Titanium Satellite ASC1
Firmware Upgrade 20151019v1 / Loader Editor 2.0

Titanium Satellite announces the release of new revised firmware and Loader Editor software for the ASC1 DiSEqC 1.2 Positioner and Skew Controller. The new firmware and software programs are the result of feedback and suggestions submitted by owners worldwide and will greatly enhance the operation and reliability of the ASC1. Thank you for your feedback and support!

This upgrade enables unmatched positioning accuracy with count response up to 75hz on both linear actuators and AJAK type motors, increases the satellite count to 199 positions and displays the saved software East and West limits. The list scrolling and skew value adjustment functions have been modified for the front panel or remote control keys. The list entries and skew values are more easily navigated and selected when a navigation key is depressed and held.

The Loader Editor software version 2.0 for PC's running OS WIN XP/7/8/10, increases compatibility for many brands and models of USB/Serial converters and adds the ability to read and set the ASC1 software East and West limits. The loader editor program provides the ability to read and write and save .CSV files with up to 199 satellite positions and also backwards compatible to load legacy 99 position satellite list files to the ASC1.

Important Notice:
Perform the firmware upgrade with new bootloader at your own risk. If you do not feel comfortable with the update process or do not have an appropriate computer with RS-232 serial connection, we advise the following:
1. Do not upgrade the ASC1.
2. Contact Titanium Satellite and arrange to send either the complete ASC1 or only the main PCB along with return prepaid postage for the free upgrade service.
3. Contract with a qualified computer technician and provide these upgrade instructions and files to upgrade the ASC1.

Titanium Satellite has extensively tested and verified the firmware and loader process using an on-board serial RS-232 port and authentic Prolific PL2303 chipset USB/Serial converter supplied by Titanium Satellite running on WinXP/7/8/10 OS PCs with latest drivers available via the Prolific website. We recommend that only an on-board or PCI(e) RS-232 serial communication port be used to upgrade the ASC1 firmware. USB/Serial converters and/or drivers are often very problematic and may corrupt the data transfer and cause the ASC1 to be inoperable.

Incomplete or interrupted firmware upgrades may corrupt the ASC1. It may not be possible to recover from corrupted firmware in the field and require an RMA to return the ASC1 or main PCB along with prepaid return postage to Titanium Satellite in California, USA for the recovery process. Upgrade failures may occur due to the users computer hardware and/or software, loss of power, communication errors, incompatible USB/Serial converters or outdated/incorrect drivers. Titanium Satellite will not assume responsibility for any losses due to an inoperable ASC1 caused by the firmware upgrade process.

The computer and the ASC1 must be powered with a UPS (uninterruptible power supply) to prevent loss of power during the critical data transfer, verification and flash burning process. Loss of power during this upgrade process may disable the ASC1.

Satellite List Back-up:

All satellite positions, skew settings and customized satellite names will be overwritten and deleted during the firmware and bootloader upgrade process. If you wish to keep your settings, positions and custom names, use the Loader /Editor version software provided with the current ASC1 firmware to read the ASC1 data save the .CSV file to your PC prior to the upgrade.

If the ASC1 is running the widely distributed firmware 20140903v1, use Loader Editor version 1.8 to save the satellite List back-up. If the ASC1 is running older firmware prior to version 20140702v1, use Loader Editor version 1.7 to save the satellite List back-up.

Once the Satellite List has been read from the ASC1, Power cycle the ASC1 Master Power Switch Off for 5 seconds then power back ON.

Firmware / Bootloader Upgrade:

If the ASC1 is running the widely distributed firmware 20140903v1, use Loader Editor version 1.8 to upgrade to the new 20151019v1 firmware. If the ASC1 is running older firmware prior to version 20140702v1, use Loader Editor version 1.7 to upgrade to the new 20151019v1 firmware.

Important Notice:

Once that the legacy firmware and bootloader have been overwritten with the new firmware file 20151019v1, Loader Editor version 1.8 or earlier version 1.7 will no longer be able to communicate with the ASC1 and should be discarded. After this update is completed, only Loader Editor version 2.0 will be used to update, read and write with the ASC1.

1. Drive the motor to the East physical limit of travel and verify that the motor mechanical stop switch is set to disable the motor movement at or before this point.
2. Drive the motor to the West physical limit of travel and verify that the West motor mechanical stop switch is set to disable the motor movement at or before this point.
3. Drive the motor to the ASC1 count position 0000. Visually check that the dish is physically pointed at the reference 0000 position. If a satellite receiver is connected to the ASC1 via a coax cable, power OFF the receiver.
4. Perform a Global Reset on the ASC1 then power OFF the Master Power Switch on the ASC1 rear panel.
5. Disconnect either M1 or M2 motor wire from the rear of the ASC1. This is optional, but the disconnected wire will prevent any accidental motor movement if a mistake is made while restoring the satellite list and settings after the upgrade.
6. Power ON the ASC1 Master Power Switch on the rear panel.
7. Launch Loader / Editor version 1.8 (or 1.7 if firmware is older than 20140702v1).
8. Select the Com Port that is connected to the ASC1.
9. Select Update Tab.
10. Set file path to the unzipped Update File: 20151019v1.
11. Press Start.
12. Once the process is complete "Update Process Completed" appears on the PC, click Yes.
13. Close the Loader 1.8 software. "Updating Bootloader" will be displayed on the ASC1 LCD.
14. Power cycle the ASC1 Master Power Switch Off for 5 seconds then power back ON. "Updating Bootloader" will momentarily appear then "Bootloader Updated!" will appear for a few seconds then the display will return to the Main Menu screen.
15. Perform a Global Reset
16. Power cycle the ASC1 Master Power Switch Off for 5 seconds then power back ON.

Optional - Restoring or Loading a Custom Satellite List:

Important Notice for all USB/Serial Converter users: Before using Loader / Editor version 2.0 software, update the USB/Serial Converter driver to the latest factory driver. Please note that clone chipsets have data flow issues and often corrupt data. We recommend that you use the factory chip validity check software to verify that the USB/Serial converter is authentic and not a clone.

- Launch Loader / Editor 2.0.
- Select the Com Port that is connected to the ASC1.
- Read from file the previously saved Satellite List .csv.
- Save to Device.
- Once the process is complete "Satellite Write Data Successfully" window will appear, click Yes.
- Optional: You may Get or set the East and West software limits via the Loader Editor. West is a negative numeric (max -5000) / East is a positive numeric (max 5000).
- Close the Loader 2.0 software.
- Power cycle the ASC1 Master Power Switch OFF for 5 seconds then power back ON.

Reconnecting the System Components:
17. Power OFF the Master Power Switch.
18. Verify that the physical dish position is still at the correct aiming for reference 0000 position.
19. Reconnect M1 or M2 wire to the rear of the ASC1.
20. If a satellite receiver is connected to the ASC1 via a coax cable, power ON the receiver.

Important notice: If the Satellite List has been restored, the dish may suddenly move when powering ON the ASC1.

21. Power ON the ASC1 Master Power switch on the rear panel. The motor may move the dish to the position count saved to satellite position # 1. If no satellite list has been restored to the ASC1, program the Software East and West Limits and begin programming the individual satellite positions and polarization/skew settings.

Congratulations! The ASC1 Firmware / Bootloader is now updated!