GPH5102X-CMD

Command Radio

Owner's Manual

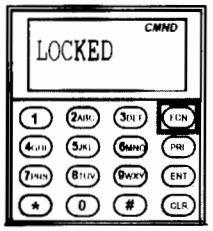
Owner's Manual Addendum

Keypad/Switch Locks

The command radio can be programmed for two styles of control locks. Standard Keypad Lock allows the user to lock and unlock the radio's alphanumeric key pad.

Lock All locks and unlocks the radio's keypad as well as the channel select and toggle switches.

Standard Keypad Lock



To lock/unlock the keypad, press and hold the **[FCN]** key. When locked, **"LOCKED"** will be displayed if a key is pressed and a low beep will sound.

Lockout Exceptions:

PTT unlocks the keypad during transmit for enabled DTMF key presses.

Keypad and Switch Lock

If "Lock All" is enable, the keypad, channel select and toggle switches can be locked to avoid accidental engagement.

To toggle the "Lock All" function:

1. Press and hold the **[FCN]** key.
   The display will prompt to press and hold the **[*]** Key to Lock/Unlock All"
2. Press and hold the **[*]** key to turn the function on or off.

NOTE: Enabling the Lock All function on GPH models, requires radio editor LAA0746, Version 1.0.4 or higher.

Enabling the Lock All function on DPH models, requires radio editor LAA0747, Version 1.0.1 or higher.

Contents

Introduction

This manual contains information concerning the operation procedures for the BK Radio GPH-CMD radio. The GPH-CMD radio has been designed to meet the tough requirements of today's communications environment. Please take a moment to read the information in this manual so you can get optimum performance from your new radio

FCC Requirements

Your radio must be properly licensed by the Federal Communications Commission prior to use. Your BK Radio dealer can assist you in meeting these requirements. Your dealer will program each radio with your authorized frequencies, signaling codes, etc., and will be there to meet your communications needs as your system expands.

Safety Precautions

- Do not operate the transmitter in close proximity to blasting caps.

- Do not operate the radio in an explosive atmosphere (petroleum fuels, solvents, dust, etc.) unless your radio is an intrinsically safe model designed for such use.

RF EXPOSURE COMPLIANCE AND CONTROL GUIDELINES AND OPERATING INSTRUCTIONS

To control your exposure and ensure compliance with the occupational/ controlled environment exposure limits always adhere to the following procedures.

Guidelines:

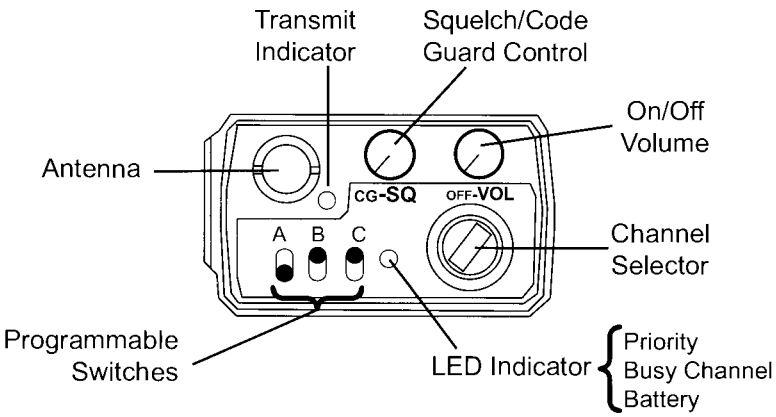
- Do not remove the RF Exposure Label from the device.
- User awareness instructions must accompany device when transferred to other users. Do not use this device if the operational requirements described herein are not met.

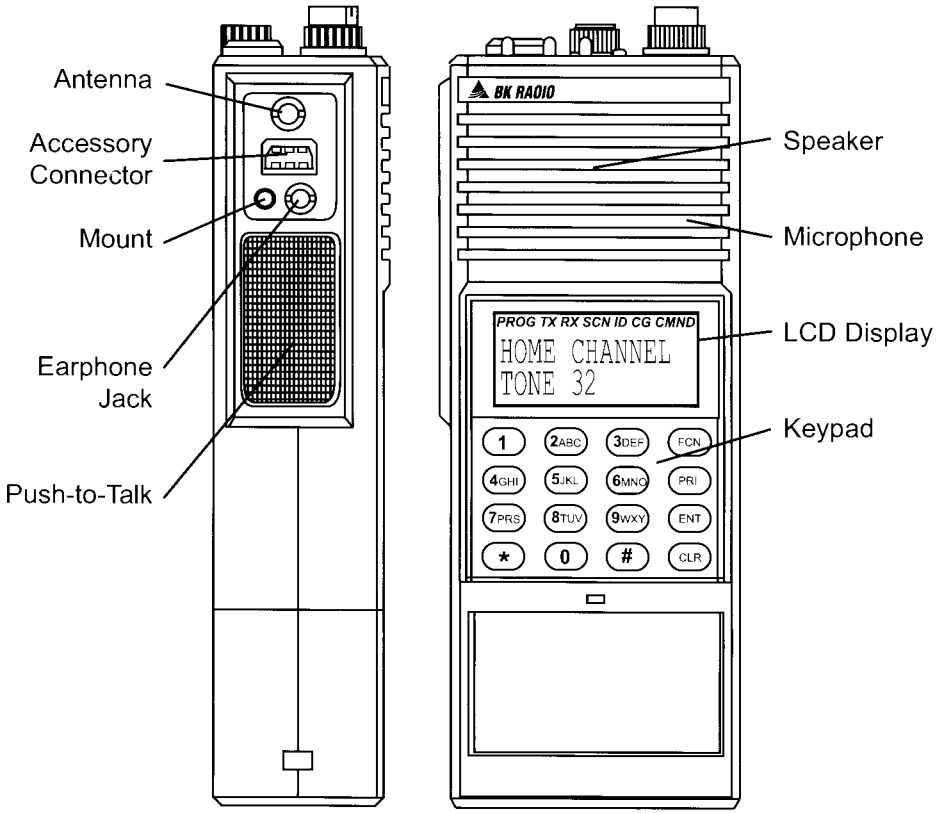
Operating Instructions:

- Transmit no more than the rated duty factor of 50% of the time. To transmit (talk), push the Push-To-Talk (PTT) button. To receive calls, release the PTT button. Transmitting 50% of the time, or less, is important because this radio generates measurable RF energy exposure only when transmitting (in terms of measuring for standards compliance).
- Hold the radio in a vertical position in front of face with the microphone (and the other parts of the radio, including the antenna) at least one inch (2.5 cm) away from the nose. Keeping the radio at the proper distance is important because RF exposures decrease with distance from the antenna. Antenna should be kept away from eyes.
- When worn on the body, always place the radio in a BK Radio approved clip, holder, holster, case, or body harness for this product. Using approved body-worn accessories is important because the use of BK Radio or other manufacturer's non-approved accessories may result in exposure levels which exceed the FCC's occupational/controlled environment RF exposure limits.
- If you are not using a body-worn accessory and are not using the radio in the intended use position in front of the face, then ensure the antenna and the radio are kept at least one inch (2.5 cm) from the body when transmitting. Keeping the radio at the proper distance is important because RF exposures decrease with increasing distance from the antenna.
- Use only BK Radio approved supplied or replacement antennas, batteries, and accessories. Use of non-BK Radio approved antennas, batteries, and accessories may exceed the FCC RF exposure guidelines.

For a list of BK Radio approved accessories visit the following website: http://www.relm.com.

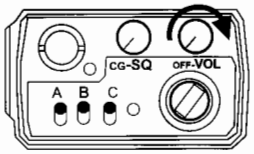
Radio Controls



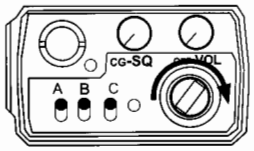


Basic Radio Operation

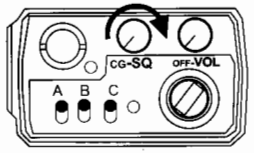
Receive



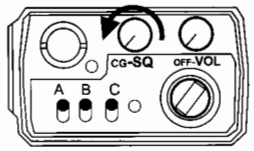
1. Turn power on by turning the Volume knob clockwise. A beep sounds, indicating the radio is operational. The LCD display shows the current channel.



2. Select a channel by rotating the Channel Selector knob. When the unstopped channel selector is rotated past the highest (20th) channel, the radio will emit a beep and remain on the highest channel. When rotated past the lowest (1st) channel, the radio will emit a beep and remain on the lowest channel.

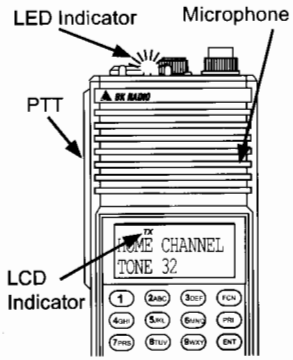


3. Adjust squelch and volume by turning the Squelch knob clockwise until you hear noise. Set the volume to a comfortable level. Then turn the Squelch knob counterclockwise until the noise stops. This is called the Threshold Squelch setting.



Turning the Squelch knob fully counterclockwise past the detent places the receiver in Channel Guard. A message will be heard only when the proper Channel Guard value is received.

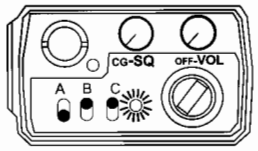
Transmit



1. Press the PTT (Push-To-Talk) switch. When the transmitter is on, the red LED Transmit Indicator glows and **TX** appears in the display.

2. Talk in a normal voice with the microphone one to two inches from your mouth.

3. Release the PTT switch to stop transmitting.



If the Transmit Indicator does not glow when you press the PTT switch, the battery pack may need to be charged. If so, the display will indicate **LOBATT**, and the yellow Low-Battery Indicator will flash. If the Transmit Indicator does not glow and a tone sounds, you are on a receive-only channel or the channel is busy (if Busy Channel lockout is enabled). Select an authorized transmit channel.

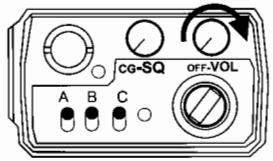
If the length of your message exceeds the preset Time-Out Timer setting, the transmitter automatically shuts off and a tone sounds. To continue transmission, release the PTT switch, and then press it again and continue talking.

Channel Guard Operation

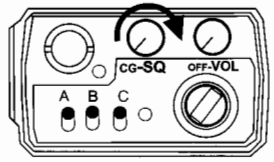
SQUELCH CONTROL

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.

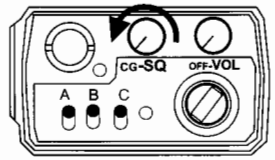
CHANNEL GUARD RECEIVE



1. Turn power on by turning the Volume knob clockwise.



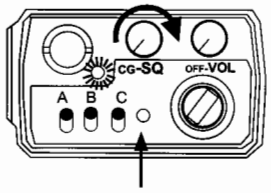
2. Select a Channel Guard channel by turning the Channel Selector knob.



3. Adjust volume by turning the Squelch knob clockwise until a noise is heard. Set the volume to a comfortable level.

4. Set Channel Guard Mode by turning the Squelch knob off (counterclockwise) into the Channel Guard position. A message will be heard only when the proper Channel Guard value is received.

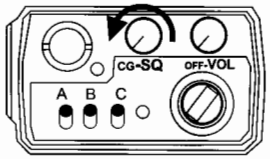
CHANNEL GUARD TRANSMIT



Busy Channel Indicator

1. Turn the Squelch knob on (clockwise) and monitor the Channel Guard channel before transmitting, or, if Busy Channel operation is enabled, check the yellow LED.

NOTE: Do not transmit if the channel is busy.



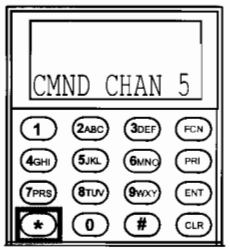
2. Press the PTT switch. When the transmitter is on, the red Transmit Indicator glows and **TX** appears in the display.

3. If monitoring the channel, reset the squelch knob to the Channel Guard position to receive only the messages with the proper Channel Guard value. During extended transmissions, the squelch can be left open until the exchange has ended.

Command Group

The GPH-CMD radio allows construction of a Command Group of up to 20 channels, drawn from any of the programmed channels in the radio. To modify the Command Group (add or delete channels) all scanning functions (Channel Scan, Group Scan, and Priority Scan) must be turned OFF.

BUILDING A COMMAND GROUP



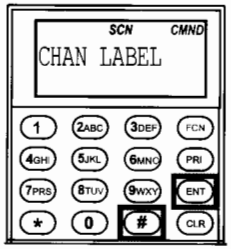
While operating in a group other than the Command Group (group 1 – 25), the user selects a channel in the radio and presses the **[*]** key to enter the channel into the Command Group. If a channel is on the scan list in its home group, it will also be on the Command Group's scan list. Unprogrammed channels cannot be added to the Command Group. Up to 20 channels may be entered.

After adding a channel, the display momentarily shows **'CMND CHAN XX'** where XX is the channel number (1 – 20). Parameters associated with each selected channel, such as Bandwidth, Scan, and Power settings, are also used while operating in the Command Group.

Once 20 channels are entered, subsequent presses of the **[*]** key, followed by the **[ENT]** key, will cause the radio to beep and momentarily display the message **'CMND FULL'**. When operating in the Command Group, the continuously rotating channel selector will "stop" at the highest programmed channel.

For example, if only 4 channels are programmed, when the channel selector is rotated past the 4th channel the radio will beep and remain on the 4th channel.

OPERATING FROM A COMMAND GROUP



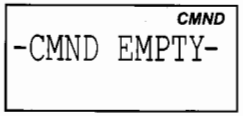
The Command Group can be entered by pressing the **[#]** key twice. Operation in the Command Group is indicated on the display by the **'CMND'** icon.

Adding or deleting a channel to/from the Command Group's scan list also changes the channel's status in its home group.

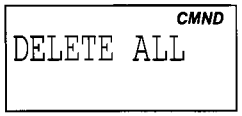
It is not valid for a priority channel to be set to a channel in the Command Group. If, while operating in the Command Group, the **[PRI]** key is pressed to designate a priority channel, the "target channel" that is pointed to by the Command Group channel will be marked as the priority channel.

MODIFICATIONS TO THE COMMAND GROUP

When the Command Group is active, a short press of the **[*]** key deletes the knob-selected channel, while a long press (4 seconds) deletes all channels in the Command Group.



When a channel is deleted, the display momentarily shows **'CHAN DELETED'**, and the following channels move up in the list. For example, if channel 5 is deleted, channel 6 becomes the new channel 5, channel 7 becomes the new channel 6, etc. When all channels are deleted, the radio beeps continuously and the display shows **'CMND EMPTY'** along with the **'CMND'** icon.



To delete all channels in the Command Group, press and hold the **[*]** key. The radio emits a warning tone and displays **'DELETE ALL'**. Continue holding the button until **'CMD EMPTY'** is displayed. To abort the operation release the [*] key while **'DELETE ALL'** is shown.

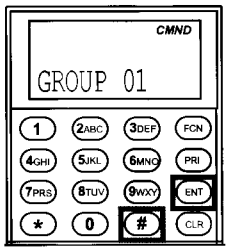
Exit the Command Group to add new channels.

Channel Groups

Channels are arranged in 25 groups of up to 20 channels.

SELECT A GROUP/CHANNEL

The rotary knob selects channels in the group selected by the keypad:



1. Press the **[#]** key on the keypad to display the current group number.

2. Press number keys for the new group number, or press **[#]** again to select the Command Group.

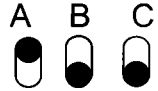
When changing groups, invalid entries will not be accepted, and the radio remains in the previously selected group.

3. Press the **[ENT]** key or wait 5 seconds. The radio returns to normal operation for the new group, and the selected channel is displayed.

Programmable Top Switches & Function Menu

The following functions can be assigned to the three top switches or the keypad **[FCN]** key menu:

Programmable Toggles



Factory Settings

A = Hi/Lo Power

B = Scan

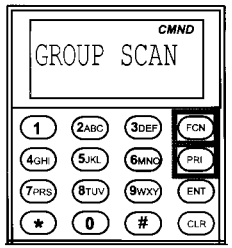
C = Priority

FUNCTION	FCN Key Menu Label
Low Power Select	TX LOW POWER
Channel Scan	CHANNEL SCAN
Priority Scan	PRI SCAN
Repeater Talk Around	TALK-AROUND
Group Scan	GROUP SCAN

Your dealer can also assign more than one function to the same top switch. For example, both low-power select and repeater talk-around could be enabled by the same switch.

NOTE: Assume for this manual that Switch 'A' has been programmed for HI/LO Transmit Power, Switch 'B' has been programmed for Scan, and Switch 'C' has been programmed for Priority Scan.

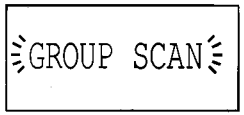
To access functions on the keypad **[FCN]** key menu:



1. Press the **[FCN]** key to display the function menu.

2. Repeatedly press **[FCN]** to step through the menu.

3. Press **[PRI]** to toggle the function on/off when the desired menu item is displayed.



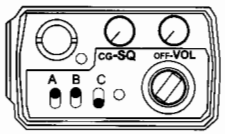
When the display flashes, the function is enabled.

KEYPAD LOCK

To lock/unlock the keypad, press and hold the **[FCN]** key. When locked, **"LOCKED"** will be displayed if a key is pressed and a low beep will sound.

Lockout Exceptions:
PTT unlocks the keypad during transmit for enabled DTMF key presses.

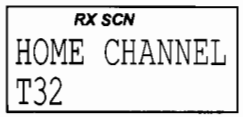
Scan Operation



1. Slide Switch B (scan) up.
2. Slide Switch C (priority) down.

The display indicates scan operation by flashing **SCN**.

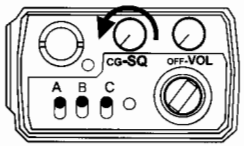
Scan operates only while the radio is not transmitting. The radio checks for signals on channels in the preset Scan List, as well as the channel selected by the Channel Selector knob.



When a signal is detected, scanning stops and the message is received. The received channel is shown in place of the transmit channel.

Once the signal ends, the radio continues to monitor the channel for the preset scan delay time before it resumes scanning.

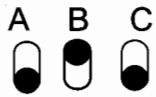
SCANNING CHANNEL GUARD CHANNELS



1. Slide Switch B (scan) up.
2. Turn the Squelch knob counterclockwise, past the detent, to the Channel Guard position.

When a signal is detected, scanning stops while the radio checks for the proper Channel Guard value. If the signal contains the proper Channel Guard value, the radio receives the message. Otherwise, the radio resumes scanning immediately.

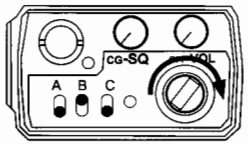
NUISANCE CHANNEL DELETE



If your radio is programmed for Nuisance Channel Delete and Channel Scan is assigned to a top switch (Switch B, for example), a Nuisance Channel can be temporarily removed from the Scan List by sliding Switch B down and then back up.

TRANSMITTING WITH SCAN ON

When Switch B (scan) is up, the radio transmits on the channel selected by the Channel Selector knob unless Talkback Scan is enabled or "Transmit on Priority-1" is enabled (see Priority Scan operation).



1. Select a transmit channel by turning the Channel Selector knob.
2. Press and hold the PTT switch and talk in a normal voice.

When the PTT switch is released, the radio continues to monitor the selected channel for the preset scan delay time before it resumes scanning.

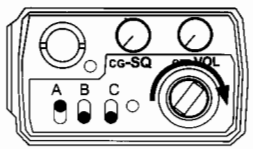
TALKBACK SCAN

If your radio is programmed for Talkback Scan, press PTT while a channel is active or while scan delay time remains. You will be responding on the transmit frequency of the received channel.

Talkback Scan will not work if Priority Scan is also on and your radio is programmed to always transmit on the Priority 1 channel.

CHANGING THE SCAN LIST

If the radio has not been programmed for Scan List Lock, the user may add or remove channels from the Scan List. If user changes are enabled, follow these steps to change the Scan List:



1. Slide Switches B (scan) and C (priority) down.
2. Select a channel to be added or removed from the Scan List by turning the Channel Selector knob. If the channel is already on the

Scan List, **SCN** appears in the display.

3. Press the **[ENT]** key to add a channel to the Scan List. A short beep sounds and **SCN** appears in the display.

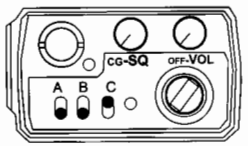
4. Press the **[CLR]** key to remove a channel from the Scan List. A short beep sounds and **SCN** disappears from the display.

GROUP SCAN

Channels on each "Channel Scan List" in groups on the "Group Scan List" are scanned sequentially. The selected group is always scanned when Group Scan is enabled, even if that group is not on the Group Scan List.

PRIORITY SCAN

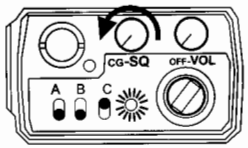
Priority Scan enables the radio to receive on any channel while monitoring for a message on the designated priority channel(s). The radio samples each priority channel at a preset rate (.25-2.0 seconds) regardless of activity on any other channel. Priority Scan operates only while the radio is not transmitting and can be used in combination with scan operation.

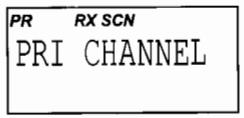


When Switch C (Priority) is up, the display flashes **SCN**. If a message is received on a priority channel, the Priority Indicator lights, and the radio receiver locks onto that channel for the duration of the transmission, unless a higher priority channel interrupts.

Priority Scan can be used in combination with Channel Guard with:

- Switch C (Priority) up
- The Squelch knob in the Channel Guard position (fully counterclockwise detent position) and
- The Priority Channel(s) programmed with Channel Guard





If a message is received on a priority channel, the radio receiver locks on to the priority channel and checks to see if the proper Channel Guard value is present. If the signal

contains the proper Channel Guard value, the radio receives the message. Otherwise, the radio will re-check the channel every 4 seconds, until the activity on the channel ceases.

DUAL PRIORITY SCAN

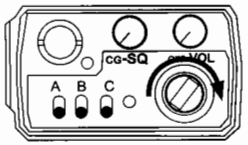
Up to two of the radio's 500 channels can be designated as priority channels. These two, PR1 and PR2, are periodically tested for activity, even if a different transmission is being listened to. Activity on PR2 preempts activity on any of the non-priority channels. Receptions on PR1 have priority over any other channel, including PR2.

Either priority channel can be programmed as a fixed channel, tied to the Channel Selector knob, or programmed OFF. If the radio is programmed to transmit on the first priority channel, transmissions will occur on PR1 when operating in Priority Scan Mode.

If PR1 is a fixed channel, and the **[PRI]** key is not locked out, the user can use the keypad to change groups, if necessary, move the channel selector to a new channel and press the **[PRI]** key to choose a new PR1 channel.

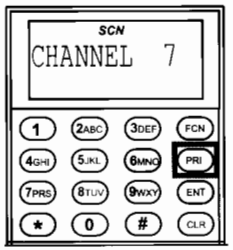
CHANGING THE PRIORITY 1 CHANNEL

The Priority 1 channel can be permanently set or can be changeable. If the radio has a changeable priority channel, use the following steps to make this change:



1. Slide Switches B (scan) and C (priority) down.

2. Use the keypad to change groups, if necessary. Turn the Channel Selector knob to the channel you want to enter as the new Priority 1 channel.



3. Press the **[PRI]** key. A short beep sounds and **PR** appears in the display, indicating that the displayed channel is now the Priority 1 channel.

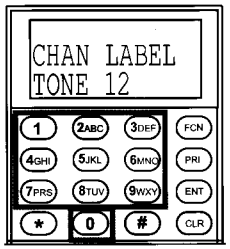
NOTE: If the radio is programmed for Dual Priority operation, only the Priority 1 channel can be changed with the **[PRI]** key.

NOTE: A channel can be the priority channel even if it is on the Scan List. Due to multiple sampling of the same channel, however,

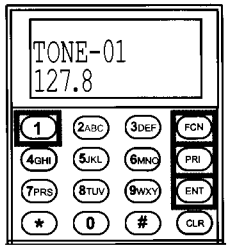
maximum performance occurs when the priority channels are not on the Scan List.

User Transmit Channel Guard

When the radio is being programmed with transmit and receive frequencies for each channel, a receive Channel Guard value and a transmit Channel Guard value can also be assigned to each channel. On channels that do not have a default transmit Channel Guard programmed, the user can choose CxCSSs from a global UTXG Pick List containing 32 entries. To assign a UTXG for use on a channel, all scanning functions (Channel Scan, Group Scan, and Priority Scan) must be turned OFF.



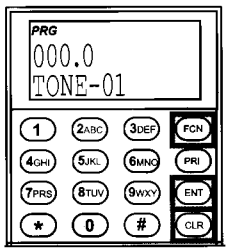
The user selects a channel and then uses the keypad to enter a number from 1 to 32. When UTXG is active, the second line of the display will show the number of the selected list entry (TONE – XX). Once a UTXG is assigned to a particular channel, it will be stored and used with that channel whenever the channel is selected. Repeater Talk Around operation will use the pre-programmed RX CxCSS.



The UTXG Pick List can be viewed by pressing **[FCN] [1]**. The display will show:

TONE – 01	or	TONE – 01
XXX.X		DXXX

Press **[PRI]** to increment through the list or key in a number. Press **[ENT]** to exit the list viewer. (This feature is for viewing the list only. Pressing **[ENT]** when a list item is displayed does NOT associate the UTXG with the selected channel.)



Programming of the list (if programming is not locked out by PC software) can be accomplished as follows:

1. While viewing the list, press and hold the **[FCN]** key until the '**PRG**' annunciator lights.

2. Press **[CLR]** and then enter the new CxCSS. Press **[ENT]** to store the new value and return to the list viewer.

Other Operational Features

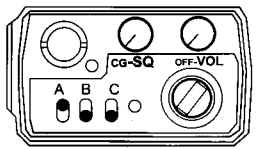
The BK Radio GPH-CMD Series is based on a microprocessor core that allows extra features and operational characteristics to be programmed into the radio. Your dealer can help define the best operational settings for your system and program them into the radio.

SCAN DELAY

Scan delay lets the radio receive a response to a transmission before scanning the other channels for activity. If you find that your scanner is restarting before message replies are received, you can ask your dealer to increase the scan delay time (0-7.5 seconds).

This timer is also used to allow for Talkback Scan.

HI/LO POWER



Each channel in the radio can be individually programmed to always transmit in Low-Power Mode, regardless of the position of the radio's top switch (or keypad **[FCN]** menu setting). If the programming for the channel allows high-power transmissions, the power level can be selected with a top switch or the keypad menu.

ANALOG DTMF ENCODING

Radios can be programmed to enable DTMF (Dual Tone Multiple Frequency) encoding. To send DTMF tones (similar to the tones used by a standard push-button telephone):

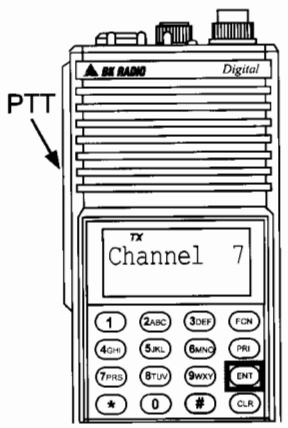
1. Press and hold the PTT switch.

2. Press any of the keys on the keypad.

You will hear a sidetone.

The **[FCN]**, **[PRI]**, **[ENT]**, and **[CLR]** keys respond as DTMF tones A, B, C, and D, respectively.

ANI ENCODING



ANI encoding (Automatic Numeric Identification), if enabled, transmits a sequence of DTMF tones each time you press the PTT switch. You will hear a sidetone. Your dealer can program the ANI number to be sent.

If DTMF and ANI are both enabled, the ANI tone sequence is transmitted only after the **[ENT]** key is pressed while the PTT switch is activated. You will hear a sidetone.

TIME-OUT TIMER

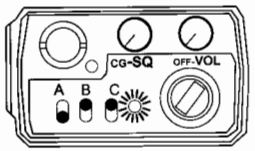
The transmit Time-Out Timer limits the duration of calls and guards against accidentally locking on the transmitter and tying up the radio system. Your dealer can program the duration of the Time-Out Timer (15-225 seconds, or disabled).

BUSY CHANNEL

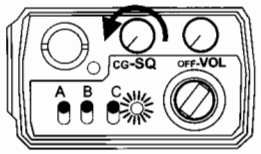
If the radio has been programmed for Busy Channel operation, it will operate in one of the following three Modes:

- Busy Channel Indication
- Busy Channel Lockout
- Busy Channel Lockout with Override

BUSY CHANNEL OPERATION



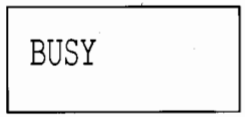
The yellow Busy Channel Indicator glows if there is carrier activity on the selected channel. If the selected channel is a Channel Guard channel and the proper Channel Guard value is not detected, the Busy Channel Indicator remains on for the duration of the carrier activity and no message is heard. During Scan and Priority Scan operation, the Busy Channel Indicator glows when activity is detected on any channel on the Scan List.



When scanning or priority scanning Channel Guard channels with the Squelch knob in the Channel Guard position and activity has been detected, the Busy Channel Indicator glows for the time period necessary to determine if the proper Channel Guard value has been received. This will cause the Busy Channel Indicator to flash at various rates.

BUSY CHANNEL LOCKOUT

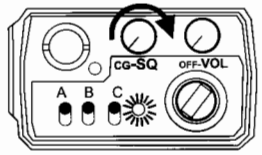
The Busy Channel Lockout feature applies only to those channels programmed with a receive Channel Guard value. When carrier activity is detected on the channel selected, the radio checks the receive Channel Guard value. If the proper Channel Guard value is present, the radio can transmit on that channel, even if the Squelch knob is in the Channel Guard position.



If the radio detects an incorrect value or carrier activity only, the transmitter is disabled. If an attempt is made to transmit, an alert tone will be generated and the display will show the word **'BUSY'** until the channel becomes available or the PTT switch is released, whether the Squelch knob is in or out of the Channel Guard detent.

Channels not programmed with a receive Channel Guard value can be used to transmit regardless of carrier activity.

BUSY CHANNEL LOCKOUT WITH OVERRIDE

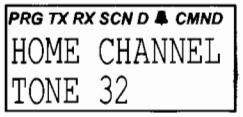


This mode operates in the same manner as Busy Channel Lockout except that the user can override and transmit by turning the Squelch knob off the Channel Guard detent. The transmitter is locked out only if the Squelch knob is set to the Channel Guard detent.

Alphanumeric Display

GPH-CMD radios may optionally have a slide-out keypad/display cover. To remove or install the cover, turn off the radio and remove the battery (see Battery Installation and Removal).

Display annunciators indicate the following information:



Icon	INDICATION
PR	-Priority Channel
PRG	-Programming Mode
TX	-Transmit
RX	-Receive
SCN	-Scan List Channel -Flashing SCN indicates scanning in progress and RX SCN indicates receiving on a scanned channel.
CMND	-Command Group Active

The LCD Display of the GPH-CMD Series portable radios can be programmed with the following features:

CHANNEL AND GROUP LABELS

The radio can be programmed with a label for each of the 25 channel groups and a label for each of the 20 channels within each group.

To display a group label, turn scanning functions off, then:

1. Press the **[#]** key on the keypad to display the group number.

2. Press and hold the **[#]** key to display the group label.

3. Press the **[ENT]** key or wait for about 5 seconds to revert to normal radio operation.

DISPLAY BACKLIGHTING

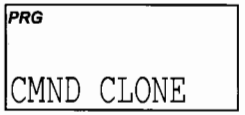
The GPH-CMD radios can be programmed by your dealer to backlight the display when a signal is received or when a key is pressed. The time duration of the backlighting can also be programmed.

Cloning Procedure

Any "Master" radio (a GPH-CMD with the desired radio frequencies and settings) is capable of transferring its program to another GPH-CMD or GPH radio. The radio receiving the program is referred to as the "Slave" or "Clone." The LAA0700 cloning cable will be required in the following procedure.

Data that can be cloned to another GPH-CMD radio includes:

- Group data
- Command Group data
- Global data
- UTXG Pick List



When the Master's Command Group is cloned to a slave, the channel data that is 'pointed to' by the Command Group is transferred to a target group (not the Command Group) in the slave. The target group's label in the slave will be set to **'CMND CLN'**.

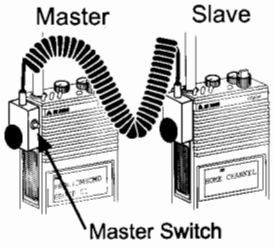
Data that can be cloned to a standard GPH radio includes:

- Group data
- Command Group data

When cloning to a GPH radio, the Master's global data is converted to group data in the slave, and only the first 16 channels are transferred.

When receiving an incoming clone from a GPH radio, the GPH-CMD radio ignores group data other than the group label and the group scan list bit. The GPH-CMD's global data is not disturbed.

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.

NOTE: One plug of the cloning cable has a push-button master switch. This plug must be attached to the Master radio.

3. Turn on the Master radio.

PRG
PSWRD-******

4. Put the Master radio in Programming Mode by pressing and holding the master switch then pressing and holding the **[FCN]** key until the display shows **'PSWRD-******'**. Enter the password of the selected group. The display shows **'PRG CH 00.'**

PRG
CH 00

5. Connect the other plug of the cable to the side connector of the radio you want to clone.

6. Turn on the clone and set it to the desired channel group.

PRG
PROG|GPHCMD
GROUP 01

PRG
PROG|GPH
GROUP 01

7. Press the **[*]** key on the Master radio keypad. The radio will respond showing the prompt **'PROG|GPHCMD'** on the first line and **'Group XX'** on the second line, where XX is the currently selected group (see Select A Group/Channel, page 13, for details of how the group is selected).

Long **[*]** keypresses will toggle the first line of the display between **'PROG|GPHCMD'** and **'PROG|GPH'**, if the second line of the display shows data that is valid to copy to the displayed target.

Data	Valid Target
GROUP 00	GPH-CMD only
GROUP 01 - 25	GPH-CMD, GPH
CMND GRP	GPH-CMD, GPH
PICK LIST	GPH-CMD only

PRG
PROG|GPHCMD
CMND GROUP

8. Long **[#]** keypresses will cause the second line of the display to cycle through the data blocks that can be transferred to the target displayed on the first line.

PRG
PROG|GPHCMD
PICK LISTS

Target	Valid Data
GPHCMD	GROUP 00 or GROUP 01 – 25 CMND GRP PICK LISTS
GPH	GROUP 01 – 25 CMND GRP

PRG
CLONING

9. Once the data to be transferred has been selected, press the **[FCN]** key on the Master radio keypad. The top line of the display will flash **'CLONING'** while the program in the master is being downloaded to the clone.

10. If the download was successful, the display on the Master will again display the clone prompt (target and data to be transferred).

- To clone another channel group, press the Master radio's **[CLR]** key. Navigate to a **'CH'** prompt, then press and hold the **[#]** key to get the **'GRP'** prompt. Select **'GRP 0'** to clone global settings.
- If cloning is finished, turn off the Clone and disconnect the cloning cable. Normal radio operation will occur when you turn on the Clone.

PRG
FAILURE

11. If the download was not successful, the master will flash **'FAILURE'** and multiple beeps will follow. Failure of downloading can be due to:

- Improper connection
- Failure to turn on the clone
- Setting the clone in Programming Mode
- Target radio's group 'locked' by PC Programming.

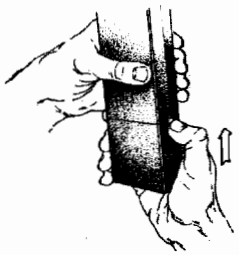
NOTE: To stop the **'FAILURE'** Mode, press **[CLR]**, turn off both radios, and try again, starting with Step 1 on the previous page.

BATTERY INSTALLATION AND REMOVAL

BK Radio battery packs are available in a variety of sizes and types for special applications. Rechargeable battery packs can be charged separately or while attached to a radio.

NOTE: For safety reasons, rechargeable battery packs are shipped uncharged or only partially charged. Therefore, a rechargeable battery pack should be properly charged before use.

INSTALLING THE BATTERY

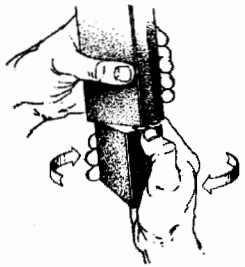


1. Locate the center hub on the radio base and place it in the recess of the battery pack.

2. Position the battery pack at the 30° offset, seating the two metal studs in their recess.

3. Apply upward pressure to the pack while twisting the pack to its final (in line with the radio) position. The metal tab will click, locking the pack in position.

REMOVING THE BATTERY



1. Turn the radio off.

2. As shown above, push up the metal tab on the side of the case while twisting the battery pack approximately 30°.

NOTE: All information programmed into the radio is maintained even when the battery pack is removed.

3. Remove battery pack from the radio.

NOTE: Periodically check the contacts on the battery pack for dirt that could prevent a good electrical contact with the charging base.

WARNING: EXPLOSION HAZARD

Do not drop a battery pack into fire.

An explosion may occur.

ANTENNA INSTALLATION

Insert the flexible helical-wound antenna into the radio's antenna connector and turn it clockwise until it is firmly seated.

DEFINITIONS AND ACRONYMS

ANI	Automatic Numeric Identification
CLR	Clear
Cloning	The process of copying data from one radio, called "master," to other radios, called "slaves" or "clones."
Channel Guard	A sub-audible tone, a code (analog) .
Command Group	A group of up to 20 channels selected by the user from any of the 500 channels in the radio.
Detent	The click/hesitation you feel as you turn a knob from one position to another.
DTMF	Dual Tone Multiple Frequency
DTMF Tones	Tones that sound like those used by a standard push-button telephone.
ENT	Enter
FCN	Function
GRP	Group Label
Individual Personality	The information programmed with a PC on both a global and by-channel basis that tells the radio exactly how to operate.
LCD	Liquid Crystal Display
PR	Priority Channel
PRG	Programming mode
PRI	Priority
PTT	Push To Talk
RTA	Repeater Talk Around
RTX Channel	Ready to Transmit Channel
RX	Receive
SCN	Scan
SQ	Squelch
Squelch	A control that eliminates background noise.
Talkback Scan	When scanning, if a signal is present, the scan will stop and you will hear the signal. If you can then push the PTT switch to talk back to the person, you are in Talkback Scan Mode.
Time-Out Timer	A feature that limits the duration of calls.
TX	Transmit
UTXG	User Transmit Channel Guard