```
*****************************************************************
KNG Firmware Releases Notes  - Release 5.5.0h
*****************************************************************
```

Release Date April 24, 2018
Release KNG-Pxxx Portables   Ver. 5.5.0h
        KNG2-Pxxx Portables   Ver. 5.5.0h
        KNG-Mxxx Mobiles   Ver. 5.5.0h
        KAA0660 Remote Control Head   Ver. 5.5.0h
        KAA0670 Handheld Control Head   Ver. 5.5.0h

Minimum RES Editor KAA0733   Ver. 5.5.4

Features

General:
        Add Keypad Auto PTT feature
        Fixed issue where toggling the 'I/O Enable' button would set the pin
enables to the parms instead of all true for mobile I/O
        Reworked mobile I/O to support new dynamic addressing


```
*****************************************************************
KNG Firmware Releases Notes  - Release 5.5.0f
*****************************************************************
```

Release Date December 15, 2017
Release KNG-Pxxx Portables   Ver. 5.5.0f
        KNG2-Pxxx Portables   Ver. 5.5.0f
        KNG-Mxxx Mobiles   Ver. 5.5.0f
        KAA0660 Remote Control Head   Ver. 5.5.0f
        KAA0670 Handheld Control Head   Ver. 5.5.0f

Minimum RES Editor KAA0733   Ver. 5.5.3

Features

General:
        Display will no longer timeout while message screen is displayed
        Add radio name to versions and radio info menus
        Allow keyset now restricts the keyset to the first available if it is
disabled
        All_in_One Lightning Light includes the firmware for HCH, Mobile, Portable,
Portable-G2 and RCH. It will automatically detect the correct device once the
device is put into the flashing mode. KNG2 radios with firmware version <5.5.0f
will not be properly detected, follow the instructions below.
                - Open the Lightning Light KNG_5.5.0f_All_in_One_719-05214-001.exe
                - Navigate to the "Options" menu at the top
                - Select "Flash <5.5.0c KNG2s"
                - Choose Portable-G2-5.5.0f then Start

*This will DISABLE batch flashing for all devices until the option
is deselected.

****
KNG Firmware Releases Notes - Release 5.5.0e
****
Release Date December 8, 2017
Release KNG-Pxxx Portables   Ver. 5.5.0e
        KNG2-Pxxx Portables   Ver. 5.5.0e
        KNG-Mxxx Mobiles   Ver. 5.5.0e
        KAA0660 Remote Control Head   Ver. 5.5.0e
        KAA0670 Handheld Control Head Ver. 5.5.0e

Minimum RES Editor KAA0733   Ver. 5.5.3

Features

General:
        Added squelch adjust alignment command
        Added remote control commands for ext-ptt press and release, analog/digital
transmit, analog/digital receive, and zone change
        Modified rx/tx alignment commands to allow both analog and digital
operation

Bug Fixes

General:
        Fixed issue where the tier2 GPS triggers were not being set correctly
        Fixed a bug where a user could not access transmit requests when accessing
GPS from the menu but could when accessing GPS from a softkey
        Now transmit requests should work correctly no matter how the GPS menu is
accessed.
        Ignore touch input on mobiles that do not have a display
        For KNG-MxxxR Models: In RES, within the 'Feature Editing Software' if the
'Display' option is anything other than 'None' it is required to run the 'Mobile
Display Disabler' to change the 'Display' to 'None'. 'Mobile Display Disabler' is
available for download in the 'Firmware' section of relmservice.com

****
KNG Firmware Releases Notes - Release 5.5.0d
****
Release Date May 30, 2017
Release KNG-Pxxx Portables   Ver. 5.5.0d
        KNG2-Pxxx Portables   Ver. 5.5.0d
        KNG-Mxxx Mobiles   Ver. 5.5.0d

```
        KAA0660 Remote Control Head    Ver. 5.5.0d
        KAA0670 Handheld Control Head   Ver. 5.5.0d

Minimum RES Editor KAA0733              Ver. 5.5.0


Features

General:
        Allows users to view text messages when on a receive-only talkgroup


****************************************************************
KNG Firmware Releases Notes  - Release 5.5.0c
****************************************************************
Release Date May 30, 2017
Release KNG-Pxxx Portables              Ver. 5.5.0c
        KNG2-Pxxx Portables             Ver. 5.5.0c
        KNG-Mxxx Mobiles                Ver. 5.5.0c
        KAA0660 Remote Control Head     Ver. 5.5.0c
        KAA0670 Handheld Control Head   Ver. 5.5.0c

(NOTE: Refer to Service Bulletin BKSB-1051 for
 important compatibility details for this update)

Minimum RES Editor KAA0733              Ver. 5.5.0


Bug Fixes

General:
        Fixed cloning of zones and picklist from 5.5.x to older/legacy firmware
        (Refer to Service Bulletin BKSB-1050 for further cloning information)
        Set Bluetooth discoverable to off by default
        Fixed to support AINA BT speaker-mic

****************************************************************
KNG Firmware Releases Notes  - Release 5.5.0b
****************************************************************
Release Date March 22, 2017
Release KNG-Pxxx Portables              Ver. 5.5.0b
        KNG2-Pxxx Portables             Ver. 5.5.0b
        KNG-Mxxx Mobiles                Ver. 5.5.0b
        KAA0660 Remote Control Head     Ver. 5.5.0b
        KAA0670 Handheld Control Head   Ver. 5.5.0b

Minimum RES Editor KAA0733              Ver. 5.5.0


Features
```

General:
        Updated splash screens to BK Technologies

****
KNG Firmware Releases Notes - Release 5.5.0a
****
Release Date January 30, 2017
Release KNG-Pxxx Portables   Ver. 5.5.0a
        KNG2-Pxxx Portables   Ver. 5.5.0a
        KNG-Mxxx Mobiles   Ver. 5.5.0a
        KAA0660 Remote Control Head   Ver. 5.5.0a
        KAA0670 Handheld Control Head Ver. 5.5.0a

Minimum RES Editor KAA0733   Ver. 5.5.0
*** For major release notes, please see Release 5.5.0 below ***

Bug Fixes

HCH and RCH:
        Fixed issue when mobile to control head audio would be muted when receiving
a valid RX signal.

Trunking:
        Fixed radio not booting when programmed with >255 trunking scan entries

****
KNG Firmware Releases Notes - Release 5.5.0
****
Release Date January 26, 2017
Release KNG-Pxxx Portables   Ver. 5.5.0
        KNG2-Pxxx Portables   Ver. 5.5.0
        KNG-Mxxx Mobiles   Ver. 5.5.0
        KAA0660 Remote Control Head   Ver. 5.5.0
        KAA0670 Handheld Control Head Ver. 5.5.0

Minimum RES Editor KAA0733   Ver. 5.5.0
        (Note: RES is a new radio editor that is replacing NeoVision. RES Ver.
5.5.0 will read "code plugs" that were generated with firmware version 5.0.0 or
later.
        If a code plug was generated with firmware Ver. 5.0.0 or later, then the
code plug will be updated to Ver. 5.5.0 format when read.)

Features

General:
        KNG2: Added the ability to set local time zone by adding UTC offset to the
GPS UTC time
        Added "Speaker Stress Test" capabilities located in the System Test Menu

Portable:
        Provided support for 3-way toggle switch
Mobile:
        Added MSAT activation/deactivation function to a function key
        Added Public Address (PA) support

HCH and RCH:
        Added Public Address (PA) support in RCH KAA0660
        When querying version, proper device type is reported

Conventional:
        Added talkback encryption based on the collar switch setting and not just
by the talkback scan setting
        Set as default the talkback encryption based on the collar switch setting
        Re-implemented Global Squelch Adjust
        Added the ability to switch "on/off" the Vote Scan function
        Re-implemented Vote Scan as an option
        Set "Global Conv. Keypad Editing Lockout" to "on" for default

Trunking:
        Added support to handle UTC offset for Date and Time packets that don't
have the local time offset
        Added support not to display duplicate messages with message updates
        Added multiple attempts to obtain and IP address for trunked data
        Added PTT priority over messages
        Added the ability of RX Voice not to be interrupted by various alert tones
        Added the ability to have encryption settings for unit calls

Bug Fixes

General:
        Fixed "garbled" encrypted audio at the beginning/end of RX
        Fixed no error tone or message while changing secure TX mode on a
non-selectable channel
        Fixed Voice Encoding Ignored while on a Trunking Channel
        Added "Vote Scan" enable to the persistent setting length
        Fixed transmit clear when radio is set to secure transmit mode
        Fixed condition where the RX audio is not coming from the speaker when a
qualified signal is received
        Fixed file system error on power-up
        Fixed the ability to toggle surveillance via the menu when surveillance
mode is strapped to a channel
        Fixed "audio squawk" when using button combination when zeroizing keys
        Fixed timeout occurrence when RES write and "Configuring Radio" is being
displayed
        Fixed unit call secure setting to not be selectable if strapped to "clear"
or "secure" setting

Fixed NAC code programming while in the keypad programming menu

Portable:
        Fixed loud open mic. sound when "Battery Life" menu is programmed to a button and it is selected
        KNG2: Fixed backlight setting related to permanently off

Mobile:
        Fixed soft lockup on RX-only trunking system when pressing PTT rapidly
        Eliminated the failure to update the control head screen after plugging remote in after power-up

HCH and RCH:
        Fixed display freezing when alternating legends are being used

Conventional:
        Fixed the display of "Emergency" in place of displaying RX/TX pick list
        Fixed Zone Cloning Failure with specific code plug
        Fixed talkback encryption with talkback channel and not to channel knob setting
        Fixed TX/RX key display line not correctly updating when scanning is enabled
        Fixed to display "Emergency" message and senders ID when receiving an RX alert tone
        Fixed not to select voted channel that is not in the selected group
        Fixed blank display on Channel Scan List after Vote Scan disable
        Added notification to user when Vote Scan is disabled
        Fixed displaying wrong transmit key during Emergency revert channel
        Fixed Emergency Alarm to not work with incorrect NAC
        Fixed cloning issues when cloning to legacy units
        Fixed the microphone "offhook monitor" state when mic. is connected to RCH or Main RF deck when a HCH or RCH is attached
        Eliminated the KNG's to lockup when cloning from a KNG-PxxxS

Trunking:
        Fixed PTT bounce causing no TX
        Fixed lock-up due to quickly attempting to transmit while "System Resources" are not available
        Fixed Site Affiliation Alias Display line with correct site
        Fixed the ability to still display the GPS coordinates even though the trunking site does not support GPS
        Fixed "Failsoft" failure between firmware versions 5.4.15 and 5.4.16

DFSI:
        Fixed LED consistency while in DFSI mode

GPS:
        Save the time after a manual entry through the power cycle

Bluetooth:
        Fixed OTAR messages not passed off to the proper class when sent over
Bluetooth

****
KNG Firmware Releases
****
Release Date June 23, 2016
Release KNG-Pxxx Portables   Ver. 5.4.0c
        KNG-Mxxx Mobiles   Ver. 5.4.0c
        KAA0660 Remote Control Head   Ver. 5.4.0c
        KAA0670 Handheld Control Head   Ver. 5.4.0c

Minimum Neovision Editor KAA0732   Ver. 2.4.0
        Neovision ASK Editor KAA0735   Ver. 2.4.0

Bug Fixes

General:
        Modified old vs new FIPSCOM version check to prevent attempting to export
DES/DES-XL/ADP keys when not supported

RCH/HCH:
        Fixed RCH/HCH regression where control heads couldn't enter the
configuration menu
        Fixed HCH volume control bugs: HCH couldn't control own volume & HCH was
not correctly adjusting RCH volume control
        Change HCH rocker description text color from black to white

Conventional:
        "Emergency" displayed in place of RX/TX pick list

****
KNG Firmware Releases
****
Release Date June 3, 2016
Release KNG-Pxxx Portables   Ver. 5.4.0b
        KNG-Mxxx Mobiles   Ver. 5.4.0b
        KAA0660 Remote Control Head   Ver. 5.4.0b
        KAA0670 Handheld Control Head   Ver. 5.4.0b

Minimum Neovision Editor KAA0732   Ver. 2.4.0
        Neovision ASK Editor KAA0735   Ver. 2.4.0

Features

General:
        Encrypt low speed data bytes with ADP
        Moved menu button on unprogrammed channel screen
        Zeroize keys with softkey combination
        Miscellaneous trunking feature additions

Mobile/Base:
        Reverse color scheme on display. Background from white to black, and
characters from black to white
        ACC mic and OPT x input support hi PTT
        Zeroize Keys should not prompt user

KNG2:
        Added temperature to system test
        Bluetooth UI improvements
        Added notification when saving date and time

Conventional:
        Added triple beep clear and secure talk permit tone
        Increase Code Guard Picklist Length to 256 entries

GPS:
        Acquisition tweaks
        Peer-to-peer tweaks
        UID via P25 string

Bug Fixes

General:
        Data registration hold-off fails
        Disable BT menu when un-optioned
        DSP lockup on transmit
        Emergency Button does not appear to disable
        FIPSCOM error message missing
        For a P25 trunking system, when the site alias list contains >255 entries,
radio display is blank.
        Inverted picklist code guards don't work
        Squelch tail on powerup tone
        Zone select toggle switch stops working on unprogrammed channel

Mobile:
        Accessory I/O enable bugs
        Emergency accessory input can get out of sync
        Master Volume control of RCH
        Menu problem

KNG2:
       Audio Pops
       DSP crash when C-ACE is loaded with more than 64 keys
       Programmable button press and hold times not implemented

Conventional:
       KNG to KNG cloning broken
       ANI Index of 512 is invalid
       Correct NAC Busy Channel failure
       Destination clone error
       DPH/GPH CMD cloning picklist to KNG
       Emergency polite tries failure
       Failure to resume scanning after emergency canceled
       Global squelch adjustment reset
       GPH > KNG cloning hands on ANI/DTMF
       MDC list indexing is off
       Reference channel cloning
       RX emergency notification with incorrect NAC
       Unqualified DTMF decoder display

Trunking:
       AHS Registration issue
       Dual mode scan issues
       Emergency call alert tone problem
       Out-of-range tone not sounding
       Priority scan edit priority channel 1
       Priority scan talkback
       Registration/affiliation error tones
       RX-only invalid menu entry
       Unit call failures

DFSI:
       AMBE audio issues

OTAR:
       No zeroize response

User Interface:
       RSSI display during data registration attempts

****
KNG Firmware Releases
****
Release Date Oct. 30, 2015
Release KNG-Pxxx Portables   Ver. 5.3.0

```
        KNG-Mxxx Mobiles                 Ver. 5.3.0
        KAA0660 Remote Control Head      Ver. 5.3.0
        KAA0670 Handheld Control Head    Ver. 5.3.0


Minimum Neovision Editor KAA0732        Ver. 2.3.0
        Neovision ASK Editor KAA0735     Ver. 2.3.0
```

Features

General:
        Increased channel capacity from 2048 to 5000.
        Added "Radio Accountability Tone" – it was requested by a fire agency to use at a fire scene to account for all personnel to save time during a roll call.
        Added "Alert Tone" feature
        Modified the "minimum volume" set feature
        Improved boot time
        Improved the Zone write time when writing Only Zone Parameters to the radio.

Portable:
        Internal Button Press Test.
        Portable Battery Life Function and Improvements –
                In the programmable menu screen "Battery Life", the following values can be read:
                        % battery capacity available until depletion
                        The full capacity the battery
                        Estimated time left before depletion

Mobile/Base:
        When in DFSI mode with the Base or Mobile, the display to indicate a remote connection and not just showing a blank screen.
        Added the press and hold feature when using an accessory button in the mobile as an emergency button.
        Added Accessory Input function to mute the Mobile audio.
        When connected to DFSI Console, don't respont to call alerts, radio checks...like a subscriber would.

Conventional:
        Increased MDC List capability from 255 to 65535.
        Added OTAR registered field to the radio information menu screen.
        Added additional "Busy Channel Lockout" Options
        Added the ability to "Enable/Disable User Selectable TX Tones" on a Zone by Zone bases.
        Nuisance deleted channels did not recover correctly

Bug Fixes

General:

```
        Portable to Mobile Cloning Failure
        Can't exit sleep on STEK display
        Channel Soft Stop bug on radios with continuous channel knob
        Rekey request error reporting

Portable:
        Backlight stuck off
        Potential lockup issues

Mobile:
        System test options are out of sync
        Mobile w/ HHCH loading large list screen inconsistency
        Initial accessory input state
        Accessory input mute

RCH:
        Won't go into configuration menu

Conventional:
        Vote scan fails on incorrect code guard
        Multiple vote scan groups didn't work
        Inconsistent results when reading CxCSS picklist

Trunking:
        Site alias display line not working
        Encrypted transmission received without proper key
        Encryption Icon delay

... and various more




****************************************************************
KNG Firmware Releases
****************************************************************
Release KNG-Pxxx Portables            Ver. 5.2.0a
        KNG-Mxxx Mobiles              Ver. 5.2.0a

Minimum Neovision Editor KAA0732      Ver. 2.2.1
        Neovision ASK Editor KAA0735  Ver. 2.2.1

Features

GENERAL

- This is a portable and mobile build based off of production release 5.2.0 that
  reduces the boot-time of the radio.
```

- The firmware for the mobile control heads has not been re-compiled for this release.

- Control heads interfacing with a mobile loaded with 5.2.0a firmware should use version 5.2.0

This release is a point release to shorten the boot time.

The BSP has changed from 5.2.0, but not the ARM or the DSP.

The portable and the mobile firmware has been compiled using the updated BSP, but the firmware for the control heads had not been re-compiled and instead uses the images from 5.2.0.

Therefore there are no images or source code for the RCH or the HCH for this release.

```
****************************************************************
KNG Firmware Releases
****************************************************************
Release KNG-Pxxx Portables              Ver. 5.2.0
        KNG-Mxxx Mobiles                Ver. 5.2.0
        KAA0660 Remote Control Head     Ver. 5.2.0
        KAA0670 Handheld Control Head   Ver. 5.2.0

Minimum Neovision Editor KAA0732        Ver. 2.1.0
        Neovision ASK Editor KAA0735    Ver. 2.1.0
```

Features

Conventional:
        Notify user of RX-only emergency channel
        Autoscan
        Channel scan list edit button rework
        DES-XL
        Disable code guard during user squelch adjust
        Encryption icon shown constantly with non-encrypted RX
        Global squelch adjust option
        Hide designated channels from menu selection
        Modify nuisance delete restoration criteria
        Modify nuisance delete so TX does not cancel deleted channels
        Option to disable scanner penalty
        Provide long-press option for send signal
        Talkback improvements

Zone scan without channel scan message

P25 Trunking:
RX-only monitor

Remote Control Head:
Show head # in info menu

Handheld Control Head:
Channel select using numeric keypad
Master volume control of RCH volume

Portable:
Add display timeout timer
External emergency should use orange button programming
Make toggle switch sense programmable
Minimum volume level option
P800: power select for 700MHz band

Mobile:
Add programmable control head baud-rate
Add separate master volume control parameter for RCH control
Change accessory serial port to 9600 baud
LCD brightness setting
Mobile backlight activated by any button press
Output lines should support 4 control heads
Powerup whenever power is applied
Store control head baud rate elsewhere
User selectable I/O disable

DFSI:
Channel base index option
Formal standard conformance
Relay unit ID information

FSI:
AMBE audio

Miscellaneous:
Add engineering options parameter
Add git commit hash to version menu
Channel increment/decrement using up/down keys in channel add menu
Date and time display line
Display build date in versions menu
Improve persistent settings
Man down emergency
Optimize GLTimers

Remove anti-clone feature from parameters download
Support alphanumeric versioning
Unit ID "phone book" log

Bug Fixes

Conventional:
Channel parameters not cloned - Hidden and Scan Penalization
Auto vote scan + display selected channel only
Backlight ignores settings when assigned to side button
Cloning does not work
DES-CFB key fail failure
DES-CFB with DTMF ANI causes the radio to stick in transmit
DES-XL doesn't display key
Emergency alarm revert channel
Emergency call not properly cancelled
Enabling scan while receiving can remove you from the active channel
GPS transmit breaks emergency alarm
Improve zone scan UI
Legacy cloning issues
Live dial won't work after quick PTT presses
MDC emergency alarm with hot mic
MDC emergency revert channel
Mixed mode talkback status is not cleared on channel change
Mobile I/O emergency doesn't always cancel
P25 emergency hot mic cannot be cancelled
Portable inhibit/uninhibit response speed
Portable minimum volume threshold is not audible
Secure TX after key fail
Surveillance mode is not saved when toggled through menu
Unit call logs
Unit call with analog TX mode
Update command channel parameters
Voice mute disregards RX code guard
Zone scan message

P25 Trunking:
Certain mobile I/O states don't work when in priority or dual-mode scan
Dual mode scan lock-up
Failsoft does not work
GPS system test menu doesn't update
Priority nuisance channels not cleared on channel change
Radios don't data register if DMS active
Scan shows wrong talkgroup
Talkback from RX-only trunking causes lock-up
Unit call fails on Harris systems
Voice mute icon does not show up on control heads

Handheld Control Head:
        Can't add channel to command zone

Dual Mode Scan:
        Receiving mixed-mode digital blanks screen

Mobile:
        I/O disable should drop lines inactive

DFSI:
        IDA reporting issues with out of range trunking
        Radio will not fully connect to a console when preset to a trunking
talkgroup
        Respond to voter commands
        Retransmission issues

FSI:
        Disconnect causes incorrect transmit behavior

FIPSCOM:
        App erasure

OTAR:
        Rekey KMM error
        Invalid message number prevents delayed acknowledgement
        KMM received while sending can cause a lockup
        No response on invalid DES MAC
        Rekey keyset limit is 7
        SLN 0 causes the FIPSCOM to be unresponsive

Miscellaneous:
        BSP maintenance version is not shown
        Build date not displaying correctly
        CTCSS RX qualification fails
        Display backlight
        Key entries do not default properly
        Non-consecutive zones broken in dual mode and trunking priority scan
        Radio does not fully power down
        Should DES-XL encryption work on digital channels?
        Soft power down bugs
        Transmit inhibit feature

****
KNG Firmware Releases

```
****************************************************************
Release KNG-Pxxx Portables              Ver. 5.1.0
        KNG-Mxxx Mobiles                Ver. 5.1.0
        KAA0660 Remote Control Head     Ver. 5.1.0
        KAA0670 Handheld Control Head   Ver. 5.1.0

Minimum Neovision Editor KAA0732        Ver. 2.0.2
        Neovision ASK Editor KAA0735    Ver. 2.0.0
```

Features

Conventional:
        DTMF live dial keypad programming
        Add priority scan period to keypad programming
        TX on last voted channel option
        Vote during repeater hang time
        PTT-ID disable timer
        Emergency alarm using non-MDC analog signaling
        Securenet DES CFB
        Provide TX power options

P25 Trunking:
        Unify crypto UI with conventional
        Attempt initial sync detection after phase wrapping for Phase 1 signaling
        Ultra Narrow Channel Filter
        Display site name when in intra-WACN roaming
        Dynamic regrouping encryption
        Priority scan beep
        Message update

Remote Control Head
        Support more than 2 remote control heads
        Monitor TX audio on non-transmitting RCHs

Miscellaneous:
        Index instead of copy for command zone channels
        Allow non-consecutive channels and zones
        Display key when TX secure selected
        Non-infinite key retention option
        Added up to 48 crypto keys
        Added Command zone channel assignment

Bug Fixes

Conventional:
        Vote scan w/o code guard fails to vote
        Improvement to Enhanced scan

Noise burst on digital encrypted scan RX
Issues using DES-CFB with an incompatible FIPSCOM
Mixed mode emergency or call alert causes unresponsive state
Mixed mode talkback won't work after receiving digital
Incorrect busy channel lockout when scan active
Unit call not working properly
Call alert lockup under certain conditions
MDC emergency call lockup
MDC emergency alarm lockup
MDC radio check lockup
Lock-up when emergency alarm cancelled on RX-only channel
UID not displayed during emergency alarm
Emergency alarm behaves differently in Mixed and Analog modes
Incorrectly decrypted audio not muted
Vote scan does not fully qualify carrier
Vote scan degrades audio
Legacy cloning improvements
Picklists do not clone from either a DPHCMD or a GPHCMD over to KNG
Off-hook scan doesn't work correctly

P25 Trunking:
Potential of missing calls
TDMA unit calls fail when radios are on different sites
Potential of not hearing all 3 permit tone beeps
Reduce time taken for roaming RSSI check
Lower RSSI measuring time for all bands
Emergency Hot mic audio
DMS scan causes RX analog to indicate RX secure
Priority on Selected Icon's don't reflect inbound traffic
Emergency operation on composite control channels
Harris NCR system compatibility Improvements
TGID display not updating when busy expires in selected talkback

Remote Control Head:
Pressing PTT on one control head enables transmit for all control heads

Handheld Control Head:
Highlighted softkey moves randomly after TX

Dual Mode Scan
Potential inability to transmit when DMS is on
Dual mode scan edit list uses index as channel

Portable:
Rapid cycling of on-off knob makes radio unresponsive

Mobile:
        Doesn't reset after writing parameters
        TX noise due to display backlight adjustments
        M800: always displays "source fault clear" on power up

Miscellaneous:
        Cannot reference channel 1
        UI lockup after downloading parameters
        parm loading abort due to channel ID list entry
        Radio displays keyfail with keys loaded
        OTAR - false reports of UKEK not loaded into radio
        KNG-PxxxS to KNG-xxxx cloning always fails
        GPHCMD fails CMD group clone to KNG
        When in Site menus, radio will not transmit


```
*****************************************************************
KNG Firmware Releases
*****************************************************************
```
Release KNG-Pxxx Portables   Ver. 5.0.0
        KNG-Mxxx Mobiles   Ver. 5.0.0
        KAA0660 Remote Control Head   Ver. 5.0.0
        KAA0670 Handheld Control Head Ver. 5.0.0

Minimum Neovision Editor KAA0732   Ver. 2.0.0
        Neovision ASK Editor KAA0735 Ver. 2.0.0

Features

TDMA Support
TDMA: group regroup & dynamic regroup
P25 Trunking: OTAP read enhancement
P25 Trunking: Static SNDCP Data Registration
P25 Trunking: Forced System Reset
P25 Trunking: Enhanced Roaming
P25 Trunking: Roaming Notifications
P25 Trunking: Failsoft by Personality
Conventional: Add "radio name" display choice to programming/cloning
Add ability to display radio name/alias instead of UID
Make low battery warnings selectable
backlight toggle incompatibility
Make RCE crypto work with TDMA
Add trunked DTMF all-call alert to sentinel operation
Return to last active RX channel when exiting scan
Single button channel scan + priority scan
Make secure LED operation the same for trunking as it is for conventional

After Keypad select of 'Backlight off', backlight continues to operate for key presses
Automatically translate trunked call alerts for multiple unit IDs to DTMF alerts
Add AlgID + KeyID for RX of key not in alias table
Keypad programming should allow deletion of command zones
Picklist cloning should include Two-Tone, MDC and DTMF lists
Add call alert UI support on the HHCH
Change MDC encode features to allow hex input
Add MDC inhibit & uninhibit encode operation
Add HHCH speaker parameters to keypad programming
Conventional P25 call alert support for group addresses
MDC call alert & voice selective call encode
Display useful message if Warm-Start store key fails

Bug Fixes

Incorrect priority scan indicator
P25 Trunking: Lockup if improperly programmed
P25 Trunking: busy UI state not updating properly
P25 Trunking: Group Regrouping Denies in Australia
P25 Trunking: Site Search soft key assignments incorrect
P25 Trunking: dual mode scan nuisance delete bugs
P25 Trunking: site affilliation display incorrect
P25 Trunking: False PTT
OTAR: KMM responses aren't sent while scanning
Dual Mode Scan: Lockup when turning scan off/on while receiving/transmitting
Dual Mode Scan: Speed up conventional scanning
Dual Mode Scan: Errors when removing all trunking channels from list
Conventional: Scan lockup
Conventional: scanning quits
Conventional: channel busy fails when set to status symbol
Conventional: RX is interrupted by unit call selection
Conventional: priority conv scan lockup
Conventional: TX 2-tone w/ tone B = 0 causes TX lockup
Conventional: 2-tone TX menu item cut-off on portable
Conventional: priority scan failure
Conventional: PRI 1 takes too long to override PRI 2
Conventional: secure strapped revert emergency call keyfail lockup
Conventional: scan deactivation causes icons to stick
Conventional: busy channel lockout fails for digital
Conventional: encryption LED fails during scan
Conventional: NAC picklist shows empty entries
Conventional: simultaneous cloning causes lockups
Conventional: cloning failure causes lockup
Conventional: keypad programming prohibits TGID=0
Conventional: zone scan fails on non-sequential zones
Conventional: RX mode icon wrong if RX dequalifies

System calls causing mobile sluggishness
Flashing the radio with all 5 images causes splash screen to stick
Mobile menu can get stuck
Busy channel lockout (carrier) failure with active channel
SLN=0 causes various problems
GPS coordinates not displayed properly
TX secure behaves erratically
P800 always aligns RSSI scale to the same number
Sentinel DTMF ID of 0000 results in indefinite tx
Manual two-tone signaling causes transmit stick on the mobile
Conventional data messages do not check receive mode
Offhook scan enable should be made independent of the offhook monitor option
Disply of my own UID is not always correct
Radio goes into Monitor Mode inadvertently
If System Priority and Zone Priority point to the same channel, Priority doesn't work
MDC signal causes transmit stick
Failed P25 call alert "OK" button leaves you in a menu you cannot escape from
Digital RX causes unqualified UI indications after end of message
Voice mute icon does not always display for automatic voice mute
Backlight during scan comes on more often than it should
Enabling conventional scan and dual mode scan at same time
Priority scan fails if Pri1 is system-based
Encryption will do a "Key Fail" with tone on first PTT only

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KNG Firmware Releases
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Release Portable/ Mobile   4.6.2
        Control Head/ HCH   4.6.2

Minimum Neovision Editor Rev.   1.5.0

Features

P25 Trunking - Dynamic Regroup
Display MDC ID's as decimal as an option
Support MDC group, fleet & wildcard addressing
Support long block MDC
Enable ID alias lookup for MDC signaling
Stop premature low battery during TX with IS pack
No keypad editing lockout for call list picklist
Rapid scroll feature needs to be added to trunking
Add Clear Tx Beep to Mixed Mode Analog Tx
Add mobile accessory output option for transmit indication
Automatic voice mute per-channel

Add alternate display line options
Talkaround optionally applies on a per-channel basis
Allow command zone channel add feature to work with trunking channels
Add a way to monitor GPS statistics through the USB
DMS: Speed up OOR scanning; implement OOR icon
Add support for Motorola wide pulse modulation
Make voice mute operation per-channel instead of per-zone
Add ability to rapidly scroll through long menu
Remember last channel of each zone during zone change
Improve AMBE noise cancellation
Add use group key for unit call and make it default to true
Beep when Priority goes active
Portable: Soft Power Down
Portable: Toggle Switch Zone Select

Bug Fixes

Correct MDC voice mute operation to account for long block packets
Green LED operation is not consistent in Voice Mute
MDC ANI can cause ID = 0 display if MDC voice mute is enabled for the ANI ID
MDC Unit ID reappears after Monitor Mode is changed from open
ID display during scan hold does not work if MDC is sent at end of TX
P25 Trnk - Priority on Selected not initialized after download
P25 Trnk - Unit Call denied by FNE
P25 Trk - Unit Call Accept button doesn't work
P25 Trk - Radio displays "Emergency" when transmitting
P25 Trk - Dual Mode Scan lockup
P25 Trk: Cassidian systems cause radio to group affiliate to 0
P25 Trk: TG busy indication doesn't work on older Harris systems
OTAR: Deleting last TEK in radio causes response KMM to fail
OTAR: Radio doesn't always deregister during scan
Incorrect KEK can cause OTAR Registration to fail when it shouldn't
Off-hook settings for Scan depends on Off-hook setting for Monitor
Priority scan on digital channel can cause infinite scan hold time
Powerup zone should be last zone not toggle switch zone
A radio with Talkback Scan enabled can transmit a TGID of 65535
RXA with code guard causes RXA Icon to stick until channel changed or power cycle
A new channel added through keypad programming doesn't show up until a zone cycle
Keypad programming display lines can be navigated even when locked out
Mobile backlight only goes from off to on if the soft keys are pressed
Keypad programming unit call alias cuts off on the mobile and control head display
Toggling channel scan disables secure transmit
Key fail display prevents rapid channel changes
Zone scan cannot be changed while scanning
Smart-mic backlight will not turn-on
P25 Trk: Harris County/City of Houston zone overlap issue
DMS: Out of range radio won't scan to conventional channels
DMS List Edit - View option doesn't display some channels

Toggle switches can be ignored during unit call RX

Release Portable/ Mobile   4.5.0
        Control Head   4.5.0

Minimum Neovision Editor Rev.   1.4.19

Add   Support for Mobile GPS option
Add   Home channel button assignment
Add   Channel Number + Zone Label display line selection
Add   Dual Mode Scan List user selection
Add   DTMF decode on digital channels (Voice Mute)
Add   Mobile I/O support for COR on trunked systems
Add   Mobile display dimmer
Add   Trunking wide area single site support
Add   Allow Vote scan list selection

Enhance Additional keypad programming functions
Enhance Show/Hide own Unit ID when Unit ID is programmed as display item
Enhance Allow squelch adjustment per channel
Enhance Legacy cloning operation
Enhance Expanded two-tone notification timing
Enhance Trunked preferred site operation
Enhance OTAR: Multiple group RSI support

Fix   Changed preset squelch value to allow audio at lower signal level
Fix   Allow Tx/Rx while in menu operation

Release Portable/ Mobile   4.4.0
        Control Head   4.4.0

Minimum Neovision Editor Rev.   1.4.17

Add   MDC Support
Add   Command Zone Operation
Add   Messaging Capabilities
           Text Messaging
           User Status Messaging
Add   Paging and Call Alert
           Two-Tone Paging
           DTMF Paging
           MDC1200 Paging

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           Call Alert Paging
           Radio Check
Add      Radio Inhibit/Uninhibit
Add      Enhanced Lockout Feature Set
Add      Auxiliary Input/Output Functions for mobile
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Release Portable/ Mobile        4.02.16
        Control Head     4.02.11

Minimum Neovision Editor Rev.   1.4.15

Add      Display 'Call Alert Successful message
Add      P25 Trunk Unit Call messages
Add      Conventional scan preamble for TSBK ISPs and Data
Add      RCII Diagnostic Send ISP capabilities
Add      Allow RX audio while in sub-menus
Fix      Conventional emergency channel selection
Fix      Talkback encryption key
Fix      Disable battery monitor during transmit
Fix      OTAR MAC calculation interference with conventional channel encryption
operation
```

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Release Portable/ Mobile        4.02.15
        Control Head            4.02.11

Required Neovision Editor       1.4.12

Fix    Site trunking to wide area trunking transition
```

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Release Portable/ Mobile        4.02.13
        Control Head            4.02.11

Required Neovision Editor       1.4.12

Add      Conventional OTAR capabilities
Fix      Trunking OTAR: Reestablish key conditions once radio is rekeyed
Fix      Minnesota Trunking: Inhibit after an emergency fix
```

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Release 4.02.12
Required Neovision Editor       1.4.8
```

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Add      Add wait/add identifiers if not present during control channel validation
Enhance Status Update Enhancements
Fix      Radio displays DSP Error 1 after NeoVision download/power cycle.
Fix      Trunking Scan Lockup
Fix      Harris P25 Trunking: OTAR Registration


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Release 4.02.08
Required Neovision Editor       1.4.7


Add      Keyset Select assigned in menu and button
Add      DSP: Add eeprom protection
Add      Mobile: Add backlight level menu settings
Add      P25 Trunking Emergency Call Cancel
Add      Trunking Unit Call without availability check (Harris)
Add      Trunking OTAR Option ability
Add      Mobile: Add fixed MENU softkey on right side of display
Enhance         Mobile soft button indication that feature is on
Fix      Autoscan UI issue
Fix      Trunking Emergency Alarm use emergency group instead of current working
group
Fix      Trunking early receive LED not turning off in all cases
Fix      P25 trunking group call audio opens slow
Fix      P25 Trunking: Source ID of zero slows audio open speeds of unit call and
group re-grouping calls
Fix      P25 Trunking: Group call unit ID of 0 displayed
Fix      Unwanted transmission after power-on with PTT held.
Fix      P25 Trunking: earlier LED illumination for group calls
Fix      P800 and M800 improve RX hum and noise.
```