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Service Bulletin

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Issue: Digital versus analog squelch controls

Affected Models: All DPH Portables

Recommended Action: Program radio as necessary

NOTIFICATION ONLY

Analog Squelch Control:

Sub-audible signaling (CTCSS/CDCSS) is used to allow a group of radios to be selectively called in a system. Programming the receive guard equal to zero allows for 'carrier squelch' operation, where the radio will unmute whenever a carrier is detected.

APCO Project 25 Squelch Control:

Network Access Codes (NACs) provide the digital equivalent of analog sub-audible signaling (CTCSS/CDCSS) allowing a group of radios to be selectively called within a system.

Users in the same area (using the same NAC) can be further divided into Talk Groups, with each group having its own Talk Group ID (TGID). 'Group Calls' are made by designating both the users' NAC and TGID.

Each radio also has an individual P25 unit ID. A 'Unit-to-Unit Call' contains the addressee's NAC, and uses the addressee's P25 unit ID instead of the TGID.

When operating in digital mode, each channel can be programmed to use either Normal squelch or Selective squelch.

Normal Squelch – Normal squelch is used to mimic analog operation. Signals are only qualified with the programmed NAC. TGIDs and P25 Unit IDs are ignored. Each digital channel is programmed with a receive NAC and a transmit NAC. When an incoming signal's NAC matches the channel's programmed receive NAC, the radio unmutes. The default NAC is 659 (\$293 hex). The digital equivalent of carrier squelch is achieved by programming the receive NAC = 3966(\$F7E hex) the radio will unmute when a digital signal when **any NAC** is detected. The 3966 (\$F7E hex) NAC is reserved for receivers and is not allowed as a transmit NAC.

Selective Squelch – Selective squelch is used for processing 'Group Calls' and 'Unit-to-Unit Calls'. TGIDs are assigned on a per-channel basis. Users can be separated into Talk Groups with each group having its own TGID. Then, on channels programmed for Selective squelch, the incoming signal's NAC and TGID must match the channel's programmed receive NAC and TGID for the radio to unmute. The default TGID is 1. The TGID value 65535 (\$FFFF hex) is used to effect an "All Call". If the radio receives a signal with a matching NAC and the TGID = 65535 (\$FFFF hex), it will unmute. Also, if the radio's programmed TGID is 65535 (\$FFFF hex), it will open on any signal with a matching NAC, ignoring the incoming TGID. A TGID = 0 means "no one". If the radio is programmed with the TGID = 0, it will accept incoming group calls containing the "All Call" TGID, and correctly addressed Unit-to-Unit calls.