocol stack has passed CAP testing, is interoperable with equipment from all major manufacturers and supports key advanced features in the TIA P25 standards including SNDCP, OTAR and AES/DES Encryption. It is implemented in ANSI C as a set of layered components (Layers 1, 2, 3 and Application), and can be split across multiple processors as necessary. Target-optimized versions of critical modules are derived if required. Binary and source code licenses available.

P25 Specialists
Etherstack licenses APCO 25 technology to radio manufacturers around the world and now offers all of the software required to build an advanced P25 network, from the handheld radio to the system edge. We are very active in TIA APCO 25 standardization efforts and systematically update our fielded products in accordance with this. As a result, our protocol software forms a benchmark for APCO 25 interoperability.

P25 Phase 1 Features
- P25 Conventional and Trunking
- AES/DES Encryption and OTAR
- Packet Data (SNDCP and SCEP)
- GPS Location Services
- LSM and WCQPSK Simulcast
- Analog FM (CTCSS and DCS)
- Customizable for new features
- Layer 1, 2, 3 and Application
- CAP Tested
- Specification, Integration and Warranty Services
- Automated Test and Analysis Environment
- Design, Interface and Test Documentation

P25 Phase 2 Features
- 2-slot TDMA Traffic Channel
- H-CPM uplink, H-DQPSK downlink
- Phase 2 Trunking Messages
- VTCH / SACCH / FACCH / ISCH
- Phase 1 Mode Management
- Call Continuation
- Audio and Call Preemption
- Traffic to Control Channel Synchronization (Option)
- Closed Loop Power Control (Option)
- Duplex Voice (Option) [TDD – Note this is not yet standardized]
- TIA 102.BBAA-2010
- TIA 102.BBAB-2009
- TIA 102.BBAC-2010

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Other Products
- P25 Phase 1 and 2 Base Station Protocol Stack
- P25 All-IP Network and Test Systems
- FIPS 140-2 Crypto Modules
- P25 Transceiver Reference Designs
- DMR and TETRA MS + BS Protocol Stacks

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