

# Table of Contents

<b>Taurus 2.06.03 Release Notes.....</b>	<b>1</b>
Importance.....	1
Special upgrade instructions (If upgrading from versions prior to 2.04.09):.....	1
Before the upgrade.....	1
Upgrade Procedure.....	1
Changes.....	2
Previous Changes.....	3
2.05.15.....	3
2.05.13.....	3
2.05.09.....	3
2.04.09.....	3
2.03.12.....	4
2.02.08.....	4
2.02.05.....	4
2.01.03.....	4
2.01.00.....	4
2.00.26.....	4

# Taurus 2.06.03 Release Notes

## Importance

This release is recommended for all Taurus users and addresses issues with NpToNmxp and data streaming to NAQS.

Currently running 2.04.09: If using Trident 305s or streaming packets this release is ***strongly recommended*** otherwise this release is ***recommended***.

Prior to 2.04.09: ***Important Maintenance Release***. If you are running Taurus units with releases prior to 2.04.09, it is ***strongly recommended*** that you upgrade your Taurus units ***as soon as possible***. This upgrade will fix problems that can occur when data stores exceed ~120 days of continuous data. This release also improves error handling with commercial grade compact flash and is considered as an essential upgrade for those users operating with compact flash media.

Compact Flash cards are available in a variety of quality levels. SanDisk Extreme Compact Flash is more robust and reliable than standard commercial or consumer Compact Flash. All internal product verification and product testing is undertaken using Extreme Compact Flash and we therefore recommend that SanDisk Extreme Compact Flash (or equivalent) be used in all Taurus installations. Going forward we will only offer limited technical support for installation using commercial grade Compact Flash. Any customer who purchased commercial Compact Flash from Nanometrics can request Extreme Compact Flash as a warranty replacement.

Version 2.06.03 will read and write to media with Store files created by earlier versions of the software. However, media that have been written to by this version of the software will be re-indexed if subsequently used with versions earlier than 2.05.09. For this reason it is recommended that customers maintain all Taurus at the same code release level.

Customers upgrading to this version of the code will be required to upgrade their Apollo Lite software which is included in this distribution.

## Special upgrade instructions (If upgrading from versions prior to 2.04.09):

### Before the upgrade

If a Taurus is experiencing a reboot/reindex cycle, this may interfere with the login and upgrade. If this happens shut down the Taurus, install empty media and perform the upgrade. Following the upgrade, shut down the Taurus and reinstall the original media.

Please remember to remove and insert media **ONLY** when the Media LED is green (after a successful Shutdown command). If you cannot Shutdown a Taurus normally, power it down and swap media while it is not powered. Swapping powered media may damage the media and cause data loss.

### Upgrade Procedure

Please use the following precautions when updating a Taurus from a version prior to 2.04.09. These precautions will not be required during subsequent upgrades (versions 2.04.09 or greater to later code).

Follow the standard upgrade procedure in the Taurus User Guide, section G.2 Upgrading Taurus from Version

2.00.xx or higher. During step 9 the software will install and the Taurus will automatically reboot. Do not perform step 10. Instead, perform the following:

1. Login as central and go to the System Info page. Confirm that the Taurus Firmware version is 2.06.03 and the Apollo version is 2.04.03. If not, repeat the installation from step 1.
2. On the System Info page, confirm that the Digital Processor version is 2.05.13, FPGA version is 4.1.0 and the Power Manager version is 1.22.06. If these are correct, go to the Upgrade page and click the Commit button. This completes the software upgrade y do not perform any of the steps below. You may optionally delete the temporary installation files to free some CF or IDE space by following step 11 in the manual.
3. If the Digital Processor or Power Manager code is not the correct versions, Telnet to the unit (user = root, password = dolphin18) and issue the following commands (where <media> is ide if the hard drive is the running media and cf if the compact flash is the running media.):
  - ◆ cd /mnt/<media>/upgrade.tmp
  - ◆ ./setdefault.sh
4. Open two browsers and connect to the following.
  - ◆ http://<Taurus IP address>:8080/pwm/
  - ◆ http://<Taurus IP address>:8080/firmware
5. Press TestCode on the PWM page, followed immediately (less than 5 seconds later) by TestCode on the second (firmware) page. The Taurus will reboot.
6. Login as central and go to the System Info page. Confirm the following code module versions:
 

<b>Taurus Firmware</b>	<b>2.06.03</b>
Apollo	2.04.03
Digital Processor	2.05.13
Power Manager	1.22.06
FPGA	4.1.0
7. If these are all correct then:
  - ◆ Telnet to the unit
  - ◆ cd /mnt/<media>/upgrade.tmp
  - ◆ ./setdefault.sh

## Changes

This release includes the following upgrades and modifications:

- Ensures that the maximum control line current of 1 amp is available on all sensor control lines.
- Fix for sensor control line irregularities.
- Fix for rare MiniSeed download timing errors.
- GPS Location coordinates are now part of the pre-defined "GPS Time" CSV download in **Data Retrieval**
- Data Streaming
  1. Reduced delay in receipt of data from Taurus to NAQS (could sometimes occur when when Taurus data streaming was initially enabled).
  2. Taurus SOH Data Streaming to NAQS now available
  3. Can choose to stream SOH, Time Series data, or both
  4. Optional secondary data streaming destination (Dual Unicast IP destinations).
- Auto-refresh Play/Pause
  - ◆ New icons in the header panel enabling the users to play/pause auto-refresh on applicable pages.
  - ◆ Users can set the default auto-refresh behavior in the **Advanced Configuration, General** page.
  - ◆ These options are not applicable to the the Taurus LCD display, which always auto-refreshes.
- **Sensor** Page improvements

- ◆ Functions that are not configured in the sensor definition are now disabled on the Sensor page.
  - ◇ Mass Lock, Unlock, Center and Calibration must have control lines configured through the Advanced Configuration menu.
- ◆ Toggle buttons for SP/LP and XYZ/UVW modes, when appropriate, are available to facilitate manual mass center.
- ◆ Messages after a command is given will last 30seconds on the display.
- ◆ Direct links provided for Sensor and Calibration configuration from the *Sensor* page.
- ◆ While the sensor is in Short Period mode, or while the XYZ/UVW mode is toggled from the configured value, the status LED of the Taurus will be red.
- ◆ **Special Note:** Do NOT Commit the configuration from the *Configuration* or *Advanced Configuration* pages when using the SP/LP and XYZ/UVW buttons, as this will possibly cause an undesired permanent state of the mode.

## Previous Changes

### 2.05.15

- Better retransmission request handling from NpToNmxp/Naqs.
- Optional *Maximum Throughput* configuration parameter for streaming data to NpToNmxp/Naqs.

### 2.05.13

- Added fix for Trimble GPS engine whereby under certain conditions, the engine could fail to enter a locked state.
- Fixed GPS Latitude/Longitude reporting on Timing page.

### 2.05.09

- Significantly increased the speed of a store reindex.
- Improved formatting of media to enable third party Windows drivers to recognize ext3 formatted media cards.
- Fixes problems that result in data loss from Trident305.
- Improved power management in high voltage operation.
- Eliminates Taurus reboots if a Trident305 is detached from it.
- Fixes a rare race condition in Buffered Mode startup that could cause data loss.
- Improves handling of negative time tears.
- Reduces the likelihood of duplicate packet transmissions in real-time data streams.
- Improved upgrade reliability.
- Improved robustness of file system recovery due to power failure.
- Limitation: If NpToNmxp is started or restarted while the Taurus is reindexing then streaming will not start again until the reindexing is finished.

### 2.04.09

- Adds a sensor configuration file for the TSA 100S.
- Improves the upgrade procedure (especially for future upgrades.)
- Fixes problem with index having gaps when none exist in the data set.
- Fixes time off by 1 s for several minutes.
- Works with a Trident305 with the following limitations:
  - ◆ The Trident305 only works with the Taurus configured in Communication mode (both the Trident305 and Taurus must be in Communication mode).
  - ◆ To change the configuration a new configuration file must be uploaded to the Trident305.

- ◆ The Taurus run file must be edited to include the Trident 305 serial number.
- ◆ The Taurus status page does not include any Trident 305 status information.
- ◆ Data availability for the Trident 305 is not displayed on the Taurus data availability pages.
- ◆ If you download the channels from both a Taurus and a Trident305 they will have the same station name for each channel (ie, timeseries channel 1 for both the Taurus and Trident305 will be labeled as NE.STN01.BHZ).
- ◆ Trident305 SOH data cannot be downloaded using this version.

## 2.03.12

- New: TDMA over serial to facilitate operation on half-duplex radios links
- SEISAN files written to the directory pointed to by the SEISAN\_TOP environment variable
- Fixes an issue that can result in the loss of GPS state-of-health information
- Reduce DSP boot time.
- Improved handling of large amount of data in the store.
- Improved memory monitoring.
- New: Supports Data Streaming to NAQS Server during store reindexing
- Store optimization fixes reboot-reindex cycle seen on Stores with large amounts of data

## 2.02.08

- no changes to the software
- added PDF of manual to CD
- improved release notes

## 2.02.05

- New: 500 samples per second
- eliminated conflicts arising from use of media containing earlier version data STOREs
- improved self-healing capabilities for increased data store robustness
- improved software upgrade process and documentation for easier upgrades
- improved data download to eliminate incorrect "missing data" error messages (data not actually missing, just appeared missing under certain download request conditions)
- eliminated possibility of duplicate data in the downloaded MiniSEED files
- eliminates a rare but potential data loss following a re-transmission request from NAQS (only applies if Taurus is streaming data to the Nanometrics Data Acquisition System (NAQS))
- added the FIR filter coefficients document to the CD
- other minor fixes

## 2.01.03

- change file names of sensor configuration files

## 2.01.00

- added ability to upload a sensor configuration file
- added several sample sensor configuration files
- allow store to contain data from multiple Taurus units

## 2.00.26

- New: automatic mass centering
- New: user authentication and authorization

## Taurus2\_06\_03ReleaseNotes

- New: enhanced diagnostics via super LED and status page info
- New: Taurus software upgrade via web interface — one step upgrade from web browser
- New: system configuration layout
- New: advanced configuration page, replaces old factory setting page
- New: add and delete multiple sensor configurations
- New: HTTP access to serial ports
- New: IP over serial port using SLIP with adaptive throttling
- New: configurable default gateway
- New: configuration audit trail
- New: Alerts about significant errors and warnings
- New: DNS support
- New: Triggers
- New: SSH server
- New: Event list data retrieval, in NEIC Finger and IRIS ASCII formats, arrival time using IASPEI travel time tables
- New: Direct data download in SEISAN format with automatic configuration of directory structure
- Improved web page layout and content
- Improved and faster timing algorithms, support for 12 channel GPS
- Improved data download speeds
- Improved SOH data download