User Manual
XTRA-Line 27 Series

XTRA-Line monitors of 68.6 cm (27")

DISTEC
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Table of Contents

1. General Specifications

Scope of Document

This user manual is valid for XTRA-Line monitors of 68.6 cm (27").

Important note: This user manual is complemented by other additional documents when indicated.

All documents are also available for download from Data Display Group web site: www.distec.de/en.

XTRA-Line monitor versions:

XTRA-Line Video PIII: Monitor with integrated AD converter board, 1 x RGB, 1 x DVI, S-Video, Composite Video

2. Scope of Delivery
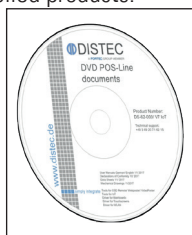
When unpacking the monitor, please check if the following accessories are included in the shipment:

⚠ Note: Pictures can differ from actually supplied products.

☐ Product information   ☐ Accompanying-DVD (Manuals, Datasheets, Driver, Drawings)

☐ RGB cable   ☐ USB cable[1]   ☐ Adapter for power supply

1   Displays with touch sensor only

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3.   General Safety Regulations

Safety information

Please read this safety information carefully for your personal safety and for the prevention of property damage.

In case of a malfunction, immediately disconnect the power plug and contact your dealer or the next Data Display Group service centre. A malfunction is also considered if the housing, a control element or cable is damaged or if liquids or other objects penetrate the monitor.

Please read the safety information carefully before installing the device. If you have any doubts about whether the device may be used in a particular environment, please contact our service partner.

Repairs

Repairs may only be carried out by authorized technical personnel. Unauthorized access or improper repairs might cause serious property damage or cause danger to the user. In addition to that, any legitimate warranty claim expires.

Electrical connection

Disconnect the monitor from socket before executing any work. Do not touch or connect data cables or power cables during thunderstorms.

System start-up

Before the system start-up let the monitor adjust to the room temperature. Do not expose the device to direct heat sources. In case of condensation, please wait a minimum of 12 hours before switching on the monitor. The monitor shall only be installed and used according to this documentation data sheets. Only qualified personnel may perform the initial installation and system setup.

Qualified personnel

Qualified personnel, in terms of the safety information of this documentation, are persons who are qualified to activate, ground and label devices, systems and circuits according to the safety standards.

Operation

For a proper and safe utilization of the product, adequate transportation, storage, installation, assembly, careful handling and maintenance are essential. The device is only certified for in-door operation. Extreme ambient conditions shall be avoided and the monitor shall be protected from dust, humidity and heat. Do not expose the monitor to direct sunlight.

Transport

Unpack the monitor at the place of installation. Use only original packaging for transportation. Please observe these rules for any later transport.

Condensation

Avoid condensation during transport at low temperatures or at extreme fluctuations of temperature.

Safety guidelines for the handling of LCD monitors

- If the device is not used for a long period of time, unplug the power cable.
- Do not unplug the power cable while the device is powerd on, except for emergencies.
- To unplug the device without problems, sockets have to be easily accessible.
- Ensure that the power cable does not get pinched or kinked.
- Do not place heavy objects on the power cable.
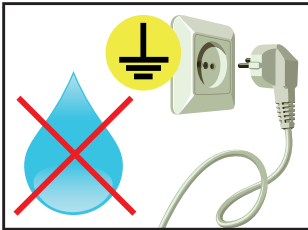
- Do not use damaged or loose sockets to plug in the device.
- Plug the device in earthed sockets only.
- Operate the device with the power cables included in the delivery packet only.
- Use undamaged power cables only.
- When plugging in and out, do not touch the power cable with wet hands.
- Ensure that the power cable is plugged in the socket safely and correctly.
- Use for devices with external power supply only the supplied original power supply, or an equivalent Low Power Source (LPS).
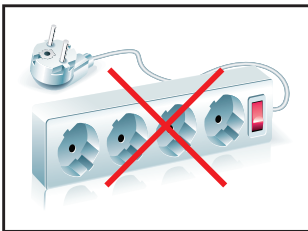
- Do not use extension block to plug several devices into a single socket.

- According to the size, devices may be difficult to handle and very heavy. Ensure that at least two people lift and carry the device.
- Put down the device slowly and carefully to avoid damaging the LCD screen. Ensure that the device stands stable.
- Keep packaging away from children. Danger of suffocation!
- Use our specified and professionally mounted wall mounting only.
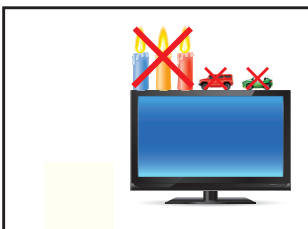
- Do not put objects onto the device.
- Do not place candles, heaters or humidifier near the device.
- Keep the device away from fireplaces and flammable materials.
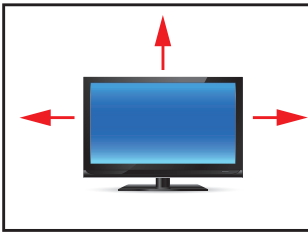
- Ensure sufficient ventilation of the device.
- Keep a minimum distance of at least 10 mm devices to the wall, for devices with integrated PC of at least 40 mm.
- Ensure compliance with the operating temperature.
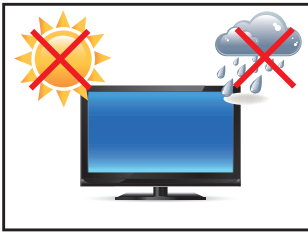
- Do not install the device in places where it is exposed to environmental impacts such as rain or direct sunlight.
- Do not install the device in places where it is exposed to high humidity, dust or smoke. In case of doubt, please contact your sales partner.

- Please use a soft, moist cloth for cleaning.
- For cleaning the screen, please use only commercially available screen cleaner. Do not spray the cleaner directly to the device but onto a cloth.
- Please clean ventilation slots regularly to ensure a good air circulation.
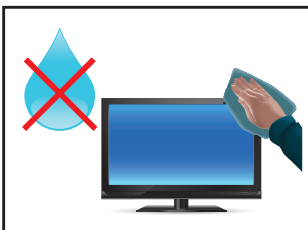
- Protect your device from water splash.
- When cleaning, please make sure that no liquids get into the device.
- Screens and surfaces can be easily scratched. Therefore, please use the prescribed cloth only.

- Attention! High voltage! Never open the device by yourself.
- In case of unusual noises, burnt smell or smoke unplug the power cable.
- Do not insert objects into the device through the ventilation slots.
- If the same picture is displayed over a longer period of time, an after-image may arise.
- When exchanging batteries of the remote control, pay attention to the polarity. Keep batteries away from children and ensure an environmentally correct disposal.
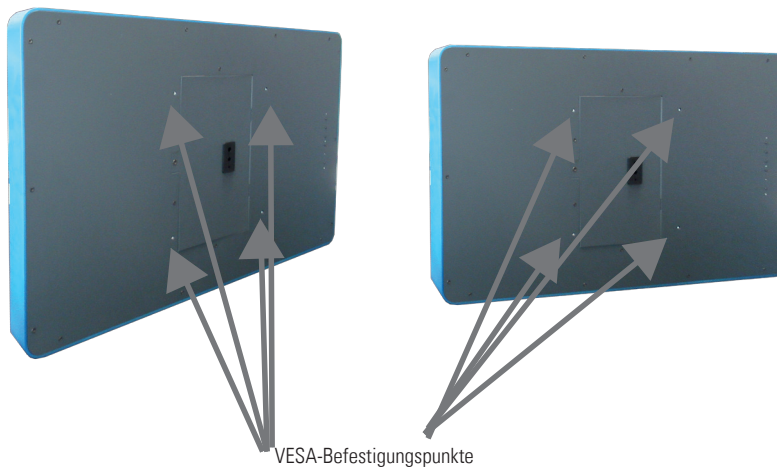
4.   First Installation

Position of connectors and controls

The power and data cable connectors are located under the cover on the back of the monitor. To connect the monitor, remove the cover. The cover is fastened with a Torx M4 screw (TX-M4x10-4,8). The XTRA-Line 27 series has a keypad for monitor settings. This keypad is located on the left side of the rear of the monitor when viewed from the front.

Location of the connections for USB and RS 232

Location of OSD-menu buttons

Location of the connechtion elements for power supply and data cables
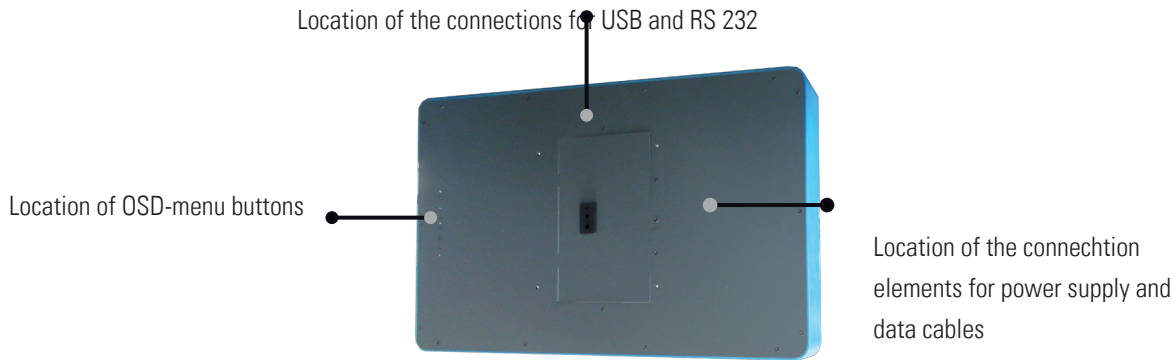
Mounting with VESA compliant monitor brackets

VESA-Befestigungspunkte

VESA mounting points

The XTRA-Line 27 monitors have an integrated VESA mounting.
The operating position of the device is perpendicular (90 degrees to the floor). For wall mounting, the permissible tilt angle is observed. The device can be operated both in landscape mode and in portrait mode.
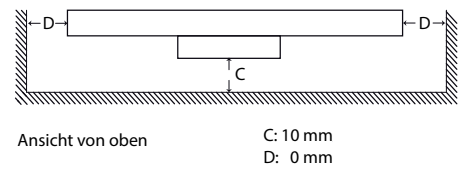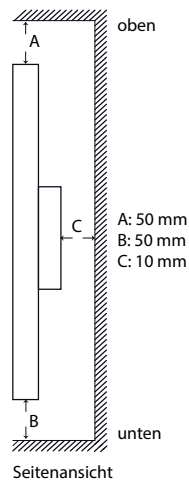
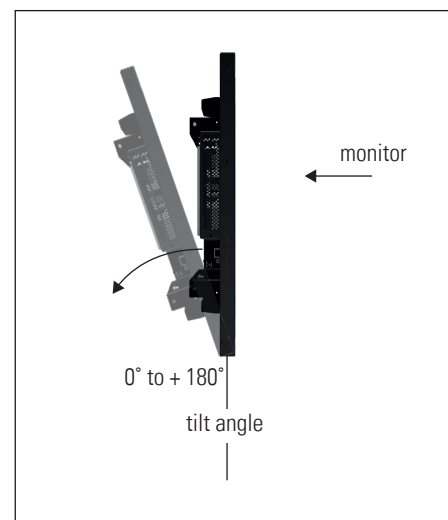VESA formats:
VESA 200x200 XTRA-Line 27

Mounting on wall

Distance to wall:

- devices without integrated PC: min.10 mm

A: 50 mm
B: 50 mm
C: 10 mm

Seitenansicht

Ansicht von oben

C: 10 mm
D: 0 mm

Allowed tilt angle for mounting

XTRA-Line monitors may only be mounted with a tilt angle of 0˚ to + 180 °.

monitor

0˚ to + 180˚

tilt angle

Connecting to Power

⚠ Note: POS-Line V2 Monitors can be supplied with a suitable power supply from our accessories store. Please observe the notes in the section "Connecting to an existing power supply".

Monitor Version	Operating Power			Power Supply Included
	min.	typ.	max.	
XTRA-Lie 27	16 V DC	12 V - 24 V DC	27.3 V DC	no

Display	Input voltage	Output voltage	Output current	Power
Power supply for XTRA-Line 27	100-240 V AC	24 V DC	3 A	72 Watts

The power is connected to the display via the green female connector at the back side.

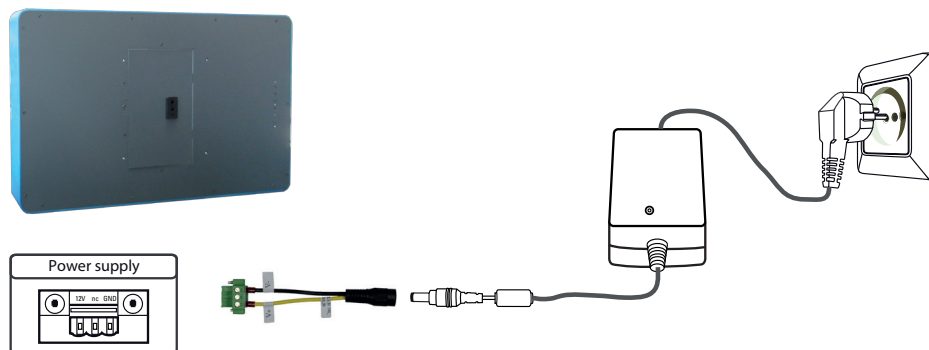Female connector: Phoenix Contact DFK-MSTB-2,5 / 3-GF
Male plug: Phoenix Contact MSTB 2,5 / 3-STF

Connecting to power with optional power supply

⚠️ Note: Connect the data cables to external devices before plugging the display to the power.

An adapter cable to connect the optional AC power adapter is included to all monitors in the package.


- Connect the adapter cable to the display.
- Connect the adapter cable to the 12 V connector of the power supply.
- Connect the power cable to the power supply.
- Connect the power cable to a power socket.
- Disconnect device: The AC main power supply can be disconnected via the Phoenix connector (DC), via the POS-Line V2 monitor or the AC adapter's plug.

Connecting to an existing power supply

Caution: POS-Line V2 monitors with an input voltage of 12V or 24V can only be used with a current source of limited power (see standard EN 60950-1, chapter 2.5, table 2B "current source limited line" with max. 24V / 4A 100VA).

- Make sure that your external power supply is sufficient for the display. The maximum power consumption of the display is indicated in the data sheet and the display label.
- Disconnect the adapter cable, if necessary, the device and the power supply.
- Disconnect the green connector from the adapter cable.
- Connect your POS-Line monitor to your power source. Pay attention to polarity of the green connector!
- Connect the green connector to the device.
- Disconnector: The DC supply network can be disconnected via the Phoenix connector, at the XTRA-Line 27 monitor.
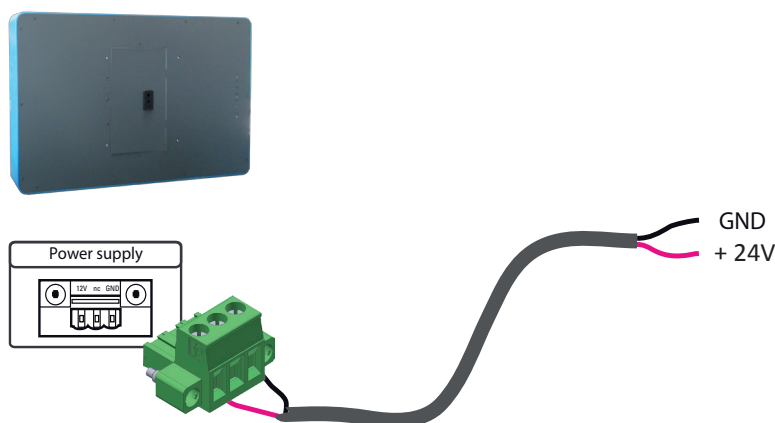
5.   Touch Sensors

For the XTRA-Line version with touch sensor:

The drivers for these monitors must be installed on your PC system. HID devices do not need drivers for Windows 7 and higher. Please contact our support center if you are using LINUX based computers.
If a driver is required, the touch on this driver must be calibrated. Is it a HID Touch, Windows calibration in the control panel must be performed.
path:
Control Panel \ All Control Panel Items \ Tablet PC Settings
Note: All drivers for the touch sensors can be found on the enclosed data medium. Updated drivers can be found on the homepage of the touch manufacturer. Currently: http: //www.eeti.comtw/drivers.html
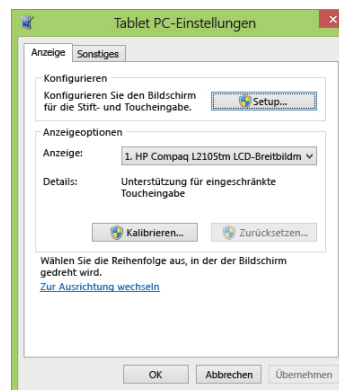
6.   XTRA-Line 27 Video PIII

Connectors and OSD buttons of XTRA-Line 27 Video PIII series
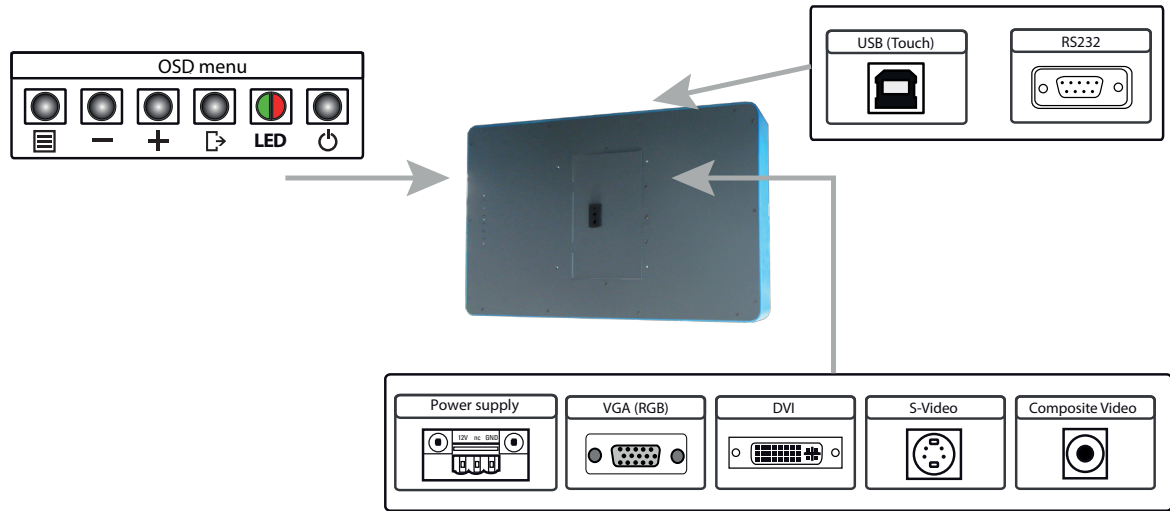
Connecting to a PC with VGA cable
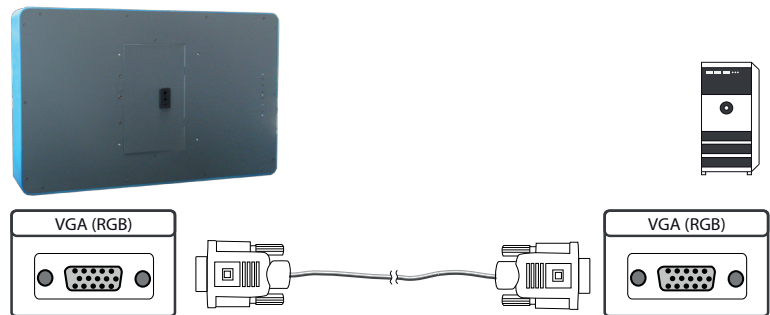
Connecting to a PC with DVI cable
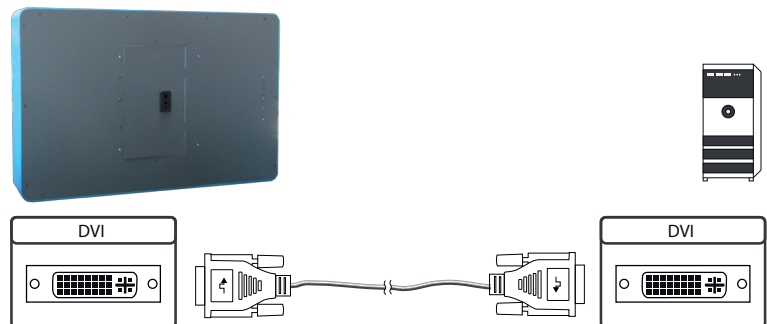
Connecting to a PC with DVI-HDMI cable

Connecting to an external device with S-Video cable

Connecting to an external device with Composite Video cable

Connecting the Touch to a PC with USB cable (for displays with touch sensor only)

Connecting the Touch to a PC with RS232 cable (for Remote OSD only)

Remote OSD control

To control the OSD menu of the display remotely from a PC, use a RS 232 cable and connect the display to your PC as described above. Please read the handbook for the remote control 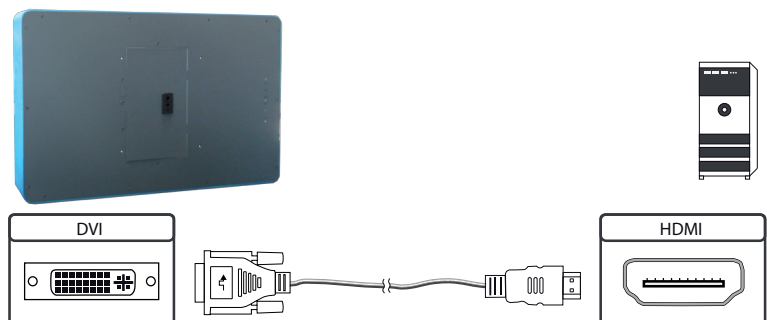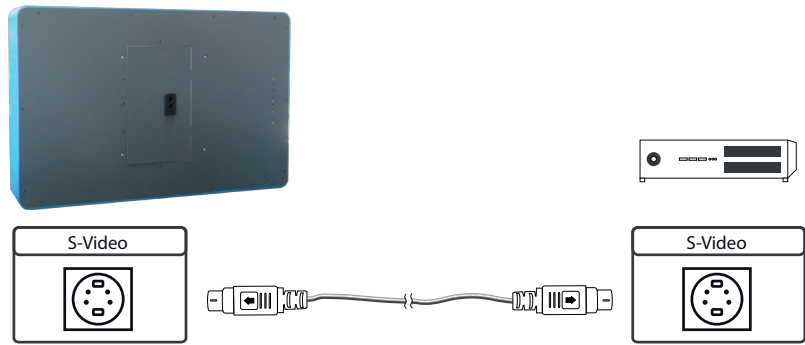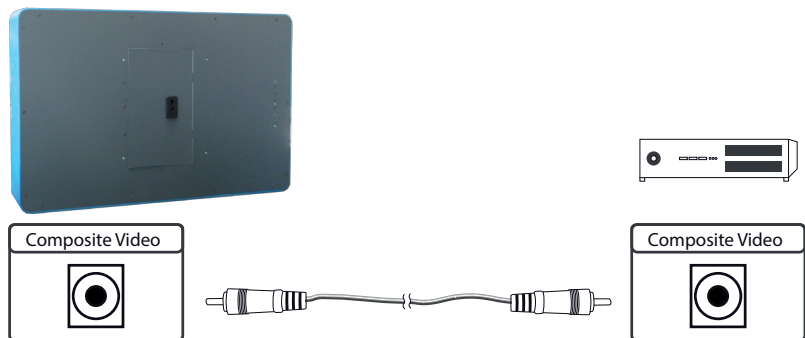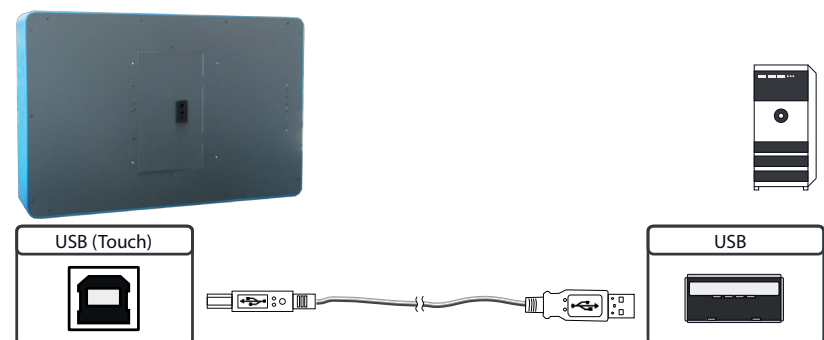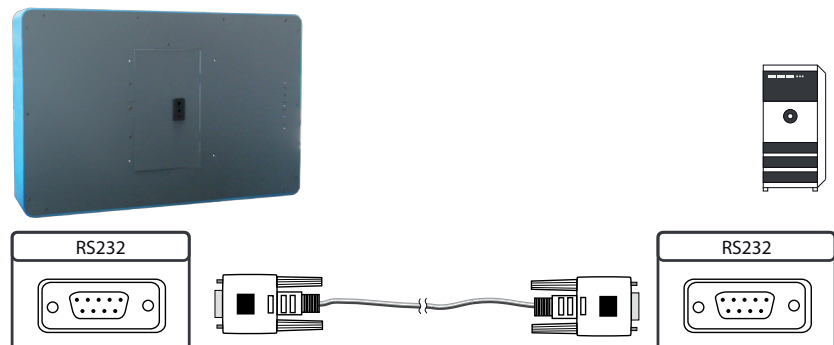carefully. Please see the instructions for the remote control you find in the enclosed DVD. The document describes in detail all commands and the structure of the commands for the serial interface.

OSD keyboard

OSD functions of the monitor can be controlled via OSD key pad. The OSD allows selection of input source and fine tuning of various functional parameters like brightness, contrast etc.
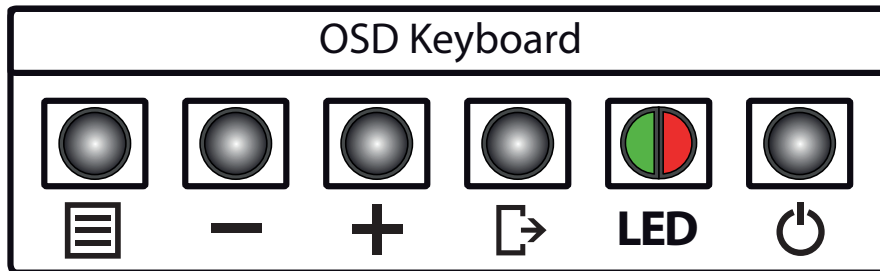
The OSD control can either be used:

- to access various functions directly
- to navigate within the OSD

The following two tables provide an overview of the functions:

Direct functions:

Key	Function	Remark
Menu	Open the OSD menu	
—	Open PIP / PAP settings	
+	Open brightness control	
Exit	Select signal input	
Power	On/ Off	

Navigation in OSD menu:

Key	Function	Remark
Menu	Open sub menu	when in main
	Confirm entry	when in main
Enter	Cursor down	when in main or sub menu
	Cursor/ slider to the left	when in main or sub menu
UP	Cursor up	when in main or sub menuu
	Cursor/ slider to the right	when in main or sub menu

Exit	Leave OSD menu	when in main or sub menu
	Leave sub menu	when in sub menu

The green/red LEDs on the external keypad show the current status of the board:

Color	Meaning	Remark
Green	Signal found	
Green blink	Search signal	
Red	Power safe mode	
LED off	Monitor off	

Special functions of the controller:

- PIP (Picture in Picture):   Simultaneous display of two video sources on the screen with adjustable positions.
- PAP (Picture and Picture):   Side-by -side display of two video sources.
- Tiling: Display of a video source on several monitors with mutually non overlapping frames.

OSD menu
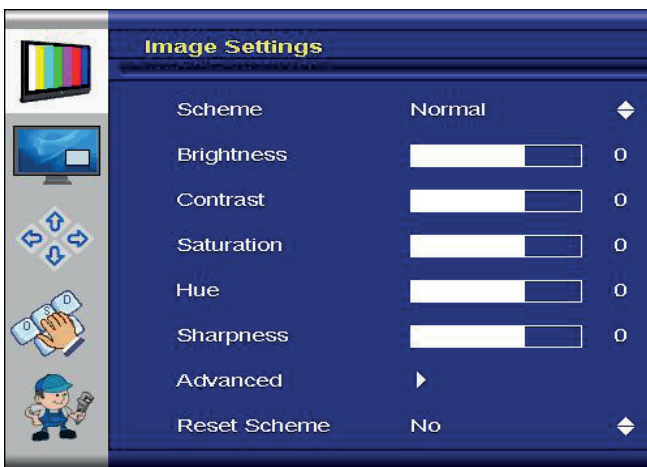
Image Settings Menu

Scheme:	Switches between normal/ sport/ game/ cinema/ vivid presettings.
Brightness:	Panel brightness adjustment.
Contrast:	Panel contrast adjustment.
Hue:	Panel HUE adjustment (RGB, S-Video and Composite) only.
Saturation:	Panel saturation adjustment (RGB, S-Video and Composite) only.
Sharpness:	Panel sharpness adjustment.
Advanced:	Open Advanced sub menu.
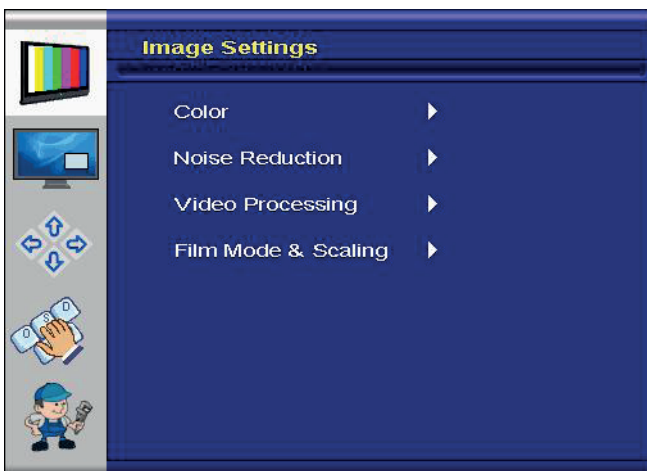
Advanced Image Settings Menu

Note: Noise Reduction, Video Processing and Film Mode & Scaling are only available for RGB, S-Video and Composite signals.

Image Settings

Color Temp	4200K
User Color	▶
ADC Calibration	

Advanced Color Sub Menu

Color Temp: Allow selection of different color temperature schemes. Selections are user, sRGB, 4200K, 5000K, 5400K, 6500K, 7200K, 9300K.

User Color: Create custom color scheme.

ADC: Auto Color-Adjust. Performs auto fine tuning on the ADC (RGB, S-Video and Composite only).

Image Settings

Red Gain		0
Green Gain		0
Blue Gain		0
Red Offset		0
Green Offset		0
Blue Offset		0

Advanced User Color Sub Menu

Red Gain: Boost adjustment on red.
Green Gain: Boost adjustment on green.
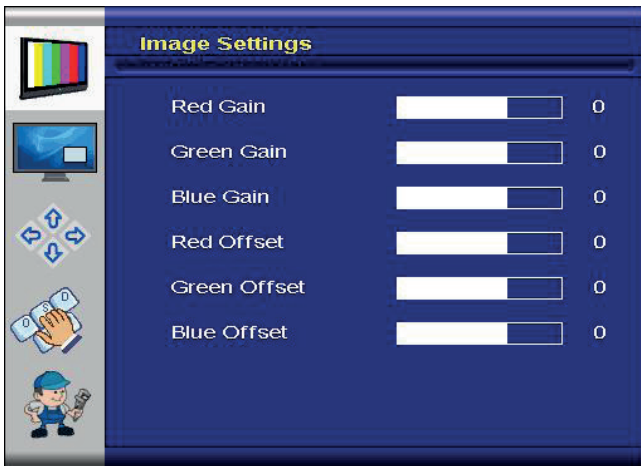Blue Gain: Boost adjustment on blue.
Red Offset: Offset level on red.
Green Offset: Offset level on green.
Blue Offset: Offset level on blue.

Image Settings

CCS Mode	Off
Dynamic NR Mode	Off
MPEG NR Mode	Off
MPEG NR	0
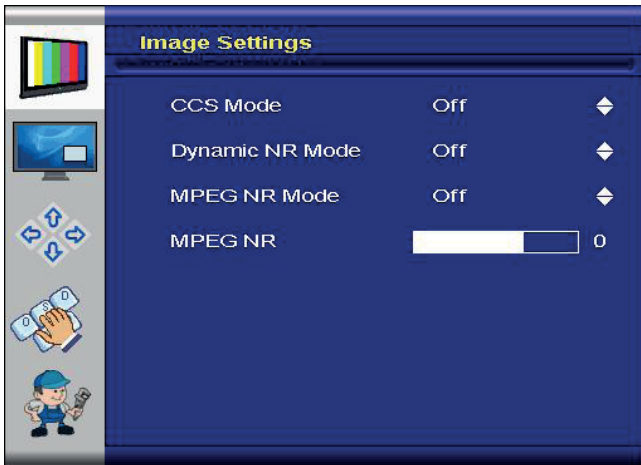
Advanced Noise Reduction Sub Menu

CCS Mode: Changes Cross-Color Suppression between off/ adaptive/ normal.

Dynamic NR: Changes Dynamic Noise Reduction between low/ medium/ high/ off/ adaptive. High setting may cause loss of detail, adjust for best image.

MPEG NR: Enables/ disables the MPEG NR Mode.

MPEG NR: Manual setting of MPEG noise reduction level.
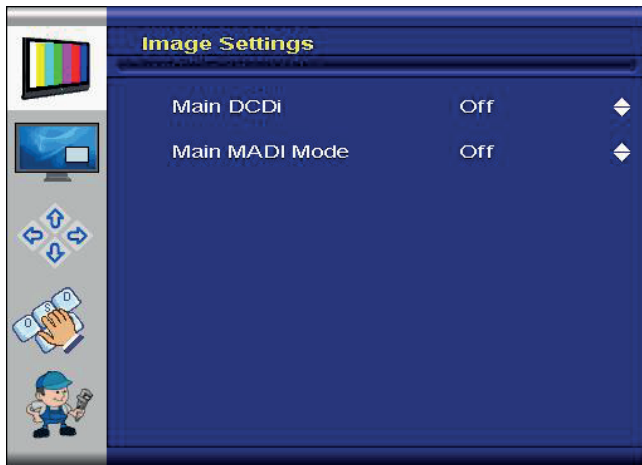
Advanced Video Processing Sub Menu

Main DCDi: Turns DCDi on/ off on main channel.

MADI Mode: Changes Motion Adaptive De-In-
                terlacing between normal/ off/
                adaptive modes.
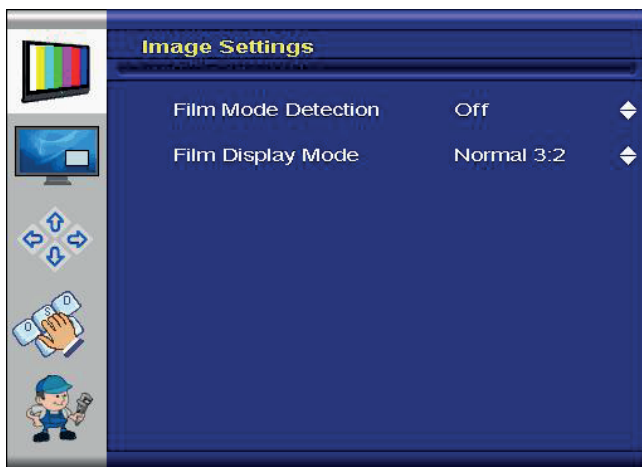
Advanced Film Mode Sub Menu

Detection: Selection of Video-3:2/ Video-2:2/
                  Video-3:2-2:2/ off.

Mode: Selection of Normal 3:2 or other
                  future modes.
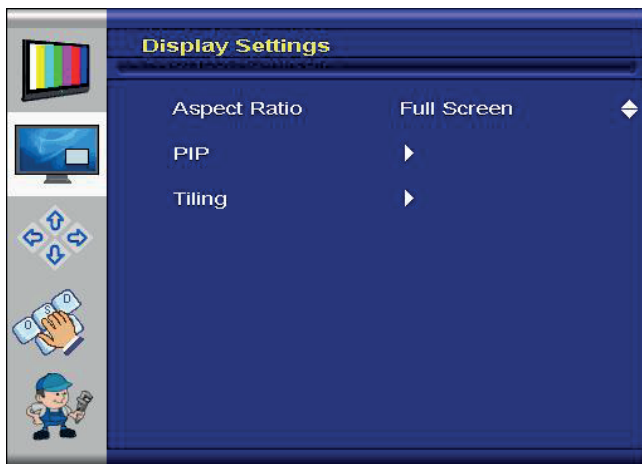
Display Settings Menü

Aspect Ratio: Used to adjust display between
                  full screen, panoramic, Letter Box
                  Expand, Pillar Box and 1:1.

PIP: PIP sub menu.

Tiling: Tiling sub menu.
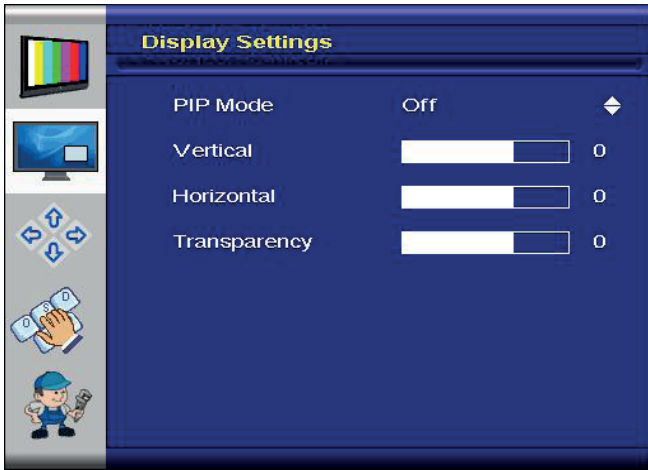
PIP (Picture in Picture) Sub Menu

PIP mode: Toggle between Off, PAP-Tall, Side-by-Side, Small PIP and Large PIP.

Vertical: Vertical position of PIP image.

Horizontal   Horizontal position of PIP image.

Transparency: Transparency of PIP image.

Tiling Sub Menu (for video walls)

Horizontal Total: Defines the total horizontal number of displays.

Vertical Total: Defines the total vertical number of displays.

Horizontal Position: Defines the horizontal position of the actual display unit.

Vertical Position: Defines the vertical position of the actual display unit.

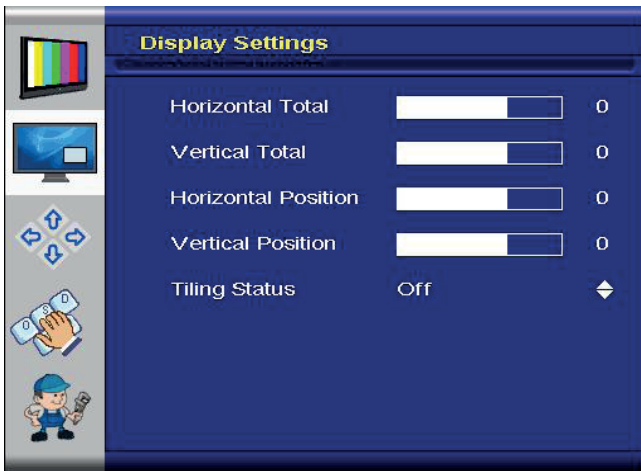Tiling Status: Enables/ disables the tiling function. If the PIP-Mode is PAP-Tall or side-by-side, the tiling status will be off and disabled.

Example: 3 by 3 video wall: Definition of Horizontal/Vertical display position:

Position	1	2	1
1	1 / 1	2 / 1	3 / 1
2	1 / 2	2 / 2	3 / 2
3	1 / 3	2 / 3	3 / 3

Note:

• Tiling property cannot be used while PAP-Tall or Side-by-Side modes are active.

• If PIP is turned on, the PIP image would be displayed on every panel of the video wall.

• Image and position menus are disabled while tiling is on.

• For best results, the Horizontal Total and Vertical Total value should to be set to a value which is an integer divider of the input width or height, respectively. For example, if input is 1280x768, horizontal total has to be set to one of 2, 4, 5, 8 and vertical total has to be set to one of 2, 3, 4, 6, 8.
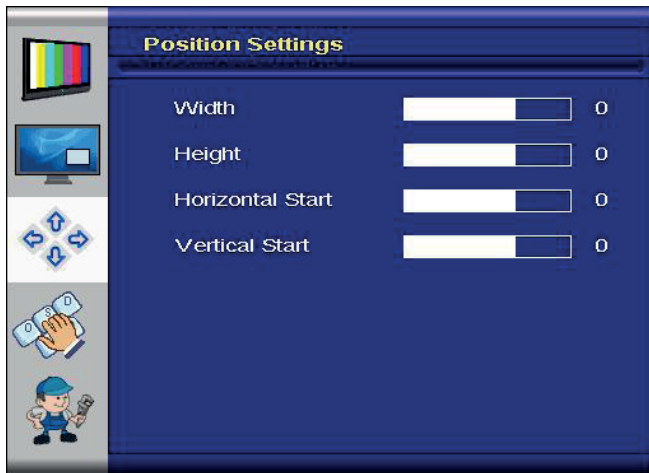
Position Settings Menu (for DVI, S-Video and Component Video Signals)

Width: Adjusts total width of the image by stretching or shrinking.

Height: Adjusts total height of the image by stretching or shrinking.

Horizontal Start: Changes the starting point of the image horizontally, without altering height.

Vertical Start: Changes the starting point of the image vertically, without altering width.
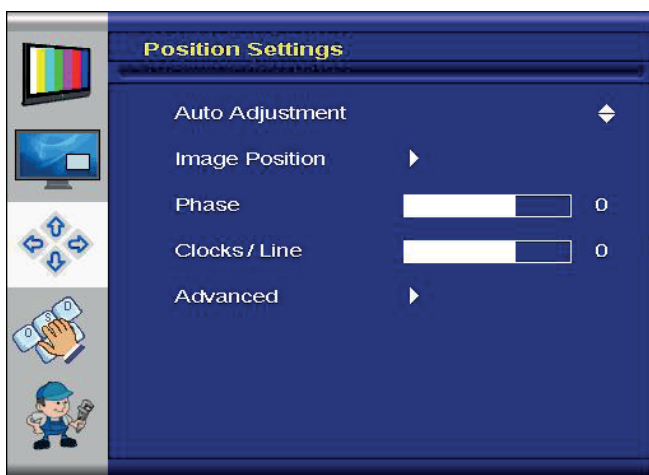
Position Settings Menu (for RGB)

Auto Adjust: Performs auto-adjust function on the image.

Image Position.:   Image position sub menu.

Phase: Slider to adjust the sampling phase of the analogue interface. For optimum image quality, input pixels should be sampled at the ideal sampling points.

Clocks/Line: Slider to adjust the sample clock of the analogue interface. This is helpful for improving the image quality for non-standard display modes.

Advanced: Advanced Settings sub menu.
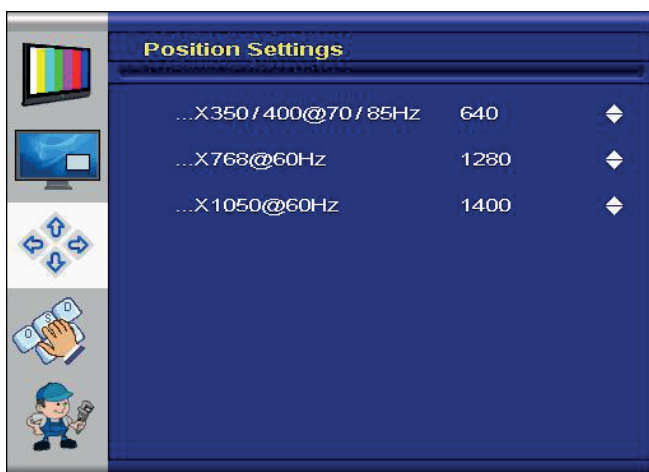
Advanced Settings Sub Menu

Note: This function can be used to manually force some of the widely used difficult-to-detect modes which can be misinterpreted by the controller.

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Advanced Settings Sub Menu (DVI mode only)
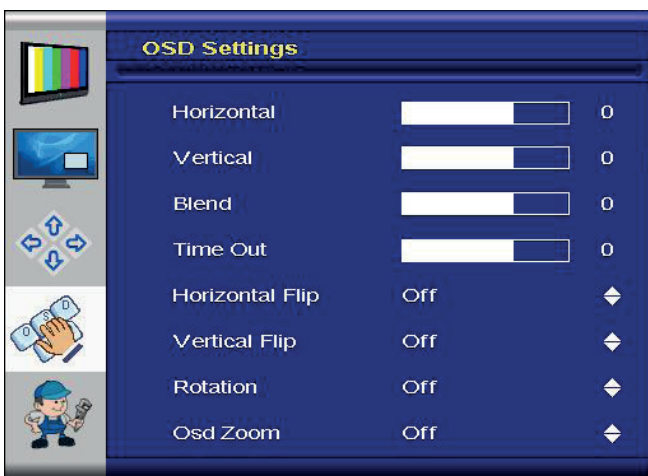
OSD Settings Menu

Horizontal:	Move the OSD in horizontal direction.
Vertical:	Move the OSD in vertical direction.
Blend:	OSD transparency adjustment.
Time Out:	This function determines after how many seconds the OSD will close itself.
Horizontal Flip:	Flips the OSD horizontally.
Vertical Flip:	Flips the OSD vertically.
Rotation:	Rotates OSD.
OSD Zoom:	Changes OSD size.

Setup Menu

Factory Reset:	Execute factory reset.
Speed Mode:	In graphics mode, fast image transfer is supported.
Show Menu Of:	Changes the menu between main image and PIP if the PIP mode is on.
Input Search:	Toggles input search on/ off.
Auto Brightness:	(Optional) Toggles automatic brightness control through external light sensor on/ off.
Firmware Version:	Installed Firmware Version.
OSD Version:	Installed OSD Version.

7. Maintenance

Systems with active cooling require cleaning of ventilation slots every 6 months. Systems with passive cooling must be cleaned every 12 months.

8. Warranty / Service

Warranty

DIstec GmbH grants a manufacturer's warranty of two years from the date of delivery.

The rendering of warranty claims shall neither extend nor restart the warranty period.

During the warranty period, Distec shall repair product faults based on material or production defects. The warranty service is executed at Distec's discretion through repair, replacement of defective parts or by exchanging a product for a product of equal quality without charging the customer for material or labor.

Warranty claims are only accepted, if Distec receives notification of a defective product within the warranty period and the product is presented to the Distec Service Centre together with all information as specified in the RMA process.

Warranty Exclusions and Limitations

This warranty does not apply to any defect for which Distec is not responsible and which includes, but is not limited to the following:

- Unauthorized opening or disassembling of the product
- Faulty maintenance by non-observation of maintenance instructions
- Inappropriate storage or cleaning of the product
- Unauthorized modification of the product
- Incorrect use or misuse
- Non-observation of operating and installation instructions
- Permanent display of fixed images (causing image retention or image sticking)
- Operating the product in conditions which exceed the limitations of the specification
- Use of inappropriate boxes, packaging or modes of shipment
- Force majeure like fire, acts of war, acts of violence, chemical or biological impacts, lightning strikes, over voltage or similar events
- Fault resulting from the use of software which was not originally supplied with the product or which is incorrectly installed
- Normal wear and tear and wearing parts (i.e. LCD panel)

Mechanical damages like scratches, pressure or break points are excluded from this warranty.

This warranty does not include accessory parts which are not integral part of the product (as boxes, batteries).

Pixel errors only constitute a fault under the terms of this warranty if they deviate from the product specification (i.e. ISO 9241-307 pixel failure class II).

Display Quality - Prevention of after image burn in effects

After image burn-in means that an image or part of an image (i.e. logo) remains visible on the screen even if the image on the screen is changed. This should not occur if the LCD panel is operated in normal conditions with changing content. To prevent burn-in effects please follow the following guidelines.

- Do not display fixed patterns for an extended time period of more then 12 hours.
- Power-off the monitor for 4 hours after using it for 20 hours, and for 2 hours after using it for 12 hours.
- Use the power scheme and power management of the PC.
- Use plain-colored screen savers.
- Avoid patterns with a strong difference in brightness and contrast.
- Avoid gray colors.
- Change images and logos regularly. Show animated pictures for 60 seconds after 4 hours of operation.
- The best way to protect your display is to switch the monitor off when not in use or to use screen savers.

Non-observance of these guidelines may have effects on warranty.

Warranty Processing

Group RMA process. In order to avoid unnecessary charges, it is important to adhere to the RMA regulations.

Products must be appropriately and professionally packed for a safe return to the Distec Service Centre. Products with panel sizes equal or larger then 81 cm (32") must be shipped on pallets in upright position.

Distec does not assume liability for any customer data stored on products which are returned to Distec.

Limitations of Liability and Benefits

With this warranty declaration, Distec exclusively warrantys that the product is free of material and manufacturing faults.

Distec does not issue any other warranty or similar statements other than this declaration.

This warranty does not impair or affect a buyer's statutory claim against the seller due to material damage. Such claims can be asserted instead of the warranty agreed to here at the buyer's discretion.

Mandatory legal rights and mandatory claims under the German product liability remain unaffected.

Applicable Law and Place of Jurisdiction

The laws of the Federal Republic of Germany apply.

Place of jurisdiction is Munich.

Service addresses

Germany Distec GmbH - Werk Kindel Am Künkelhof 4 99820 Hörselberg-Hainich ☎ +49 3 69 20 71 62-0 ✉ support@distec.de	**Great Britain** Display Technology Ltd. Osprey House, 1 Osprey Court Hichingbrooke Business Park Huntingdon, Cambridgeshire, PE29 6FN ☎ +44 14 80 41 16 00 ✉ info@displaytechnology.co.uk	**USA** Apollo Corp. 87 Raynor Avenue, Unit 1 Ronkonkoma NY 11779 ☎ +1 63 15 80-43 60 ✉ info@apollodisplays.com

Please go to the following web address for further information about our RMA regulations and RMA forms:

Http://www.distec.de/en/service

9. Disposal

Disposal of old devices

If the acquired Distec product is to be disposed of, must be implemented into national law the Directive 2012/19/EU.

Disposal of batteries

Applicable in all countries of the EU and in countries with separate battery collection systems.

The Batteries in this product should not be disposed with other household waste. The chemical symbol Pb, CD or Hg indicate that the battery contains lead, cadmium or mercury above the reference level in EC directive 2006/66/EG.

Batteries which are not disposed correctly can cause harm environment and health.

Our environment is close to our hearts. Please help us to protect our environment and recycle empty batteries with the free battery collection system.
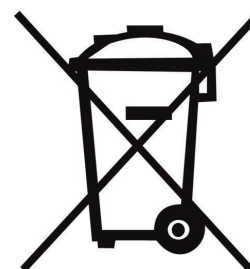
10.   Declaration of Conformity

Declaration

Hereby the Distec GmbH declared that the unit EU is in compliance with the essential requirements and other relevant provisions of Directives 2014/30/EU and 2014/35/EU and 2011/65/EU.

The CE declaration of conformity can be found in English on the enclosed companion DVD.

⚠️ Warning:
- This is a class A device.
- This device may cause radio interference in the home.
- In this case, the operator may be required to take appropriate measures.

FCC-Declaration of conformity

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Canadian Department of Communications Compliance Statement

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Observation des normes-Class A - Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

FCC Information:

• Changes or modifications not expressly approved by Distec GmbH could void the user's authority to operate the equipment.

• Use the attached specified cables with the POS-Line monitor so as not to interfere with radio and television reception.

• Please use the supplied power cord or equivalent to ensure FCC compliance.

• Please use the supplied shielded video signal cable, Mini D-SUB 15 pin to Mini D-SUB.