

# Updating the SynScan™ Firmware

From version 3.0 onward, the SynScan™ firmware is user upgradeable. User can download the latest version of the SynScan firmware from the Sky-Watcher web site and easily update their hand controls.

## System requirements

SynScan™ Hand Control of version 3.0 or later.

Windows95 or later

An available RS-232C communication port on the PC

PC link cable that comes with the SynScan™ hand control

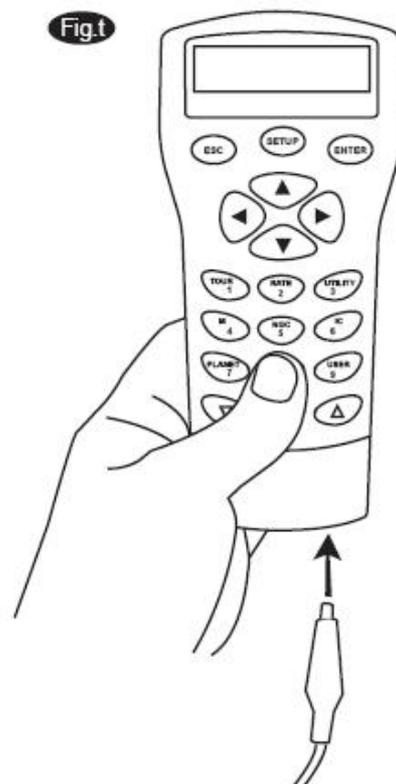
DC power supply with 7.5~15V/100mA output. Power plug should be 2.1mm diameter, tip positive.

## Preparing your PC for the update

1. Create a folder for all SynScan™ related files on your computer and name it SynScan.
2. Visit the Support Page of the Sky-Watcher website at:  
[http://www.skywatchertelescope.net/swtinc/customer\\_support.php?class1=1&class2=101](http://www.skywatchertelescope.net/swtinc/customer_support.php?class1=1&class2=101)
3. Download and save the SynScan™ Firmware Loader to the SynScan folder on your computer. You may create a shortcut on the desktop for quick access in the future. You will only need to download this software once. Once it is saved on your computer, only the firmware data file is needed for future updates.
4. Download and save the firmware data file named SynScan VXXXX.ssf to the SynScan folder. (The XXXX indicates the version number of the firmware.)

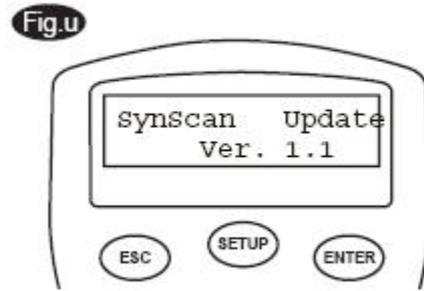
## Updating the SynScan™ Hand Control

1. Press and hold down the key “0” and “8” simultaneously, then plug the power cord into the hand control, as shown in Fig.t.
2. The hand control will give a beep, indicating a successful start up. The SynScan™ will display: “SynScan Update Ver. x.x” on the LCD screen, as seen in Fig.u.
3. Plug the RJ-11 end of the PC link cable into the jack in the middle socket on the hand control (Fig.c in SynScan Instruction



Manual). Push the connector into the hand control until it clicks into place. Plug the other end of the cable, the DB9 connector, to the RS-232 port on your PC.

**Note:** If there is no DB9 (COM port) connector on your PC, but only have a USB port on the computer. You have to have a USB to serial adapter cable (with a DB9, male connector on one end) to insert between your PC and the provided PC link cable. Before connecting the hand control to your PC, an USB serial port driver should be installed on your PC. Then insert the USB to serial adapter cable to one of the USB port on the computer. You can check if the USB serial port is properly installed from the Device Manager on the Windows operating system on your PC.



4. Run the SynScanFirmwareLoader software on your PC. Once the program is launched, you should see a window as Fig.v. Make sure the “Auto-detect COM Port” checkbox has been checked. Click the “HC. version” button. The Firmware loader will automatically detect the COM Port, which connects to the hand control and request the hardware, firmware and database versions in the hand control. You will see the version numbers at the bottom of the Firmware Loader as shown in Fig.v-1.



Fig.v-1



If the Firmware Loader can not detect an available COM port, please check the connection between the hand control and PC.

5. Click “Browse” to select the SynScanVXXXX.ssf file in the SynScan folder. We recommend you to check the checkbox “Enforce database update” and then click “Update” to start downloading the new firmware into your SynScan™ hand control. You will see the status of the update below the “Update” and “HC. Version” buttons (Fig.w).

Fig.w



6. When the download is complete, a green “Update Complete” bar will show at the bottom of the Firmware Loader (Fig.x). The SynScan hand control is now updated to the newest firmware. Generally it takes about 1 minute to update the firmware. It may take longer if you are using an USB to serial converter.

Fig.x



If the error message "Can not connect to a SynScan hand control" is shown, check the cable connection and the PC link cable itself. Make sure it is all in good working condition. Close all applications that may be occupying the RS-232 port and try again.



If you receive the error message "Firmware update failed...", reset the hand control by removing the power plug and then re-connecting it. Repeat the update procedure.



By default, the data communication rate between SynScan™ hand control and the PC is set to be 115kbps. The RS-232C port on some PCs may not support such high rate. If the update process fails after a few tries, you can reduce the rate by pressing the "SETUP" key on the hand control after the power supply is plugged in. This will reduce the data rate to 9.6 kbps . The LCD screen will show the word "Lo" in the lower right hand corner to indicate that it is now in low communication rate. The steps for updating the firmware remain the same except that now it takes longer to complete (about 240 seconds).

