

**Kramer Electronics, Ltd.**



**Updating the  
Firmware in the devices  
equipped with STC ICs  
using RS-232 connection**

**P/N: 2900-000722FW REV 1**

Download the User Manual from our Web site: [www.kramerelectronics.com](http://www.kramerelectronics.com)



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## 1 Overview

The Kramer devices uses a microcontroller that runs firmware located in flash memory. The latest version of firmware can be downloaded from the Kramer Web site and updated in minutes using the **STC Software**.

To update the STC IC firmware:

1. Download from the Internet and install the **STC Software** (see [Section 2](#))
2. Connect a PC to the Kramer device via a serial connection (see [Section 3](#))
3. Update the firmware using the **STC Software** (see [Section 4](#))
4. Perform the factory reset using Terminal software

**Note:** The model name that appears in the screenshots in this guide is an example. The actual model name and upgrade file name that appears in the software during the course of your upgrade must match your Kramer device.

## 2 Downloading and Installing the STC Software

**To download and install the STC Software file from the Internet:**

1. Using your Internet browser, go to the downloads section on the webpage of the relevant Kramer device on [www.kramerelectronics.com](http://www.kramerelectronics.com) and download the firmware upgrade package to your PC.
2. Extract all files from the package to a folder (for example, C:\Program Files\STC Software).
3. Create shortcut to the *STC\_ISP\_V486-english.exe* file to start the **STC Software**. There is no separate installation procedure.

## 3 Connecting a PC to the Kramer device via RS-232

**To connect a PC to the Kramer device via RS-232, make the following connection:**

- Connect a serial cable from an RS-232 9-pin D-sub rear panel port on the Kramer device to the RS-232 port on the PC

**Note:** A null modem is not required.

## 4 Updating the Firmware

**To update the firmware:**

1. Turn the Kramer device off.

2. Run the **STC Software** by executing the *STC\_ISP\_V486-english.exe* file  
The **STC-ISP.exe** window appears<sup>1</sup>.

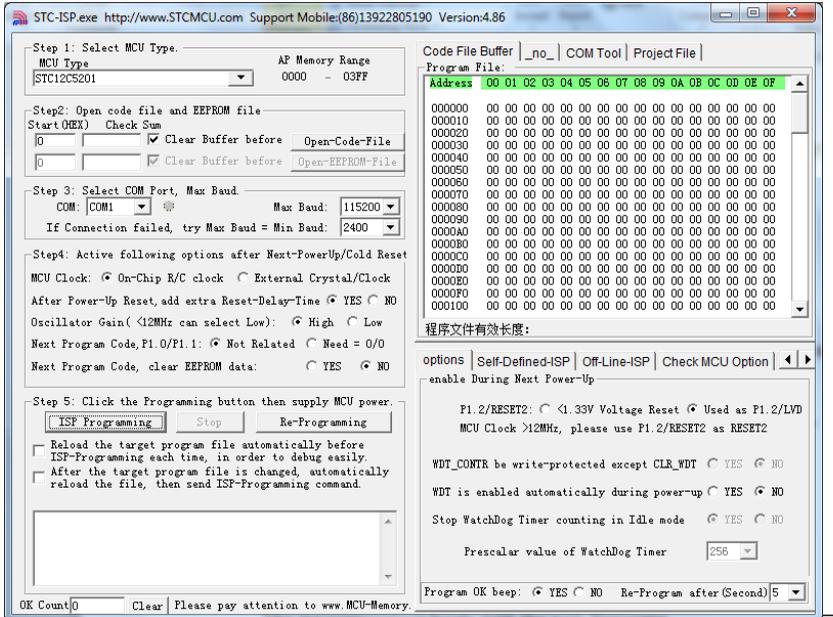


Figure 1: STC-ISP.exe Window

3. From the **Step 1: Select MCU Type** drop-down list, select **STC11F32 Series > STC11F60XE**.
4. In the **Step 2: Open code file and EEPROM file** box, click **Open-Code-File**.
5. Browse to the directory where the firmware HEX file which you downloaded with the firmware package was saved, for example, C:\Program Files\STC Software.
6. Select the correct firmware HEX file and click **Open**.
7. From the **COM Port** drop-down list, select the COM port that you are using on your PC to connect to the Kramer device.
8. Click **ISP Programming**.  
The **STC Software** starts to program the microprocessor and status messages are displayed in the window in the **Step 5** box.

<sup>1</sup> The screens appearing in this manual are examples of the process. The actual screens may differ in their content

9. When the status message “please supply target MCU power” is displayed, turn the Kramer device on.
10. Wait until the status message indicates that the microprocessor has been successfully programmed. Turn the Kramer device off.
- 11.
12. Turn the Kramer device on.  
The microprocessor boots with the new firmware.
13. Close the STC-ISP software window.

## 5 Performing the factory reset

### To perform the reset:

1. Run any terminal software directed to the COM port that you are using on your PC to connect to the Kramer device.
2. Send command `#factory <CR>`. The device responds with `~01@FACTORY OK`. Below is an example screenshot sending such command using Hercules® ([http://www.hw-group.com/products/hercules/index\\_en.html](http://www.hw-group.com/products/hercules/index_en.html))<sup>1</sup>.
3. Wait about 20 seconds until the front panel buttons of the device flash and the front panel display resets.

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<sup>1</sup> The screenshot is an example. The actual screens may differ in their content depending on Terminal software used.

## Performing the factory reset

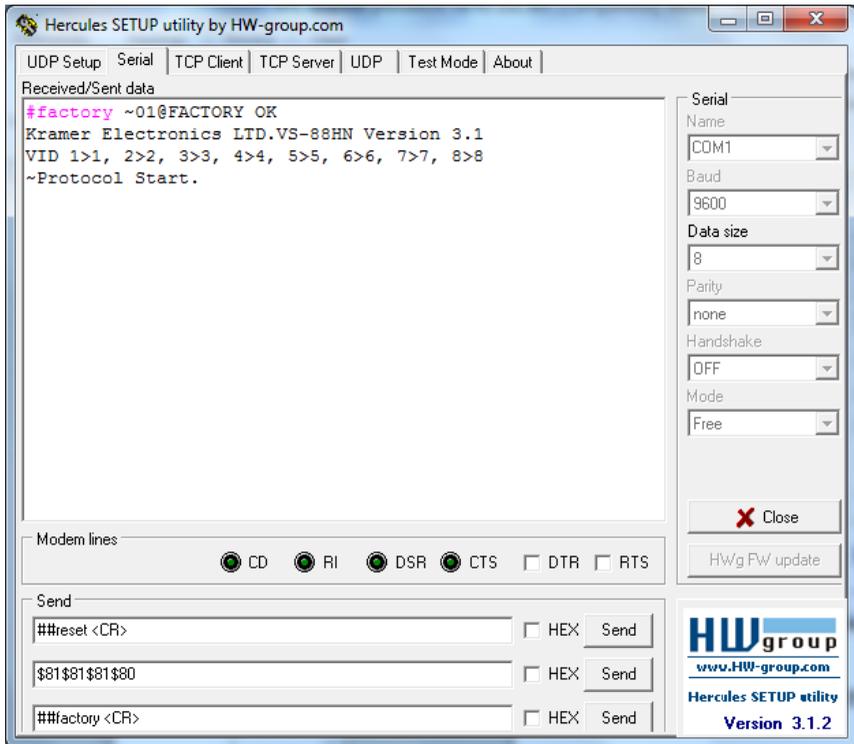


Figure 2: Reset using Hercules terminal software