

Bendix King

GPH-CMD

Programming
Manual

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HOW TO PROGRAM RADIOS

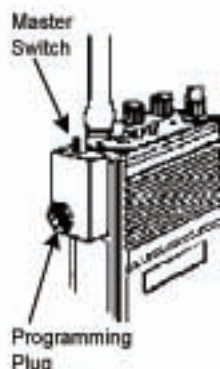
You can program GPH-CMD radios in three different ways:

- A. **BY KEYPAD** A radio can be programmed with its keypad and a programming plug, LAA0701. That procedure is described in this manual.
- B. **BY CLONING** You can transfer a radio's programmed settings to another GPH-CMD or GPH radio by using a cloning cable, LAA0700. See "Cloning Radio Settings" in this manual.
- C. **BY COMPUTER** With a computer, GPH-CMD programming software and an LAA0725 interface cable. That procedure is not described in this manual. Contact BK Radio for the programming cable and required software.

KEYPAD PROGRAMMING

Some radios are shipped with a door covering the keypad and display. Before programming, remove the door by removing the battery pack, engaging the door just below the speaker grill, and sliding the door downward. Replace the battery pack.

Make sure the battery pack is charged.



1. Insert the programming plug into the side connector of the radio. The push-button master switch will be on the top.

NOTE: The cloning cable can be used as a substitute for the programming plug by inserting the end with the push-button master switch into the side connector of the radio.

2. Select a channel group to be programmed.
3. Press and hold the master switch.
4. While holding the master switch, press and hold the **[FCN]** key. After approximately three seconds the LCD will display 'PSWRD-*****'.

PSWRD-*****

5. Release the **[FCN]** key and the master switch. The radio is now in the Password Entry Mode.
6. Enter the six-digit password code. Without the correct password code, you cannot proceed with programming.

NOTE: New radios shipped from the factory are assigned the password code **000000**.

If the password code is entered incorrectly, the radio will reset to normal operation. Try again, starting at step 2.



7. Press the **[ENT]** key to proceed to Programming Mode. The display will change to 'PROG CH 00'.

NOTE: Keypad Programming Mode cannot be entered when the radio is operating in the Command Group. If the display flashes "CMND GRP" when you try to enter Programming Mode, release the master switch and **[FCN]** key, and select a different group.

A. NAVIGATION



When Programming Mode is entered, programming starts (after password entry) with the Group Parameters (**CH 00**) for the currently selected group. To edit another Channel Group (GRP 01 - 25), press and hold the **[#]** key at any **CH** prompt to get the group selection prompt. Enter the number of the group to be programmed, or press the **[PRI]** key to increment to the desired group. Once the desired group is selected, press **[FCN]** to access the data. Press the **[FCN]** key repeatedly to cycle through the data fields, and then loop back to the **CH 00** entry point.

1. Group Parameters (CH 00) include:

- Group Options:
1-12345678
(1-7 = undefined, 8 = group scan list bit)
- Group Label

To edit channel data, at the **CH 00** prompt enter the number of the channel to be programmed, or press the **[PRI]** key to increment to the desired channel. Press the **[FCN]** key repeatedly to cycle through the data fields, and then loop back to the CH entry point.

2. Channel Parameters (CH 01 - 20) include:

- Bandwidth
(**[#]** key at **CH** prompt toggles Wide/Narrow)
- RX Frequency
- RX CxCSS
- TX Frequency
- TX CxCSS
- Channel Label

To edit global data (GRP 00), press and hold the **[#]** key at any **CH** prompt to get the group selection prompt. Enter '0' to select global data. Press **[FCN]** to access the data. Press the **[FCN]** key repeatedly to cycle through the data fields, and then loop back to the GRP 00 entry point.

3. Global Parameters (GRP 00) include:

- Keypad Programming Password
- Global Options 1:
Battery Saver, TX on PRI1, PRI1 Lock, Scan List Lock, Backlight Triggers, Beep Disable
- Global Options 2:
Busy Channel Mode, ANI/DTMF Mode
- ANI ID

- TX Time-Out Timer
- Scan Delay
- Backlight Duration
- Priority 1 Channel
- Priority 1 Group:
(skipped if Channel = OFF or MAIN)
- Priority 2 Channel
- Priority 2 Group:
(skipped if Channel = OFF or MAIN)

B. GROUP PARAMETERS (CH 00)

Press the **[FCN]** key at the **CH 00** prompt to access group parameters.

1. Group Options: 1-12345678

This is a group of eight individual options that can be enabled or disabled.

When an option is enabled, the corresponding number in the display will flash. When the option is disabled the number is steady. If you wish to change the option from enabled to disabled or vice versa, press the number key corresponding to that option.

Options 1 Through 7

Reserved for future options.

Option 8: Group Scan List



When Option 8 is enabled (flashing) the current group will be scanned when the radio is operating in Group Scan Mode.

Press the **[ENT]** key to store the group options settings into memory and advance to the next field.

Press the **[FCN]** key to advance to the next field without saving changes.

2. Group Label



PROG
LABEL 1
GROUP LABEL

After Group Options, the display will show the label for the Channel Group. Each Channel Group can have a label of up to twelve characters or spaces. The characters can include 0-9, A-Z, -, ., *, +, <, >, /, \, |, \$, %, h, or blank.

If no change is needed, press the **[FCN]** key to go back to the starting point for Channel 0 settings.

NOTE: Special software available from BK Radio lets you enter Group Labels and Channel Labels from a computer. Contact your dealer for information.

Changing The Group Label

Labels are edited from left to right. Pressing the **[PRI]** key moves the cursor to the next character. Pressing and holding the **[PRI]** key backspaces to the previous character.

The number keys 2 – 9 allow for entry of the letters printed on the respective keys. For example, the first press of the [2] key enters the letter A, the second press enters a B, the third press enters a C, and the forth press enters a 2. The letters Q and Z are entered with keys 7 and 9.

Keys 0 and 1 can be used to enter the following characters:

0: 0, space, -, ., *, +

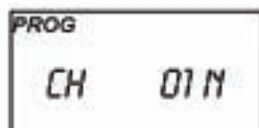
1: 1, <, >, /, \, |, \$, %, h

Press the **[ENT]** key to store changes and go back to the starting point for Channel 0 settings.

C. CHANNEL PARAMETERS (CH 01 - 20)

At the starting point for Channel 0, the display shows 'PROG CH 00'. At this point, a channel number can now be entered to allow access to the frequencies and Code Guard values for that channel.

1. Channel Bandwidth



Press '1' and the display will show **'PROG CH 01'**. This is the starting point for entering channel 1 values.

At this point, pressing the **[#]** key will toggle the channel's bandwidth setting. An 'N' will appear to the right of the channel number when the channel is set for 12.5/15 kHz channel spacing using the narrow band receiver filter. A 'W' appears when the channel is set for 25/30 kHz channel spacing using the wide band receiver filter.

2. Receive Frequency



Press the **[FCN]** key to move to the **'RX FREQUENCY'** field. This is the receive frequency for channel 1 (in MHz).

If the displayed frequency is correct, press the **[FCN]** key to advance to the next field.

If a new frequency is desired, press the **[CLR]** key followed by the digits of the desired frequency. Then press the **[ENT]** key to store this frequency and automatically advance to the next field.

3. Receive Guard



After the RX FREQUENCY is set, the **'RX GUARD'** field appears. This is the Code Guard value for Channel 1 receive.

NOTE: 0.0 indicates carrier squelch operation (no Code Guard).

If the displayed value is correct, press the **[FCN]** key to advance to the next field.

If a new value is desired, press the number keys 0 thru 9 to enter a Tone Code Guard value. See "Tone Code Guard Values" on page 22 of this manual.

PROG RX CG

0 023
RX GUARD

To enter a Digital Code Guard value press the **[#]** key, causing the letter 'D' to appear followed by three zeros. Enter the desired digital code using keys 0 thru 7 (keys 8 & 9 do not respond). See "Digital Code Guard Values" on page 23 of this manual. Pressing the **[PRI]** key after the three-digit code has been entered allows the digital code to be inverted. When the displayed value is correct, press the **[ENT]** key to store the Code Guard value and automatically advance to the next field.

4. Transmit Frequency

PROG TX

148.00000
TX FREQUENCY

After the RX GUARD is set, the 'TX FREQUENCY' field appears. This is the transmitter frequency for Channel 1.

If it is correct, press the **[FCN]** key to advance to the next field.

If you wish to change it, press the **[CLR]** key followed by the frequency in MHz then **[ENT]** to store the new frequency and automatically advance to the next field.

Only valid frequencies will be operable.

If you want to operate this channel as a receive-only channel, press the **[CLR]** key (setting the display to 0.0) followed by the **[ENT]** key. The transmitter will be locked off for this channel.

5. Transmit Guard

PROG TX CG

100.0
TX GUARD

After the TX FREQUENCY is set, the 'TX GUARD' field appears. This is the Code Guard value for Channel 1 transmit (0.0 indicates 'no guard'). If this value is correct press the **[FCN]** key to advance to the next field. To enter a new value, press the **[CLR]** key to reset the display to 0.0. Press the number keys to enter a Tone Code Guard value. See "Tone Code Guard Values" on page 22 of this manual.

PROG TX CG
0 023
TX GUARD

To enter Digital Code Guard, first press the **[CLR]** key, then the **[#]** key, causing the letter 'D' to appear followed by three zeros. Enter the desired digital code using keys 0 thru 7 (keys 8 & 9 do not respond). See 'Digital Code Guard Values' on page 23 of this manual. Pressing the **[PRI]** key after the three digit code has been entered allows the digital code to be inverted. When the displayed value is correct, press the **[ENT]** key to store the Code Guard and automatically advance to the next field.

6. Channel Label

PROG TX
LABEL 18
CHAN LABEL

After the TX GUARD is set, the 'CHAN LABEL' field appears. If this label is correct press the **[FCN]** key to proceed to the entry point.

If a new channel label is desired, follow the instructions under "Group Label" on page 6 of this manual.

After the CHAN LABEL is set, the display will return to the Channel 1 starting point. If you wish to review the frequencies and Code Guard values in Channel 1, subsequent pressing of the **[FCN]** key will show each value and then return to the Channel 1 starting point.

At the starting point for Channel 1, the display will show 'PROG CH 01'. Press the number keys for another channel number to gain access to the frequencies and Code Guard values for that channel. Each channel is then programmed using the same steps described for Channel 1.

D. GLOBAL PARAMETERS (GRP 00)

PROG
GRP 00

At any 'CH' prompt, press and hold the **[#]** key to get the 'GRP' prompt. Press '0' on the keypad. The display will show 'GRP 00'. Press **[FCN]** to access global parameters.

1. Keypad Programming Password

PROG

EDIT-000000
PASSWORD

The current keypad programming 'PASSWORD' is displayed.

If no change is needed, press the [FCN] key to advance to the next field.

A new password can be entered by pressing number keys. Press the [ENT] key to store the new password and advance to the next field.

2. Global Options One: 1-12345678

PROG

1-12345678
GBL OPTIONS

This is a group of eight individual options that can be enabled or disabled.

When an Option is enabled, the corresponding number in the display will flash. When the Option is disabled, the number is steady. If you wish to change the Option from enabled to disabled or vice versa, press the number key corresponding to that Option.

EXAMPLE: If Option 4 (Priority 1 Lock) is disabled, the 4 in the display will not be flashing. If the [4] key is pressed, the 4 in the display will flash, signifying that Priority 1 Lock is enabled. A subsequent press of the [4] key will disable Priority 1 Lock.

Option 1: Battery Saver Inhibit

PROG ↓

1-12345678
GBL OPTIONS

When Option 1 is enabled (flashing), the Battery Saver is turned off. The Battery Saver should be turned off only for getting proper voltage readings during service or for systems requiring fast squelch attack time.

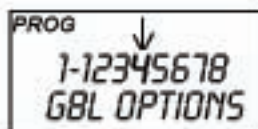
NOTE: BK Radio current drain and battery life specifications are based on performance with the battery saver on.

Option 2: Reserved For Future Options

Option 3: Transmit On Priority 1

When Option 3 is enabled (flashing), transmissions will occur on PR1 (if PR1 isn't programmed OFF) when operating in Single or Dual Priority Scan Mode. To simulate BK Radio's Old-Style Priority Mode C, Transmit on Priority 1 must be enabled.

Option 4: Priority 1 Lock



When Option 4 is enabled (flashing) the user will not be able to change the designation of the Priority 1 Channel by selecting a channel and pressing the **[PRI]** key.

When Option 4 is disabled (steady) the user will be able to change the channel that is designated as Priority 1 Channel.

Option 5: Scan List Lock



When Option 5 is enabled (flashing), the user will not be able to use the **[ENT]** and **[CLR]** keys to add channels to and delete channels from the Scan List.

When disabled (steady), the user can alter the Scan List using the **[ENT]** and **[CLR]** keys.

Option 6: Backlight On Display Change

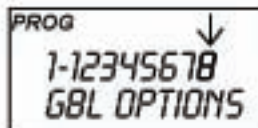


When Option 6 is enabled (flashing), the display backlight will illuminate each time the display receives input. This includes displayed changes in the selected channel or scan channel, and the **PR**, **TX**, and **SCN** annunciators. The display will not illuminate if Backlight Duration is set to **LITE OFF**. See "Backlight Duration" on page 15 of this manual.



Option 7: Backlight On Key Press

When Option 7 is enabled (flashing), the display backlight will illuminate each time a key is pressed, even if pressing the key has no other effect. The display will not illuminate if backlight duration is set to **LITE OFF**. See "Backlight Duration" on page 15 of this manual.



Option 8: Silent Mode

When Option 8 is enabled (flashing), all beeps, tones, and alerts from the radio's speaker are silenced. Only normal audio communication between radio users will be heard.

Store Global Options Settings

Once each option is set as desired, you can store the changes, discard the changes, or disable all displayed options.

Press the **[CLR]** key to disable all displayed options (steady).

Press the **[ENT]** key to store new displayed options settings into memory and advance to the next field.

Press the **[FCN]** key to advance to the next field without saving changes.



3. Global Options Two: 2-12345678

After the first group of Global Options is set, a second group is displayed.

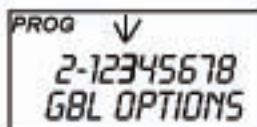


Busy Channel Off

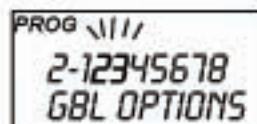
Option 1: Reserved For Future Options

Options 2 & 3: Busy Channel Operation

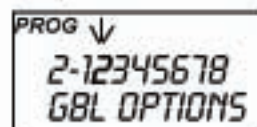
Options two and three are used to set Busy Channel operation. There are three types of busy channel operation available.



Busy Channel Indicator



Busy Channel Lockout



Busy Channel Override

Busy Channel Modes include:

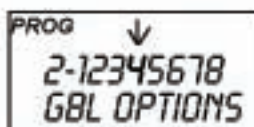
Busy Channel Indicator - The yellow LED illuminates when a signal is received on the channel selected, with or without the programmed receive Code Guard setting.

Busy Channel Lockout - The yellow LED illuminates and the transmitter PTT is disabled when a signal is received without the programmed receive Code Guard setting.

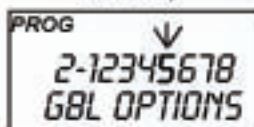
Busy Channel Override - This option is similar to Busy Channel Lockout except the transmitter PTT can be activated by rotating the Squelch knob clockwise off the Code Guard detent.

To set Busy Channel operation, use the following chart:

Busy Channel	Option 2	Option 3
Indication	Disable (Steady)	Enable (Flashing)
Lockout	Enable (Flashing)	Enable (Flashing)
Override	Enable (Flashing)	Disable (Steady)



ANI Only



DTMF Only



DTMF with Manual ANI

Options 4 & 5: ANI/DTMF Mode

When Option 4 is enabled (flashing), the ANI ID number will be transmitted (as a DTMF tone sequence) with each press of the PTT switch. See "Automatic Numeric Identification (ANI)" on the next page for instructions on setting the ANI number.

When Option 5 is enabled (flashing), the keypad becomes active for manual DTMF operation.

When Options 4 and 5 are both enabled (flashing), the ANI tone sequence will be transmitted only after the [ENT] key is pressed while the transmit PTT switch is activated. A sidetone of the ANI number transmitted will also be heard through the speaker.

Options 6–8: Reserved For Future Options

Once each option is set as desired, you can store the changes, discard the changes, or disable all displayed options.

Press the **[CLR]** key to disable all displayed options (steady).

Press the **[ENT]** key to store new displayed options settings into memory and advance to the next field.

Press the **[FCN]** key to advance to the next field without saving changes.

4. Automatic Numeric Identification (ANI)

PROG	ID
ANI 1234567	
ANI ID NUM	

After the Global Options are set, the display will indicate the 'ANI ID' number (as many as seven digits may be used). The ID number can be used for either radio management or transmitted as a DTMF tone burst for ANI purposes. The ANI can be enabled or disabled. See "ANI/DTMF Mode" on the previous page.

If no change is needed for the ID number, press the **[FCN]** key to advance to the next field.

A new number can be entered by pressing number keys. The digits will appear at the right of display and move to the left. Press the **[ENT]** key to store the new ID number and advance to the next section.

The existing ID number can be incremented one digit by pressing the **[PRI]** key.

Press the **[ENT]** key to store the new ID number and advance to the next field.

5. Transmitter Time-Out Timer

PROG TX
225 SEC
TX TIMEOUT

After the ID number is set, the 'Transmitter Time-Out Timer' field is displayed. 0 SEC means the Time-Out Timer is disabled.

Press the **[PRI]** key to increase the Time-Out Timer duration by 15 seconds, with a maximum of 225 seconds (3 minutes, 45

seconds). Press the **[PRI]** key again to change the duration from 225 seconds to zero.

Press the **[CLR]** key to set the Time-Out Timer duration to zero.

Press the **[ENT]** key to store the changed setting and advance to the next field.

Press the **[FCN]** key to advance to the next field if no change is needed.

6. Scan Delay Time

PROG	SCN
2.0 SEC	
SCAN DELAY	

After the Time-Out Timer is set, the '**SCAN DELAY**' time is displayed.

Press the **[PRI]** key to increase the scan delay time by .5 seconds, up to 7.5 seconds. Press the **[PRI]** key again to change the time from 7.5 seconds to 0.

Press the **[CLR]** key to reset the scan delay time to 0.

Press the **[ENT]** key to store the changed setting and advance to the next field.

Press the **[FCN]** key to advance to the next field if no change is needed.

7. Backlight Duration

PROG
6 SEC
BL DURATION

After the Scan Delay is set, the display will show the current Backlight Duration setting. Available settings are **LITE OFF**, **1 SEC ON**, 1-second increments up to **6 SEC ON**, and **LITE ON**.

NOTE: Excessive battery drain will result if **LITE ON** is set and used for extended periods of time.

If no change is needed, press the **[FCN]** key to advance to the next field.

Press the **[CLR]** key to set backlight duration to zero and display **LITE OFF**.

Press the **[PRI]** key to increase backlight duration by 1 second increments from **LITE OFF**, to **1 SEC ON**, **2**, **3**, **4**, **5**, **6 SEC ON**, **LITE ON** (illumination remains on constantly) then back to **LITE OFF**.

Press the **[ENT]** key to store changes and advance to the next field.

Press the **[FCN]** key to advance to the next field without storing changes.

8. Priority 1 Channel

PROG
CHANNEL 1
PRI-1 CHAN

After Backlight Duration is set, the 'Priority 1 Channel' is displayed. Any one of the 500 channels in the radios can be designated as the Priority 1 channel, or PR1 can be 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, if PR1 isn't programmed **OFF**, when operating in Single or Dual Priority Scan Mode.

If PR1 is a fixed channel and the **[PRI]** key on the keypad is not locked out during normal radio operation, the user can select a new group, if necessary, move the channel selector to a new channel and press the **[PRI]** key to choose a new PR1 channel.

Press the **[PRI]** key to cycle through the priority channel options.

Setting the channel to MAIN ties the PR1 channel to the Channel Selector knob.

Press the **[ENT]** key to store the new priority channel and advance to the next field.

9. Priority 1 Group

PROG
GROUP 01
PRI-1 GROUP

If the Priority 1 channel has been programmed as one of the 500 channels in the radio, the group where the channel resides must be designated. If PR1 has been tied to the Channel Selector knob (set to MAIN), or programmed **OFF**, the Priority Group field is skipped.

Press the **[PRI]** key to cycle through the priority group options, or press number keys to enter a group.

Press the **[ENT]** key to store the new priority group and advance to the next field.

10. Priority 2 Channel

PROG

CHANNEL 12
PRI-2 CHAN

After the Priority 1 Group is set, the **Priority 2 Channel** is displayed. Any one of the 500 channels in the radios can be designated as the Priority 2 channel, or PR2 can be tied to the Channel Selector knob, or programmed **OFF**.

The PR2 channel cannot be altered during normal radio operation.

Press the **[PRI]** key to cycle through the priority channel options.

Setting the channel to MAIN ties the PR2 channel to the Channel Selector knob.

Press the **[ENT]** key to store the new priority channel and advance to the next field.

11. Priority 2 Group

PROG

GROUP 2
PRI-2 GROUP

If the Priority 2 channel has been programmed as one of the 500 channels in the radio, the group where the channel resides must be designated. If PR2 has been tied to the Channel Selector knob (set to MAIN), or programmed **OFF**, the Priority Group field is skipped.

Press the **[PRI]** key to cycle through the priority group options, or press number keys to enter a group.

Press the **[ENT]** key to store the new priority group and advance to the next field.

12. Old-Style BK Priority Scan

The radio can be programmed to mimic the Old-Style BK Priority Scan Modes as follows:

Mode	PR1	TX on PR1	PR2
A	Main	No	Off
B	Fixed Channel #	No	Off
C	Fixed Channel #	Yes	Off

13. Review Global Parameters (GRP 00)

Press the **[FCN]** key repeatedly to display each setting in **GRP 00**, and then return to the **GRP 00** starting point.

E. EXIT PROGRAMMING MODE



1. Rotate the OFF-VOL knob counterclockwise to the OFF position.
2. The radio will be in normal Operating Mode the next time it is turned on.

CLONING RADIO SETTINGS

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

CMND CLN

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 and channels 17-20 are 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.
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 6-digit password. The display shows 'PROG CH 00.'

PSWRD-*****

PROG

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.
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.

PROG|GPHCMD
GROUP 01

Press and Hold **[*]** Key
to Change Target

PROG|GPH
GROUP 01

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	GPHCMD only
GROUP 01 - 25	GPHCMD, GPH
CMND GRP	GPHCMD, GPH
PICK LIST	GPHCMD only

PROG|GPHCMD
CMND GROUP

Press and Hold **[#]** Key
to Change Data

PROG|GPHCMD
PICK LIST

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.

Target	Valid Data
GPHCMD	GROUP 00 or GROUP 01 - 25 CMND GRP PICK LIST
GPH	GROUP 01 - 25 CMND GRP

\\ / /

CLONING
GROUP 01

9. Once the target and data to be transferred have 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.
- If cloning is finished, turn off the Clone and disconnect the cloning cable. Normal radio operation will occur when you turn on the Clone.

\\ \\ \\ \\

FAILURE
GROUP 01

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.



TONE CODE GUARD VALUES

The Tone Code Guard system may be set for any frequency in the range of 67 to 255.9 Hz. However, since most systems adhere to the Electronic Industry Association (EIA) standards, tones should be selected from the following EIA list. In order to insure optimum performance, tone selection for use on the same radio frequency (RF) channel or adjacent channels in the same coverage area should be made from one of the Groups A, B, or C to the maximum degree possible. BK Radio guarantees optimum receiver performance only if tone frequencies below 220 Hz are chosen.

GROUP A		GROUP B		GROUP C
67.0 (XZ)	*151.4 (5Z)	71.9 (XA)	146.2 (4B)	74.4
77.0 (XB)	162.2 (5B)	82.5 (YZ)	156.7 (5A)	79.7
88.5 (YB)	173.8 (6A)	94.8 (ZA)	167.9 (6Z)	85.4 (YA)
*100.0 (1Z)	186.2 (7Z)	103.5 (1A)	*179.9 (6B)	91.5 (ZZ)
107.2 (1B)	203.5 (M1)	110.9 (2X)	192.8 (7A)	
114.8 (2A)	218.1 (M3)	*118.8 (2B)	210.7 (M2)	
123.0 (3Z)	233.6	127.3 (3A)	225.7 (M4)	
131.8 (3B)	250.3	136.5 (4Z)	241.8	
141.3 (4A)				

* 50/60 Hz power distribution systems could cause falsing.

The assignments in a given area shall be made from within one of the Groups: A, B, or C.

DIGITAL CODE GUARD VALUES

Codes for the Digital Code Guard system may be chosen from the following list. This can be done during the code programming of the system. Usually systems using direct unit to unit transmission (systems without mobile relays, repeaters, remote control, etc) may use codes from the table. Systems with relays etc. may use code variations for system control and operational efficiency. The system operator or engineer should be consulted regarding the operational requirement on such systems.

023	065	131	165	245	315	411	466	612	703
025	071	132	172	251	331	412	503	624	712
026	072	134	174	261	343	423	506	627	723
031	073	143	205	263	346	431	516	631	731
032	074	152	223	265	351	432	532	632	732
043	114	155	226	271	364	445	546	654	734
047	115	156	243	306	365	464	565	662	743
051	116	162	244	311	371	465	606	664	754
054	125								

QUICK REFERENCE – GROUP 0 (GLOBAL)

RADIO KEYPAD PROGRAMMING

Password

Global Options One

Battery Saver Inhibit	1-12345678
Transmit On Priority 1	1-12345678
Priority 1 Lock	1-12345678
Scan List Lock	1-12345678
Backlight on Display Change	1-12345678
Backlight on Key Press	1-12345678
Silent Mode	1-12345678

Global Options Two

Busy Channel Override	2-12345678
Busy Channel Indicate	2-12345678
Busy Channel Lockout	2-12345678
ANI Only	2-12345678
DTMF Only	2-12345678
DTMF with Manual ANI	2-12345678

Automatic Numeric Identification (ANI)

Transmitter Time-Out Timer

Scan Delay Time

Backlight Duration

Priority 1 Channel/Group

Priority 2 Channel/Group

Flashing number indicates active function.