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|  | | <h1>Titan</h1> | |
| <p>30 South Satellite Road South Windsor, CT 06074 Tel: 860 291 7000 Fax: 860 291 7001</p> | | <h2>Software Release Notes</h2> | |
| | | <p>Document Part Number: 414150156</p> | |
| Product or Model No. | Version | Date | |
| Titan T1000 | 2.0.0 | May 31, 2006 | |

Introduction This is the initial release of the Titan software.

Installation Instructions Use the following Procedure to insure proper installation of the Titan software:

Prepare the System

1. Always back up the Titan system files before reloading (or updating) software as follows...
 - Create a **TitanBackupFiles** directory on the C: Drive
 - Copy the **D:\aoihome\data** and **D:\aoihome\bin** directories to this backup directory.

NOTE: Updating to a newer version of software should be non-destructive. However, just to be safe, you should always have these directories backed up.

2. Or, as a minimum... copy the following files to a floppy disk (or a memory stick).
 - The complete **D:\aoihome\data** directory
 - And the **D:\aoihome\bin\gat2.cnf** file.

Copy the installation software to the D:\ drive

1. Create a directory on the **D:** drive called **Titan Installation Files** (*if not already done*).
2. Copy the **Titan Version 2.0.0** directory from the CD-ROM to the **Titan Installation Files** directory on the **D:** drive.

Uninstall the old Titan software

1. Close all applications that are running – including Dpf2Cad.
2. Click on the **Start** button and select **Settings** then, **Control Panel**.
3. Double click on the **Add or Remove Programs** icon and select **Titan** from the list. Click on the **Remove** button and answer **Yes** to the **Are you sure...?** message.
4. Click **No**, when the popup appears to Restart. We will do this later.

5. If present, select **Argos** from the list and remove that also.

NOTE: *It is very likely that systems running an earlier version of software (before version 2.00) will also show that Argos is loaded on the computer.*

- Answer **No** to the Restart message.
6. **Close** the *Add or Remove Programs* and *Control Panel* windows.

Install the New Titan software

1. From Windows Explorer, go to the **D:\ Titan Installation Files\Titan Version 2.00** directory and double-click on **Setup.exe**. The installation application will guide you through the remainder of the installation procedure.
2. At the *Welcome to Argos Setup Wizard* window, click **Next>**.
3. At the *License Agreement* window, select **I Agree** and click **Next>**.
4. At the *Select Components* window, ensure **Titan** and **Dpf2cad** are both selected and click **Next>**.
5. At the *Scanner Camera Type* window, select the **camera type** that matches your Titan hardware. The two choices are described below:



Scanner Camera Types:

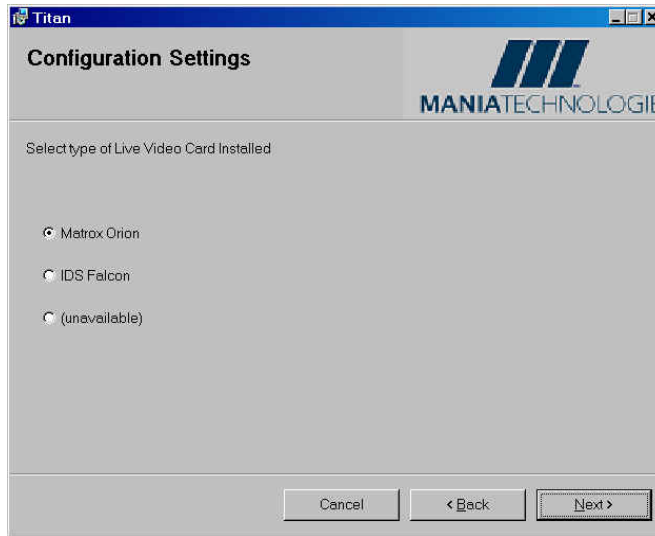
Dalsa Spyder (Original)

These are the normal blue cameras that we have been using for the last 5 years. Also known as Spyder 1 cameras.

Spyder 2 Camera Link Interface

These are the black cameras. They are a little shorter than the blue (Spyder 1) cameras and have heat sync fins on the front.

6. Click on your choice and click **Next>**.
7. At the *Configuration Settings* window, select the Video card used and click **Next>**.



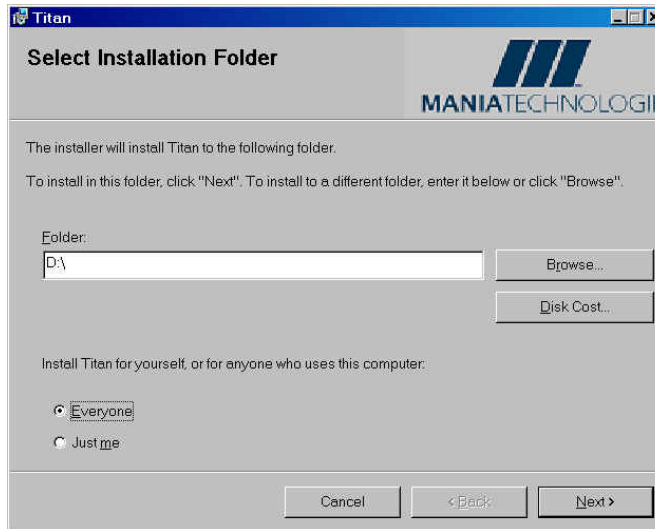
Configuration Settings:

Currently, The Titan machines are all using the Matrox Orion card.

However, the HR8 machine will use the IDS Falcon card.

Shortly after that, all of the AOI machines could be using the Falcon card.

8. At the *Select Installation Folder* window, leave the default **D:** and select **Everyone** as shown below:



9. When done, click **Next>**.
10. At the *Confirm Installation* window, click **Next>** to start the installation.
11. At the *Installation Complete* window, click on the **Close** button to exit.
12. **Before Re-Starting the system...** Move the Restart Popup window out of the way and click **OK** in the popup window behind it. It should display the following:
 - DllRegisterServer for VRAC2.dll Succeeded

NOTE: *Don't worry If the above step fails. It sometimes does. But, it can also be performed manually (even if you forget to do it) by navigating to the D:\aoihome\bin directory and double clicking on the rereg.exe file. This should be done before starting Titan in order to register the new DLL file in the registry.*

13. **Close** the Explorer window and click **Yes** in the popup window to restart the computer.

14. Login as **Aoi** and ensure that Dpf2Cad starts.
15. If necessary, go to the **D:\aoihome\bin** directory and double click on the **rereg.exe** file.
 - Ensure you get the “DllRegisterServer for VRAC2.dll Succeeded” message.
16. Copy all the files from the Documentation directory of the Titan CD-ROM to D:\aoihome\Docs.
17. If you are upgrading a Titan system that has been running on older, updated Beta version of software, (anything before version 2.00) perform the following checks...
 - Check for a duplicate “Titan” icon on the Desktop. If there, remove the top icon.
 - Copy over the original Gat2.cnf file that you backed up in step 1 of this procedure – under **Prepare the System**. (*This version of software will not remove this file when you uninstall the software.*)
 - Depending on the previous version of software, you might also have to restore the Zoom.cnf file under **aoihome\data\sys**.

Additional Software Information

Additional gat2.cnf samples: are provided in the **\aoihome\bin** directory. In the case of performing a full system restore, always copy the original gat2.cnf back in the system.

gat2TitanEastern.cnf -- This is for Titan machines that are using the Eastern Bearing Y2 motor axis. This is characterized by the big silver gearbox under the black motor assembly.

gat2TitanNeat.cnf -- This is for Titan machines that are using the Neat Y2 motor axis. This is characterized by the simple black motor assembly.

gat2TitanOriga.cnf -- This is for current Titan machines that are using the newest Y2 motor axis from New England Automation Systems. This is characterized by the big black motor (a Kollmorgen motor) and a red stripe on the top of the long slide assembly (made by Origa Systems).

Current Application Versions

These are the current versions of the individual applications that make up the Titan product:

| Frontend Application | Version |
|----------------------|---------|
| Titan.exe | 2.00 |
| Inspect.exe | 2.00 |
| Dpf2Rpd.exe | 7.023 |
| Rpd2Cad.exe | 7.023 |
| App.exe | 7.023 |
| Gui.exe | 7.023 |
| Gat24Viper.exe | 2.00 |
| TestSuite.exe | 2.00 |

**New Features
& Defect
Corrections**

The following is a description of the new features and bug corrections contained in each of the major applications that make up the Argos software.

| Titan (V2.00) | |
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| 1 | Initial Release. Changed all versions to 2.00. |

| Inspect (2.00) | |
|-----------------------|------------------|
| 1 | Initial Release. |

| Dpf2Cad (7.023) | |
|------------------------|------------------|
| 1 | Initial Release. |

| Gat24Viper Control Software (2.00) | |
|---|---|
| 1 | Added a 2 inch move to the right for the new Y2 Initialize routine. |

| TestSuite (V2.00) | |
|--------------------------|---|
| 1 | Works with both Spyder1 (original) and the newer Spyder2 (Camera Link) cameras. |

Environment Variables

The following environment variables are the same that are used for the Argos machines (with a couple of exceptions) and can be used to configure the software to meet unusual needs. These should not be used without the consent of Mania Technologie’s service personnel. When a default like (off) is given, it means the variable is not present in the list. Add the variable name to the list and set the value to 1 to enable the variable.

| Titan/Argos Variables | | |
|--|---------------------|---|
| Variable | Default | Description |
| ArgosJobsDir | D:\aoihome\ Jobs | Set this only when Jobs are being held on a remote workstation. Use the syntax \\MachineName\SharedDirectory |
| MAX_DEFECT_SIZE | 30.0 inches | Sets the maximum box size for a defect. Larger defects are broken into multiple boxes |
| WARN_ZOOM_IN | (off) | Set to 1 to turn on warnings that zooming in more will cause some of the defect to go off screen. |
| SHOW_REPEAT_DEFECTS | (off) | Set this to turn on warnings for defects that were also in the last inspections. |
| SHOW_TILES | (off) | Set this to display the tiles in the CAD data display. |
| FULL_UCAM_FILES | (off) | Turn off performance enhancements in Dpf2Rpd – creation of mini-job and deletion of DPF comments. |
| CAMERA_1_DISABLED CAMERA_2_DISABLED | (false) (false) | Tells the machine not to use one of its cameras. If both are set, Argos immediately exits. Also used by embedded control. |
| ARGOS_LOG_OPTION | (off) | Turns on inspection logging. |
| REPAIR_OUTPUT_1.2 | (off) | Produces verification repair output compatible with repair output format 1.2. DHD errors will be output as Excess copper defects. |
| ALLOW_USER_LOTNAME | (off) | When creating a new lot or resetting and existing lot, will ask the user for the lot name. |
| DEFAULT_SHUTTER_SPEED | 2 | Sent to the Sony camera as the “position” value in the Set Shutter Position command. |
| RECORD_RAW_IMAGE | (off) | Saves raw inspection data in aoihome\temp. (see below) |

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| RAW_MODE | (off) | Enables “raw mode”. Needed for recording raw mode. |
| DHD_MIN_COPPER_SENSITIVITY | .025 (2.5%) | Percentage of copper that must be seen to avoid a DHD_2 error for hole too large. |
| PLAYBACK_RAW_IMAGE | (off) | Uses raw data from aoihome\temp instead of actually inspecting (or when machine not supported). |
| ARGOS_SKIP_ZOOM_INIT | (off) | Set to 1 and Argos will not initialize the zoom lens on application startup. Lens will be initialized on first job load. |
| ARGOS_LOOP_DEFECT_REVIEW | (off) | Set to 1 and Defect Review will loop back to start of defect list when it hits the end of list. |
| TITAN_FRAME_GRABBER_TYPE | 3 | Matrox Orion=3 IDS Falcon=4 |
| INTERNAL_VIPER | (off) | Indicates combined control configuration. |
| NO_PARALLEL_ZOOM | (off) | Prohibits parallel operation of the zoom lenses. |
| LIVE_VIDEO_COM_PORT | COM1 | Specifies COM port to use to communicate with live video camera. |
| STEPPER_COM_PORT | COM2 | Specifies COM port to use to communicate with stepper board. |
| ARGOS_JOB_FETCH_DIR | - | Specifies start directory to Browse in Fetch Remote Job dialog box. |
| MIN_DISK_SPACE_FOR_INSPECT | 100 | Free Disk space in MB required for an inspection to begin |
| MAX_THETA_ROTATION | 0.001 | Maximum panel rotation (radians) allowed before warning user |
| TILE_REG_FACTOR | 10 | Inspection tiling algorithm tuning parameter – Lowering number can reduce tiling errors at the expense of inspection time. |
| TWO_STAGE_TILING | (off) | Expands tiling search in effort to achieve better match. Setting to a value of 1 can reduce tiling errors at the expense of inspection time. |
| TILING_OPTION_C | (off) | Forces tiling algorithm to consider tiles above and below the current tile in order to achieve a better match. Use of this variable can reduce tiling errors at the expense of inspection time. Must also set the Dpf2Cad variable NO_RLE_90. |

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| NO_NSEW | (off) | Disables the NSEW filter. This filter helps eliminate false calls along the edge of features due to over/under etching. Use of this variable can reduce inspection time, but increase number of false calls. |
| MACHINE_NOT_SUPPORTED | (off) | Allows running the Titan and/or TestSuite applications without physical connection to the Scanner. You will also have to manually start the Gat24Viper.exe program before starting Titan. |
| IGNORE_MACHINE_NOT_SUPPORTED_ERRORS | (off) | Suppresses some errors when running in “machine not supported” mode. |
| DUMMY_NUM_HEADS | 1 | Allows number of heads query when in MACHINE_NOT_SUPPORTED mode. |
| DUMMY_HEADTYPE | 5.1 | Allows light box and filter type queries when in MACHINE_NOT_SUPPORTED mode. |
| REPAIR_OUTPUT_DIR | \\Verification | Specifies output directory |
| MATROX_FREEZE | (off) | Disable Matrox Live Video during Inspections. |
| Dpf2Cad Variables | | |
| HORIZONTAL_ETCH | 0 | Number of pixels per side, positive or negative, that specifies how much to modify etch in the horizontal direction. If set, this also activates GLOBAL_ETCH. |
| DHD_MAX_DRILL_SIZE | 0.050 | Maximum size compatible with Tile Overlap. Increasing this can increase tile overlap. If it is too small, Argos will give a warning. |
| uAOI_EMVMissingTolerance | 0.0 | Missing tolerance in mils. Excess tolerance is set via Don't Care Tolerance in UCAM. |
| uAOI_DrillPlatingFactor | 0.0 | Amount in mils that plating decreases the hole size for DHD-1 |
| uAOI_Minland | 0 | Value in mils of smallest allowable thickness anywhere on annular ring for DHD-1. Smallest practical value is 3 or 4. Set this to -1 to turn DHD processing off. |
| MAX_SHAPE_PAGES | 2000 | May be increased if you get a dpf2cad error of “RPD to RLS memory allocation error, too many shapes”. |
| MAX_INSTANCE_PAGES | 4000 | May be increased if you get a dpf2cad error of “RPD to RLS memory |

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| | | allocation error, too many instances”. |
| MAX_ISR_COUNTS | 4096 | May be increased if you get a dpf2cad error of “MAX_ISR_COUNTS exceeded”. |
| LOCK_FILE_DELAY | 0 | Integer number of seconds to take account that some NFS programs do not create the lock file right away. Without this, processing might start while data was still arriving. |
| JOB_SPOOL_DELAY | 0 | Integer number of seconds to insert a delay before moving the Job directory from the Job Spool to the Titan Jobs directory. This would help an error in which the directory could not be deleted from the Job Spool because it appeared to still be in use. |
| AOI_NO_CLIP | (clip) | In dpf2cad this turns off clipping of features outside the inspection area. |
| AOI_TRACE_LEVEL | 0 (none) | If running Dpf2Rpd batch from the command prompt, levels 1-5 produce increasing amounts of trace data. |
| AOI_RLE_DRAW | (off) | Creates more precise draws and joints between them, but may require much more space. |
| NO_RLE_90 | (off) | In Dpf2Cad, turns off generation of RLE90 tiles. |
| ACCUMATCH_1 | Argos | Creates a CAD file compatible with AccuMatch1 (1-inch tiles). |
| AOI_DISK_RQMNT | 50 | Minimum MB of free space on disk for Rpd2Cad to begin creating a CAD file. |
| Gat24Viper Variables | | |
| JERK_LIMIT | 3000 | Effective jerk (j0) values less than this are set to zero to help avoid table vibration. Changed from 50000 to 3000 in version 6.10c |
| DALSA_LINERATE | 17000 | Adjustable if camera is being overdriven or there is a problem with the scale. Also DALSA_LINERATE_FINE and DALSA_LINERATE_XFINE for resolutions greater than 4500 and 3500. |
| INK_UP_DELAY | 200 | Milliseconds to delay raising the ink marker. |
| INK_DOWN_DELAY | 20 | Milliseconds to delay lowering the ink marker. |
| FILTER_SETUP_LEFT | 5.00 | Left filter position. Can also be set by Left=5.00 in Lamp Box Type in gat2.cnf |

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| FILITER_SETUP_RIGHT | 10.50 | Right filter position. Can also be set by Right=10.50 in Lamp Box Type in gat2.cnf. |
| ZOOM_STEPPER_SPEED | 1200 | Motor pulse rate. The value of 2400 has caused intermittent sync-out problems with the motors. However, the value 1800 (though limited testing has been performed) may be used to achieve faster resolution changes. |

Known Issues The following are descriptions of the known issues that may be found in the existing version of the Titan software:

| Known Issues | |
|--------------|---|
| 1. | <p>Issue: No Known issues yet...</p> <p>Correction:</p> |
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