

Maxedia HD-SDI & DVI Capture cards Version 4.x Software

Product Name: Maxedia

Platform: Maxedia

Project #: Low latency Capture cards

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Maxedia HD-SDI and DVI capture cards

1. Introduction

Maxedia 4.0 has been optimized to take benefit of the Martin Professional Low Latency Capture cards.

The possible inputs cards have Dual HD-SDI or Dual DVI/VGA inputs.

1.1 Purpose of the Document

The purpose of this document is to outline and how to install the new low latency capture cards for the Maxedia Pro and Broadcast range Rev C (and up).

Please feel free to share your experiences and feedback to mc@rdinternational.com

Maxedia HD-SDI and DVI capture cards

2. Capture cards

2.1 Overview

Martin Professional SA is offering professional low latency capture cards to be used in the Maxedia Pro and Broadcast range Rev C and up. These cards and the drivers are especially written and tuned for the Maxedia hardware & software, to ensure that the incoming video sources are displayed without dropped frames or repeated frames. All other standard capture-cards available in the market using the DirectShow driver introduce longer frame delays (up to 4-5 frames), and frame-drops may occur frequently depending on the load of the system with 3rd party cards .

The main advantage by using the Martin Professional Capture cards, is that the Maxedia software bypasses the DirectShow drivers and grabs all images directly from the capture card up to 60 frames/sec depending on the connected source.

By using this technology, we ensure a maximum delay of 2 frames between capturing and outputting on the DVI/VGA port of the graphics card.

The cards are available in two flavors:

- MCC Dual HD-SDI Input card for Maxedia: P/N: 90732640
- MCC Dual DVI/VGA input card for Maxedia: P/N: 90732630

For more detailed information please read further on in this document, or the internet <http://www.martin.com>

IMPORTANT:

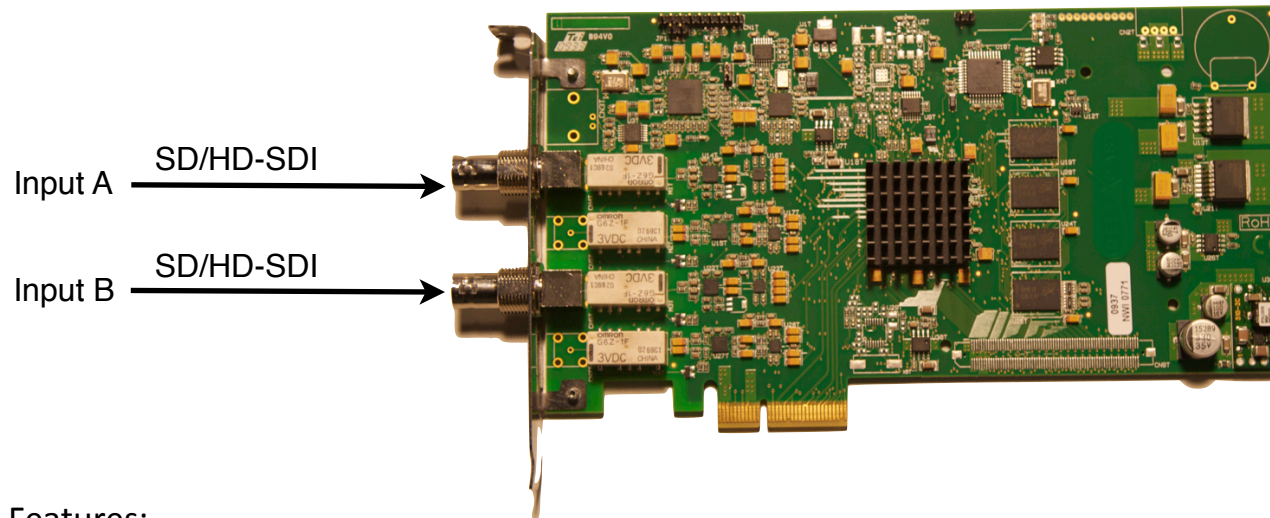
- A Maxedia Pro can have up to two cards installed simultaneously. Future Maxedia software will have support for multiple cards. A Maxedia Broadcast can have one card installed maximum due to available PCIe slots.
- For optimum performance of the Maxedia Revision C & D hardware, it is advised to use only one HD-SDI input or maximum two SD-SDI inputs simultaneously. When using two HD-SDI input sources on Revision C and D hardware, frame drops may occur due to hardware PCIe bandwidth limitations.
- All Martin Professional HD-SDI and DVI/VGA Capture cards are PCIe cards.

In case the capture card needs to be installed in a Maxedia Broadcast REV D & E, or two capture cards need to be installed in a Maxedia Pro (Rev C and up), **an additional PCI Dual 1Gb LAN card** needs to be ordered as well. As the standard Dual LAN card inside the Maxedia Broadcast is a PCIe version, which needs to be removed to make space for the capture card.

Ordering part number for the Maxedia PCI Dual LAN card: P/N: 90732650

Maxedia HD-SDI and DVI capture cards

2.2 MCC Dual HD-SDI capture card.



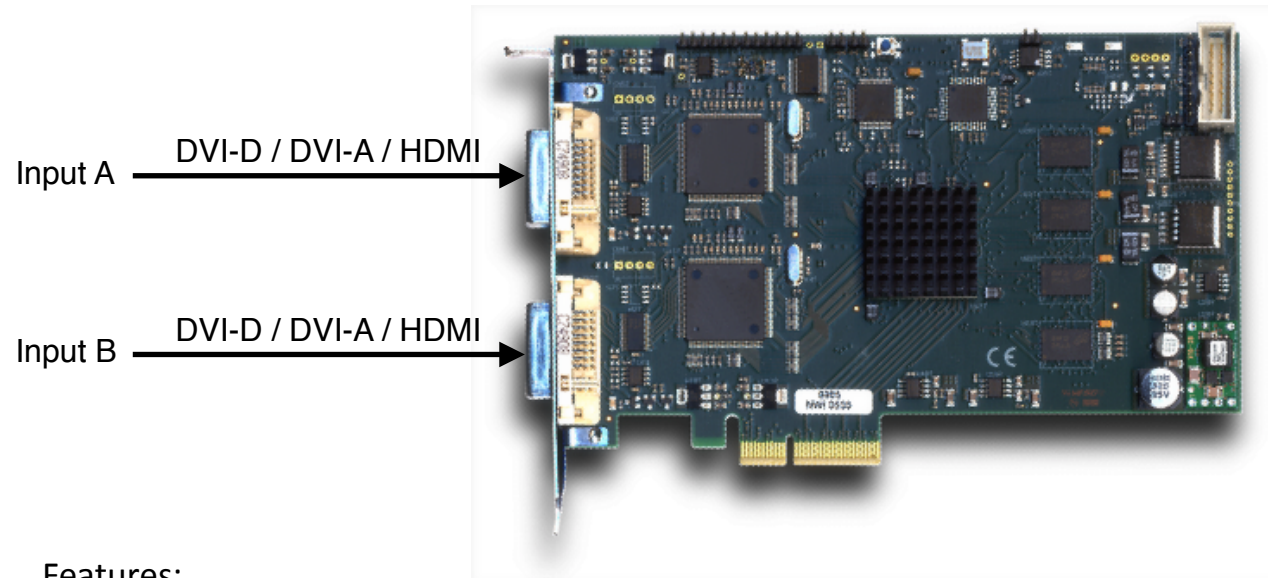
Features:

- Low latency capture card for the Maxedia Pro and Broadcast range from Rev C and up.
- SD-SDI & HD-SDI compatible (SMPTE 259M-C and SMPTE 292)
- 480i, 576i, 720P and 1080i compatible
- 25fps, 29,97fps, 30fps, 50fps, 59,94fps and 60fps
- Every input can have a different resolution and frame rate while capturing
- Auto detect of the input resolution at startup of the Maxedia software.
- Uncompressed 8-bit digital video capture 4:2:2
- Cable equalization on both inputs for 270 Mbit/s - 1.485 Gbit/s signals on BNC coaxial cable.

Ordering part number: P/N: 90732640

Maxedia HD-SDI and DVI capture cards

2.3 MCC Dual DVI-D/DVI-A Capture card:



Features:

- Low latency capture card for the Maxedia Pro and Broadcast range from Rev C and up.
- DVI-D (digital)/DVI-A (analog RGBHV) 640 x 480, up to 1920x1080 pixels
- HDMI 480i/p, 576i/p, 720P & 1080i
- Build-in EDID per input switchable between Analog and Digital (Maxedia software 4.x needs to run).
- Every input can have a different resolution and frame rate while capturing
- Adaptive equalizer for cable lengths up to 30 meters (by using quality cable).
- DVI 1.0 and HDMI 1.3 single link compliant, No HDCP digital content protection support.
- VGA-to-DVI & HDMI-to-DVI connections possible through standard adapters (not provided)

Ordering part number: P/N: 90732630

Maxedia HD-SDI and DVI capture cards

3. Overview options for Maxedia versions

3.1 Maxedia Broadcast

Item	Rev C	Rev D	Rev E
Martin Dual HD-SDI capture card**	Yes	Yes	Yes
Martin Dual DVI capture card**	Yes	Yes	Yes
Maximum amount of cards*	1	1	1
Recommended Engine frame-rate	25 - 30fps	25 - 30fps	All
Recommended Input sources on HD-SDI card	SD (480i/p, 576i/p)	SD / 720P	SD / 720P / 1080i
Maximum recommended inputs HD-SDI card	2x SD / 1x HD	2x SD / 1x HD	2x SD / 2x HD
Maximum recommended resolution DVI card	800x600	1024x768	1920x1080

(*) Future software will support multiple cards.

(**) A PCI Dual LAN card is needed to free-up the PCIe slot to be able to fit the Capture card.

3.2 Maxedia Pro

Item	Rev A	Rev B	Rev C	Rev D	Rev E
Martin Dual HD-SDI capture card	No	No	Yes	Yes	Yes
Martin Dual DVI capture card	No	No	Yes	Yes	Yes
Maximum amount of cards*	0	0	2	2	2
Recommended Engine frame-rate	/	/	25 - 30fps	25 - 30fps	All
Recommended Input sources on HD-SDI card	/	/	SD (480i/p, 576i/p)	SD / 720P	SD / 720P / 1080i
Maximum recommended inputs HD-SDI card	/	/	2x SD / 1x HD	2x SD / 1x HD	2x SD / 2x HD
Maximum recommended resolution DVI card	/	/	800x600	1024x768	1920x1080

(*) Future software will support multiple cards.

3.3 Maxedia Compact & Maxedia Compact RM

The Maxedia Compact & Maxedia Compact RM versions have no PCIe slot available to be able to support the Martin Capture cards.

Maxedia HD-SDI and DVI capture cards

4. How to install the capture cards

CAUTION!

Please make sure to use proper precautions against electrostatic discharges by using anti-electrostatic table mats and ESD band wrist straps. If no such straps or mats are available on-site and the cards need to be build-in; then at least make sure to leave the grounding of the Maxedia connected and touch the housing of the Maxedia with one hand while removing/adding cards with the other hand.

Martin Professional SA cannot be held responsible for damaged cards due to ESD electrostatic discharges.

- Turn off the Maxedia and IO-Box power switch.
- Disconnect and remove the Maxedia 19" computer from de flight-case
- Remove the metal top-plate from the 19" housing by unscrewing the two screws on the side and the one on the back.
- Remove all previous installed capture cards.
- Look for a free PCIe slot. The PCIe connector on the motherboard is mostly black or blue colored. The white connectors are PCI connectors. Possibly the PCIe Dual LAN card needs to be replaced by the PCI Dual LAN version to free-up a PCIe slot.
- Plugin the HD-SDI or DVI capture card(s) in the empty PCIe slot(s) and make sure the cards are firmly in place and fasten with the screw to hold each card.
- Close the top-plate again and fasten the 3 screws again.
- Mount the Maxedia Back in the flightcase and connect all wiring again.
- Turn on the Maxedia and boot with the OS DVD Maxedia 4.0 (Build 105 or later). To re-install the OS which installs and cleans the OS with all the right drivers for all removed and added cards.
- Once the software is installed you can start using the capture inputs. Make sure to enable the card(s) in the software, and select the right input settings through the Menu / Video / Video-In Devices.

Martin also provides a service to upgrade your system in Belgium at R&D International NV

Please take contact with the R&D Office in Belgium at contact@rdinternational.com

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