

Planar® ContentSmart™ Media Player MP-3450 User's Manual



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1. Introduction

This document describes the hardware and software operations of the Planar® ContentSmart™ Media Player MP-3450, system set up, and frequently asked questions.

1.1. Features

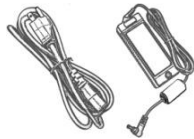
The MP-3450 is a Full-HD 1080p high definition digital signage media player featuring industrial grade mechanical design and versatile open-standard SMIL programmability.

- AV in for custom live content display
- Full-HD 1080p hardware decoding of MPEG, H.264, and VC-1 media formats
- 4GB on-board flash local storage with CF card slot
- Integrated audio and video output via HDMI
- Supports full POPAI Screen Media Formats Standards profiles S1 to S12, and E1 to E9
- Multiple 3rd party software solution compatibility
- Industry leading W3C SMIL support for developers
- Built-in wireless b/g/n network
- RS232 for on/off control

1.2. Package contents



Media Player Unit



AC Adapter and Cord



Ethernet cable



Standard 3.5mm to RCA AV adapter



Quick Start Guide



Documentation CD



ContentSmart™ Software set-up guide



Wi-Fi Antenna



CF card cover/remover (pre-installed on unit)

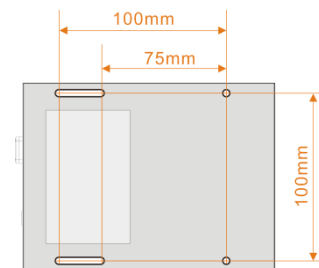


RS-232 adapter

NOT INCLUDED: A USB keyboard is required for system setup

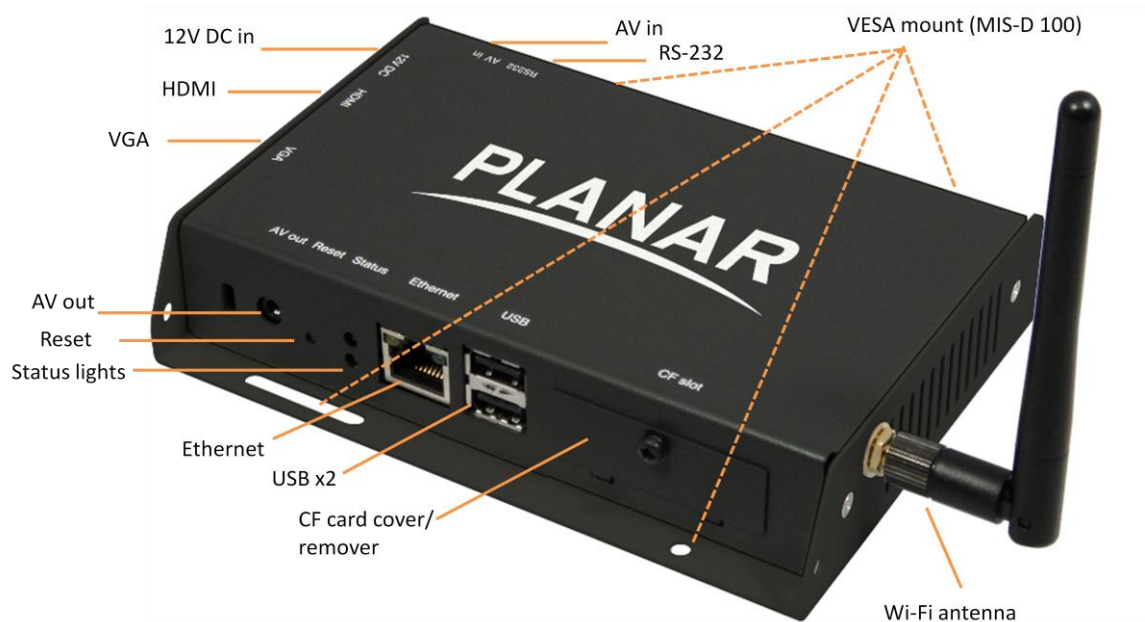
1.3. Mounting options

The Planar ContentSmart Media Player can be attached to mounting posts on the back of screens or inside cabinetry with the built in VESA MIS-D100 (100mmx100mm) compatible mounting flange.



Bottom view

1.4. Physical view



Physical features (top and counter clockwise)

- 12V DC for power adapter
- HDMI 1.3a connector for digital video and audio combined outputs, or digital video via optional DVI adapter
- VGA port for analog video output
- 3.5mm composite AV output
- Reset button to perform factory reset
- Status lights
- Ethernet port for network content update
- USB ports for USB content update and configuration
- CF card slot cover with integrated CF card removing tool
- Wi-Fi antenna*
- RS-232 port
- 3.5mm composite AV input

*ATTACH the wireless antenna as shown. Screw antenna clockwise onto the post.



2. Configuring the MP-3450 Media Player

2.1. System connections

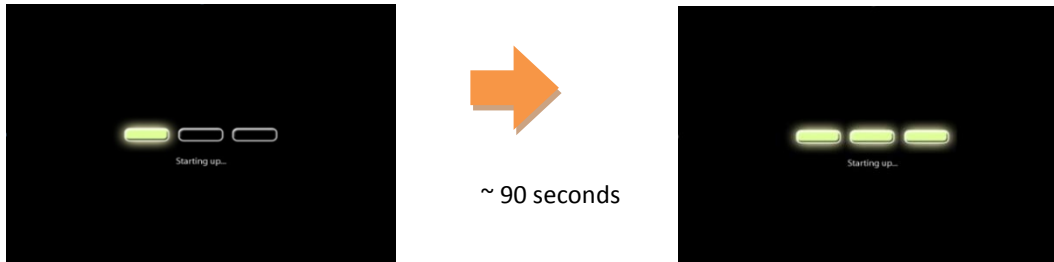
- 1 Attach a video cable (either VGA or HDMI) to your monitor.

When using the **VGA connection**, your monitor should support XGA (1024x768) resolution or greater. For audio output, you will also need to connect a stereo RCA cable from the MP-3450 to your monitor.

When using an **HDMI connection**, audio is sent along with video over the HDMI cable, so no additional cables are required.

Reminder: If you do not see anything on screen, re-check your monitor video input.

- 2 Attach the AC power adapter to power on the unit. Shortly afterwards, the following progress bar will be displayed on your monitor:



- 3 Player boot process takes approximately **90 seconds** to complete and end with a Welcome! screen. The player will indicate that it is ready for content sync via the USB port or, if content has been loaded, begin playback immediately.

Troubleshooting Tips

- 1 The operation indicators light up, but no video is displayed on screen.
 - Ensure that your video cable (VGA or HDMI) is securely connected. When using an HDMI connection, choose high quality, certified HDMI cables or try using shorter length cables.
 - Check if your monitor is turned-on and switched to the corresponding video input source.
- 2 No sound is heard.
 - If using VGA connection, you also need to connect RCA audio cables.
 - Check volume (mute) settings on monitor.



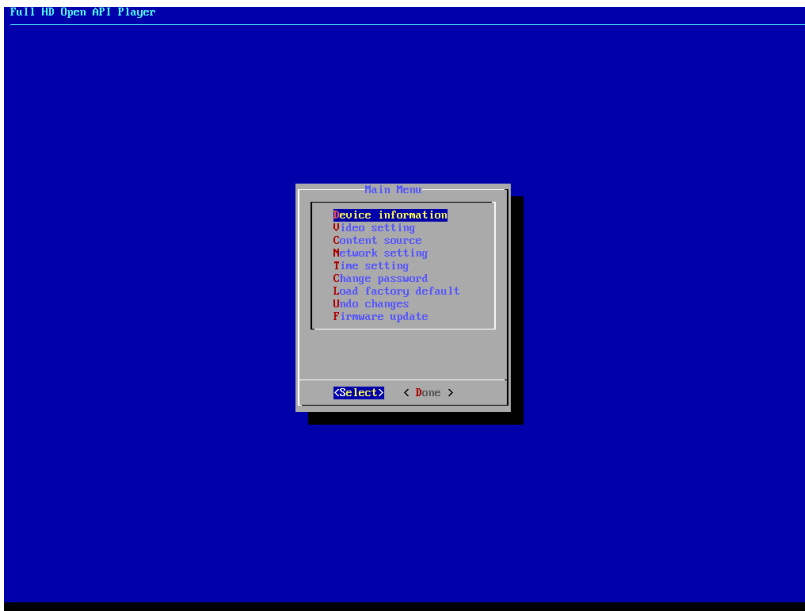
After performing the initial setup as outlined above, the player will boot into the "Open Standard Media Player" screen. Plug in a USB keyboard to enter configuration menus.

If you have already loaded media contents into the player, contents will play back immediately after boot up, and the "Open Standard Media Player" screen will not be shown. You can still plug in a USB keyboard at any time during playback to enter the menu system.

2.2.

2.3. USB keyboard configuration menus

You must attach a USB keyboard to the MP-3450 to configure settings. With the player booted up and ready, it takes approximately 30 seconds after you plug in the keyboard for the following menu to be displayed:



Navigating the menus

Navigate the menus using arrow keys, space bar, enter key, and numeral keys on your USB keyboard. Use the keyboard arrow keys to highlight menu items, press the space bar to move the star (cursor), and then press enter to confirm (<OK>) or reject (<Cancel>) any changes.

2.4. Connect the MP-3450 to your network

Enter Network setting in the menu to set up a network connection method.

Wireless connection

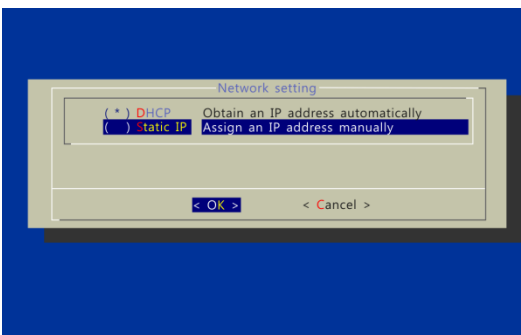
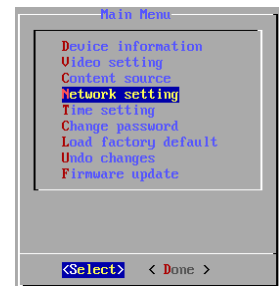
The player will scan for wireless signals nearby during boot up. If the network requires authentication, you will be asked to provide the password for access.

Wired connection

To use the wired Ethernet connection, connect an Ethernet cable and the Wi-Fi will be disabled.

Player IP address

You will also need an IP address for the player on your network. This could be set automatically (DHCP) or manually (static IP):



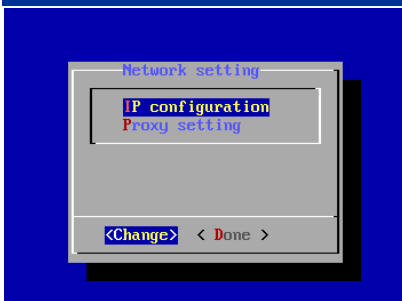
DHCP – automatically assign network IP address

DHCP is enabled by default. You do not need to change the settings unless setting a static IP.

Static IP – manually assign network IP address

Highlight “IP configuration” and press “Enter” on keyboard to <Select>

Move the highlight to “Static IP” below, press “Space bar” on the keyboard to fill in the star (*) at the Static IP brackets, and press “Enter” on the keyboard to select <OK>.



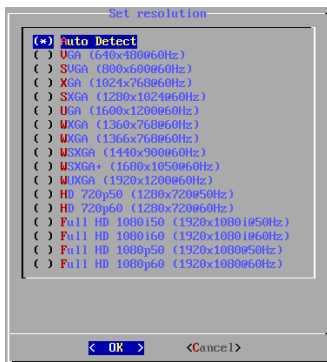
Proceed to configure an available static IP address. Select Wireless configuration or IP configuration as determined by your connection. Please consult your network administrator for assistance if necessary.

2.5. Video output settings

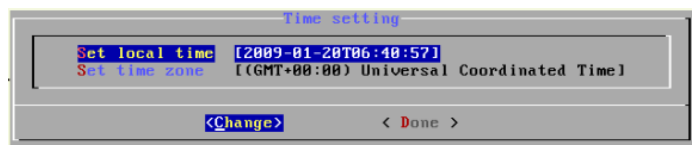
For best quality, set the output resolution to match your display's native resolution to avoid image scaling and blur.

If you are connecting to an LCD TV, the resolution setting is most likely 1366x768, 1280x720, or 1920x1080. If you are connecting a LCD computer monitor, projector, or plasma display, refer to the device specifications for the best matching setting.

Press the space bar to fill in the star (*) before pressing the enter key for <OK>.

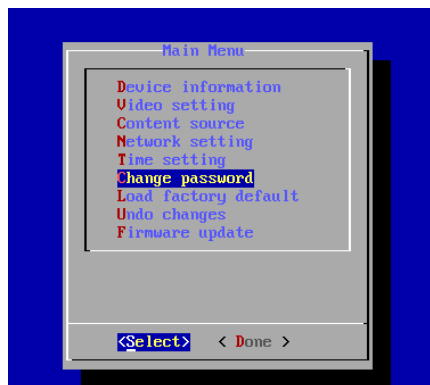


2.6. Clock and calendar settings



Set the correct time zone, time, and date. Daylight Saving (DST) rules can be configured in *Set time zone*.

2.7. Setting a password



To prevent unauthorized modification of player settings, set a player password to hide the menu.

From the top level menu, select "Change password" to set a password.

IMPORTANT: Once a password is set, you can only access the menus by connecting a USB keyboard and pressing CTRL + ALT + DELETE (3-key combination) simultaneously. You may connect the keyboard at any stage of player operation or before/ during boot-up.

If you forget the password, you will need to reset the device. See *Factory reset*.

2.8. Factory reset

If you forget a system password you have set, you must reset the system to regain access to the player.

Using the reset button

- 1 Disconnect power cable from the player unit
- 2 Press and hold the RESET button
- 3 Connect the power cable while holding the RESET button until *status light flashes* (about 15 seconds)
- 4 Please wait while the system drive is being formatted



2.9. Applying firmware upgrades via USB

Firmware updates can be performed using a USB flash drive. Please read the release notes carefully regarding the changes that will be made to your player before applying the upgrade.

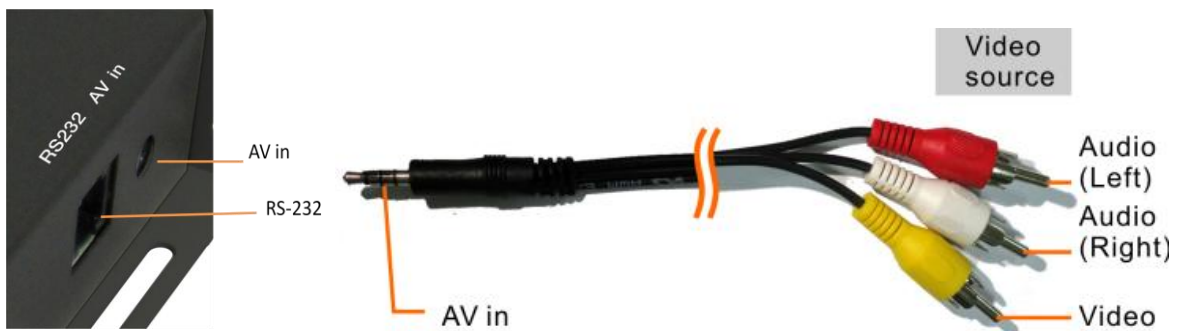
- 1 **DOWNLOAD** the latest firmware and copy it to the root directory of a USB drive from www.PlanarDigitalSignage.com/ContentSmart
- 2 **PLUG** the power cord into the media player
- 3 **PLUG** a USB keyboard to the media player to enter the menu system
- 4 Follow on screen instructions and **SELECT** firmware upgrade option in the menu
- 5 When instructed, **PLUG IN** the USB drive to begin firmware upgrade

2.10. Video input

The **AV in** port lets you attach TV tuners, live video camera signals, pre-recorded videos, and more via the 3.5mm composite video/audio cable.

NTSC/PAL mode is selected automatically.

Also refer to your **software documentation** to enable display.



3. Content Management

The Planar ContentSmart Media Player (MP-3450) is designed to work with 3rd party management solutions. Please refer to the printed ContentSmart Software Guide for related set up instructions.



4. Authoring in HTML5



A major feature of the MP-3450 media appliance is the ability to playback HTML5 content which can contain dynamic information.

5. Working with SMIL

The MP-3450 uses open communications protocols for content presentation and playback control. SMIL-compliance means predictable results across multiple devices, and SMIL's non-proprietary nature means that your investments are never obsolete.

5.1. Introduction



Using SMIL (pronounced "smile"), the language created by W3C for multimedia communications, the media player understands the language "spoken" by professional tools from companies such as Adobe™, Apple™, Microsoft™, and Real Networks™. What this means is quicker, easier, and better integration of your media player into your digital signage networks, opening up avenues of software controls and realizing the full potential of your player hardware down the road.

5.2. www.a-smil.org for developers

The media player operating system utilizes W3C SMIL as the underlying scripting language, which lends well to customization to your project management needs. For resources, downloads, and community support, please visit www.a-smil.org.

6. Technical Data

6.1. Specifications

MP-3450	
Video format support	POPAI Screen Media Standards S6 (MPEG-1 SIF, 3Mbps CBR) S7 (MPEG-1 480p, 10Mbps CBR) S8 (MPEG-1 720p, 15Mbps CBR) S9 (MPEG-2 480p, 6Mbps CBR) S10 (MPEG-2 720p, 12Mbps CBR) S11 (MPEG-4 AVC, 480p, 6Mbps CBR) S12 (MPEG-4 AVC, 720p, 10Mbps CBR) E4 (VC-1/WMV9, MP@ML, 720p) E5 (VC-1/WMV9, MP@HL, 1080p) E6 (MPEG-2, 1080p, 20Mbps CBR) E7 (MPEG-4 ASP, 480p, 10Mbps CBR) E8 (MPEG-4 AVC, 1080p, 20Mbps CBR)
Image format support	POPAI Screen Media Standards S1 (JPEG 480p baseline) S2 (JPEG 720p baseline) S3 (JPEG 1080p baseline) E1 (PNG 24bpp+alpha, 480p) E2 (PNG 24bpp+alpha, 720p) E3 (PNG 24bpp+alpha, 1080p)
Audio codec support	POPAI Screen Media Standards S4 (MPEG L2 audio) S5 (MP3 audio, 320Kbps)
Playback control	W3C SMIL 3.0 instructions (sub-set)
Content management	3rd party solution
Physical I/O connectors	HDMI 1.3 VGA 3.5mm AV out 3.5mm AV in RJ45 Ethernet USB 2.0 WLAN antenna port RS-232 port
Local storage	4GB on-board flash memory (up to 1.8 hrs of 5 Mbps high def. video) CF card expansion slot
Accessories	3.5mm-RCA AV cable Ethernet cable WLAN antenna
Power requirement	12V 1.5A DC
Power consumption*	8 watts max (when playing 1080P full resolution video)
Environmental	Operating temperature: 0 – 40° C / 32 – 104° F Humidity: 5 – 85% @ 40° C / 32 – 104° F non-condensing
Dimensions	211x153x 43mm (8.3 X 6 X 1.7 inches)
Weight	3 lbs (1.4kg)

Safety	UL-approved AC adapters
Certifications	CE/FCC/RoHS
Warranty	Planar Customer First™ 3 year limited

7. Appendix: FAQ

What video format can I play?

The recommended video encoding is using H.264, HP@L4.0 & 10Mbps bitrate. If a certain video is not played as scheduled, or if it plays poorly, please search the support site www.PlanarDigitalSignage.com/ContentSmart for “Converting videos” instructions.

The LCD digital signage is placed near my Wi-Fi access point, yet the connection is unreliable.

Wi-Fi appliances in general should be placed 10 feet (3 meters) from the Wi-Fi access point for reliable operation. Try relocating the access point further away from the LCD display/media player to improve the connection.

What can I do about the gap between back-to-back videos?

Video gaps (blank screen) occur before and after each video is played. To minimize the gap, avoid back to back video programming by scheduling an image between each video.

If both Ethernet & Wi-Fi are connected, which one will take precedence?

When Ethernet is not available or disconnected, system will try to use Wi-Fi connection. If both connections are available, Ethernet will be used.

What is the maximum file size for a single video file?

The maximum video file size for the MP-3450 is 2GB. We recommend reserving a safety margin to avoid exceeding the limit (i.e. limiting files to 1850MB).

What should I do if I forgot my password or want to restore to factory defaults?

In this case, please perform a factory reset.

Use the RESET button located at the back of the media player to restore factory settings. This will also clear the player’s password.

Performing a factory reset

Warning: This procedure will restore all menu settings to factory default and format the internal storage to factory conditions (all contents will be removed).

To restore factory settings and format the drive:

1. Disconnect power cable from the player unit
2. Press and hold the RESET button
3. Connect the power cable while holding the RESET button until *status light flashes* (about 15 seconds), then release the RESET button
4. Please wait while the system drive is being formatted

How do I manage the playback of contents?

The Planar ContentSmart Media Player is designed to be interoperable with leading 3rd party management software solutions or via SMIL open standard commands.

Could the player display Flash or Microsoft PowerPoint presentations?

The player does feature limited PowerPoint support, but not Flash support.

While PCs can play many formats with varying degrees of success, RISC-based media players are designed to reliably play specific video formats (Please see spec for details). While Microsoft PowerPoint native files could not play directly on a RISC-based player, the file is converted through other software (i.e. Planar ContentSmart) into an image format to be played as an image slideshow.

Why won't some media files play properly?

The video data bit-rate used may have exceeded the recommended bit rate.

The video data bit-rate is the amount of video or audio data used per second to store or play the contents, usually expressed in Mbps (mega-bits per second). Video encoded with excessive bit-rates will not playback smoothly in the media player, likely due to storage I/O bottleneck.

Please visit: www.planar.com/support/downloads for video conversion tools.

The media playback looks different on a PC compared to the media player's LCD screen. (Wrong aspect ratio)

There are 2 major aspect ratios (width-to-height ratios) for video content, but many kinds of displays. If you play 4:3 video on a 16:9 display (or vice versa), a circle becomes oval, and the picture takes on a squeezed or stretched look. To avoid this distorted look, adding black bars are a common technique.

The Media Player can be configured to automatically add black bars for certain types of displays. You can set the output resolution in MP-3450's configuration menu to match the **native resolution** of your display.

Some JPEG images cannot be played in the media player.

Progressive JPEG are not supported. Please convert to baseline JPEG for maximum compatibility.

JPEG images can be either of 2 types: baseline or progressive compression. Baseline JPEG offers greatest compatibility, while progressive JPEGs are suitable for web site images. Progressive images are downloaded and displayed "progressively," being rendered more clearly as more data is received over the internet. Progressive images are primarily supported on PCs. For media appliances, make sure to save images as baseline JPEG in your photo editor, or resave them as baseline JPEGs using free tools such as IrfanView (<http://www.irfanview.com/>).

Does the media player support video streaming?

No. The media player plays files from local storage and does not support real-time video streaming over the network. This delivers an optimum viewing experience free of playback quality issues such as stuttering, blocking, or blue-screens.

However, MP-3450 does support dynamic content delivery to push individual files quickly over the network using the SOAP API. This method is a compromise between live streaming with its high bandwidth demands and entire playlist content updates which necessitate longer update cycles.

The media player is not playing. What should I do?

Check the player's messages on the display (OSD, or on screen display) for status information.

Play list errors and scheduling issues are two major causes of playback problems. To determine if the problem is caused by a bad play list, just delete the play list and restart player. The player should loop through all media files, indicating a fault with the play list.

If the playback is scheduled to play at specific time, check to see if the device is set to the right time zone on the world clock. When nothing seems wrong, the time zone setting is often the reason the program is not played.

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Planar Customer First™ 3-Year Limited Warranty

The MP-3450 features a 3-year limited hardware warranty; this warranty period begins on the date of Planar's initial shipment of the Product. For products located within the 48 contiguous United States, Planar offers a two-day Advance Replacement option; for Products located in other locations, Planar offers a "return and replace" option.

This warranty does not cover any accessories that may be provided with the Product, including but not limited to cables and other peripherals. (Such as accessories are warranted for ninety (90) days after Planar's initial shipment of the Product; see the Accessory Warranty at www.planar.com/support .

Limited Hardware Warranty

Planar warrants these products to be free from defects in material and workmanship during the warranty period noted above. If, in Planar's determination, a Product proves to be defective in material or workmanship during the warranty period, Planar will, at its sole option, either (1) repair the Product or replace it with similar new or refurbished Product per one of the options below, or (2) in the event that replacement or repair of the product is not commercially feasible, refund a prorated share of the then current MSRP of the Product (or a similar product, if the Product is no longer available) as determined by the amount of time remaining in the warranty period. MSRP is defined as the most recent Product price listed at www.planaronline.com.

Planar's Advance Replacement Option (within the 48 contiguous United States)

Upon discovering a problem with the product, contact Planar's customer service Monday through Friday toll-free at 1-866-PLANAR-1 (1-866-752-6271), or by online chat. See www.planar.com/support for details. You must have a model number, serial number and original proof-of-purchase available. Planar's Customer Service staff will attempt to correct any minor issues that might be causing the problem via phone or email. If this fails to resolve the problem, a return material authorization (RMA) number will be issued.

If the defective Product is reported to Planar within the 3-year warranty period, and a valid credit card is provided to ensure return of the defective product, Planar will ship you an Advance Replacement Product (no accessories included). Depending on your location, it may take more than 2 days for the replacement to arrive.

Planar must receive the defective Product in otherwise good condition within 14 days following the delivery of the Advance Replacement Product to you. If the defective Product is not received by Planar within the 14-day time frame, or if warranty is voided due to any applicable Warranty Exclusion (see below), your credit card will be charged for the current MSRP of the Product.

- 1) Return the defective Product in the box in which the Advance Replacement Product was shipped to you, using the same packing materials.
- 2) Return only the defective product. Planar will not be responsible for returning or replacing any accessories or peripherals that are returned with the defective Product. Call the shipping pick-up number provided with the Advance Replacement Product for package pick-up, or drop it at the local UPS location. For door-to-door pick-up, UPS may charge a pick-up fee for which you are responsible. You are responsible for shipping cost incurred when returning the defective Product by any other method than UPS ground. Verify that the serial number on the RMA return label matches the serial number of the defective Product being

returned. Attach a pre-paid RMA return label that was included with Advance Replacement Product.

Planar's Return and Replace Option (outside the 48 contiguous United States)

- 1) If you are unable or unwilling to provide a credit card to use the Advance Replacement option, or if you are located outside the 48 contiguous states, Planar will provide "Return and replace" service.
- 2) After receiving an RMA from Planar customer service, return the defective Product with sufficient packing materials to prevent damage during shipment. Planar will charge you an amount not to exceed the current MSRP of the Product. Planar will not be responsible for returning or replacing any accessories or peripherals that are returned with the defective Product.
- 3) You are responsible for any shipping cost incurred when returning a defective Product to Planar; Planar will pay for the shipment of the replacement Product to you.
- 4) A replacement unit will be shipped to you once your defective unit is received.

Important Information for Returning Hardware

- 1) Planar will not accept any returned Product unless an RMA number has been previously issued by Planar.
- 2) If the defective Product is returned and deemed to be covered by one of the warranty exclusions, Planar reserves the right to charge your credit card an amount not to exceed the current MSRP for the Product.
- 3) If the Product is returned and is deemed to be a No Fault Found (NFF) unit, Planar reserves the right to charge your credit card in the amount of \$95.
- 4) It is your responsibility to properly package the defective Product and ship it to the address provided by the Customer Service representative with RMA number prominently displayed. If the defective Product is not properly packaged and is damaged in transit during its return to Planar, your credit card will be charged for either the associated repair cost, if repairable, or the MSRP of a replacement Product.
- 5) The replacement Product will assume the remainder of your original Product's warranty or 90 days from Planar's return Product ship date, whichever is longer.
- 6) Upon receipt, you agree to retain the replacement Product and that your defective Product becomes the property of Planar.

Warranty Exclusions

The following conditions or circumstances are not covered under the terms of this limited hardware warranty for the product set forth herein:

- 1) Delivery to P.O. Box, APO Box and FPO Box addresses.
- 2) Any Product on which the serial number has been defaced, modified or removed.
- 3) Replacement rental cost incurred by you in the event of Product failure.
- 4) Damage, deterioration or malfunction resulting from:
 - a. Accident, abuse, misuse, neglect, improper ventilation, fire, water, disaster, lightning, or other acts of nature, smoke exposure (cigarette or otherwise), unauthorized product modification (including use of an unauthorized mount), or failure to follow instructions supplied with the Product.
 - b. Repair or attempted repair by anyone not authorized by Planar.
 - c. Any damage to the product due to shipment.

- d. Removal or installation of the product.
- e. Causes external to the product, such as electric power fluctuations or failure.
- f. Use of supplies or parts not meeting Planar's specifications.
- g. Normal wear and tear.
- h. Failure to follow maintenance procedures as outlined in the Product's user guide where a schedule is specified for regular cleaning of the Product.
- i. Opening the Product, tampering with internal circuitry, and/or removing or replacing of any internal components or parts.
- j. Product has been resold, transferred, rented, leased, lost, stolen, or discarded.
- k. Any other cause, which does not relate to Product defect.
- l. Operating the Product outside the suggested normal usage condition stated in the user guide.

For additional information on the name of the nearest Planar Service center, contact your Planar dealer or call Planar (toll free) at **1-866-PLANAR (1-866-752-6271)** or at **(1-503-748-5799)** or email us at **PlanarSupport@Planar.com**.

Extended Warranty Options

Contact Planar for information on extended warranty options at our website: http://www.planar.com/support/warranty/service_plans or call 1-866-PLANAR (1-866-752-6271) or email us at resellersupport@Planar.com.

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IN NO EVENT WILL PLANAR BE LIABLE FOR ANY OTHER DAMAGES, WHETHER INDIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL, PUNITIVE, STATUTORY OR OTHERWISE, INCLUDING ANY CLAIM BROUGHT AGAINST YOU BY ANY OTHER PARTY.

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This warranty gives you specific legal rights, and you may have other rights, which vary from locality to locality. Some localities do not allow limitations on implied warranties and/or do not allow the exclusion of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

Planar Systems, Inc.

Customer Service

24x7 Online Technical Support: <http://www.planar.com/support>

Support

Tel: 1-866-PLANAR1 (866-752-6271) or +1 503-748-1100

Hours: M-F, 8am - 8pm Eastern Time | M-F, 5am - 5pm Pacific Time

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