VP200HDi

Vidéo/audio player

USER MANUAL

SOMMAIRE

ID-AL products are exclusively manufactured by Waves System
LA VILLE EN BOIS - 44830 BOUAYE - FRANCE
Sales and information: +33 2 40 78 22 44
E-mail : info@id-al.com - Web site: http://www.id-al.com

Technical department : support@wsystem.com

Technical support :
For a detailed list of the technical support options, we suggest you to visit our site www.id-al.com.

ACAUTION! DO NOT EXPOSE TO HUMIDITY & DUST!
Unplug the power supply cable before any servicing
FOR YOUR SAFETY, PLEASE READ THE USER'S GUIDE CAREFULLY BEFORE OPERATING YOUR PLAYER.

A. SAFETY INSTRUCTIONS

A.1 CE marking
The CE marking is found on the nameplate, at the rear side of the device. It certifies the conformance of the device with the low voltage CE Directive, according to the EN 55022 standard, and the Electromagnetic Compatibility Directive 61000-4-x.

A.2 Directives
• The requirements related to the electromagnetic compatibility and low voltages directive are met.

A.3 Overview
• The user manual is an integral part of the product. It must always be kept handy & close by. Proper usage conforming to the product intended purpose involves strict compliance with the instructions given in this manual.

In the event of return of the equipment, the user manual should be handed over to the new purchaser. The staff should receive instructions concerning the proper usage of the device.

• Only usage of genuine parts ensures perfect safety for the user and correct operation of the device. Moreover, only accessories mentioned in the technical documentation or explicitly approved by the manufacturer must be used. In the event of usage of accessories or consumable products from other brands, the manufacturer cannot stand guarantee for the correct and safe operation of the device.

• Damages caused through usage of accessories or consumable products from other brands will not entail right to any benefit under the terms of warranty.

• The manufacturer will be liable for the safety, reliability and functioning of the product as long as the assembly, settings, modifications, extensions and repairs have been carried out by the manufacturer or a company approved by the manufacturer and if the device is used in accordance with the instructions mentioned in this manual.

• The player complies with the technical safety standards in force at the date of print of this manual. All rights reserved for the electrical diagrams, procedures, names and devices mentioned herein.

• Any reproduction of the technical documentation, even partially, without the written authorization from Waves System is prohibited.

A.4 General Safety instructions
This device has been shipped out from our facilities in perfect working condition. In order to preserve these conditions, for safety and to avoid any risk of accidental bodily injury, the user must imperatively follow the safety instructions and read the 'Caution!' messages included in this manual.

This device, made by Waves System, has been designed in a way that practically eliminates any risk if it is used in accordance to its intended purpose. Nevertheless, with a concern for safety, we would like

to draw your attention to the following instructions:
• When using the device, comply with all local rules and regulations in force. Any modification or

conversion of the device automatically entails loss of the homologation. The operation of a modified device is liable to a penalty. In the interest of occupational safety, the operator and the user are held responsible for complying with the regulations.

• Keep the original packing for a possible product re-shipment. Also ensure to keep the packing material out of children's reach. Only this original packing ensures optimal protection for the product during transportation. If a product reshipment appears to be necessary during the guarantee period, Waves System is not liable for any ensuing damages arising during the transportation and attributable to a defective packing.

• This device is used to broadcast video and audio files. It should be used only by persons whose training or knowledge ensures proper handling.

• Before every use, the operator must check that the device is in perfect working condition.

• This product must not be used in places where there is a potential explosion risk. Besides, it must neither be used in an environment favouring combustion nor in a humid or excessively hot or cold location.

A.5 Safety instructions against risks due to electric currents

• The device must be connected to a grounded AC power outlet or a European standard outlet installed as per good professional practices.

• Before connecting the device, check that the power supply voltage and frequency match the specifications indicated on the device.

• Before powering, check that the device and cables are not damaged. Damaged cables and connections must immediately be replaced.

• Never allow the power cords to come in contact with other cables. Handle the power supply cable as well as all other cables connected to the mains with extreme care.

• Always connect the plug-in connector in the end. Ensure that the On/Off switch is in 'Off' position before connecting the device to the mains. The mains outlet must remain accessible after the installation.

• Check the device and its power supply cable from time to time. Disconnect the device from the mains when it is no longer used or for the purpose of maintenance.

• Handle the power cord by using the plug-in connector only. Never remove the plug-in connector by pulling the power cord.

• Electrical connection, repairs and maintenance must be carried out by qualified personnel.

• Do not switch on or switch off the device within a short span of time as this will reduce equipment life.

A.6 - Terms of use:

• This product has been designed for indoors use only.

• If this device has been exposed to very high temperature fluctuations (e.g.: after transportation), do not connect it immediately. The condensation formed inside the device could damage it. Allow the device to attain ambient temperature before connecting it.

• Do not shake the device, avoid sudden movements during its installation or handling.

• When selecting the spot for installation of the player, ensure that it is not exposed to a high source of heat, humidity or dust. There should not be any cables lying around as they might jeopardise your & others safety.

B. PRODUCT INFORMATION

B.1 Correct usage

The player is used to broadcast audio/video files automatically.
Correct usage involves compliance with the instructions given in this manual as well as with the requirements concerning installation.

B.2 Incorrect usage

Any other usage or usage beyond the scope of this application is considered as incorrect usage. The manufacturer shall not be liable for the damages ensuing from it. The user shall bear full responsibility for the risks incurred.

B.3 Delivery details

VideoPlayer VP200HDi
External power supply and its power supply cable
Remote control
Audio/video cable
User's manual

B.4 Specifications

Audio/video Player model : VP200HDi
Nominal electrical values of the power supply connection
Voltage (V) 100 to 240
Frequency (Hz) 50-60
For details see Annex B

B.5 Installation

The device must be installed in a dust free area.
Do not install the device directly against a wall. To avoid overheating, the ventilation openings must not be blocked. Take care to leave an empty space above the ventilation slits.

B.6 Electrical connection

Before activation, check whether the mains voltage matches with the voltage indicated on the rating plate.

1 - Product presentation

The VP200HDi is an interactive full HD video player. The files are stored on a USB device. This standalone player can read files automatically when switch on: Autplay function.

The interactive version offer more trigger input (up to 255) and 8 outputs on electronic switch named «Mosfet»

VP200HDi is used in digital signage market or integration projects for museums, exhibitions, retail, theme parks & tourist attractions…

2 - Functionnalities

Interactivity: VP200HDi is an interactive player that reacts according to events.
- Playback pattern is defined by the name of the files or the folders
- Electrical contacts: 8+1 inputs to trigger files through sensors, push-buttons,relays …
- 8 output contacts to control light, relay or to trig other externals peripherals
- Commands through the RS232 serial link. A simple protocol is used to send instructions to the player.
- Infrared sensor allows the use of a remote control.

Autoplay: VP200HD starts automatically on powering on. This function is configurable and can be disabled.

Playback: The audio files stored on a USB flash drive can be organized in a particular way to define playback pattern. The playback pattern is defined by the names of the files and the folders, allowing a wide flexibility of use.

Video output : 2 types of output are proposed :
- HDMI output (digital)
- Analog video composite output (4 points mini-jack - video + audio)

Audio output: 3 types of output are proposed.
- Digtial audio on HDMI connector
- A line level stereo audio output on a mini-jack 4 points - video + audio compatible with audio only
- An amplified stereo output on a removable terminal block (RTB).

Power supply: A 12v external power supply is required.
The player is protected against polarity reversals.
Caution! The player doesn't accept a tolerance of the power supply. Apart from the 12V, the player can be damaged.
The input supply is transferred to the RS232 connector and the output terminal (RTB) to supply the connected accessories. (limited current)

The power of the PSU determines the output power of the amplifier. When a line level output is used , a 1A (12w) power supply is adequate to run on the player. When the amplified output is used for larger powers, a supply of at least 3,50A (45w) is compulsory. If you use a PSU from an inferior power, you can have a very poor sound and also an overheating PSU till broken down.

Serial link RS232: VP200HD can be controlled by a PLC, a computer, a remote control using a serial link. VP200HD receives data on its Rx input and sends datas on its Tx output. A specific protocol is described in this manual.

3 - INSTALLATION

1 - Volume -
2 - Volume +
3 - Infrared sensor
4 - Activity led
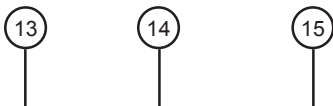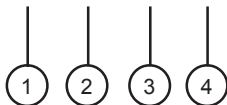
5 - Power supply of the player
6 - Serial link RS 232
7 - Input on dry contact
8 - USB host for flash drive
9 - Video/audio HDMI output
10 - Analog video/audio output
11 - Amplifier volume
12 - Amplified outputs for speakers
13 - Contacts inputs
14 - Contacts ouputs
15 - Leds for status
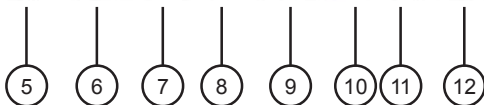
First use: VP200HDi is factory setting configured with parameters by default and the player must operate on inserting a prepared media dedicated to (chapter 4).

1 - Insert a prepared USB flash memory.

USB key

USB connector: You can connect a USB flash drive or an external hard drive.

2 - Connect a display, speakers or a sound system to the audio output and switch on the player thanks to the PSU

12v power supply

Speakers

HDMI or composite display

Amplifier
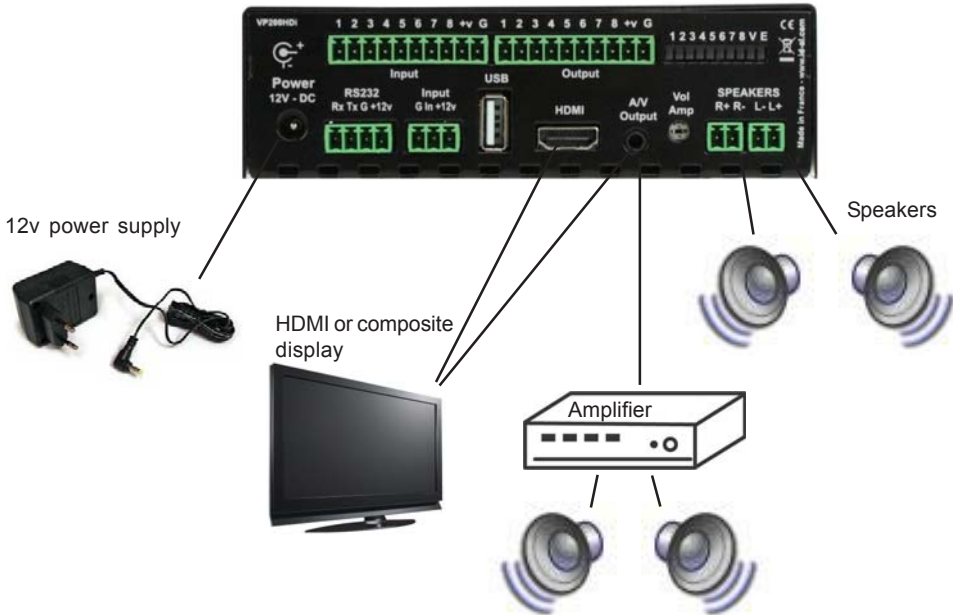
Power Supply Unit: We recommend you to use the PSU provided with the player. If you use another PSU, you have to respect the 12V specified voltage although the player can be power supplied between 10V and 15V. The power consumed depends on the power level of the amplifier.

Preparation of the medias:

Brand new USB flash drive are usually "FAT32" formatted.
If you must format a stick, select the FAT32 format according to the memory size. If the size of the files are over 4GB, select NTFS format.Other types of formatting do not work.

If you use Windows PC computer, latest versions do not allow to format high capacity medias(>32Go) system FAT32. In this case you must obtain a formatting software. Many softwares are available , some free, others payable that you will easily find on internet.

3.1 - Connections

Connection is directly from the sensor/push button to the player trigger inputs.
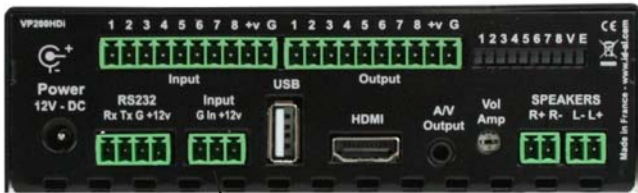
Status Leds :
1 à 8 - Output state 1 to 8
V - Activity, show the receipt of the commands
E - Player status. Blinking, player is not ready, fix, player is ready.
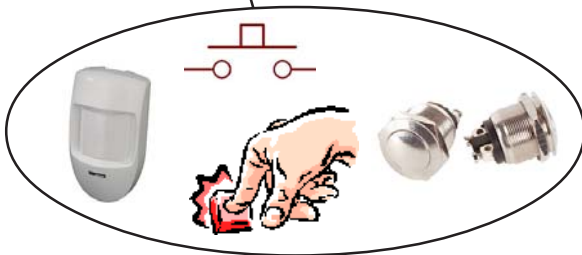
Internal input schematic
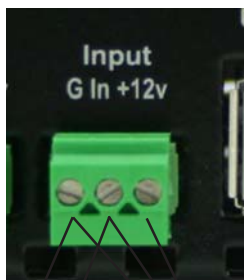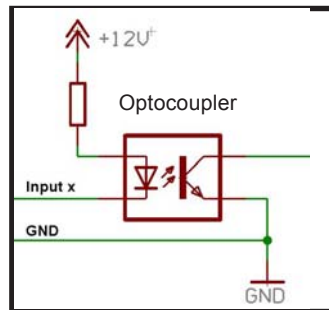
● G - Ground
● In - Trigger input
● +12v - power supply output for an external peripheral device

Note: +12v is a transfer of the main external PSU. The provided power will not exceed 500mA.

IR Sensor with «NO» contact output

Push button

3.2 - 8 input connections

Using up to 8 triggers you can connect the electricals contacts directly to the 8 inputs. Over 8 push button, you need to combine the input with some diodes or other electronic system. Input are a binary mapping of the number of folders.
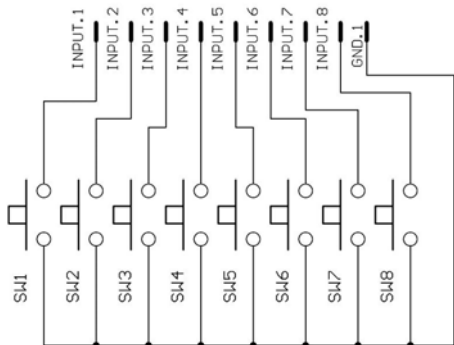
8 inputs -> 8 folders :

SW1 = Folder 001
SW2 = Folder 002
SW3 = Folder 004
SW4 = Folder 008
SW5 = Folder 016

SW6 = Folder 032
SW7 = Folder 064
SW8 = Folder 128

D1 - D9 - Diodes = 1N4148
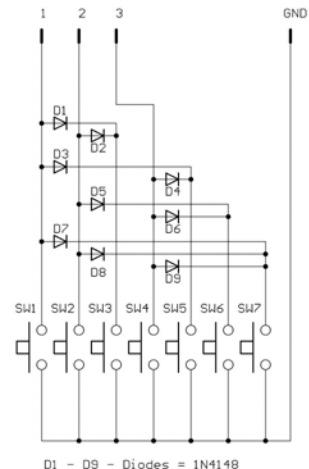
Example of 3 input with combination :

SW1 = Folder 001
SW2 = Folder 002
SW3 = Folder 003

SW4 = Folder 004
SW5 = Folder 005
SW6 = Folder 006
SW7 = Folder 007
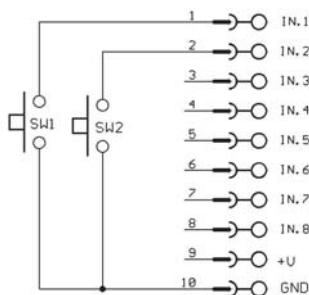
Example with push buttons to start directory 001 or 002
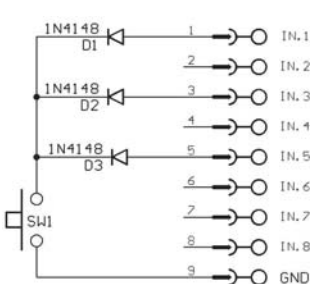
Example of input combination to start directory 021
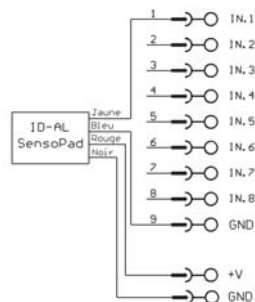
Example of external trigger using SensoPad and power supply of the player to play folder 001

3.3 - Output contacts

The VP200HDi can enable output contacts to operate various devices. You can switch on lamps, relays, motors … The output contacts are activated through folders.

The output contacts of the VP200HDi are electronics switch using Mosfet. (see diagram below). The power output is limited (switching up to 60V/500mA max for each output and 2A for all the outputs) and only low power devices can be controlled, LED or small relays. To switch high power devices you must use an interface between the outputs and the device to be controlled such as the ID-AL MicroSwitch.
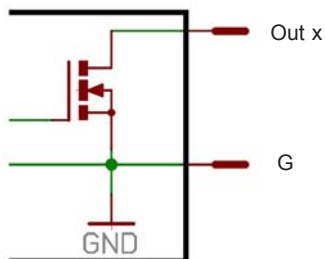
Output schematic
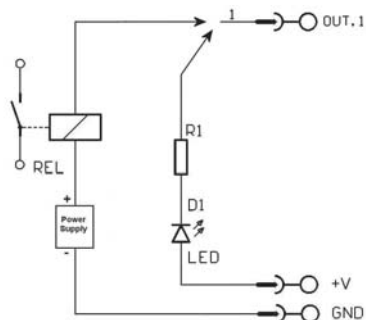
Example of output to control LEDs and a relay with an external power supply.

Note : V+ is voltage output from the main power supply. With a 12V power supply, V+ will be 12V out. Max output is 2A.

4 - Operating mode

See in annex at the end of this manual, the compatible files.
The name of the files and folders define the playback mode. The files and folders must be stored and copied according to a specific organisation described below.

4.1 Organisation des dossiers :

Only ONE folder level is allowed at the root. The folder naming is composed of 3 digits (000 to 999) followed by optional parameters and the name of your choice.
You should not use special or accentuated characters
.
Example :
001
003 [J002]
034 folder name
127 [SEQ][J001] my folder
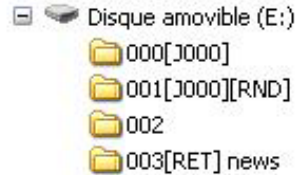
Configuration folder: SYSTEM
SYSTEM folder is used for optional configuration files. See next chapter.

● **The first three digits represent the folder number and therefore its main name**
Folders are numbered from 000 to 999.

Example :
000 : Folder N°000 - "Autoplay" folder which is automatically played when the device is powered on.
001 : Folder N° 1 - Triggerable by the contact input 1
034 : Folder N° 34

The folder number is used identifies the folder to use during a jump or an input triggering. You can use any number between 000 & 999.

IMPORTANT : The trigger contact input select folder to be played
See at the end of chapter 4 the details of the use.

Special case: Folder 000 is the folder which will be played by default when powering on. When powering on, presence of this folder is checked ; if it is present, the player plays files of this folder. If this folder is missing, the player turns in wait mode (black screen) or play the «waitscreen.jpg» file.

Additional Parameters - Optional Tags:

To modify the conduct of the player, you can add optional parameters within the folder name. These parameters are boxed with the symbols "[" "]". You can add several parameters within the folder name.

[Jxxx] - Jump to another folder after reading the current folder.
[RET] - Returns to the previous folder after reading the current folder.
[RND] ou **[SEQ]** - Specifies random or sequential playback mode for the current folder.
[Vxx] - Controls the volume level of the folder
[NT] - Define interruption modes
[RESxxxxxxxx] et **[REExxxxxxxx]** - Active or deactive the outputs contacts (when start or at the end)
[RSSxxx] et **[RSExxx]** - Sending of RS232 codes at the begining or at the end of the folder

Note: If no optional parameter has been indicated, the player reads in sequential the folder in full and then stops. The folder can be interupted

● **[Jxxx]** – **Assign the folder No. to be read after the reading the current folder**.
By adding this parameter within the name of the folder, you define the conduct of the player after reading the current folder so that it starts reading another folder for example. This option is also used to read a folder in a loop mode.

Example:
001 [J002]: Jump to folder 002 after reading folder 001
003 [J003]: Jump to folder 003 after reading folder 003-> create a loop of the 003 folder
008 [J023]: Jump to folder 023 after reading 008
127[J000] : Jump to folder 000 after reading folder 127

To play loop files on powering on, you will use the folder 000 and the tag [J000]

Exampe:
000[000]

● **[RET] - Returns to the previously read folder after reading the current folder**.
You are reading a folder. A command arrives in order to read another folder having [RET] tag. The player jumps in the new folder, reads the content of this new folder and once all files are read the player goes back to the reading of the previous folder. You can use this function to broadcast a same message after the reading of folders.

Several different folders can appoint a same folder in order to come back to the folder that has called him.

Example:
001 [J100]: After reading folder 001, jumps to folder 100
002 [J100]: After reading folder 002, jumps to folder 100
100 [RET]:After reading folder 100, returns to the previous folder (001 or 002)

● **[SEQ]** or **[RND]** - Point out the sequential playback mode for the current folder. By default or without parameter, the folder is read in a sequential mode.

[SEQ] or without any parameter: reading in a alpha-numerical order
[RND]: reading in a random mode

Example:
001 [SEQ]: read folder 001 in a sequential numerical order and stop at the end of the folder.
002[RND][J002]: reading of the folder 002 in a random mode or in a loop.
003[J001]: reading of the folder 003 in a sequential mode then jump to folder 001.

By choosing [SEQ] you select the sequential mode, which means a reading in a defined order. The sorting is made through a alphanumerical order it has to say in the order of the letter/numbers of the names of the files.

By default, if optional parameter is not present, the reading is made in a sequential mode.

● **[Vxx] - Volume setting**
The name of the folder have an effect on the output volume. This function is used to broadcast messages loud more or less than others files.

Exemple :
001 [V05] : Volume is set at 5 from 32 step (00 to 31)
001 [V31] : Volume is set at 31, maximum value
001 [V00] : Volume is set at 00, minimum value (Mute)

- If the variation of values exceeds the minimum or maximum values of the player, the levels are ignored.

● **[NT]** - **This option defines the interruption mode of the folder currently read.**
If this options is registered within the name of the folder, the read file cannot be interrupted and instructions received are ignored.

Without this option, the reading of the currently read directory can be interrupted any time by an external action. (input, RS232 ...)

Example:
001 [NT] - The folder can NOT be interrupted.
In that case, an action on one of the input contacts through RS232 or other is ignored and the reading of the current file is not stopped.
Caution! The action is not memorised and the triggering information is lost.

● **[RESxxxxxxxx]** et **[REExxxxxxxx] - Active or deactive the outputs contacts**
The 8 output contacts are switched by the name of the folder when player start to play the folder RES (Relay Extended when Start) or at the end of the folder REE (Relay Extended at the End).

[RESxxxxxxxx] : xxxxxxxx show the state of the 8 outputs which are activated at the begening of the folder.

[REExxxxxxxx] : xxxxxxxx show the state of the 8 outputs which are activated at the end of the folder.

With the 2 options you can, for example, switch on a light when player start to play the folder and switch off the light at the end of the folder.

xxxxxxxx show the 8 outputs : 87654321
If x = 0, the output is not activated, the Mosfet transistor is off
if x = 1, the output is activated, the Mosfet transistor is on and connect the output to the ground.

Example :

001[RES00000001][J002]	Output 1 is activated when player start to play folder 001. Jump to folder 002 at the end of the folder 001
002[REE00000000]	All outputs are deactivated at the end of the folder 002
003[RES01010101][REE00000000]	Ouputs 1,3,5,7 are activated when player start to play folder 003 are the outputs are deactivated at the end of the folder

● **[RSSxxx] ou [RSExxx] – These tags allows to send bytes onto the RS232 output.**
When the folder is called, a list of bytes is transferred by the serial link in order to control other devices (another player, switching grid, projector, ..) The bytes to send are included in a text file that will be especially created for. Value by default : 19200 Bauds - 8 bits – no parity – 1 bit start – 1 bit stop

The file definition of the bytes to send must be named : serial.txt
This file will be copied in the SYSTEM folder of the media (memory card/flash drive)

[RSSxxx]: xxx appoint the number of the line of the file serial.txt that must be sent (value from 001 up to 999) when player starts to play the folder

[RSExxx] : xxx appoint the number of the line of the file serial.txt that must be sent (value from 001 up to 999) at the end of the folder

The «serial.txt» file is a text file (raw text without page setting) that can be created with any easy text editor like « notepad « from windows or similar. When recording, use «ANSI» coding . Do not use special characters.

The file «serial.txt» of RS232 codes is a text file containing one or several lines. Each of these lines will include a sequence of bytes expressed in hexadecimal and separated by a space (from 00h to FFh). You must only indicate the two characters of the wished hexadecimal value.

Each beginning of line of this file should present the following parameter:

#xxx : the xxx number of the line containing the bytes to send related to the xxx of the tag.

[RSS002]-> line #002 – the tag [RSS002] will send the sequence of bytes of the line #002 of the serial.txt file.

The separator between each byte is a space.

Example of a line contained in the serial.txt file.
#001: 45 85 63 21 78 A5 B2
#002: 98 75 21 35 45 98
#100: 21 35 45 78 A5 B2

It is also possible to add comments in the file by using two times the type «/» (slash) = //

// example file
#001: 05 A1 FF E4 // comment in the line
#005: 45 85 63 21 78 A5 B2
#100: 98 75 35 45 98 // my command
//other command
#064: 48 25 Ce 8b
#128: 4C 8E D9 5A //
#999: a4 Fc 48 3e 8B
// comments at the end of the file

An example to allow the triggering of the reading of the folder 001 for another VP200HDi.
#001: 80 01 01

Example of tag:
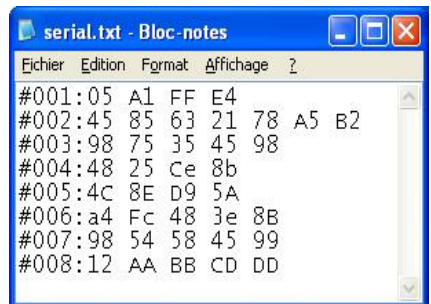
001[RSS001][RSE002] : Sending of the bytes of the line #001 of the file serial.txt on reading the folder 001 and sending the bytes for the line #002 of the file serial.txt at the end of the folder.

001[RSS001]: Sending of the bytes for the line #001 of the file serial.txt on reading of the folder 001
002[RSE064]: Sending of the bytes for the line #064 of the file serial.txt at the end of the folder 002

● **Specific conduct:**
If a folder is missing but a command designates this folder, the command is ignored.

● **SYSTEM folder - This folder contains the configuration files**
This folder is optionnal. It will be used to offer some extended functions.

SYSTEM\serial.txt -> File with the bytes to send by RS232 with the option [RSSxxx] and [RSExxx]
SYSTEM\waitscreen.jpg -> an image to be displayed when the player is in stop mode instead of a black screen.

4.2 Organisation of files inside folders.
Files name defines the playback conduct in Sequential mode. In random, name is not important.

Note : In RDN (Random) mode, the name of the files is free.

In sequential mode [SEQ], the name of the files is essential. The player play the files in Alphanumerical sort (letter or number)

4.3 How to use the 8 inputs
The trigger inputs offer the possibility to play the folder of your choice. The number of the inputs show the folder number to be played. The VP200HDi offer 1 separate input and 8 extended inputs.

The separat input start only the folder N°001.
The 8 extended inputs start up to 255 folders in a binary sort.

The folder N° 001 is started by the separate input or by the input 1 of the extended input group.

The 8 contacts inputs start the folder number from 001 to 255. (see the tab in the annex D)

Input 1 : Folder 001
Input 2 : Folder 002
Input 3 : Folder 004
Input 4 : Folder 008
Input 5 : Folder 016
Input 6 : Folder 032
Input 7 : Folder 064
Input 8 : Folder 128

The combination of the inputs offer up to 255 possibilities.

Example to start the first 9 folders :

Folder / Input
Input N°1 -> Folder 001
Input N°2 -> Folder 002
Input N°1 + N°2 -> Folder 003
Input N°3 -> Folder 004
Input N°1 + N°3 -> Folder 005
Input N°2 + N°3 -> Folder 006
Input N°1 + N°2 + N°3 -> Folder 007
Input N°4 -> Folder 008
Input N°1 + N°4 -> Folder 009

and so on using the binary combination. (see tab in the annex D)

5 - RS232 serial link protocol

The VP200HDi can communicate with other devices by receiving instructions onto the Rx input or transferring data through its Tx output. The player complies with the RS232 norm (see annex for features).
Value by default: 19200 Bauds - 8 bits - no parity - 1 bit start - 1 bit stop

5.1 - Reception Protocol

With the input protocol, the player can receive instructions to launch a folder playback or sets the volume control. On the other hand , in a framework of using several players on the same link, the player answers to its own number (defined in the file congig.txt, see chapter related) or to a general command

The reception protocol is made of a 3 bytes frame.
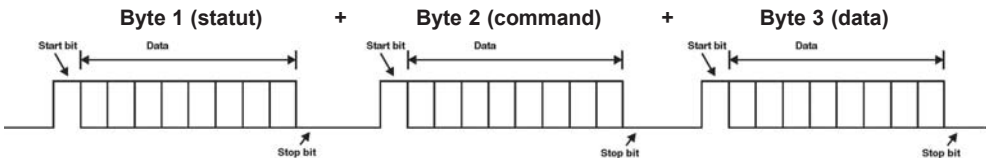
Reminder:
- a byte is composed of 8 bits: b7 b6 b5 b3 b2 b1 b0
- a binary representation is noted: 10000000b or in hexadecimal : 80h

Byte 1 : Status - 1xxxxxxxb
The byte status is a synchonization information of frame. Its Byte 8 (b7) is always at 1. All others bytes (commands or datas) have their byte 8 to 0.

b7 = 1: refer to a status byte
b6 - b0: identification of the player to be addressed from 001 to 127 (000001b - 1111111b)

- The address of the player is by default (ID) 001. You can modify it in the configuration file.
- Several players may have the same identification number to create groups.
- Identification 000 is the "overall" code, all players are concerned by the command (unique command for all the players).
Example:

80h = "overall" code for all the players
81h = player n°001
9Eh = player n° 030
FFh = player n°127

Byte 2 (Command) 0xxxxxxxb + Octet 3 (Data) 0xxxxxxxb
The Byte 2 is a command and the byte3 is a data that completes the command byte. A command byte is always followed by a byte of data. A full frame is therefore made of 3 bytes.

b7 = 0 : refer to a byte of command or data
b6, b5, b4, b3, b2, b1, b0 : command code sent to the player

List of commands:

00h: not used
01h: command of a jump into a folder
02h: transport bar command
03h: volume control command
04h : Request informations
05h/06h : Reserved
07h à 7Eh : Not used
7Fh : Identification number change (ID)

● **00h - 00000000b: not used**

● **01h - 00000001b : command of a jump into a folder**
The third byte is the number of the folder to read. The play command is included in the command of jump.

Example of the complete frame to jump and play folder 003. In Hexa : 81 01 03
Byte 1 : 10000001b (81h) : Status byte, player ID 001
Byte 2 : 00000001b (01h) : Jump command
Byte 3 : 00000011b (03h) : Play folder n°003

Only the first 128 folders can be read from 000 to 127

● **02h - 00000010b: Transport bar command**
The transport function is defined by the data byte as follows:

Value of the datas of the byte 3 (datas)
01h - 00000001b : Playback
02h - 00000010b: Stop
03h - 00000011b: Next file in the current directory
04h - 00000100b: Previous file in the current directory
05h - 00000101b : Pause / Play
06h - 00000110b : Play next folder
07h - 00000111b : Play previous folder
08h : 00001000b : Stand by

Note: the other values are ignored.

Example of the complete frame to stop the player : 81 02 02
Byte 1 : 10000001b (81h) : Status byte, player ID 001
Byte 2 : 02h - 00100001b : Transport bar command
Byte 3 : 02h - 00010110b : Stop command

● **03h - 00000011b: volume control command**
The value of the volume is defined by the datas byte as follows:

00h - 00000000b : mute - volume at 0
10h - 00010000b : half volume - value 16
1Fh - 00011111b : maximum volume - value 31
Note : the others values are ignored

Example of the full frame : 81 03 0E
Byte1 : 81h - 10000001b : status byte, plater number 001
Byte2 : 03h - 00000011b : volume command
Byte3 : 0Eh - 00001110b : volume setting at 14

● **04h - 00000100b : Request informations**
An external peripheral device can ask the player to render informations like status (Play, stop), current file/folder, remaining time...

Value of the data byte:
01h - 00000001b : Player status du lecteur -> PLAYING / STOP / PAUSE
02h - 00000010b : Current file name -> example : bird.mp4
03h - 00000011b : Complete folder name- Exemple : 001[J001]/
04h - 00000100b : Media used -> USB external
05h - 00000101b : Not used
06h - 00000110b : Folder number -> 001 to 999 - Example : 005
07h - 00000111b : Not used
08h - 00001000b : Not used
09h - 00001001b : Remaining time -> hh:mm:ss - Example : 00:05:14
0Ah - 00001010b : Total time of the file : hh:mm:ss - Example : 01:42:27
0Bh - 00001011b : Volume value -> xx (00 to 31) - Example : 16

When the player receives a request command, it sends the information in ASCII mode on the Tx pin of the RS232 link.

Example1:
Frame to send to the player to request status: 81 04 01
Byte1 : 81h - 10000001b : status byte, player number 001
Byte 2 : 04h - 00000100b : Request informations
Byte 3 : 01h - 00000001b : Request status

Player send : PLAY + CR/LF -> in ASCII -> 50 4C 41 59 0D 0A (Value in Hexa)

Example 2:
Frame to send to the player to request remaining time : 81 04 09
Byte1 : 81h - 10000001b : status byte, player number 001
Byte 2 : 04h - 00000100b : Request informations
Byte 3 : 09h - 00001001b : Request remaining time

Player render: 00:03:12 + CR/LF -> in ASCII = 30 30 3A 30 33 3A 31 32 0D 0A (Value in Hexa)

● **05h - 00000101b : Reserved**
● **06h - 00000110b : Reserved**
● **07h à 7Eh : Not used**

● **7Fh - 01111111b : Command in order to change the identification number of the player (ID)**
You can change the ID (Identification number) of the player for the RS232 link. The default value is 001. You can change value from 001 to 127. The data byte defines the number of the new ID.

Example of a complete frame to change ID to 002: 81 7F 02
Byte1 : 81h - 10000001b : status byte, player number 001
Byte 2 : 7Fh - 01111111b : ID change command
Byte 3 : 02h - 00000010b : ID N° 002

6 - Setup Menu

You can configure the player to change some parameters. Press «Setup» key from the remote control to enter into the setup menu. Navigate and change the menus you want by using the remote control.

System : Setup menu for the player.
- Language : select the language of the menus.
- Text encoding : selection encoding type for the videos subtitles.
 - Time : selection time setup

Audio : Setup menu for audio parameters
- HDMI output : select encoding mode of the audio HDMI output (HDMI LPCM, HDMI RAW, HDMI Auto).
- S/PDIF* output : select encoding mode of the S/PDIF audio output (HDMI LPCM, HDMI RAW).
- Surround sound : selection Surround mode of the audio output (Automatic, 5.1 Channel, Audio HD).

Vidéo : Setup menu for video parameters
- Aspect ratio : select aspect ratio of the image (automatic 4:3, Letter box 4:3, 16:9, 16:10).
- TV system : select size of the image (Auto HDMI, NTSC, 480P, PAL, 576P, 720P 60Hz/50Hz, 1080i 60Hz/50Hz, 1080P 60Hz/50Hz). The selected parameters are dependant of the display
- Scale video output to 90% : Add a black framework and reduce the image to 90%
- 1080P 24Hz : activated or désactivated 24p mode
- Deep color : select deep color mode (automatic, 12 bit, 10 bit, Desactivated).

Network : Setup menu for the network link - NOT USED IN THIS MODEL

Misc : Versions infos, USB upgrade, Key tone volume, Factory default
- Version infos : Current software versions
- Network infos : Current Network informations
- USB upgrade : Update the firmware of the player
- Key tone volume : volume of the key when using the remote control
- Factory default : Reset to the default parameters

* Not available on this model

Annexe A - Characteristics

• Power supply :
Nominal voltage : 12V DC

• 12V supply consumption:
- Playing mode (line output - amplifier is not used): 400 mA
- Playing mode with amplifier at mximum level: 3A

• Amplified audio output:
Voltage 12V - THD 10% - Load 4 Ohms: 2 x 18W
Voltage 12V - THD 1% - Load 4 Ohms: 2 x 14W
Voltage 14V - THD 10% - Load 4 Ohms: 2 x 22W
Voltage 14V - THD 1% - Load 4 Ohms: 2 x 18W

Voltage 12V - THD 10% - Load 8 Ohms: 2 x 10W
Voltage 12V - THD 1% - Load 8 Ohms: 2 x 8W
Voltage 14V - THD 10% - Load 8 Ohms: 2 x 14W
Voltage 14V - THD 1% - Load 8 Ohms: 2 x 10W

Size :
Width : 143mm (1/3 rack) - Height: 43mm
Depth without connectors: 100mm
Depth with connectors and button : 100mm

Weight : 300g

Annexe B - Functionnalities

Video decoder :
- MPEG-2 TS/TP, MPEG-4, MOV et H.264

Video format :
- SD 720x576 25i/25p (576p/576i) (4:3/16:9)
- SD 720x480 30i/30p (480p/480i) (4:3/16:9)
- HD 1280x720 25i/30i/50i/60i/25p/30p/50p/60p/24p (720p)
- HD 1920x1080 25i/30i/50i/60i/25p/30p/50p/60p/24p (1080i / 1080p)

Output resolution :
- SD PAL 720x576
- SD 576P 720x576
- SD NTSC 720x480
- SD 480P 720x576
- HD 720P 1280x720
- FULL HD 1920x1080 (1080i)
- FULL HD 1920x1080 (1080p)

Aspect ratio :
- 4:3 and 4:3 Letter Box
- 16:9 and 16:10

Photo :
• High resolution photo
• Format : jpg/jpeg/png

Audio :
• Format : MP3/Wav/AAC/AC3
• Play MP3 files mono/stereo (MPEG ½ layer 3), 44.1KHz from 32kbit/s to 320kbits/s

Divers :
• Volume = 32 steps from 00 to 31
• Separate volume for the amplifier output with an adjustable resistor at the rear

Memory
• USB Flash drive (USB stick) formated in FAT32 or NTFS only
• Long name support up to 63 characters

Connectors
• Digital video ouput: HDMI v1.4
• Analog audio/video output: Composite on mini-jack 4 points
• Analog audio: Mini-jack 4 points (compatible 3 points) - Line level
• Amplified audio output: terminal block 3,81mm
• USB HOST 2.0, «mass storage» driver, type B connector
• RS232 link - 19200 bauds, 8 bits, no parity, 1 bit start, 1 bit stop - terminal block 3,81mm.
• 8+1 digital trigger input on terminal block 3,81mm
• 8 Mosfet 500mA / 60V output on terminal block 3.81mm
• 2 volume buttons on the front face
• Status bicolor LED
• 8+2 LEDs for output status
• Infrared sensor - Play, Stop, next, previous, Volume +, Volume -, setup ...

Annexe C - Infra red remote control
You can send command to player using an infra red remote control.

Key	Function
Power	ON/OFF
Title	Not used
INFO	Show file informations
Mute	Mute
1	Folder 001
2	Folder 002
3	Folder 003
4	Folder 004
5	Folder 005
6	Folder 006
7	Folder 007
8	Folder 008
9	Folder 009
0	Folder 000
Repeat	Not used
Time seek	Select a specific point in the current file
TV mode	Resolution change
Home	Not used
Menu	Photo mode
Slow	Not used
Setup	Menu Setup
Zoom	Zoom x1 x2 x4 x8
Vol +	Volume +
Vol -	Volume -
Up Arrow	Up
Down Arrow	Down
Left Arrow	Left
Right Arrow	Right
OK	OK
Audio	Audio menu
Subtitle	Subtitles menu
Resume	Not used
Angle	Not used
Pause	Pause/Play
Return	Return
Stop	Stop
Rwd	Rewind
Fwd	Fast forward
Prev	Previous file
Next	Next file

Annexe D - Input vs folders

Binary table :
The 8 input contacts can be combined to obtain up to 255 combinations according to the table hereafter:
X indicates the contact to be made on inputs or made on the outputs

N°	I/O8	I/O7	I/O6	I/O5	I/O4	I/O3	I/O2	I/O1
1								X
2							X	
3							X	X
4						X		
5						X		X
6						X	X	
7						X	X	X
8					X			
9					X			X
10					X		X	
11					X		X	X
12					X	X		
13					X	X		X
14					X	X	X	
15					X	X	X	X
16				X				
17				X				X
18				X			X	
19				X			X	X
20				X		X		
21				X		X		X
22				X		X	X	
23				X		X	X	X
24				X	X			
25				X	X			X
26				X	X		X	
27				X	X		X	X
28				X	X	X		
29				X	X	X		X
30				X	X	X	X	
31				X	X	X	X	X
32			X					
33			X					X
34			X				X	
35			X				X	X
36			X			X		
37			X			X		X
38			X			X	X	
39			X			X	X	X
40			X		X			
41			X		X			X
42			X		X		X	
43			X		X		X	X
44			X		X	X		
45			X		X	X		X
46			X		X	X	X	
47			X		X	X	X	X
48			X	X				
49			X	X				X
50			X	X			X	
51			X	X			X	X
52			X	X		X		
53			X	X		X		X
54			X	X		X	X	
55			X	X		X	X	X
56			X	X	X			
57			X	X	X			X
58			X	X	X		X	
59			X	X	X		X	X
60			X	X	X	X		
61			X	X	X	X		X
62			X	X	X	X	X	
63			X	X	X	X	X	X
64		X						
65		X						X
66		X					X	
67		X					X	X
68		X				X		
69		X				X		X
70		X				X	X	
71		X				X	X	X
72		X			X			
73		X			X			X
74		X			X		X	
75		X			X		X	X
76		X			X	X		
77		X			X	X		X
78		X			X	X	X	
79		X			X	X	X	X
80		X		X				
81		X		X				X
82		X		X			X	
83		X		X			X	X
84		X		X		X		
85		X		X		X		X
86		X		X		X	X	
87		X		X		X	X	X
88		X		X	X			
89		X		X	X			X
90		X		X	X		X	
91		X		X	X		X	X
92		X		X	X	X		
93		X		X	X	X		X
94		X		X	X	X	X	
95		X		X	X	X	X	X
96		X	X					
97		X	X					X
98		X	X				X	
99		X	X				X	X
100		X	X			X		
101		X	X			X		X
102		X	X			X	X	
103		X	X			X	X	X
104		X	X		X			
105		X	X		X			X
106		X	X		X		X	
107		X	X		X		X	X
108		X	X		X	X		
109		X	X		X	X		X
110		X	X		X	X	X	
111		X	X		X	X	X	X
112		X	X	X				
113		X	X	X				X
114		X	X	X			X	
115		X	X	X			X	X
116		X	X	X		X		
117		X	X	X		X		X
118		X	X	X		X	X	
119		X	X	X		X	X	X
120		X	X	X	X			
121		X	X	X	X			X
122		X	X	X	X		X	
123		X	X	X	X		X	X
124		X	X	X	X	X		
125		X	X	X	X	X		X
126		X	X	X	X	X	X	
127		X	X	X	X	X	X	X
128	X							
129	X							X
130	X						X	
131	X						X	X
132	X					X		
133	X					X		X
134	X					X	X	
135	X					X	X	X
136	X				X			
137	X				X			X
138	X				X		X	
139	X				X		X	X
140	X				X	X		
141	X				X	X		X
142	X				X	X	X	
143	X				X	X	X	X
144	X			X				
145	X			X				X
146	X			X			X	
147	X			X			X	X
148	X			X		X		
149	X			X		X		X
150	X			X		X	X	
151	X			X		X	X	X
152	X			X	X			
153	X			X	X			X
154	X			X	X		X	
155	X			X	X		X	X
156	X			X	X	X		
157	X			X	X	X		X
158	X			X	X	X	X	
159	X			X	X	X	X	X
160	X		X					
161	X		X					X
162	X		X				X	
163	X		X				X	X
164	X		X			X		
165	X		X			X		X
166	X		X			X	X	
167	X		X			X	X	X
168	X		X		X			
169	X		X		X			X
170	X		X		X		X	
171	X		X		X		X	X
172	X		X		X	X		
173	X		X		X	X		X
174	X		X		X	X	X	
175	X		X		X	X	X	X
176	X		X	X				
177	X		X	X				X
178	X		X	X			X	
179	X		X	X			X	X
180	X		X	X		X		
181	X		X	X		X		X
182	X		X	X		X	X	
183	X		X	X		X	X	X
184	X		X	X	X			
185	X		X	X	X			X
186	X		X	X	X		X	
187	X		X	X	X		X	X
188	X		X	X	X	X		
189	X		X	X	X	X		X
190	X		X	X	X	X	X	
191	X		X	X	X	X	X	X
192	X	X						
193	X	X						X
194	X	X					X	
195	X	X					X	X
196	X	X				X		
197	X	X				X		X
198	X	X				X	X	
199	X	X				X	X	X
200	X	X			X			
201	X	X			X			X
202	X	X			X		X	
203	X	X			X		X	X
204	X	X			X	X		
205	X	X			X	X		X
206	X	X			X	X	X	
207	X	X			X	X	X	X
208	X	X		X				
209	X	X		X				X
210	X	X		X			X	
211	X	X		X			X	X
212	X	X		X		X		
213	X	X		X		X		X
214	X	X		X		X	X	
215	X	X		X		X	X	X
216	X	X		X	X			
217	X	X		X	X			X
218	X	X		X	X		X	
219	X	X		X	X		X	X
220	X	X		X	X	X		
221	X	X		X	X	X		X
222	X	X		X	X	X	X	
223	X	X		X	X	X	X	X
224	X	X	X					
225	X	X	X					X
226	X	X	X				X	
227	X	X	X				X	X
228	X	X	X			X		
229	X	X	X			X		X
230	X	X	X			X	X	
231	X	X	X			X	X	X
232	X	X	X		X			
233	X	X	X		X			X
234	X	X	X		X		X	
235	X	X	X		X		X	X
236	X	X	X		X	X		
237	X	X	X		X	X		X
238	X	X	X		X	X	X	
239	X	X	X		X	X	X	X
240	X	X	X	X				
241	X	X	X	X				X
242	X	X	X	X			X	
243	X	X	X	X			X	X
244	X	X	X	X		X		
245	X	X	X	X		X		X
246	X	X	X	X		X	X	
247	X	X	X	X		X	X	X
248	X	X	X	X	X			
249	X	X	X	X	X			X
250	X	X	X	X	X		X	
251	X	X	X	X	X		X	X
252	X	X	X	X	X	X		
253	X	X	X	X	X	X		X
254	X	X	X	X	X	X	X	
255	X	X	X	X	X	X	X	X

http://www.id-al.com