5.4. UPDATING TO A NEW FIRMWARE VERSION

The 5010 is equipped with an electrically erasable and re-programmable program memory device called a FLASH PROM. We will supply the software upgrade to you on floppy disk, or you may download the current version from our ftp site (http://www.evertz.com/ftp). This device may be reprogrammed by downloading the new firmware to the 5010 using a computer. This facilitates firmware upgrades in the field.

The 5010 serial port is configured at the factory as an RS-232 port. If you have changed the internal jumpers to configure it as an RS-422 port, these must be changed back to the RS-232 position before connecting it to a standard PC COM port. When you are done programming you must return the jumpers to the original position for RS-422 operation.

The internal jumpers inside the unit are different depending on the version of the 5010 hardware that you have. Section 5.4.1 gives instructions for setting the jumpers for the earlier version of the 5010 units with the rear panel shown in figure 2-1. Section 5.4.2 gives instructions for setting the jumpers for the newer version of the 5010 with the rear panel shown in figure 2-2.

5.4.1. Configuring the Serial Port Jumpers - Original 5010

Disconnect the power from the 5010. Disconnect the antenna cable from the Serial I/O connector and remove the top cover or the unit. On the 5200 main circuit card, jumpers JP12 and JP5 are used to configure the serial port. Set the jumpers as shown in Figure 5-5 to configure the 5010 for firmware upgrading.
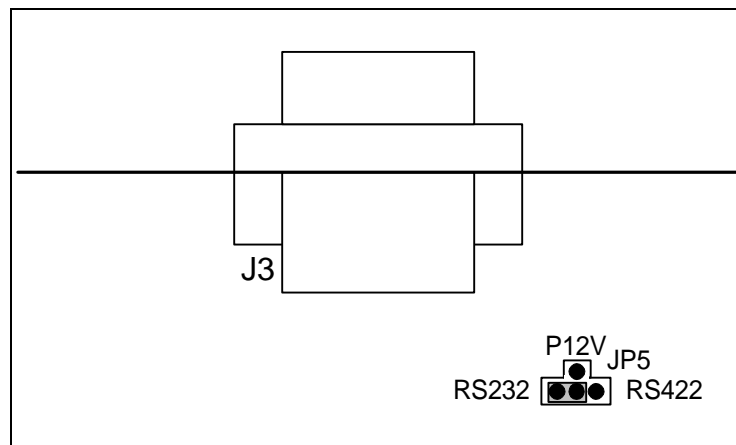

Figure 5-5: Jumper Positions For RS-232 Communications On Rev H & J 5200 Boards.

You will have to make the following cable in order to connect your 5010 to the computer.

```
                        5010
                  Original Version                        Computer End
                  Serial I/O (Male)                          (Female)
            Description      DB-9              DB-9       Description

            Shield Ground    Shield ----------------------Shield   Shield Ground
            RS 232 Transmit     5-------------------------------2   RS 232 Receive
                   Ground       6-------------------------------5   Signal Ground
            RS 232 Receive      8-------------------------------3   RS 232 Transmit
```

Follow the procedure outlined in section 5.4.3 to upgrade the firmware. When the unit is successfully upgraded disconnect power from the unit. If you need to use RS-422 levels for serial remote control of the 5010 you will need to return the jumpers to the positions shown in Figure 5-6 for normal operation. Reinstall the top cover of the unit and reconnect the antenna cable to the SERIAL I/O connector.
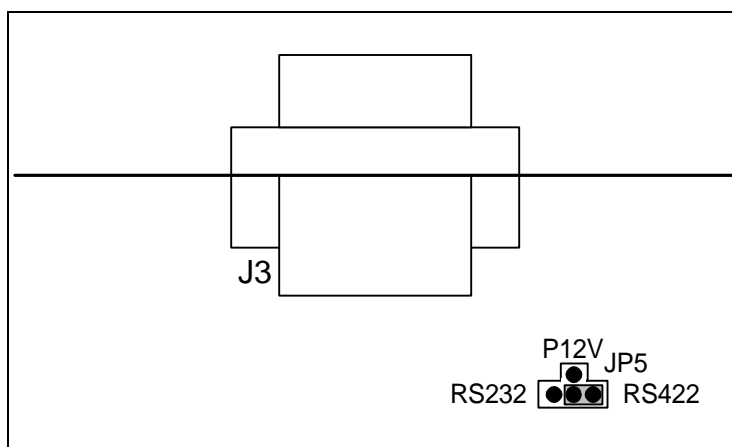

Figure 5-6: Jumper Positions For RS-422 Communications On Rev H & J 5200 Boards.

5.4.2. Configuring the Serial Port Jumpers - Newer 5010

Disconnect the power from the 5010. Disconnect the antenna cable from the Serial I/O connector and remove the top cover or the unit. On the 7700STM main circuit card, jumpers J14, J15 and J16 are used to configure the serial port. Set the jumpers as shown in Figure 5-7 to configure the 5010 for firmware upgrading.
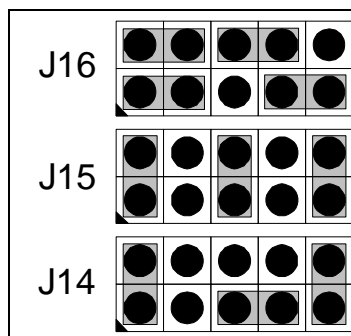
Figure 5-7: Jumper Positions For RS-232 Communications On 7700STM Boards.

You can use a straight thru PC 9 pin cable serial extension cable or make the following cable in order to connect your 5010 to the computer.

```
                        5010
                  Original Version                          Computer End
                  Serial I/O (Male)                            (Female)
               Description     DB-9                     DB-9    Description

               Shield Ground   Shield ---------------------- Shield  Shield Ground
               RS 232 Transmit     2------------------------------2    RS 232 Receive
                       Ground      5------------------------------5    Signal Ground
               RS 232 Receive      3------------------------------3    RS 232 Transmit
```

Follow the procedure outlined in section 5.4.3 to upgrade the firmware. When the unit is successfully upgraded disconnect power from the unit. If you need to use RS-422 levels for serial remote control of the 5010 you will need to return the jumpers to the positions shown in Figure 5-8. Reinstall the top cover of the unit and reconnect the antenna cable to the SERIAL I/O connector.
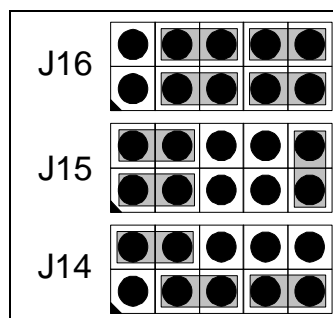

Figure 5-8: Jumper Positions For RS-422 Communications On 7700STM Boards.

5.4.3. Upgrading The Firmware

1.   Connect the 5010 to the computer's serial port using the cable described in section 5.4.1 or 5.4.2. Most computers have two serial communications ports (known as COM1 and COM2). If you have both serial ports available, connect the 5010 to COM1.

2.   If you received the firmware update on floppy disk, insert the reprogramming diskette in the drive of the computer. Change directories to the root of the reprogramming diskette's drive (A: or B:)

            If you downloaded the firmware from our Firmware FTP site, change to the directory of your hard disk where you have the upgrade files located. The upgrade files you downloaded have been compressed in the Zip format and will need to be expanded before you can proceed. Expand the upgrade files into this directory by running the WinZip utility (available from our FTP site)

3.   To set up the 5010 for programming at 38400 baud hold down the ↑ key while you apply power to the 5010. When the 5010 completes its boot-up sequence, the front panel will display `LOAD FLASH – 38400`. The default baud rate for reprogramming is 38400.

            To set up the 5010 for programming at 9600 baud hold down the ↓ key while you apply power to the 5010. When the 5010 completes its boot-up sequence, the front panel will display `LOAD FLASH – 9600`

4.   The 5010 firmware is contained in an Intel HEX format file. The chart below shows the correct HEX file to load for the 5010 version you have.

	Firmware	
Model	**Old Style**	**New Style**
5010	AG52A1.HEX	AG57A1.HEX
5010-VITC	AG52A1.HEX	AG57A1.HEX
5010-24	AG52A6.HEX	AG57A6.HEX

5.   A Flash Loader software utility (called FL.EXE) was provided along with the upgrade files you received. This utility uploads the HEX file to the 5010. Run FL.EXE, with the appropriate '.hex' file as the first argument. For example:

                        FL AG57A1.HEX

This will run the Flash loader program in its default configuration: COM1, 38400 baud, software flow control.

If you connected the computer using COM2 you will need to use additional command line parameter to specify the COM port as follows:

>   FL AG57A1.HEX /p2

If you set up the 5010 for programming at 9600 baud you will need to use additional command line parameter to specify the baud rate as follows:

>   FL AG57A1.HEX /b9600

Entering the FL with no file name will generate a usage message to show you all the available options for the Flash Loader program.

5.   The Flash Loader will announce that it is erasing the FLASH PROM. The 5010 front panel display will show FLASH ERASING...

6.   When the Flash PROM is erased, the Flash loader will start to send the new firmware to the 5010. The Flash loader will give a status report as it sends each line of the HEX file to the 5010. During programming the 5010 front panel display will show LOADING - XXXXX. The XXXXX will be the actual PROM address currently being programmed.

7.   If there are programming errors an appropriate message will be shown on the 5010 front panel. You will need to abort the Flash loader program by pressing the ALT+x keys on your computer keyboard. (Hold the ALT key down while pressing the x key.) Repeat steps 3 to 6 to try to correct the problem. If you still have trouble, try programming at 9600 baud.

8.   The reprogramming will be complete when the Flash Loader announces "Hex file transmitted successfully" and returns you to the DOS prompt. The 5010 will automatically switch to its FLASH program memory if programming is successful. As a part of the 5010 boot-up cycle it will say SWITCH TO FLASH to indicate that it is running on the FLASH EPROM now.