

# Nexus DSC firmware/catalogues releases

1.3.7 released 10<sup>th</sup> of June 2019

## **Firmware and catalogues**

**Firmware date: 2019.06.10**

### Changes:

- Added indexed access to observing lists' entries

### Bug fixes:

- Fixed a problem with not saving enabled catalogues in Settings->Find mode
- Fixed a problem with the disengage limit being ignored when Astro Lock is engaged

**Catalogues: ADCTS128.BIN**

### Changes:

- Corrected King open clusters catalogue
- Corrected NGC catalogue (a number of objects were erroneously defined as globular clusters)

1.3.6 released 3<sup>rd</sup> of June 2019

## **Firmware and catalogues**

**Firmware date: 2019.06.01**

### Changes:

- Changed the user interface to remove redundant OK on-screen button
- Modified settings to include separate settings for Align and Find modes
- Added a one star alignment mode
- Added an option to display horizontal coordinates in Find mode
- Added a daily visibility graph to Find mode
- Changed font size to a large font to display catalogue name and object name in Align and Find mode
- Modified the Align I/II screens to a tabbed interface
- Modified the Find->From Catalogue screen to a tabbed interface
- Added a sound indication when establishing communications with ServoCAT
- Added separate options to limit the display of objects within altitude limits for Find and Align modes

### Bug fixes:

- Fixed a problem with incorrectly functioning sync in some circumstances

**Catalogues: ADCTS127.BIN**

### Changes:

- Updated Common Named catalogue
- Updated the WDS to the latest version
- Corrected Named Stars catalogue
- Updates some catalogues to be correctly referenced by Steve Gottlieb's observing notes

1.2.1 released 5<sup>th</sup> of November 2018

## **Firmware and catalogues**

**Firmware date: 2018.11.05**

#### Changes:

- Implemented a new tracking method with AstroLock™ that can be tuned in Settings->AstroLock
- Added an ability to switch quickly to a catalogue in Find->From Catalogue mode; current catalogue index is displayed in this mode
- Added display of catalogue indices in settings specifying which catalogues are displayed in Find->From Catalogue mode and in Tour/Identify modes
- Added paging to object's description and observing log (use 4 and 6 keys to display previous/next three lines of text)
- Added telescope control panel to issue GOTO, Stop and slew commands for telescopes equipped with ServoCAT, SiTech, SkyTracker, ScopeDog; the telescope control panel is available in all Find modes
- Added an option to reverse the scrolling direction when using up/down keys (in Settings->Other parameters->Reverse scrolling)
- Increased the maximum number of objects returned in Tour and Identify modes to 256
- Added display of motors' encoder tics when using SiTech servo controller
- Updated GPS info display
- Added displaying of variable stars information when using GCVS
- Added support for ScopeDog motor controller

#### Bug fixes:

- Fixed a problem with incorrectly set time and date when using GPS sync
- Fixed a bug preventing Nexus DSC from establishing communications with TheSky X and TheSky HD
- Fixed issues with random telescope moves when scrolling through solar system objects catalogues and connected to ServoCAT/SiTech/SkyTracker motor controllers
- Fixed incorrect behavior when using the OTA on the right side of AZ-EQ6
- Fixed incorrect slewing of AZ-EQ6 when aligning
- Corrected to display seconds correctly for the sidereal clock

#### Catalogues: ADCTS125.BIN

##### Changes:

- Added CGCG and GCVS catalogues
- Updated the WDS to the latest version
- Corrected UGCA, Berkley, Czernik, Dolidze, Lynga and Ruprecht catalogues
- Updates most catalogues to be correctly referenced by Steve Gottlieb's observing notes
- Added Steve Gottlieb's observing notes for Index Catalogue and updated NGC observing notes

1.1.28 released 12<sup>th</sup> of March 2018

#### Firmware and catalogues

**Firmware date: 2017.03.10**

##### Changes:

- Added an option to display only visible objects (within set altitude limits) in Align/Find mode - during scrolling only; selected in Settings->Other Parameters
- Added playing sounds in case of:
  - a) Finished GOTO
  - b) Executing a GOTO outside altitude limits
- Added a delayed set of display brightness (the selected brightness is set after the specified delay) - it is set in Settings->Display/Keypad

- Added a sleep mode for display (the display is turned off after inactivity for the selected time period, turned back on by pressing any key) – it is set in Settings->Display/Keypad
- Added an option to select the displayed precision of the distance to the object (number of digits after the decimal point) – it is set in Settings->Display/Keypad
- Added Solar system objects tracking (including Moon)
- Implemented new tracking method when used with ServoCAT/SiTech/SkyTracker
- Enabled selection of the epoch in Find->Object at RA/Dec mode (J2000 or JNOW)
- Enabled selection of the epoch for communications (J2000 or JNOW)
- Added observation logs for all NGC object from Steve Gottlieb
- Added an option to use Nexus DSC as a WiFi to serial or WiFi to USB serial bridge
- Allowed fast paging when selecting catalogues (4- previous page, 6 - next page)
- Allow issuing GOTO/slew commands from Nexus DSC when using it with ServoCAT/AZ-EQ6/5
- Added a preliminary support for AZ-EQ5/AZ-EQ6
- Improved the MPoint (enabling the model is now obvious)
- Added a display of calculated pointing model terms in MPoint Analyse mode (by pressing the right arrow key)

Bug fixes:

- Fixed a problem with the epoch in the Identify mode
- Fix issues with the WiFi (in some cases Nexus DSC would reset itself when used with ServoCAT and SkySafari)

**Catalogues: ADCTS122.BIN**

Changes:

- 22 new catalogues were added (please refer to the document 'List of catalogues used in Nexus DSC' for the list) with the total number of objects of over 2.44 million

1.1.25 released 30<sup>th</sup> of March 2017

**Firmware and catalogues**

**Firmware date: 2017.03.28**

Bug fixes:

- Fixed a problem with being unable to perform the two star alignment when the mount type is set to either German Equatorial or Equatorial Fork
- Corrected occasional freezing when using some catalogues
- Stopped overriding the display precision when changing telescopes

**Catalogues: ADCTS118.BIN**

Changes:

- PK and PN catalogues have been corrected to allow correctly select an object from those catalogues

1.1.24 released 24<sup>th</sup> of January 2017

**Firmware and catalogues**

**Firmware date: 2017.01.24**

New:

- Added a sync function
- Added ability to use SkySafari to perform the two star alignment
- Optimized to handle up to 500000 steps per second encoder speeds
- Added ability to sync on an object from SkySafari

- Added an option to select the precision of displayed offsets to the target object (0.1°,0.01°,0.001°)
- Changed names of stars in Named Stars catalogue in accordance with spellings adopted by IAU

Bug fixes:

- Corrected occasional freezing when turning Nexus DSC on while encoders are rotating
- Stopped occasional freezing in Identify/Tour mode when Bayer catalogue was selected
- Enabled altitude limits in case of receiving commands from SkySafari

**Catalogues: ADCTS116.BIN**

Changes:

- Some catalogues have been reviewed and corrected

1.1.19-1.1.23 – internal releases

1.1.18

**Firmware only**

**Firmware date: 2016.05.10**

New:

- Added an option to enable/disable catalogues displayed in the list of Find->From Catalogue (in Settings->Other Parameters)
- Added 'OK' button press emulation from ServoCAT's hand controller
- Added sounds for the alignment (can be disabled in Settings-> Other Parameters)
- Changed the layout of Telescope settings
- Changed the layout for Test->Encoders to display the coordinates in degree in a large font instead of encoder ticks
- Added an option to reverse the directional arrows

1.1.16-1.1.17 – internal releases

1.1.15 released 23<sup>rd</sup> of September 2015

**Firmware and catalogues**

**Firmware date: 2015.09.21**

New:

- Starts at the Align icon now

Bug fixes:

- Corrected issuing a GOTO command to ServoCAT when the WiFi protocol is set to ServoCAT
- Stopped occasional freezing in Identify/Tour mode when Comets were enabled in the catalogues list

**Catalogues: ADCTS115.BIN**

New catalogues:

- Asterisms
- Barnard dark nebulae
- Common Named deep sky objects
- Galactic planetary nebulae (listed as Planetary Nebulae)
- Perek-Kohoutek planetary nebulae

**Note:** Some catalogues in this release were based on the database compiled by Saguro Astronomy Club – with permission.

Changes:

- NGC catalogue has been reviewed and corrected
- MCG has been corrected for objects with declination below 0 degrees

1.1.11 released 3<sup>rd</sup> of September 2015  
Firmware and catalogues

Firmware date: 2015.09.3

New:

- Designators containing Greek letters are now shown the name of the letter in English

Bug fixes:

- Corrected the default network mask

Catalogues: ADCTS11.BIN

Changes:

- Bayer, Bright Stars and Flamsteed catalogues have been corrected to correctly show information for double stars

1.1.10 released 2<sup>nd</sup> of September 2015

Firmware and catalogues

Firmware date: 2015.09.01

New:

- Enhanced Identify mode
- Added two Tour modes:
- Tour within a specified radius of where the telescope is pointing
- Tour within a constellation
- Object display now shows if the object is outside the altitude limits
- Adding an object to the MPoint sampling run can now be done in Find/Identify/Tour modes
- Added two additional Test modes - Serial and USB
- Added a preliminary support for SkyTracker
- Added Asterisms, Bayers, Flamsteed, Palomar, SAO and Terzan catalogues
- Added support for asteroids and comets
- Numeric keypad can now be used to select an object for the alignment
- Named Stars and Planets are now included in Identify/Tour modes

Bug fixes:

- Incorrect local time when DST is enabled
- Corrected some entries in Messier catalogue
- Fixed a bug with reading Observing list
- Fixed a bug in handling of communications with Stellarium
- Corrected the position of 'Use Model' checkbox in MPoint Analyse
- Fixed problems using Nexus DSC with TheSky (versions 6 and X)
- Fixed a problem with imprecisions of the GPS location
- Fixed incorrect directions to objects when using a German equatorial mount and selecting an object over the meridian
- Fixed incorrect display of declination for objects at 0 to -1 degrees

1.0.15-1.1.9

Intermediate releases

1.0.14

Fixed a crash when updating catalogues and the micro SD card is not present

Corrected the MCG database

Changed the brightness level to be in 0 to 255 range

Added support for observing lists

Enabled support for SiTech motor controller

Enabled Stellarium protocol

Changed the large font to a font with thin lines

Fixed a bug that prevented saving the value of the altitude reference angle with the current scope

'GPS sync' synchronises the date now as well as the time  
Fixed incorrect reporting of alignment error

#### 1.0.8

Updated to support longer descriptions for objects.  
Updated catalogues to include Arakelian galaxies, Melotte and MCG.

#### 1.0.7

Fixes problems with performing GOTO commands with latest ServoCAT's firmware.  
Added altitude limits for GOTOs.  
Enabled Equatorial Platform timer.

#### 1.0.5

Added more parameters to WiFi settings.  
Fixed a problem with changing WiFi settings.  
Enabled a test mode for WiFi.  
Enabled GOTO commands for ServoCAT (when using a planetarium software)

#### 1.0.4

Added a function to restore the factory settings.  
Fixed a problem with GPS information screen - UTC time.  
Changed the battery current to reflect the description in the User Manual.

#### 1.0.3

Fixed a problem with getting the GPS location (for Norther hemisphere).  
Fixed a problem with GPS information screen - satellites in view.  
Encoder test mode works now with encoders other than 10K steps  
Fixes issues with incorrect setting of telescope parameters (when switching between telescopes)  
WiFi enable/disable now works without a power cycle

#### 1.0.0

Initial release