

DUNE HD

UHD 4K and HEVC Enabled IPTV/VOD/OTT Media Player

User Manual

Introduction

Dune HD Duo 4K is an advanced solution for playback of 4K and Full HD video, high-quality audio, IPTV and VOD content, digital TV channels.

This media player sets an entirely new standard for home entertainment. It supports the majority of digital audio and video formats, including the most modern HEVC video codec with one billion colors (10-bit color encoding), all modern 3D video standards such as MVC, Side-by-Side and Top-and-Bottom, audiophile HD audio with high resolution up to 24-bit / 192 KHz, etc.

Dune HD Duo 4K is equipped with two internal 3.5" SATA HDD racks with hot-swap support, three USB ports, SD card slot, 1Gbit Ethernet, 802.11n Dual Band 2T2R Wi-Fi, built-in DVB-T/T2/C tuner (option), built-in Z-Wave controller (option), and a variety of advanced audiophile features, including the famous ESS SABRE32 Reference DAC, XLR balanced stereo audio output, S/PDIF audio input, USB audio input (option).

Key Features

- **Hi-end media processor:** Sigma Designs SMP8758 chip from the famous vendor of high-end media processors, with the new Dual Core ARM CPU (4x more power than before)
- **4K video playback:** Decode 4K video content in various popular formats (including H.265 10-bit) (up to 4Kp30)
- **4K video output:** Output 4K content with pixel-to-pixel precision to 4K TV
- **SD/HD to 4K conversion:** Automatically increase resolution of SD/HD content to 4K
- **VXP:** Professional-grade video processing engine for the best possible picture quality of any content
- **HEVC:** Play video encoded using the latest H.265 codec (2x picture quality increase over H.264)
- **10-bit color encoding:** Play video encoded using the newest 10-bit H.265 standard
- **Blu-ray menu:** Enjoy full Blu-ray menu navigation or use simple BD Lite menu at your discretion
- **True 24p output:** Ensure perfectly smooth playback of Hollywood movies due to full support for 24p (23.976) framerate
- **Advanced media player:** Play video in MKV and other modern video file formats, including top quality 4K and HD with very high bit rates (100 Mbit/s+)
- **3D video:** Play all popular 3D video formats, including MVC, SBS, Top/Bottom

- **HD audio:** Output studio-quality high definition audio tracks (Dolby TrueHD, DTS HD MA) to your a/V receiver
- **Dolby Atmos 3D audio:** Enjoy the newest 3D audio format from Dolby using Dolby Atmos pass-through capability
- **Hi-End music:** Play very high-quality (up to 192 KHz / 24-bit) music files in various formats (FLAC, Monkey's Audio APE, WAV/PCM, Super Audio CD, etc)
- **Network player:** Connect to local network and play content directly from PC or NAS via UPnP, SMB, or NFS
- **HDD player:** Play content from any HDD (internal, USB, NAS) of any size (including the newest 6TB+ HDD models)
- **Two HDD racks with hot-swap function:** Easily and quickly insert and exchange internal 3.5" SATA HDDs for nearly unlimited storage capacity expansion
- **Silent cooling:** Enjoy efficient and silent cooling of your internal HDDs due to 120mm high-end ultra-low-noise fan
- **Built-in storage:** 8GB flash memory for applications and system needs
- **USB ports:** Conveniently connect USB HDDs, USB flash drives, USB card readers, USB hubs and other USB devices
- **SD card slot:** Conveniently use SD memory cards
- **Full range of A/V output connectors:** HDMI output, S/PDIF optical audio output, S/PDIF coaxial audio output, analog stereo audio output, composite video output
- **1Gbit Ethernet port:** Ensure the best performance when connecting to your local network via cable
- **802.11 Wi-Fi** with both 2.4GHz support and 2T2R (two antennas): Ensure the best performance when connecting to your local network via air
- **DVB-T/T2/C tuner** (option): Watch and record digital terrestrial or cable TV channels (free-to-air broadcasts)
- **IR extender:** Easily organize hidden installation of the media player when needed via included external IR eye
- **Control4:** Integrate seamlessly into Smart Home installations based on Control4 technology via ready-to-use Control4 driver

Audiophile Features

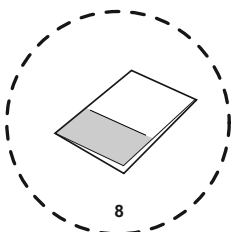
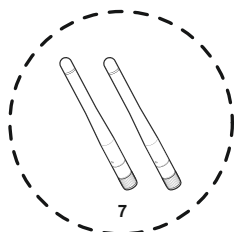
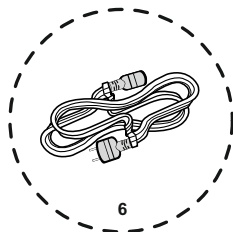
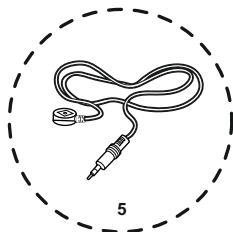
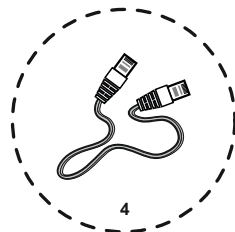
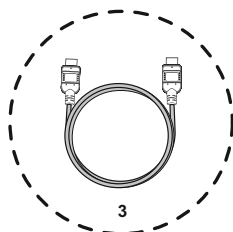
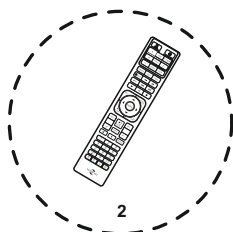
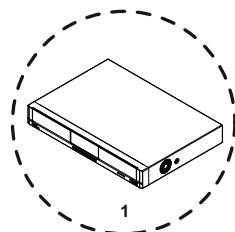
- **Audiophile-grade audio DAC:** Enjoy audio quality of the famous ESS SABRE32 Reference DAC (ES9018K2M)
- **Dual audio output:** Use standard stereo RCA connectors or balanced XLR connectors
- **XLR balanced stereo output:** Use professional ultra-low-noise analog audio connection
- **Galvanically isolated connectors:** Benefit from reduced noise and jitter on all S/PDIF connectors (including coaxial S/PDIF output and coaxial S/PDIF input)
- **Audio inputs:** Use Duo 4K as a high-quality audio DAC by connecting external digital audio sources via S/PDIF or (optionally) USB

Other Features

- **IPTV:** Watch and record IPTV channels
- **Internet radio:** Listen and record Internet radio stations
- **Applications:** Easily install various applications and plugins with additional functionality from Dune Store or third parties
- **File browser:** Convenient file browser with powerful file management features (copy, move, delete, rename, organize, sort)
- **Playlists:** Build playlists from folders or use your own playlists, with repeat and shuffle functions
- **Jukebox:** Use various Jukebox applications to organize your media collection into a convenient user interface with cover-art browsing
- **Customizable user interface:** Enjoy a variety of user interface skins, customization options and Jukebox applications
- **Internet browser:** View Internet web sites on your TV using the built-in web browser
- **HLS:** Ensure the best quality of Internet video using Apple HLS adaptive bitrate streaming protocol
- **DASH:** Get access to the newest Internet video services using MPEG-DASH adaptive bitrate streaming protocol
- **Video output flexibility:** Output video in any resolution (from SD to 4K) and framerate (from 24p to 60)
- **Video upscaling:** High-quality upscaling of DVD and any other SD video content to 4K, Full HD (1080p) and other HD resolutions
- **Auto framerate:** Output video with original framerate to ensure absolute smooth playback for all kinds of content
- **Auto resolution:** Get maximum possible video quality when connecting to advanced TV / video processing equipment

- **Dune Network Playback Accelerator:** Special optimizations ensuring best-in-class network playback performance and enabling smooth playback of any supported kind of media content via any network protocol (including NFS and SMB)
- **Built-in NAS function:** Access files on attached storage devices (HDD, USB drive, etc) from local network (via SMB, FTP, UPnP/DLNA)
- **Wi-Fi access point:** Use media player as a Wi-Fi access point and Internet router
- **IP control:** Control media player from PC or iOS/Android mobile devices and integrate with various Smart Home environments
- **iOS and Android apps:** Use a variety of available companion applications for iOS/Android mobile devices

Package Contents

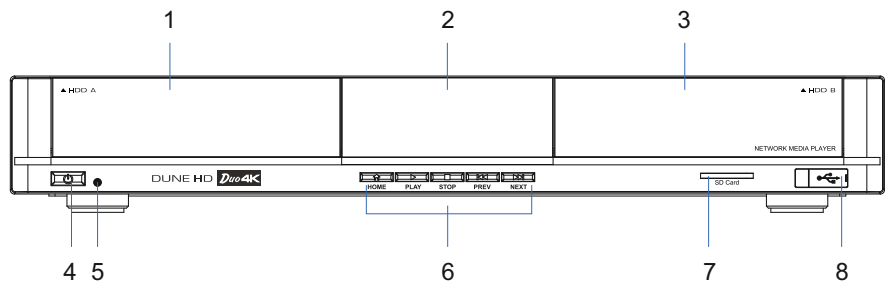


1. Dune HD Duo 4K media player
2. Remote control
3. HDMI cable
4. Ethernet cable

5. IR extender cable
6. Power supply cord
7. 2 x Wi-Fi antennas
8. User manual

NOTE: Additional items (optional) may be included into the package, depending on player configuration, region, and distributor.

Front View



1. Left HDD rack

2. Display

3. Right HDD rack

4. On/off button

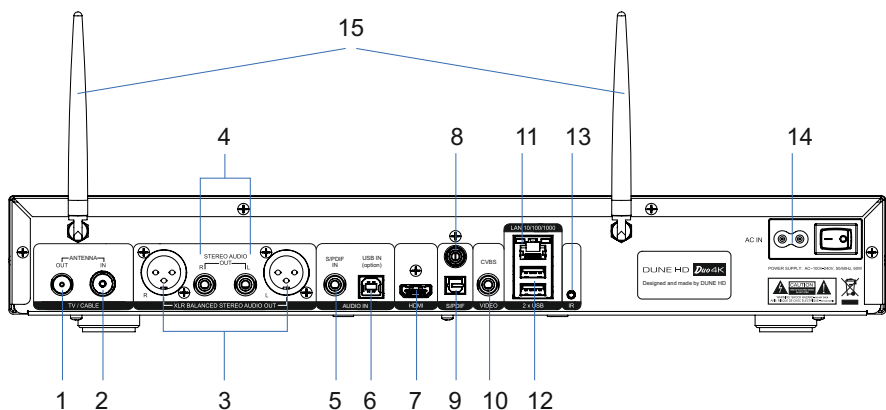
5. LED indicator

6. Control buttons

7. SD card slot

8. USB 2.0 host

Rear View



1. DVB-T/T2/C RF input (option)

2. DVB-T/T2/C RF loop output (option)

3. XLR balanced analog stereo output

4. Analog stereo output

5. Coaxial S/PDIF audio input

6. USB audio input (option)

7. HDMI output

8. Coaxial S/PDIF audio output

9. Optical S/PDIF audio output

10. Composite video output

11. Ethernet 10/100/1000

12. 2xUSB 2.0 host

13. IR extender port

14. 100-240V AC input

15. Wi-Fi antennas

Remote Control

LIGHT — turn the remote control backlight on/off.

POWER — turn the player on/off.

TV section (UP, DOWN, AV IN, TV INFO, TV POWER, SET) — programmable buttons to control TV or other external equipment; use SET button to learn the other 5 buttons.

TV, MOVIES, MUSIC — hot keys to quickly access TV channels / Movies / Music functionality (when available).

► **(PLAY)**, || **(PAUSE)**, ■ **(STOP)**, ► **(NEXT)**, ◀ **(PREV)**, ► **(FWD)**, ◀ **(REW)**, **REC, ZOOM, SUBTITLE, AUDIO, MODE** — control the playback and some other player functions.

Arrows (◀ ▶ ▲ ▼), **ENTER, RETURN, TOP MENU, POP UP MENU, INFO** — main buttons for controlling the player (navigate across the items on the screen, open/use the currently selected item, go back to the previous screen, go to the main menu, show/hide popup menu with actions for the currently selected item or the current player state, show/hide information about the currently selected item or the current player state, control some other player functions).

V+/V- (volume up / volume down) — adjust the volume.

P+/P- (page up / page down) — scroll up and down in various lists, switch to the next/previous TV channel, control some other player functions.

MUTE — turn the sound on/off.

RECENT — switch to recently watched channels/movies or other recent items.

SETUP — enter/leave the setup menu; adjust playback settings during playback.

SEARCH — access the search / time search functions.

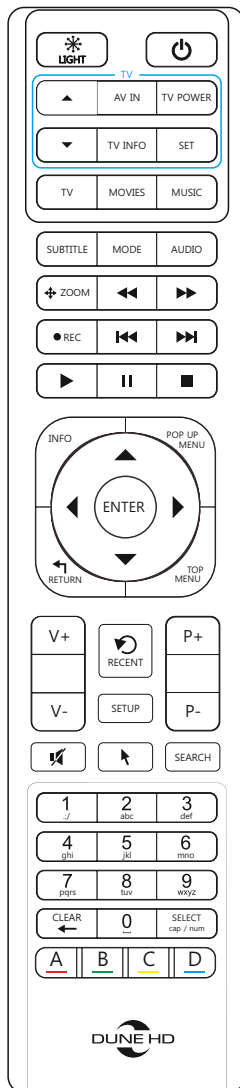
MOUSE — toggle virtual mouse (if available).

0-9 — enter numbers and text; control some other player functions.

CLEAR — delete the last entered character, delete the currently selected item, control some other player functions.

SELECT — switch text input mode, add the item to the selection list, control some other player functions.

A (Red), B (Green), C (Yellow), D (Blue) — control various player functions.



Installation

Ensure there is enough space around the player for proper cooling. The space at each side should be not less than 10 cm. When installing the player in an enclosed cabinet, please ensure proper airflow and cooling inside the cabinet.

When installing the player in a hidden location, such as enclosed cabinet, you can use the IR extender cable to allow the infrared signal from the remote control to reach the player.

Getting Started

Ensure the RC has batteries installed.

Connect the player to your TV and to other A/V equipment in an appropriate way. Use HDMI connection to get the best possible quality of video and audio. Make sure to switch off the player and all relevant A/V equipment before connecting them. Ensure your TV and other A/V equipment are configured to use proper inputs. Connect the power cord to the player and switch the player on using the power switch on the back panel of the player.

The player will perform its initial loading procedure, which may take up to about 1 minute. During the loading procedure, "DUNE HD" logo is shown on the TV screen.

If you do not see "DUNE HD" logo on the TV screen when you switch on the player, it may mean some problem with the connection between the player and the TV or that a wrong video input is chosen in the TV or A/V receiver/switch. In this case, recheck the cables and the settings of the TV or A/V receiver/switch, or try to use different cables or a different way of connecting the player to the TV.

If you see "DUNE HD" logo on the TV screen when you switch on the player, but then the picture disappears and the other picture does not appear during at least 10 seconds, it may mean that a wrong video output mode is configured in the player. In this case, press the "MODE" RC button, and then press one of the RC buttons "1", "2", "3", "4" or "5" to switch to a different video output mode (see "Quick Setting of Video Output Mode" for more information).

Finally, you should see the initial setup wizard, which will allow you to perform the initial player configuration. After that you should see the main screen of the player menu. The main screen shows menu items which allow the use of different player functions and access to all storage devices and network drives connected to the player.

Adjust the player settings as needed using "Setup" menu.

Quick Setting of Video Output Mode

The "MODE" RC button allows quick setting of video output mode without entering the player setup menu. This way of video output configuration may be required if you see no picture on the screen after connecting your player to a TV.

Press the "MODE" RC button and then one of the RC buttons "1", "2", "3", "4", or "5" to switch to one of the following video output modes respectively:

1. Composite PAL
2. Composite NTSC
3. HDMI, 480i, 60 Hz
4. HDMI, 720p, 60 Hz
5. HDMI, 1080i, 60 Hz

After you see a picture on the TV screen, press the "ENTER" RC button, and then go to the player setup menu to perform a more precise configuration of the video output mode if needed.

NOTE: The procedure of quick setting of video output mode cannot be used during playback and in some other cases. To ensure this procedure can be used, switch the player off, then switch the player on, and then wait about 1 minute to ensure the player loading is finished. After that press the "STOP" RC button to ensure playback is stopped. Then use the "MODE" RC button.

Using USB Drives

To use a USB drive, attach the USB drive to a USB port of the player.

The player shows items corresponding to the attached USB drives in the "Sources" section of the player menu.

When connecting a USB drive requiring significant power (such as USB HDD), use an external power supply for the USB drive. Power provided by the USB ports of the player may not be enough for correct functioning of the USB drive.

NOTE: Do not disconnect or switch off the USB drive when some write operation is in progress.

Using Internal HDDs

You can insert one or two 3.5" SATA HDDs into the player.

To insert an HDD into the player, open the HDD rack door, insert the HDD into the HDD rack and close the HDD rack door. The player shows items corresponding to the inserted HDDs in the "Sources" section of the player menu.

It is recommended to use "green" HDD models with small RPM value, small heat emission, and small power consumption. For more information, please see here: http://dune-hd.com/support/hw_compat/

To remove an internal HDD, open the HDD rack door and remove the HDD.

NOTE: Do not remove the HDD when some write operation is in progress.

Using SD Memory Cards

To use an SD memory card, insert the memory card into the SD card slot of the player.

The player shows an item corresponding to the attached SD memory card in the "Sources" section of the player menu.

Some SD memory cards may not be recognized by the player or may work incorrectly; in such a case, use other models of SD memory cards.

NOTE: Do not eject the SD memory card when some write operation is in progress.

Formatting HDD

To format an HDD attached to the player, select the HDD item in "Sources" section of the player menu, press the "INFO" RC button and choose "Format Disk" (to format the entire disk) or "Format Partition" (to format an already existing disk partition only). Then choose the type of file system: if you want to use the HDD only with the player, "EXT3" is typically a good choice; if you want to connect the HDD to a Windows PC, "NTFS" is typically a good choice. The player will format the disk. To format an unformatted HDD, just press the "ENTER" RC button on the HDD item.

NOTE: To use disks formatted by the player into "EXT2" or "EXT3" file system on a Windows PC, you may need to install additional software on the PC, such as "EXT2FSD" (<http://www.ext2fsd.com/>).

Accessing Network Drives

To connect a network drive using SMB or NFS protocol, go to "Sources" section of the player menu, press the "POP UP MENU" RC button, and choose "Create Network Folder", then fill the parameters of the network drive as needed. The player will show an item corresponding to the configured network drive on the main screen. To browse the list of network resources accessible via SMB or UPnP protocols, use "Network Browser" item in "Sources" section of the player menu.

NOTE: If some network resources are not shown by the player, you may need to wait some minutes and then retry (or press the "POP UP MENU" RC button and choose "Refresh" command).

Switching the Player On and Off

To switch the player on and to switch it off completely, use the power switch on the rear panel of the player.

To put the player into the standby mode, press the "POWER" RC button or the "on/off" button on the front panel. To exit the standby mode, press any of these buttons again.

Depending on the player settings (see the player setup menu), the "hardware standby" or "software standby" mode may be used.

In the "hardware standby" mode, almost complete power-off takes place and the player consumes almost no power.

In the "software standby" mode, the player produces no signal on the video output, but is still functioning. For example, if you have some storage devices connected to the player, you may still access them from network ("NAS" function of the player). Exiting the "software standby" mode takes just a few seconds. When the player is in the "software standby" mode, it still consumes significant power. It is not recommended to keep the player in the "software standby" mode for a while if you do not need it.

NOTE: After switching the player off completely or putting the player into the "hardware standby" mode, it is recommended to wait about 1 minute before switching it on again.

Built-in NAS (Network Attached Storage) function

The player can work as a file server, i.e. you can access storage devices connected to the player (internal HDD, USB drives) from the local network using FTP and SMB protocols. For example, you can copy files to the player directly from a PC or other device in the local network. On a Windows PC, just type "ftp://ip_address" or "\\ip_address" in the Windows explorer, where "ip_address" is the IP address of the player. The IP address of the player can be found in "Setup / Information" menu.

Built-in Wi-Fi Access Point function

The player can work as a Wi-Fi access point or Wi-Fi router. I.e. the player can connect to Internet via Ethernet and create its own Wi-Fi network which can be used by various devices (such as mobile phones, tablets, notebooks, etc) to communicate with the player and with each other and to access Internet. In order to use this, enable "Wi-Fi access point" function in "Setup / Network" menu.

Using Audio Input

The player has coaxial S/PDIF audio input and USB audio input ports.

Using these audio input ports, the ESS SABRE32 Reference DAC built-in into the player can be used to output digital audio streams from external audio sources.

To use coaxial S/PDIF audio input, connect it to the the coaxial S/PDIF audio output of an external audio source.

The USB audio input is optional. In the default player configuration, the USB audio input port is present on the rear panel of the player, but is not functioning and is reserved for a future hardware upgrade.

Limitations

Compatibility of the player with a particular hardware (A/V equipment, network equipment, disk drives, etc) may depend on various factors (particular hardware model, specifics of hardware installation and usage, configuration of the player and the hardware, etc). If the player does not work correctly with a particular hardware, try to adjust the configuration of the player or hardware, try to use the hardware in a different way, or try to use some other hardware.

Compatibility of the player with a particular media content (files, discs, etc) may depend on various factors (specifics of media content encoding, specifics of the configuration of the player, etc). If the player does not play correctly a particular media content, try to adjust the configura

Updating Your Player and Getting More Information

Please check here for updated versions of player firmware (which may improve player functioning and extend player possibilities): <http://dune-hd.com/firmware/>

You can also connect the player to Internet and use the online firmware upgrade function, see “Setup / Misc / Firmware Upgrade” menu.

Please check here for more detailed and up-to-date documentation and information on player usage:

<http://dune-hd.com/manuals/>

<http://dune-hd.com/support/>

<http://dunehd-europe.com/support/>

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

To comply with FCC RF exposure compliance requirements, this grant is applicable to only mobile configurations. The antennas used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

DUNE HD

Duo 4K

DUNE HD Warranty and support:

support@Dune-HD.com

www.Dune-HD.com/Support

support@DuneHD-Europe.com

www.DuneHD-Europe.com/Support