



LBI-38991

Mobile Communications

S825
FLASH PROGRAMMING

Programming Instructions

TABLE OF CONTENTS

INTRODUCTION.....	3
INSTALLATION.....	3
REQUIREMENTS.....	3
MAKING BACKUPS.....	3
SYSTEM HOOK-UP.....	4
S825 Control Unit.....	4
LOADING THE SOFTWARE.....	6
PROBLEMS.....	7
Figure 1 - S825 Flash Programming System Hook-Up.....	5
Figure 2 - Program Screen.....	7

INTRODUCTION

The radio operating system software for the microprocessor resides in a 64 kilobyte Flash Memory device. The Flash Memory allows easy reprogramming of the Control Unit software for additional features and software upgrades without removing standard EPROMs. This manual provides instructions for using the Flash Program to update the system software in the S825 Control Unit.

INSTALLATION

REQUIREMENTS

The following hardware and software is required to update the system software through FLASH Programming:

- A. IBM PC XT, AT or any true compatible with MS-DOS version 3.0 or greater and having the following minimum configuration.
 - 1. A single Disk Drive (preferably one floppy drive and one hard drive)
 - 2. 640K Internal RAM.
 - 3. Serial Port.
- B. Serial Programming Interface Module (TQ-3370 only) and RS-232 Cable (part # 19B235027P1).
- C. Control Unit Flash Programming Cable 19B802230P1
- D. Power Supply and Power Supply cable.

MAKING BACKUPS

The Flash Programming Software is provided on a single 5 1/4" diskette or a single 3 1/2" diskette. The diskettes are sensitive and fragile and should be handled with care and stored in a secure area.

Upon receipt of your diskette, copy the original software diskette to another diskette or a fixed disk and store the original in a safe place. This ensures the availability of an accurate program should a copy fail.

SYSTEM HOOK-UP

Connect all peripheral equipment to your computer prior to configuring the Flash Programming Software. Remember to refer to the operating manuals of each device for correct installation.

If your system is already established, check to see that you have all the equipment necessary to execute the program (see page 3). Isolate all cables connecting computer to devices to prevent tangling, interference and damage.

Locate the serial port on the computer. This port is usually located on the back of the computer. Once located, examine the keyed plug on the RS-232 cable for the correct keyed end and insert it carefully into the appropriate serial port on the computer. If your computer uses a DB-9 connector, you will need to use a DB-9/DB-25 adaptor cable from your local computer dealer. The other end of the RS-232 cable should now be inserted into the computer receptacle on the PC Interface Module (TQ-3370).

S825 Control Unit

NOTE

Before the Control Unit is Flash Programmed, the Personality should be saved out to a disk. Save the personality now, before connecting the Flash Programming cable.

Connect the single end of the programming cable to the PC Interface Module jack marked "RADIO". The pigtail end of the programming cable connects to the back of the Control Unit. Plug the 9 pin connector into the Mic Jack at J4 and plug the 25 pin connector into the Programming Jack J5. Connect a power supply to J1. See Figure 1. After all connections have been made, switch on power to the S825 Control Unit.

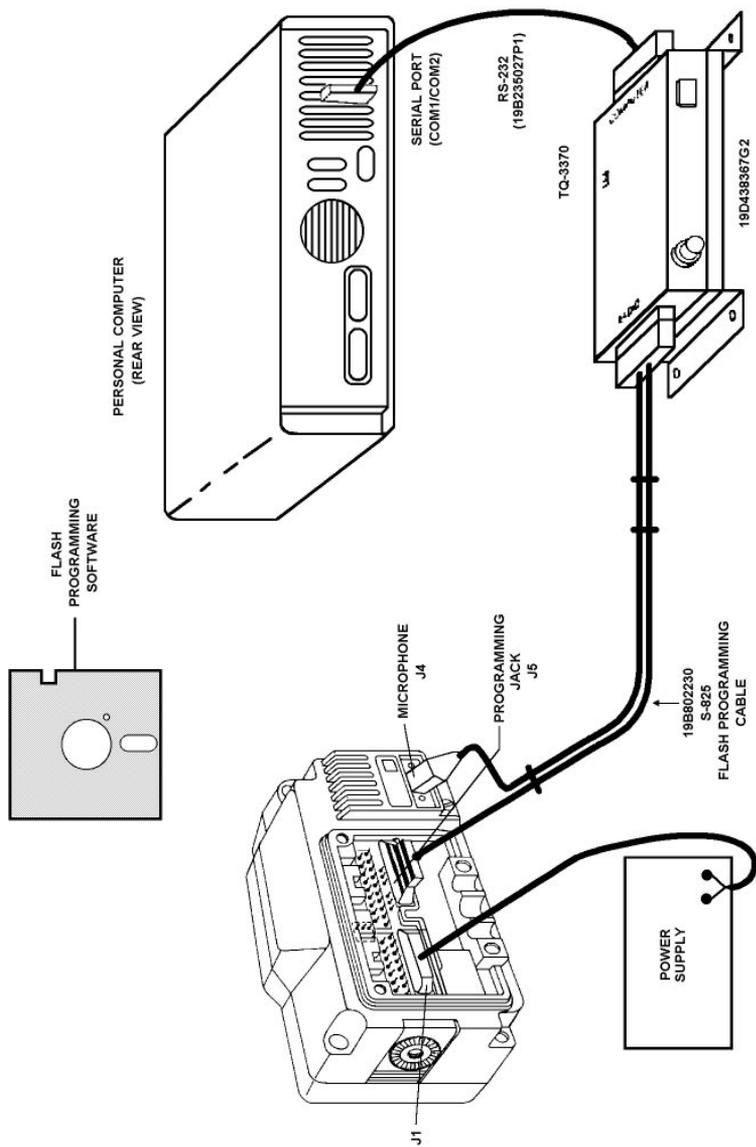


Figure 1-S825 Control Unit Flash Programming System Hook-Up

LOADING THE SOFTWARE

NOTES

- Always use TQ-3370 Interface Box to Flash Program the radio. **DO NOT** use TQ-3310.
- The Personality Programming cable cannot be used to Flash Program the control unit and vice versa. The Flash Programming Cable is 19B802230 (see Figure 1).

1. Insert the Software Update Diskette into the appropriate drive.
2. Change to that drive. The Flash update program will run from the floppy drive but will be substantially slower than from the hard drive. If the program is to run from the hard drive, continue on to step 3. If the program is to run from the floppy drive, skip step 3 and continue with step 4.
3. Copy all files from the floppy diskette to a subdirectory on the hard drive.
4. At this point the Control Unit's personality should be saved to a disk file. If the PC Interface Module (TQ-3370) is connected to COM1 of your computer, type the following from the DOS prompt:

S825COM1 <enter>

If the PC Interface Module (TQ3370) is connected to COM2 of your computer, type the following from the DOS prompt:

S825COM2 <enter>

5. Communication with the radio will be established and Flash Programming will begin. Figure 2 provides an example of the information that will scroll across the computer screen during a successful Flash. To abort the Flash Programming process, press any key.

6. After the Flash Programming process has ended, the computer program will display the following acknowledgement:

Radio programmed

7. After the Control Unit has been Flash Programmed, **remove power to the Control Unit** before removing the programming cable. Restore the personality.

```
A:\> S8251 VER_9028.BPD
A:\> rem dtr 1 1
A:\> rem rts 1 1
A:\>
A:\> rts 1 0
rts turned off
A:\> dtr 1 0
dtr turned off
A:\> leafoff ver_9028.bpd -1
General Purpose 80C52 Flash Programmer Driver v1.0
By Tim Kemp, Dave Dumonsau
      Press any key to abort flashing !!

The com ports are running out of the Greenleaf libraries
Switching power with rts and dtr
Opening port COM1...
Waiting out a couple of watchdog intervals.....

Zeroing flash part...
Erasing flash part...
Programming part...
Address :
      6AC3

Radio programmed
Closing down port COM1

A:\>
A:\> dtr 1 1
dtr turned on

A:\> rts 1 1
rts turned on
```

Figure 2 - Program Screen

PROBLEMS

If the Flash is unsuccessful, the problem can usually be traced to one of the following conditions:

1. The computer is not recognizing that the control unit is connected to a COMM port. First, make sure the Interface Box is connected

to the proper COMM port on the back of the computer. Next, try cycling power on the Control Unit. One may have to cycle power several times.

2. The computer may interpret noise on power up as a return parameter to a programming operation. In this case the computer may remain idle as it is waiting for a step to complete that never started. The solution is to press any key on the keyboard and terminate the program. Next, cycle power to the Control Unit and run the Flash Program again.
3. There may be a problem with the programming voltage. The input to the programmer's flash voltage regulator always comes from the Control Unit. This is usually caused by a failure to have the mic connector part of the flash cable securely connected.
4. Flash Programming requires the DTR line from the serial port to the interface box. A simple 4 wire RS-232 cable will not work, the use of the Ericsson GE supplied 19B835027P1 cable is recommended. One of the programs on the disk supplied is a DTR program. It can be used to toggle the state of a ports DTR line. The form is

dtr n x

(where "n" is the com port number and "x" is the desired direction. x=1 turns DTR on, x=0 turns DTR off.

5. Repair or replacement of one of the items listed below may be necessary. Please see the appropriate service manuals:
 - all cables involved
 - Interface Box (TQ-3370)
 - Computer COMM port



Ericsson GE Mobile Communications Inc.
Mountain View Road • Lynchburg, Virginia 24502

Printed in U.S.A.