APX P25 Interfaced VR
Firmware Release 1.72 – Release Notes

	New Version	Old Version
VR Application Software (4C083X11):	**1.72**	1.71
VR Boot Firmware (4C083X02):	**1.60**	1.60
VR BB DSP (4C083x04):	**1.71**	1.71
DVR/DVR-LX® TR DSP (4C083x03):	**1.18**	1.18
VRX1000 TR DSP (4C087x05):	**1.07**	1.07
Futurecom Repeater Configurator Software (6A083X06):	**1.29**	1.28

Note: New firmware and FRC software support all hardware platforms - DVR-LX®, DVR and VRX1000.

Compatible with following Motorola Radio Firmware Versions:

DVR	APX4000/6000/6500/7000/7500/8000/8500	R26.00.00 or later
DVR-LX®	**APX4000/6000/6500/7000/7500/8000/8500**	**R26.00.00 or later**
VRX1000	**APX2500/4000/4500/5500/6000/6500/7000/7500/8000/8500**	**R26.00.00 or later**

NOTE: Older MSU firmware is not compatible with this release - **MISMATCH ERROR** message will be displayed on control head. Please check Futurecom website for Compatibility Chart.

New Features / Enhancements:

- Primary / Secondary Preference feature: When a Primary VR is moving within a GPS threshold and it comes in range of a stationary Primary VR, the stationary Primary VR can be configured to always win the Primary/Secondary negotiation.
- VR User Interface enhancement: Long DVRS button press can now be configured to access the DVRS menu on the MSU Control Head
- MSU/DVR firmware allows VR ID update via OTAP / Radio Manager even when there is no change in DCD file.

Issues fixed:

- PSU not affiliated to VR after VR channel is switched from Unit ID translation enabled VR channel to regular VR channel [DVR-1260]
- AVRA/GPS tone is played on mobile speaker when DVR deactivated via AVRA even though AVRA/GPS tone option is disabled in FRC [DVR-1299]
- PM button removed from DVRS Menu when DVRS Long Button press assigned to Permanent Primary Control [DVR-1185]
- Primary VR can cause Permanent Primary on Standby to become Permanent Primary [DVR-1241]
- No message displayed on Control Head when long button press is used for Permanent Primary control [DVR-1250]
- If talkgroup translation is enabled on VR, queued PSU call starts after noticeable delay [DVR-1133]
- If NAC Linking is enabled, emergency initiated from local PSU may trigger premature VR activation or unnecessary Primary/Secondary switchover [DVR-1328]

- Repeated emergency affiliation request from PSU attached with NAC linking to one VR fails to activate other VRs [DVR-1229]
- PSU and DVR authentication can get out of sync resulting in delayed PSU attachment [DVR-1126]
- If NAC Linking is enabled, authentication failed PSU is not showing "Sys auth fail" status and it fails to make local-only calls after channel transition or power cycling [DVR-1364]
- PSU may consider itself attached even though DVR/MSU did not attach it to FNE [DVR-1084]

Known issues:
- MDC Emergency PSU ID being passed when "Use MSU Emergency ID" is enabled [DVR-1281]
- VR is not performing Primary/Secondary Preference if AVRA is disabled [DVR-1397]

HISTORICAL RELEASE NOTES FOR REFERENCE

Firmware Release 1.71 – Release Notes September 2021
Compatible with following Motorola Radio Firmware Versions: 25.00.00 or later

New Features / Enhancements in Release 1.71:

- None

Issues fixed in Release 1.71:

- VR is on Forced Analog channel and Talkgroup Translation enabled: if MSU is switched from Analog to Digital P25 channel, PSU call is denied [DVR-935]
- No In Car Monitor (ICM) when MSU is Out-Of-Range and Local to System Call Upgrade is enabled [DVR-963]
- On Type II trunking system, if PSU can reach two Primary VRs, one of the Primary VRs may reattempt call handling causing loss of audio [DVR-949]
- After VR is deactivated by AVRA, VR activation by MSU Mode change may fail to activate VR [DVR-964]
- System Wide call from Local PSU via VR is not repeated locally [DVR-958]
- When MSU is operating through Smart Connect and DVR mode is set as Local, DVR repeats local call on selected MSU TG instead of System Wide talkgroup FFFF [DVR-1034]
- Duplicate ID triggered by Legacy PSU is not displayed on MSU CH [DVR-1020]
- NAC Linking feature fails to initialize a unique NAC after enabling feature for a channel. [DVR-1131]

Known issues in Release 1.71:

- None

Firmware Release 1.70 R2 – Release Notes July 2021
Compatible with following Motorola Radio Firmware Versions: 24.00.00 or later

New Features / Enhancements in Release 1.70:

- GPS Driven Deactivation feature (licensed feature): if MSU is equipped with GPS functionality, this feature allows VR to automatically deactivate (go to OFF mode) when it starts moving faster than a specified speed and/or has moved farther than a specified distance.
- NAC Linking feature: if PSU is in a range of multiple Primary VRs (VRs are located far enough from each other so that they are both acting as Primary VRs), this feature links the PSU to only one VR.
- Improved error messaging on the MSU Control head and FRC Update Info window while using RM – OTAP (Licensed feature) with a VR. Detailed information is added to the VR Programming Guide, Troubleshooting Section.

Issues fixed in Release 1.70:

- When the MSU is programmed for Emergency Call only and in emergency state, the DVR-LX/DVR does not revert from Local to System Mode when MSU microphone PTT is pressed [DVR-549]
- Unable to clear emergency sent from the Harris Console when PSU is TG translated [DVR-663]
- Error messages displayed on the Control Head while using RM OTAP and no feature license available on VR [DVR-842]
- DCD template created on DVR cannot be loaded on DVR-LX [DVR-847]
- PTT from PSU while MSU in OOR will cause PSU to transmit local even though Fallback to Local Repeat is disabled [DVR-556]
- Encrypted PSU call not working properly on duplex analog DVR-LX/DVR channel [DVR-929]
- Emergency Alarm is not received by PSUs that have the PSU Conventional Scan feature turned on [DVR-859]

Known issues in Release 1.70:

- VR activation by MSU Mode change may fail to activate VR if AVRA is in inactive state [DVR-964]
- DVR-LX/DVR is on Forced Analog channel and Talkgroup Translation enabled; if MSU is switched from Analog to Digital P25 channel, PSU call is denied [DVR-935]
- *August 20, 2021* - NAC Linking feature fails to initialize a unique NAC after enabling feature for a channel. [DVR-1131]

Firmware Release 1.64 – Release Notes February 2021
Compatible with following Motorola Radio Firmware Versions: 23.00.00 or later

New Features / Enhancements in Release 1.64:

- SmartConnect In Vehicle Range Extension: Supports MSI SmartConnect to allow In-Vehicle Range Extension through VR. Refer to Futurecom VR Functional Description for full feature description and limitations.
- Improved OTAP license processing: allow RM OTAP license to be applied on DVR via RM/MSU
- Prevent multiple portables from context activating at the same time: hide data capabilities for 60 sec when more than two PSUs are activating (attaching) within 30 seconds
- Improved Local to System call upgrade capability on TDMA systems (use the last granted FR/HR for local fallback repeat from LPSU)
- Improved PSU Authentication handling on simplex digital VR channels
- Improved Hot Mic Emergency alarm and call handling on simplex analog channels

Issues fixed in Release 1.64:

- On a simplex analog channel, VR may inadvertently repeat back to the system a short burst of outbound call audio. User will notice a loopback effect.
- DVR in Simplex Analog mode does not follow the Reverse Power setting in FRC and always sends out a Primary Heat Beat at 40dBm (Max Power) [DVR-392]
- If programmed for Unconditional VR Emergency Ack, DVR fails to send Ack to PSU when MSU is unable to proxy emergency request to the system (for example MSU is OOR). PSU would continue to send Emergency Alarm request until all retries exhausted.
- When the DVR is on a Mixed Mode channel and the Mixed mode timer is running, PTT from DVRS Enabled PSU was initiating Digital Call instead of Analog [DVR-500]
- While MSU is operating on Foreign Systems, DVRS was incorrectly displaying "VR Limited" ASTRO [SUB-31601]
- First press of PM (Permanent Primary) button in DVRS Menu may get rejected for no apparent reason [DVR-521]
- Inconsistent mode change via Control Head Keypad – fix allows user selection of any VR mode (Off/Local/System) when an MSU channel is configured as "User" [DVR-400]
- If MSU is OOR or NO COMMS and unable to attach PSU, local only call is initiated on TG 0 and dropped immediately due to TG mismatch (affected configuration: Fallback to Local Repeat - enabled, Local to System Call Upgrade – enabled).
- If sequence of pre-programmed analog tones is exceeding 3 seconds, tone transmission is truncated [DVR-501]
- Some APX 8500 radios may fail to power up in correct mode when Fixed Power-up mode is programmed [DVR-497]
- When PL/DPL steering requires DVR mode change only (no MSU zone/channel change), DVR fails to change mode [DVR-402]
- If Flexible Mode Change is enabled, remote activation via DTMF sequence cycles the DVR through SYS>LOC>OFF modes instead of always changing mode to SYS. [DVR-410]

Known issues in Release 1.64:
- When the MSU is programmed for Emergency Call only, the DVR does not revert from Local to System Mode [DVR-549]

Firmware Release 1.63 – Release Notes November 2020
Compatible with following Motorola Radio Firmware Versions: R21.60.00 or later

New Features / Enhancements in Release 1.63:

- **Firmware download over LMR**, Supports MSI ability to allow firmware download on selected MSU over the LMR network.
- **Secure Data Through VR**, Supports end to end encryption of GPS location for APX radios when operating on ASTRO 25 M3 trunked network through a VR.

Issues fixed in Release 1.63:

- DCD file inadvertently alters repeater behavior while using RM OTAP feature. FRC now saves DCD file in new format. VR Application S/W now rejects DCD file in old format (DVR-471)
- VR does not always acknowledge Remote Activation via LPSU Page (DVR-211)
- Transition to System mode is occurring even if the Mobile Repeater channel or the VR channel is configured as a Local-Fixed channel (DVR-376)
- Improved handling of large data packets (DVR-409)
- If VR Flexible Mode change enabled, VR unexpectedly cycles through SYS>LOC>OFF modes upon receiving DTMF activation sequence (DVR-410)

Known issues in Release 1.63:
- None