WHATSUP… DOC

History of changes for each Roboscope release.

V5.4 10/01/12

- New parallel port addresses added: All are now listed at Roboscope launch when you enter the scope name and Robo searches ports for a Dob-Driver II. If you get a "No Connection To Dob-Driver" notice, check your port base address (ControlPanel/System/Hardware/DeviceManager/Ports/PrinterPorts(LPT1)/Properties/Resources) against that list then advise Tech2000 if your PC does not have one of those addresses listed so we can add yours. Else see Readme file for other options and details. Ports in V5.4: 0378, 03BC, FCD8, FCE8, FEF0.
- LST Trim: Improved Local Sidereal Time default rate, and added a User-Trim calibration that beeps whenever the rate is auto-adjusted. See Readme file for details on how to calibrate your own LST clock rate for better imaging or long-duration observing precision.

V5.3 08/31/11

- LST: The Local Sidereal Time clock has been updated in software to keep coherence with the sky positions in less than 1-second error per hour of drift. As opposed to prior versions which could not hold better than 9-seconds per hour using the PC-clock directly. It has never been a problem to people in visual or casual imaging uses prior to this. However, it greatly enhances astrophotography opportunity for those whom have worked their altaz telescopes well, and calibrated in accordance with mechanical requirements that would allow this type of accuracy. Not to mention those whom do not power-down their system after just one night. Note- the displayed LST (seconds) in a Roboscope window will appear to speed up or slow down slightly sometimes and occasionally even skip over a second. This is not the program doing that but is in fact the Windows shell 'getting-around-to-it' in terms of updating the display. The actual tracking regularity is not directly related to the displayed LST in any given second of time, but over long periods of time the LST display on-screen will reveal the much-higher LST accuracy to the tune of around –9 seconds per hour when compared to an accurate external timer.
- LST Tracking: Related to above, the previous program loops that govern tracking position between each second of clock time have been updated to average themselves. Typically resulting in a beneficial improvement in 'realtime' position on the sky from 100-1500 loops-per-second to a tighter 600-800 loops-per-second. Note- Windows has latency issues that are not deterministic and therefore is not the optimal operating system for 'real-time' programs. However, by temporarily disabling intensive resource absorbing programs such as network general connections, internet connections, and virus automatic or 'continual' scan programs, Roboscope will do a much better job of staying on the target.
- Parallel Port: The Roboscope main screen display now shows the parallel port address found where a Dob-Driver II has answered. If there was no Dob-Driver found, then the program will sill run in full capacity, and display 'Offline' at this position on screen, and users can still access catalogs (including their own) and run 'simulations' of being aligned using the align function.

V5.2 02/28/11

- Red Screen: The prior white text on black background has been changed to 'Bright Red' text on black background. To lessen ambient glare in the direct vicinity of observations.
- Parallel Port: Added a new parallel port address 'FCD8', in addition to the prior '0378', '03BC' parallel ports. These are automatically scanned by Roboscope when it starts, to seek a Dob-Driver II response and thereby establish a telescope presence at an address that is active. FCD8 is a common base address for a parallel port that is generated by a slide-in card on laptop PC's that do not have a native parallel port originally. For instance the PCMCIA or 'Express' cards sold by Quatech from Ohio, which support 'legacy' applications such as Roboscope as well as many other commercial and industrial applications.

- Calibration Files: When Roboscope starts (by double-clicking on 'Robo.bat'), it will display the path (Windows Folder) where the calibration files are found and displayed on screen here. It did not show the path before, only the files it found in the folder where Robo was started from. As before, only '.cal' files in the directory where Roboscope was started are shown, which is still useful by the way for 'User' catalogs that can be swapped in and out of that same directory (folder) by a user whom has developed more than one 'User' catalog, which must have only that 'User' name but they have a library of them that is by nature stored elsewhere under other names than just 'User'.

V5.1 12/16/08

- Updated manual, more info on general use, and parallel ports, and a workaround for altaz slew-to wrong direction when no 2-star align has been performed, and info on the edition for Giro2DX mount heads that already come with the encoder calibration file called GR2.cal.
- Added a folder for Win XP/2000 users that describes adding a parallel port to laptops that have none, and includes a kernal-mode driver called UserPort that occasionally is needed when it looks like everything is set up right for parallel port but the direct access needed to the port is not being permitted by the OS for security reasons.

V5.1 01/26/04

- Revised internal driver segments to work on WinXP/NT/2000.
- Corrected typo... at Ra/Dec coord. entry, was asking for Dec as H,M.
  Now it asks for the proper D,M (Degrees/Minutes).
- Updated the Readme.doc instructions for more info on XP/NT/2000.

V5.0 9/4/99

- Year 2000 compliant.
- A very handy GOTO shortcut is now available. Instead of all those keystrokes previously required to get into the catalog handler and select cat/ slew-to an object, the user can now simply type the object no. at the main screen while the tracking is on and the scope will slew directly w/o any other keying. For example entering M57, NGC3000, or n3000 is all that is needed to type to get the scope to slew! The catalog browser is still there for checking constellation or mag before slewing.
- If an object was selected from the disk catalogs, the object info is now displayed while tracking, instead of just while browsing catalogs. This is real nice!
- Users can now use the program for accurate altaz slewing (goto) without having to align on any stars first. Of course the instrument will not track or find objects, this has its uses in transit and other unique uses for repeatable precision positioning.
- HA (hour angle) has been removed from display readout since most amateurs dont use it, this reduces screen clutter.
- Align star list Ra/Dec precision has been updated using The Sky E2000 coordinates. For some stars there is a small improvement in alignment hence goto slewing is better. This has no impact at all unless the user is intentionally doing very high precision crosshair centering and pre-anticipating star drift in order to hit the F1 key at exactly the right time.
- The PC system clock is now handled & set to proper time when exiting the program, where previously it was left holding whatever LST was being used by Robo. If LST crosses 24:00:00 however, the PC date will increment, if local midnight occured while observing then its OK! Else you may see the system date read a day or two ahead of actual date. The Roboscope program itself does not read or write to the PC's date, and so in this regard is Y2K compliant.
- Encoder calibration functions for each axis now show the previous

"scope.cal" file parameter in degrees/microstep and the newly calibrated value as well as percent difference between the old value and the new. Useful to know the difference when re-calibrating an axis to see if performance problems are or were related to calibration. You should expect very close values when re-calibrating an axis that has been calibrated previously. See Readme.doc Also encoder calibration has been improved so an existing user should review the Readme instructions and re-calibrate both axes for higher precision.

- BugFixed: Users were not able to use an alternate alignment star (selection# 21 on the align star list). This has been corrected and is nice in areas where light pollution or nearby structures restrict the align-star choices.
- BugFixed: A new installation of robo displayed 'ee' on the scope name selection screen. Fixed.
- BugFixed: When the message 'Target Below Horizon' appeared the user could not see the main menu anymore, even though it was still active. This has been fixed.
- Readme doc updated with info on use and troubleshooting with win95/98 and simultaneous use with TheSky and other chart or navigating programs. Also use of the above new features are described.

V4.2 6/26/99

- Short pre-release of 5.0 above, except this version had a bug where objects directly South would not track, roaming off the field of view within a few minutes.

V4.1 2/12/97

- The no response problem reported in 4.0 and previous versions is fixed. Two separate printer port write addresses (and companion read addresses) have been identified. The normal LPT1 address is 278H (888 decimal) with input status read from the next address up. The alternate address is 3BCH (956 decimal) also with input read from next address up. The Roboscope 4.1 program tests each and also detects if no Dob-Driver peripheral is connected. Hence true "Plug & Play" is re-established and all known PC's will run it. Also now Roboscope runs with out ANY connection to a Dob-Driver and so can be used in simulation (reference to another computer or otherwise) to test it without special program modification as required for development in the past. It permits making or modifying a User catalog without having to connect the telescope in order to run Robo.

V4.0

- Release status, all features functioning.
- Entire NGC catalog coordinates & info data added.
- Entire IC catalog coordinates & info data added.
- When track is on, PAN: now reads "Local" to indicate local- register panning is limited to short-haul movements.
- 1 in 15 users reporting no response w/ Dob-Driver (may read 'PC' on display but no movements work). This occurs always on Windows environment. Appears that even when Windows is not running, the address of the printer port (which Roboscope addresses directly) is still intercepted by Windows drivers which respond only at a different address. Working on it.

Beta: B03

- Tracking position was updated once/sec, now typical is 12/sec on a 386/33. Stepping resolution now near that of a standalone Dob-Driver with actual performance based on the computer capability (speed) as it should be.
- GP converted to radians only if not tracking, faster comp.
- Overhauled positioner routine for faster updates (smoother).
- Deg/step shown on screen after calibration of encoding.(ret)

- “Save new cal data?” appears only upon exiting cal menu, instead of for each individual calibration.
- Still noticed on rare occasion a move to a nearby point outside the FOV, followed by an immediate return to the tracking point. PC clock read error? IRQ conflict? I’ve only noticed it so far on the Zenith 386 laptop.

Beta: B02

- Beeps 3 times when 2-star alignment calc is done.
- Beeps 3 times when/if Flying-Align pops up.
- Flying-Align does not appear if dec>50 or <-50 or if alt >50 or <20 (this limits accuracy loss near poles and zenith/horizon).
- Align computation is >2x faster AND lat/lst are computed 5x finer too! (lst was 18s resolution, now 3.6s...lat now to nearest .01 deg.
- Readme file more specific & manual tube movements added.

Beta: B01
Original issue.