



User Manual

DMB400

4.11.10 001A



Legal Notice

User Manual DMB400 4.11.10 (001A_en)

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Product information

The conception and specifications of the product may change without prior notice, and this applies to hardware, embedded software and this guide. Consumable items accessories may slightly differ than herein described as INNES is depending on the evolutions of its suppliers. This document contains confidential information; it can't be disclosed to any third parties without prior written authorization of INNES.

Safety instructions

Please read carefully the following instructions before switching the product on: - WARNING! Correct fitting and installation is of the utmost importance. Incorrect fitting and/or installation may result in personal injury or loss. INNES disclaims all liability, of whatever kind, if the product is assembled, fitted and/or installed in an incorrect manner. - Do not use the product near a water supply. - Do not pour anything on the product, like flammable liquids or material. - Do not expose the product to direct sun, near a heating source or a dust nor vibrations. - Do not obstruct holes, to be sure that air flows freely around the product. - Switch off the product during a storm. - Do not open the product in any circumstances.

Guarantee terms

INNES products are eligible for a warranty to cover genuine manufacturing defect for 3 years. Product failure occurring as the result of factors that do not constitute genuine manufacturing defect are not covered under the terms of the warranty and any repairs of this nature would be chargeable. For example: Inappropriate maintenance action, a non-authorized modification, a not specified environment utilization (see 'Safety instructions'), or if the product has been damaged after an impact, a fall, a bad manipulation or a storm consequence, an insufficient protection against heat, moisture or frost. This warranty is not transferrable. In addition, any repairs carried out by non-authorized personnel will invalidate the warranty.

WEEE Directive



This symbol means that your end of life equipment must not be disposed of with household waste but must be deposited at a collection point for waste electrical and electronic equipment or to your reseller. This will benefit the environment. In this context, a system for collecting and recycling has been implemented by the European Union

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1.1 Introduction

This manual explains how to setup your device DMB400.

Recommendations and warnings

This device is designed to be used inside a building.

This device is intended to work with the supplied power supply unit. This power supply unit must be connected to a mains socket conforming to standard NF C 15-100. If the AC power cable is damaged, it must be replaced. It is possible to order a replacement mains unit by sending a request to the email address sales@innes.pro.

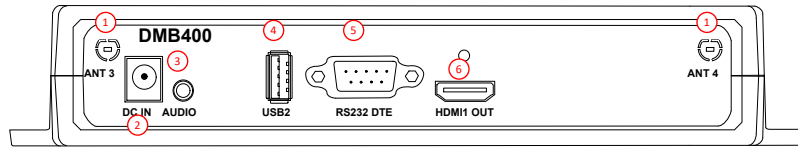
This device is a Class A device. In a residential environment this device may cause radio interference. In this case, the user is asked to take appropriate measures.

Content of the package

Items	Functions
Device	DMB400 with Gekkota embedded
1 power supply unit	12V power supply unit with cable of 1.2m
1 label	PSN (Product Serial Number) on the packaging and on the device
2 WLAN antennas	To be screwed on the dedicated WLAN locations (provided with the device when it is supporting the <code>WLAN</code> option)

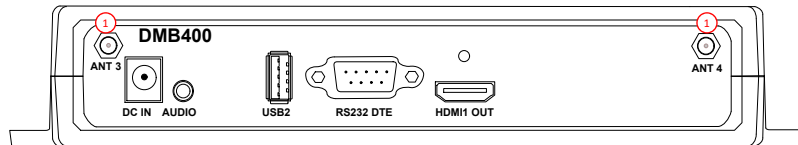
1.2 Getting started

Device front face



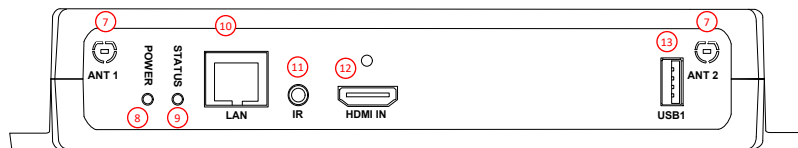
- ① Antennas locations
- ② Power supply connector
- ③ Audio connector
- ④ USB2 3.0 connector
- ⑤ RS232 DTE connector
- ⑥ HDMI output connector

Device front face with the WLAN option



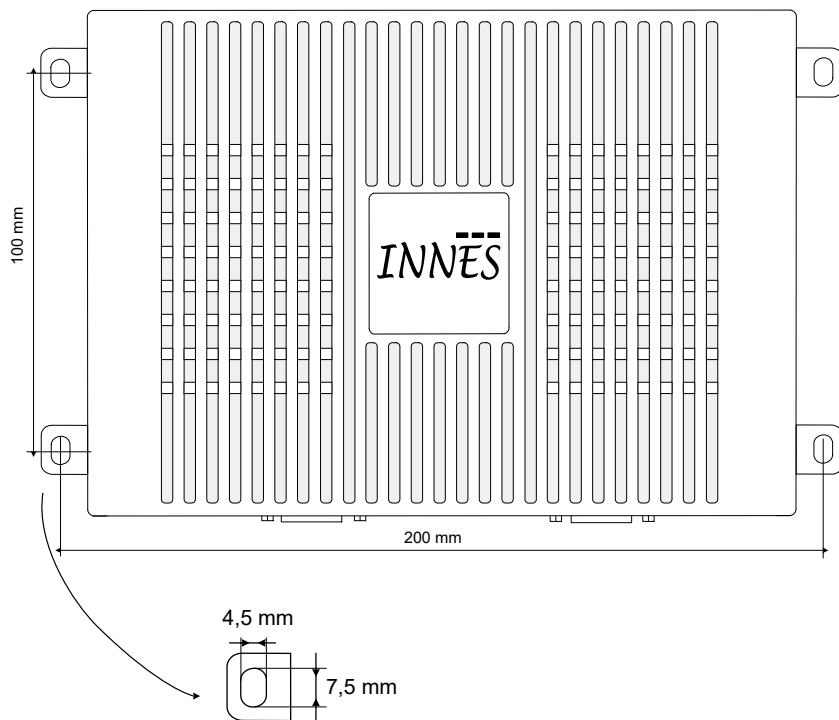
- ① Location of the 2 WLAN antennas to screw

Device rear face

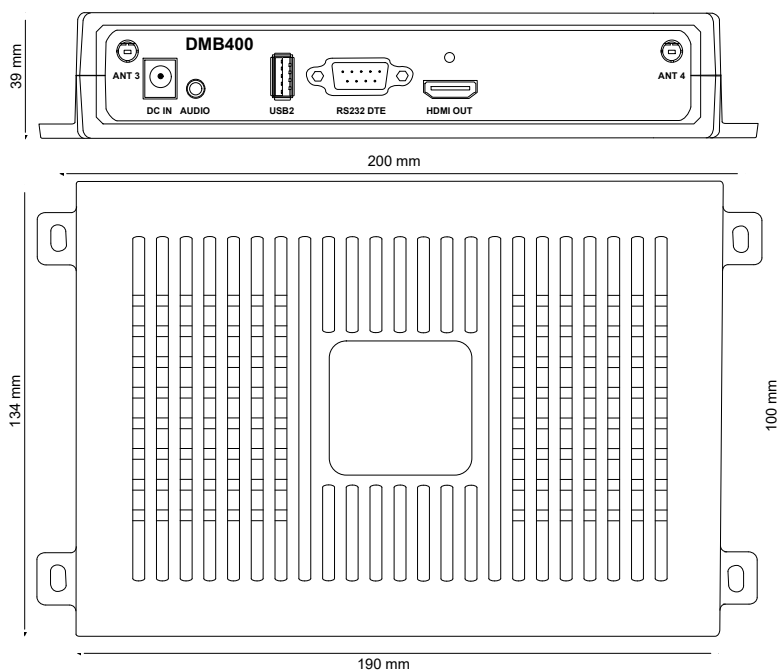


- ⑦ Antenna location
- ⑧ Power supply red LED
- ⑨ Status green LED
- ⑩ LAN RJ45 connector
- ⑪ GPIO/Infrared connector
- ⑫ HDMI input connector
- ⑬ USB1 2.0 connector

Device fixture



Device dimensions



Labelling

The model of the device, the power supply characteristics, the serial number (PSN) and the MAC address are written on a label which is stuck on the case. Some additional tags may be present in case of built-in options.

- ☛ The serial number of the device can be requested in case of technical support.



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MODEL



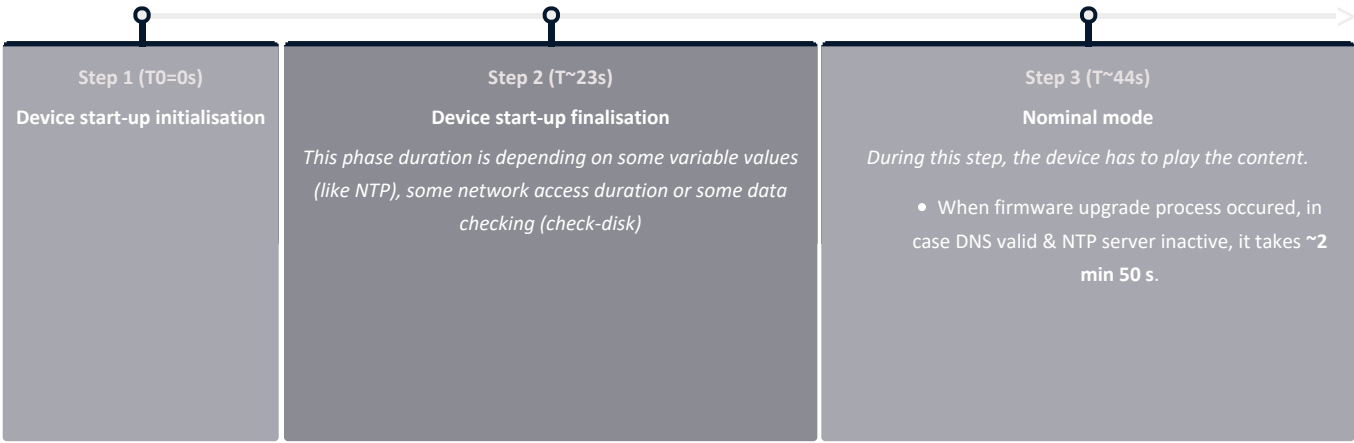
DMB400-SSD16

EAN



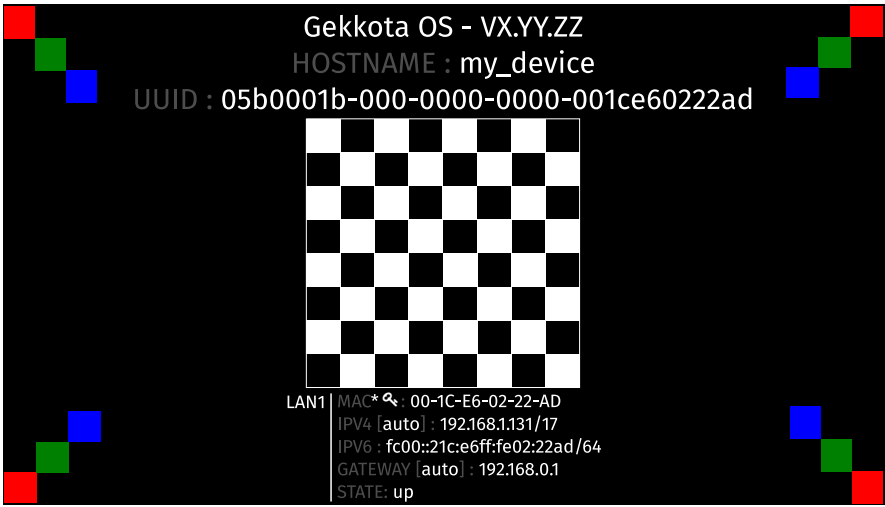
3 700568 106288

Device start-up step



Testcard

At the factory, the device content set by default is the Test Card . The chart displays important information to assist in configuration:



Disable the Test Card by using the WebUI.

1.3 LEDs behaviour

LED POWER behaviour (power on device)

State	Information
Red	OK: Power supplied
Off	Error : Power supply issue ¹

LED LAN behaviour (power on device)

State	Information
Off	There is no network traffic on the Ethernet connector
Blinking	The blinking frequency is indicating the data rate on Ethernet connector

LED STATUS behaviour depending on device start-up steps

• Step 1 : Device start-up initialisation

State	Information
Green: continuous	OK
Always Off	Error : Power supply issue ¹

• Step 2 : Device start-up finalisation

State	Information
Off	OK. This step duration can be from several seconds to several minutes.
Green blinking: 1 second duration flash and periodicity every 2 seconds	Error: Boot issue ¹

• Step 3 : Nominal mode

State	Information
Green blinking: 1 very short flash (150 ms) and periodicity every 4 seconds	OK
Green blinking: 2 very short and consecutive flashes (150 ms) and periodicity every 4 seconds	Warning: Fail Soft Mode Level 1 Frequent device reboot detected (for example 4 times in less than ½ hour) Message is displayed on screen «Fail Soft Mode: waiting for new content ». The instability has been caused probably by a content media not supported yet by system. Consequently, to prevent any further reboot, the content has been invalidated. The message displayed on screen indicates that a new publication is needed to go ahead. ²
Green blinking: 3 very short and consecutive flashes (150 ms) and periodicity every 4 seconds	Warning: Fail Soft Mode Level 2 Frequent device reboot detected (for example 4 times in less than ½ hour) Content is purged Message is displayed on screen «Fail Soft Mode: waiting for new content ». The instability has been caused probably by a content not supported yet by system or a user preference which has been modified. Consequently, to prevent any further reboot, the content has been invalidated and user preferences (saved before unexpected reboot) have been restored. The message displayed on screen indicates that a new publication is needed to go ahead. ²
Green blinking: 4 very short and consecutive flashes (150 ms) and periodicity every 4 seconds	Warning: Check disk The device has detected memory corruption on content storage. The media storage is being repaired. This repair step is called Check-Disk and its duration can be several minutes. During this step, a message “checking the file system of data partition in progress” is displayed on screen. ³
Green blinking: 5 very short and consecutive flashes (150 ms) and periodicity every 4 seconds	Warning: errors on system partition The user has to connect to device WebUI, go to <i>Maintenance > Tools</i> menu, and press button <i>Format</i> or <i>Repair</i> to solve the problem. ³
Green blinking: 6 very short and consecutive flashes (150 ms) and periodicity every 4 seconds	Warning: a firmware update is pending During this phase, no content is played on the device, do not switch OFF the device.
Green blinking: 7 very short and consecutive flashes (150 ms) and periodicity every 4 seconds	Error: write problem on the storage For an unknown reason, your storage space isn't usable any more. ³
Off	Error. ¹

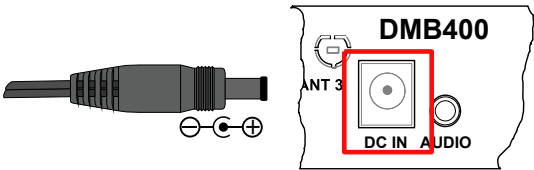
¹ If the problem persists in despite of an appropriate power-supply, contact technical support.

² If the problem persists, it is recommended to find out the media not supported yet by the system and remove it from content.

³ If the problem persists after a partition repairing, contact technical support.

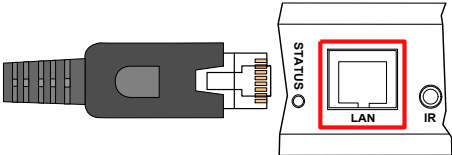
1.4 Connectors pin-out

Power supply connector (12VDC-1.2A)



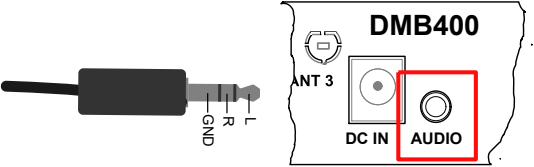
LAN connector

Ethernet RJ-45. 10/100/1000 BaseT. It is recommended to use shielded cables.



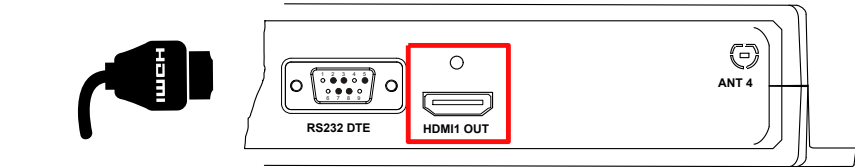
Audio Jack 3.5mm connector (stereo L+R)

It is recommended to use cables whose length is less than 3 meters.



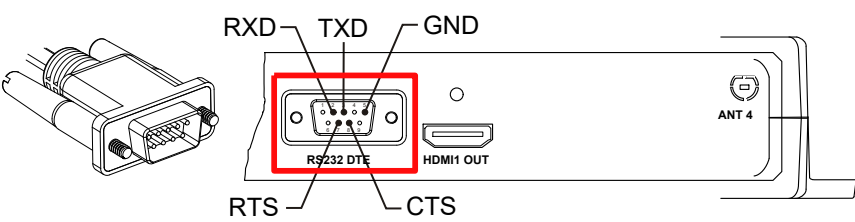
Video output connector (HDMI 2.0)

This connector is used to connect a screen or video projector.



RS232 DTE connector

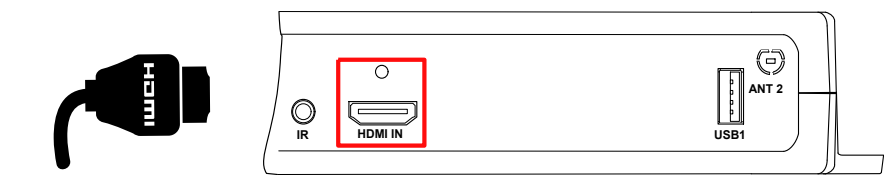
It is recommended to use cables whose length is less than 3 meters.



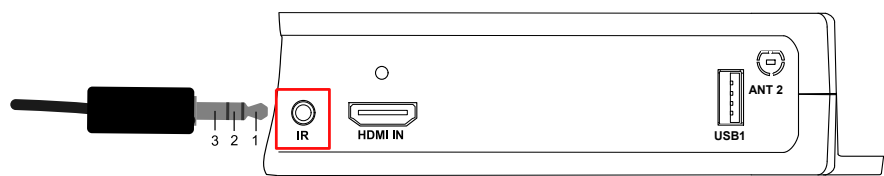
Connector pin-out

N°	Function
1	CD
2	RXD
3	TXD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	-

Video input connector (HDMI 1.4)



Jack 3.5mm connector (GPIO1/IR)



N°	Name	Write/Read	Control
1	Voltage reference 3.3V		
2	GPIO1	IN or OUT	CPU/GPIO1
3	Ground		

Electrical features

	Vin min	Vin max	VOH min	VOL max	VIH min	VIL max
GPIO1	-0.5V	3.6V	2.9V	0.4V	2.0V	0.8V

The 3.3V pin must not be used as power supply, but rather as a reference voltage.

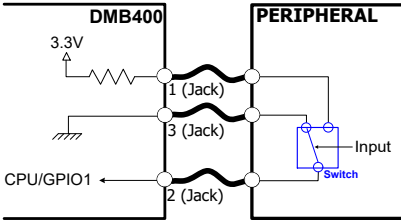
During boot, the GPIO1 is configured in input during some seconds. And then after the system startup, the GPIO1 is operational.

The GPIO has a weak pull-up.

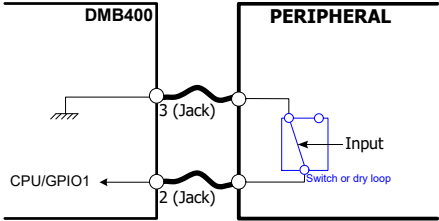
It is not recommended to hotplug/unplug the GPIO1 connector, which could damage the device.

Principle schematics for several use cases

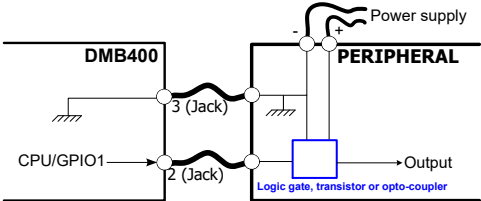
Three wires input configuration for GPIO1:



Two wires input configuration for GPIO1:



Output configuration for GPIO1:



Configuration

GPIO1 connector configuration can be done by editing the user preferences with device configuration Web interface or with a configuration script. The GPIO1 configuration part for this script is described here:

How to configure the Jack 3.5 mm connector:

```
//Set Jack 3.5 mode infrared
if (aDirection == "disable")
{
    Services.prefs.setBoolPref("system.connector.jack35_1.1.io.uart_1.enabled", true);
}
else //Set Jack 3.5 mode GPIO
{
    Services.prefs.setBoolPref("system.connector.jack35_1.1.io.uart_1.enabled", false);
}

// Set the Jack 3.5 direction : input or output
if (aDirection == "out")
{
    Services.prefs.setBoolPref("innes.app-profile.gpio-input.jack35-gpio_1.jack35_1.*.authorized", false);
    Services.prefs.setBoolPref("innes.app-profile.gpio-output.jack35-gpio_1.jack35_1.*.authorized", true);
    Services.prefs.setBoolPref("system.connector.jack35_1.1.io.jack35-gpio_1.enabled", true);
}
else if (aDirection == "in")
{
    Services.prefs.setBoolPref("innes.app-profile.gpio-input.jack35-gpio_1.jack35_1.*.authorized", true);
    Services.prefs.setBoolPref("innes.app-profile.gpio-output.jack35-gpio_1.jack35_1.*.authorized", false);
    Services.prefs.setBoolPref("system.connector.jack35_1.1.io.jack35-gpio_1.enabled", true);
}
else if (aDirection == "disable")
{
    Services.prefs.setBoolPref("innes.app-profile.gpio-input.jack35-gpio_1.jack35_1.*.authorized", false);
    Services.prefs.setBoolPref("innes.app-profile.gpio-output.jack35-gpio_1.jack35_1.*.authorized", false);
    Services.prefs.setBoolPref("system.connector.jack35_1.1.io.jack35-gpio_1.enabled", false);
}
```

1.5 Device configuration Web interface

The device DMB400 supports a configuration Web interface. It is available with the URL:

```
http://<device_IP_addr>/admin/
```

The supported Web browsers are : MS-Edge , Google Chrome and Mozilla Firefox .

The LAN factory configuration is the DHCP mode.

These are the main parameters:


- Configuration > Administrator :
 - Login / password
 - Hostname ,
 - Identification method ,
- Configuration > Network :
 - LAN : DHCP , static IP address , gateway address , subnet mask
 - WLAN : the menu is valid when the option WLAN is supported on your device
 - WWAN : the menu is valid when the option WWAN is supported on your device
- Configuration > Sortie :
 - Configuration de l'écran: Resolution , Mode , Frequency
 - Overscan
 - Rotation
 - Activate the sound card
- Configuration > App
 - Local deposit : allows to download an App then to play its content immediately
 - Supported formats: *.tar.gz, *.zip, *.tar, *.tgz
 - Content: these 2 files need to be present in the archive: manifest.xml , player.html . For further information, contact the technical support
 - Push WebDAV : the App is published with any WebDAV client then its content is played immediately
 - Pull WebDAV : allows the device to download an App from a remote WebDAV server. Once the App is downloaded on the device, its content is played immediately
 - Pull WebDAV - Xpf Compatibility : allows the device to download an App from a remote WebDAV server. Once the App supporting the xpf compatibility is downloaded on the device, its content is played immediately.
 - The Purge the App and Restart the App buttons allow to respectively erase the App and to restart it
- Configuration > Servers :
 - NTP ,
 - DNS ,
 - Proxy , ...
- Configuration > License : allows to enter the device license.
- Configuration > Date & time : allows to set the device Date & time and the time zone .
- Configuration > Regionality : allows to set the language of the information messages or the error messages
 - English ,
 - Spanish ,
 - German ,
 - French .
- Maintenance > TestCard : allows to activate/inactivate the configuration testcard. When the TestCard is activated, the App content is not played.
- Maintenance > Preferences : allows to edit and program the user preferences
- Maintenance > Tools
 - Certificates : allows to load the certificates required to play some specific HTML page or to connect to WebDAV servers with the https scheme

⚠ It is highly recommended that your device DMB400 is on time. When it is possible, synchronize the time & date with a NTP server.

⚠ In case the device does not answer with its IP address, that means that either the device power supply is not plugged, or the Ethernet cable is not plugged, or the network configuration is not properly set. To work around, if your computer and your local network are supporting the IPV6, you can even connect to the device with the IPV6 address of your device, helped by your device MAC value written on the sticker at the back of the device, or showed when the TestCard is activated.

```
By example, for the MAC adress value: ``00-1c-e6-02-1e-45`,  
in a Web browser, enter the URL: http://[fc00::21c:e6ff:fe02:1e45]/admin/
```

[Application note giving some information on the IPV6 configuration](#)

 It is recommended to enter a unique `Hostname` for each device used on your local network. When using several devices DMB400 spread on several buildings or on several locations, it is recommended to enter `Hostname` values having a specific key word reminding the building and the location of the device (for example: `Hall-RD-Paris-1`). It is recommended to limit the hostname to 15 characters.

1.6 Technical specifications

Model		Manufacturer
DMB400		INNES

Processors	
CPU	Quad core cortex-A9, 1.2GHz
GPU	MALI-400

Peripherals	
1x USB 2.0 Host (Low/Full/High Speed)	
1x USB 3.0 Host (Low/Full/High/Super Speed)	
1x Jack 3.5 configurable in GPIO or Infrared	
1x RS232 DTE	

Storage	
Internal Flash Memory for OS	
SSD mSata	

Software	
eLinux 3.10.92	
Board Support Package 3.50.10	
Middleware Gekkota OS 4.11.10	

Audio outputs	
Jack 3.5 R+L stereo analog	
Embedded with HDMI output	

Video output	
1x HDMI 2.0	

Display resolutions for video output	
640x480 60Hz, 800x600 60Hz VESA, 1024x768 60Hz VESA, 1024x768 60Hz XGA, 1024x576 60Hz VESA, 1024x576 50Hz VESA, 1024x600 60Hz DENSITRON 84-0188-001T, 1280x720 60Hz CEA-861, 1280x720 50Hz CEA-861, 1280x720 60Hz VESA, 1280x720 50Hz VESA, 1280x720 60Hz SMPTE (720p), 1280x720 50Hz SMPTE (720p), 1280x720 60Hz CEA, 1280x720 50Hz CEA, 1280x720 60Hz SONY, 1280x720 60Hz CGV CPLine AV-HD, 1280x720 60Hz SAMSUNG, 1280x768 60Hz VESA, 1280x768 50Hz VESA, 1280x800 60Hz VESA, 1360x768 50Hz VESA, 1360x768 60Hz VESA, 1376x768 60Hz VESA, 1376x768 50Hz VESA, 1376x768 60Hz PC, 1920x1080 60Hz CEA-861, 1920x1080 50Hz CEA-861, 1920x1080 60Hz VESA, 1920x1080 50Hz VESA, 1920x1080 60Hz SMPTE (1080p), 1920x1080 50Hz SMPTE (1080p), 1920x1080 60Hz CEA, 1920x1080 50Hz CEA, 3840x2160 59.94Hz, 3840x2160 60Hz CEA-861, 3840x2160 50Hz CEA-861, 3840x2160 30Hz CEA-861, 3840x2160 25Hz CEA-861, 2560x1440 60Hz CEA-861, 3840x600 60Hz VESA, 1920x540 60Hz VESA, 1920x300 60Hz VESA, 128x96 60Hz, 112x96 60Hz, 96x96 60Hz,	
Note: the rotation is not supported for the resolution upper than 1920x1080	

Video input	
1x HDMI 1.4b	

Preferred resolutions of EDID for Video input	
1920x1080p 59.94Hz, 1920x1080p 60Hz, 1920x1080p 50Hz, 1280x720p 59.94Hz, 1280x720p 60Hz, 1280x720p 50Hz, 1920x1080i 59.94Hz, 1920x1080i 60Hz, 1920x1080p 29.97Hz, 1920x1080p 30Hz	

Network	
1x Ethernet 10/100/1000 BaseT	

Options	Information
GPRS/EDGE/HSDPA Modem	
WIFI 802.11a/b/g/n (WIFI 4)	⚠ Do use the cipher protocol <code>TKIP</code> (meaning the WLAN parameters: <i>pairwise=TKIP, group=TKIP, key=psk</i>) when using <code>WPA-PSK</code> keys, or the cipher protocol <code>CCMP</code> (meaning the WLAN parameters: <i>pairwise=CCMP, group=CCMP, key=psk</i>) for <code>WPA2-PSK</code> keys

Power supply	
12V DC (1.2A)	
Working temperature	Storage temperature
0°C to +40°C	-20°C to +60°C
Working humidity	Storage humidity
< 80%	< 85%
Weight	Dimensions (WxHxD)
0,7 Kg	191 x 139 x 40 mm

1.7 Troubleshooting

Error while playing a media: message "Content temporarily unavailable <media path/file name> (code <err>)"

Requirement	Troubleshooting
code 404 (error code HTTP 404 = file not found)	Publish again the playout on the device after having checked, that: - the media used is really existing - your playlist do not refer to obsolete medias
code 403 (error code HTTP 403 = access denied)	The remote media is not available
code 401 (error code HTTP 401 = authorization required)	The login/password required to play the medias is not correct
code 0 (media not supported at all by your device)	Remove the media and publish again ¹
code 1 (an error occurred when the media has been inserted in the dom)	An error occurred when playing the media ²
code 2 (error during viewer activation (play))	An error occurred when playing the media ²
code 3 (media repeat error)	An error occurred when playing the media ²
code 4	Media not supported by your device. Remove the medias from your playout and publish again
code 5 (event error on control xhr)	Change the media behavior value to try to solve the issue
code 6 (event abort ou timeout sur xhr de control)	Change the media behavior value to try to solve the issue

Error while playing a media: message "This content <media path/file name> is not compatible with this device"

Troubleshooting
To solve the issue, remove this not supported media from your playout and publish again. ¹

¹ For further information, read the document [gekkota-supported-medias-and-performances.pdf](#)

² For further information, contact support@innes.pro

1.8 Conformities

In conformity with the following European directives:

- LVD 2014/35/EU
- EMC 2014/30/EU

1.9 **Contacts**

For further information, please contact us at + 33 (0)2 23 20 01 62 or by e-mail:

- **Technical support:** *support@innes.pro*
- **Sales department:** *sales@innes.pro*

FAQ and download at : <http://www.innes.pro/en/support/>

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