

**South-Central Oregon
Fire Management
Partnership
Radio Communications
Guide
2021**

National Air Frequency Use Regulations

The following definitions describe the intent and use of Air Guard and National Flight Following frequencies:

National Air Guard - 168.625 MHz

A National Interagency Air Guard frequency for government aircraft assigned to incidents. It is used in emergency communications for aviation. A separate aircraft priority receiver is required to permit continuous monitoring. Transmitters on this frequency should be equipped with an encoder on 110.9 Hz. 168.625 is restricted to the following use:

- Air-to-air emergency contact and coordination.
- Ground-to-air emergency contact.
- Initial call, recall, and redirection of aircraft when no other contact frequency is available.

National Flight Following - 168.650 MHz

The National Interagency Air Net frequency is used for flight following of official aircraft. The intent is not to use this frequency for incident operations. All dispatch centers/offices will monitor the national flight following frequency at all times. 168.650 is restricted to the following use:

- Flight following, dispatch, and/or re-direction of aircraft.
- Air-to-ground and ground-to-air administrative traffic.
- Not authorized for ground-to-ground traffic.

Policy Release Date: January 2005

Agency specific policies for radio communications may be found in:

- *Department of Interior, Department Manual, Radio Communications Handbook (377 DM).*
- *USDA Forest Service Handbook (FSH 6609.14 chapters 10-40 and Forest Service Manual (FSM) 6600 Systems Management Chapter 6640 Telecommunications.*

Center/Office Phone Numbers:

LIFC 24 hr 541-947-6315, During COOP call this same number

Bly RD	541-353-2427	Lakeview RD	541-947-3334
Paisley RD	541-943-3114	Silver Lake RD	541-576-2107
Klamath RD	541-883-6714	Chemult RD	541-365-7001
Chiloquin RD	541-783-4001	Sheldon-Hart Mt	541-947-3315
Gerber GS	541-545-6746	Fort Rock GS	541-576-2220
Fire Cache	541-947-6172	Road Crew Shop	541-947-6327
BLM/FS LIO	541-947-2177/2151	BLM K-Falls	541-883-6916
Equip Shop	541-947-6236/6262	Radio Shop	541-947-6165/6218

General Radio Use

Lakeview Interagency Fire Center (LIFC) dispatch control radio systems belonging to Bureau of Land Management, Forest Service, U.S. Fish and Wildlife, Oregon Department of Forestry and Crater Lake National Park. In some cases, these radio systems utilize the same mountaintops, providing redundancy, but in most cases, separate mountaintops are used. Fire support is the main operation of these centers, however, check-in/check-out procedures and emergency situations can be part of their daily activities.

Center/Office Call Signs:

Lakeview—Lakeview Interagency Fire Center

KOD414—Lakeview Interagency Office

KOD474—BLM Klamath Falls Office

Ranger Districts are stated by name, such as “Bly” or “Bly Ranger District”. When calling Lakeview Ranger District, state the full name. “Lakeview” is the call sign for LIFC Dispatch.

Other office radio contacts include Gerber and Fort Rock Guard Stations, Road Crew Shop, Equipment Shop, and Radio Shop.

Talk Around/Direct Feature Utilization

Talk Around and Direct are two terms which generally refer to the same meaning--transmit and receive frequencies are the same, as in BLM Direct and TAC 2. However, when referring to talk around or direct while on a repeater channel, these terms indicate that the user is bypassing (talking around) the mountaintop repeater and transmitting car to car (direct). While operating in the Talk Around or Direct mode on a repeater channel, the radio will transmit that channel's receive tone and frequency. The repeater will not receive this transmission but all units monitoring this channel in the vicinity will.

Use of the Talk Around/Direct feature on repeater channels such as ODFKYX and ODFLBC change these channels to ODF Klamath Direct and ODF Lake Direct. The interagency channel plan shows other channels where this feature is useful. Motorola mobile radios only allow Talk Around/Direct use on specific channels. However, **enabling Talk Around/Direct (TRN DIR) of King portable radios affect all repeater channels.** King radio users—if you cannot “hit” a repeater that you think you should be able to then be sure to check to see if the Talk Around/Direct feature is not enabled.

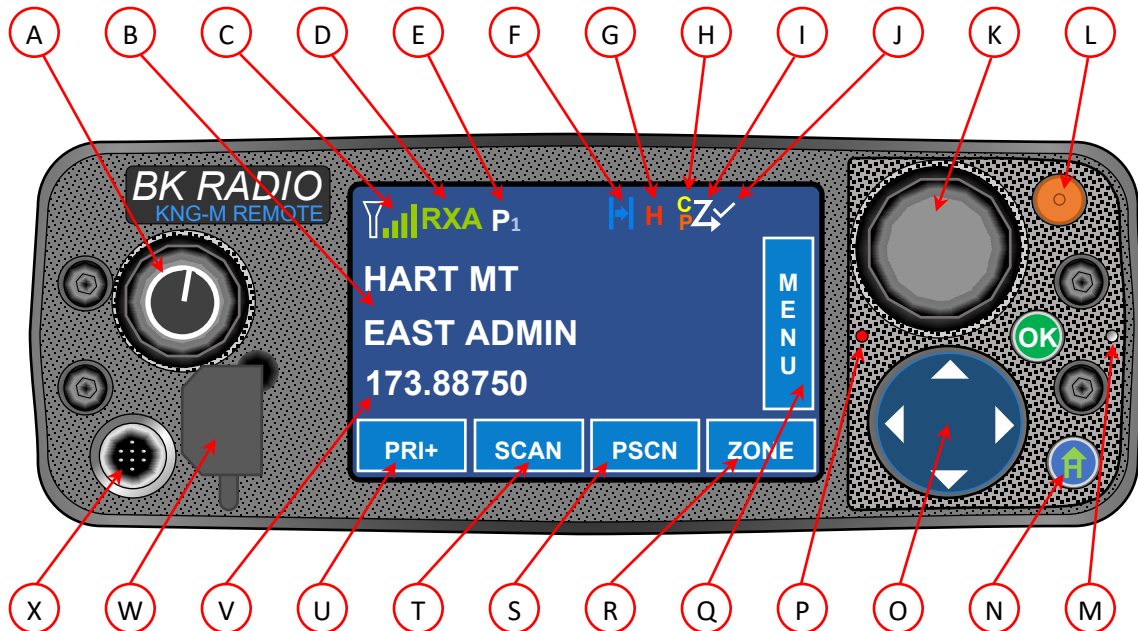
Hints and Etiquette

1. When utilizing a repeater, the operator must allow for repeater key-up delay or the first part of their transmission will be cut off. Pause for approximately one second after keying radio, and then begin speaking.
2. Observe the general rule of speaking clearly and concisely one to two inches away from the microphone.
3. If the channel you want to use is busy, wait for the traffic to end, and then go ahead with your traffic. Any attempt to override the busy channel will result in garbled reception.
4. State the channel being used when initiating a transmission.
5. Dispatching procedures should include a preliminary Command and Air to Ground Tactical frequency in the script for every dispatch. Once an IC is on scene and established, these should be validated by the IC.
6. Air to Ground Tactical frequencies are to be used strictly as Air to Ground and Ground to Air communication. Air to Air and Ground to Ground use of these frequencies is in violation of their intent.
7. The closest repeater may not be the best or clearest to use. Get familiar with your location and check for the best repeater.
8. When radio traffic is heavy or when information is critical, consider using either a second radio to monitor traffic, or delegate to another person the monitoring of a frequency. These practices can help ensure that critical information is communicated clearly and in a timely manner.
9. Fire traffic should be performed using zones 1 - 9 in the SCOFMP communications plan. The plan provides zones for Administrative traffic in 10 and 12. The plan is designed to provide for all users in a way that we impact each other as little as possible when radio use is needed by all.
10. While driving and when available use a passenger as the radio operator and/or scribe. Consider pulling over when no one is available to perform these tasks. These practices will help provide for the safety of all when traveling.
11. Consider using human repeaters and Lookout personnel to improve communications. Often overlooked, this practice can be very effective.

In the event of a medical emergency provide the following information to the Communications Unit:

1. Declare the nature of the emergency.
 - a. Medical injury/illness?
 - b. If injury/illness is it life threatening?
2. If life threatening, then request that the designated frequency be cleared for emergency traffic.
3. Identify the on-scene Point of Contact (POC) by Resource and Last name (i.e. POC is TFLD Smith).
4. Identify nature of incident, number injured, patient assessment(s) and location (geographic and GPS coordinates).
5. Identify on-scene medical personnel by position and name (i.e. EMT Jones).
6. Identify preferred method of patient transport.
7. Request any additional resources and/or equipment needed.
8. Document all information received and transmitted on the radio or phone.
9. Identify any changes in the on-scene Point of Contact or medical personnel as they occur.

BK Radio KNG-M150 Functional Diagram



- A. ON/OFF, Volume
- B. Channel and Zone Name
- C. Receive Signal Strength
- D. Rx/Tx Analog/Digital
- E. Designates Priority Channel
- F. Tx Direct Indicator
- G. High/Low Tx Power
- H. Scan Mode: Channel, Priority, Zone
- I. Scan Indicator
- J. Scanned Channel
- K. Channel Select
- L. Nuisance Channel Delete
- M. Light Sensor
- N. Home Button
- O. Menu Navigation
- P. Status LED
- Q. *touch* Menu Display
- R. *touch* Zone Selection
- S. *touch* Priority Scan Enable
- T. *touch* Scan Enable
- U. *touch* Priority Scan Selection
- V. Rx and Tx Frequency
- W. USB Programming Port
- X. Microphone Jack

MENU Items

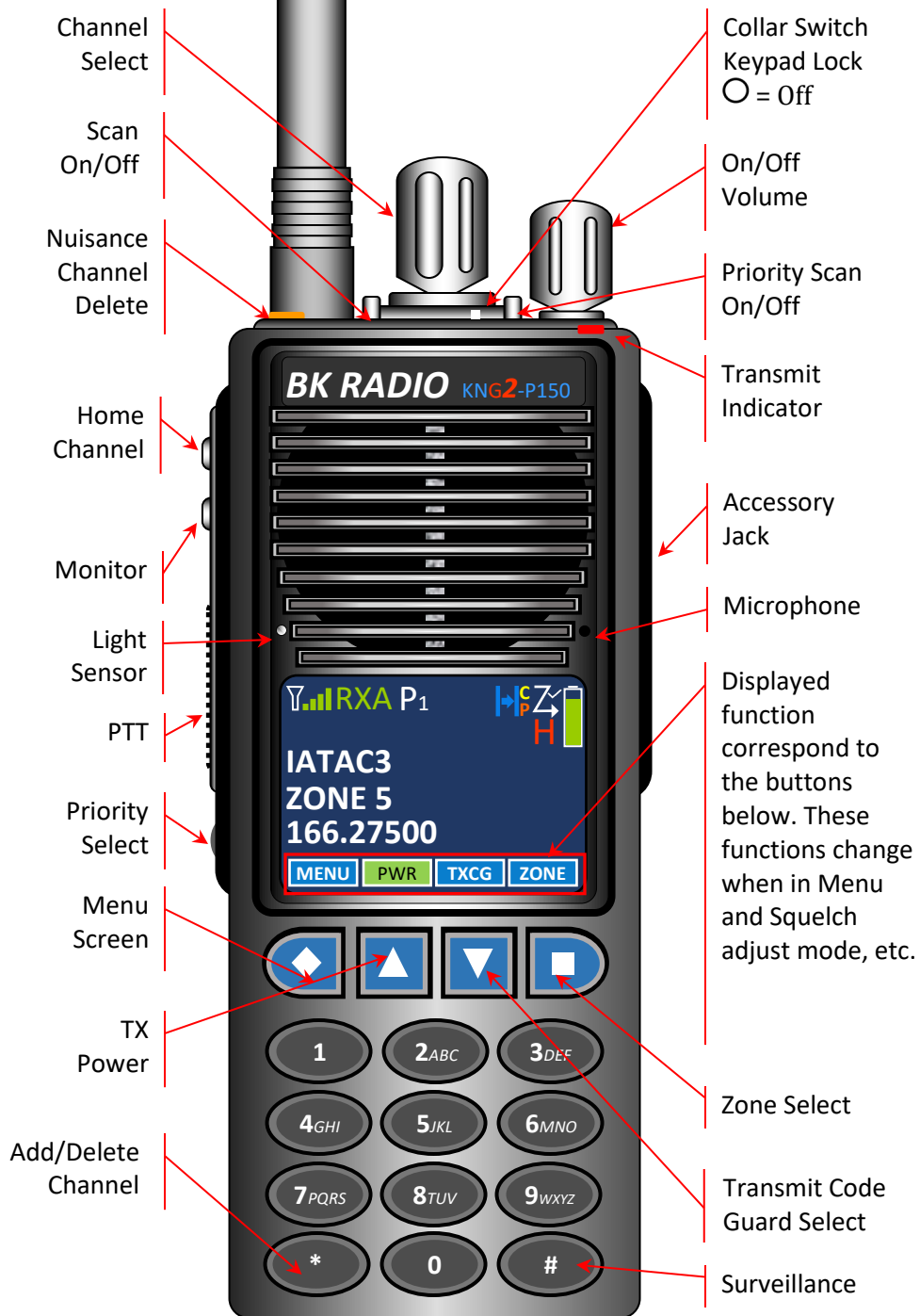
1. Channel Scan List
2. Channel Scan
3. Priority Channels
4. Priority Scan
5. Zone Scan List
6. Zone Scan
7. Squelch Adjust
8. Backlight
9. Cloning
10. User Tx Tones
11. Tx Power
12. Surveillance Mode
13. Versions
14. Keypad Programming

MICROPHONE Functions

1. Side Buttons--unprogrammed
2. Use Arrow and OK buttons to navigate the Display
3. Use 0-9 to directly select Zone
4. Use * for channel Add/Delete (COMMAND Zone)
5. Use # to toggle Surveillance on/off

BK RADIO

KNG2-P150



Menu Items:

- | | | |
|-------------------|-------------------|------------------|
| 1: Chan Scan List | 6: Squelch Adjust | 11: Battery Life |
| 2: Priority Chans | 7: Backlight | 12: Surveillance |
| 3: Zone Scan List | 8: Cloning | 13: Versions |
| 4: Zone Scan | 9: User Tx Tones | 14: Keypad Prog |
| 5: Zone Select | 10: Tx Power | |

MENU items for KNG-M150 and KNG2-P150

<p>1: Chan Scan List Edit current zone, channel scan list Use +/- to add or delete</p> <p>2: Priority Chans 1: System P1 Chan Global PRI1 channel Off Use Main follows channel select knob Select: any channel of all zones</p> <p>2: System P2 Chan Global PR2 channel Off Use Main follows channel select knob Select: any channel of all zones</p> <p>3: Zone # P1 Chan Off Use Main follows channel select knob Select: any channel of current zone</p> <p>4: Zone # P2 Chan Off Use Main follows channel select knob Select: any channel of current zone</p> <p>3: Zone Scan List Select zones to scan Use +/- to add or delete</p> <p>4: Zone Scan (Global operation) On/Off if ON, scan toggle switch control</p> <p>5: Zone Select</p> <p>6: Squelch Adjust Adjust... Selected Channel Selected Zone All Channels</p> <p>Reset... Selected Channel Selected Zone All Channels</p> <p>Set Default Level</p> <p>7: Backlight Auto Off Dim Medium Bright Custom</p> <p>8: Cloning Clone Active Zone as Master radio Clone Picklists Enter Dest Clone as Slave radio</p> <p>9: User Tx Tones Use to select transmit tones 1-32</p>	<p>10: TX Power</p> <p>11: Battery Life</p> <p>12: Surveillance</p> <p>13: Versions current firmware/software of radio</p> <p>14: Keypad Prog 1: Global Pri Scan Period Display Timeout</p> <p>2: System System P1 Chan Tx on Priority 1 System P2 Chan Scan Hold Time</p> <p>3: Zone Edit Zone Zone Label Zone P1 Chan Zone Tx on P1 Zone P2 Chan</p> <p>4: Channel 1: Edit Channel choose Zone and Channel 1: Channel Label 2: Rx Frequency Press CLR even if there are zeros Enter new frequency, then ENT</p> <p>3: Rx Mode Analog Digital Mixed</p> <p>4: Rx Guard Off Tone: Digital: Select:</p> <p>5: Bandwidth narrowband</p> <p>6: Tx Power Selectable Low</p> <p>7: Tx Frequency Press CLR even if there are zeros Enter new frequency, then ENT</p> <p>8: Tx Mode Analog Digital Selectable</p> <p>9: Tx Guard Off Tone: Digital: Select:</p> <p>10: DTMF Live Dial ON</p> <p>3: Add Channel</p> <p>4: Delete Channel</p>
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Relm BK Radio KNG-P150S



Menu Items:	
Scan List	Keypad Prog
Pri. Channels	Version
Squelch Set	Contrast Adj.
Cloning	Radio Status
Backlight	

KNG-P150S CLONING PROCEDURES

KNG-S radios allow for three cloning options:

Active Zone - Copies the information in the Source radio's active zone to the Target radio's active zone.

Zone-to-Zone - Allows for selection of any zone in the source radio to be copied into any non-blocked zone in the Target radio.

Entire Radio - Copies all non-radio specific data from the Source radio to the Target radio. Radio specific data includes P25 ID, serial number, encryption keys and passwords.

Zone-to-Zone and Entire Radio cloning are available only when cloning between two KNG-S models and not supported by other KNG portables, mobiles or legacy radios.

Connect the KAA0701 Cloning Cable to the side connector of the Source and Target radios and power up both radios.

KNG-P150S to KNG-P150S

On the Source radio:

1. Press the Menu button.
2. Use the up/down buttons to select "Cloning".
3. Press the [ENT] button.
4. Use the up/down buttons to select the cloning type.
5. Press the Enter button to send the cloning information.

The following additional steps are required for Zone-to-Zone cloning:

- a. Use the up/down buttons to select the desired Source radio zone.
- b. Press the Enter button.
- c. Use the up/down buttons to select the desired Target radio zone.
- d. Press the Enter button to send the cloning information.

While sending or receiving information "Cloning Mode" will be shown on the Target radio display.

After a successful information transfer, "Cloning Successful" is displayed on the Source radio before reverting to Send Clone mode.

If the cloning process fails or the Target radio's zone is blocked from accepting an incoming clone, a failure message will appear on the Source radio.

KNG-P150S as source radio

On the source radio select the zone with the information to be cloned by pressing the Zone button, or selecting "Zone Select" from the menu, then entering the number of the desired zone. On the target radio select the Zone or Group to which the information is to be sent.

For Legacy radio models select a target group by pressing the [#] key and entering the number of the desired group.

Some zones may be blocked by PC programming to prevent them from being overwritten. Only unlocked groups will accept incoming clones.

On the Target radio:

1. Press the Menu button.
2. Use the up/down buttons to select "Cloning".

3. Press the [ENT] button.
4. Select "Enter Dest Clone".

When the KNG Target radio is in "Destination Clone Mode", the Source radio can initiate the cloning of the "Active Zone" or "Picklist". When cloning has started, the KNG Target radio will display "Destination Clone Start"

After a successful information transfer, "Power off" is displayed and the radio will restart. The only cloning functions supported by the KNG Target radio are "Active Zone" and "Picklist". All other functions are unsupported

KNG ABBREVIATED KEYPAD CHANNEL PROGRAMMING

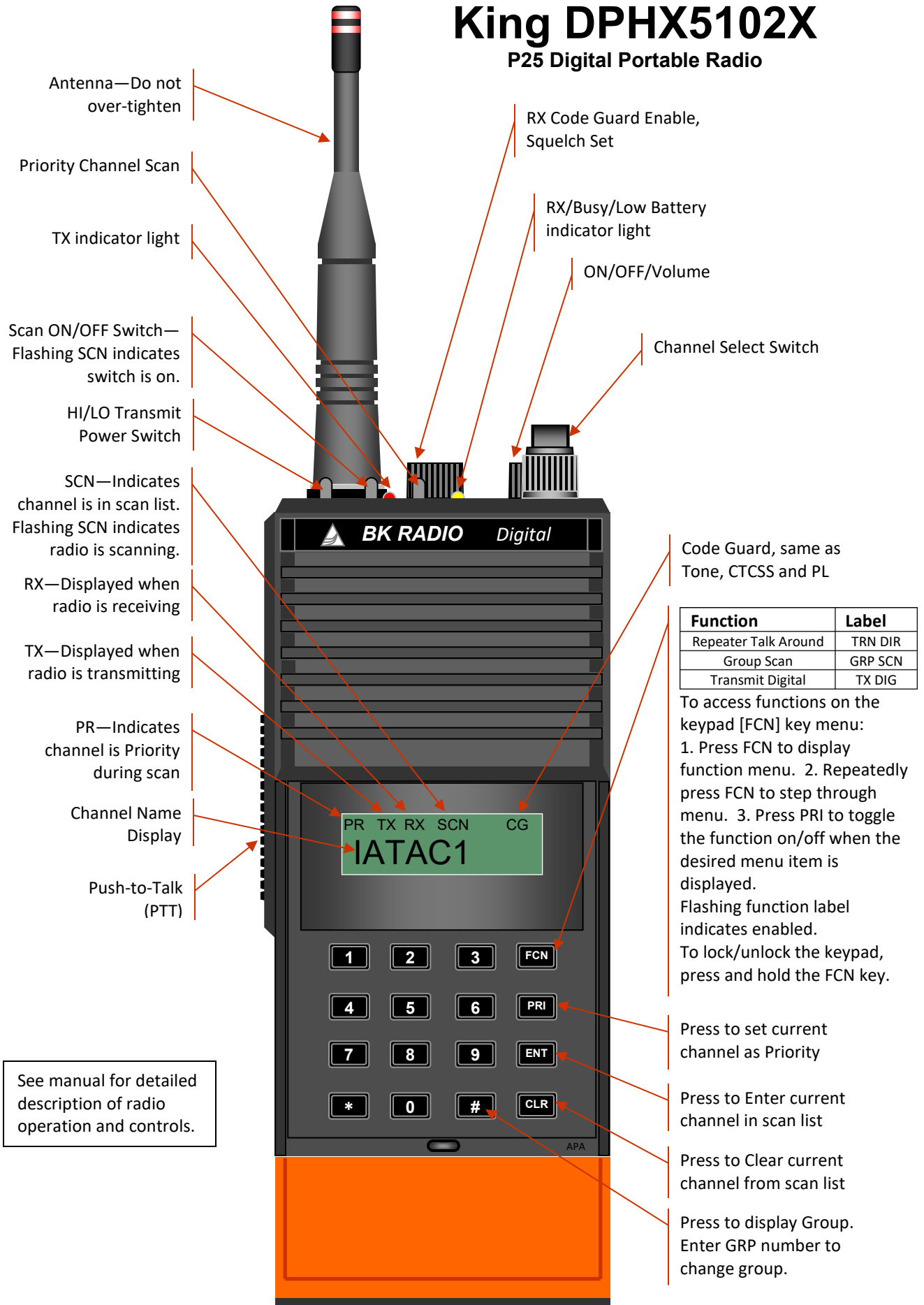
Refer to KNG-P150S series owner's manual (pg 55) for complete instructions.

To edit the programmable Channel settings: Press Menu, scroll to Keypad Programming and press ENT, Keypad Programming appears again, press ENT, enter password (000000), press ENT to select Channels. At this point, choose which Zone to edit the channel and then select the Channel to edit. Enter desired RX/TX frequencies and tones. Remember to clear (CLR) the current value first and enter (ENT) the new value. Below are common settings for analog channels:

- A. Chan Label – enter channel name
- B. Rx Freq – enter receive frequency
- C. Rx Mode – analog
- D. Rx Guard – enter tone frequency
- E. Rx NAC – (digital mode)
- F. Squelch Mode – (digital mode)
- G. Tx Freq – enter transmit frequency
- H. Tx Mode – analog
- I. Bandwidth – 12.5 KHz
- J. Tx Guard – enter tone frequency
- K. Tx NAC – (digital mode)
- L. TGID – (digital mode)
- M. Secure Mode – clear
- N. Key – 01 (do not change)
- O. Key Lock – off
- P. Low Pow Lock – off
- Q. PList Disable – off

King DPHX5102X

P25 Digital Portable Radio



Antenna—Do not over-tighten

Priority Channel Scan

TX indicator light

Scan ON/OFF Switch—Flashing SCN indicates switch is on.

HI/LO Transmit Power Switch

SCN—Indicates channel is in scan list. Flashing SCN indicates radio is scanning.

RX—Displayed when radio is receiving

TX—Displayed when radio is transmitting

PR—Indicates channel is Priority during scan

Channel Name Display

Push-to-Talk (PTT)

RX Code Guard Enable, Squelch Set

RX/Busy/Low Battery indicator light

ON/OFF/Volume

Channel Select Switch

Code Guard, same as Tone, CTCSS and PL

Function	Label
Repeater Talk Around	TRN DIR
Group Scan	GRP SCN
Transmit Digital	TX DIG

To access functions on the keypad [FCN] key menu:
 1. Press FCN to display function menu. 2. Repeatedly press FCN to step through menu. 3. Press PRI to toggle the function on/off when the desired menu item is displayed.

Flashing function label indicates enabled.

To lock/unlock the keypad, press and hold the FCN key.

Press to set current channel as Priority

Press to Enter current channel in scan list

Press to Clear current channel from scan list

Press to display Group. Enter GRP number to change group.

See manual for detailed description of radio operation and controls.

BK Radio Cloning Procedures

NOTE: Some groups may be locked by PC programming to prevent them from being overwritten. Only unlocked groups will accept incoming clones.

1. Make sure the battery packs for both radios are charged.
2. Attach the master switch end of the cloning cable to the side connector of the Master radio.
3. Turn on the Master radio.
4. Select the group to be cloned from the Master radio.
5. Put the Master radio in Programming Mode by pressing and holding the [FCN] key until the display shows '- - - ID.' Enter the password of the selected group. The display shows 'PRG CH 00'.
6. Review the values programmed in the radio by pressing the [FCN] or [ENT] key at each CHXX prompt. Any required changes must be made now.
7. Connect the other plug of the cable to the side connector of the radio you want to clone.
8. Turn on the clone and set it to the desired channel group.
9. Press the [*] key on the Master radio keypad. The display will flash 'PROG' signifying that the radio is ready to download its program to the clone.
10. Press the [FCN] key on the Master radio keypad. The program in the Master will then be downloaded to the clone.
11. If the download was successful, the display on the Master will resume flashing 'PROG'. More radios may be cloned at this stage.
12. To program another group or if the process failed, start the process over from the beginning.

BK Radio Abbreviated Keypad Channel Programming

NOTE: Refer to the DPH programming manual for complete instructions (steps A-L channel programming below begin on page 16). Select group to be programmed by pressing #, group number and ENT. Press and hold the program plug master switch. While holding the master switch press and hold the FCN key. After about three seconds the LCD will display "---ID". Release the FCN key and master switch, enter password code; default is 000000, then press ENT. At CH 00, press FCN to step through **CH 00 Settings** or press PRI to advance to CH 01 and up or enter channel number.

CH 01 below is used as an example assuming [Analog Operation](#).

- A. **CH 01** or **CH 01N**, use # to toggle between wide and narrow-band. Press FCN to advance programming.
- B. **###.####**, Receive Frequency, press CLR to clear, enter new frequency then press ENT.
- C. **MODE—A**, Default, press PRI to cycle through **Analog**, **Digital**, **Mixed**, press ENT.
- D. **###.#**, RX analog tone, press CLR, enter new tone, press ENT.
- E. **NAC0659**, Default network access code, press FCN to skip.
- F. **SQL—NRM**, Default squelch operation, press FCN to skip.
- G. **###.####**, Transmit Frequency, press CLR, enter new frequency.
- H. **MODE—A**, Default, PRI cycles through A, D, and M.
- I. **###.#**, TX analog tone, press CLR, enter new tone, press ENT.
- J. **NAC0659**, Default network access code, press FCN to skip.
- K. **TG00001**, Talk Group ID, Default, press FCN to skip.
- L. **Channel Label**, press FCN to skip. To change press CLR, PRI repeatedly to cycle through characters, FCN to shift the display left, FCN again for space, ENT to store changes.

Common CH 00 Settings—Per Group Settings

P000000

0000000

060 SEC

3.0 SEC

PR1 01 (Not On or Off)

PR2 OFF

1-**12345** (2 flashing) [Press number to change state.](#)

2-**12345** (3 & 5 flashing)

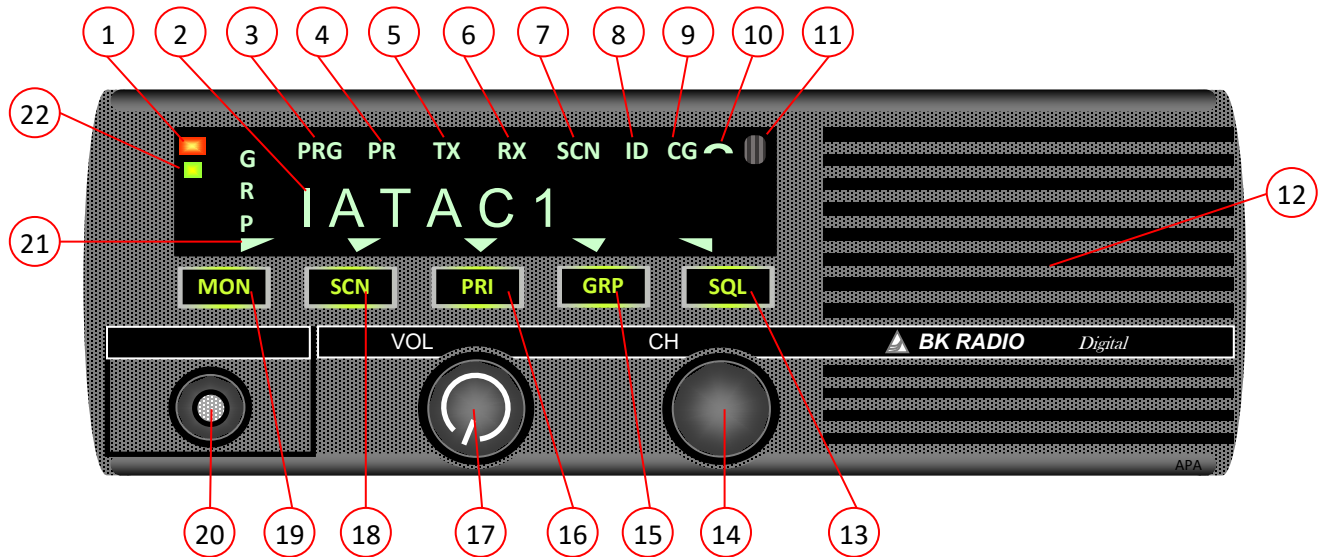
3-**12345** (3, 4 & 5 flashing)

3 SEC ON

GROUP #

[These CH 00 values are what are commonly used for User Selectable Priority Channel settings.](#)

BK Radio DMH Functional Diagram



- | | |
|--------------------------------------------|--------------------------------------------------------------------|
| 1. Transmit Indicator | 12. Internal Speaker |
| 2. Channel/Group/Information Display | 13. Squelch, press and release, use Channel Knob to adjust |
| 3. Programming Indicator | 14. Channel Selector Knob |
| 4. Priority Channel Indicator | 15. Group Display/Selection, press and use Channel Knob to adjust |
| 5. Transmit/Program Step Indicator | 16. Priority Scan on/off, press and hold to select current channel |
| 6. Receive/Program Step Indicator | 17. On/Off/Volume, push on/off radio power |
| 7. Scanned Channel, Flashing--Scan on | 18. Scan on/off, press and hold to select/deselect current channel |
| 8. Digital Identification Number Indicator | 19. Monitor, opens squelch |
| 9. Code Guard (Tone) Program Step | 20. Microphone Connector/Program Port |
| 10. Talk Group ID Phone Icon | 21. Function Button On/Off Indicators |
| 11. Display Dimming Sensor | 22. Priority Indicator/Busy Channel Light |

BK Radio DMH Basic Operation

- A. Turn on radio by pressing the Volume knob.
- B. Set the volume by pressing the MON button to hear squelch noise. Turn the Volume knob to set a comfortable volume level. Press MON again to stop squelch noise.
- C. Select a channel group by pressing the GRP button and turning the Channel Selector knob. Press the GRP button again to return to Channel Select mode.
- D. Select a channel by rotating the Channel Selector knob. A beep will be heard when the knob is rotated beyond the 1st and 16th channels.
- E. Press the SQL button and turn the Channel Selector knob to adjust Squelch. "Open" squelch is fully to the right. Press the SQL button again to return to normal operation.
- F. Press the SCN button to start/stop scanning channels in the scan list. Flashing SCN indicates scan is on.
- G. Press the PRI button to start/stop priority channel scan.
- H. With scan and priority scan off, press and hold the SCN button to add/remove channels from the scan list or use ENT/CLR of the microphone. Press and hold the PRI button to select a priority channel or use PRI of the microphone.
- I. To transmit, press the Push-To-Talk switch on the microphone. The red Transmit Indicator will illuminate during transmission. Speak at a normal volume level with the microphone 1-2 inches from your mouth.
- J. Turn on/off group scan by pressing FCN of the microphone until "GRP SCN" is displayed, then press PRI and ENT. Flashing "GRP SCN" indicates group scan is on. Repeat these steps to turn off group scan.
- K. If radio is equipped with a remote speaker, audio can be routed to it by pressing the FCN button on the microphone until "REM SPK" is displayed, then press PRI and ENT. Flashing "REM SPK" indicates remote speaker is on. Repeat these steps to return audio to inside speaker.
- L. Nuisance channel delete during scan is accomplished by pressing the SCN button for at least 1 second or by pressing the CLR key of the microphone. The scan list is restored when the radio is powered off and back on.
- M. To clone a group from a BK Radio handheld (assuming handheld radio is in cloning mode), select an empty group (15-25) of the mobile radio, remove the microphone cover and plug, insert the modular plug of the cloning cable and proceed with clone as if cloning to another handheld radio. Global settings of the mobile radio will not be affected.

National Tone/NAC Pick List			
Number	Tone	Number	Tone
1	110.9 \$455	17	67.0 \$29E
2	123.0 \$4CE	18	71.9 \$2CF
3	131.8 \$526	19	74.4 \$2E8
4	136.5 \$555	20	77.0 \$302
5	146.2 \$5B6	21	79.7 \$31D
6	156.7 \$61F	22	82.5 \$339
7	167.9 \$68F	23	85.4 \$356
8	103.5 \$40B	24	88.5 \$375
9	100.0 \$3E8	25	91.5 \$393
10	107.2 \$430	26	94.8 \$3B4
11	114.8 \$47C	27	97.4 \$3CE
12	127.3 \$4F9	28	118.8 \$4A4
13	141.3 \$585	29	173.8 \$6CA
14	151.4 \$5EA	30	179.9 \$707
15	162.2 \$656	31	186.2 \$746
16	192.8 \$788	32	203.5 \$7F3

A Alpha	N November
B Bravo	O Oscar
C Charlie	P Papa
D Delta	Q Quebec
E Echo	R Romeo
F Foxtrot	S Sierra
G Golf	T Tango
H Hotel	U Uniform
I India	V Victor
J Juliet	W Whisky
K Kilo	X X-ray
L Lima	Y Yankee
M Mike	Z Zulu