



## User Manual

SMA300

3.12.51 001A



## Legal Notice

### User Manual SMA300 3.12.51 (001A\_en)

© 2017 Innes SA

### Rights and Responsibilities

All rights reserved. No part of this manual may be reproduced in any form or by any means whatsoever without the written permission of the publisher. The products and services mentioned in this document may be trademarks and/or trademarks of their respective owners. The publisher and the author do not pretend to these brands.

Although every precaution has been taken in the preparation of this document, the publisher and the author assumes no responsibility for errors or omissions, or for damages resulting from the use of the information contained in this document or the use of programs and source code who can accompany it. Under no circumstances can the publisher and the author be held responsible for any loss of profits or any other commercial prejudice caused or that would have been caused directly or indirectly by this document.

### 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

## Table of Contents

Introduction	1.1
Getting Started	1.2
LEDs	1.3
Connectors	1.4
Technical specifications	1.5
Troubleshooting	1.6
Conformities	1.7
Contacts	1.8

## 1.1 Introduction

This manual explains how to setup your device SMA300.

### 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.

When powering the unit from a PoE source, this PoE source must be "Limited Power Source" as defined in EN60950-1: 2006.

### Content of the package

Item	Feature
Device	SMA300 with Gekkota OS embedded
Power Supply Unit	12V Power Supply unit with cable of 1.2m
Label	PSN (Product Serial Number) on the packaging and on the device

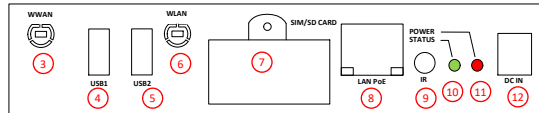
## 1.2 Getting started with the device

### Front face



- ① HDMI output connector
- ② Audio connector

### Rear face

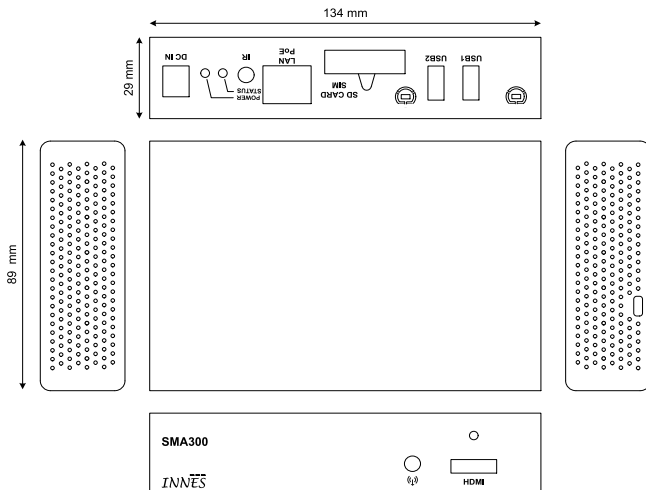


- ③ WWAN antenna slot
- ④ USB1 2.0 Host connector
- ⑤ USB2 2.0 Host connector
- ⑥ WLAN antenna slot
- ⑦ SIM / SD Card connector
- ⑧ LAN PoE RJ45 connector
- ⑨ GPIO1/IR connector
- ⑩ Status LED
- ⑪ Power Supply LED
- ⑫ Power Supply connector

### Device fixture



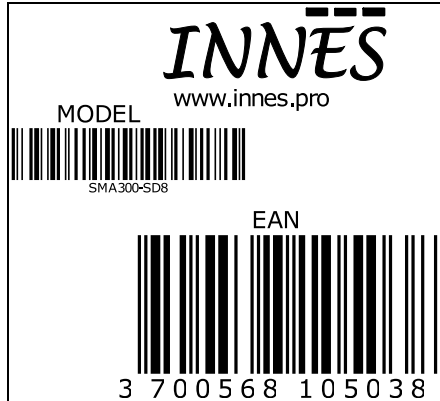
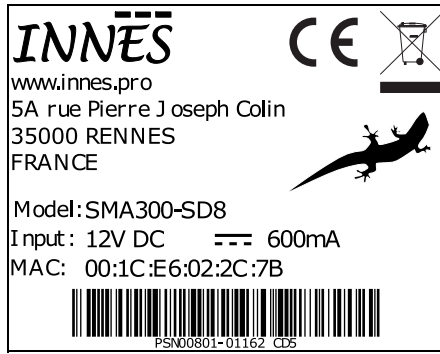
### Device dimensions



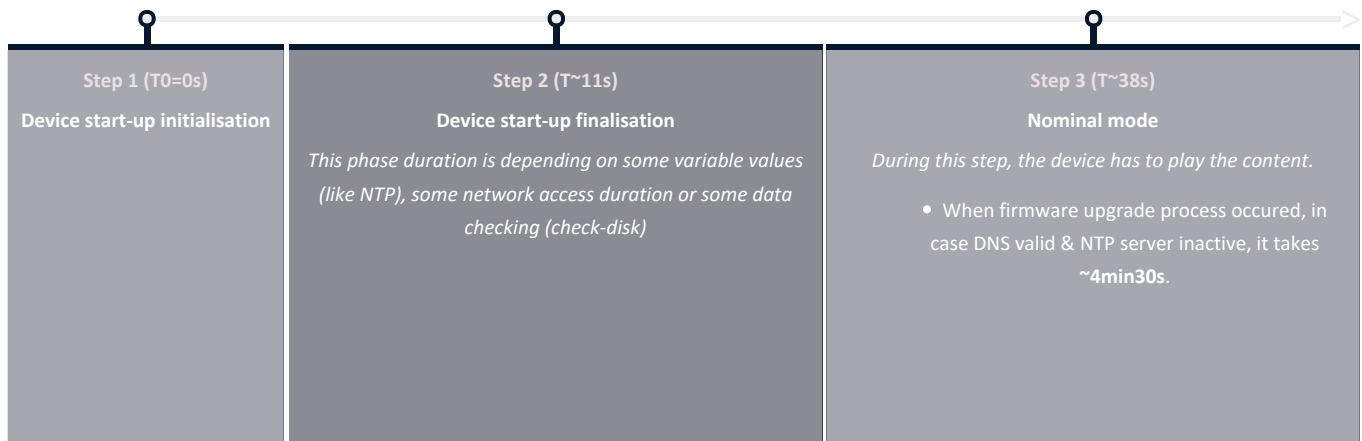
### Labeling

The model of the device, its power supply characteristics, its serial number (PSN) as well as its MAC address are written on a label stuck on the case. 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.



### Device start-up step



### Testcard

The device is configured at the factory to start on the test pattern. The chart displays important information to assist in configuration:



Disable the testcard by using the WebUI.

## 1.3 LEDs behaviour

### LED POWER behaviour (power on device)

State	Information
Red	<b>OK: Power supplied</b>
Off	<b>Error : Power supply issue <sup>1</sup></b>

### 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	<b>OK</b>
Always Off	<b>Error : Power supply issue <sup>1</sup></b>

#### • Step 2 : Device start-up finalisation

State	Information
Off	<b>OK.</b> This step duration can be from several seconds to several minutes.
Green blinking: 1 second duration flash and periodicity every 2 seconds	<b>Error: Boot issue <sup>1</sup></b>
Green blinking: 0,5 second duration flash and periodicity every 1 second	<b>Warning: Check-Disk</b> 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. <sup>3</sup>

#### • Step 3 : Nominal mode

State	Information
Green blinking: 1 very short flash (150 ms) and periodicity every 4 seconds	<b>OK</b>
Green blinking: 2 very short and consecutive flashes (150 ms) and periodicity every 4 seconds	<b>Warning: Fail Soft Mode Level 1</b> 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. <sup>2</sup>
Green blinking: 3 very short and consecutive flashes (150 ms) and periodicity every 4 seconds	<b>Warning: Fail Soft Mode Level 2</b> 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. <sup>2</sup>
Off	<b>Error <sup>1</sup></b>

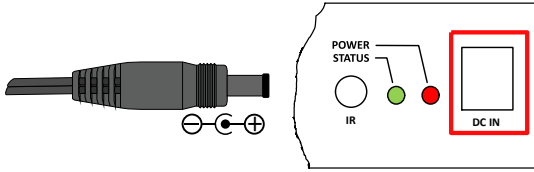
<sup>1</sup> If the problem persists despite an appropriate power-supply, contact INNES technical support.

<sup>2</sup> If the problem persists, it is advised to find out the media not supported yet by the system and remove it from content.

<sup>3</sup> If the problem persists after a partition repair, contact INNES technical support.

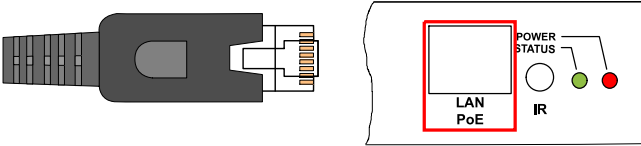
## 1.4 Connectors pin-out

### Power supply connector (12VDC-0.6A)



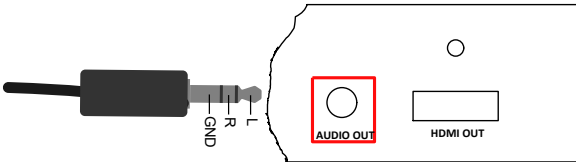
### Lan connector

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

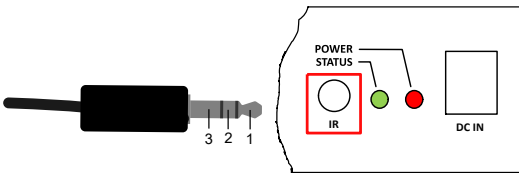


### Stereo jack 3.5mm L+R audio cable connector

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



### GPIO1/IR Jack connector 3.5mm



N#	Function
1	3.3V
2	GPIO1/IR
3	GND

### Electrical features

	Vin min	Vin max	VOH min	VOH max	IOH max	VOL max	IOL max	VIH min	VIL max
GPIO1	-0.5V	3.8V	3.1V (@ 20uA)	3.3V	-100A	0.6V (@ 2mA)	5mA	2.35V	0.8V

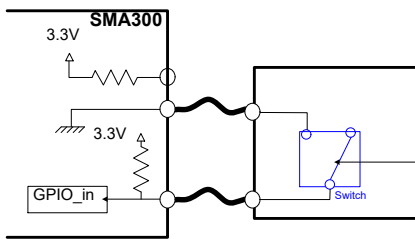


- The 3.3V pin must not serve as power supply, but rather as a reference voltage.
- It has a rearmable fuse (350mA @ 20°C)
- It is not recommended to hotplug/unplug GPIO1 connector, it could provoke a failure of the device.
- During boot, the GPIO1 is configured in input during some seconds. And then after the system startup, the GPIO1 is operational.
- The GPIO has a pull-up (4.7 KOhms on 3.3V).

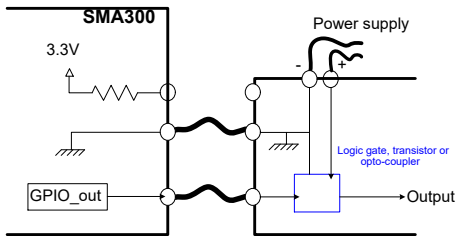
### Principle schematics for several use cases

2 wires input configuration:





Output configuration:



### Configuration

GPIO1 connector configuration can be done through system preferences edition with device WebUI or with a script file. GPIO1 configuration part for this script is described here:

```

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);
  systemPref.setBoolPref("system/connector/jack35_1/1/io/jack35-gpio_1/enable", true);
  systemPref.setBoolPref("system/connector/jack35_1/1/io/uart_1/enable", false);
}
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);
  systemPref.setBoolPref("system/connector/jack35_1/1/io/jack35-gpio_1/enable", true);
  systemPref.setBoolPref("system/connector/jack35_1/1/io/uart_1/enable", false);
}
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);
  systemPref.setBoolPref("system/connector/jack35_1/1/io/jack35-gpio_1/enable", false);
  systemPref.setBoolPref("system/connector/jack35_1/1/io/uart_1/enable", true);
}

```

## 1.5 Technical specifications

<b>Model</b>	<b>Manufacturer</b>
SMA300	INNES
<b>Processors</b>	
CPU	Freescale iMX6
GPU	Vivante
<b>Peripherals</b>	
2x USB 2.0 Host (Low/Full/High Speed)	
1x Jack 3.5 configurable in GPIO or Infrared	
<b>Storage</b>	<b>Information</b>
Internal Flash Memory for OS	
SD card	Qualified SD cards: SANDISK / SDSDAA-032G / 32 GB, SANDISK / SDSDB-032G-B35 / 32 GB, SANDISK / SDSDAA-008G / 8 GB
<b>Software</b>	
eLinux 3.10.17	
Board Support Package 3.10.10	
Middleware Gekkota OS 3.12.51	
<b>Audio outputs</b>	
Jack 3.5 R+L stereo analog	
Embedded with HDMI output	
<b>Video output</b>	
1x HDMI 1.4	
<b>Display resolutions for video output</b>	
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, 1920x540 60Hz VESA	
<b>Network</b>	
1x Ethernet 10/100 BaseT PoE	
<b>Options</b>	<b>Information</b>
GPRS/EDGE/HSDPA Modem	
WIFI 802.11 b/g	⚠ For Innes devices, do use the cipher protocol <code>TKIP</code> (meaning the WLAN parameters: <code>pairwise=TKIP, group=TKIP, key=psk</code> ) when using WPA-PSK keys, or the cipher protocol <code>CCMP</code> (meaning the WLAN parameters: <code>pairwise=CCMP, group=CCMP, key=psk</code> ) for WPA2-PSK keys

<b>Power supply</b>	
12V DC (600mA)	
PoE power (Power Over Ethernet)	
<b>Working temperature</b>	<b>Storage temperature</b>
+0°C à +35°C	-20°C to +60°C
<b>Working humidity</b>	<b>Storage humidity</b>
< 80%	< 85%
<b>Weight</b>	<b>Dimensions (WxHxD)</b>
0,450 kg	144 x 89 x 29 mm

## 1.6 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 <sup>1</sup>
code 1 (an error occurred when the media has been inserted in the dom)	An error occurred when playing the media <sup>2</sup>
code 2 (error during viewer activation (play))	An error occurred when playing the media <sup>2</sup>
code 3 (media repeat error)	An error occurred when playing the media <sup>2</sup>
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. <sup>1</sup>

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

<sup>2</sup> For further information, contact [support@innes.pro](mailto:support@innes.pro)

## 1.7 Conformities

In conformity with the following European directives:

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

## 1.8 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/>

INNES SA

5A rue pierre joseph Colin  
35700 RENNES

Tel: +33 (0)2 23 20 01 62

Fax: +33 (0)2 23 20 22 59

<http://www.innes.pro/fr>

INNES SA

Verbindungsbüro Deutschland

Lebacher Str. 4

66113 Saarbrücken

Tel: 09386-979 39-14

Fax: 09386-979 39-15

Mob : 0175 853 67 81

<http://www.innes.pro/de>