Service Bulletin

Announcement of DX-D 100 System Version 4

Task

Timing	Category	Scope
Next service as agreed with customer	○ Apply at all sites	PowerHelp complaint / HQ issue:
	◉ Apply at affected sites as listed below	HQ_1209110002; HQ_1205160001 HQ_1208160002; HQ_1205230001 HQ_1201310007; HQ_1203300001 HQ_1204240003; HQ_1111020003 HQ_1202170003; HQ_1202200003 HQ_1205210002; HQ_1109190002 HQ_1109010001; HQ_1205210003 HQ_1208150001; HQ_1209130003 HQ_1211020002
	○ Optional to improve functionality of product	

Task Tracking

After completion of your task the following entry in your Service Report is required: **DD+DIS226.12E** *

* Insert the document number into the field "Comment" (SMS form).

Purpose of this document:

- This document announces the release of the DX-D 100, version 4.
- It describes the solutions for the mentioned HQs.
- It lists the new hardware components.
- It describes the procedure for rotating the workstation monitor.
- It includes the new work step for changing the monitor resolution.

The signatures on the approval page indicate the solutions described in this Service Bulletin have been reviewed and are NOT reportable because no actions are taken to reduce a "Risk to Health" according to our risk assessment process.

List of contents

1 Introduction/Purpose

Symptom

The following issues have been reported for the DX-D 100, version 4.0:
(HQ = **H**ead **Q**uarter):

Improvements for all units:

HQ Case Number	Description
HQ_1209110002	Batteries inside DX-D100 can't be connected, different connections.
HQ_1205160001	Problem with the tethered hand switches for the exposure button at all three units, caused by weak cable design.
HQ_1208160002	Remarks & Questions concerning DX-D 100 FSB-No. 15
HQ_1205230001	Problem with Calibration, uniformity test failed.

Production improvements for newly produced units

HQ Case Number	Description
HQ_1201310007	DX-D100 delivery to USA without grid holder.
HQ_1203300001	Unit moves on its own even while booting up.
HQ_1204240003	mAs value going down after a number of exposures have been made.
HQ_1111020003	The cable of the portable detector heated up and melted. The short circuit that caused this issue possible way caused by a severe twisting of the cable.
HQ_1202170003	After Shipment Arm had "free swinging" and has a broken cable.
HQ_1202200003	The screws that secure the push handle onto the handle are backing out and had to be tightened.
HQ_1205210002	Packaging issue: nuts have come loose on support brace. Lock washers are required.
HQ_1109190002	Tube head arm does not extend out far enough (demo unit).
HQ_1109010001	Brake came out of production needing adjustment.
HQ_1205210003	There are 2 ABC codes (5R77U and 5R75Q) on the outside label of the machine.
HQ_1208150001	The new PCB A3610-03 needs to be supplied with a voltage of 24V but the previous one A3610-01 worked with 12V. This was not updated on time and the equipment was sent with the PCB 03 supplied with 12V.
HQ_1209130003	Quality issues with Agfa Labels on the machine. There is no spray paint available to fix the machine if the color in general gets off.
HQ_1211020002	Sharp edges damaging cable.

Solution These issues have been solved with the release of DX-D 100 version 4.0.

2 Introduction of DX-D 100 Version 4.0

The Agfa DX-D 100 Mobile X-ray Unit is a universal, flexible and affordable mobile modality.

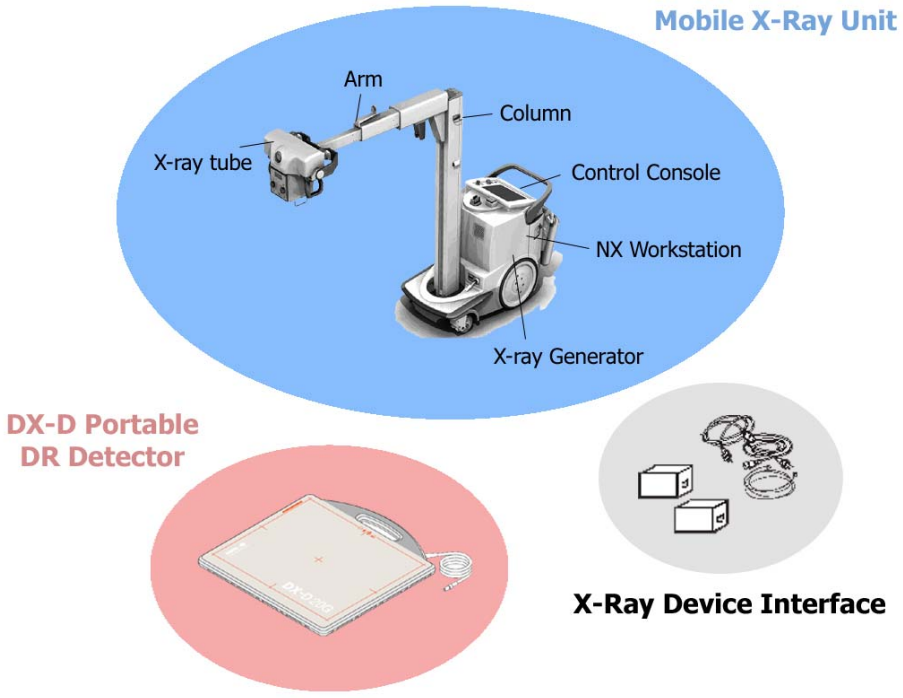

Figure 1

With the release of DX-D version 4.0 some components and features of the system have been changed; see Section 3, “New features of the DX-D 100 version 4.0 components”.

3 New Features and Components of the DX-D 100 Version 4.0

With the DX-D 100, system version 4.0, the following new features and components are introduced:

- XRDI 14: Multi-panel support, see section 3.1.
- Rotation of monitor by 180° to reduce reflection, see section 3.2.
- Additional generator/tube type of 32 KW (with 300 KHU), see section 3.4.
- Change monitor resolution, see section 3.1.2.

3.1 XRDI 14: Multi-Panel Support

The X-ray Device Interface (XRDI) is an interface software that is required to connect the NX Workstation to the X-ray modality. XRDI is specifically designed for the communication between NX Workstation and X-ray Generator and/or DR Detectors.

Multiple-Panel (Detector) Support:

It is now possible to configure more than one portable detector for use with the DX-D 100. The different detectors are identified by individual nicknames.

A new user interface (multiple-panel GUI) will be visible in the NX to show the user which detector is selected.

Installation of XRDI 14 is identical to the installation procedure for the previous version:

3.1.1 Prerequisites

SOFTWARE:

Download the software zip-files to a portable storage medium from the Agfa HealthCare Library:

`Direct Radiography → DR Equipment → DX-D 100 → Software`

- **`XRDI 14.0`**
- **`Varian Detector Software version 7.1`**

TOOLS:

Portable storage medium (checked to be virus-free, e.g. USB Memory Stick)

3.1.2 Instructions

IMPORTANT:

When updating to DX-D 100 version 4.0, always make sure that version 3.0 is installed!

If this is not the case, an update to version 3.0 has to be carried out first because otherwise the update to version 4.0 will fail.

REQUIRED TIME:

- Approximately 4 hours for the installation
- 10 minutes for verification

Perform a Clean Install Procedure

The Clean Installation Procedure is available from the Agfa HealthCare Library:

Agfa HealthCare Library → Direct Radiography → DR Equipment → DX-D 100 → Clean Install Procedure

(1) Stop the NX application before installing the software.
Go to: **Start → Agfa → NX → Stop NX**

(2) Export the current NX configuration.

(3) Make sure that the correct ALF license file (*.alf) is installed first otherwise the XRDI and Varian Detector software cannot be installed.

NOTE:

For further information concerning obtaining or creating the ALF (Application License File), refer to the Licensing Service Manual.

The manual is available from the Agfa HealthCare Library:).
General Info → Electronic License Management System (ELMS) → Technical Services

IMPORTANT:

In case a previous XRDI version is installed, the following warning message appears in the License Manager:

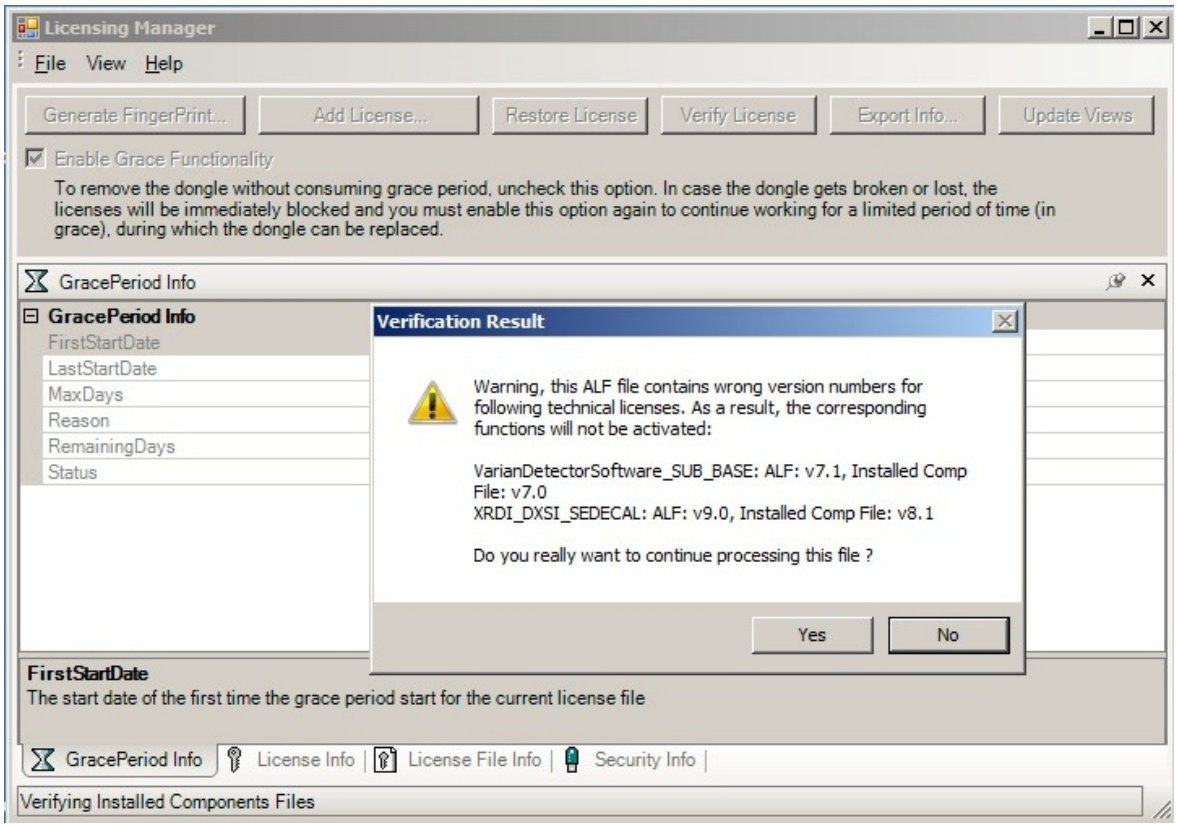

Figure 2

(4) Click **<Yes>** to continue the installation.

(5) Install on top of any previous XRDI/Varian detector software or on a system where no XRDI/Varian software is installed yet.
Double click the **XRDI 14.0.2100.exe / VRN7.1.0001.exe.**
The XRDI Software will install itself into the NX directory **c:\Agfa\Healthcare\NX\Bin\.**

(6) After the installation start the NX Configuration Tool.

(7) Select the <Load from external file" option in the XN config tool.

(8) Import the previously saved NX configuration.

(9) Activate the NX configuration.

3.2 Rotation of Monitor by 180° to reduce Reflection

When mounting the 17” ELO touchscreen monitor, rotate it by 180 degrees compared to its original orientation.

NOTE:
The data on screen will now be shown upside down, but further in this procedure we will configure the graphical drivers in Windows to rotate the screen content again.
Follow these steps when rotating the monitor:

(1) Remove the front cover.

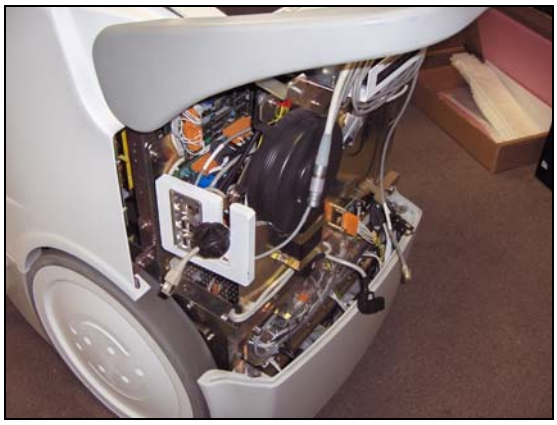

Figure 3

(2) Remove the rear cover (pay attention to the 2 wires + the infrared communication cable) See following 3 figures.

Figure 4

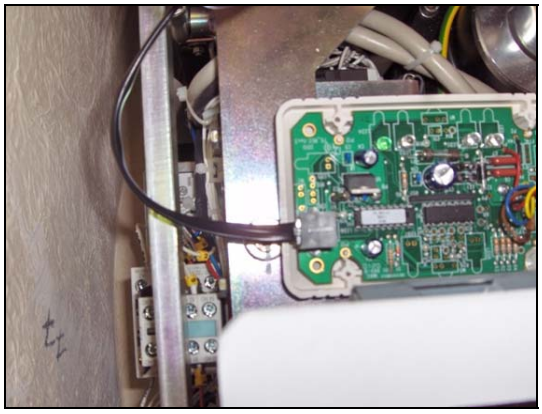

Figure 5

Figure 6

(3) Disconnect the red wires and two white connectors.

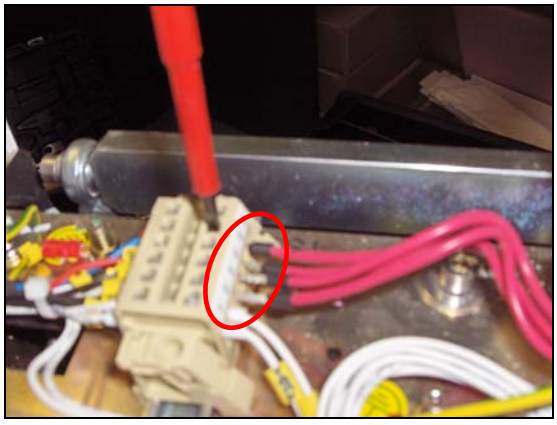

Figure 7

(4) Disconnect earth connection.

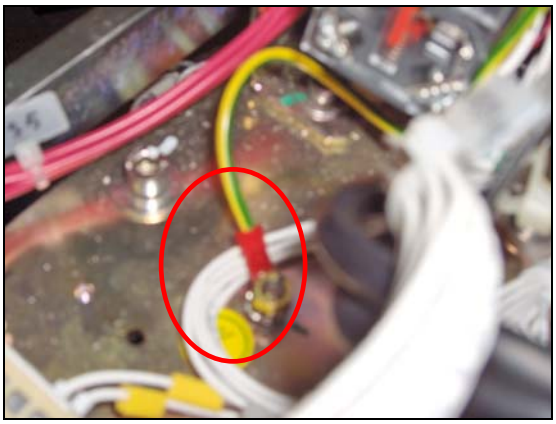

Figure 8

(5) Unscrew the screen assembly.

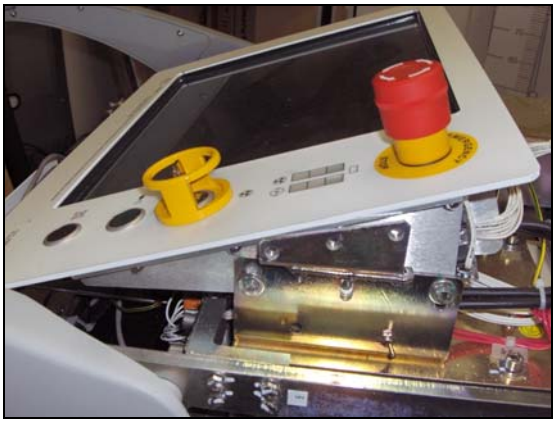

Figure 9

(6) Remove 4-pin and 5-pin connectors from the screen assembly.
See following two figures.

Figure 10

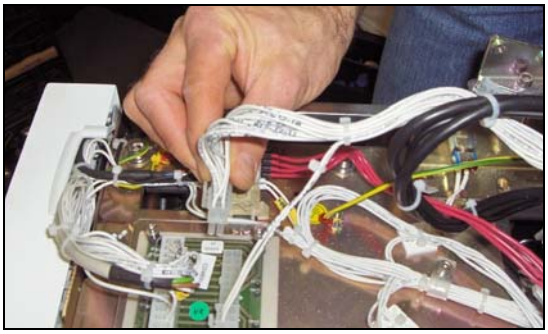

Figure 11

(7) Assembly is now loose and can be dismantled.

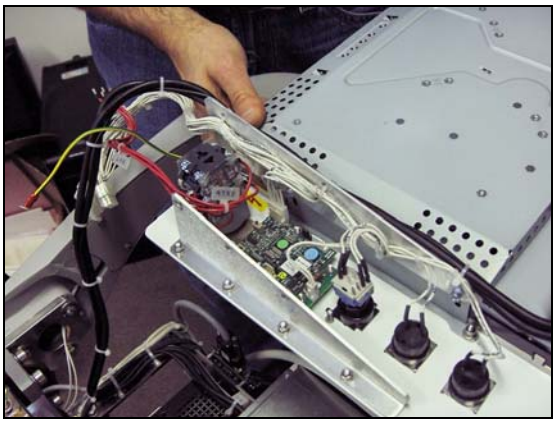

Figure 12

(8) Remove the two side protection plates (8 bolts each side).
See the following two figures.

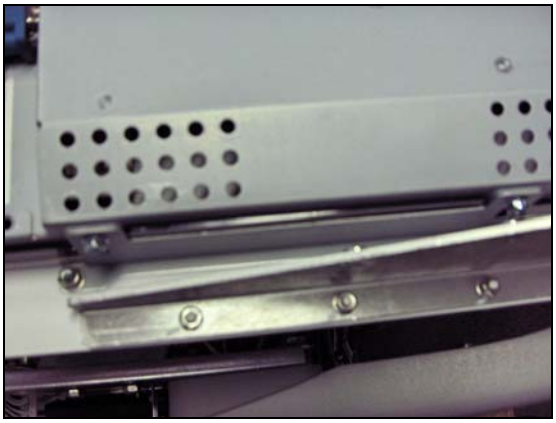

Figure 13

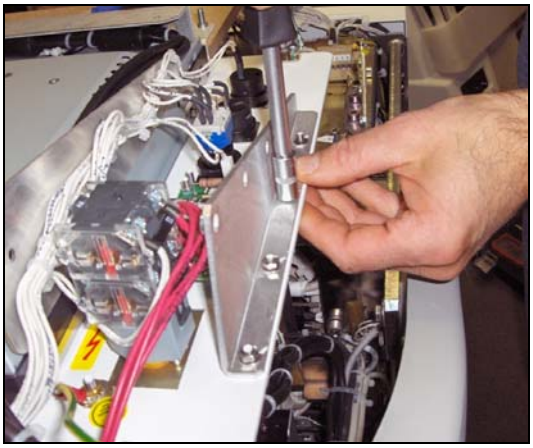

Figure 14

(9) Remove the cable protection plate.
See the following three figures.

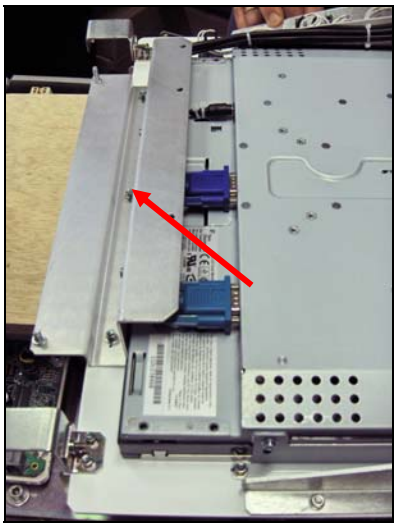

Figure 15

(10) Remove wire straps.

Figure 16

(11) Remove 6 screws.

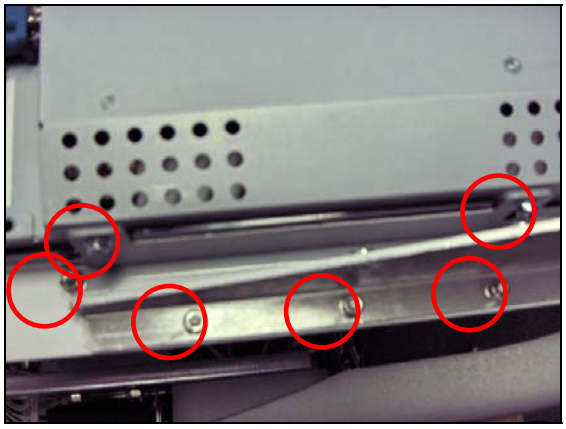

Figure 17

(12) Rotate screen (check re-assembly with 6 screws.

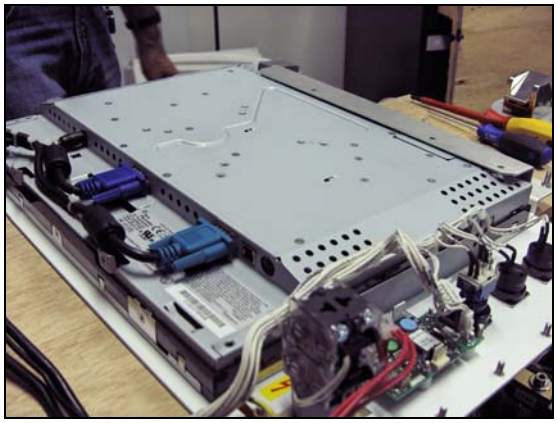

Figure 18

(13) If this is not possible, remove cable protection and re-assemble to allow enough slack).

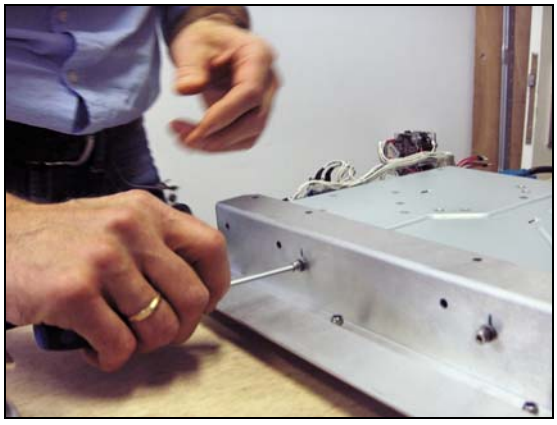

Figure 19

(14) Add wire straps.
(15) Re-assemble in reversed order.
(16) Reconnect all cables.

Figure 20

(17) On the Windows desktop, right-click on **<Graphics properties>**.

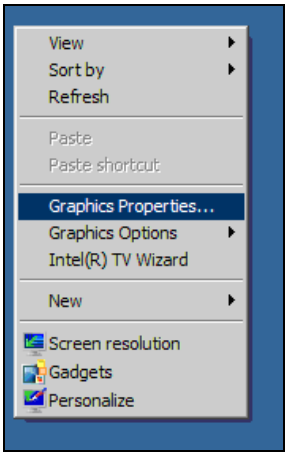

Figure 21

(18) In **<Display Devices>**, select **<Single Display>** (see figure below).

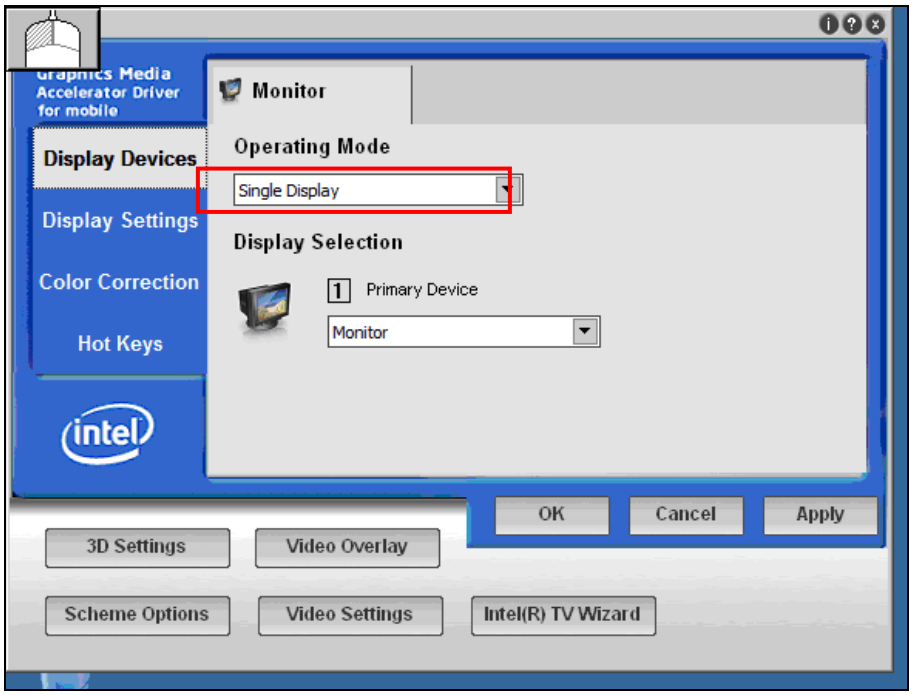

Figure 22

(19) In **<Display Settings>**, select **<Screen Resolution>** 1280x1024.

(20) Set **<Rotation>** to “180”.

(21) Click **<Apply>** and **<OK>**. The screen will rotate.

(22) Confirm the new settings.

NOTE:

Use the **<Enter>** key to confirm the new settings, since the monitor is flipped and touchscreen calibration needs to be performed again.

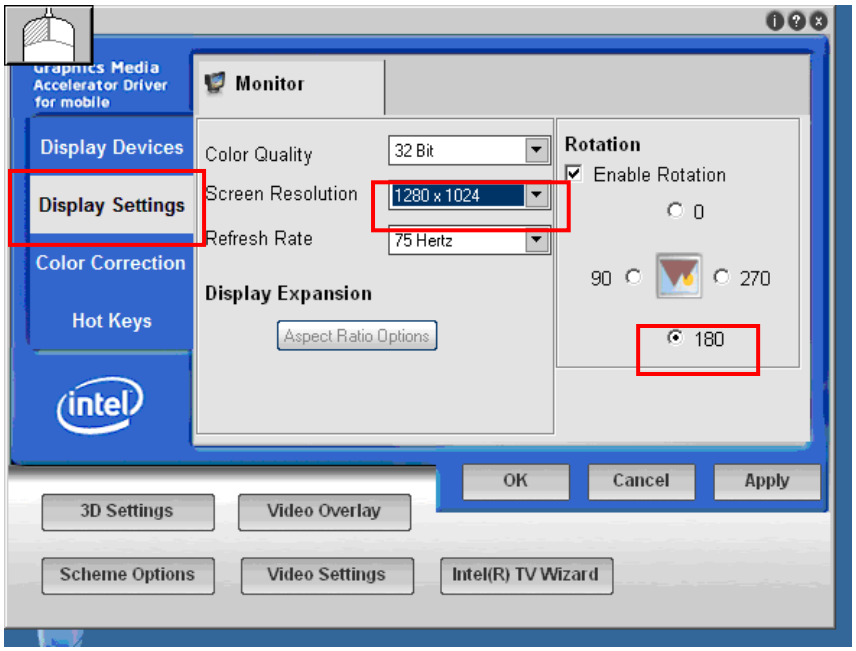

Figure 23

NOTE:

This action must always be followed by a touchscreen calibration procedure, see next step:

(23) Click on the ELO icon in the lower right taskbar of the screen; see figure 2.

(24) Click: **<Align>**

(25) Follow the instructions on the screen.

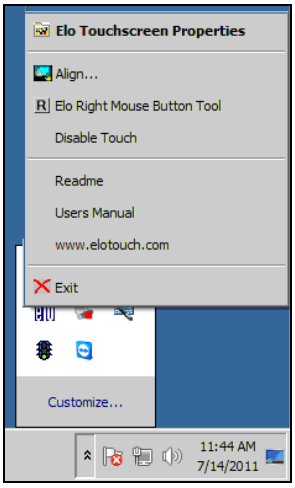

Figure 24

3.3 Suppress Windows Startup Logo

Suppress the (upside down) Windows 7 logo during startup as follows:

(1) Type ‘msconfig’ into the start menu search box.
(2) Go to the **<Boot>** tab in msconfig and check **<no GUI boot>**.

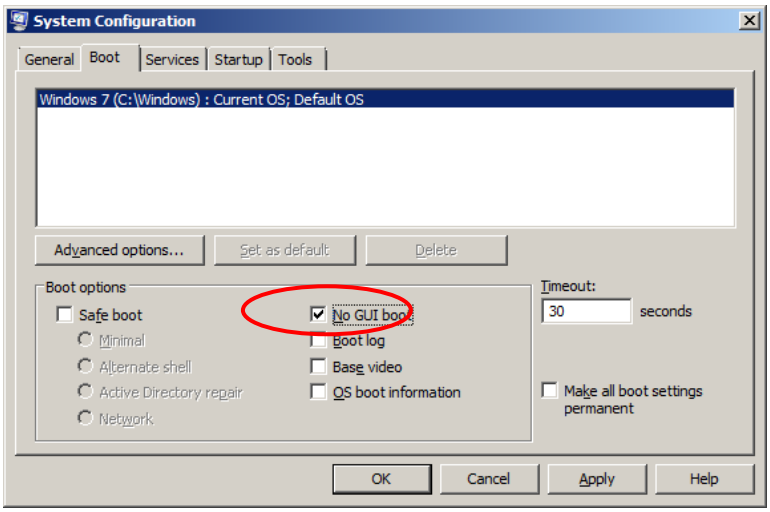

Figure 25

(3) Click **<OK>** but do not let the tool restart Windows
(4) Select **<Exit without restart>**.

NOTE:
After rotation of the monitor and the rotation settings adaptation in Windows, the BIOS loggings are still upside down on the screen.

3.4 Additional Generator/Tube Type of 32 KW (with 300 KHU)

An additional 32KW Generator/Tube type with 300 KHU has been introduced for DX-D 100 version 4.0.

4 Verification

4.1 Verification of Software Versions

(1) After installation restart the NX application via:
Start → Agfa → NX → Restart NX Completely

(2) Go to: Start → **Settings → Control Panel → Add or Remove Programs** and verify that the installed
- o XRDI software version is: 14.0.
- o Varian Detector software version is 7.1.

4.2 Verification of Detector Communication

(1) Prepare a study as test with a flatfield.

(2) Expose the flatfield and check whether image is displayed properly on NX.

5 Keywords

DX-D 100 version 4, XRDI 14, rotation, grid, holder, multi-panel

6 Version history

Version	Change	Date
1.0	Initial Version	01-2013

Details as of PDF Creation Date

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2. Paul Merckx (amdag) on 2013/01/24 05:08 PM CET
3. Bart Biesemans (amajm) on 2013/01/24 08:59 AM CET
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- **Approval Workflow started on 2013/01/23 01:24 PM CET**
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