consoles you can count on

Project 25 Fact Sheet

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INTRODUCTION

In the early 1990s, the Association of Public-Safety Communications Officials – International, Inc. (APCO) initiated Project 25 (P25) to create an open standard for digital two-way radio technology targeted at meeting the needs of public safety organizations, primarily in North America. The following needs were the primary drivers behind Project 25:

- radio spectrum is becoming more congested
- the demand for data transmission is more pronounced
- systems need increased functionality
- secure communication is a growing necessity
- improved voice quality is essential over more of the coverage area

In response to P25, the Telecommunications Industry Association (TIA), a recognized standards development organization, assigned the task of setting voluntary P25 standards to engineering committee TR-8 which addresses Mobile and Personal Private Radio Standards. Avtec maintains staff on the TR-8 committee.

In addition to APCO and TIA, P25 is supported by the National Association of State Telecommunications Directors (NASTD) and by many federal agencies including the Department of Homeland Security's National Communications System (NCS), the Department of Defense, and the National Telecommunications and Information Administration (NTIA). This interest spawned the Project 25 Technology Interest Group (PTIG), a group composed of public safety professionals and equipment manufacturers with a direct stake in the further development of, and education on, the P25 standards. PTIG's purpose is to further the design, manufacture, evolution and effective use of technologies stemming from the P25 standardization process. Avtec is a member of PTIG.

STATUS OF P25

There are three phases of P25 development.

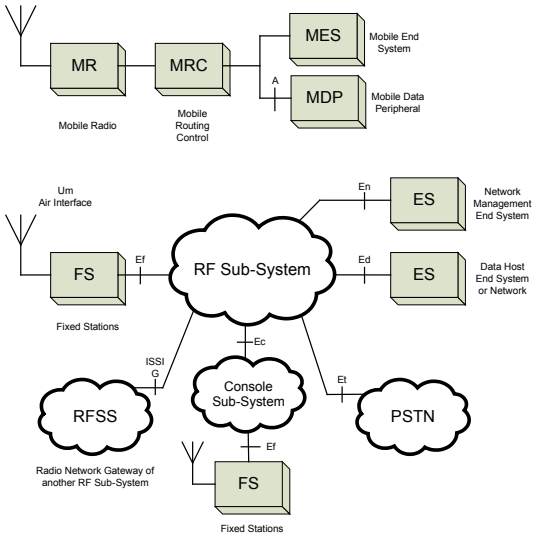
Phase I
Phase I specifies the common air interface (CAI) and vocoder requirements for 12.5 kHz bandwidth operation in both a conventional and trunked environment, along with several additional functions including encryption and over-the-air rekeying (OTAR). Phase I is now complete and many systems are being implemented using these technologies. The TIA standards for Phase I are described in the 102-series of technical documents available from Global Engineering Documents.

Phase II
Phase II is currently in development. Phase II will specify additional air interface specifications to provide 6.25 kHz equivalent bandwidth operation to allow better spectrum efficiency. In addition, Phase II work involves console interfacing between repeaters and other subsystems, and man-machine interfaces for console operators that would facilitate centralized training, equipment transitions and personnel movement.

Phase III
Phase III activities (also known as APCO Project 34 and TIA Project MESA) will be addressing the operation and functionality of a new wireless digital wideband/broadband public safety radio standard that could be used to transmit and receive voice, video and high-speed data in a ubiquitous, wide-area, multiple-agency network.

CONSOLE COMPLIANCE

The following diagram identifies the various interface points within a P25 system. The interfaces that apply to consoles are the Ec interface to the RF Sub-System (RFSS), and the Ef interface to fixed stations. The functionality required for consoles is identified in the P25 Statement of Requirements, document P25.920819.1.19, available on the PTIG web site (www.project25.org).



While the requirements for a console are documented, the definition for the console interfaces, part of Phase II, does not yet exist.

There is no console compliant with the TIA P25 standards at this time since TIA standards for the console interfaces do not yet exist.

AVTEC P25 CONSOLE OPTIONS

While the needed standards do not yet exist, there are a couple interface options available for Avtec radio dispatch consoles.

Option 1 – Fixed talkgroup/channel with no PTT ID
As is always the case, Avtec consoles can be interfaced to any radio using 4-wire audio and PTT. Thus any manufacturer's P25 subscriber unit (and perhaps some fixed stations) can be interfaced to Avtec consoles with the sole features being transmit and receive on a fixed channel or talkgroup.

Option 2 – Wired, direct fixed station and RFSS interfaces
Connection to fixed stations and P25 RF Sub-System may have to wait until the TIA standards for console interfaces have been adopted and approved.

PROJECT 25 LINKS

APCO – www.apcointl.org/frequency/project25
TIA – www.tiaonline.org/standards/project_25
Global Engineering Documents – www.global.ihs.com
PTIG – www.project25.org

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