SAFETRAN
systems

SOFTWARE UPGRADE INSTRUCTIONS

INSTALLING SOFTWARE RELEASE 9V121-01E
IN THE 80214 PROCESSOR MODULE
(FOR MODEL 3000 GCP)

December 2000

DOCUMENT NO. SIG-00-00-21

VERSION A

Invensys
An Invensys company

PROPRIETARY INFORMATION

SAFETRAN SYSTEMS CORPORATION has a proprietary interest in the information contained herein and, in some instances, has patent rights in the systems and components described. It is requested that you distribute this information only to those responsible people within your organization who have an official interest.

This document, or the information disclosed herein, shall not be reproduced or transferred to other documents or used or disclosed for manufacturing or for any other purpose except as specifically authorized in writing by **SAFETRAN SYSTEMS CORPORATION**.

WARRANTY INFORMATION

SAFETRAN SYSTEMS CORPORATION warranty policy is as stated in the current Terms and Conditions of Sale document. Warranty adjustments will not be allowed for products or components which have been subjected to abuse, alteration, improper handling or installation, or which have not been operated in accordance with Seller's instructions. Alteration or removal of any serial number or identification mark voids the warranty.

SALES AND SERVICE LOCATIONS

Technical assistance and sales information on **SAFETRAN** products may be obtained at the following locations:

SAFETRAN SYSTEMS CORPORATION	SAFETRAN SYSTEMS CORPORATION
2400 NELSON MILLER PARKWAY	CALIFORNIA DIVISION
LOUISVILLE, KENTUCKY 40223	10655 7th STREET
TELEPHONE: (502) 244-7400	CUCAMONGA, CALIFORNIA 91730
FAX: (502) 244-7444	TELEPHONE: (909) 987-4673
SALES & SERVICE: 1-800-626-2710	1-800-793-SAFE
WEB SITE: http://www.safetran.com	FAX: (909) 945-2662

A. BACKGROUND

Safetran periodically releases enhanced application software for the Model 3000 Grade Crossing Predictor. The latest revision (identified as 9V121-01E) is described in Safetran Customer Service Bulletin 2-00. The following pages contain instructions for upgrading the application software in the 80214 Processor Module.

B. SOFTWARE RELEASE DISK – REVISION E

Date: 10-31-2000	Check Sum: 8A4F090E4F48
Product Name: 3000 GCP	CSB: 2-00
Module Number: 80214	Disk P/N: 9V341–A01B
Memory Device: 9V121	Disk EDP No.: Z224-9V341–A010
Software Revision: 01E	

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, E ,is displayed as 9V121-01E.

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.

The new E-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 E-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 drive
- RS-232 cable, 9-pin female to 9-pin male
- Safetran provided software release disk (9V341-A01B)
- Software Upgrade Instructions (document number SIG-00-00-21, 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 <u>current </u>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. <u>If necessary, update the history card for future reference.</u>**

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).

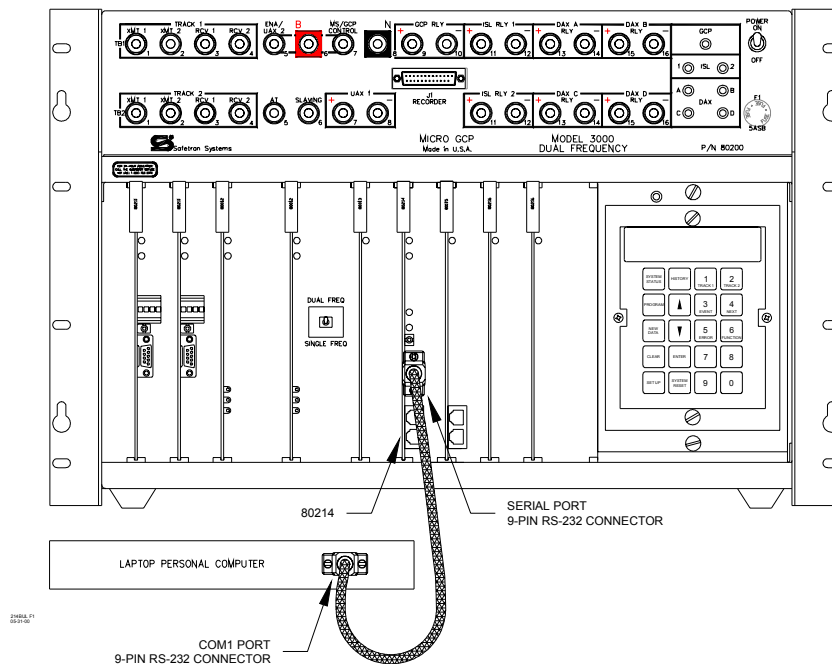Step 4   Install 9V341-A01B floppy disk (supplied by Safetran) in appropriate computer drive.

Step 5   Exit to DOS or Windows® DOS shell.

Step 6   At **C:\>** prompt type **A:**

NOTE

Substitute correct drive letter if drive A is not used.

Step 6.1   Press the **Enter** key.

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

Step 7   At **A:\>** prompt type **LOADBOOT**

Step 7.1   Press the **Enter** key.
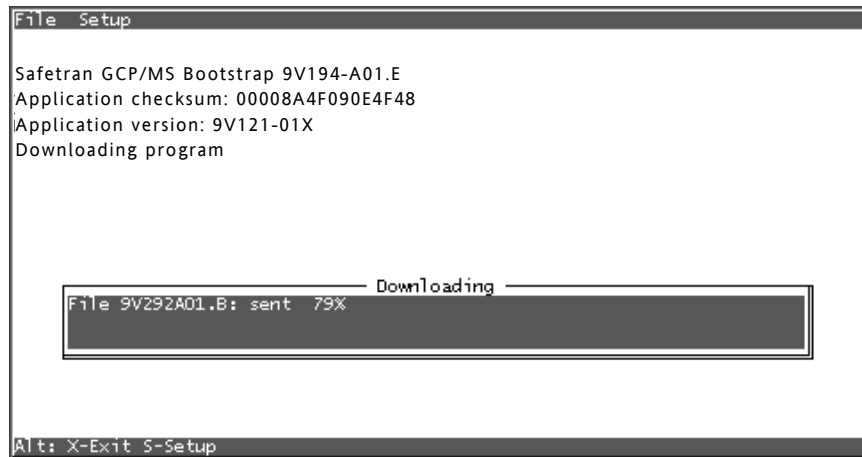
The Setup screen displays (see figure 2).

214F2.tif
01-06-00

Figure 2. Processor Module Software Installation Setup Screen

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

3 of 8

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).
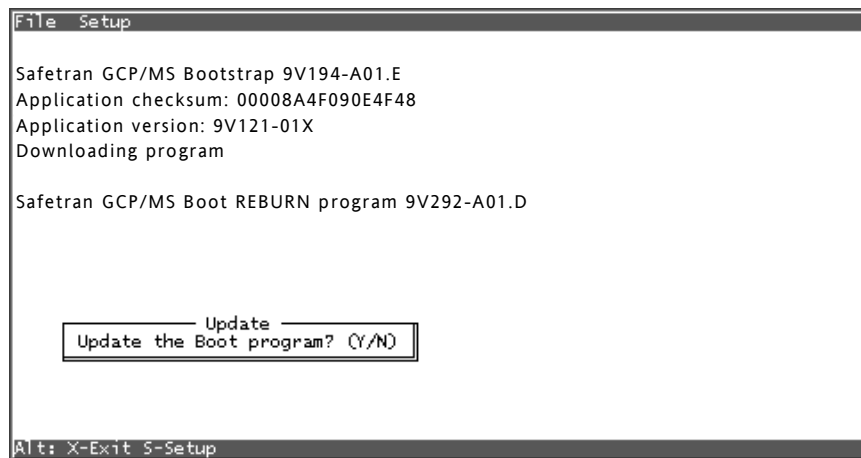
```
File  Setup

Safetran GCP/MS Bootstrap 9V194-A01.E
Application checksum: 00008A4F090E4F48
Application version: 9V121-01X
Downloading program




                                      ── Downloading ──
        File 9V292A01.B: sent  79%




Alt: X-Exit S-Setup
```

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.

214F3.tif
12-05-00

Figure 3. Boot Program Downloading Window

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

```
File  Setup

Safetran GCP/MS Bootstrap 9V194-A01.E
Application checksum: 00008A4F090E4F48
Application version: 9V121-01X
Downloading program

Safetran GCP/MS Boot REBURN program 9V292-A01.D




                  ── Update ──
        Update the Boot program? (Y/N)



Alt: X-Exit S-Setup
```
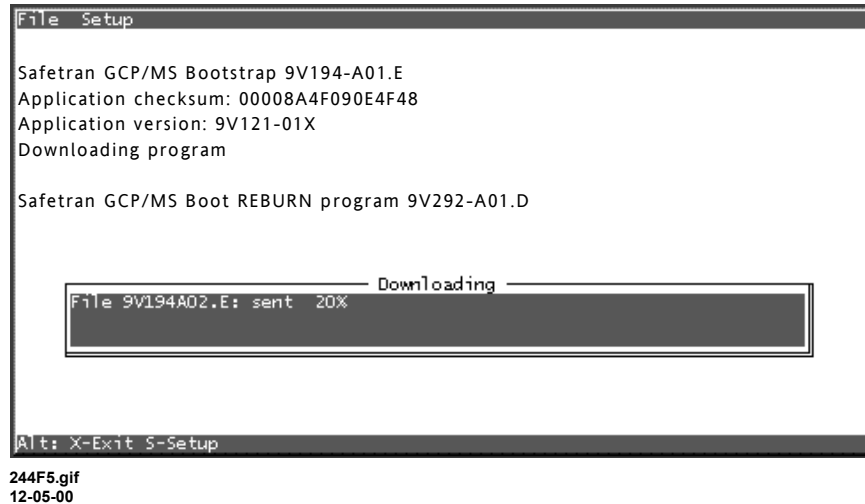
NOTE

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.
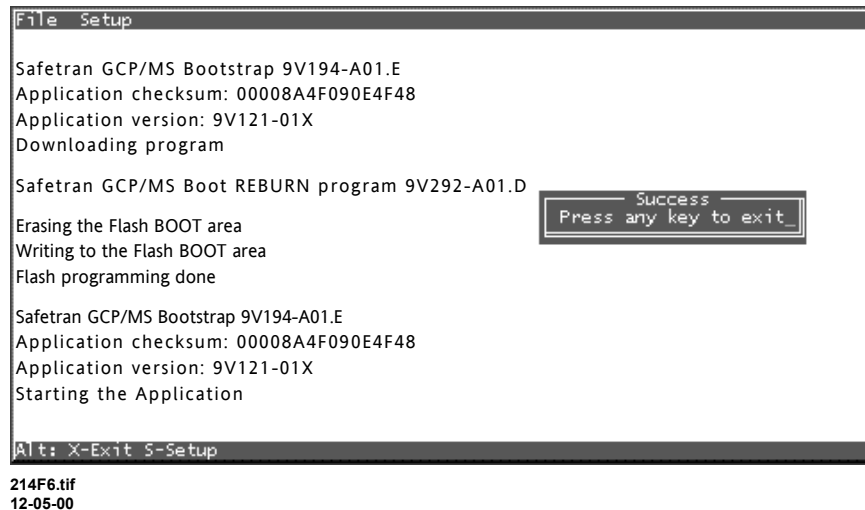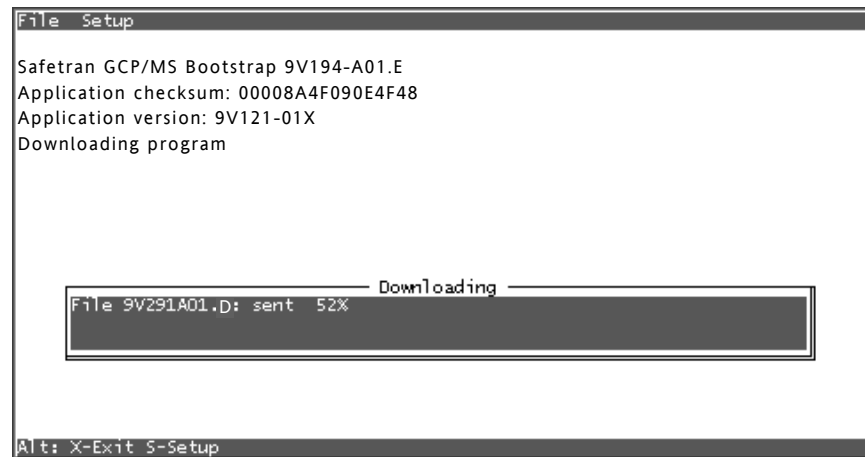
214F4
12-05-00

Figure 4. Boot Program Update Dialog Box

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

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

Figure 5. Boot Reburn Program Download Window

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

Figure 6. Boot Program Update Success Window

Step 10   Press any key.

The Setup screen closes and the DOS window displays.

Step 11   At **A:\>** prompt 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.
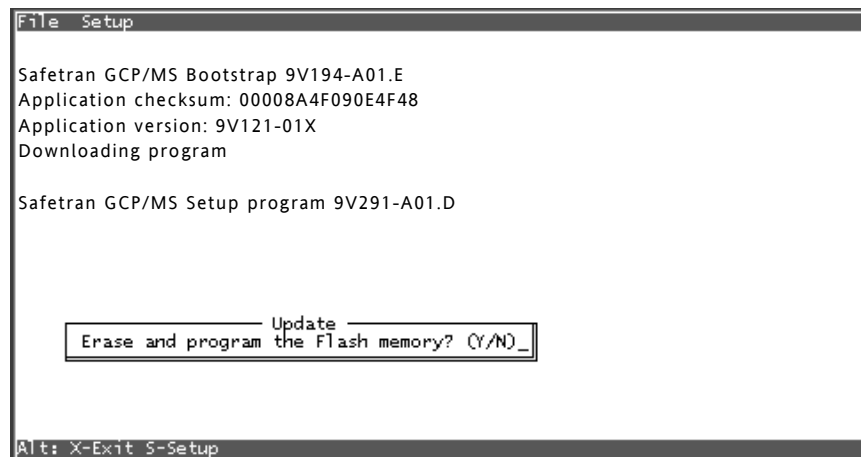
```
File  Setup

Safetran GCP/MS Bootstrap 9V194-A01.E
Application checksum: 00008A4F090E4F48
Application version: 9V121-01X
Downloading program




                              Downloading
   File 9V291A01.D: sent  52%




Alt: X-Exit S-Setup
```

214F7.tif
12-05-00

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.

Figure 7. Setup Program Download Window

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

```
File  Setup

Safetran GCP/MS Bootstrap 9V194-A01.E
Application checksum: 00008A4F090E4F48
Application version: 9V121-01X
Downloading program

Safetran GCP/MS Setup program 9V291-A01.D




                     Update
   Erase and program the Flash memory? (Y/N)_




Alt: X-Exit S-Setup
```
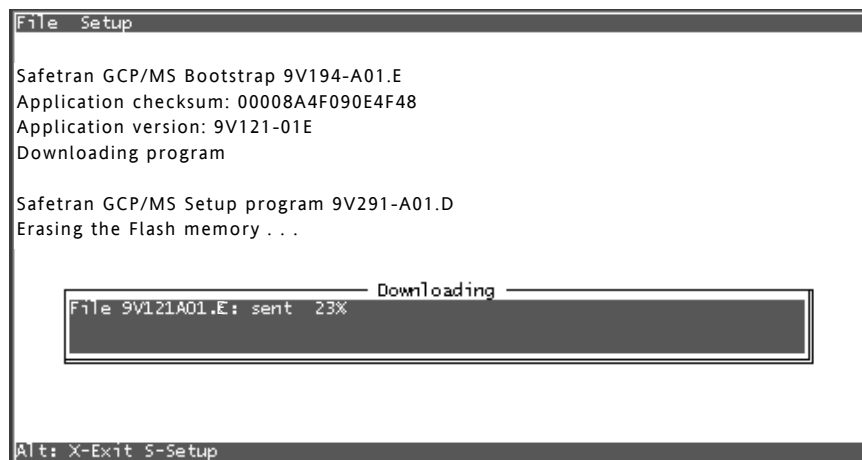
214F8.tif
12-05-00

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.

Figure 8. Setup Program Flash Memory Update Dialog Box
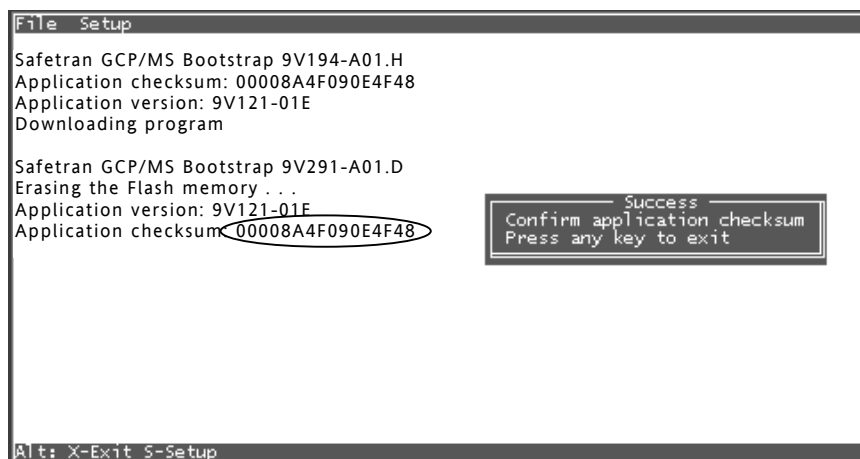
Step 13   Type **Y**.

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

214f9.tif
11-06-00
Figure 9. Setup Program Download Window

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

214F10.tif
11-06-00
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 (**9V121-01E**) 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.