



**SAFETRAN**  
*systems*

SOFTWARE UPGRADE INSTRUCTIONS

**INSTALLING SOFTWARE RELEASE 9V121-02J  
IN THE 80214 PROCESSOR MODULE  
(FOR MODEL 3000 GCP)**

July 2002

DOCUMENT NO. SIG-00-02-09

VERSION A

Safetran Systems Corporation, California Division  
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## A. BACKGROUND

Safetran periodically releases enhanced application software for the Model 3000 Grade Crossing Predictor. The latest revision (identified as 9V121-02J) is described in Safetran Product Information Bulletin 3-02. The following pages contain instructions for upgrading the application software in the 80214 Processor Module.

## B. SOFTWARE RELEASE DISK – REVISION J

Date: 8-12-2002	Check Sum: 8A40DCFF29EF
Product Name: 3000 GCP	PIB: 3-02
Module Number: 80214	Disk P/N: 9V341-A02D
Memory Device: 9V121	Disk EDP No.: Z224-9V341-A020
Software Revision: 02J	

## C. SOFTWARE VERSION IDENTIFICATION

The software version resident in the 3000 GCP can be determined by one of two methods. In both methods, the software version is the second message displayed during the power-up/test cycle and appears for approximately two seconds. This latest version, J, is displayed as 9V121-02J.

The two methods are:

Method 1. Interrupt power to the GCP (set the case **POWER** switch to **OFF** and then back to **ON**). Observe the GCP display for the version.

### NOTE

Interrupting GCP power will activate the crossing.

Method 2. Momentarily remove the keypad from the GCP case and then replace it. Observe the display for the version.

### NOTE

Removing the GCP keypad will **NOT** activate the crossing.

## D. WHEN AND WHERE TO UPGRADE

The new software version may be uploaded into any 80214 module from a laptop computer in the field if so desired by the railroad.

## **NOTE**

The new J-level software provides additional programming steps; however, the parameters covered by these steps are defaulted “OFF” or do not affect crossing operation. Therefore, any crossing upgraded to J-level software will operate as it did prior to the software upgrade once the previous application parameters (steps) listed on the history card are reprogrammed.

## **E. PARTS/TOOLS REQUIRED**

- Laptop Personal Computer (DOS compatible) with 3.5-inch floppy or compact disk (CD) drive
- RS-232 cable, 9-pin female to 9-pin male
- Safetran provided software release floppy disk or CD (9V341-A02D)
- Software Upgrade Instructions (document number SIG-00-02-09, Version A)

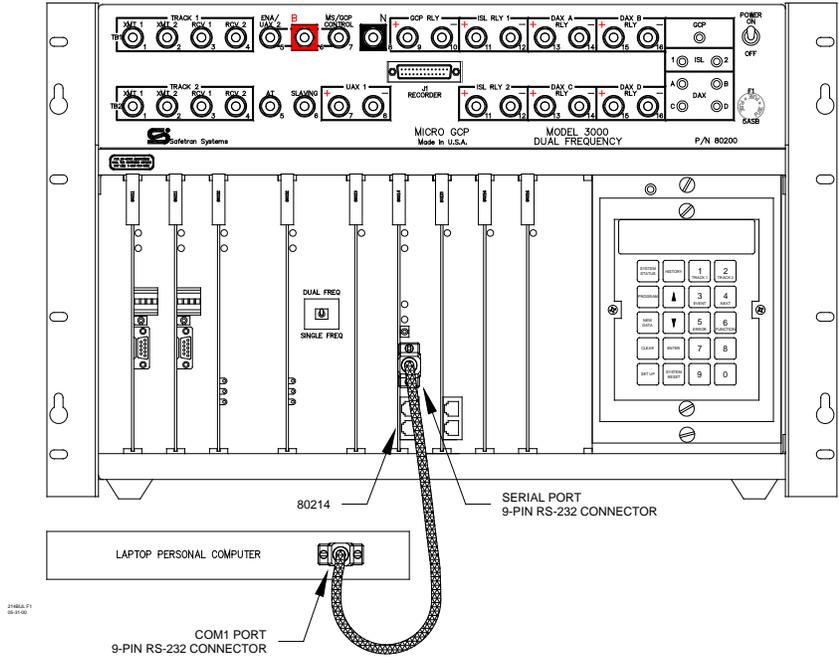
## **F. UPGRADE PROCEDURE**

- Step 1            Verify that GCP **POWER** switch is **ON**.
- Step 2            **IMPORTANT! – Review the Program and Function Mode menus and compare the current system operating parameters (warning time, frequency, etc.) with those recorded on the Application History Card. Also verify the number of Linearization steps on T1 and T2. If necessary, update the history card for future reference.**
- Step 3            Connect personal computer serial port (COM1) to 80214 module 9-pin RS-232 connector using 9-pin female to 9-pin male cable (see figure 1).
- Step 4            Install 9V341-A02D floppy disk or CD (supplied by Safetran) in appropriate computer drive.
- Step 5            Exit to DOS or Windows® DOS shell.
- Step 6            At the **C:\>** prompt type the drive letter where the 9V341-A02D disk is installed (e.g., **A:** for floppy disk or **D:** for CD) followed by a colon.

## **NOTE**

Substitute correct drive letter as required.

- Step 6.1            Press the **Enter** key.



**Figure 1. 80214 Processor Connector Module Serial Port to PC Interconnection Diagram**

Step 7 At the drive letter prompt (e.g., **A:\>** or **D:\>**) type **LOADBOOT**

Step 7.1 Press the **Enter** key.

The Setup screen displays (see figure 2).



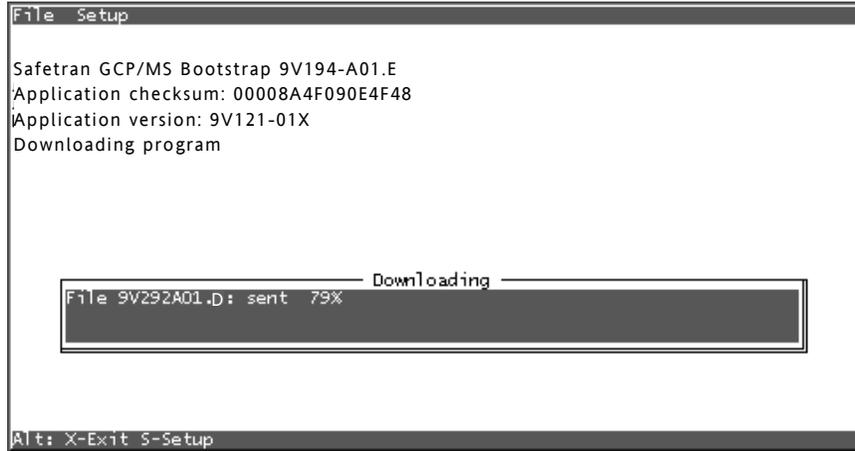
214F2.tif  
01-06-00

**Figure 2. Processor Module Software Installation Setup Screen**

Step 8 Set the GCP **POWER** switch to **OFF**.

Step 8.1 Press and hold the GCP keypad **SET UP** key. While watching the PC display, set the GCP **POWER** switch to **ON**.

Step 8.2 Continue to hold the **SET UP** key until a **Downloading** window appears briefly within the Setup screen (see figure 3).



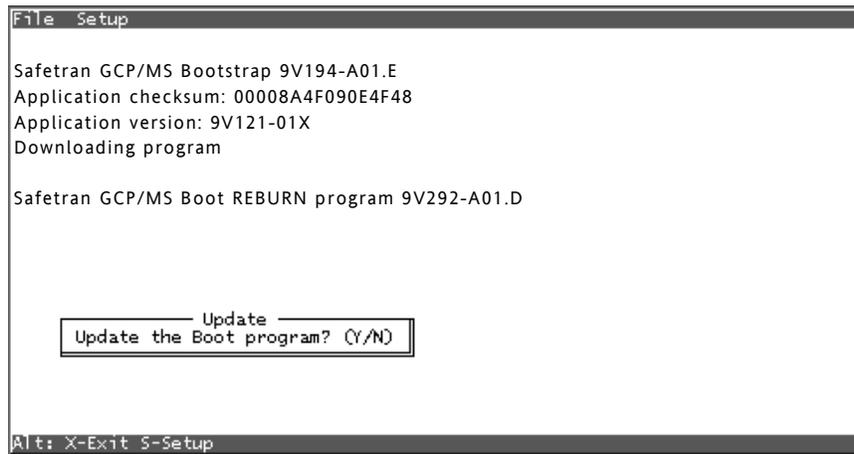
214F3.tif  
12-05-00

**Figure 3. Boot Program Downloading Window**

**NOTE**

Due to variations in version of currently loaded software, “Application version” shown in figure 3 is indicated as “01X”. Your display will indicate the actual version currently loaded.

At the completion of boot program downloading, an **Update** dialog box displays within the Setup screen (see figure 4).



214F4  
12-05-00

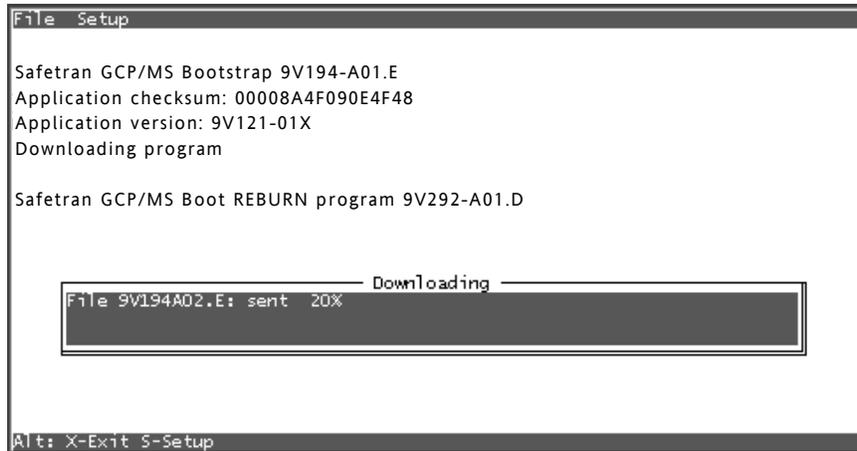
**Figure 4. Boot Program Update Dialog Box**

**NOTE**

Due to variations in version of currently loaded software, “Application version” shown in figure 4 is indicated as “01X”. Your display will indicate the actual version currently loaded.

Step 9 While watching the PC display, type **Y**.

A boot reburn program **Downloading** window appears briefly in the Setup screen (see figure 5).



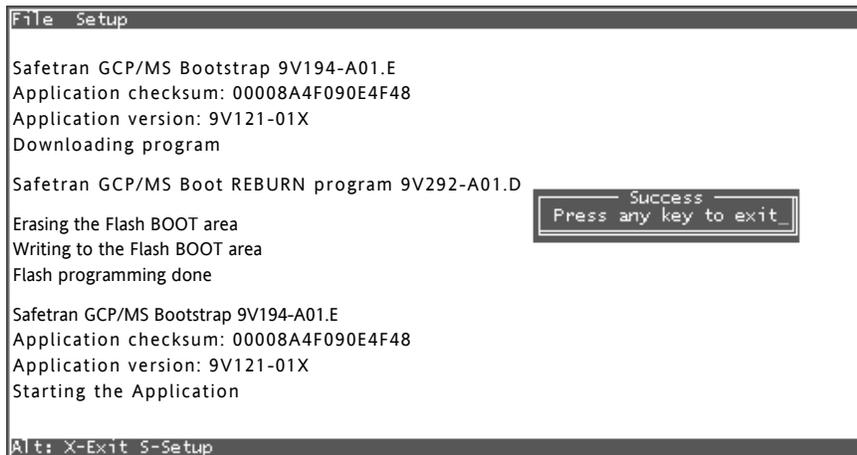
244F5.gif  
12-05-00

**Figure 5. Boot Reburn Program Download Window**

**NOTE**

Due to variations in version of currently loaded software, “Application version” shown in figure 5 is indicated as “01X”. Your display will indicate the actual version currently loaded.

At completion of the boot reburn program download, the **Success** window displays within the Setup screen (see figure 6).



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**Figure 6. Boot Program Update Success Window**

**NOTE**

Due to variations in version of currently loaded software, “Application version” shown in figure 6 is indicated as “01X”. Your display will indicate the actual version currently loaded.

Step 10 Press any key.

The Setup screen closes and the DOS window displays.

Step 11 At the drive letter prompt (e.g., **A:\>** or **D:\>**) type **INSTALL**.

Step 11.1 Press the **Enter** key.

The Setup screen displays (see figure 2).

Step 12 Set the GCP **POWER** switch to **OFF**.

Step 12.1 Press and hold the GCP keypad **SET UP** key. While watching the PC display, set the GCP **POWER** switch to **ON**.

Step 12.2 Continue to hold the **SET UP** key until a **Downloading** window appears briefly within the Setup screen (see figure 7). Release the **SET UP** key.



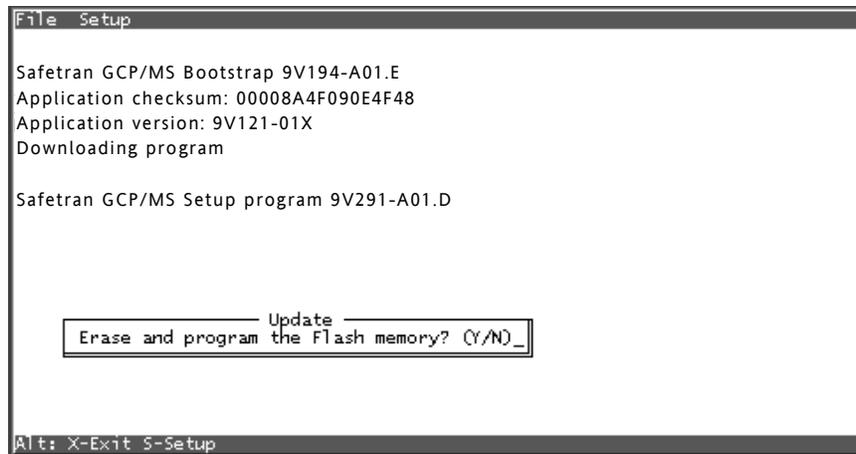
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**Figure 7. Setup Program Download Window**

**NOTE**

Due to variations in version of currently loaded software, “Application version” shown in figure 7 is indicated as “01X”. Your display will indicate the actual version currently loaded.

At completion of download, an **Update** dialog box displays within the Setup screen (see figure 8).



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12-05-00

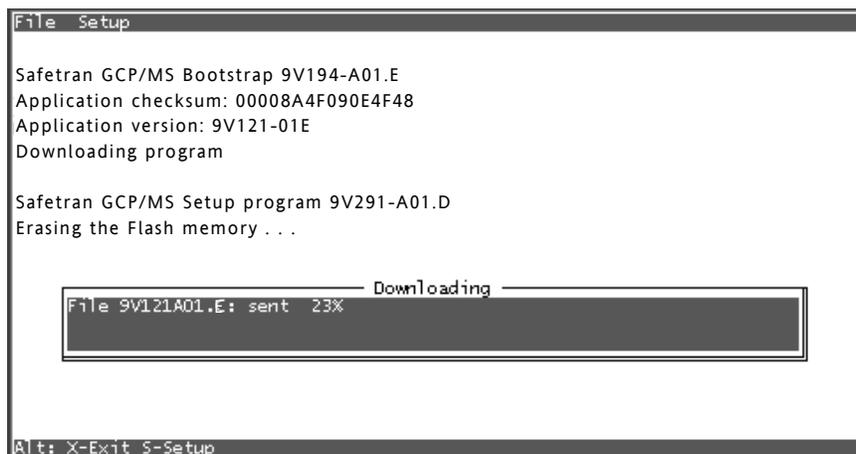
**Figure 8. Setup Program Flash Memory Update Dialog Box**

**NOTE**

Due to variations in version of currently loaded software, “Application version” shown in figure 8 is indicated as “01X”. Your display will indicate the actual version currently loaded.

Step 13 Type **Y**.

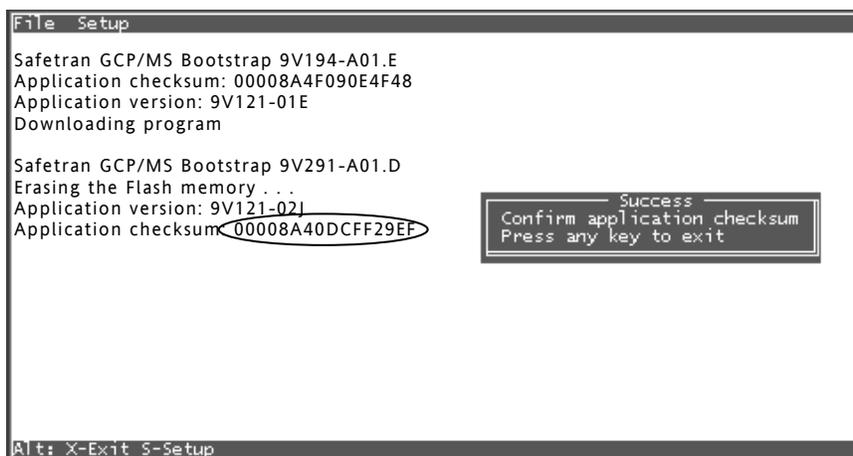
A setup program **Downloading** window appears in the Setup screen (see figure 9).



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**Figure 9. Setup Program Download Window**

At completion of download, the **Success** window displays within the Setup screen (see figure 10).



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**Figure 10. Setup Screen Success Window**

- Step 14 Verify that checksum displayed in Setup screen (circled on figure 10) is identical to checksum supplied with program disk.
- Step 15 This completes application software installation. Press any key on the PC keyboard to exit the installation program.
- Step 16 Remove the cable between personal computer serial port (COM1) and 80214 module 9-pin RS-232 connector.
- Step 17 Set the 3000 GCP case **POWER** switch to the **OFF** position.

Step 18 Set the 3000 GCP **POWER** switch to the **ON** position. Verify that the new software revision level (**9V121-02J**) appears momentarily on the GCP keypad display.

Step 19 BEFORE RETURNING THE 3000 GCP TO SERVICE, THE FOLLOWING MUST BE PERFORMED:

- Program the system to Set To Default in Function Menu.
- Reprogram all system application parameters (number of tracks, frequency, etc.) to the values recorded on the Application History Card.
- Recalibrate the system including Setup for Approach Length and Linearization.

Step 24 Verify proper crossing operation by observing train moves.

This concludes the update.