SECTION II
INSTALLATION AND PROGRAMMING

2.1   GENERAL INFORMATION

This section contains information concerning the installation and programming of BK Radio GMH Series radios.

2.1.1   Unpacking and Inspecting Equipment

Exercise extreme care when unpacking the equipment. Make a visual inspection of the unit for evidence of damage incurred during shipment. If a claim for damage is to be made, save the shipping container to substantiate the claim. The claim should be promptly filed with the transportation company. It would be advisable to retain the container and packaging material after all equipment has been removed in the event that equipment storage or reshipment should become necessary.
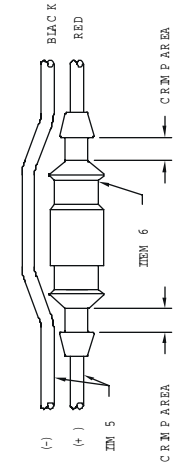
2.1.2   Installation

Plan your installation carefully. Locate the radio and microphone within easy reach, giving the operator a clear view of the display. Do not locate the radio or microphone in a position that interferes with safe operation of the vehicle.

Once the equipment location is chosen, determine the best routing for cables and wires to connect the system. Use a rubber grommet to protect the wires when passing through sheet metal. Avoid any route that subjects the wire to pinching, cutting, or high heat from the engine or other vehicle component.

The radio must be used with a 12 volt, NEGATIVE GROUND electrical system. Refer to Figure 2-1.

1. Crimp the fuse holder in line with the red power lead as close to the battery as possible.

2. Connect the red power lead to the vehicle battery POSITIVE terminal. Using other positive voltage points in the vehicle is not recommended.

3. Connect the black lead to a good ground point on the vehicle chassis. Connection to the negative battery terminal is not recommended.

4. Mount the antenna carefully. Follow the instructions supplied with the antenna kit. Route the coax cable to the radio mounting location.

5. Fasten the mounting bracket securely to the desired location.

6. Mount the microphone clip securely to the desired location. The microphone hanger clip must be grounded for proper radio operation. Use the supplied ground wire if needed.

7. Mount any approved accessory speakers and route the wires to the rear of the radio bracket.

8. Connect the power lead, antenna connector, and accessory wires to the rear of the radio.

9. Place the radio in the mounting bracket, adjust to the proper mounting angle, and thread in the two side mounting knobs until the unit is secure.
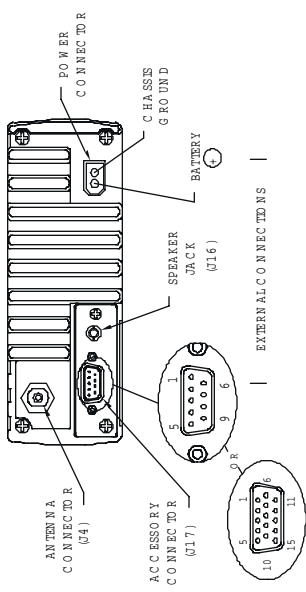
NOTE: Option A and B connections are logic level outputs. Consult your BK Radio dealer before connecting accessories to these pins.

INSTALLATION KIT - PARTS INCLUDED
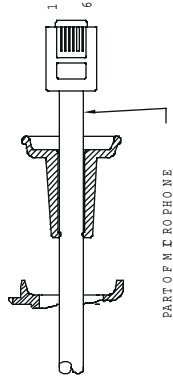
ITEM	PART NUMBER	DESCRIPTION	REMARKS
1	006-01234-0003	EMH/EMV INSTALLATION INSTRUCTIONS	THIS DWG
2	047-09806-0001	MOUNTING BRACKET	—
3	090-00941-0000	MOUNTING KNOB	QTY 2
4	089-07072-0012	SELF TAPPING SCREW, #10	QTY 4
5	155-02717-0000	POWER CORD ASSY.	—
6	033-00226-0000	FUSE HOLDER	—
7	036-00041-0000	FUSE 15A, 32V, FAST BLOW	EMV
7	036-00037-0000	FUSE 20A, 32V, SLOW BLOW	EMH
8	088-02594-0001	GROMMET	SEE BELOW
9	088-02593-0000	MIC COVER	SEE BELOW
10	030-03194-0000	9 PIN MALE CONNECTOR	EMV-OLDER
10	030-03246-0000	15 PIN MALE CONNECTOR	EMH & EMV-NEWER
11	030-01448-0000	CABLE SHELL	—
12	057-05418-0000	DECAL SET	—
13	155-02220-0000	GROUND WIRE, HANG UP CLIP	*

ITEMS 8 AND 9 ARE INCLUDED FOR APPLICATIONS NOT REQUIRING A FRONT MOUNTED MICROPHONE. THEY ARE TO BE USED TO SEAL OFF THE UNUSED MIC OPENING.

* MICROPHONE HANG-UP CLIP MUST BE GROUNDED FOR PROPER OPERATION. READ BEFORE OPERATING MICROPHONE.

- THE MICROPHONE HANG-UP CLIP MUST BE GROUNDED FOR PROPER CODE GUARD OPERATION. USE GROUND WIRE (ITEM 13) IF NEEDED.

- RADIO PROGRAMMING DIFFERS DEPENDING ON MICROPHONE MODEL USED:

MICROPHONE MODEL# LAA 0285, LAA 0282
THESE MICROPHONES SUPPLY A GROUNDED MONITOR SIGNAL WHEN IN THE HANG-UP CLIP. FOR PROPER OPERATION, THE RADIO MUST BE SET UP FOR "OFF-HOOK WHEN MONITOR HIGH". CONTACT YOUR BENDIX/KING DEALER FOR PROGRAMMING CHANGES.

MICROPHONE MODEL# LAA 0276, LAA 0281
THESE MICROPHONES SUPPLY AN OPEN MONITOR SIGNAL WHEN IN THE HANG-UP CLIP. FOR PROPER OPERATION, THE RADIO MUST BE SET UP FOR "OFF-HOOK WHEN MONITOR LOW". CONTACT YOUR BENDIX/KING DEALER FOR THE REQUIRED PROGRAMMING CHANGES.
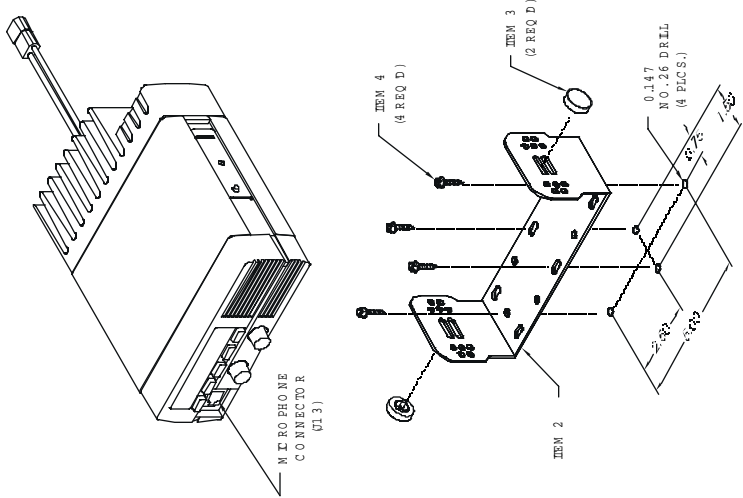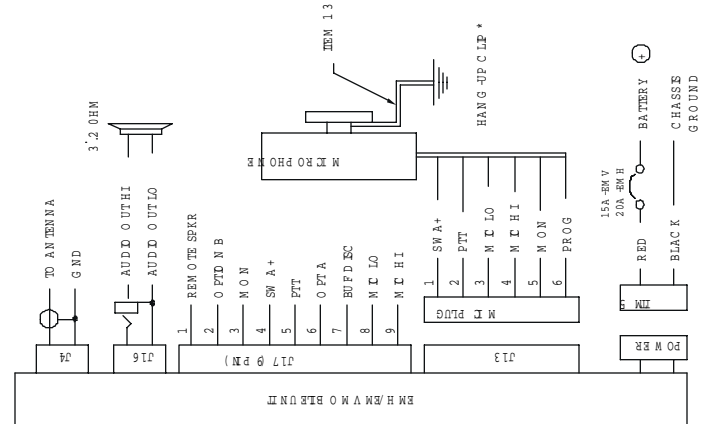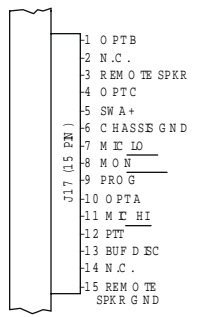
FIGURE 2-1 INSTALLATION

2.2   KEYBOARD PROGRAMMING

GMH Series radios can be programmed in three different ways:

A.   With a computer, GMH tuning software, and an LAA 0725 interface cable. That procedure is not described in this manual.

B.   With the optional LAA 0290 keyboard microphone. That procedure is described in this section.

C.   With an LAA 0700 cloning cable, clone programmed settings (except Alphanumeric display settings) from a BK Radio portable radio with a keyboard and display, and with the same frequency band as the GMH. That procedure is described on page 2-12.

2.2.1   Enter Programming Mode

1.   Select a channel group to be programmed (if applicable) by pressing the GRP button and rotating the Channel Select knob. Press the GRP button again to return to channel select mode.

2.   Press and hold the far right pushbutton on the front of the radio.

3.   While holding the far right pushbutton, press and hold the **[FCN]** key on the microphone. After about three seconds the display will show **- - - ID**.

4.   Release the **[FCN]** key and the right pushbutton. The radio is now in the password entry mode.

5.   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**.

   While entering the password code the display will not change, but a beep will sound for each key pressed. If the password code is entered incorrectly, the radio will reset to normal operation. Try again, starting at step 2.

6.   To keep the password unchanged, press the **[ENT]** key on the microphone and continue with normal radio programming.

   To change the password, press the **[FCN]** key and enter a new six-digit password code. The digits are displayed as you enter them.

   NOTE: Do not use a **1** for the first digit of the password code – the radio will malfunction. The password code can contain the digits **0** through **9**, *****, and **#**.

   If you make an error entering the new password code, press the **[CLR]** key on the microphone and try again.

7. Press the **[ENT]** key to store the new password and proceed to programming mode. The display will change to **PRG Ch 000**.

2.2.2 General Performance Variables (Channel 0)

Channel 0 settings for each group must be programmed separately. Select the group to be programmed (if applicable) by pressing the GRP button an rotating the Channel Select knob. Press the GRP button again to return toe Channel Select mode.

The same password is used for all groups in the radio.

NOTE: Settings listed as Group One functions, Group Two functions, and Group Three functions refer to programming function groups, not channel groups.

Press the **[FCN]** key on the keyboard repeatedly to view the settings in Channel 0, then loop back to the **CH 000** entry point. Channel 0 settings include:

Automatic Number Identification (ANI)

Transmitter Timeout Timer

Scan Delay Time

Group One functions: 1-12345

    Priority Scan Operation

    Priority Key Lockout

    Scan List Lockout

Group Two functions: 2-12345

    Enable User Code Guard

    Busy Channel Operation

    ANI Enable

    DTMF Enable

Group Label

2.2.2.1 Automatic Number Identification (ANI)

1. After entering the programming mode the display will show **PRG Ch 000**.

2. Press the **[FCN]** key.

3. 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 Enable" on page 2-8.

4a. If no change is needed for the ID number, press the **[FCN]** key to advance to the next section.

4b. A new number can be entered by pressing the **[CLR]** key, followed by number keys. The digits will appear at the right of display and move to the left.

4c. The existing ID number can be incremented one digit by pressing the **[PRI]** key on the microphone.

4d. Press the **[ENT]** key to store the new ID number and advance to the next section.

2.2.2.2 Transmitter Time Out Timer

After the ID number is set, the display annunciator will indicate **PRG TX**. This is the duration of the transmitter Time Out Timer. **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 section.

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

2.2.2.3 Scan Delay Time

After the Time Out Timer is set, the upper display will indicate **PRG SCN**. This is the scan delay time in seconds.

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 section.

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

2.2.3   Channel 0 Group One Functions

After the scan delay time is set the display will show **PRG 1-12345**. This is a group of five individual functions that can be enabled or disabled.

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

EXAMPLE: If function 4 (Priority Key Lockout) is disabled, the 4 in the display will not be flashing. If the **[4]** key is pressed, the 4 in the display will f'lash, signifying that Priority Key Lockout is enabled. A subsequent press of the **[4]** key will disable Priority Key Lockout

2.2.3.1 Priority Scan

Functions 2 and 3 are used to define Priority Scan operation. There are three types of Priority Scan available. They are described in greater detail under "Priority Scan" beginning on page 3-8. Priority Scan modes include:

Priority Mode A - The Priority Channel follows the position of the Channel Selector knob.

Priority Mode B - The Priority Channel is fixed. You will transmit on the channel selected by the Channel Selector knob.

Priority Mode C - The Priority Channel is fixed. When the PRI toggle switch is on, you will transmit on the Priority Channel regardless of the Channel Selector knob setting.

To set Function 2 and 3 for Priority Mode A, B, or C, use the following chart:

	FUNCTION 2	FUNCTION 3
PRIORITY MODE A	DISABLE (STEADY)	DISABLE (STEADY)
PRIORITY MODE B	ENABLE (FLASHING)	DISABLE (STEADY)
PRIORITY MODE C	ENABLE (FLASHING)	ENABLE (FLASHING)

2.2.3.2 PRI Key Lockout

When function 4 is enabled (flashing) the [PRI] key is locked out in the operating mode. The user will not be able to change the designation of the Priority Channel.

When function 4 is disabled (steady) the user will be able to change the channei that is designated as Priority Channel.   See "User Selected Priority Channel" on page 3-7.

2.2.3.3 Scan List Lockout

When function 5 is enabled (flashing), the user will not be able to change the channels in the scan list. When disabled (steady), the user can enter or delete channels from the scan list.   See "User Selected Scan List" on page 3-7.

2.2.3.4 Store Group One Settings

Once each function 1-5 is set as desired, you can store the changes, discard the changes, or disable all 5 functions.

Press the **[CLR]** key on the microphone to disable all Group One functions (steady).

Press the **[ENT]** key to store new Group One settings into memory and advance to the next section.

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

2.2.4   Channel 0 Group Two Functions

After Group One functions are set, the display will show PRG 2-12345 for Group Two functions. As with Group One functions, the enabled function number will flash. The disabled functions remain steady.

2.2.4.1 User Code Guard Selection

When function 1 is enabled (flashing) the user will be able to press the keyboard to independently select the CodeGuard values that are programmed into Channels 1 thru 9 while operating on any Channel 1 thru 14. When disabled the user will be unable to use the keyboard for Code Guard selection. See "User Selected Code Guard" on page 3-7.

2.2.4.2 Busy Channel Operation

Functions two and three are used to set Busy Channel operation. There are three types of busy channel operation available.   They are described more fully under "Busy Channel" on page 3-9. 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 function 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:

	FUNCTION 2	FUNCTION 3
BUSY CHANNEL	DISABLE (STEADY)	ENABLE (FLASHING)
INDICATION	ENABLE (FLASHING)	ENABLE (FLASHING)
BUSY CHANNEL LOCKOUT	ENABLE (FLASHING)	DISABLE (STEADY)
BUSY CHANNEL OVERRIDE		

2.2.4.3 ANI Enable

When function 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 Number Identification (ANI)N on page 2-4 for instructions on setting the ANI number.

When functions 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.

2.2.4.4 DTMF Enable

When function 5 is enabled (flashing) the microphone keyboard becomes active for manual DTMF operation.

2.2.4.5 Store Group Two Settings

Once Group Two functions are set, press the **[ENT]** key to store them into memory and automatically advance the program to the next section.

Once each function 1-5 is set as desired, you can store the changes, discard the changes, or disable all 5 functions.

Press the **[CLR]** key to disable all Group Two functions (steady).

Press the [**ENT]** key to store new Group Two settings into memory and advance to the next section.

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

2.2.5   Alphanumeric Display Functions

2.2.5.1 Group Label

The GMH radio can be programmed to enable the display of alphanumeric labels. This can be enabled only by using a computer, GMH Editor software, and an RS-232 interface cable:

After Group Two functions, the display shows the current label for the channel group, if alphanumeric labels are enabled. Each channel group can have a label of up to eight characters or spaces. The characters can include A - Z, 0 - 9, punctuation marks, or a blank.

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

- Press the **[CLR]** key to erase the current label.

- Press the **[CLR]** key a second time to restore the current label.

2.2.5.2 Label With Numbers

1 Press the **[CLR]** key. The display becomes blank.

2. Press number keys to enter **0 - 9** in positions one through eight. The digits start in position eight, then move left.

3. Use the following steps to enter a number in position eight, or characters in positions one through eight:

2.2.5.3 Label With Letters, Numbers, Etc.

1. Press the **[PRI]** key repeatedly to cycle through the available characters: A - Z, 0 - 9,/ I ^ -! "# $ % & < > * + _ \ (=) ? then back to the start again (blank).

If you pass the desired character, press the **[PRI]** key repeatedly until you return to the start and reach that character again.

2. Press the **[FCN]** key to shift the display left by one position, leaving position eight blank.

3. Press the **[PRI]** key repeatedly to enter the next character, or press the [FCN] key a second time to enter a blank space.

4. To abandon changes, press the **[CLR]** key, restoring the original label.

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

2.2.6   Review Channel 0 Values

Press the **[FCN]** key repeatedly to display each value in Channel 0, then return to the Channel 0 starting point.

2.2.7   Enter Channel Frequencies and Code Guard Values

At the starting point for Channel 0, the display shows PRG Ch 000. At this point, a channel number can now be pressed to allow access to the frequency and Code Guard values for that channel.

NOTE: A valid receive frequency must be programmed into each channel intended for use. If a 0 value or an invalid frequency is programmed, the display will give a false reading in the operation mode, and may result in radio malfunction. If a malfunction occurs, reset the radio by turning it off and then back on.

1. Press 1 and the display will show PRG Ch 001. This is the starting point for entering channel 1 values.

2. Press the [FCN] key and the upper part of the display will show PRG RX. This is the receive frequency for channel 1 (in MHz).

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

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 value.

4. After the receive frequency is set, the upper part of the display will show PRG RX CG. 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 value.

If a new value is desired, press the **[CLR]** key to reset the display to 0.0. Press the number keys 0 thru 9 to enter a Tone Code Guard value. See "Tone Code Guard Values" on page 2-14.

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 5 & 9 do not respond). See "Digital Code Guard Values" on page 2-14. 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 value.

5. After the receive Code Guard is set, the upper part of the display will show **PRG TX**. This is the transmitter frequency for Channel 1. If it is correct, press the **[FCN]** key to advance to the next value.

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

Only valid frequencies will be operable.

6. After the transmit frequency is set the upper part of the display will show PRG TX CG. This is the Code Guard value for Channel 1 transmit (0.0 indicates carrier squelch). If this value is correct press the [FCN] key to advance to the next value. 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 2-14.

    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 2-14. 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 value.

7. After the transmit Code Guard is set, the display will show the channel label. 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 2-9.

8. After the channel 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.

9. At the starting point for Channel 1, the display will show PRG Ch 001. 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.

2.2.8   Leave Programming Mode

1. Rotate the OFF-VOL knob counterclockwise to the Off position.

2. The radio will be in normal operation mode the next time it is turned on.

2.3   CLONING RADIO SETTINGS

A portable radio with a keyboard and display can transfer its programmed settings to an GMH radio by using a cloning cable. A radio cannot transfer Alphanumeric display settings, including channel labels and group labels.

Both units must be of the same frequency band. Settings for any group in a portable radio can be downloaded to any group in the GMH radio. The GMH radio must be programmed with groups of 14 channels. Cloning can only be accomplished group by group. To perform group cloning:

1. With the portable radio in normal operation mode, press the **[#]** key followed by number keys to select the group to be downloaded.

2. Set the GMH radio to the group that is to receive the download, using the same method as in step 1, or by pressingthe GRP button and turning the Channel Select knob.

3. Connect the Master end of the cloning cable into the microphone connector of the portable radio. This is the cable end with the pushbutton Master switch.

4   Put the portable radio into programming mode by holding down the Master switch and pressing the **[FCN]** key until the display shows **---ID**.

5. Enter the correct Password Code.

6. Press the **[FCN]** key repeatedly to review the values in Channel 0. Make any required changes at this time.

7. Attach the other end of the cloning cable into the microphone connector of the EM H radio to be cloned.

8. Press the [*] key on the portable radio. The display will flash PROG, signifying that the radio is ready to download.

9. Press the [FCNJ key. The program in the portable will download to the GMH. The GMH will send back the program to the portable to verify successful cloning.

10. If the download was successful, the portable radio will resume flashing PROG. Turn off the GMH radio. Disconnect the cable. Normal radio operation will occur the next time the GMH radio is turned on.

11. If the download was not successful the portable radio will flash **FAIL**, followed by continuous beeps. Failure to download the portable program can be due to:

    A.   Incorrect radio types.
    B.   Improper connection.
    C.   Failure to power up radio.

    NOTE: To stop FAIL mode, press the [CLR] key, turn off the radios, and start again at Step 1.

2.3.1   Special Cloning Instructions

It is possible to change Channel 0 values on the portable radio, hold them in a temporary memory, and download them to the GMH without actually entering them into the permanent memory of the portable radio. This is convenient for sequential identification numbers used to identify a series of portables in a radio system. Assuming that the frequencies, Code Guard values, and other Ch 0 values are common for all radios in the system, but that the radio identification number should be unique to each radio, the following method would be used to clone additional radios for the system.

1. Program the portable radio with all frequencies, Code Guard values, and Channel 0 values that will be common to all GMH radios to be cloned.

2. Advance the display to show the portable radio's ID number-for example, 100.

3. Press the **[CLR]** key; press **125**. Do not press the **[ENT]** key. Now 125 is in temporary memory.

4. Press the **[*]** key, connect the cable to the radios and download to the GMH by pressing the **[FCN]** key. ID number 125 is now stored in permanent memory of the GMH.

5. After download, press the **[CLR]** key on the portable radio. Disconnect the GMH. The portable radio display will show that 125 is still being held in the temporary memory of the portable radio.

6. Press the **[PRI]** key. This will increment the ID number one digit to 126. (Note: any new number can be entered at this point by pressing the **[CLR]** key and using the digit keys to enter the new number.)

7. Press the [*] key. Connect the cable to the second GMH and download by pressing **[FCN]**.

8. Any number of radios can be coded with different or sequential ID numbers using this technique. The ID number in the permanent memory of the portable radio will remain unchanged as 100.

2.3.2   Scan List and Priority Channel Cloning

When a portable radio downloads to an GMH, the Scan List and Priority Channel designations are also transferred to the GMH. This includes Priority Mode and any lockout functions.

To program an GMH with a specific Priority Mode, Priority Channel, and Scan List along with the respective lockout functions (if desired), the portable radio must first be programmed with these parameters. The lockout functions cannot be held in temporary memory. See the appropriate operating procedures in Section 3 for selecting the Scan List, Priority Channel, and Lockout functions.   See "Priority Scan" on page 2-6 for Priority Mode selection procedures.

2.3.2   Programming By Computer

Programming a radio from a computer is not covered in this manual. Contact BK Radio for the programming cable, software, and manual required.

2.3.3   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.   BENDIX/KING guarantees optimum receiver performance only if tone frequencies below 220 Hz are chosen.

GROUPA		GROUPB		GROUPC
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.

2.3.4   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								