



AriStim – ARINC 429 Stimulator

Description

AriStim is an ARINC 429 Bluetooth® stimulator for an Android Smartphone. It enables the acquisition and stimulation of each received bit of any label / SDI at both High Speed and Low Speed in real time on his RX line. AriStim then sends the modified labels on his TX line with a certified Holt® ARINC 429 output buffer.

The associated AriStim Android application from MEONYS decodes and displays each label, and provides an easy-to-use stimulation interface for each SDI (as SDI or as DATA).

The battery powered device has a small size and is very simple to use (no cable). With the provided 18650 lithium battery, the runtime is over 40 hours and 2 years in standby. AriStim is delivered with an 18650 charger.





Specifications

- Included battery:
- Maximum line level:
 - Line input impedance: 12 kΩ
- Line input high threshold: ±1.4V 4 dBm
- Bluetooth[®] RF power:
- AriStim size:
- Weight (with battery): Temperature range:
- 79g

89mm - 30mm - 23mm

18650 lithium cell

 $0^{\circ}C - 60^{\circ}C$

±35V

Android Application

Download

The AriStim application is freely available here:

MEONYS AriStim Android Application

The installation is automatic and creates a shortcut on the smartphone main page.



AriStim Application Information

Device Connection

Before using the application for the first time, AriStim needs to be paired with the smartphone. The Android Bluetooth[®] settings can be accessed from the application by clicking on "Click to connect" label, then "SETTINGS". AriStim device has to be powered up to allow pairing (see "Power Management").

The Bluetooth[®] password is "0000".

When going back to the application, the device that has just been paired is visible with its serial number. It has to be selected before going back to the AriStim Home page.

Features

Interface with AriStim

- 2mm banana plugs for the ARINC 429 lines (hot: yellow plug, cold: green plug).
- Bluetooth[®] 3.0 interface with the Smartphone.
- One green LED (device status).
- Latency of only one label between RX and TX.

Power Management

The electronic board is always powered by the battery.

There is no button on the AriStim device. An ARINC 429 line with at least one label wakes it up from sleep. Another way is to disconnect and reconnect the battery.

The blinking frequency of the LED indicates if the device is connected to the smartphone via Bluetooth®:

- **2 Hz** blinking frequency: device not connected.
- 1 Hz blinking frequency: device connected.

If AriStim is not connected to the smartphone and no label is received, it will go to sleep after 2 minutes, the LED is then switched OFF. The battery lasts more than 2 years in this mode.

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Home Page

The **Home** page displays in real time the list of received labels, the detected line speed (HS or LS) and device information (serial number, connection status and battery charge). The checkboxes "TX" are set by default, which means **AriStim** does not modify the ARINC line by default. When unchecking the TX boxes, the corresponding labels disappear from **AriStim** TX line.

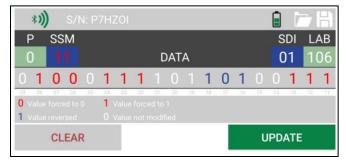
The same applies for the "STIM" checkboxes: stimulation of each label (with SDI as SDI or SDI as DATA interpretation) can be activated or de-activated from the Home Page:

*))) S/N: P7HZ0I			
LABEL	ТΧ		STIM 🗹
L106			
SDI_00		\checkmark	
SDI_01		\checkmark	\checkmark
SDI_10		\checkmark	
SDI_11		\checkmark	\checkmark
SDI_DD		\checkmark	
L107			
SDI_00		\checkmark	
SDI_01		\checkmark	\checkmark
SDI_10		\checkmark	>
SDI_11		\checkmark	
SDI_DD		\checkmark	
L110			
L111			
SDI_00		\checkmark	
SDI_01		\checkmark	

<u>Home Page</u>

Stimulation Page

When clicking on a label / SDI in the Home page, the **Stimulation page** is displayed, showing stimulation options of the selected label (and interpretation):



Stimulation Page

Actual raw data information is displayed, and each field / bit is clickable. The legend indicates stimulation options:

- Value forced to 0.
- Value forced to 1.
- Value reversed (0 -> 1, 1 -> 0 in real time).
- Value not modified.

It is possible to stimulate any field independently providing powerful stimulation options:

- Inverting parity bit on one label / SDI.
- Changing SSM.
- Modifying label number.
- Changing data of selected label / SDI...

The stimulation parameters can be saved in order to apply them on any other label / SDI:

*)) S/N: P7F		🛛 🔒 🗁 💾		
P SSM		SDI LAB		
1 01	DATA	01 106		
Name of the file Stim_L106_SDI01_23-01-2020-14h55m31s				
C	CANCEL OK			
CLEAR		UPDATE		
Files		Selected		
Stim_L106_SDI01_23-01-	2020-14h55m31s.stim			
Stim_L107_SDI00_23-01-	2020-14h55m52s.stim			
Stim_L111_SDI00_23-01-	2020-14h56m00s.stim			
Stim_L130_SDI00_23-01-	2020-14h56m06s.stim			
DELETE LOAD				

Saving Stimulation Parameters

Warnings

This product shall only be used with the provided battery. The use of incompatible battery may affect compliance or may result in damage to the product and invalidate the warranty.

The provided battery shall only be charged with the provided Lithium-Ion charger. The use of incompatible battery charger may affect compliance or may result in damage to the battery and invalidate the warranty.

To avoid malfunction or damage to your AriStim product please observe the following:

- Do not expose to water or moisture.
- Do not expose to heat from any source; AriStim product is designed for reliable operation at the specified temperatures.
- Care must be taken when handling to avoid mechanical or electrical damage to the product and connectors.