



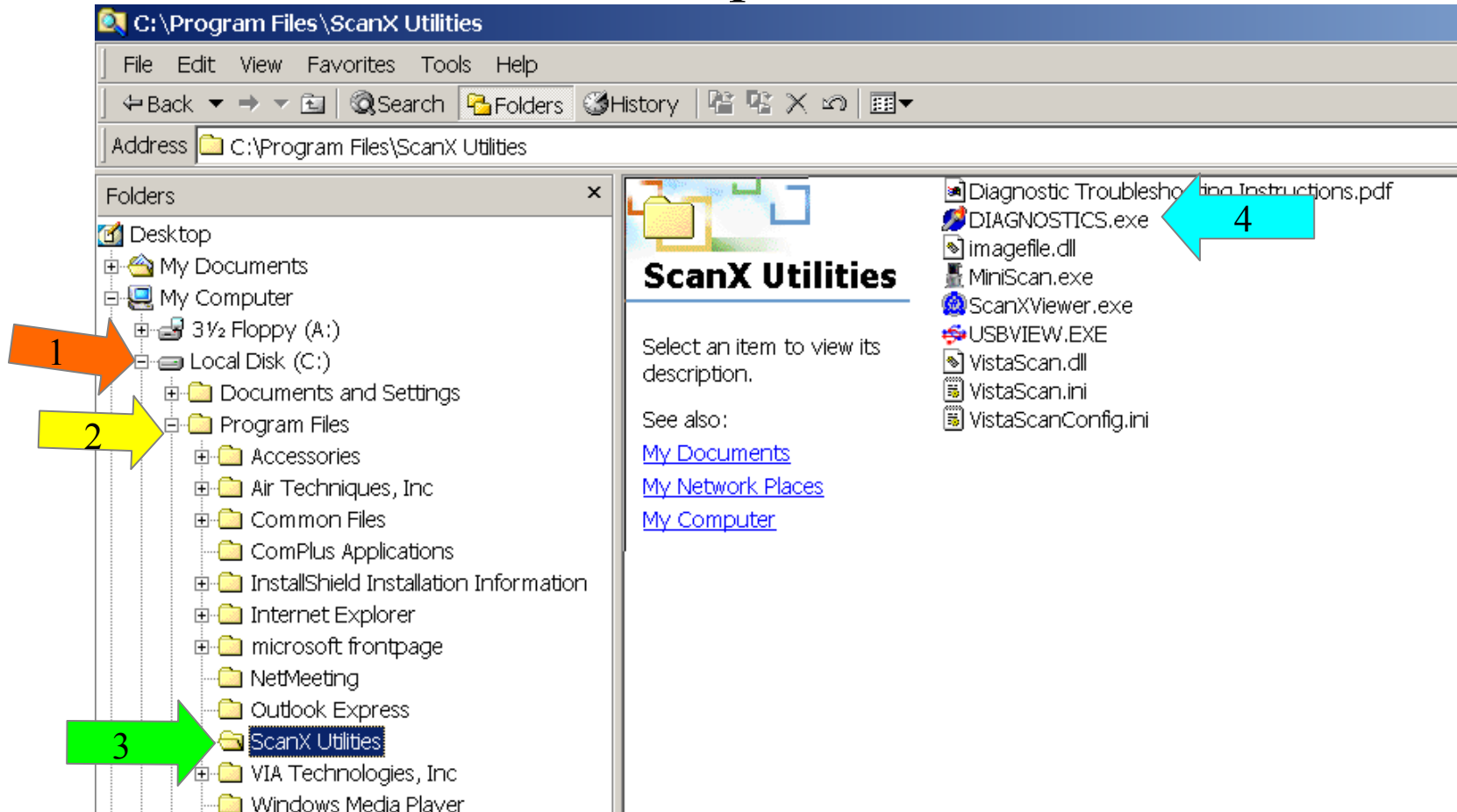
ScanX

Diagnostic Troubleshooting Program Instructions

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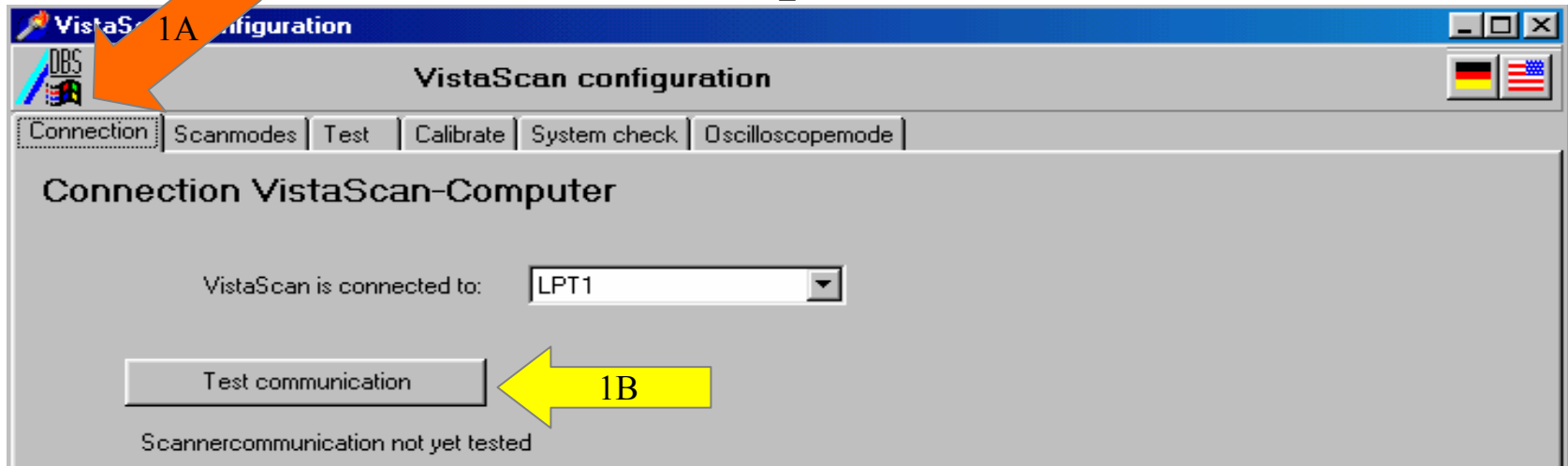
Step 1



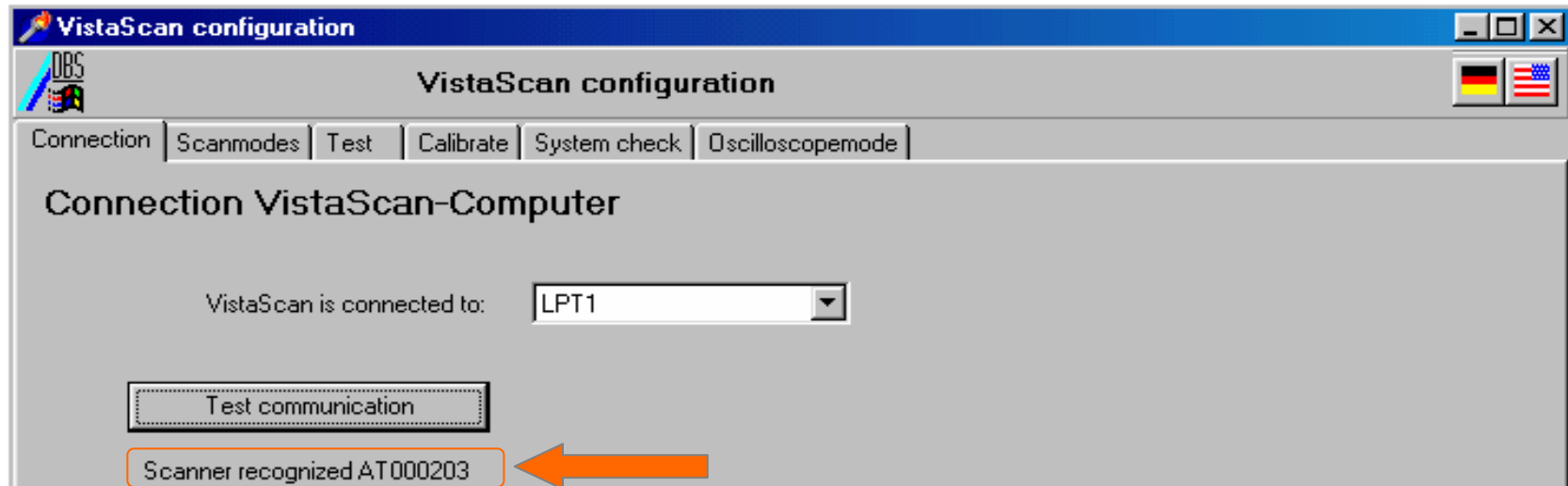
To open the ScanX Diagnostic Program complete the following:

1. Open Windows Explorer and double click (C:) drive.
2. Double click “Program Files” folder.
3. Double click “ScanX Utilities” folder
4. Double click “Diagnostics.exe” application file. This will open the ScanX Diagnostic program. Continue to Step 2.

Step 2

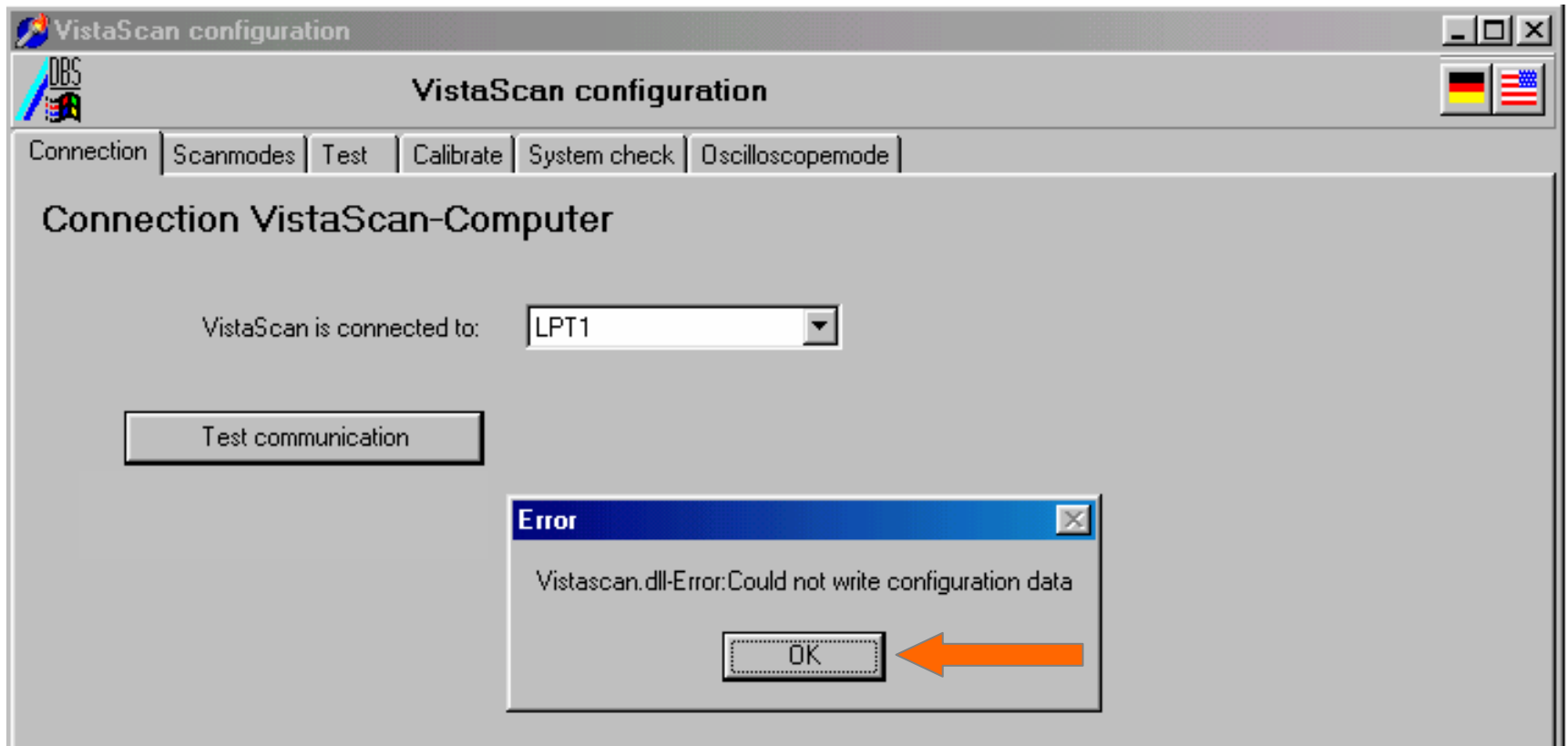


1. To check Communications between ScanX and computer. Make sure that “Connection” Window (1A) is selected and Single click the “Test communication” button (1B).



2. If the display message changes to scanner recognized “Scanner Recognized AT00XXXX” (AT00XXXX is the Main PCB serial number) Communications between the ScanX and the computer are working, Job is complete. If another message is displayed continue to Step 2A.

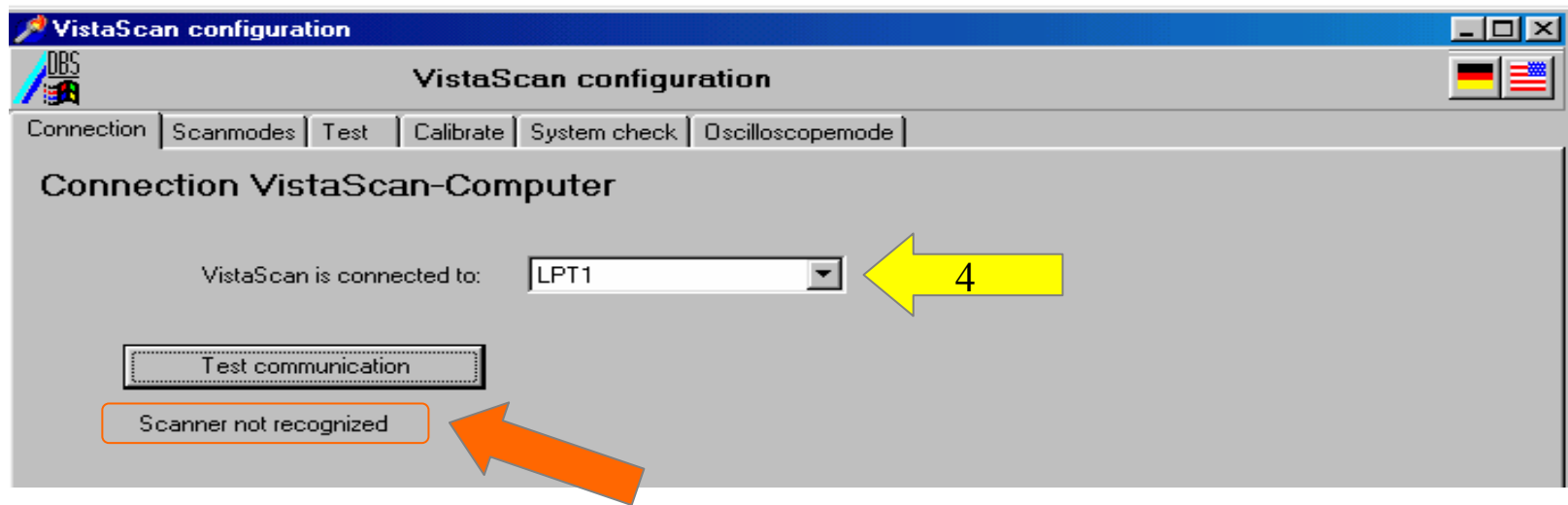
Step 2A



Single click on “OK” button to close this error message and continue to Step 2B.

Note: If now or any other time an error message appears when running the diagnostic program go to Step 2B.

Step 2B



Message changes to “Scanner not recognized”,

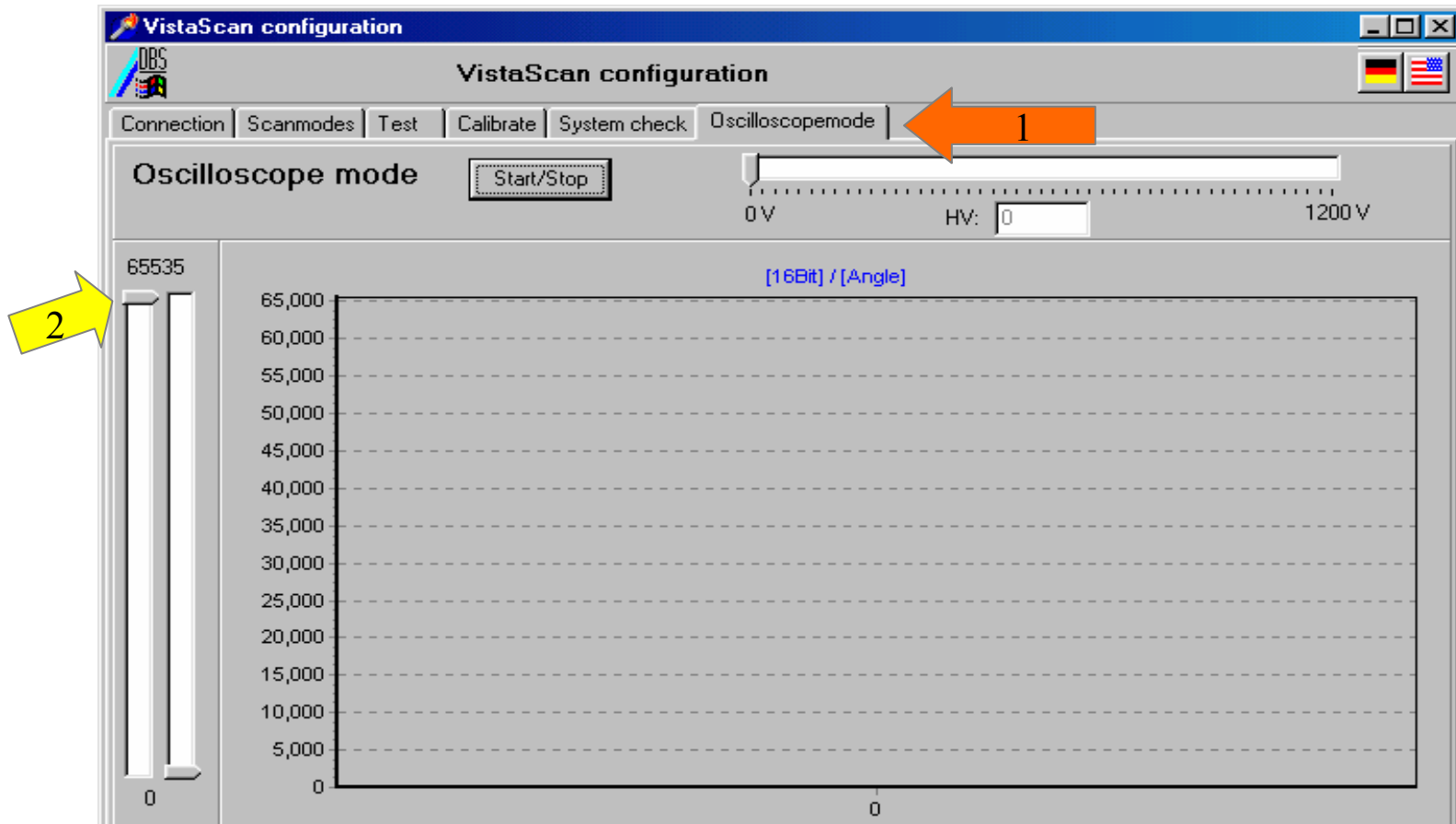
The follow series of checks are designed to solve EPP communication problem(s) between the Scanx and the Practice Management Software.

1. Check Electrical Connections from wall outlet to power supply to ScanX
2. Check that the ScanX power is turned ON
3. Check that the Communication Cable is secure from the ScanX to computer. If Not, you may have to reseal both ends of communication cable. It may be necessary to re-boot the computer at this time and repeat all previous steps.
4. If Scanner is still not recognized change Parallel Port setting from LPT1 to LPT2 and single click “Test communications” button again. If scanner is recognized, Job is complete. If scanner is still not recognized reset parallel port setting back to LPT1 and continue.
5. Re-boot computer, and go to the system BIOS. **Note: May require assistance from hardware personnel to go into the system BIOS.** Check to see that the parallel port is set to “EPP only” and is version 1.9 or higher. (If version cannot be determined contact computer BIOS manufacturer before going further in this program.) Continued to next page.

Step 2B continued

5. (continued from page 6) If the computer parallel port can not be configured to EPP then an additional PCI EPP hardware card will be required. (Example: SIIG'S Cyber PCI I/O Board) After changing parallel port setting to EPP v1.9, close system BIOS and repeat Step 2 #'s 1 & 2. If scanner is recognized Job complete. If scanner is still not recognized, continue on.
6. Check computer operating system and make sure that it is compatible with the type of Practice Management Software being used. Example: Windows 95, 98, 98 SE, 2000, XP and XP Pro.
7. Are there any special requirements of the Practice Management software being used. Some Practice Management Software Vendors require a software key or "dongle". This is a piece of hardware that is connected between the computer and the scanner on the communication cable or a separate USB connection. Check and make sure that this piece of hardware is installed properly.
8. Check and make sure that the most current version of the Practice Management Software is being used by checking the approved list. If version is older than what is recommended, then contact the software vendor for updated version.
9. Have the ScanX drivers been installed? SciCan Image FX requires the drivers to be installed from the CD disk included. All other companies have the drivers installed in the software already.
10. If drivers were installed and the ScanX is still not recognized, make sure that the installer was logged in as the "Administrator". The installer may have administrative privileges on the account but, he/she must be logged in as the "Administrator" or the drivers will not properly be installed.
11. Check that the computer was rebooted after installing the drivers. Some software requires the computer to be rebooted in order to recognize the new software/drivers.
12. Check and see if the ScanX is connected to a network server. A server may not work with the ScanX. The server may interact with its parallel port differently than a desktop computer with its parallel port. Installer should consult with hardware or sever manufacturer about configuring the EPP port.
13. If you are still unable to get the ScanX to communicate with your Practice Management Software after completing all of the checks than, please contact your local PSA Rep for a site visit.
14. If unable to reach your PSA rep, please call Air Techniques Technical Service for support. Please have the Serial Number of the ScanX and Dr's name, address & telephone available to give to Technical Service.

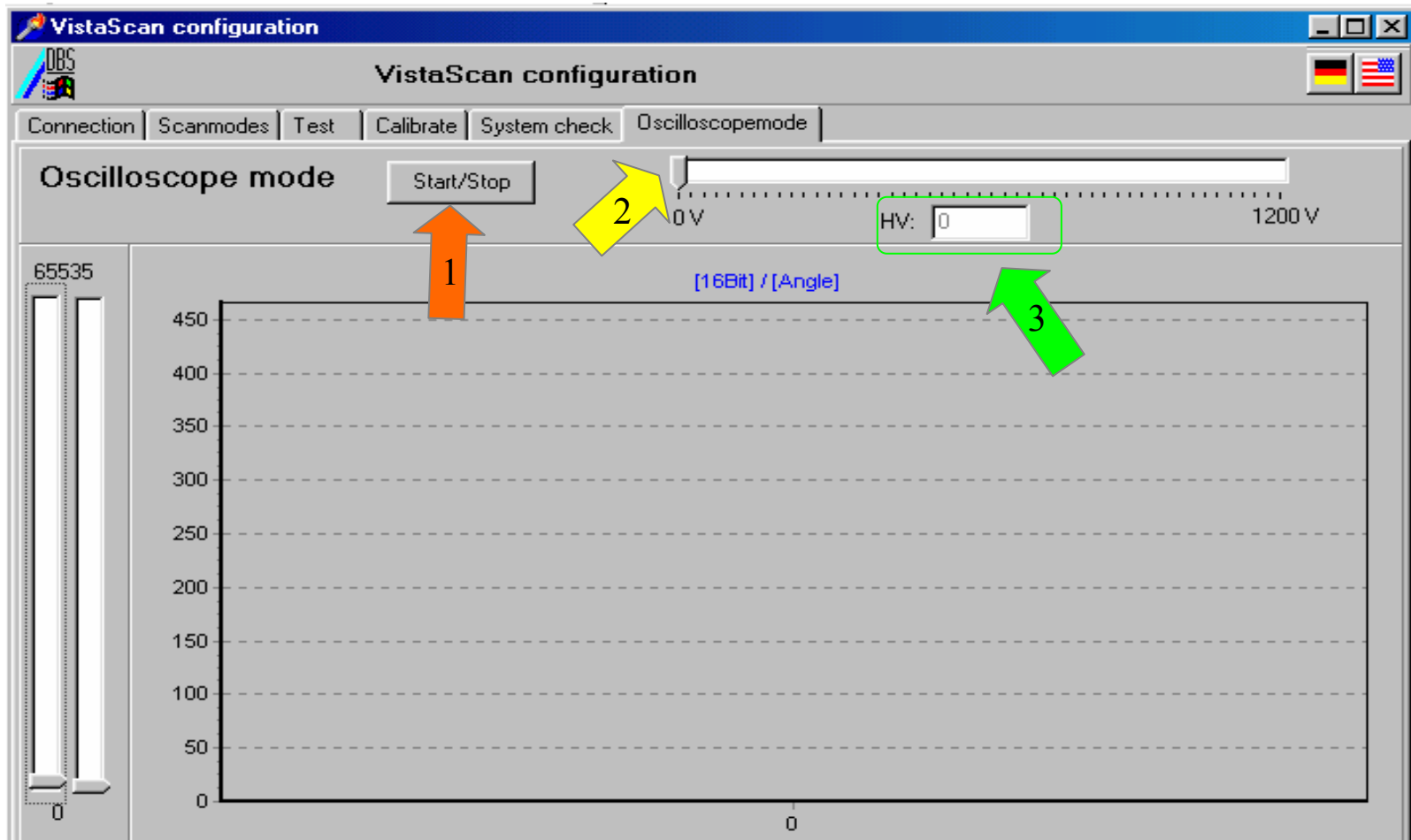
Step 3



To check for Light related problems:

1. Single click on “Oscilloscope” Window.
2. Single click and hold left Vertical Slider (just below the number 65535) and drag slider down until upper number range decreases from 65,500 to about 450. Continue to Step 3A.

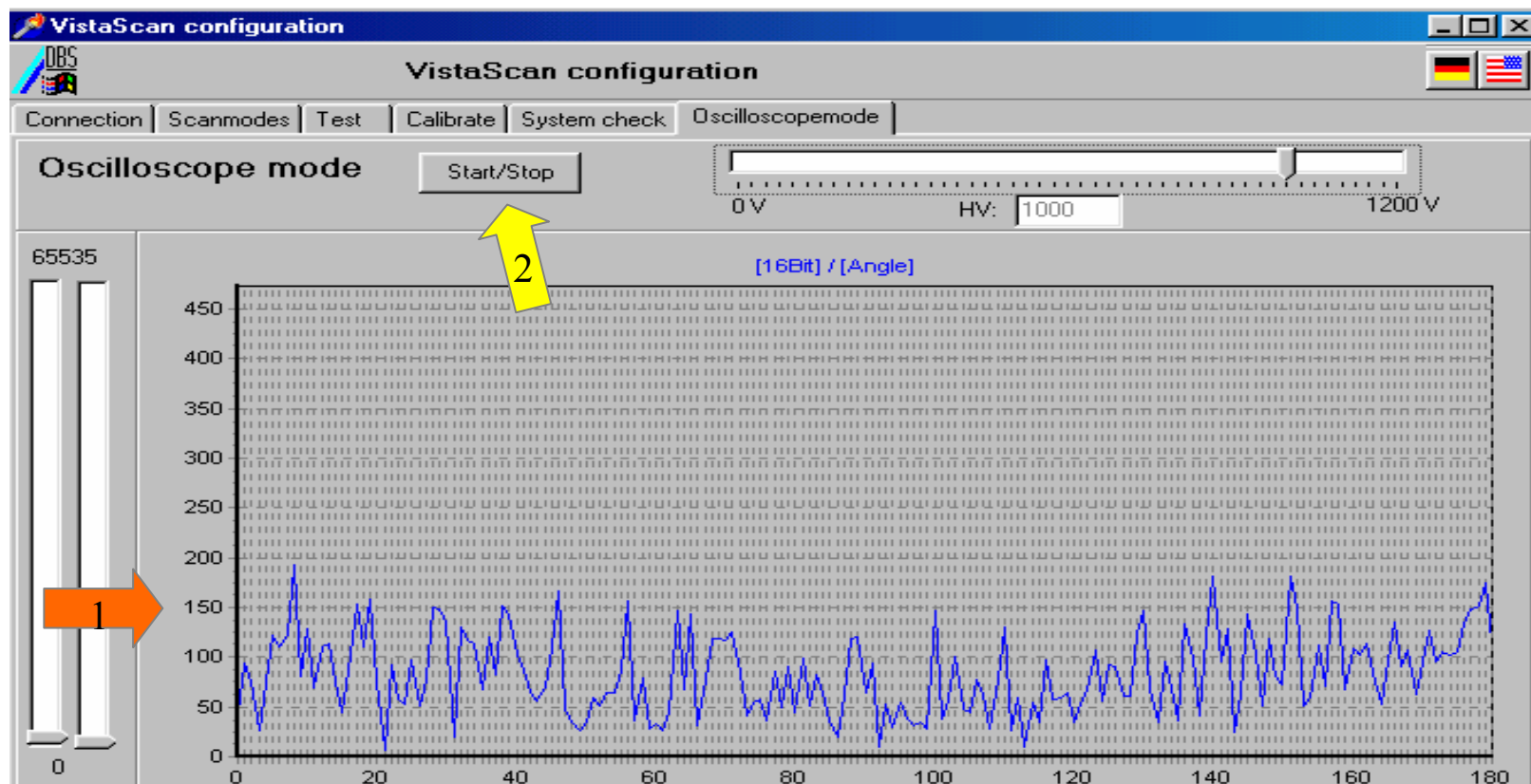
Step 3A



CAUTION: Never Start the Oscilloscope mode with any of the covers removed from the ScanX!

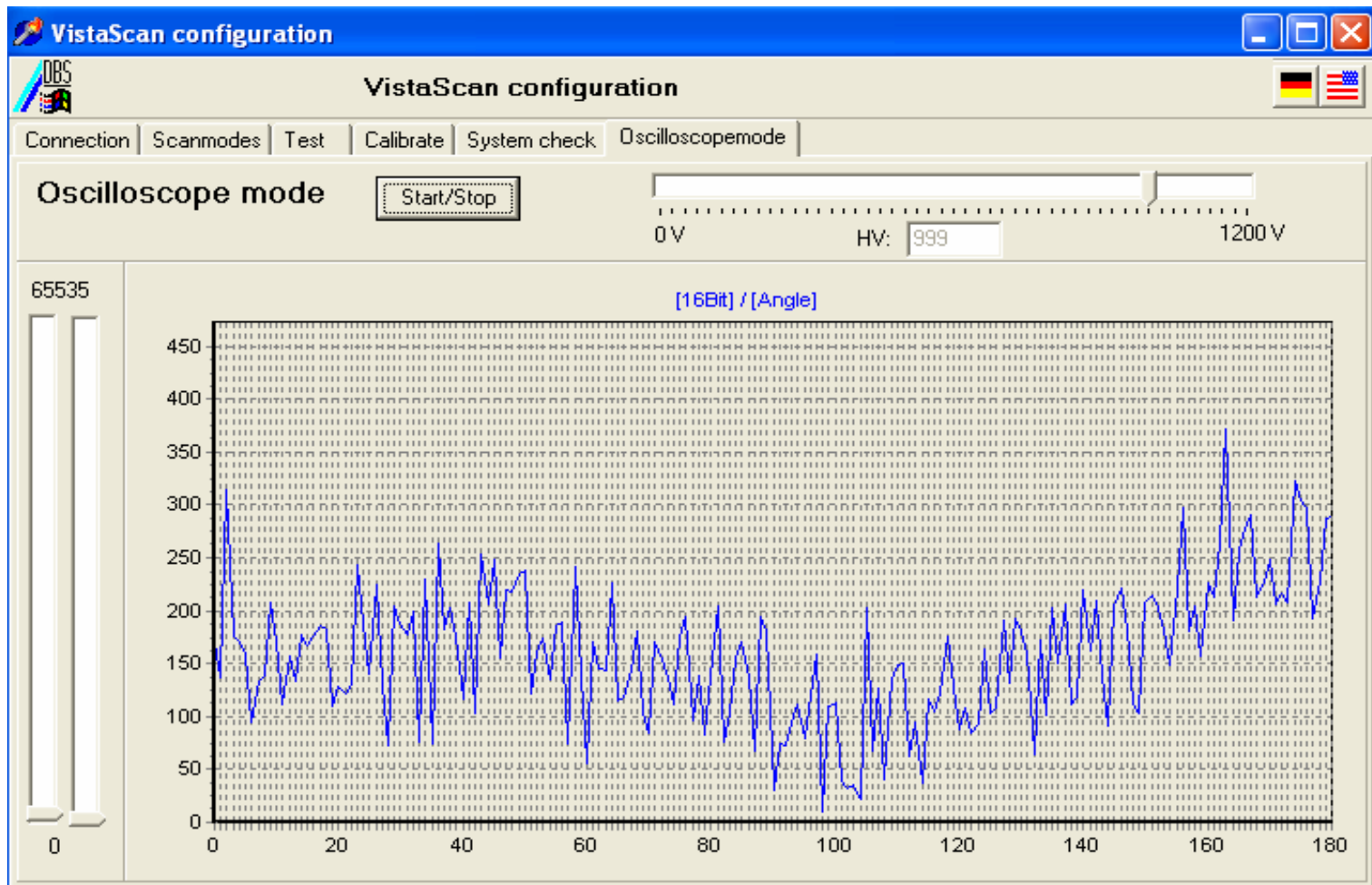
1. Single click on “Start/Stop” button to start the cycle.
2. Single click and hold horizontal slider and drag slider to the right.
3. Continue dragging slider till HV reaches 1000 volts. Continue to Step 3B.

Step 3B



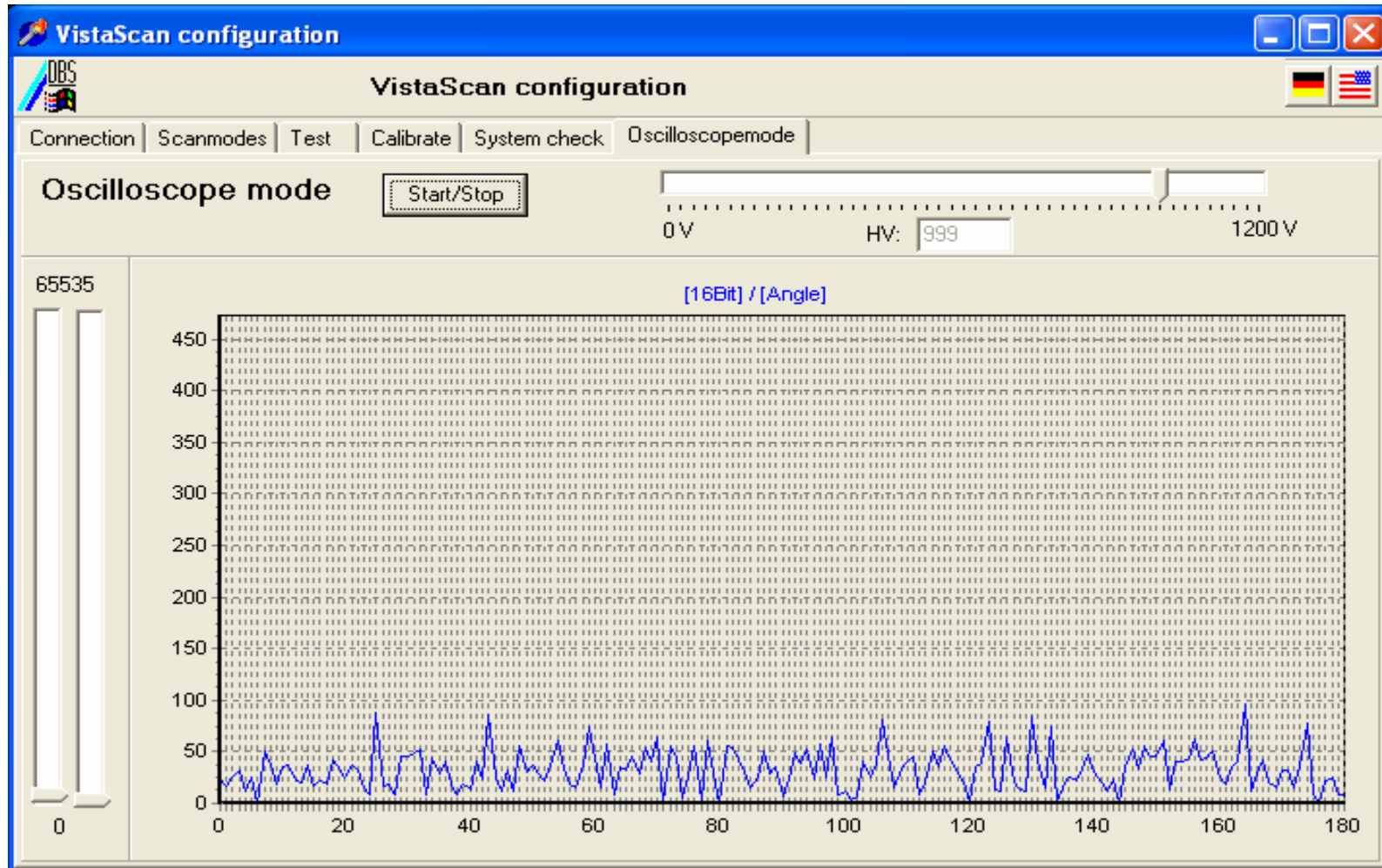
1. You should now see blue lines moving along the graph on the lower portion of the screen. The average of the peaks should not exceed 150. Observe the value of the peaks, If you notice the value going above 250 on the left scale hit the “Start/Stop” button to avoid damage to the PMT. If Average is higher than 150 make sure that the ScanX is not in direct daylight or directly under bright light(s). If you fixed the bright light problem and the average of the peaks are still above 150, please contact Air Techniques Technical Service. Have Serial Number of the ScanX and Dr’s Name & Address available.
2. Single click “Start/Stop” button to stop this test. Continue to Step 3C.

Step 3C



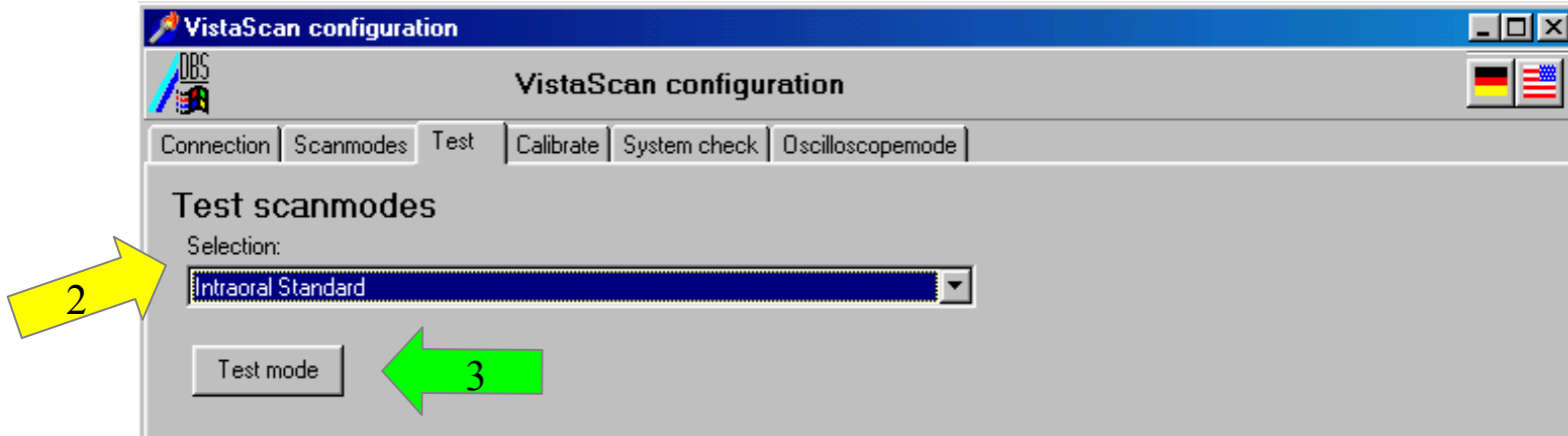
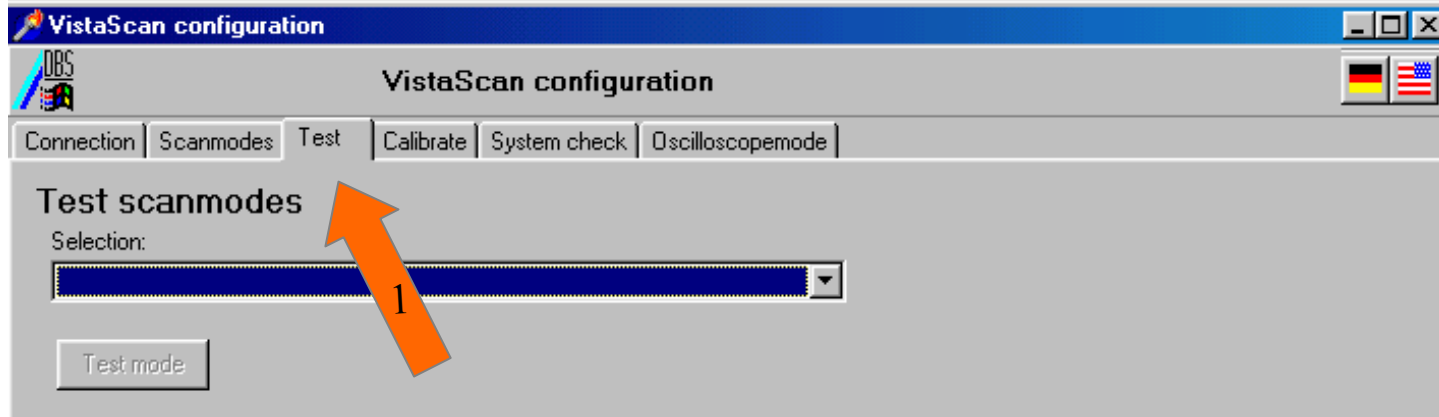
This is an example of a ScanX that was installed next to a sunny window with the blinds not closed all the way and underneath 2 bright florescent lights. Continue to Step 3D.

Step 3D



This is the same ScanX with the Blinds closed and 1 of the lights turned off. You can see what effect direct light has on the ScanX. Image quality was improved when the unit was left in this condition.

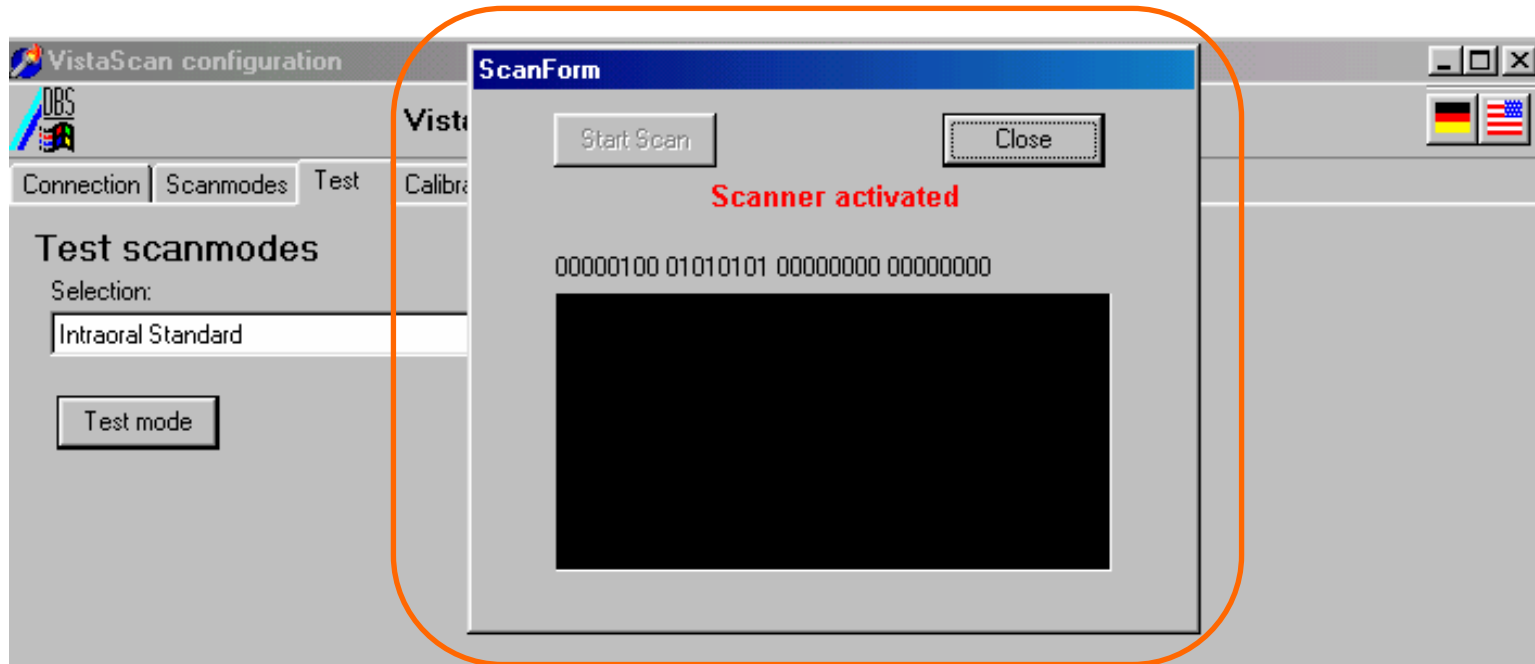
Step 4



To test that the ScanX will properly scan an exposed PSP:

1. Single click on the “Test” Window.
2. From the drop down menu select “Intraoral standard”.
3. Click on “Test mode” button and continue to Step 4A.

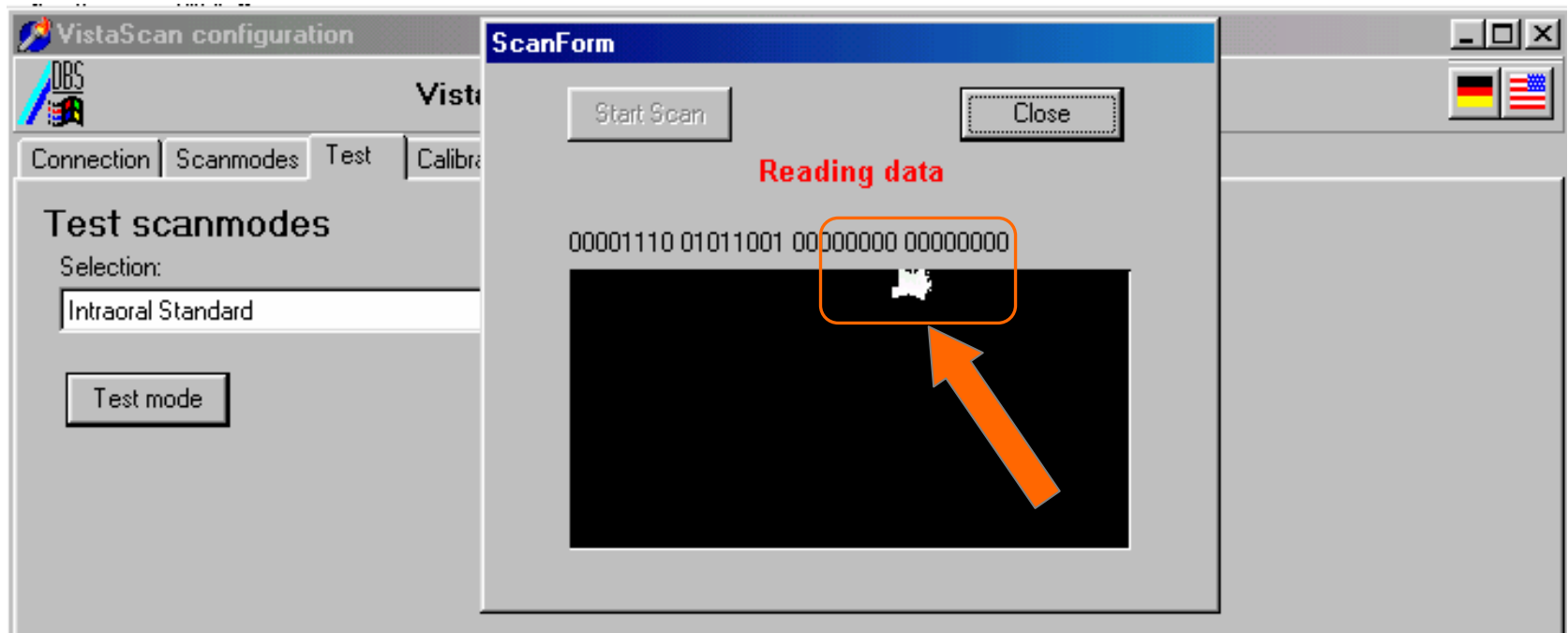
Step 4A



1. After clicking on the “Test mode” button, a second window (Graphic User Interface or GUI) will open. At this point all four track indicator lights on the ScanX will turn green. You are now ready to Scan a PSP. Place an exposed PSP into one of the 4 guide slots and continue to Step 4B.

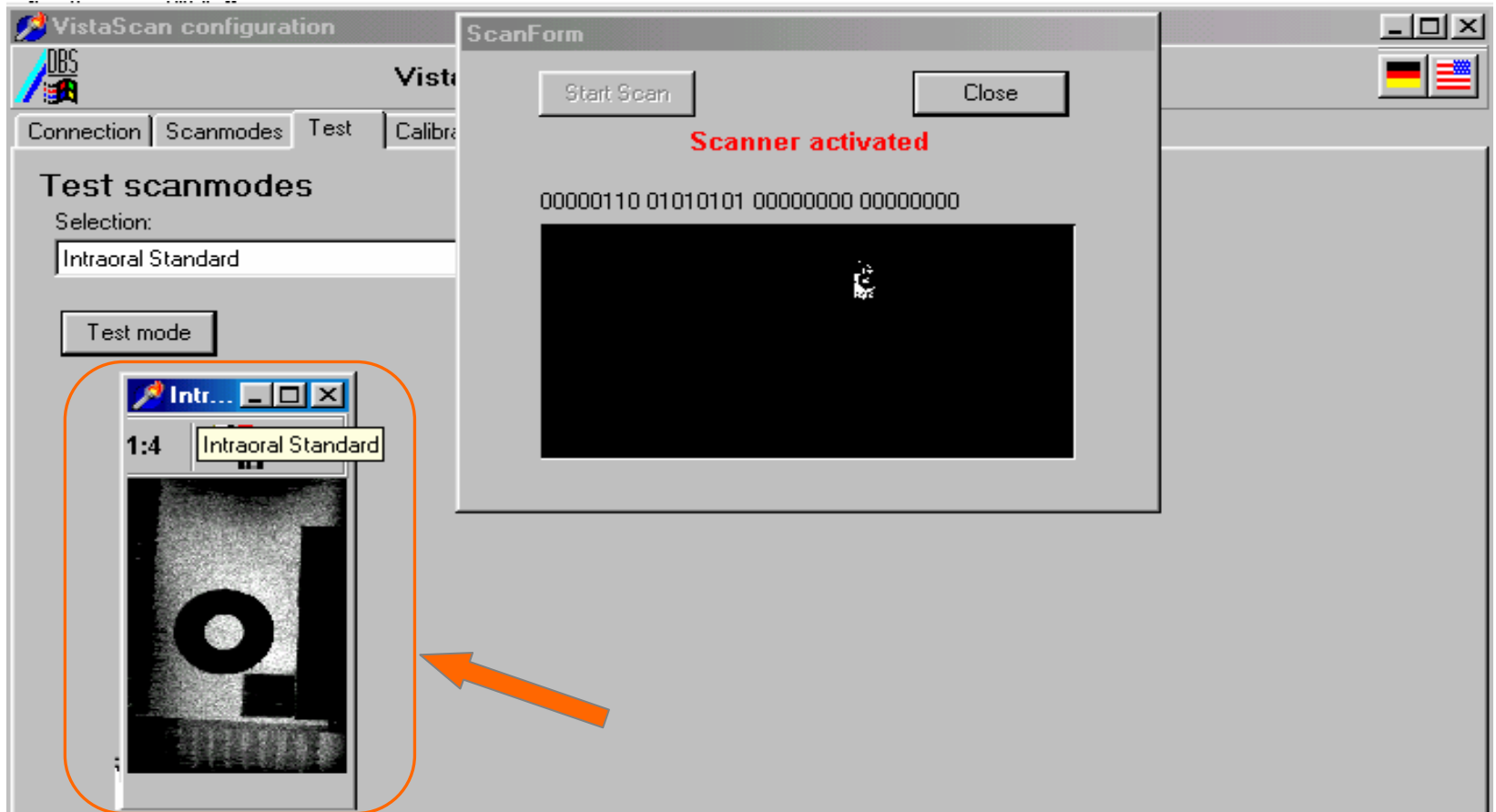
Note: If you receive an error message please go to Step 4E.

Step 4B



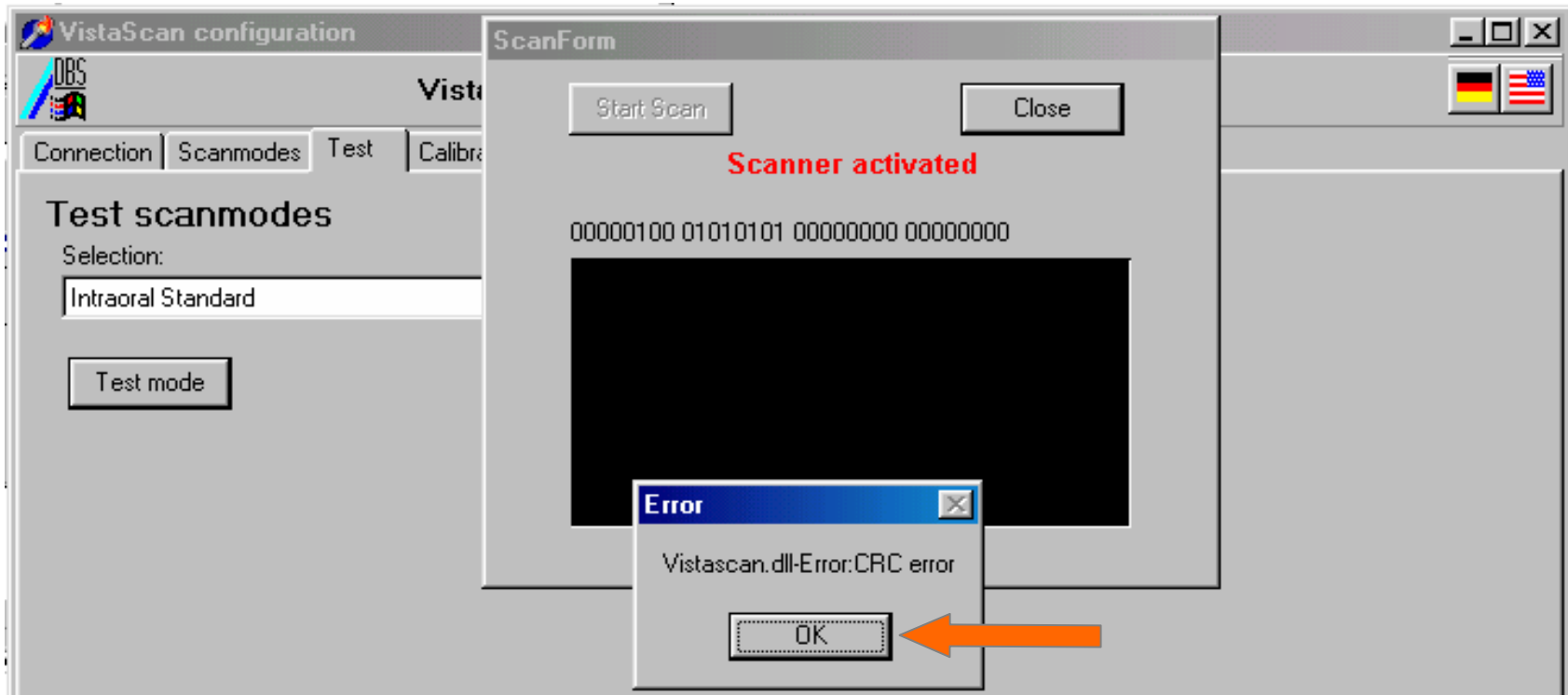
1. The PSP should now enter the ScanX and on the GUI window you should see the corresponding preview image coming down from the top in approximately the same position as the track used. Continue to Step 4C.

Step 4C



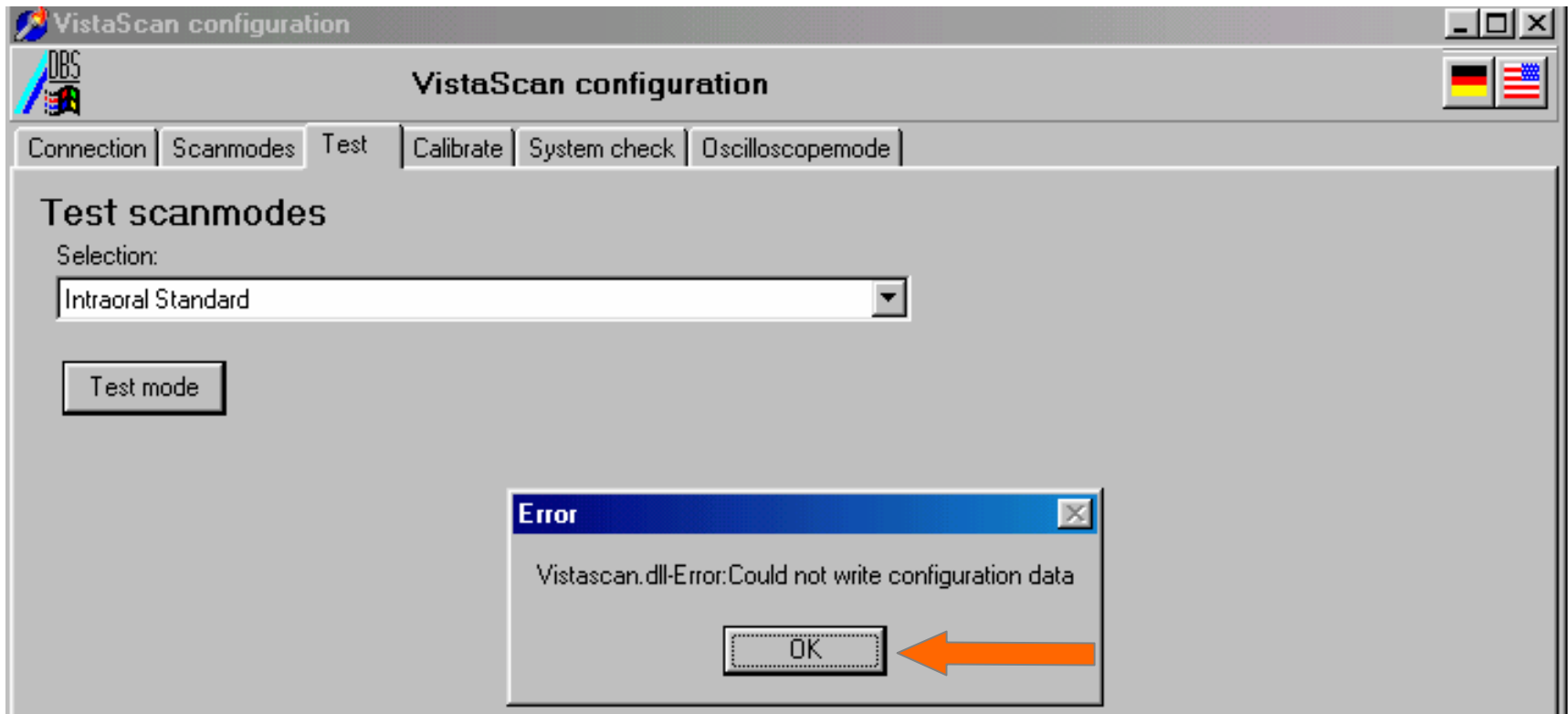
1. If you fed in only one PSP, the image stops moving on the GUI window and another window will open with the actual scanned image. At this point the ScanX has properly scanned the image and has successfully exported the image to the computer. Any problem with scanning is then associated with Image or Practice Management Software. If you do not get an image and/or get an error message, continue to Step 4D.

Step 4D



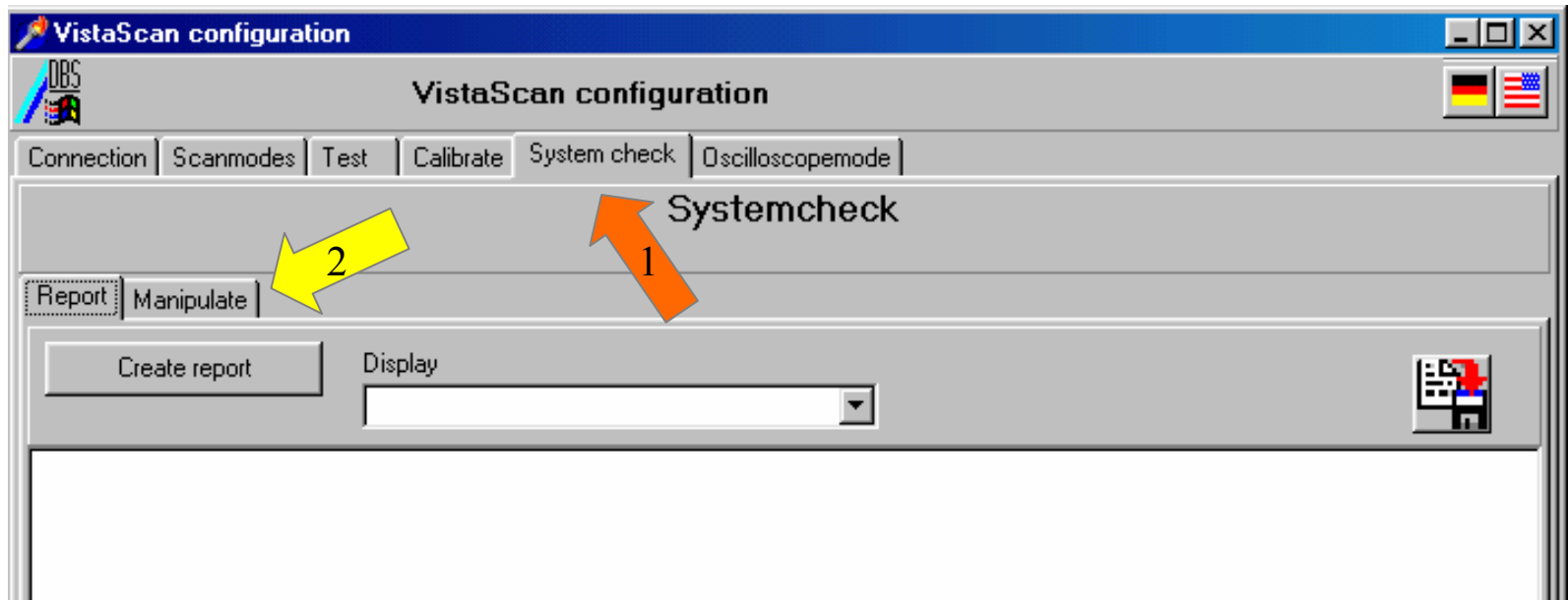
1. If you receive this error message or one like it, first single click on the “OK” button to close error message. Then make sure that ScanX power is turned ON and the parallel communication cable is properly connected. If not then, reseal both ends of the parallel cable and turn power ON. If this does not resolve problem try rebooting the computer and repeat Step 4 again. If after repeating step 4 for the second time you receive the same error message, please contact Air Techniques Technical Service. Have Serial Number of the ScanX and Dr’s Name & Address available.

Step 4E



1. If you receive this error message after clicking on the “Test mode” button, first single click on the “OK” button to close error message. Then make sure that ScanX power is ON and parallel communication cable is properly connected. If not then, reseal both ends of the parallel cable and turn power ON. If this does not resolve problem try rebooting the computer and repeat Step 4 again. If after repeating Step 4 for the second time, you receive same error message please contact Air Techniques Technical Service. Have Serial Number of the ScanX and Dr’s Name & Address available.

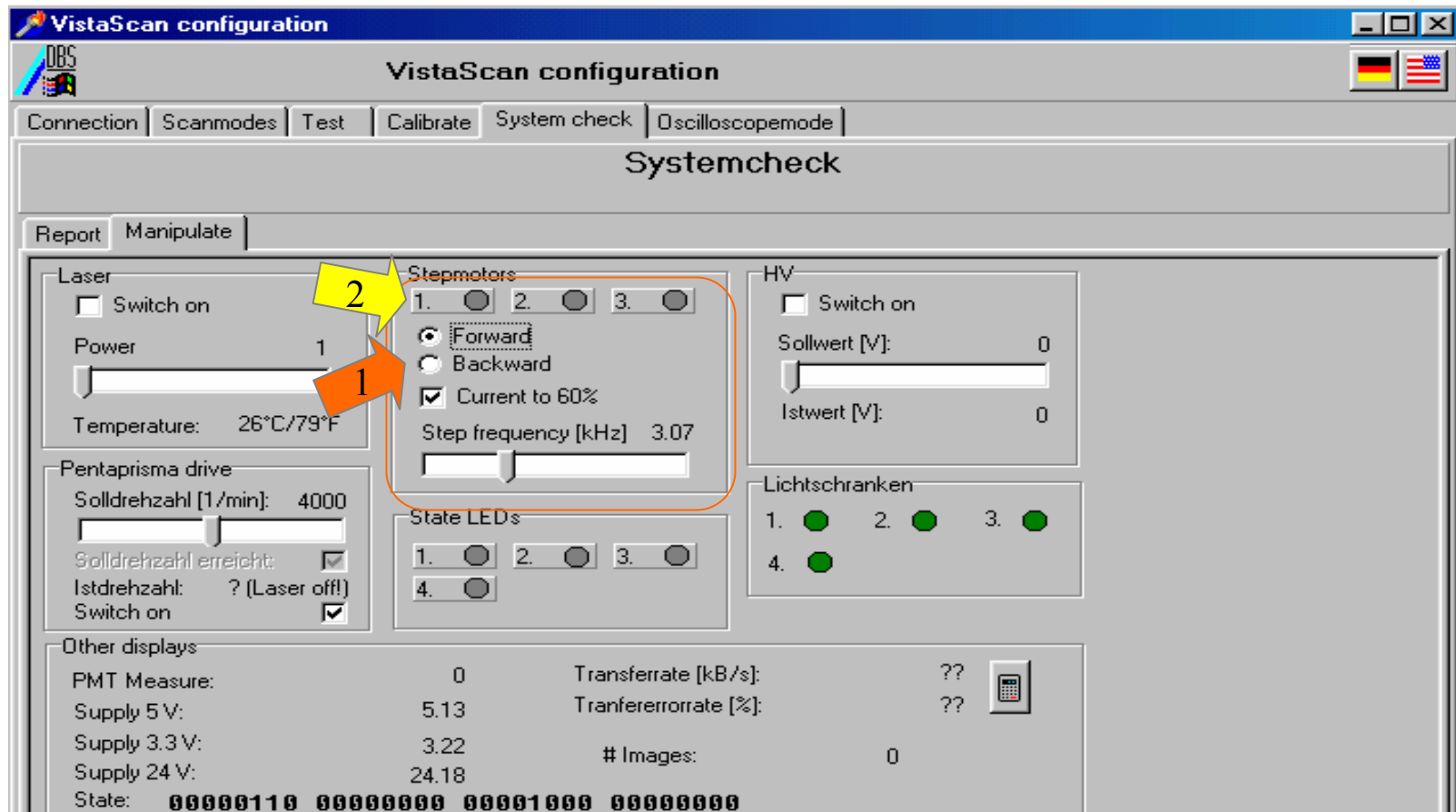
Step 5



From the “System Check” Window you will be able to check the function of the Stepper motors.

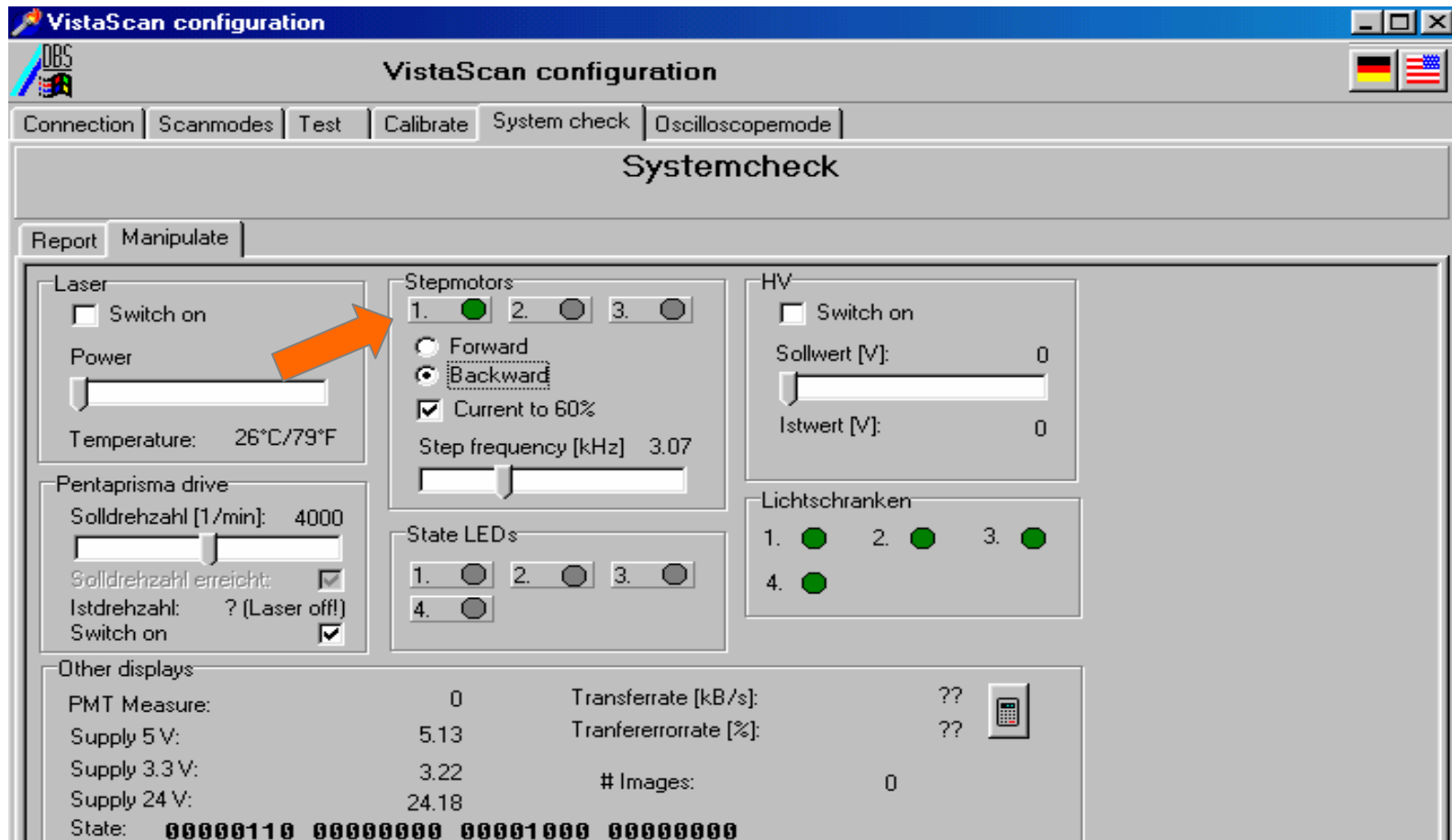
1. Single click on the “System Check” Window.
2. Single click on the “Manipulate” Window and continue to Step 5A.

Step 5A



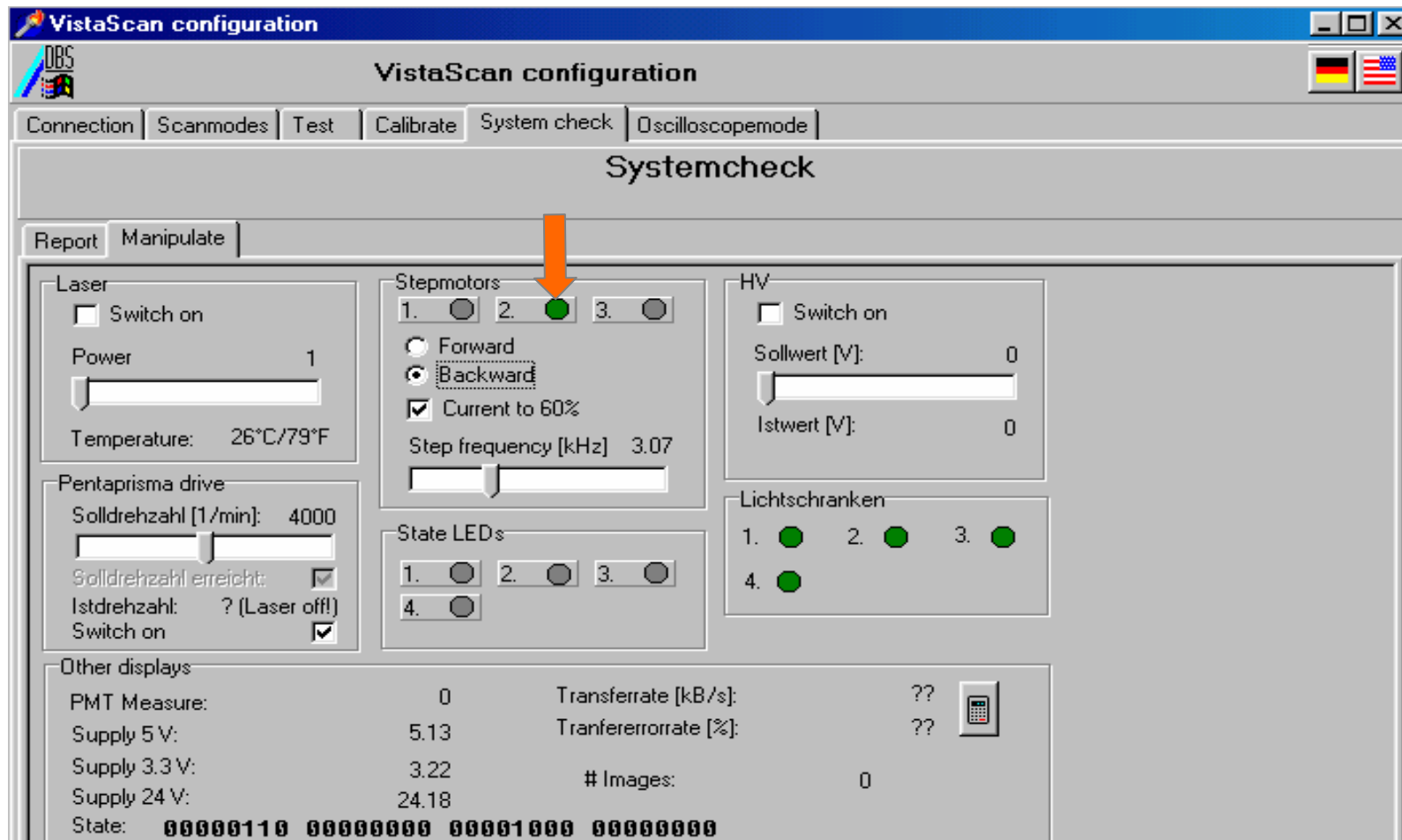
- **Note:** only stepper motors 1&2 are used by the ScanX.
1. Click on the backward circle to move the dot to “Backward”. This will change direction of the motor, and is required for proper test mode operation.
 2. Single click on “Stepper motor #1” button and continue to Step 5B.

Step 5B



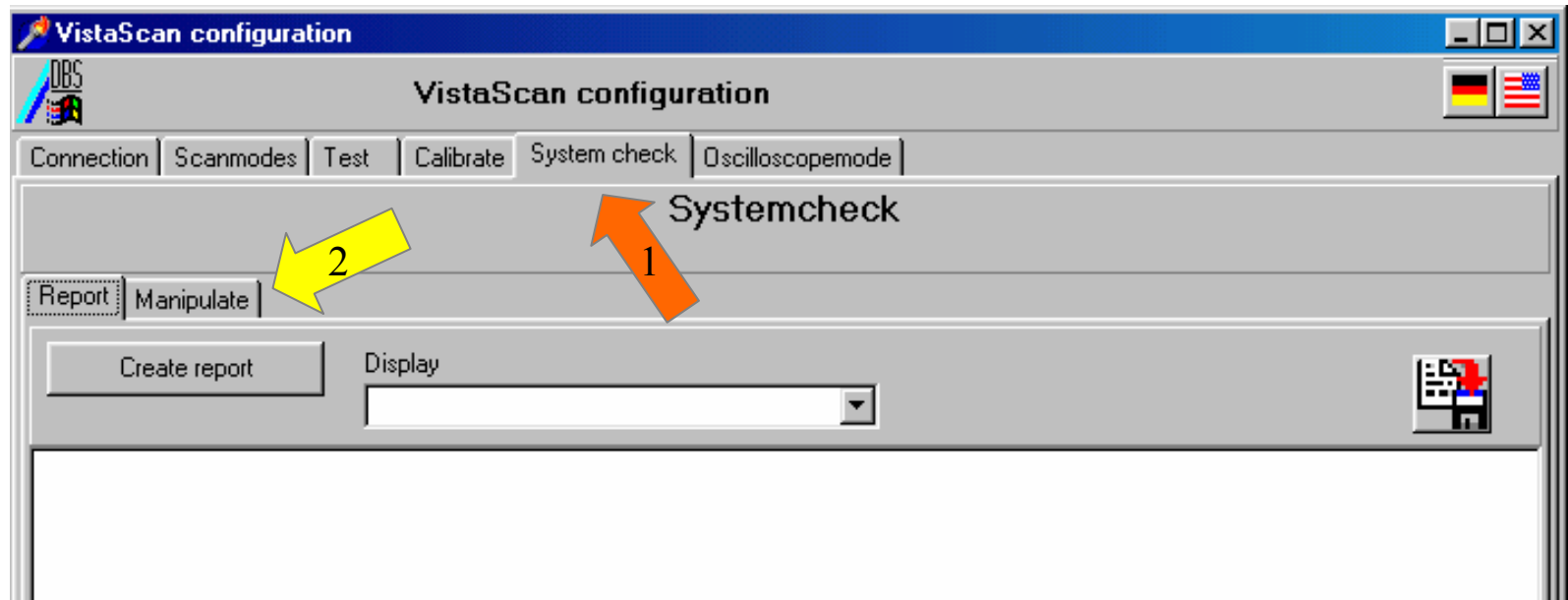
1. The #1 status light turns green and you should hear the motor turning. Feed a unexposed PSP into tracks 1&2. Both plates must drop out in about 45 seconds after being fed in. Single click “# 1” button to turn motor #1 off. If OK, go to Step 5C. If motor fails to run, runs too slow, or is making a loud noise, please contact Air Techniques Technical Service. Have Serial Number of the ScanX and Dr's Name & Address available.

Step 5C



1. Single click on “Stepper motor #2” button. The #2 status light turns green and you should hear the motor turning. Feed a unexposed PSP into tracks 3&4. Both plates must drop out in about 45 seconds after being fed in. Single click “#2” button to turn motor #2 off. If OK, Job Complete. If motor fails to run, runs too slow, or making a loud noise, please contact Air Techniques Technical Service. Have Serial Number of the ScanX and Dr’s Name & Address available.

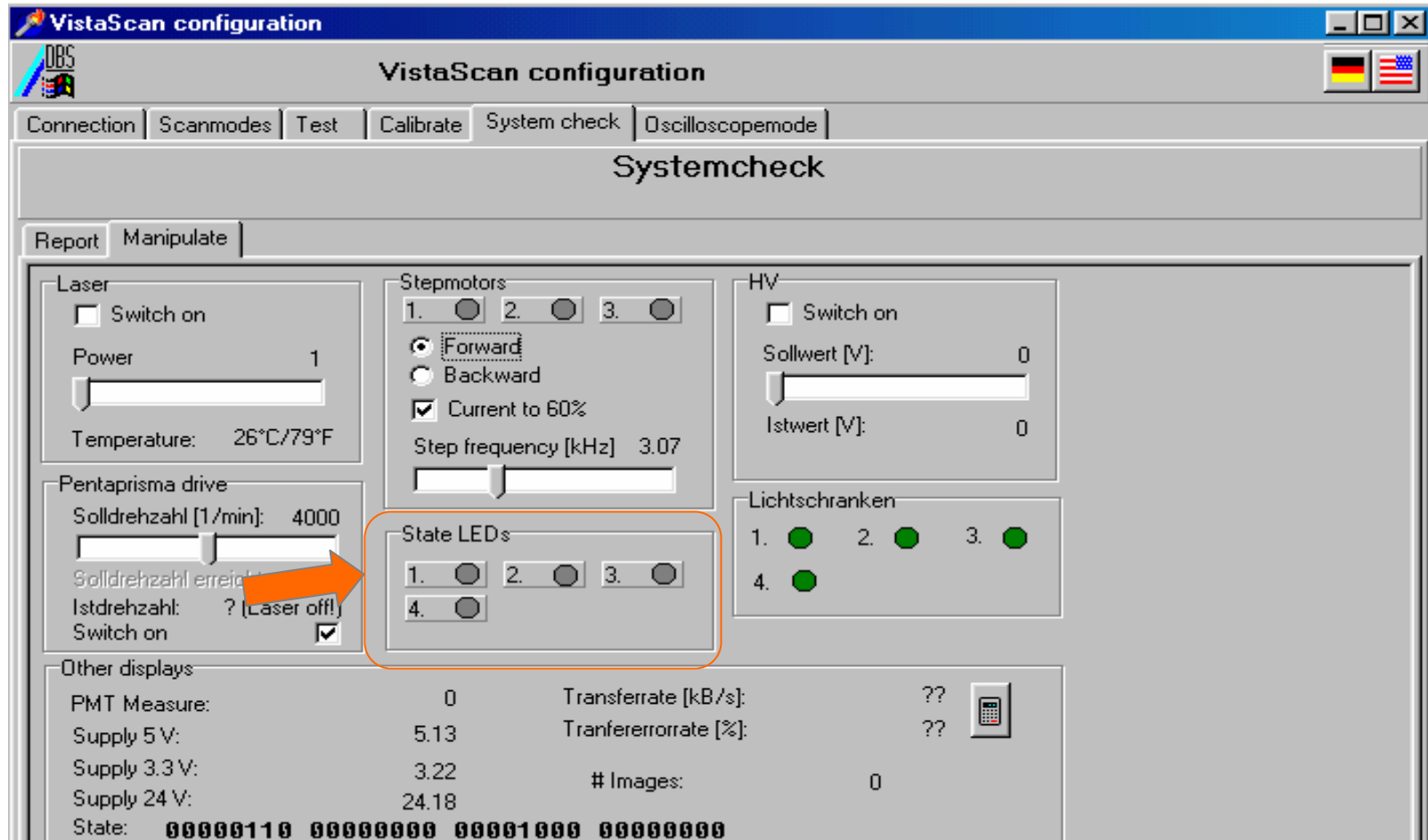
Step 6



From the “System Check” Window you will be able to check the function of the track indicator state LED’s .

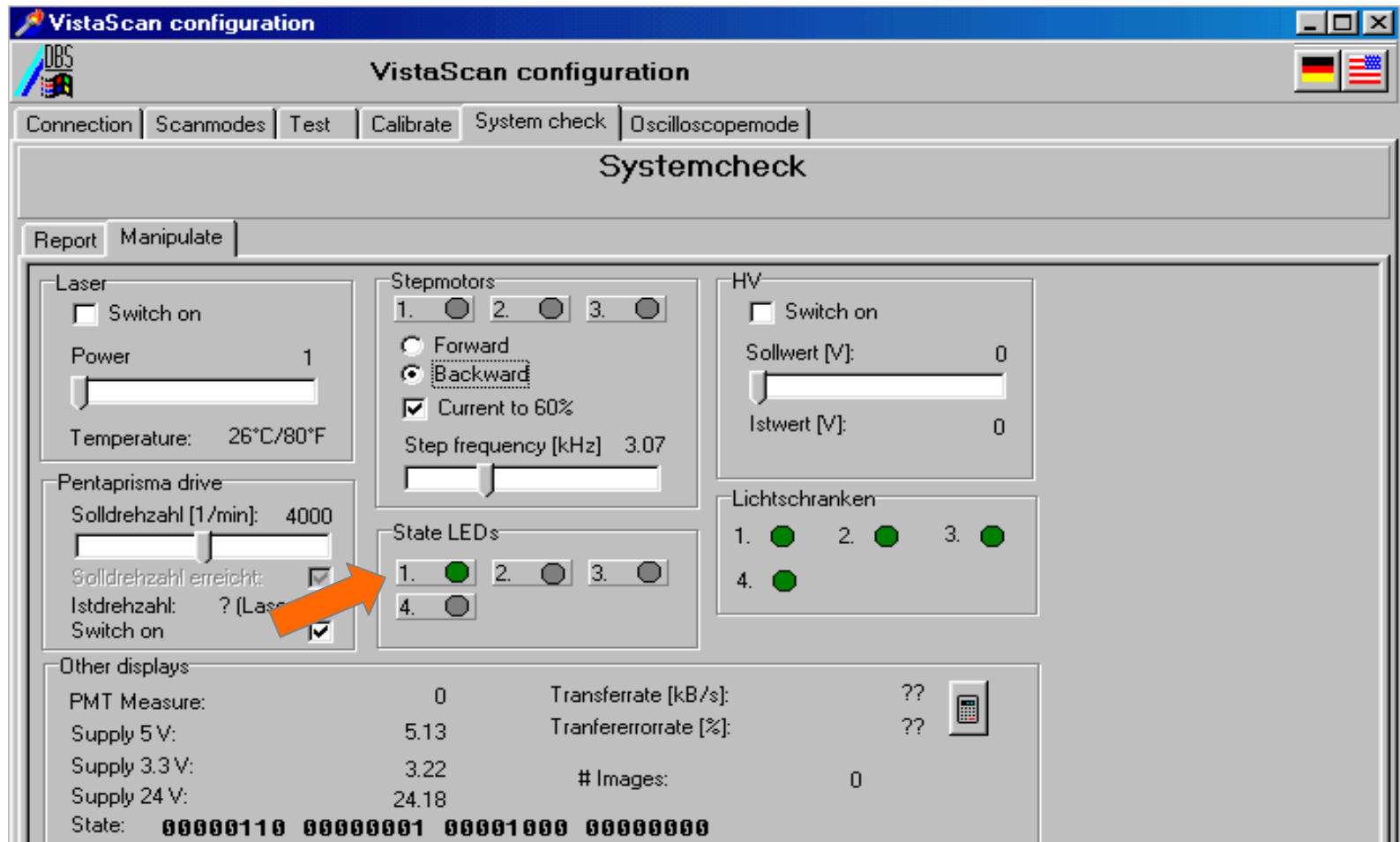
1. Single click on the “System Check” Window.
2. Single click on the “Manipulate” Window and continue to Step 6A.

Step 6A



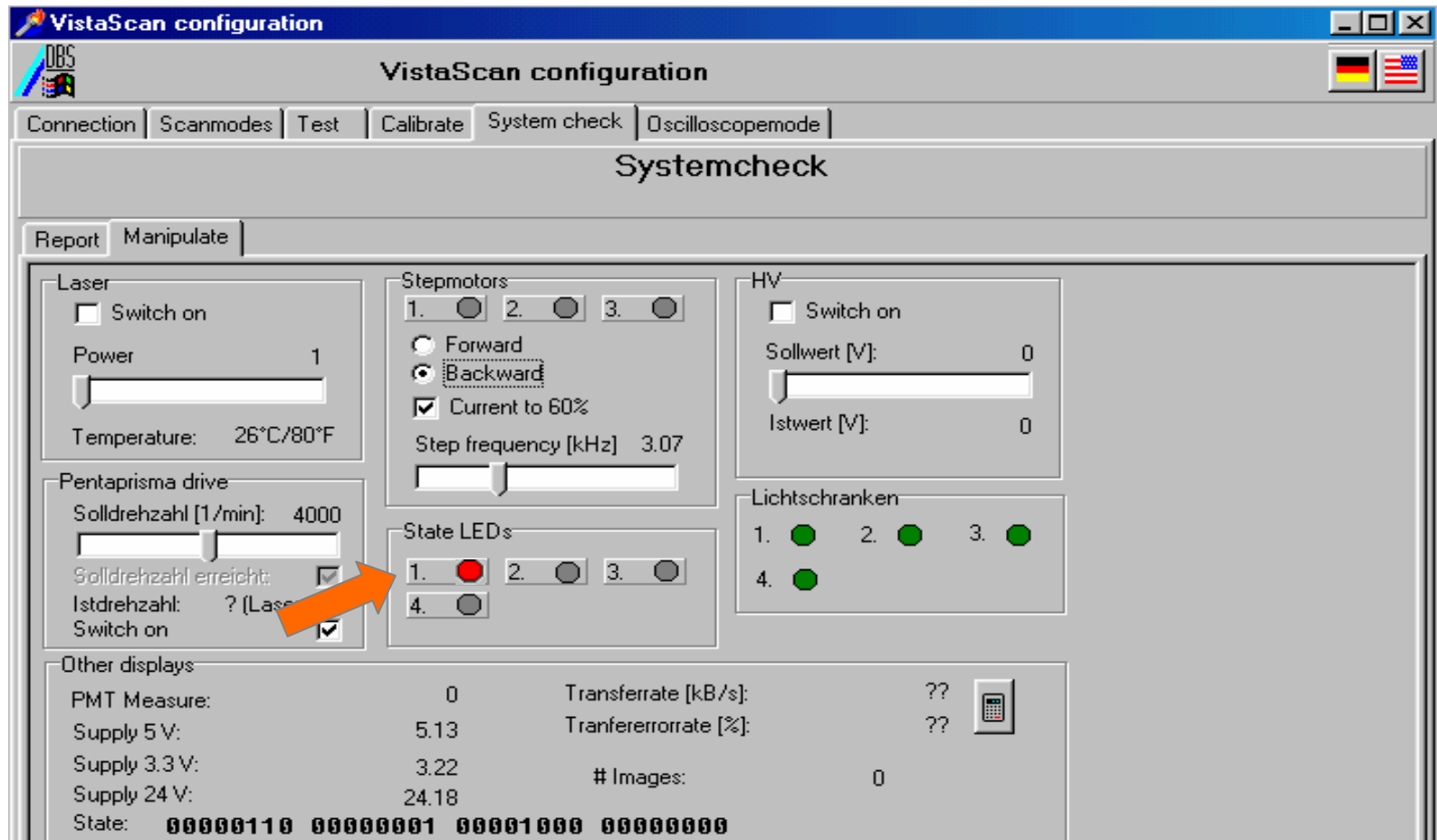
- Note: LED #1 is on the Far Right. LED #2 is on the Middle Right. LED #3 is Middle Left and LED #4 is Far Left.
- Single click on “LED #1” button and continue to Step 6B.

Step 6B



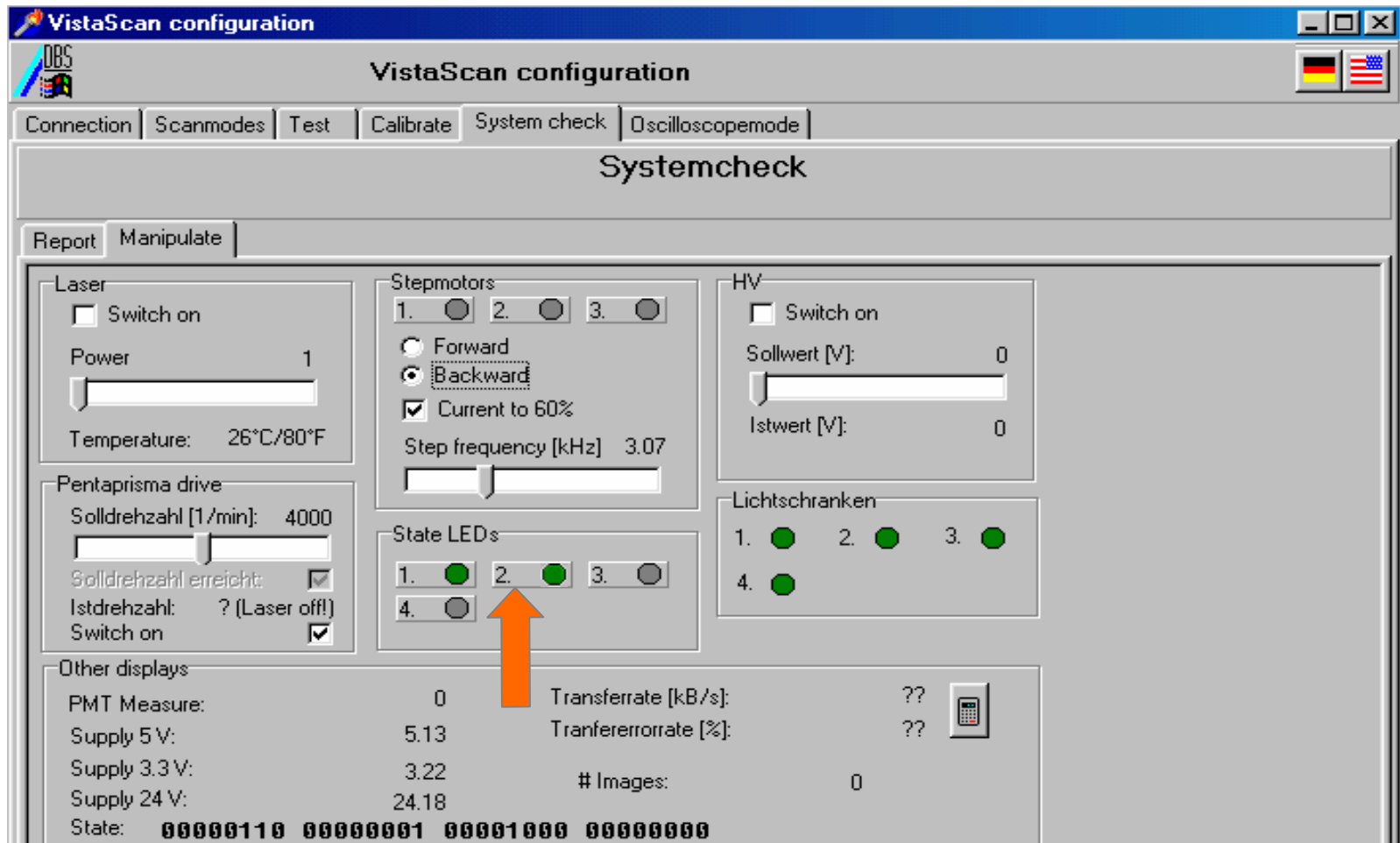
1. Status button LED #1 should have turned green and the corresponding LED on the ScanX should be green. Single click on “LED #1” button again and continue to Step 6C.

Step 6C



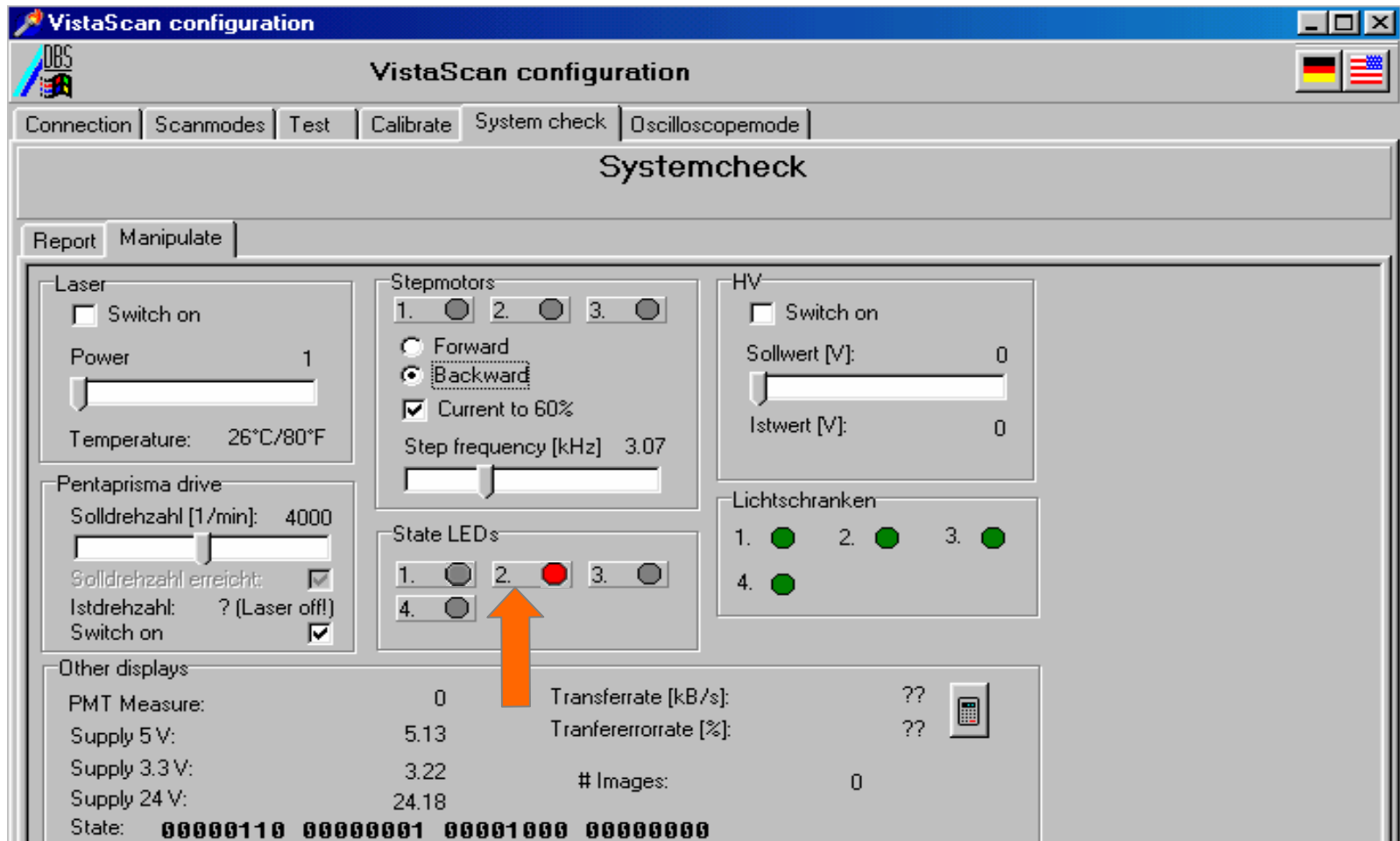
1. Status button LED #1 should have turned red and the corresponding LED on the ScanX should be red. Single click on “LED #1” button to turn it off. If OK, continue to Step 6D. If LED #1 did not turn to green or red, please contact Air Techniques Technical Service. Have Serial Number of the ScanX and Dr’s Name & Address available.

Step 6D



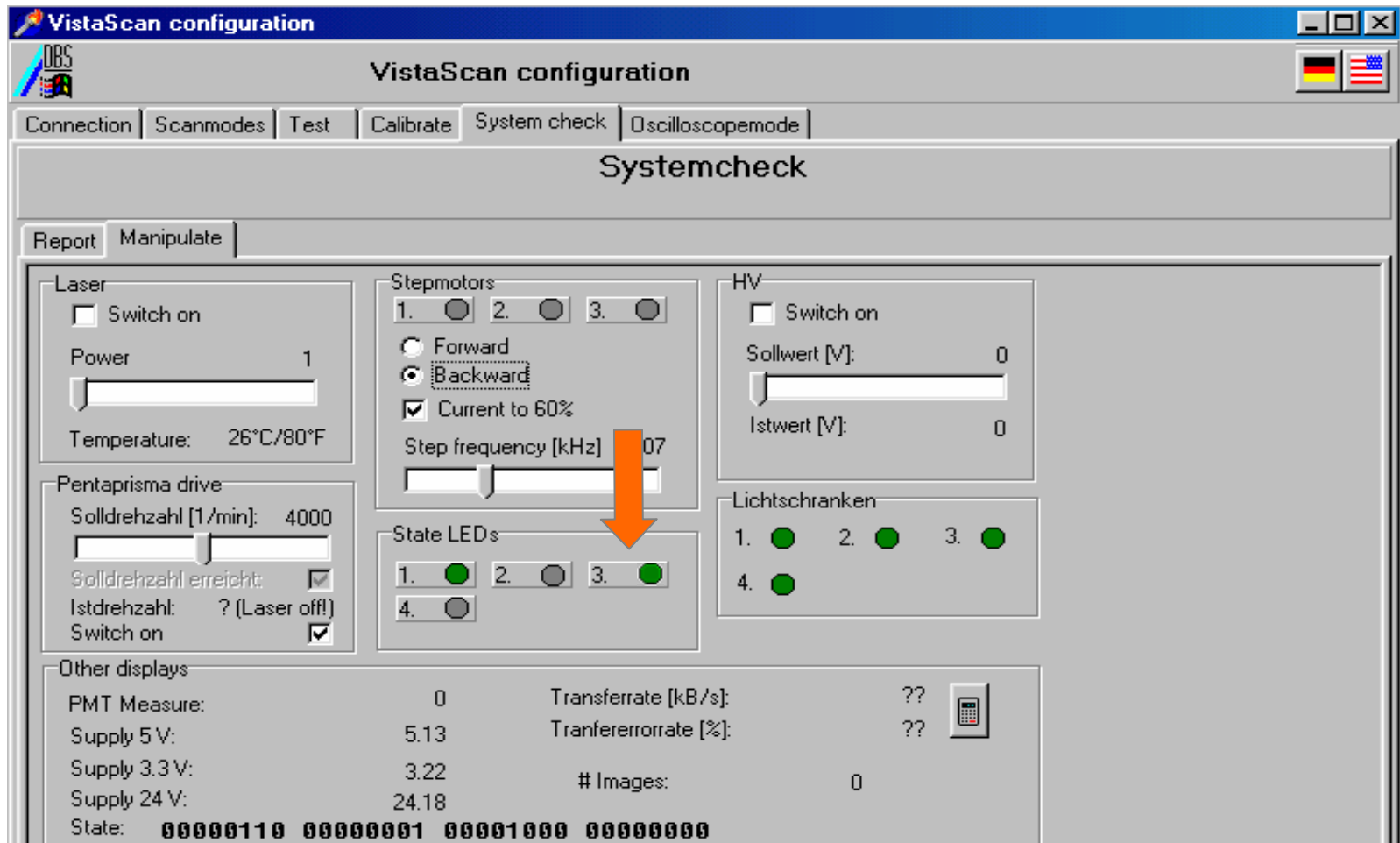
1. Single click on “LED #2” button and the button light should turn green and the corresponding LED on the ScanX should be green. Single click on “LED #2” button again and continue to Step 6E.

Step 6E



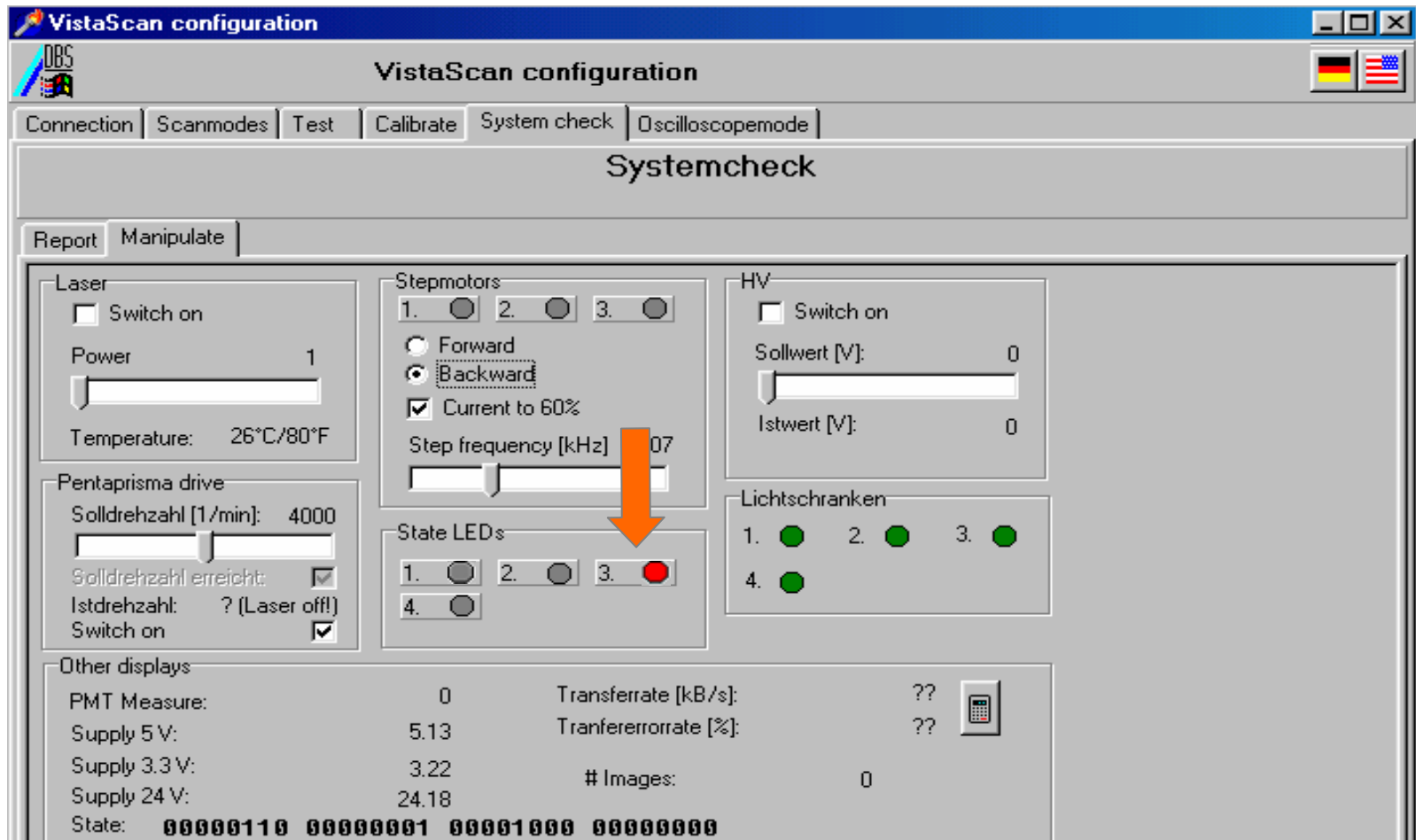
1. Status button LED #2 should have turned red and the corresponding LED on the ScanX should be red. Single click on “LED #2” button to turn it off. If OK, continue to Step 6F. If LED #2 did not turn to green or red, please contact Air Techniques Technical Service. Have Serial Number of the ScanX and Dr’s Name & Address available.

Step 6F



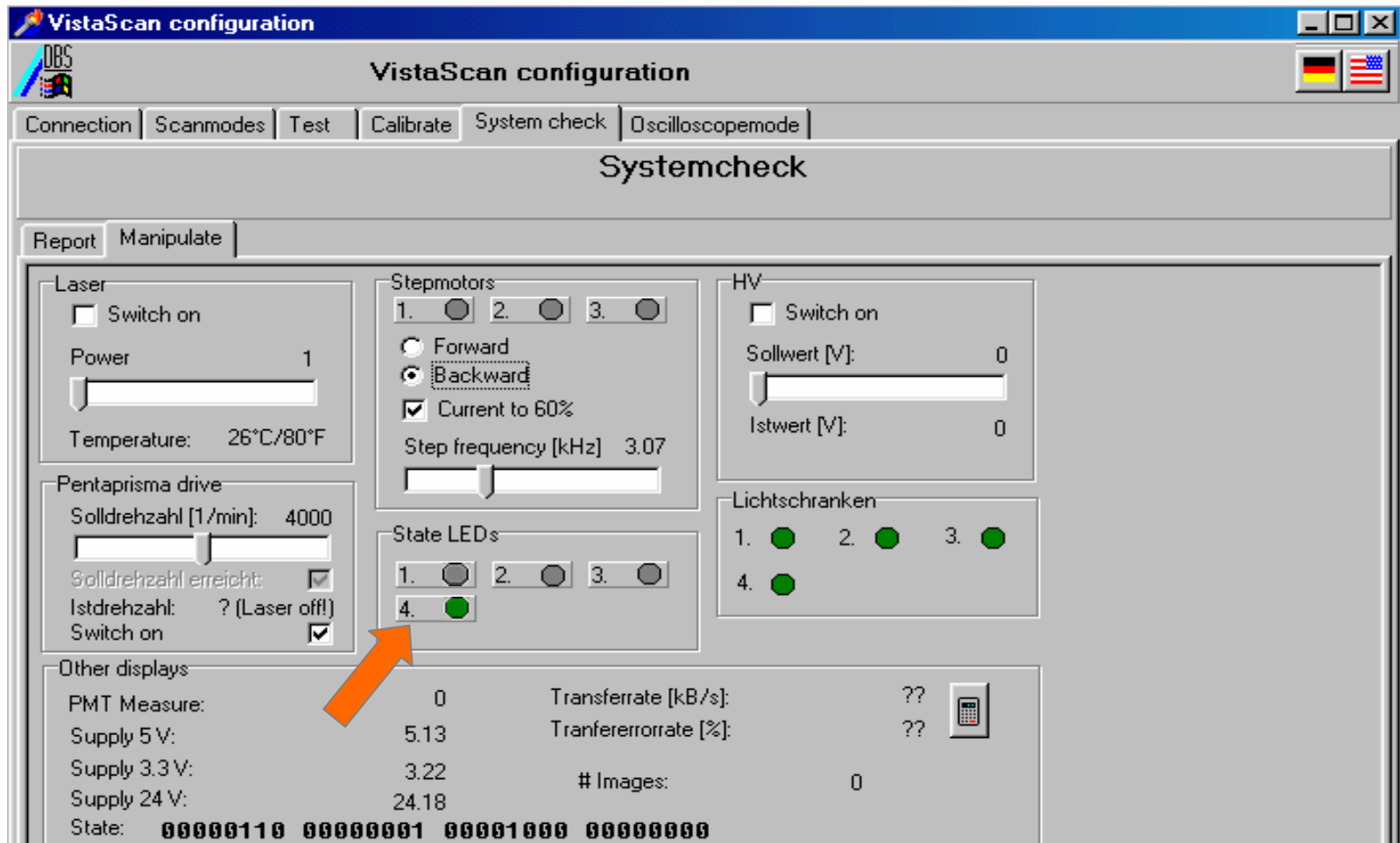
1. Single click on “LED #3” button and the button light should turn green and the corresponding LED on the ScanX should be green. Single click on “LED #3” button again and continue to Step 6G.

Step 6G



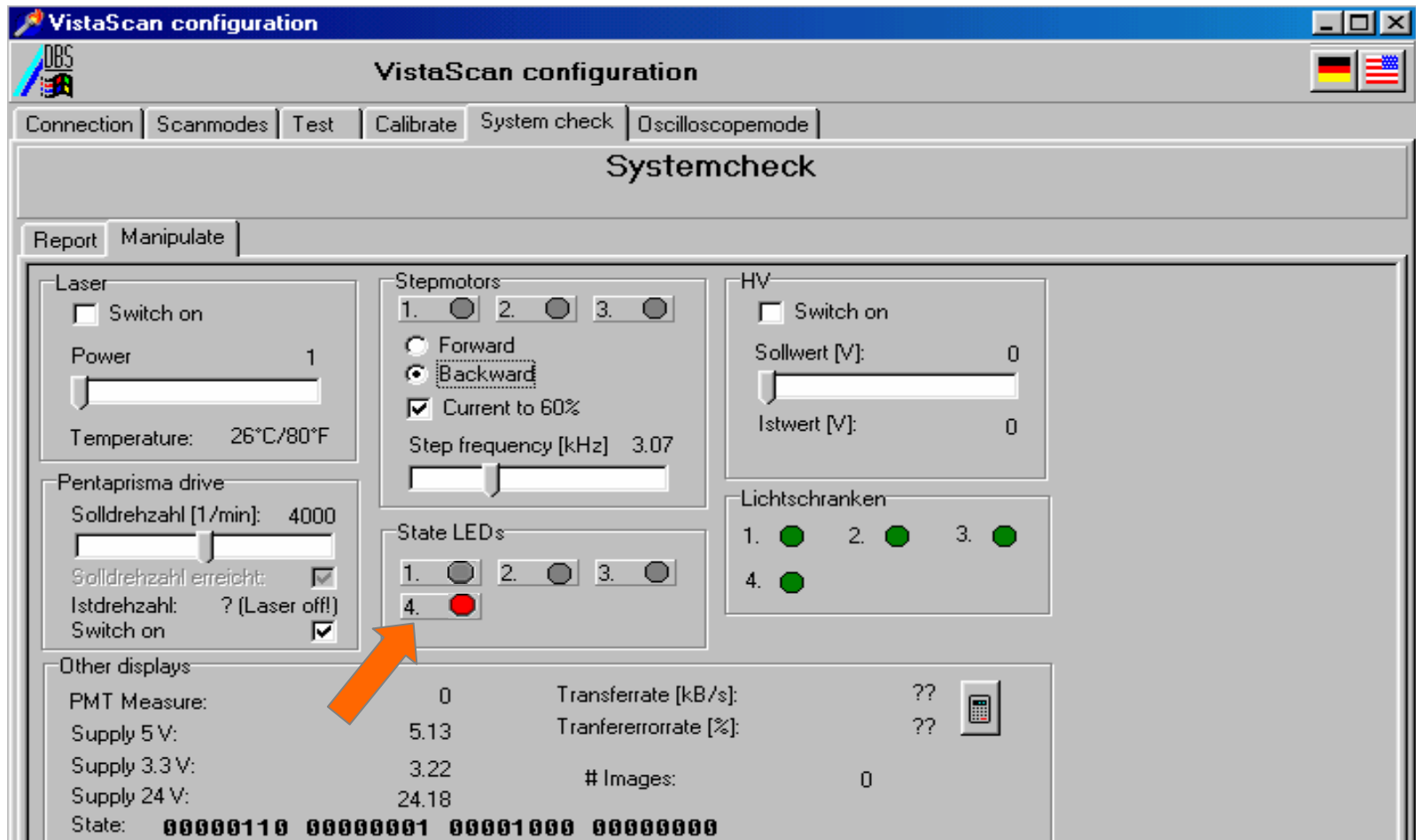
1. Status button LED #3 should have turned red and the corresponding LED on the ScanX should be red. Single click on “LED #3” button to turn it off. If OK, continue to Step 6H. If LED #3 did not turn to green or red, please contact Air Techniques Technical Service. Have Serial Number of the ScanX and Dr’s Name & Address available.

Step 6H



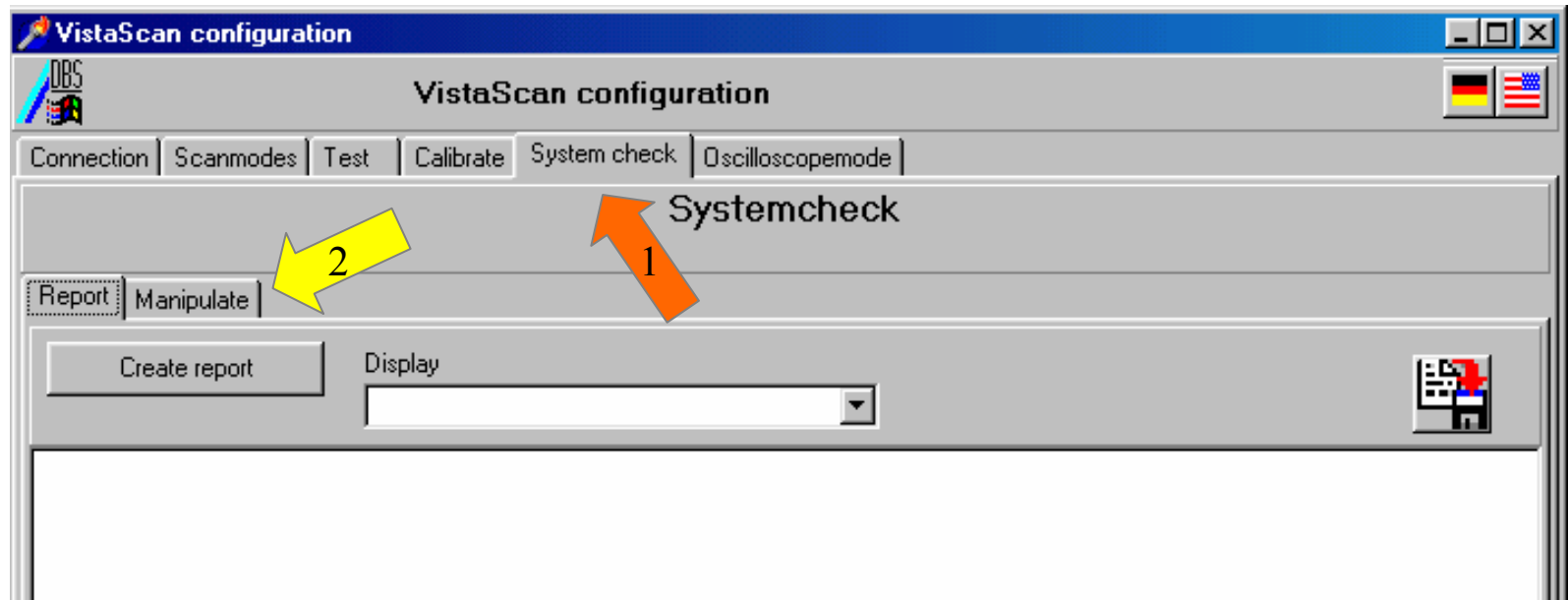
1. Single click on “LED #4” button and the button light should turn green and the corresponding LED on the ScanX should be green. Single click on “LED #4” button again and continue to Step 6I.

Step 6I



1. Status button LED #4 should have turned red and the corresponding LED on the ScanX should be red. Single click on “LED #4” button to turn it off. If OK, Job is complete. If LED #4 did not turn to green or red, please contact Air Techniques Technical Service. Have Serial Number of the ScanX and Dr’s Name & Address available.

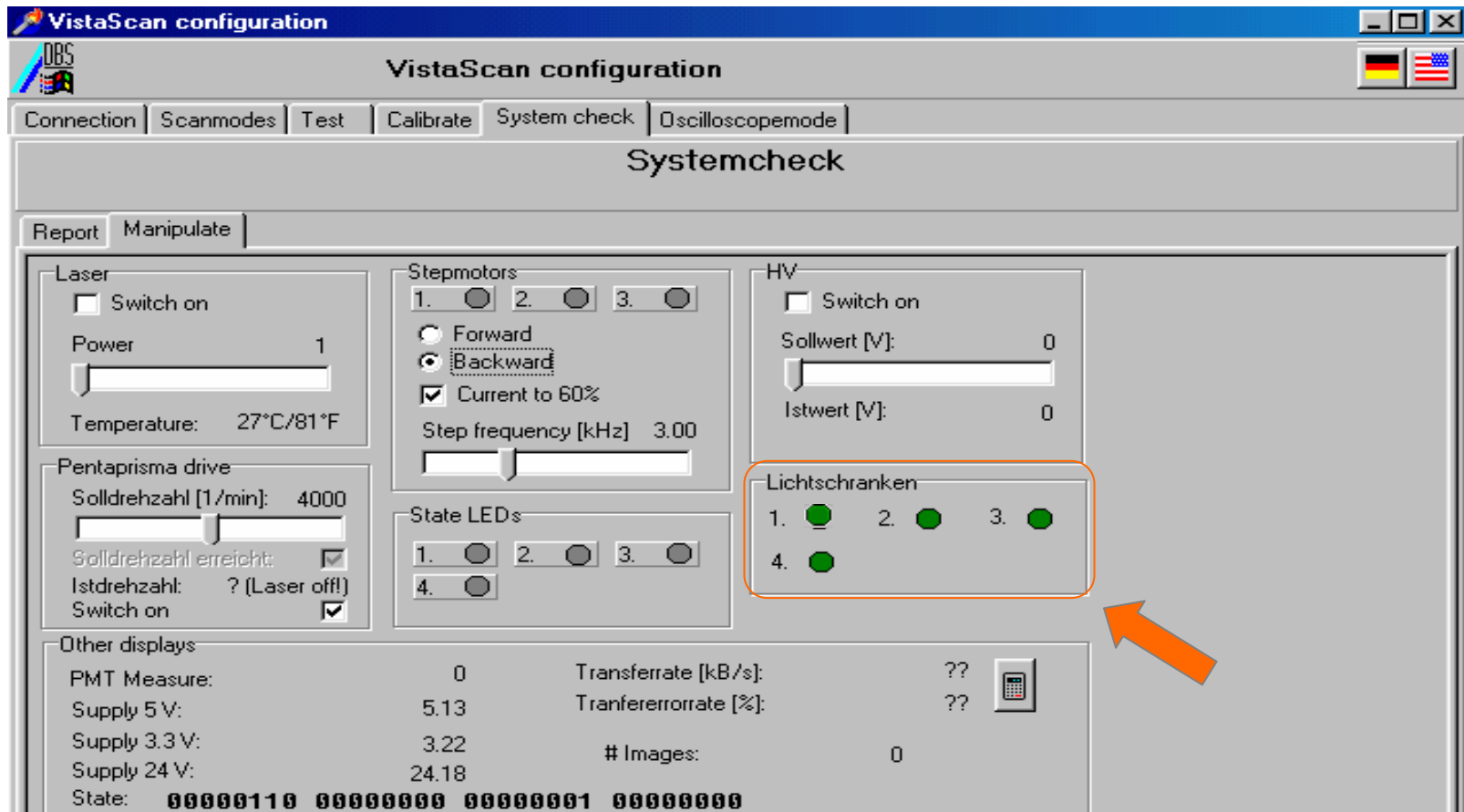
Step 7



From the “System Check” Window you will be able to check the function of the Inlet Plates Sensors .

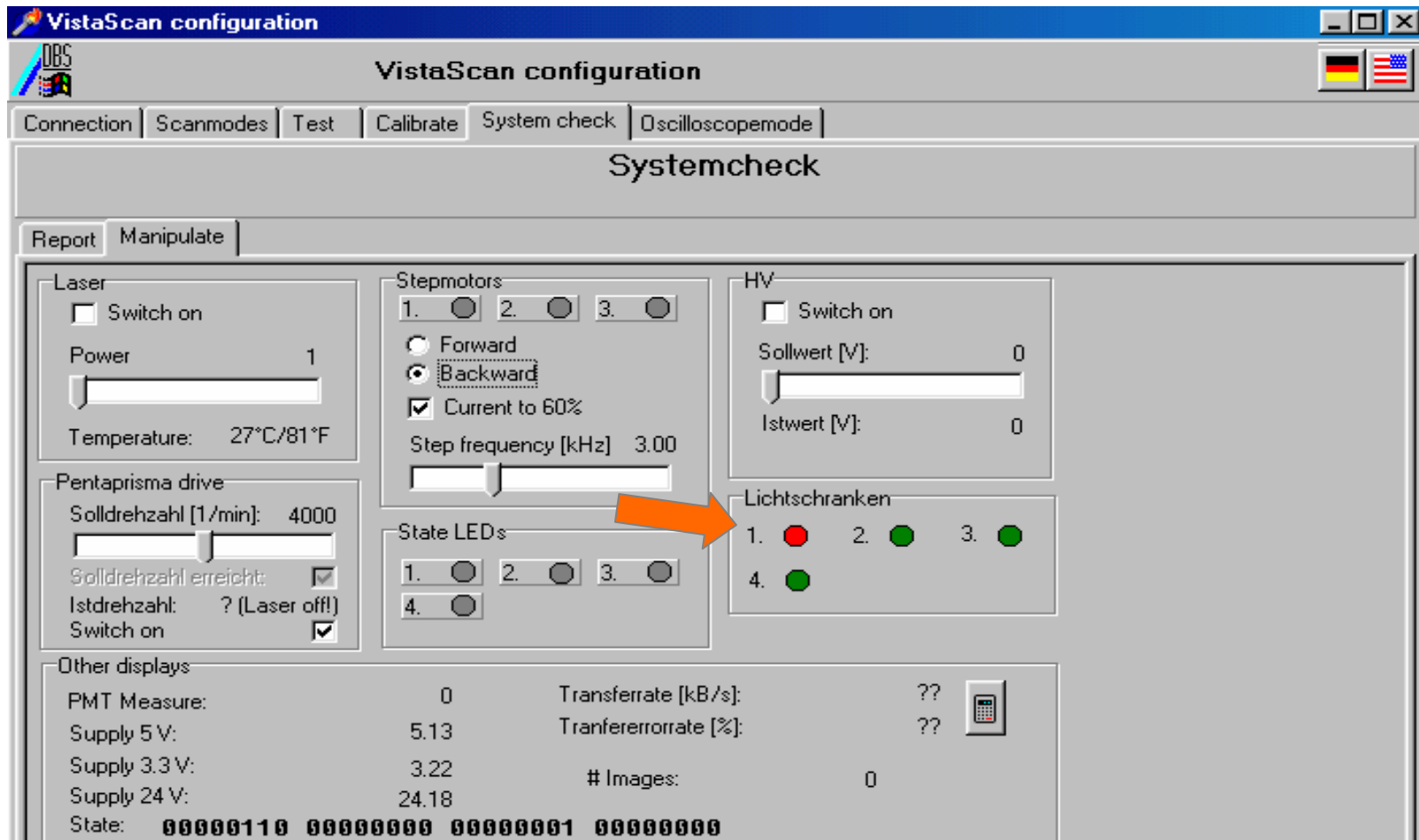
1. Single click on the “System Check” Window.
2. Single click on the “Manipulate” Window and continue to Step 7A.

Step 7A



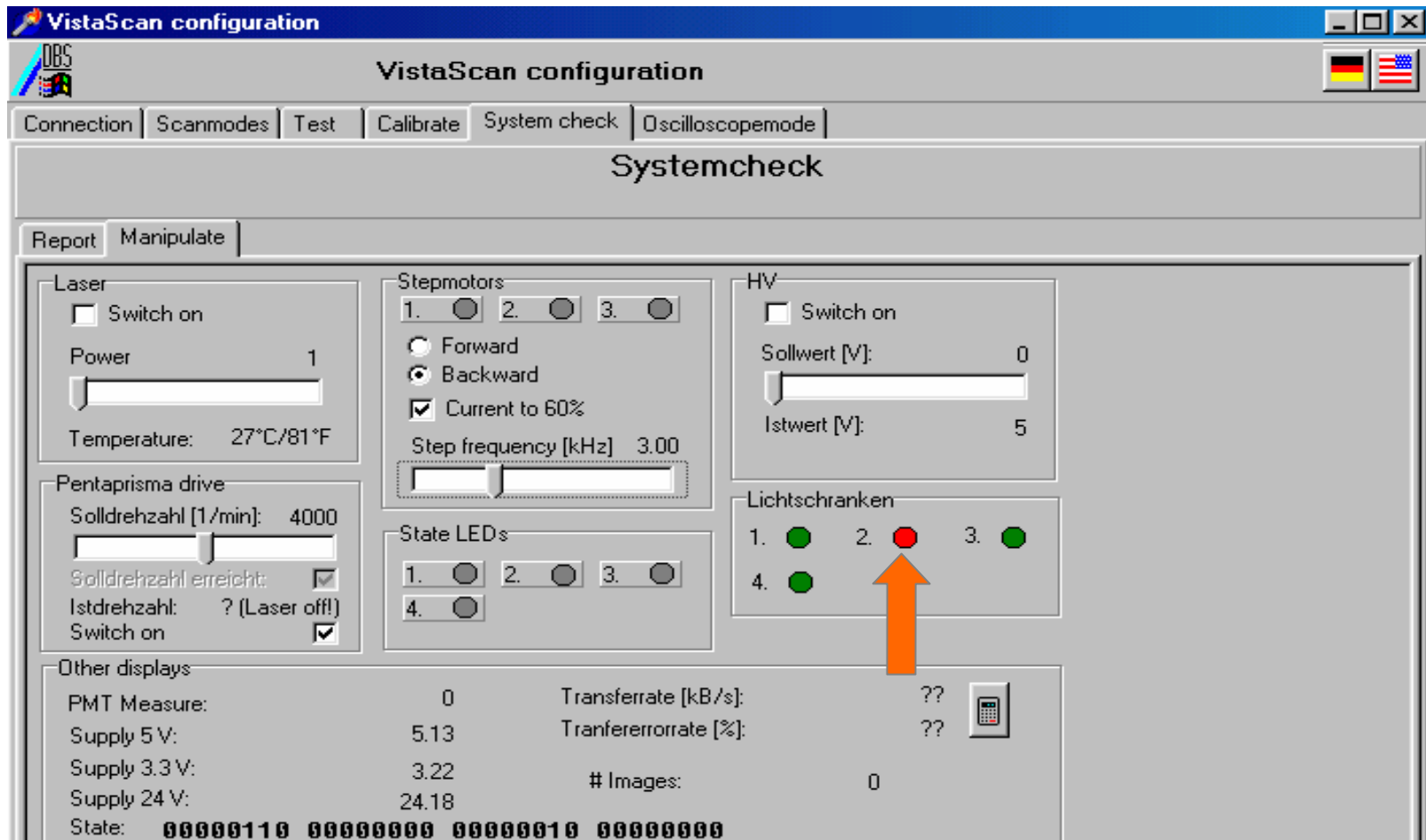
- Note: Sensor #1 is on the Far Right. Sensor #2 is on the Middle Right. Sensor #3 is Middle Left and Sensor #4 is Far Left. If all 4 Sensor lights are not green, please contact Air Techniques Technical Service. Have Serial Number of the ScanX and Dr's Name & Address available.
- 1. Check Inlet Plate Sensor (Lichtschrank) function. Place an unexposed PSP and hold in track #1 continue to Step 7B.

Step 7B



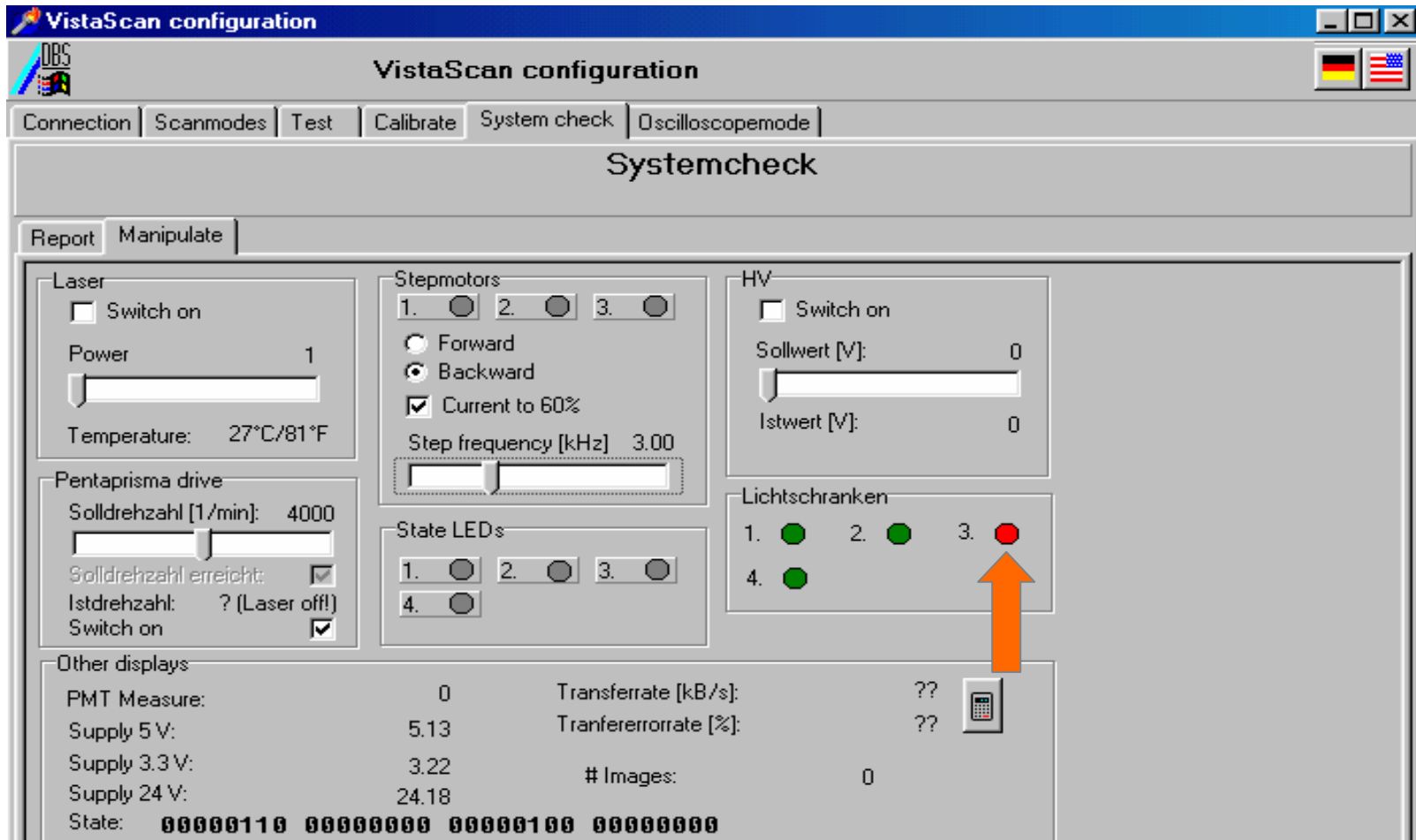
1. Inlet Plate Sensor indicator #1 should have changed from green to red. If OK, remove PSP and continue to Step 7C. If light didn't change remove plate and try again. If light still does not change, please contact Air Techniques Technical Service. Have Serial Number of the ScanX and Dr's Name & Address available.

Step 7C



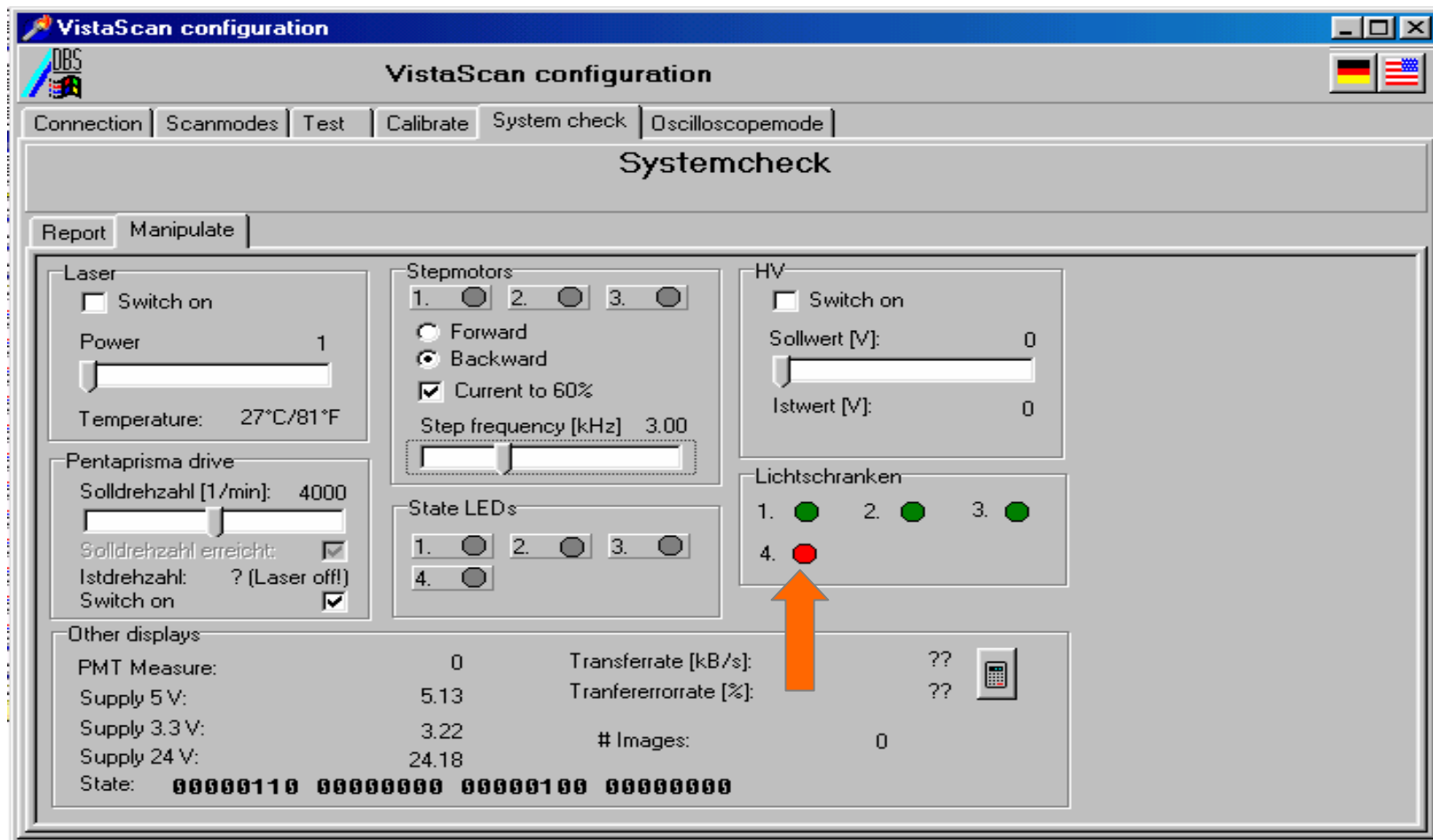
1. Place an unexposed PSP and hold in track #2. Inlet Plate Sensor indicator #2 should change from green to red. If okay, remove PSP and continue to Step 7D. If light does not change remove and try again. If light still does not change, please contact Air Techniques Technical Service. Have Serial Number of the ScanX and Dr's Name & Address available.

Step 7D



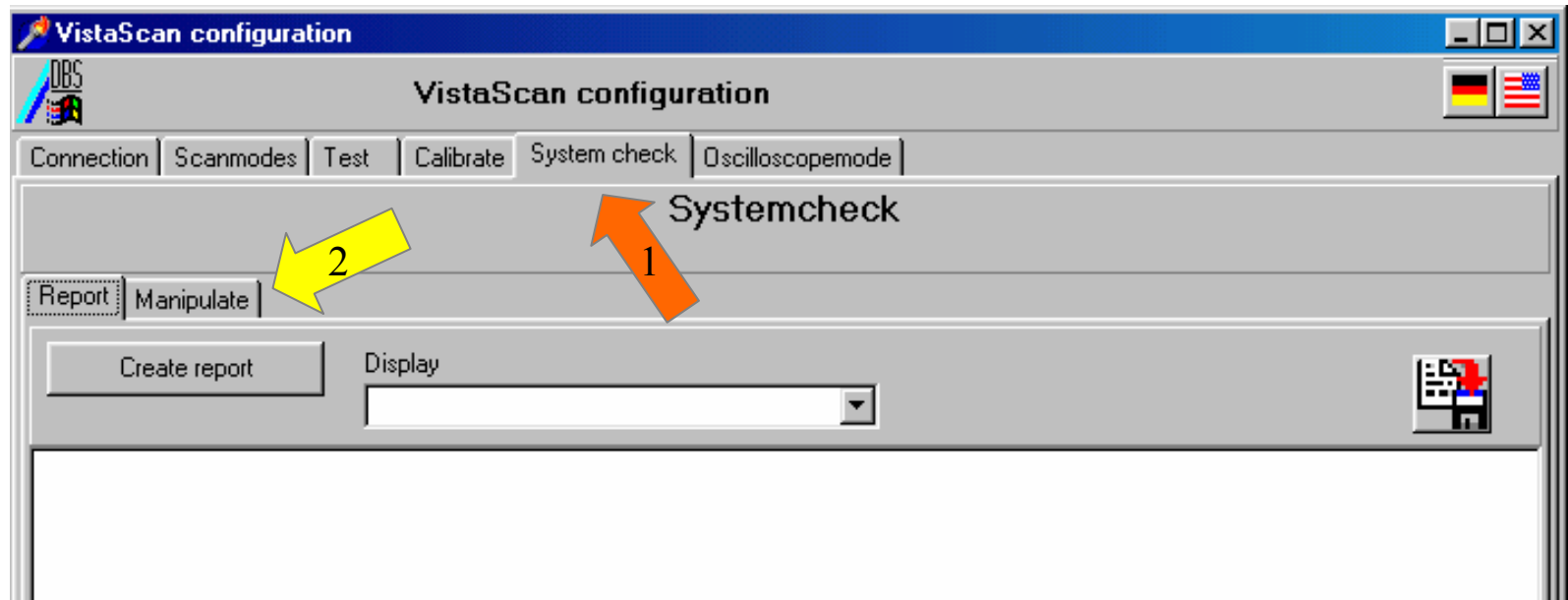
1. Place an unexposed PSP and hold in track #3. Inlet Plate Sensor indicator #3 should change from green to red. If okay, remove PSP and continue to Step 7E. If light does not change remove and try again. If light still does not change, please contact Air Techniques Technical Service. Have Serial Number of the ScanX and Dr's Name & Address available.

Step 7E



1. Place an unexposed PSP and hold in track #4. Inlet Plate Sensor indicator #4 should change from green to red. If okay, remove PSP and Job is complete. If light does not change remove and try again. If light still does not change, please contact Air Techniques Technical Service. Have Serial Number of the ScanX and Dr's Name & Address available.

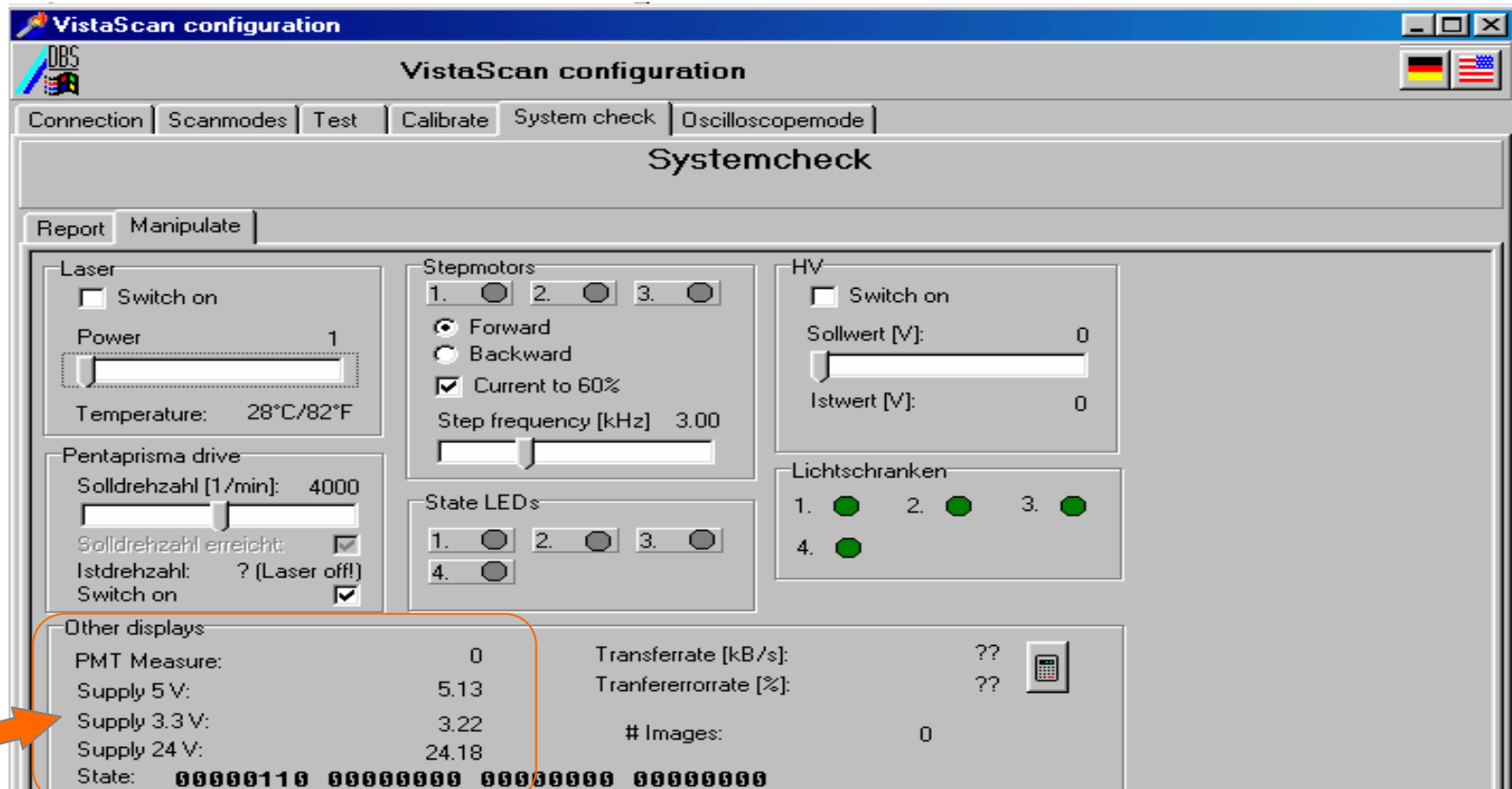
Step 8



From the “System Check” Window you will be able to check the function of the Internal Voltages.

1. Single click on the “System Check” Window.
2. Single click on the “Manipulate” Window and continue to Step 8A.

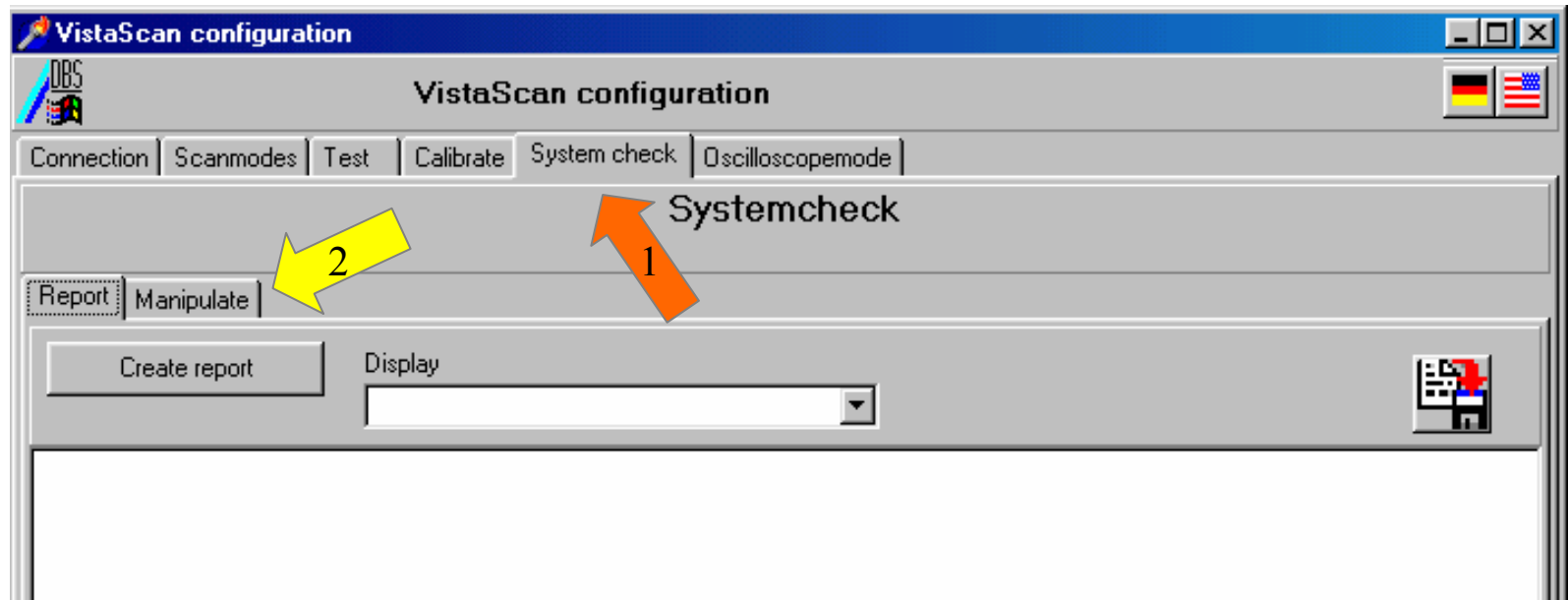
Step 8A



Check voltage values: Observe values in “Other Displays” window

1. Supply 5 V = $\pm 10\%$ 4.5 – 5.5 VDC
 2. Supply 3.3 V = $\pm 10\%$ 2.97 – 3.63 VDC
 3. Supply 24 V = $\pm 10\%$ 21.6 – 26.4 VAC
- If any of the voltages are not within spec, please contact Air Techniques Technical Service. Have Serial Number of the ScanX and Dr's Name & Address available.

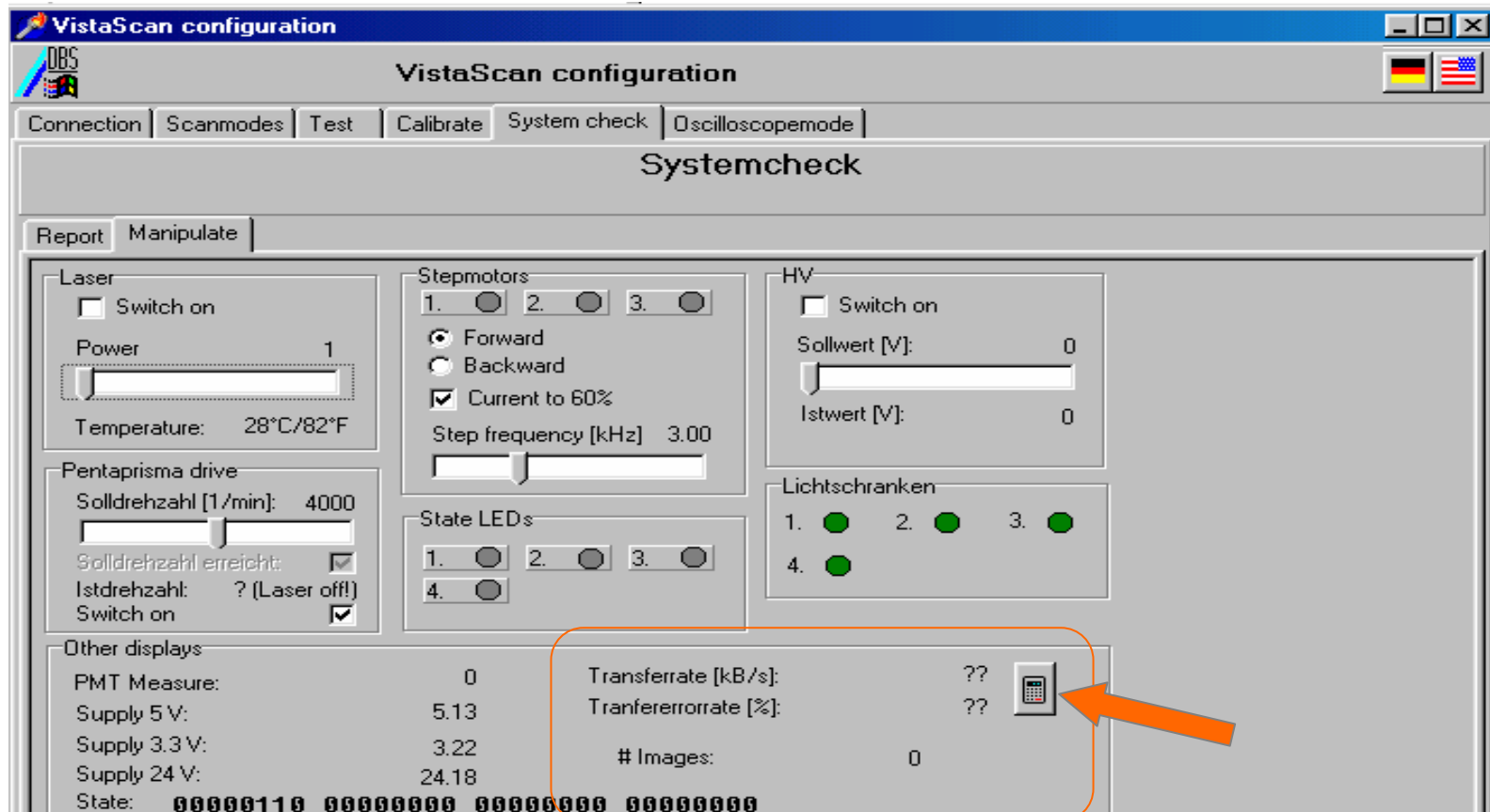
Step 9



From the “System Check” Window you will be able to check the function of the Data Transfer Rate .

1. Single click on the “System Check” Window.
2. Single click on the “Manipulate” Window and continue to Step 9A.

Step 9A



1. Check data transfer rate between the ScanX and computer. Single click on the Calculator button. Transfer rate needs to be above 400 kB/s (kilobytes per second). If lower than 400 kB/s check connections between ScanX and the computer. If connection is OK, make sure that the parallel cable is rated IEEE-1284. If cable is IEEE-1284 then check computer for problems.