

Dune HD Network

(Brief installation and usage manual)

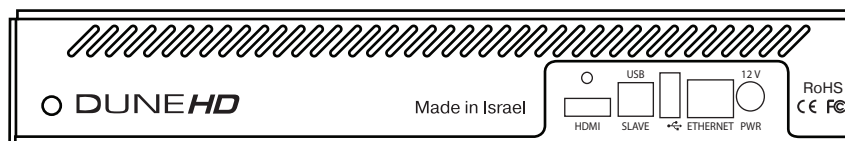
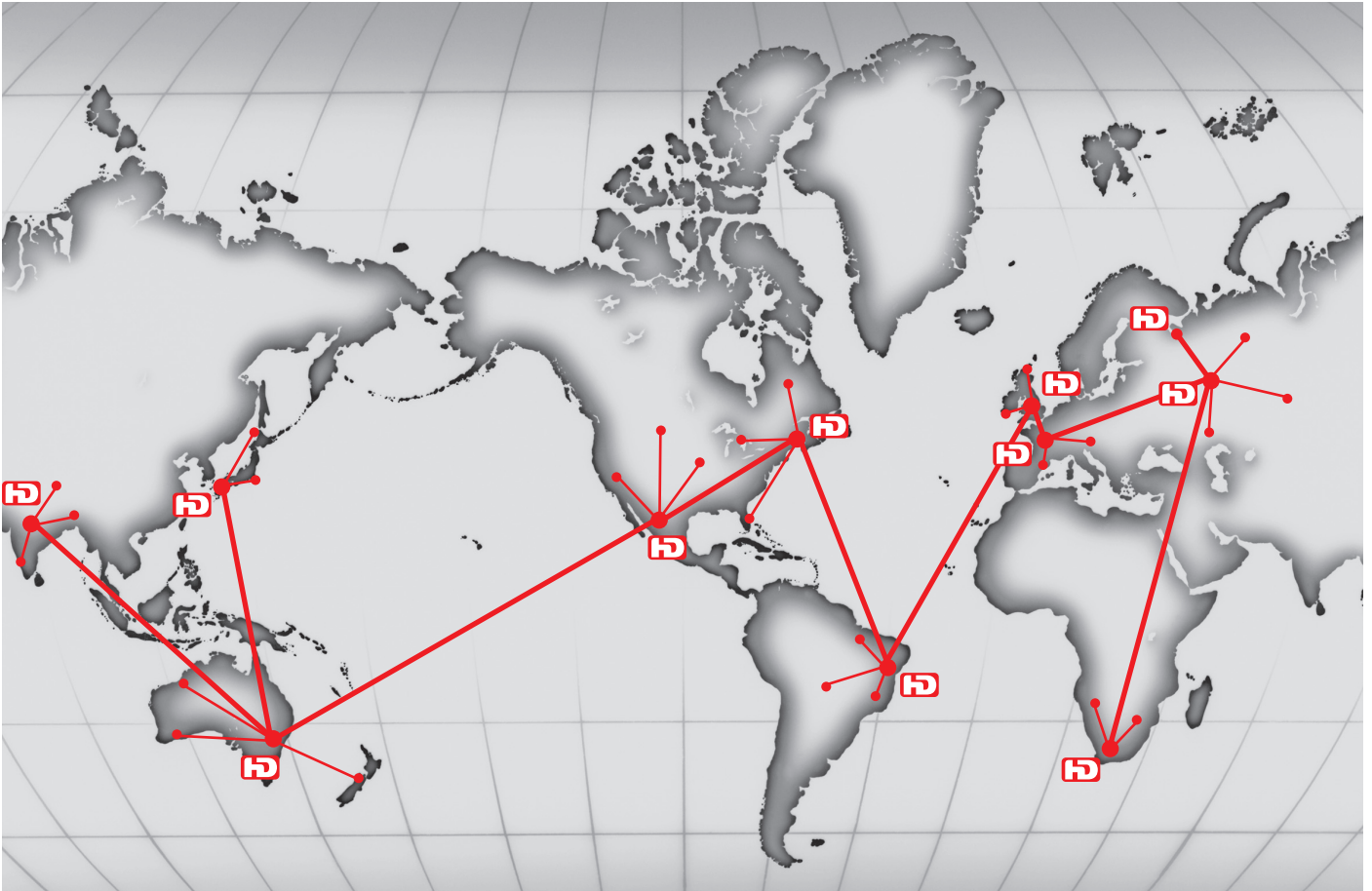


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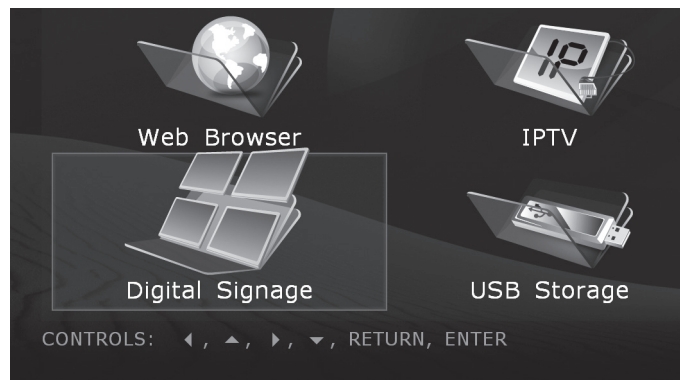
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1. General info.

The “Dune HD Network” system is designed for automated demonstration of video materials on monitors, television sets, etc. in HD (High Definition) modes. It provides cyclic show of a video clips playlist with the possibility to add scrolling text line and logos which appear after the specified time intervals.



The video signal comes from devices which support “Dune HD Network”, such as HD-players “Dune HD Mini”. The firmware of such devices has a special mode called “Digital Signage”, which implements the functionality of “Dune HD Network”. Meanwhile, it is still possible to exit this mode and get to the player menu.



Later on in this manual the “Digital Signage” mode is described, unless specified otherwise.

2. Turning on and off, configuration.

When turned on (the power is supplied), the device automatically starts in the “Digital Signage” mode. The “Digital Signage” autostart may be turned off in the player menu “Setup -> Digital Signage”.

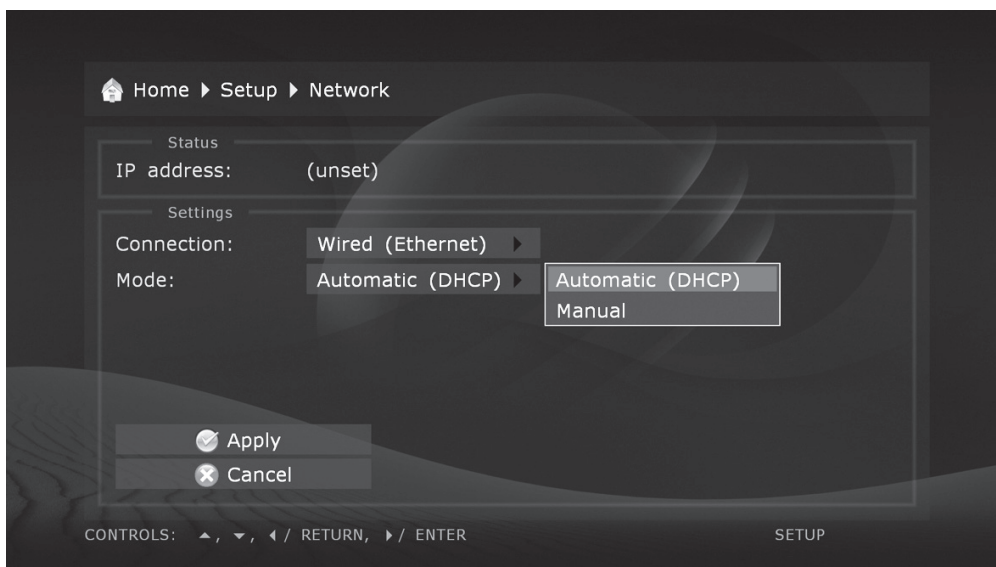
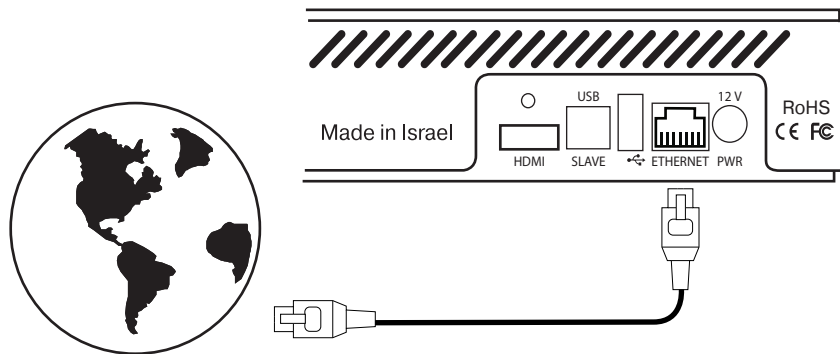


The device settings are divided into two categories: player settings (video mode, LAN, etc) and “Digital Signage” mode settings (video clips playlist and other settings of this mode).

The player settings are stored in the built-in flash memory of the player. In order to change these settings, it is necessary to use the remote control to exit the “Digital Signage” mode to the player menu (after the settings are adjusted, you may return to the “Digital Signage” mode selecting the corresponding icon).



To allow the device to use LAN, proper IP address and other network settings should be set up this way. Also a proper video mode should be set up.

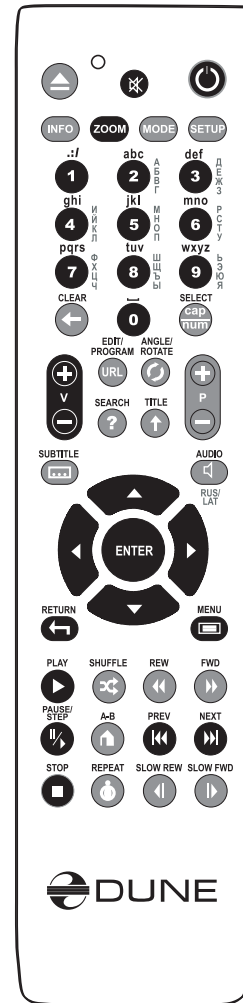


The “Digital Signage” mode settings are stored on the attached storage media (e.g. the attached hard disk or the attached USB drive), together with playback materials. These settings are stored inside a plain text configuration file. This configuration file may be prepared/edited manually in advance (before attaching the storage media to the player) or created/modified via network using FTP protocol. The content of this configuration file may also be remotely altered in a convenient way using the “Dune HD Network Control Center” application which should be installed on any computer on the same LAN to which the devices are connected. The usage of the “Dune HD Network Control Center” application is the recommended way for working with the “Digital Signage” mode settings.

3. Remote control unit.

In the “Digital Signage” mode there is a setting which allow to block the remote control buttons, including the **power** on/off button (initially this setting is on). When the remote is blocked, the exit to the player menu may be performed by typing a special sequence of buttons which is also configured in the settings. Initially this sequence is “78677867” (these buttons carry letters “stopstop”). When the sequence is typed in, the remote blocking will be turned off until next enter into the “Digital Signage” mode. This function is useful to prevent accidental interruption of the “Dune HD Network” system, e.g. when used near some other “Dune” player.

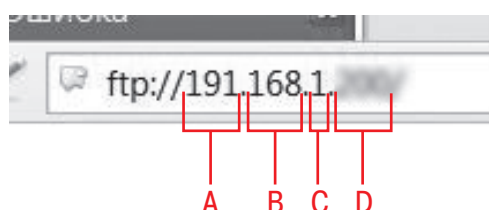
When the mode of synchronous video clips showing is active, if the remote buttons are not blocked as described above, only the buttons “**Stop**” (exit to the player menu) and “**Power**” (entering the standby mode turning off video output) are available. If the synchronization is not turned on, then additional buttons may be used: “**Mute**”, “**Volume +**”, “**Volume -**”, “**Pause**” (second press – “step-one-frame” function), “**Play**”, **previous/next** track selection buttons (the same function is assigned to **left and right** arrows), **up/down** arrows (jump to first/last video clip), number buttons **0...9** (jump to the clip with the given number), and the “**Zoom**” button.



4. Materials for playback.

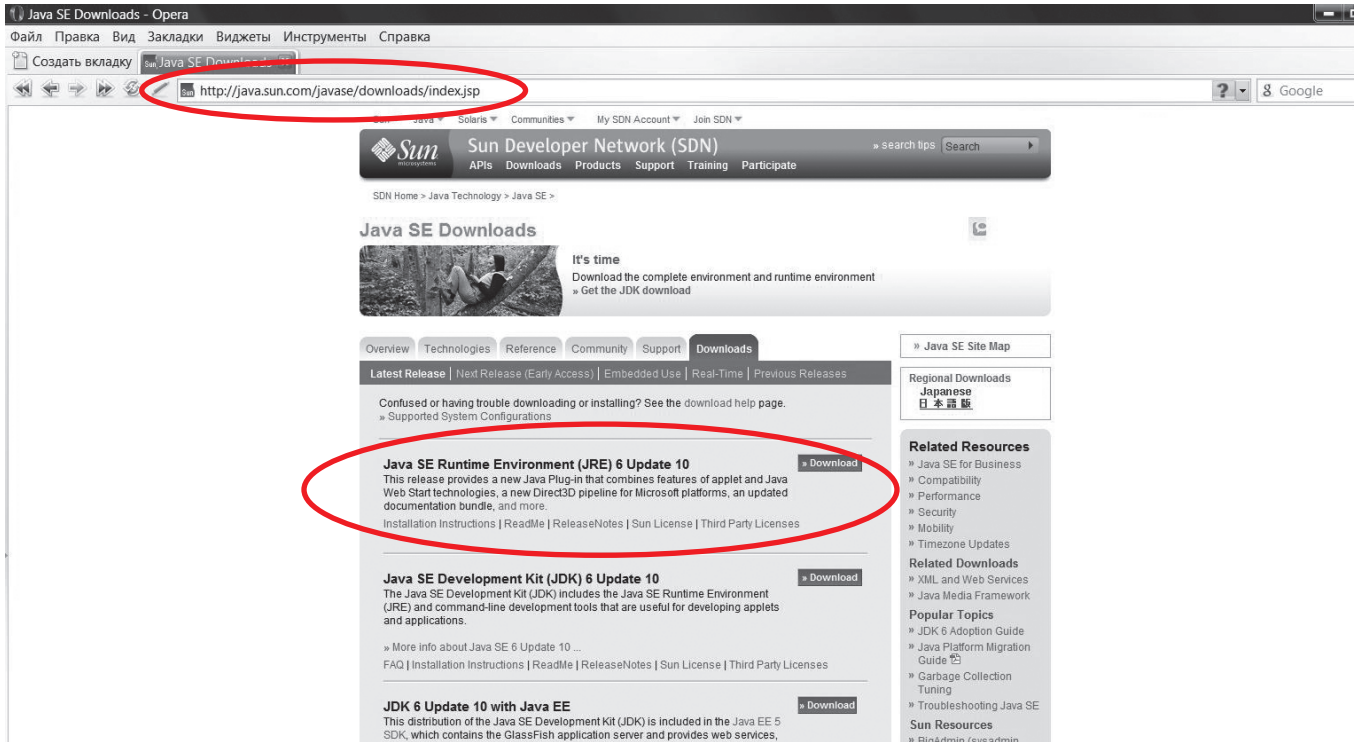
All materials for playback (video clips, static images and logos) are located on the internal hard drive. If the device is not equipped with an internal hard drive, it is substituted with an external media connected to a USB port. All materials are located in the “HDNETWORK” folder. Inside this folder there is the “clips” folder (contains video clips to show), the “logos” folder (contains logos), and the configuration file “config.txt”, which is created and edited by the “Dune HD Network Control Center” application.

For convenient access to materials, it is recommended to use FTP access to the device. For this purpose, type “ftp://A.B.C.D” in any opened Windows folder address bar, where “A.B.C.D” is the IP address of a device. The “Dune HD Network Control Center” also allows to open the FTP folder for a device with a single mouse click.



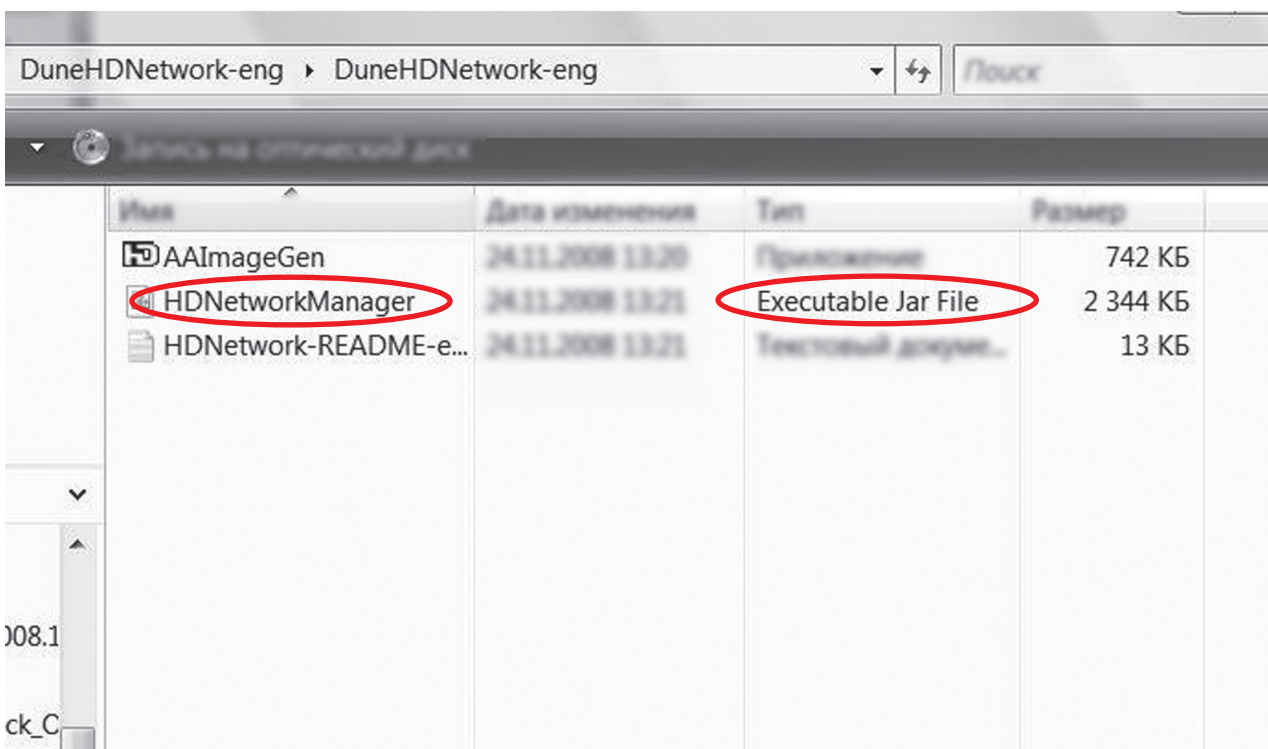
5. “Dune HD Network Control Center”

To install the application on any computer with Windows operating system, it should be checked that the computer has the Java environment of version 1.6 or higher installed (e.g. “jre-6u10-windows-i586-p”). The Java environment may be downloaded from <http://java.sun.com/javase/downloads/>.

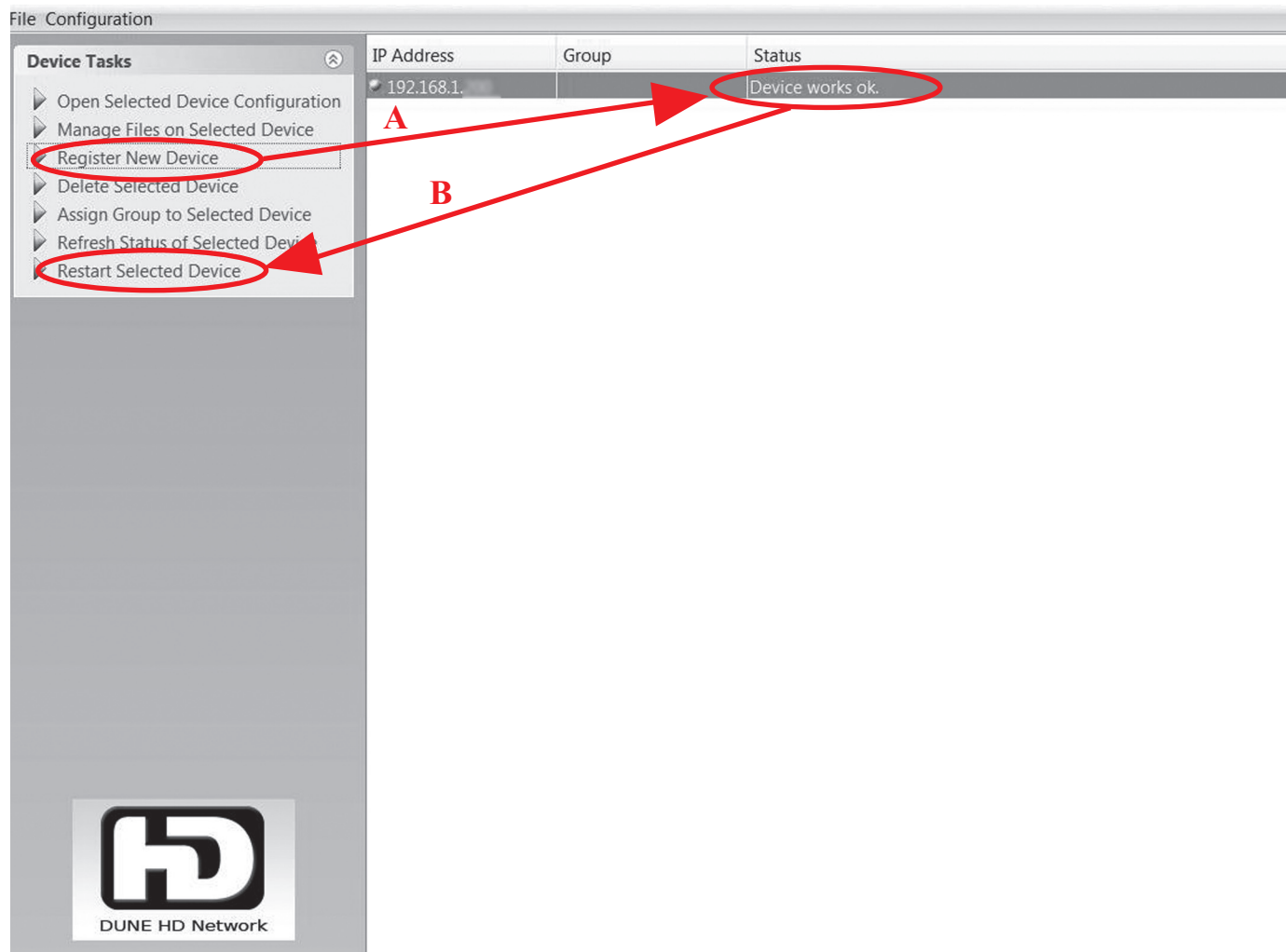
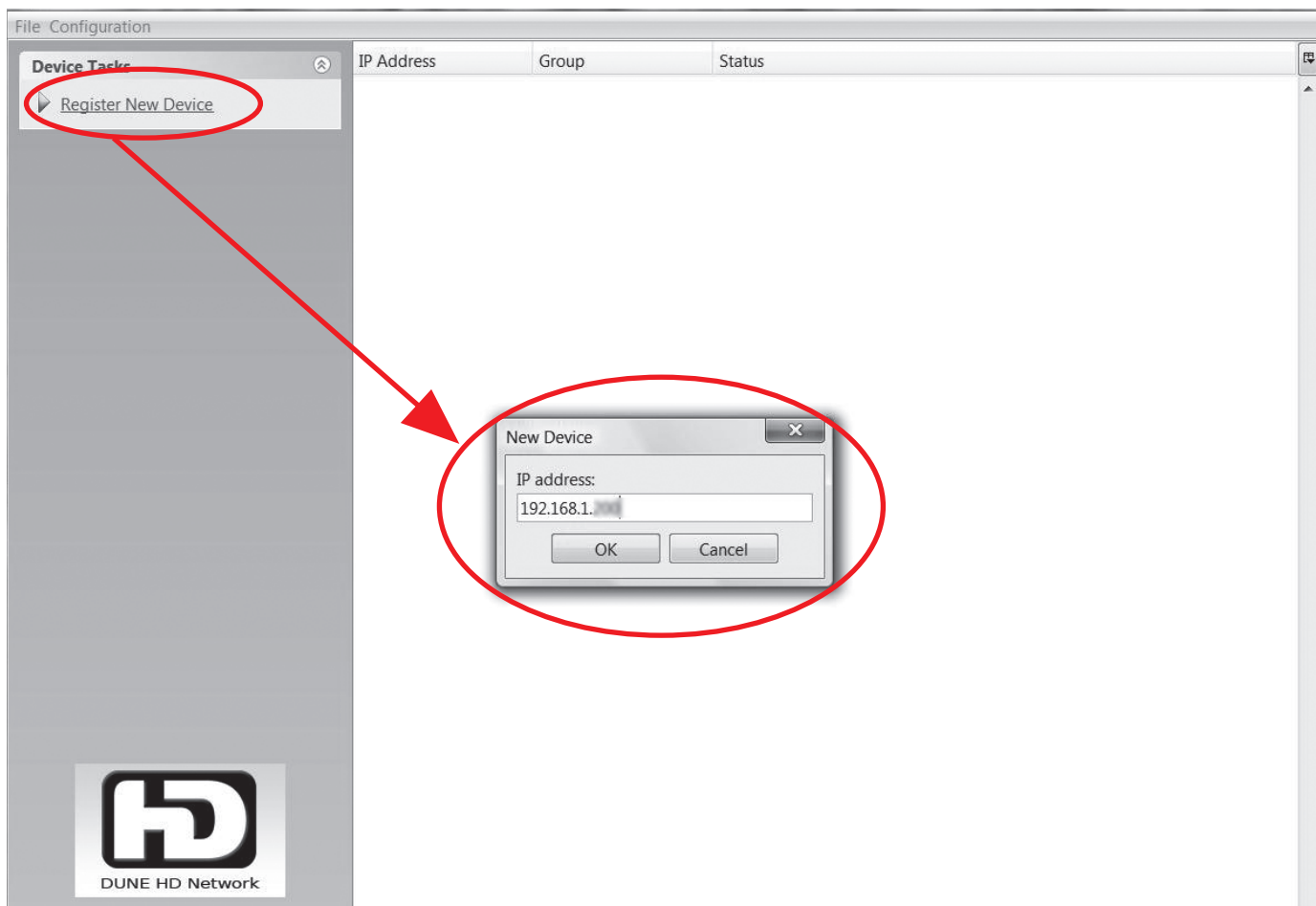


After that, it is enough to copy the “DuneHDNetwork” folder to the hard drive, e.g. into the “Program Files” folder.

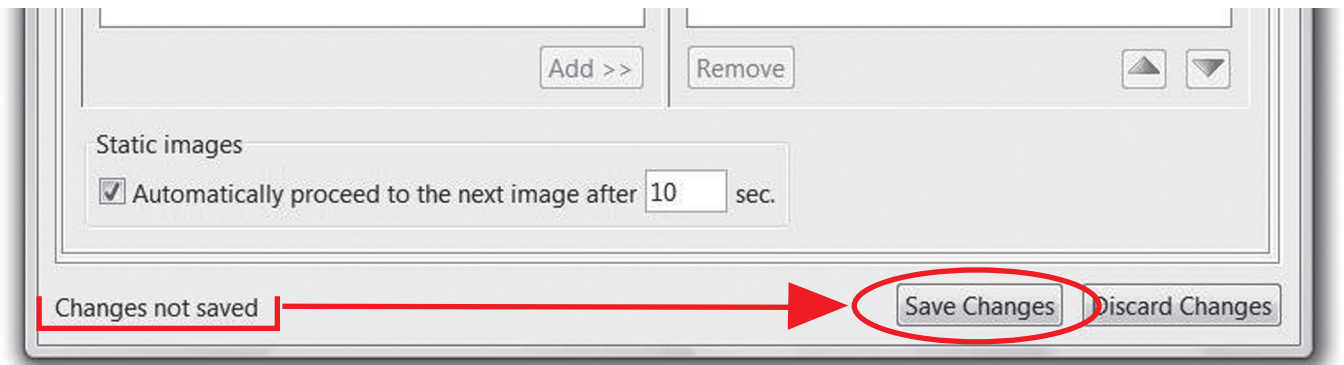
To start the application, just run the “HDNetworkManager.jar” file. For conveniency, you can create an application shortcut at the desktop or the programs menu.



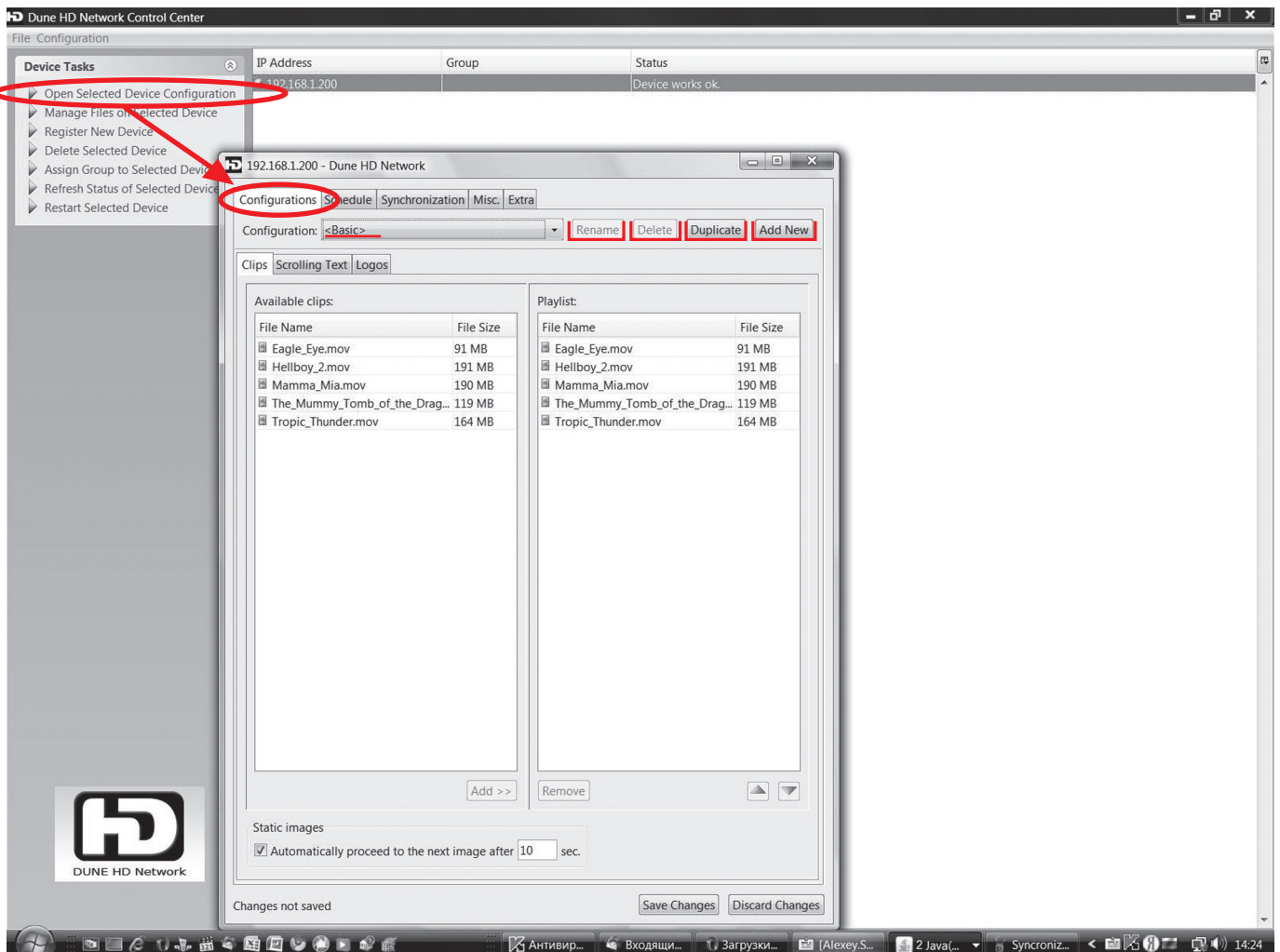
To start working with devices, their IP addresses should be registered. After that, it is possible to edit settings of these devices, restart them, and perform other actions.



When the device settings editing is finished (in case the user presses the “Save” button), the “config.txt” file on the device is updated.



Some settings come to effect when the next video clip is started (the “Clips”, “Synchronization”, “Misc.” tabs), some – when the current scrolling text messages cycle is finished (the “Scrolling Text” and “Logos” tabs).



It is possible to create several different settings sets on “Clips”, “Scrolling Text” and “Logos” tabs; such sets are called configurations.

A basic configuration always exists, while the user may create new configurations and assign names to them.

Named configurations are used for working with schedule (the “Schedule” tab) – for each time interval a configuration name to use is specified.

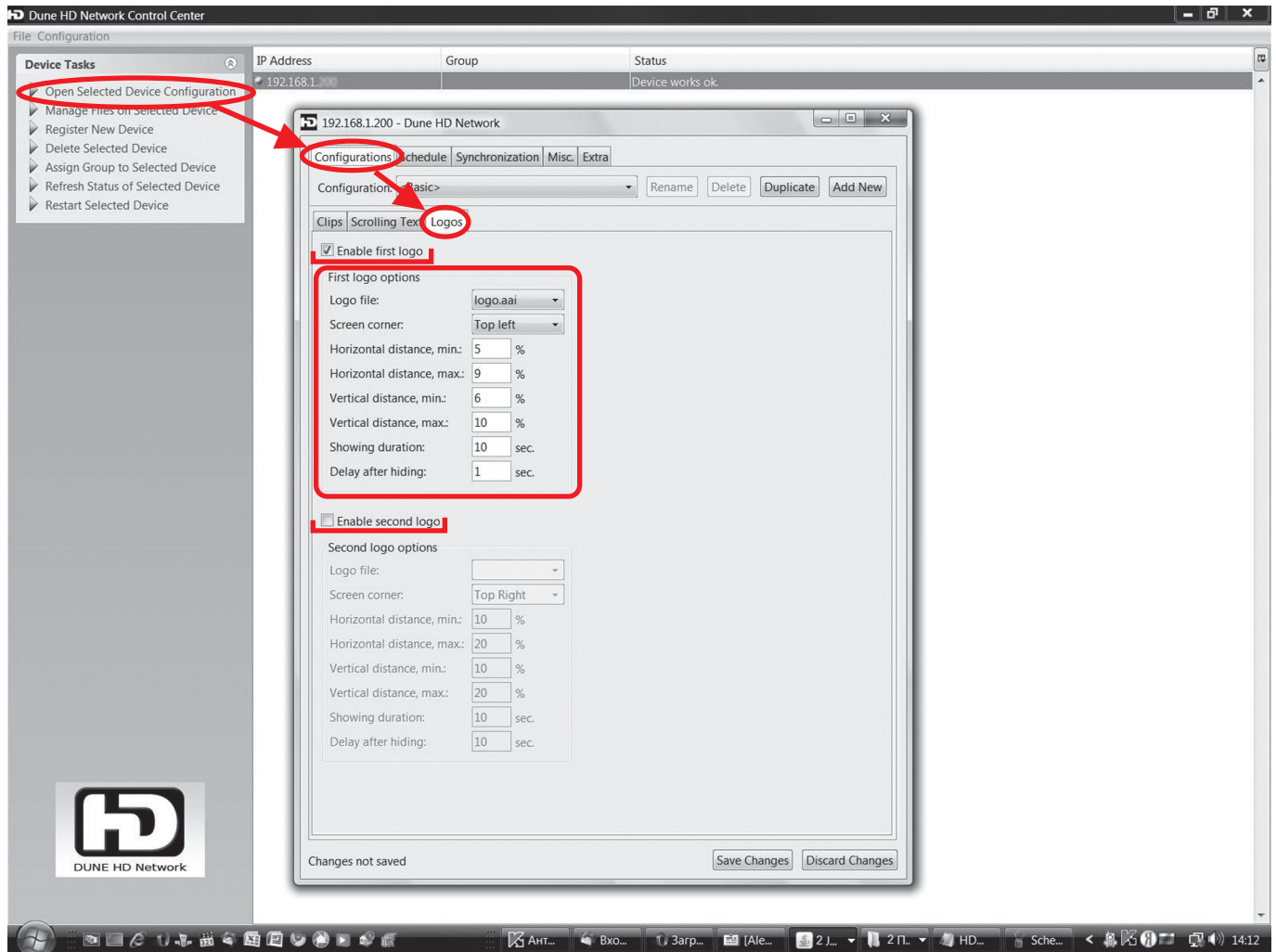
The screenshot shows the Dune HD Network Control Center interface. On the left, a 'Device Tasks' menu is visible, with 'Open Selected Device Configuration' highlighted by a red circle. A red arrow points from this menu item to the 'Schedule' tab of a configuration window for device 192.168.1.200. The 'Schedule' tab contains a list of days with checkboxes and time interval input fields. Below this list, there is explanatory text and an example configuration string: '09:00-13:00, 14:00-18:00 "Evening"'. The window also features 'Save Changes' and 'Discard Changes' buttons at the bottom.



ATTENTION: The schedule support in the current version of the firmware is not supported, because the devices have neither a real-time clock nor a clock settings mechanism. Such support will appear in next versions.

6. Showing logos.

The “Dune HD Network” system offers a capability to show one or two logos over the video. Each logo is a static picture with the support for arbitrary transparency level (alpha channel).

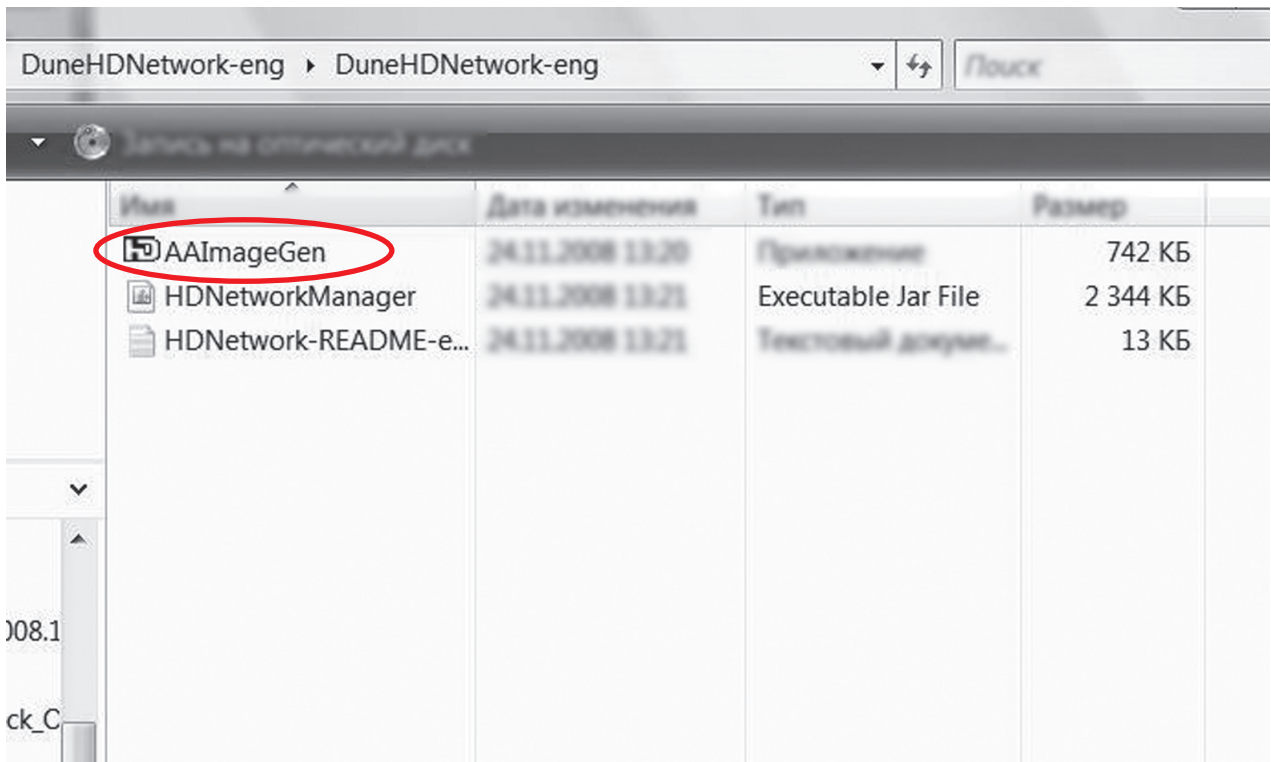


Logos are shown sequentially, each of them is shown for the specified number of seconds, then is hidden, a pause of the specified duration is held, and (if the second logo is present), the same is repeated for the other logo. These steps are performed in a cycle.

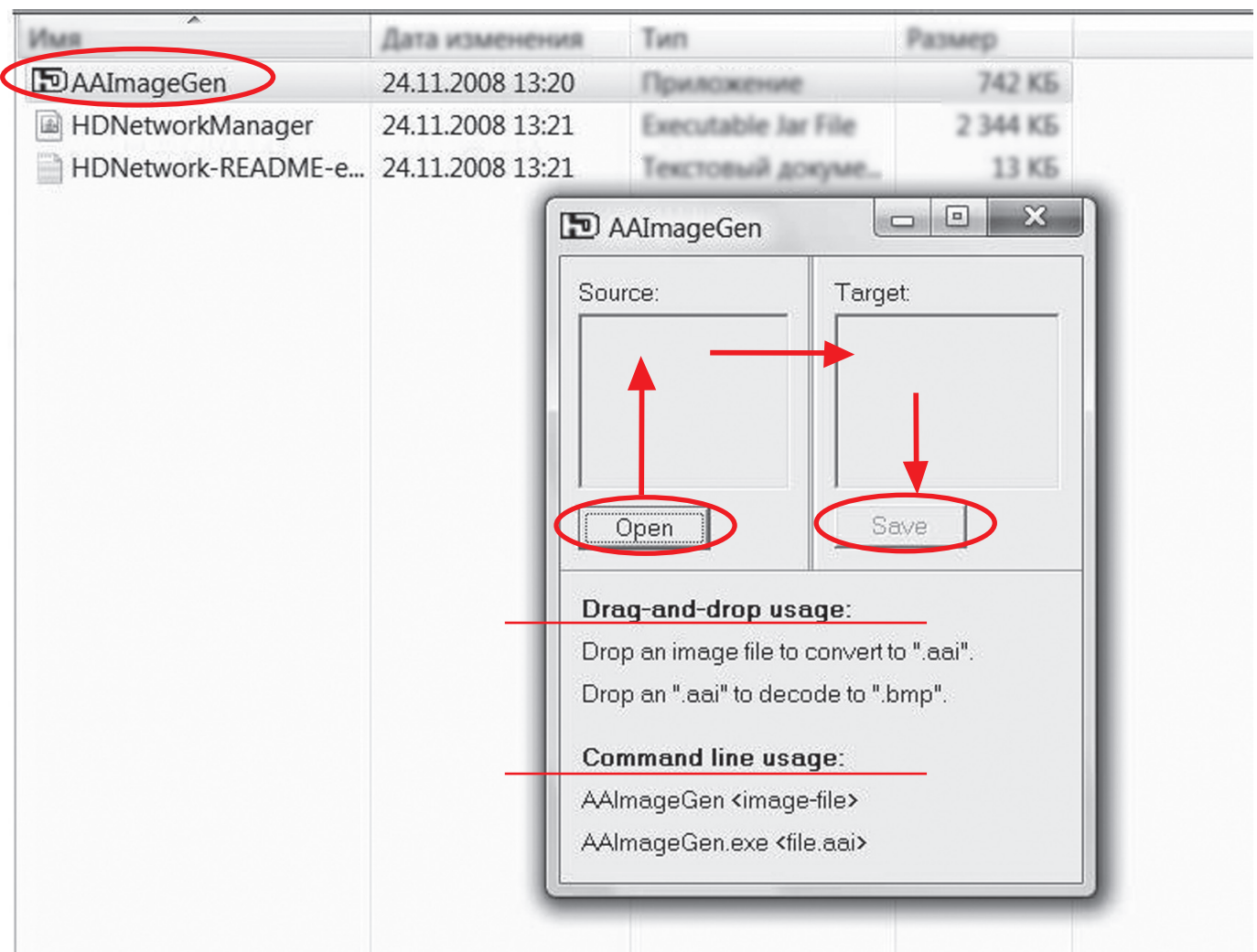
For each logo is it possible to specify a screen corner where to show it, and the desired distance from this corner to the image, vertical and horizontal. These distances are specified in percents of the respective screen size. A minimum and maximum value may be specified – the actual logo position will be a random value in this range, which may help preventing screen wearing-out for certain display types. If a fixed position is desired, the minimum and maximum values should be equal.

When the devices are turned on (the “Digital Signage” mode is entered), the logo showing cycle may start in any its point, so it should not be expected that it starts showing the first logo.

Logo files should be stored in the “HDNETWORK\logos” folder of the device hard drive, and those files should be in the special “Dune AAI” format (“aai” file extension). To prepare logo files, at first a raster image should be created in any graphics editor. Then it should be converted in to the internal Dune format (“aai” file extension) using the included application “AAImageGen”.



The "AAImageGen" converter application is shipped with the "Dune HD Network Control Center" application and is located in the same folder. It may work in the automatic mode – it is enough to drag-and-drop the image file of any supported format (BMP, PNG, JPG, PSD and many others) onto the icon or a shortcut to the converter executable file ("AAImageGen.exe"). Then, next to the source image file, a new file will appear having the same name but the "aai" extension.



If the transparency is not needed, a single-layer image file is enough, e.g. PNG, BMP, JPG or PSD. However, there is a possibility to use transparency, moreover, a complete alpha channel support is provided, that is, for each pixel its transparency level may be specified, and not only the fact of transparency. If, for example, Adobe Photoshop is used, an image in RGB mode should be created, the “Alpha” channel should be added in the “Channels” tab, and the required transparency should be expressed in that channel. Then it should be checked that the image has only one layer, and this layer is the “background”; otherwise, the correct behaviour of the converter is not guaranteed.

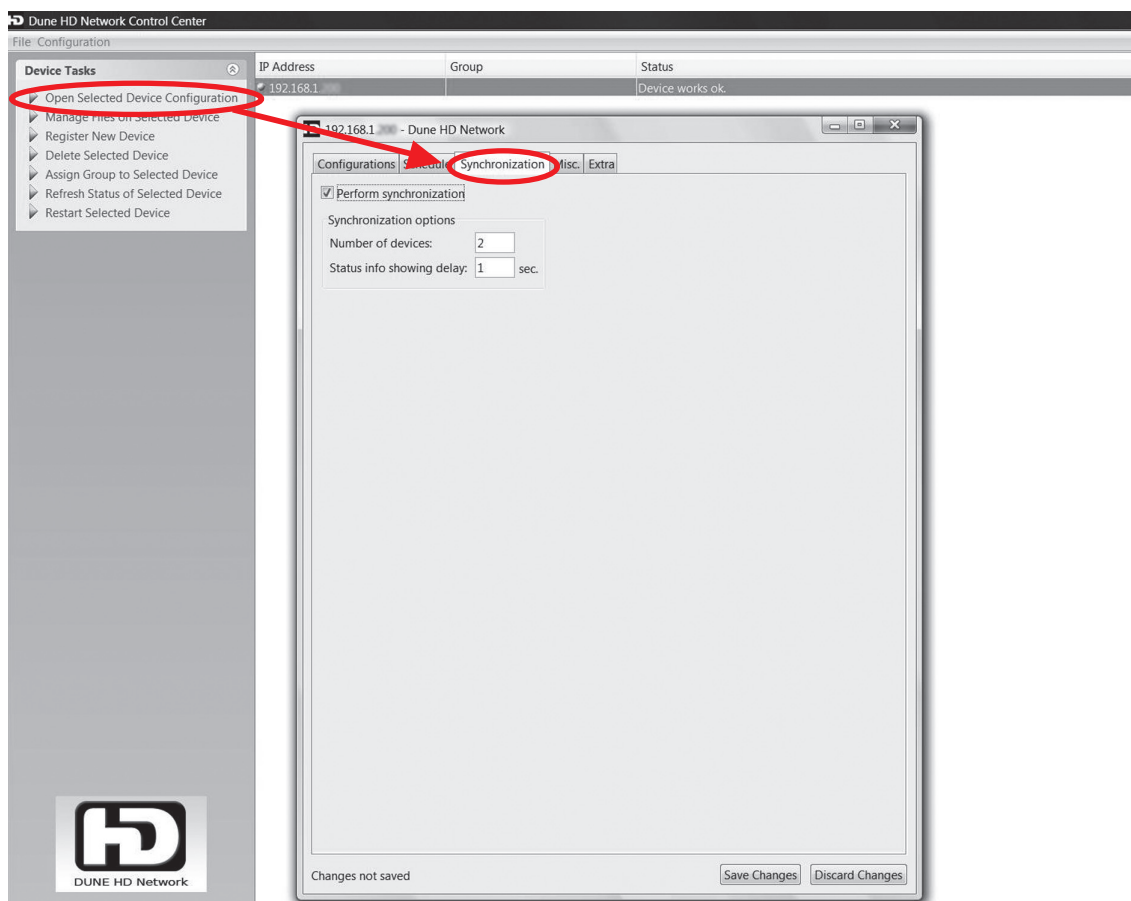
To test the conversion result, the “aai” file may be dropped onto the converter icon, and it will be converted to “bmp”. The converter application may work in manual mode – if it is simply launched, it shows a dialog window offering to open the source image file in one of the supported formats. Before saving the conversion result, the resulting image is shown on the blue background (honoring the alpha channel if it exists).



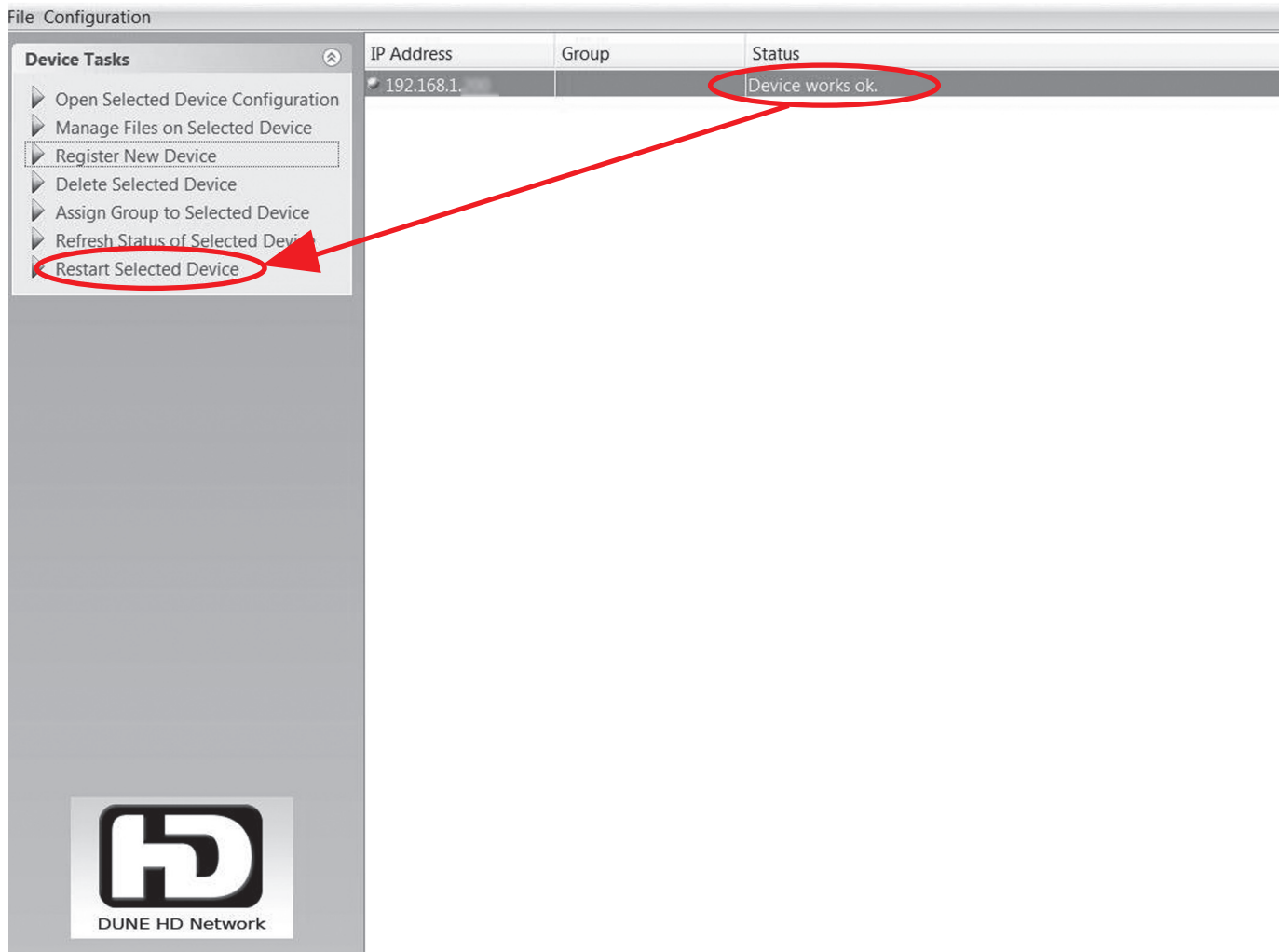
ATTENTION: Because of an error in Adobe Photoshop versions up to and including the CS2 (newer versions were not checked), BMP files with alpha channel (32 bits per pixel) are saved incorrectly for some image sizes (e.g. 64x64). Therefore it is recommended to use the native PSD format when working with Photoshop.

7. Synchronization mode.

By default, each device plays the video clips independently from other devices. However, if the configuration specifies that the synchronization should be performed, before starting to play next clip, all devices which are connected to a single subnetwork will wait until the last device finishes showing the previous clip. If the wait period exceeds the value specified in the configuration, a technical information about the synchronization mode will appear on screens.



It is important to specify in the configuration the exact number of devices which should be synchronized. All these devices should be connected to a single Ethernet network. Also it should be guaranteed, that all these devices have identical configuration (the “config.txt” files are all the same), and identical file set on the hard drives for the materials being played (presence of other files, not related to HD NETWORK, does not influence the synchronization). After the configuration of the synchronized devices is changed, it is recommended to simultaneously restart them using the corresponding command of the “Dune HD Network Control Center” application.



The same should be done in case the devices lose synchronization, e.g. because of one of them being temporary off.

- ✓ It should be noted that the synchronization function does not guarantee the frame-accurate precision. In particular, if different video modes are set on the devices, it may happen that devices having 50 Hz video modes do the speed-up by 1/25 of a second for playback of video clips containing 24 frames per second. This does not take place with e.g. the 60 Hz video modes. Also the synchronization inaccuracy depends on both the LAN quality and loading level, and the particular video file specifics. Besides, it should be noted that the synchronization mode does not influence the scrolling text and logos showing.



When using the synchronization mode, all devices that are connected to a single subnetwork display video clips synchronously, thus, in order to organize several independent synchronization groups, several subnetworks should be organized.



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To get the full version of the instruction please visit:
<http://www.HDI.co.il/manuals>

