KENWOOD

SERVICE BULLETIN Land Mobile Division

SUBJECT: TK-760/860/762/862 "G" Firmware Update Procedure   DATE: 2/25/00

The KPG-56D programming software and KPG-46 programming cable is required for installing new micropro-cessor firmware. The KPG-56D includes a program that is used to update firmware named "FPro". To prevent accidental mis-operation, end user access to the radio firmware programming function is normally disabled via programming with the KPG-56D. To update the radio firmware, it will be necessary to temporarily enable firmware access.

Enabling the radio firmware programming function.
If the radio is already programmed with customer data, read the radio first. In the KPG-56D, select the "Edit" pull-down window. Under "Optional Features" / "Mode", temporarily set "Firmware Programming" to "Enable", then reprogram the radio. After the firmware has been updated, re-program this setting to "Disable".

Placing the radio in the firmware mode.
With the radio power switch off, place the radio in the firmware mode by holding the front panel "∧ " (channel up) key, then turn power on. The LED next to the power switch will be orange when in the firmware mode.
TK-760/860"G":
The display will indicate "PROG 576". The firmware checksum in the radio can be displayed by pressing the "MON" button. To restore the "PROG 576" display after the checksum is displayed, press the "MON" button again. Firmware cannot be programmed while the checksum is displayed - "PROG 576" must be the active display when installing new firmware.
TK-762/862"G":
The display will indicate "P." The firmware checksum cannot be displayed in the single digit of the radio display.
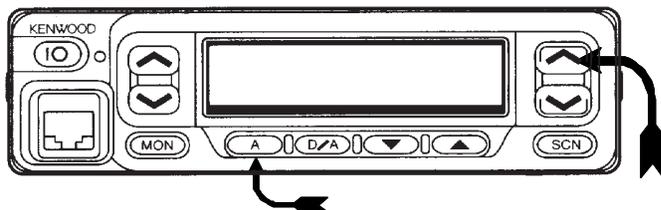
Setting the radio transfer speed
The default transfer speed of 57,600bps is recommended.
TK-760/860"G": When "PROG 576" is displayed, it indicates the radio is ready to accept firmware at a transfer speed of 57,600bps. If a slower transfer speed is required, the "A" key will toggle the display between 576, 192, and 384 (57600, 19200, & 38400) bps.
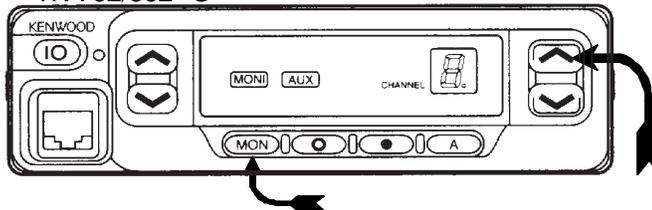**TK-762/862"G"**: When "P." is displayed, it indicates the radio is ready to accept firmware at a transfer speed of 57,600bps. If a slower transfer speed is required, the "MON" key will toggle the speed between 57,600, 19,200, & 38,400).
On both types of radios - the LED next to the power switch will indicate orange for 57,600, alternating red & green for 19,200, and flashing orange for 38,400 bps. Depending on the speed or vintage of the computer, a transfer speed other than the default of 57600 may be required to perform a successful update. When "FPRO" is started, make sure the radio transfer speed matches the FPRO transfer speed as described in the next section of this bulletin.

TK-760/860 "G"

TK-762/862 "G"

Firmware Compatibility
As of Jan. 2000 (S/N 110xxxxx), the "60-G Series" firmware is compatible between all versions (TK-260/270/360/370/762/760/862/860). There are no plans to change this inter-compatibility in the foreseeable future.

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Programming new firmware.
From the KPG-56D "Program" pull-down window, select "firmware Program", then press <Enter>. This will start the firmware programming software, "FPro". Using the FPro pull down windows, select the required ".HEX" firmware file. When selected, the "Check SUM" will display the checksum for the selected file. Set the speed in "Setup" to "57,600" (or to match whatever speed has been selected on the radio). Connect the programming cable to the radio. Press "F10" to begin installing the new firmware. During the transfer process, a "gas gauge" on FPro will indicate the status of the update procedure *and*.....
TK-760/860"G":
The radio display will indicate "LOADING-" and the LED indicator will be green. When the update is completed, the radio display will indicate the new checksum and the LED indicator will be off.
TK-762/862"G":
The radio display will not change. The LED indicator will be green. When the update is completed, the LED indicator will be off.

If an error occurs during the update procedure, the TK-760/860"G" display will indicate "ERROR" and the LED indicator will flash green & orange. In the TK-762/862"G", the display will indicate "E." and the LED will flash orange & green. To restore the "PROG 576" (or "P." in the TK-762/862"G") display on the radio, press and hold the front panel "∧ " key again, then turn power on. Pressing "F10" on the computer will repeat the transfer process. Some floppy disk drives may not support higher firmware transfer speeds. It is recommended that Fpro, and the firmware file, be on the computer hard disk drive in order to update the radio firmware.

File Setup

Speed	:	[57,600] bps
Address	:	[-----]
File Name	:	[BB5B.HEX]
Check SUM	:	[BB5B]
Comment	:	[Please write firmware file to radio.(F10)]

[01/03/2000 17:10]
F1:File select F3:Exit F10:Start Alt:Menu

File

File select (=F1)
Go to dos
eXit (=F3)

Drive & Path : C:\KPG56D

Directory

BB5B.HEX

Confirming the radio checksum:

The KPG-56D has a feature which will allow the firmware checksum in the radio to be viewed on the computer screen. In the "Program" pull-down window, select "Check sum", then press <Enter>. A window will appear as shown below which will provide the checksum presently in the radio:

Check Sum

[BB5B]

Setup

Speed
Communication port
Display color

Speed

4,800 bps
9,600 bps
19,200 bps
38,400 bps
57,600 bps
115,200 bps

Note:
The Kenwood LMR programming software operates in DOS "conventional" or "base" memory. If the computer being used does not contain adequate base memory, the FPro program may not run from the KPG-56D. If this occurs, it will be necessary to exit the KPG-56D program, then select the directory where FPRO.EXE has been installed on the computer. From that directory, type "FPRO" <Enter> to start the FPro program.