

Prospector - Quick Start Guide

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The screenshot displays the Balder CS Prospector interface. On the left is a blue sidebar menu with options: Login, Overview, Profiles, Installation, Notifications, Input, Image, Warp and blend, Settings, Service, Communication, Developer tools, About, and Themes. The main content area is titled 'Prospector' and contains several panels:

- HDMI (Active source):** Shows '1080p 60 Hz HDMI' and '5120x2160 Output resolution'. A 'PREVIEW' button is at the bottom right.
- Active functions (Functions and features currently enabled):** Five orange buttons: WARP, 4 CORNERS, AUTO CROPPING, STEREO, and BRILLIANT COLOR.
- Projector (Model, firmware, serial number):** Lists 'Balder CS Model', 'R9021013 Article number', '2017140025 Serial number', '1.10.15 Firmware version', and 'Color Color wheel'.
- READY (Power state):** Includes 'ON' (red) and 'OFF' (blue) buttons.
- OPEN (Shutter):** Includes 'CLOSE' (red) and 'OPEN' (blue) buttons.
- Clock (Current date and time on projector):** Displays '2020/07/13 11:04:00 UTC'.
- OFF (Illumination):** Shows 'Power at 100% laser', '4016 hours laser on', and '10 hours laser shut'.
- Environment (Environment, power and alarms):** Shows 'OK Alarm state' and four gauges: Temperature (23 °C), Humidity (36%), Pressure (1022 mb), and Power (230 V).

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Introduction

The purpose of this guide is to introduce Prospector and overview the key settings required for both 16:9 and Cinemascope models projectors within the Pulse Platform (Medea, Bragi, Balder and Loki), for quick and easy installation.

For more in depth information on various settings or topics outlined in this guide, please download our more comprehensive [Integration Guide](#) or review our [How-to Video's on YouTube](#) or [myBarco](#) located under the Training Tools filter.

Installation Quick Check List

This section acts as a quick reference check list, the following pages expand upon each of the below in further detail for those less familiar with Prospector.

- Interface with projector via Prospector
- Check and Update Firmware
- Configure Network
- Configure Standby Mode
- Image Alignment and Focus
- Configure Warp Settings (Optional)
- Configure Cropping (**Cinemascope Models Only**)
- Image Quality Adjustments
- Configure Color Gamut Mode
- HDR Configuration
- Configure Source Components (Apple TV & Kaleidescape in particular)
- Professional Video Calibration
- Configure Profile / Presets
- Integrate Control System

#1: Interface with projector via Prospector

To access Prospector, the Pulse platform web-interface which offers the easiest and quickest approach for configuring Barco Residential projectors, connect your laptop to the same network as the projector and open a web browser (preferably Google Chrome), then in the address bar, enter the projectors IP address followed by port number 9999.

Example: 192.168.1.100:9999

#2: Check Firmware and Update

Once logged into Prospector, check the firmware revision of the projector, which is available on the Overview (Home) page. Then, visit the myBarco portal via the below links to check the latest firmware revision and if required download the .ZIP file, containing the latest version, update procedure and release notes (please read these!).

[Firmware Download \(for Medea / Balder / Loki\)](#)

[Firmware Download \(for Bragi CS\)](#)

#3: Configure Network

Within Prospector, navigate to the **Communication >> Network Menu**. Configure the network details per your installation requirements, which in most cases will be Manual Configuration. Make a note of the HW (MAC) Address as you will require this if you decide to use Standby ECO mode.

#4: Configure Standby Mode

Pulse platform projectors have two standby states, Ready or Standby ECO mode;

In Ready Mode (the default standby mode) some internal components will remain functional (fans, pumps etc.); this creates background noise which can present a problem in multi-purpose rooms. The power on time (image projected on-screen) from this mode is approximately 15 seconds.

In Standby ECO Mode all internal components (with exception of a wake-up controller) are turned off, after the projector has been idled in Ready Mode for a user defined period (3mins to 2hrs). The power on time from this mode is approximately 2-3 minutes.

Note #1: by default, the projector will power on into Ready Mode, and must be subsequently powered on from this mode to output an image on-screen.

Note #2: Once in Standby ECO mode the projector requires special handling to wake it up, typically via a Wake-on-LAN (WOL) request (requiring the MAC Address), or via a special RS232 Command;

Waking up the projector using the serial port, send the following ASCII characters:

- For Standby ECO Mode to ON, use :POWR1\r
- For Standby ECO Mode to Ready mode, use :STBY1\r

To configure the standby behaviour navigate to the [Settings >> Power Menu](#), as select Ready or Standby ECO mode. Then if required, adjust the Timeout slider to define the period for time (“x”) after which the projector will drop into Standby ECO mode, having been in Ready Mode for “x” period.

#5 Image Alignment and Focus

Firstly, navigate to the [Installation >> Orientation Menu](#) and define the mounting method.

Thereafter, navigate to the [Installation >> Lens Menu](#), calibrate each lens function by clicking on the spanner icon next to each attribute. Using the test patterns located at the bottom of the menu, adjust the zoom, focus and lens shift until the image fits the screen.

If required, we can use 4-Corner Warp to tweak the final image alignment, although every effort should be used to do this via the conventional alignment methods.

#6: 4-Corner Warp and Bow Correction

Navigate to the [Warp and Blend >> 4-Corners Menu](#), activate the Warp and 4-Corners toggle switches to enable the function, then the Helper Lines toggle to assist with the adjustment. Use the corner anchors to drag each corner in need of adjustment to the approximate correct location, then use the X and Y co-ordinate system for your fine (pixel by pixel) adjustment.

If you have a curved screen, or are experiencing barrel distortion, navigate to the [Warp and Blend >> Bow Menu](#). Active the Warp and Bow toggle switches to enable the function, then the Show Grid toggle to assist with the adjustment, finally locate the Symmetric toggle switch and activate that. Use the top and bottom screen anchor points to correct the angle and length of the images curvature as required, fine adjustments can then be made by adjusting the top and bottom Angle and Length settings.

#7: Content Management (Cinemascope Models)

Barco Residential Cinemascope models use a function called Cropping to manage how content of differing aspect ratios is displayed, by default this is set to “OFF” mode. Our recommended mode selection is “AUTO”, this will allow the projector to determine the aspect ratio of content and then display it as per the remapping settings.

To adjust this setting navigate to the [Image >> Cropping Menu](#).

Note: There are factors that can result in the content aspect ratio detection system reporting an incorrect aspect ratio, these may include the following;

- Broadcast watermarks within the top black section of the content.
- OSD from source devices such as pause icons, or content menus.

In these circumstances you will need to override the AUTO mode and force the desired aspect ratio.

#8: Image Quality Adjustments

If you have the tools to measure the screens luminance this is recommended before you commence further. Ideally you should be able to measure 40fL using the “White” Test Pattern which is available from the quick access menu in the top right corner of Prospector (checkerboard icon).

If you are not able to measure 40fL, navigate to the [Image >> Settings Menu](#) and at the foot of this page, set Brilliant Color mode to “Video” (default should be “Off”), this will increase the projectors available brightness (only if in a media room environment select Video Bright mode, if video is not bright enough).

If you are measuring more than 40fL, navigate to the [Settings >> Illumination Menu](#) and adjust the Light Source power slighter until you read 40fL.

Once you have adjusted the screen luminance to 40fL, navigate to the [Image >> Settings Menu](#) and adjust the Brightness and Contrast settings using a known test pattern.

Next, adjust the Gamma setting per the installation requirements;

- Viewing environments with high ambient light would typically benefit from a Gamma closer to 2.2
- Viewing environments with low ambient light would typically benefit from a Gamma closer to 2.4
- Viewing environments with zero ambient light would typically benefit from a Gamma between 2.4 - 2.6

Note: To adjust the Gamma setting the projector must have an active SDR input signal.

#9: Color Gamut Mode Selection

Most integrators select to use the Barco Residential automated function (Color Gamut Remapping) to select the correct color space. This feature enables the projector to detect whether the incoming video signal is SDR (Rec.709) or HDR (DCI/P3) and automatically switch to the correct color gamut without external influence.

To use this feature, navigate to the [Image >> RealColor P7 Menu](#) and place the projector into RealColor mode “HDR”.

Note: That the RealColor P7 mode will always display “HDR”, however when SDR (Rec.709) content is detected, the color space will adjust accordingly.

The alternative method is to select the correct color space mode (Rec.709 or HDR) from the [Image >> RealColor P7 Menu](#) using a control system; however, this would typically be done at the calibration stage if required.

#10: HDR Configuration

Navigate to the [Image >> HDR Menu](#) and adjust the unit of measure to Foot-Lambert. Then enter and apply the screen luminance value you measured earlier. This value is used to adjust the screen luminance of HDR content based on the contents mastering luminance.

If you were unable to measure the screen luminance earlier, play a selection of HDR movies, first adjust the default value to 40fL and review the content adjusting the luminance value up/down accordingly until content looks correct and your blacks are not crushed and your whites are not clipping.

#11: Source Configuration

If your installation uses [Apple TV](#) we recommend you download our [Apple TV Configuration](#) document to ensure that it's configured correctly to display SDR and HDR content as intended;

In summary set the ATV output to 4K SDR (this sounds counterintuitive but HDR mode is incorrect), then turn on Content Matching for Dynamic Range and Frame Rate.

If your installation uses a cinemascope projector and [Kaleidescape Strato](#) we recommend you download our [Kaleidescape Configuration](#) document to ensure that it's configured correctly.

#12: Professional Video Calibration

If you are undertaking a full video calibration to Rec.709 and DCI/P3 standards we recommend completing this stage before final control system integration is complete as this may drive some of the control integration decisions (including Profile / Preset recall).

#13: Configuring Profile / Pre-sets

It is possible to save numerous setting "domains" to a Profile (or Pre-set) for recall via the [Profiles Menu](#). For more information of which settings can be saved and within which domain they are categorized download our [Profiles & Presets - Domain 'Container' Settings](#) document from the myBarco Portal.

#14: Control Driver Integration

Download the required control driver from the myBarco portal (links below), ensuring you have a compatible driver ([Control Driver & Firmware Release Compatibility Chart](#)) for the firmware you are using;

[Control Driver for Control4](#)

[Control Driver for Crestron](#)

[Control Driver for Savant](#)