Free HDRplayer-DEMO Software

To allow everyone—not just supporters, but literally all users—to verify HDR image display functionality using an HDR monitor, we have decided to release a free Windows PC software after initial development of HDRplayer.

HDRplayer-DEMO.EXE enables users to:
- Confirm a major milestone in HDRplayer's development
- Verify their Windows PC supports HDR photo display
- Test HDR image rendering on their HDR display

The free demo software performs these operations:
- Automatically creates a slideshow with 5-second slide intervals
- Displays images in full-screen mode (any screen size)
- Handles both SDR and HDR images
- Processes only HDR-compatible files (JPEG or preferably AVIF) located in "C:\HDRplayer\images"

Limitations of the free demo slideshow:
- Maximum 30 images (excess files are selected alphabetically)
- Sequential slide progression stops after 10 minutes

System Requirements – Compatible PCs

Run `HDRplayer-DEMO.EXE` on an updated Windows 11 PC with:
- HDR graphics output enabled for "HDR for games and apps"
- HDMI 2.0a+ or DisplayPort 1.4 connection matching the HDR display's input
- certified HDMI 2.0a or DisplayPort 1.4 cables

Tips:
- *Video converters/distributors/switches often lack HDR support;*
- *GPU support for "HDR video streaming" alone is not sufficient*

Port 80 must be free for demo execution
In case, how to verify:
- Open Command Prompt (Win + R → `cmd` → Enter),
- then type and run: ***netstat -aon | findstr :80***
- if there is No output, the port free
- if there are output, that are the active processes using port 80

Performance & Thermal Notes:
- CPU/GPU load is minimal; any compliant PC has adequate resources
- Prioritize thermal management: silent operation is ideal, but heat dissipation must be ensured

Tip: our reference PC is fanless and use CPU Intel N100 (latest ultra-low-power generation).

HDR Display Requirements

A Windows-compatible HDR display (HDR10+ standard) is mandatory.
Displays range from 13" portable monitors to 80"+ TVs, including gaming and projectors.
Maybe you already got one: most of the mid-upper class TVs made in the last years already shows good HDR colors and brightness - read the specifications.

Key objective specs (without calibration tools):
- Color depth: 12-bit is preferred (10-bit/8+2-bit are acceptable)
- Brightness   SDR baseline: 100 nits (Rec.709)
                     Minimum HDR perceptibility: +2 EV (400 nits)
                     Optimal: ≥1000 nits (common at reasonable prices)

Tips: *display price benchmarks (tested) on Amazon:*
- *15" (400 nits) € 200 +*
- *27" (600 1000-nits) € 500 +*
- *42"+ (1000+ nits) € 1.000+*

Selecting/Testing an HDR Display via Amazon:
- Search "HDR TV," "HDR smart TV," or "HDR monitor" on Amazon
- Check return window duration
- Order and test carefully
- Return if it is unsatisfactory, within the allowed refund time
- Prioritize models by price (ensure HDR10+ compatibility).

Tip: Document (color) inaccuracies with photos/video for smoother returns (in case of Amazon's claims)

Windows 11 HDR display Calibration

Use Microsoft's free "Windows HDR Calibration" app:
https://apps.microsoft.com/detail/9n7f2sm5d1lr
which adjusts min/max brightness and SDR content appearance.

Tip: Calibrate in low ambient light to reveal shadows and reduce glare.

HDRplayer-DEMO - Operational Instructions

For successful HDRplayer-demo.EXE execution:

1. Obtain HDR images:
- Shoot **HEIC**/HEIF on smartphones/cameras (max +2 EV brightness)
- Edit HDR images (Adobe Lightroom/Photoshop, Zoner Studio), export as **AVIF** (has higher EV flexibility)

2. On the demo PC connected to the HDR display:
- Ensure port 80 is free (check via Command Prompt as with port 80)
- Enable **HDR mode** in **Windows Settings** > **Display**
- Calibrate first using the Microsoft HDR Calibration app.

3. Save images to **C:\HDRplayer-demo\images** folder

4. Run **HDRplayer-demo.EXE** (location-independent)

HDRplayer-DEMO Runtime Behavior:

- A Command Prompt window opens, launching the HDRplayer-DEMO server component
- Microsoft Edge launches full-screen to **http://localhost**
- After 10 minutes both the server component and Edge app close automatically

Tip: *it is only accessible locally via Edge/Chrome/Opera (not on LAN).*

Terminology consistency

- **HDR**: High Dynamic Range
- **SDR**: Standard Dynamic Range
- **GPU**: Graphics Processing Unit
- **HEIC**/**HEIF**: High-Efficiency Image Container/Format
- **AVIF**: AV1 Image File Format
- **Nit**: cd/m² luminance measure unit