



Revision History

Revision	Description	Date	Author	Last ECO
1.0	Updated up to release 5.1.4.0	02-22-07	AG	553
1.1	Updated up to release 5.1.4.4	05-29-07	AG	567
1.2	Updated up to release 5.1.5.0	09-10-07	PC	570
1.3	Updated up to release 5.1.5.1	12-07-07	PC	586
1.4	Updated up to release 5.1.5.3	05-18-10	AG	609

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1 Release 5.0.0.0 (March 10, 2006)

The release contains a stability update to the NPH firmware with improved data collection timing. Preliminary light curtain and system setup interface was introduced.

1.1 NPH-66

- Improved performance by sampling data at consistent time intervals. This also resolved a bug which caused the same set of data to be occasionally repeated, when a new sample should have been reported.
- Fixed a bug which caused an 'end of board' event to be occasionally sent after the number of scan lines equal to the 'lead history'. The bug appeared when the distance between boards was less than the 'lead history' scan lines.
- Added automatic sensor detection based on the model number. This is done whenever the NPH starts up. A command was added to retrieve this data.

1.2 Host Software

- **Nbllib:** During startup the NPH is polled (using the nbGetHeadDataInfo command) to find out how many lasers the present sensors have and whether they have curtain data. This also triggers a 'heads changed' event.
- **Nbllib:** Function nbSetValidLasers is obsolete since the number of lasers is now detected by the NPH at startup.
- **Nbllib:** Fixed a bug where WSACleanup would be called as many times as nbCloseScanner plus the number of times a 'disconnect event' was received.
- **Nbllib:** Function was added to allow retrieving sensor information such as the number of ranges and whether it has curtain data. Information returned by this function is useful when parsing each scan line in nbScannedObject or bScannedObject2 structures.
- **Nbllib:** Preliminary B900 API was added. New functions include nbOpenScanner2, nbLoadSetupFromFile, nbSaveSetupToFile, bGetCurrentUserSetup, nbGetScannedObject2, nbGetRangesAndCurtain, nbGetSystemDataInfo.
- **Bxload:** Added the ability to specify the NPH IP address to connect to.
- **NBTest:** Added support for system information input and light curtain visualization. Displays length information for the scanned objects.

2 Release 5.1.0.0 (14 June, 2006)

Includes finalized light curtain interface. The release coincides with B900 sensor RTM.

2.1 NPH-66

- Fixed an issue where the sync pulse timer wouldn't be reset when making a new connection. This caused sensors to reboot when connecting with timer_freq value greater than 0.
- Changed B900 light curtain output size to 14 words.

2.2 B900

- Product released. Please see OEM manual for complete specifications.

2.3 Host Software

- **Nbllib:** Increased B900 light curtain size to 14 words (216 cells used).





- **NBlib:** Added fields scannedObjRangesOffset and scannedObjCurtainOffset to BXHEADDATAINFO structure to make parsing scanned objects easier.
- **NBlib:** Added boardIndex field to nbScannedObject2. The field represents the count of 'end of board' events at the time when the latest scanned object is received.
- **NBlib:** Removed USERSYSTEMSETUP functions as well as the board length calculation, as it was too general for the customers needs. The removed functions were nbSaveSetupToFile, nbLoadSetupFromFile, nbGetCurrentUserSetup, nbOpenScanner2.
- **NBlib:** Added light curtain interface functions nbSetCurtainStatus, nbGetCurtainStatus, nbGetCurtain, nbGetAllCurtain
- **NBTest:** Removed board length display and system setup interface.
- **NBTest:** Changed displayed light curtain size to 14 words/ 216 cells / 27".
- **CurtainTest:** New project, which provides sample code for parsing B900 light curtain data.

3 Release 5.1.2.0 (10 July, 2006)

The reason for this release is a bug fix for the trail_wait parameter in NPH-66 firmware.

3.1 NPH-66

- Fixed a bug where the effective trail_wait parameter was 1 regardless of what was specified. The value now has the correct effect as described in the OEM manual.

3.2 Host Software

- **BxLoad:** Sensor lasers are now kept on when connecting, because turning lasers ON and OFF is not fully supported by some sensor models.

4 Release 5.1.4.0 (February 22, 2007)

The release coincides with MBStation RTM. It also introduces laser power changes to improve B900 performance. The host software was updated to better support sensor hot swapping. Starting from this release all software and documentation available to the user adopts the 4-number platform versioning scheme (ex. 5.1.4.0).

4.1 MBStation

- Product released. Please see OEM manual for complete specifications.

4.2 NPH-66

- Bumped firmware version to match the release. No changes made.

4.3 B800

- Fixed a bug where the version number was not correctly reported in NBTest. Due to packet size restriction only the first two digits of the version are now displayed.
- OEM manual rewritten to improve overall presentation.

4.4 B900

- Fixed a bug where the version number was not correctly reported in NBTest. Due to packet size restriction only the first two digits of the version are now displayed.
- Increased line laser power to improve the consistency of length readings.
- OEM manual rewritten to improve overall presentation. Added a section which better explains the use of light curtain data.





4.5 Host Software

- **NBlib:** Added 'encoder_mode' scanner parameter (supported by MBStation only), which allows 2x and 4x quadrature division. Minor bug fixes with regard to hot swapping.
- **NBTest:** Minor bug fixes with regard to hot swapping.
- **NBTest:** Fixed a bug which incorrectly displayed the 2D board profile in the Record Scans tab.

5 Release 5.1.4.4 (May 29, 2007)

The release introduces new laser module design for B900 sensors. Added a requirement to configure B900 sensor position (multiplexing mode).

5.1 MBStation

- Fixed a bug which caused the encoder to roll over incorrectly if the escale parameter was greater than 1. In previous versions, after the rollover, the encoder values that triggered data processing were off by one count (ex. 9, 6, 3, 0, -4, -7, -10).

5.2 B900

- Added a requirement to specify whether a B900 sensor is top or bottom to prevent overlap in light curtain acquisition times from opposing sensors. Depending on the setting, the order of 'line' and 'spot' scans is changed.
- Introduced a higher powered line laser module.
- Improved logic for better dark wood performance on the end 3" of light curtain data.

5.3 Host Software

- **BxSystemConfig:** Application created to allow limited configuration of B-series sensors. The application allows users to view sensor serial number, versions, address and top/bottom position. The user may change the position setting (B900 only) and the address. The application has a subset of the BxLoad features and is more suitable for end users.
- **NBlib:** Added a function call 'nbGetSystemPlacement', which reports whether a B900 sensor is configured as top or bottom.
- **NBTest:** Fixed a memory leak in the diagnostic light curtain display.
- **NBTest:** Set default baud rate to 57600 as this is the only baud rate used by production sensors.
- **BxLoad:** Added the ability to configure a B900 sensor as top or bottom.

6 Release 5.1.5.0 (10 September, 2007)

The release supports the B800 of the 'laser on/off' command, provide baffling information of the M24 sensor in the M24 OEM Manual, and clarification to the API and scan mode description in the MB Station OEM Manual.

6.1 B800

- **DSP:** Added broadcast 'lasers on/off' command

6.2 M24B

- **OEM Manual:** Included baffle plate alignment and configuration information

6.3 MBStation

- **OEM Manual:** Minor clarifications to API and scan mode descriptions





7 Release 5.1.5.1 (07 December, 2007)

The release supports the MB Station with quadrature handling stability improvements. Added a more specific part number for the cable connector type mentioned in the MB Station OEM Manual

7.1 MBStation

- **DSP:** Quadrature handling stability
- **OEM Manual:** Minor cable connector part number added

8 Release 5.1.5.3 (May 17th, 2010)

MB Station bug fix release

8.1 MBStation

- **DSP:** Fixed a bug where the input state would only be updated when the encoder value changed

