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Motorola Solutions Technical Notification (MTN)

TITLE: PSU initiated emergency via DVRS may cause the vehicular repeater (VR) to eventually stop functioning properly

TECHNOLOGY: ASTRO Subscriber

SYMPTOMS:

A PSU initiated emergency via DVRS results in repeated transmission of the Emergency alarm and eventually the vehicular repeater (VR) stops working properly without any indication to the PSU user.

VR stops working properly (all functionality impacted) after approximately 60 PSU Emergency retries without DVRS powering down.

- The number of retries is cumulative between all PSUs working through that DVRS
- The number of potential PSU retries is as programmed = Polite + Impolite
- PSU retries continue until exhausted or Emergency is acknowledged by RCM/Console/CADi

MODELS / SYSTEM RELEASES / KITS / DATE CODES AFFECTED:

- APX DVR, DVR-LX, VRX1000 with:
 - [VR Firmware R1.73](#) (APX Radio Firmware Release R27). Note that previous versions are **not** affected
 - VR Configuration (FRC): Mobile Radio Channel Setup->Emergency Ack. Type = **VR Ack**

SEVERITY RECOMMENDATION:

Risk of Occurrence- is customer configuration dependent and based on the following factors:

- User Operating Procedures and how often a PSU Emergency is initiated
- The number of programmed PSU retries: Polite + Impolite
- How frequently DVRS is restarted (powered down)
- System Emergency Ack type:
 - **RCM** - reduced risk due to quicker acknowledgement of emergency, thus stopping PSU retries
 - **Console**- increased risk due to manual acknowledgement of emergency, thus potentially allowing some PSU retries
 - **CADi** - depends on implementation of acknowledgement process and whether is it automatic (reduced risk) or manual (increased risk)

Severity if Issue occurs: [HIGH](#)

ROOT CAUSE / DEFINITIVE TEST:

Firmware defect in [VR Firmware R1.73](#) (APX Radio Firmware Release R27)

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WORKAROUNDS AND CORRECTIVE ACTIONS:

1. If VR has stopped working, restart the DVRS (power down the Mobile/VR)
 - this resets the count of accumulated PSU Emergency retries to zero and VR resumes proper operation
2. Reduce the risk of occurrence by enabling automatic system emergency acknowledgements.
Depending on the configuration, set **System Emergency Ack type** to **RCM** or **CADi** for each impacted talkgroup.
 - Reduces the risk of issue occurrence, by quicker acknowledgement of emergency, thus stopping PSU retries
 - Issue may still occur after approximately 60 PSU Initiated Emergencies through a DVRS (if prior to a DVRS power down / restart).
 - Note: "Initiated Emergency" count through a DVRS- can be from a single or multiple PSUs
3. Reduce the risk of occurrence by restarting the DVRS more frequently
 - ensure DVRS is powered down prior to reaching the Emergency retries total

RESOLUTIONS AND REPAIR PROCEDURES:

This issue only impacts VR Firmware R1.73 (System Release R27).

- If using [VR Firmware R1.73](#) (APX Radio Firmware Release R27.xx.xx), please upgrade to [VR firmware version R1.74](#) (APX Radio Firmware Release R28.xx.xx) or greater.

PARTS REQUIRED (HARDWARE/SOFTWARE):

[VR Firmware Version R1.74](#) (APX Radio Firmware Release R28.xx.xx) or greater

WHEN TO APPLY RESOLUTION:

Only if using [VR FW R1.73](#) (APX Radio Firmware Release R27.xx.xx)

LABOR ALLOWANCE:

This is an informational bulletin. No labor warranty is implied, intended or authorized.

Please contact Motorola Support and reference [MTN-0042-23-NA](#) for further assistance.

The APX Support team can be reached at **1-800-MSI-HELP**; Use voice commands to ask for **"Technical Support"**, then specify **"APX"** as the product family