AVDT-BOB
User's manual

www.auvitran.com

AVDT-BOB-AE4io

AVDT-BOB-AE8io

AVDT-BOB-AS8io

AVDT-BOB-ADE8io

AVDT-BOB-AEG6io

AVDT-BOB-ADX8io (Front)

AVDT-BOB-ADX8io (Rear)

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1. Legacy

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2 AVDT-BOB Quick Start

2.1 Power to Start-up

To start your AVDT-BOB, connect the Main port of your AVDT-BOB, to an active POE switch port using a CAT5E/6 cable (Gigabit connection) or alternatively connect an optional 12V DC power to the DC Power connector of your AVDT-BOB.

When powered, the Green Power led of the AVDT-BOB will be On.

Notice: You can use at the same time the POE and 12VDC and they will act as redundant power supplies.

2.2 Connect the AVDT-BOB to an IP/Dante network

The connection of your AVDT-BOB to the IP/Dante network can done via Ethernet CAT5e/6/7 cables using the Main Gigabit port that is POE compatible or via the Aux Gigabit port(s)

When connected to another active/running Ethernet device (Switch, Mac, PC, IP router), the Link LED of the connected port will be On and the Act LED will start flashing.

AVDT-BOB can be daisy chained to other Dante device via the remaining port(s) thanks to an internal gigabit switch that connects:

- Physical Ethernet ports (Main, Aux)
- Dante component
- User Interface of ARM processor managing Web 2.0, DSP and Mic preamps

AVDT-BOB has 2x independent IP network addresses and 2 associated names to control "**Dante**" functions and "**User-Interface**":
1. IP addresses are set automatically by default via a DHCP server or using APIPA addresses (169.254.xxx.xxx/16).
2. The Dante name of an AVDT-BOB may be changed by the Dante Controller. This name is preset at factory at "**AVDT-BOB-#**" where # is its serial number.
   ⇨ AVDT-BOB serial number 145 has Dante name "**AVDT-BOB-145**" as factory preset.
3. The name of User Interface of an AVDT-BOB is its Dante name plus a fixed extension "-UI". This name is preset at factory to "AVDT-BOB-#-UI" where # is its serial number.
   ⇨ AVDT-BOB with serial number 145 has User Interface name "**AVDT-BOB-145-UI**" as factory preset.

2.3 AVDT-BOB's Dante settings

The AVDT-BOB Dante settings are done via the standard Audinate Dante Controller.

1. Download Dante Controller on the Audinate web site at the following web address https://www.audinate.com/products/software/dante-controller.
2. Install Dante Controller by double clicking on the download file.
3. Start Dante Controller to detect your AVDT-BOB Dante devices and control settings:

4. To change AVDT-BOB name, Double click on the device label
5. Select "*Device Config*" tab in the new windows and modify the "*Rename Device*" field

6. Consult the Audinate Dante Controller User's manual for any other information

Notices: Using the Dante controller, it is possible to run commands by setting specific Dante names in an AVDT-BOB (all command name must be filled with the maximum of 'x' at end):

- Setting *AVTxCMD-GIPxxxxxxxxxxxxxxxxxxxx* as Dante Name in an AVDT-BOB will request to get back the IP address of the AVDT user Interface. In reply the Dante Name of the module will be changed back to *AVTxANS-GIP-a-b-c-dxxx..xxx* where a.b.c.d is the IP address of user interface (*AVTxANS-GIP-169-254-0-145xxxxxx* for instance)
- Setting *AVTxCMD-FIP-192-168-0-222xxxxxx* as Dante Name for an AVDT-BOB will set its IP address to 192.168.0.222. When done, the device returns to its previous name
- Setting *AVTxCMD-FFSxxxxxxxxxxxxxxxxxxxx* as Dante Name for an AVDT-BOB will request to call back parameters from factory settings and to reset the AVDT-BOB

2.4 Access to AVDT-BOB's User Interface via AVSMonitor on Windows OS

The AVDT-BOB User Interface can be accessed using AVSMonitor on Windows OS:

1. Download AuviTran AVS-Monitor free software for windows 7/8/10 available at the following web address http://www.auvitran.com/w4/?page_id=86
2. Install AVS-Monitor by double clicking on the download file.
3. Start AVS-Monitor.
4. The AVDT-BOB connected to the network will automatically appears in 2 lists on left:

   - "Network controller" provides access to the AVDT-BOB control
   - "Dante Network" give "Dante" information on the AVDT-BOB

5. Select the AVDT-BOB in the left list called "Network controller" and" "Control" Tab in the right windows as describe bellow.

6. See chapter 3 for interface description.

Notices:

- If your device doesn't appear, your network configuration is probably not good.
  1) Go to the AVS-Control-Panel using "Edit/Control panel" menu or press Ctrl+P
  2) Select a valid network adapter in the "Dante / AuviTran Adapter"
  3) Press the "Turn On" button if the service is off (red LED).
- The "**Properties Tab**" provides the IP address of the AVDT-BOB user's interface
- You can transfer the control of your device to your standard browser by a right click on AVDT-BOB name in the Network list and selected "**Open on new window**"

- For more information on AVSMonitor read its "User's manual"

2.5 Access to AVDT-BOB's User Interface via a Browser

The user interface of an AVDT-BOB can be launched without installation by any standard Web browser compatible with HTML5 and JavaScript standards.

The device hosting the web browser must comply with the following:

- May be any platform PC, Laptop, Tablet, Smartphone working whatever OS (MacOS, iOS, Android, Windows, Linux …) with a minimum resolution of 800x600 or 600x800
- Must be connected to the same IP network than the AVDT-BOB to control it
- It can use WIFI or Ethernet link

To launch the user interface of an AVDT-BOB using a browser

1. Start a Web Browser (i.e. Safari, Firefox, Chrome, Opera…)
2. Write the **User Interface Name** (see §2.2) terminated by "**.local**" in Web Browser address field/bar to ask it accessing to the IP server with a local name in your local area network (".local" at the end is needed to force mDNS local name in the browser)
   ⇨ "**AVDT-BOB-145-UI.local**" for instance to connect to AVDT-BOB serial number 145 if the Dante name was not changed
3. The Browser will display AuviTran's Logo during the loading of the user's interface.
4. After loading you will see the interface of the AVDT-BOB User interface as Follows (iPad/Safari and iPad/Firefox).

5. See chapter 3 for a description of the AVDT-BOB User's interface.

Notices:

- IE and Edge on Windows OS does not manage the ".local" and mDNS name. Use the IP address of the User's Interface for this web Browser or follow instructions given in §2.4 notices to run web browser directly from AVSMonitor.
- If you have problem with the UI name, remember you can change it using Dante controller.

3 AVDT-BOB architecture

3.1 AVDT-BOB inputs and outputs

The AVDT-BOB-AE8io and AVDT-BOB-AS8io have 4 analog balanced Mic/Line inputs and 4 balanced analog outputs on Euroblock/SUBD connectors. They can receive and send 4 digital signals from/to Dante from their Main or Aux gigabits Ethernet ports.

The AVDT-BOB-AE4io has {2} analog balanced Mic/Line inputs and {2} balanced analog outputs on Euroblock connectors. It can receive and send 4 digital signals from/to Dante from its Main or Aux gigabits Ethernet ports.

These input / output signals are named as follows in these AVDT-BOB:

- Mic/Line1-4{2} for the signals coming from Mic/Line inputs
- Dante In1-4 for the signals coming from Dante network
- Line Out1-4{2} for the signals sending to Line outputs
- Dante Out1-4 for the signals sending to Dante network

The AVDT-BOB-ADE8io and AVDT-BOB-ADX8io have 2 analog balanced Mic/Line inputs + an AES/EBU input and 2 balanced analog outputs + an AES/EBU output on Euroblock/XLR/SUBD connectors. They can receive and send 4 digital signals from/to Dante from their Main or Aux gigabits Ethernet ports.

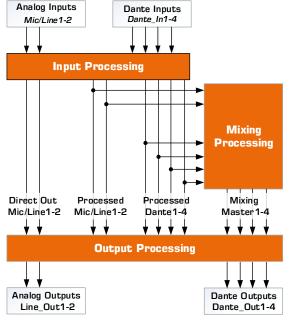These input / output signals are named as follows in these AVDT-BOB:

- Mic/Line1-2 for the signals coming from Mic/Line inputs
- AES/EBU ch1-2 for the signals coming from AES/EBU input
- Dante In1-4 for the signals coming from Dante network
- Line Out1-2 for the signals sending to Line outputs
- AES/EBU ch1-2 for the signals sending to AES/EBU output
- Dante Out1-4 for the signals sending to Dante network
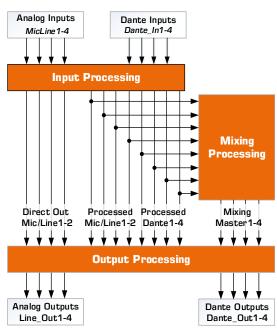
3.2 AVDT-BOB architecture

The AVDT-BOB architecture is divided in 3 main interconnected blocks:

- The Input block manages Mic/Line1-4{2} preamps, {AES/EBU ch1-2} and Dante in1-4. It sends DirectOut MicLine1-4{2}, {AES/EBU ch1-2} to Output Processing Block. It computes processed Mic/Line1-4{2}, {AES/EBU ch1-2} and 4 processed Dante inputs for the Mixing and Output Processing Blocks.
- The Mixing block receives the processed Mic/Line1-4{2}, {AES/EBU ch1-2} and Dante1-4. It mixes them on 4 independent mixers to provide mixing Master1-4 to Output Processing Block.
- The Output block enables selecting the source Out1-4{2}, {AES/EBU ch1-2} and Dante Out1-4 from DirectOut Mic/Line1-4{2}, {AES/EBU ch1-2}, Processed Mic/line1-4{2}, {AES/EBU ch1-2}, Processed Dante1-4 and the Master1-4. Once the source selection done it processes Line and Dante outputs.
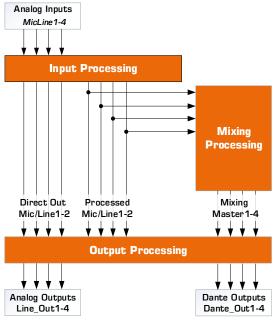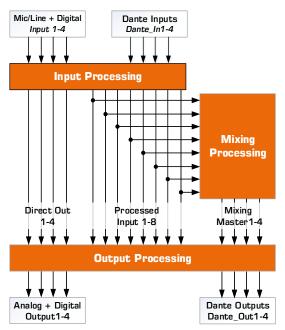
3.3 AVDT-BOB's schematic

AVDT-BOB-AE4io's schematic

Analog Inputs — *Mic/Line1-2*
Dante Inputs — *Dante_In1-4*

Input Processing

Mixing Processing

Direct Out Mic/Line1-2
Processed Mic/Line1-2
Processed Dante1-4
Mixing Master1-4

Output Processing

Analog Outputs Line_Out1-2
Dante Outputs Dante_Out1-4

AVDT-BOB-AE4io's schematic

AVDT-BOB-AE8io/AS8io's schematic

Analog Inputs — *MicLine1-4*
Dante Inputs — *Dante_In1-4*

Input Processing

Mixing Processing

Direct Out Mic/Line1-2
Processed Mic/Line1-2
Processed Dante1-4
Mixing Master1-4

Output Processing

Analog Outputs Line_Out1-4
Dante Outputs Dante_Out1-4

AVDT-BOB-AE8io/AS8io's schematic

AVDT-BOB-AEG6io's schematic

Analog Inputs — *MicLine1-4*

Input Processing

Mixing Processing

Direct Out Mic/Line1-2
Processed Mic/Line1-2
Mixing Master1-4

Output Processing

Analog Outputs Line_Out1-4
Dante Outputs Dante_Out1-4

AVDT-BOB-AEG6io's schematic

AVDT-BOB-ADE8io/ADX8io's schematic

Mic/Line + Digital *Input 1-4*
Dante Inputs *Dante_In1-4*

Input Processing

Mixing Processing

Direct Out 1-4
Processed Input 1-8
Mixing Master1-4

Output Processing

Analog + Digital Output1-4
Dante Outputs Dante_Out1-4

AVDT-BOB-ADE8io/ADX8io's schematic

3.4 Input processing block

The Input Processing controls the analog mic preamps, the +48V phantom power of Mic/Line inputs and the digital gains for Dante inputs, manages the digital signal processing (Phase inversion, Mute, Equalization, Limiter/Compressor/Gate) for the Mic/Line or AES/EBU inputs or Dante inputs.

There are 4 (EQ + Dyn) processing* blocks available for the Input Processing. Each one be individually connected to its respective Mic/Line or AES/EBU input or Dante input.
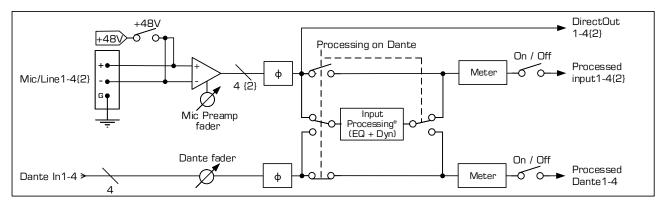

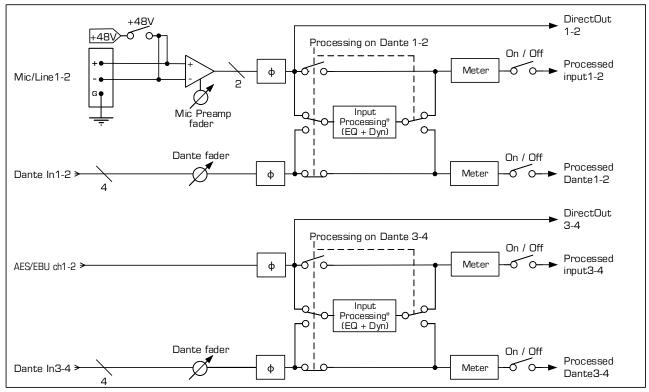*Diagram of the AVDT-BOB's Input Processing block for AE4io/AE8io/AEG6io/AS8io versions*

Diagram of the AVDT-BOB's Input Processing block for ADE8io/ADX8io

3.5 Mixing Processing block

The Mixing block has 4 independent mixers that mix the processed Input1-4{2} and the processed Dante1-4 inputs provided by the Input Processing Block. Each mix has Master Mixer faders to adjust final mix. The Mixing block provides Mixing Master1-4 to Output Processing Block.
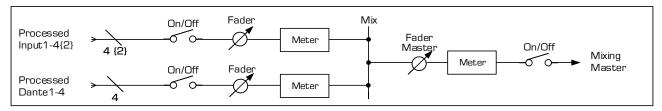

Diagram of an AVDT-BOB's Mixer

3.6 Output processing block

The Output block has 2 source selectors for the analog/digital Output1-4 and Dante Out1-4 outputs.

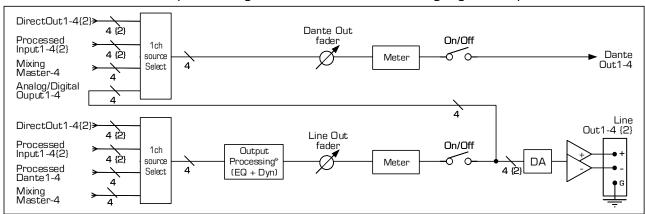There are 4 (EQ + DYN) processing* blocks attached to analog/digital Output1-4.

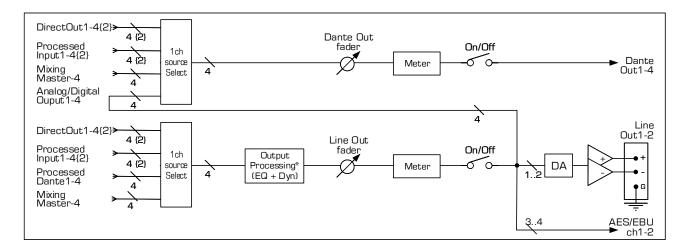*Diagram of the AVDT-BOB's Output Processing block for AE4io/AE8io/AS8io versions*

Diagram of the AVDT-BOB's Output Processing block for ADE8io/ADX8io

4 AVDT-BOB User's Interface
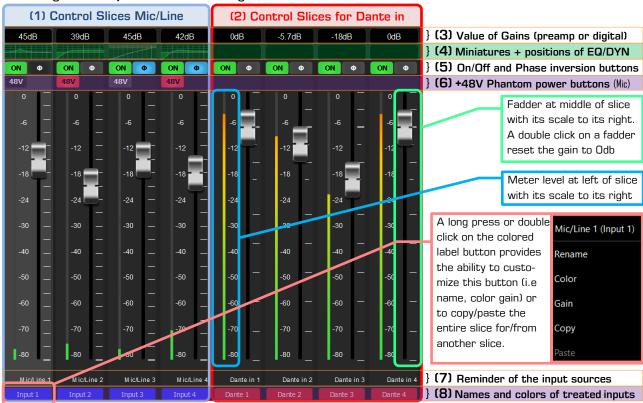
4.1 Bar menu for interface selection

The GUI of the AVDT-BOB is divided in 6 interfaces. A generic bar menu displayed on the top of screen enables the selection of one of these interfaces by clicking/pressing the interface name. The interface in used is colored in Orange on menu:

1. accesses to the Input' interface. It is the default interface at startup.
2. accesses to the Mixing' interface.
3. accesses to the Outputs' interface.
4. accesses to EQ/DYN interface for inputs and outputs.
5. accesses to vu-meter interface for inputs and outputs.
6. accesses to software settings, information and Load/Save sub menus.

4.2 Inputs interface

The Inputs' interface controls the Input Processing (see diagram in §3.3). It shows the following screen just below of the generic bar menu:
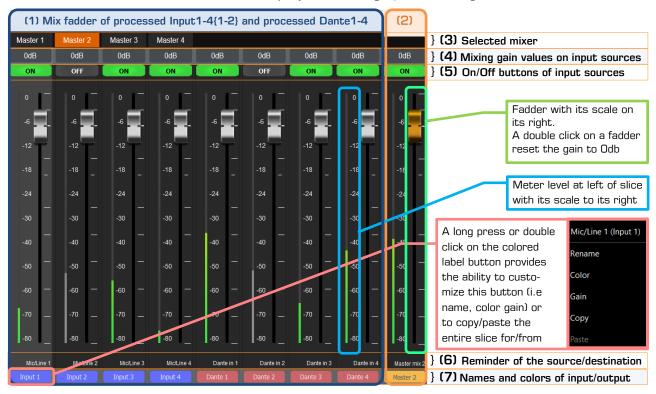

1. On left, 4{2} slices of faders and buttons control the Mic/Line preamps and processing
2. On right, 4 slices of faders and buttons manage the Dante processing
3. On the top of a slice, the value of the gain (preamp or digital) reflects the fader position
4. On 2nd line, miniatures of EQ or DYN indicates the processing position (Mic/Dante)
5. On 3rd line, On/Off + Phi buttons control the activation or phase inversion
6. On 4th line, 48V buttons control the phantom power of the input Mic/Line.
7. On bottom, a reminder of the source of each slice is displayed
8. On last line, colored label buttons enable the user to customize the input labels

4.3 Mixers' interface

The User interface of the Mixing Processing gives access to 4 sub tab called Master1-4, each one controls one of the 4 independent mixers (see diagram in §3.4). *Mixer* are individually selected by pressing/clicking on one of *Master1-4* button.

When selected, *Master1-4* mixer is displayed in orange just below generic bar menu:
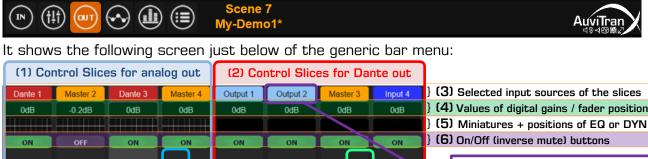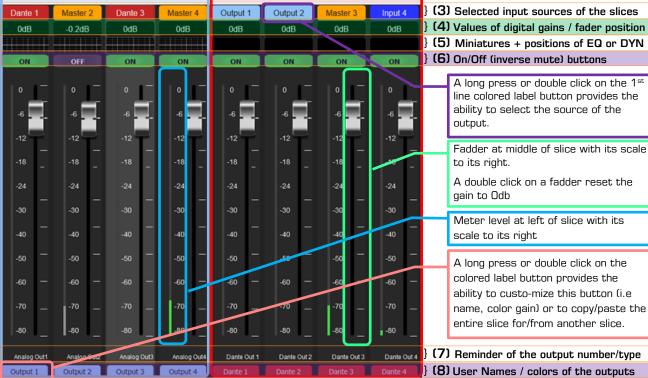

1. On left, 8{6} individual slices of faders and buttons control of the processed inputs from the input processing
2. On right, the slice "Master mix" manages the output level and the on/off of the mix
3. On the top, the Master 1-4 tabs displays and allow selection of the Mixer under control
4. On 2nd line top of slice, the value of the gain reflects the mix fader position for the slice
5. On 3rd line, On/Off buttons control the activation of the slice
6. On bottom, a reminder of the source of each slice is displayed
7. On last line, colored label buttons enable the user to customize the input slice labels

Notices

- Faders control individually the input mixing gains
- Each input of a mixer can be enabled (On) or muted (Off)
- Each mixer has a Master fader controlling the Master mixer output level
- Each master mixer output can be enabled (On) or mute (Off)
- Digital fader manages gain in the range -Inf then -80dB to +12dB per step of 0.1dB

- A double click or a long press on a Gain in the top of the slice enables to set it directly using a keyboard

4.4 Outputs' interface

The Output interface controls the Output Processing block (see diagram in §3.5).

Scene 7
My-Demo1*

It shows the following screen just below of the generic bar menu:

(1) Control Slices for analog out

(2) Control Slices for Dante out

} **(3)** Selected input sources of the slices
} **(4)** Values of digital gains / fader position
} **(5)** Miniatures + positions of EQ or DYN
} **(6)** On/Off (inverse mute) buttons

A long press or double click on the 1st line colored label button provides the ability to select the source of the output.

Fadder at middle of slice with its scale to its right.
A double click on a fadder reset the gain to 0db

Meter level at left of slice with its scale to its right

A long press or double click on the colored label button provides the ability to custo-mize this button (i.e name, color gain) or to copy/paste the entire slice for/from another slice.

} **(7)** Reminder of the output number/type
} **(8)** User Names / colors of the outputs

1. On left, 4{2} slices of faders and buttons control the analog output processing
2. On right, 4 slices of faders and buttons manage the Dante output processing
3. The top of the slices shows the sources of the slices. The source can be modified individually by a right-click and choose on the menu. The sources for analog and Dante outputs differ as described below:
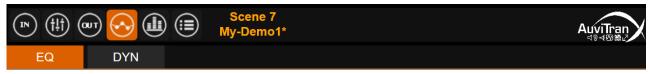

✓ One of the 4{2} Mic/Line DirectOut
✓ One of the 4{2} processed Mic/line inputs
✓ One of the 4 processed Dante inputs
✓ One of the 4 Master mixers.

✓ One of the 4{2} Mic/Line DirectOut
✓ One of the 4{2} processed Mic/line inputs
✓ One of the 4 Master mixers
✓ One of the 4 processed analog output

4. On 2nd line, the value of the digital gain reflects the fader position
5. On 3rd line, miniatures of EQ or DYN show the processing done on analog outputs
6. On 4th line, On/Off buttons control the activation or the mute of the output slices
7. On bottom, a reminder of the physical types and names of each slice are displayed
8. On last line, colored label buttons display user's name/color of the slices. They can be individually customized by a long click or a double click on a button
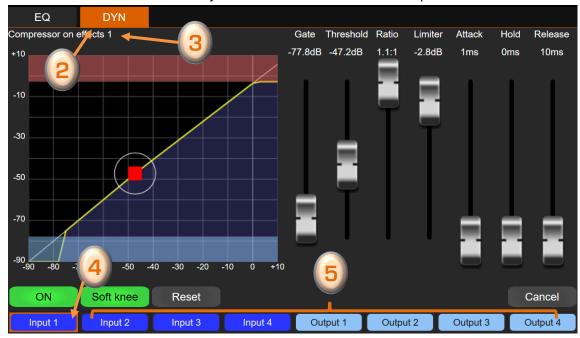
4.5 Processing interface

The processing menu provides access and control via 2 tabs EQ/DYN to the equalization and dynamics assigned to input and output blocks.

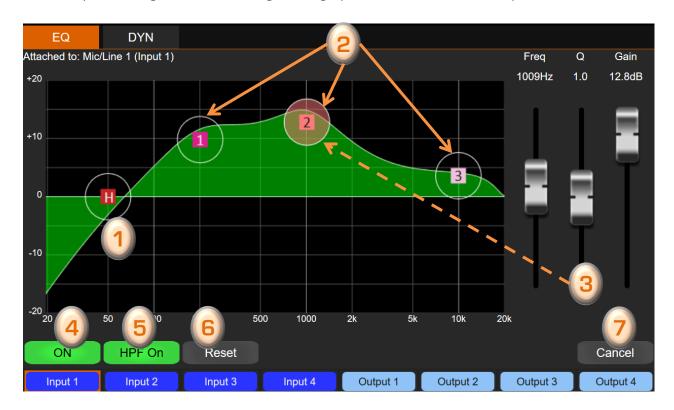1. EQ tab enables to select the equalization windows

2. DYN tab enables to select the dynamic windows (limiter + compressor)

3. On the top left, a reminder indicates to which physical input/User's name the EQ/DYN processing is attached,
4. The slice on which the EQ/DYN processing will be done is displayed highlight in orange.
5. On the bottom, 12{10} colored user's names buttons enable to select the slice on which the EQ/DYN processing will be modified. This button line can be dragged left/right to access shadowed button left/right when the screen is not large enough.
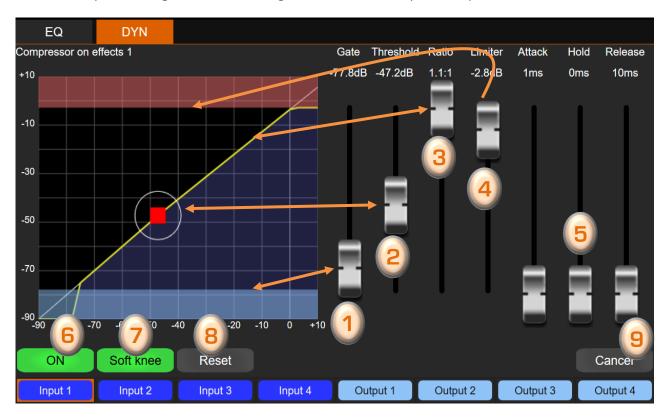
4.5.1 EQ Processing view

The "*EQ*" processing interface manages a high pass filter and 3 band Equalization

1. (**H**) button position manages the frequency parameter of the High pass filter
2. (**1**), (**2**), (**3**) buttons control the associated EQ band frequency and gain parameters and pinch under them control/set their width Q parameter
3. Right faders enable to modify smoothly the parameters of highlight HPF/EQ button
4. [**On/Off**] button activates/bypass the EQ processing without modifying the parameters
5. [**HPF On/Off**] button activate/disable the high pass filter
6. [**Reset**] button reset all EQ processing parameters
7. [**Cancel**] button cancel all modifications and return to previous parameters

4.5.2 Limiter/Compressor view

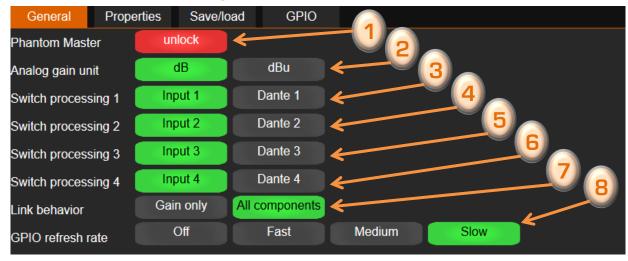The "*DYN*" processing interface manages the limiter compressor parameters

1. The first fader controls the Gate level of the processing (mutes the sound when the signal is too weak)
2. The 2nd fader or the [**Red-Square**] button position controls the compression threshold
3. The 3rd fader controls compression ratio
4. The 4th fader controls the Limiter level
5. The 3 right faders enable to set the Attack/Hold/Release parameters

   ✓ Attack: attack time in ms
   ✓ Hold: sets the time the gate will remain open after the signal has fallen below the threshold.
   ✓ Release: return time in ms

6. [**On/Off**] button activates/bypass the Limiter/compressor processing without modifying the parameters
7. [**Soft knee**] button activates/disables the soft knee of the compression
8. [**Reset**] button reset all limiter/compressor processing parameters
9. [**Cancel**] button cancel all modifications and return to previous parameters

4.6 Parameter interface

The parameter icon give access to software settings, information and Load/Save sub menus via 4 parameters tabs [**General**], [**Network**], [**Save/Load**], [**GPIO**]
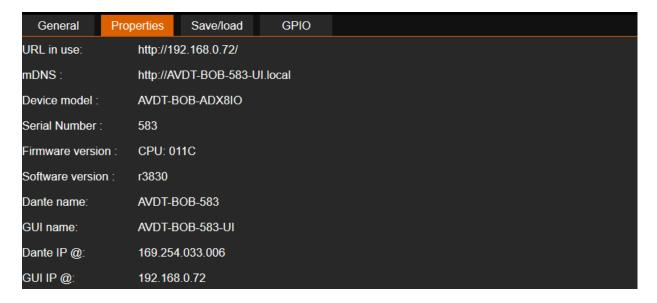
4.6.1 General software setting menu

1. Phantom Master button locks/unlocks the +48V button of Mic/Line phantom power
2. Analog gain unit defines the display unit of mic/Line preamp gains (dB or dBu).
3. Switch processing 1 defines the link of processing 1 to Mic/Line1 or to Dante in 1
4. Switch processing 2 defines the link of processing 2 to Mic/Line2 or to Dante in 2
5. Switch processing 3 defines the link of processing 3 to Mic/Line3 or to Dante in 3
6. Switch processing 4 defines the link of processing 4 to Mic/Line4 or to Dante in 4
7. Specified the slice link button mode: "Gain only" or "All components" (Gain + buttons)
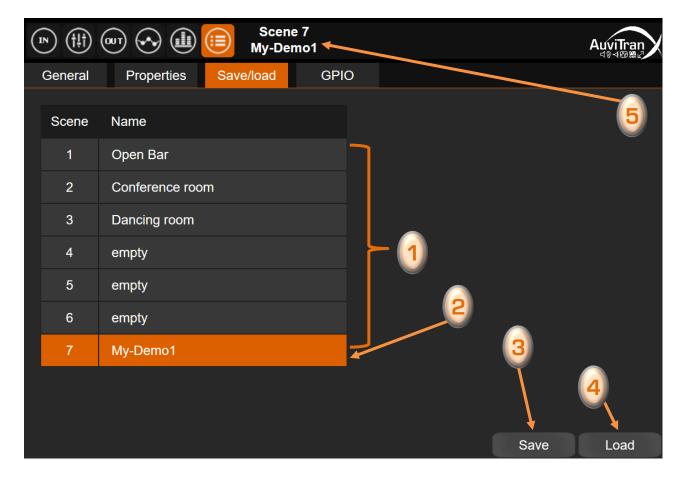8. Deactivates or defines the GPIO refresh rate *for AVDT-BOB-ADE8io/ADX8io only*

4.6.2 Network parameters menu

This tab displays information on your AVDT-BOB.

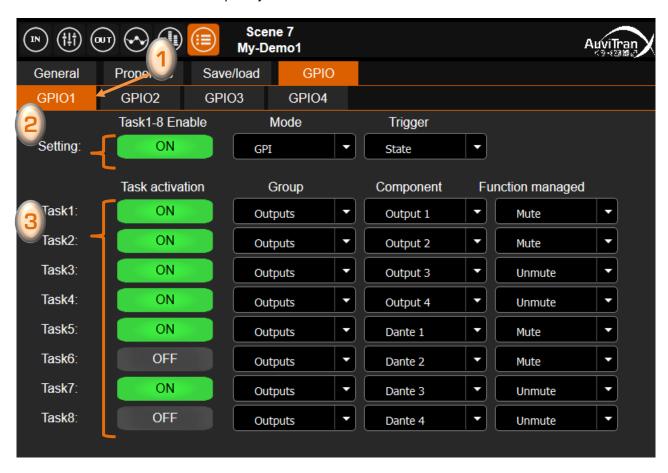|	
URL in use:	http://192.168.0.72/
mDNS :	http://AVDT-BOB-583-UI.local
Device model :	AVDT-BOB-ADX8IO
Serial Number :	583
Firmware version :	CPU: 011C
Software version :	r3830
Dante name:	AVDT-BOB-583
GUI name:	AVDT-BOB-583-UI
Dante IP @:	169.254.033.006
GUI IP @:	192.168.0.72

4.6.3 Save/Load parameter menu

The Save/Load interface allows you to save or to load recording scenes.

1. 7x [**Scene slots**] are available to Save scenes. A name associated to the scene will be displayed in the slot after saving. An empty slot is by default named "empty".
2. [**Scene slot**] selection is done just by clicking on it. The selected scene Slot is highlight in orange
3. The [**Save**] button enables to set a name and to save the current settings for the selected highlight [**Scene slot**]
4. The [**Load**] button enables to load in the AVDT-BOB the saved settings for the selected highlight [**Scene slot**]
5. On the top left just after the parameter icon, a reminder of the last saved/load scene is displayed

4.6.4 GPIO menu (available for AVDT-BOB-ADE8io/ADX8io

The GPIO interface allows to specify the mode and actions associated to the 4x GPIO.

1. [**GPIO tabs**] allow to select the GPIO. The selection is done just by clicking on it.
2. [**Setting fields**] enable for the selected GPIO:
    1. To activate/stop the **GPIO trigger** and all enabled tasks for that GPIO
    2. To select one of the **GPIO Mode**: "*GPI*", "*GPO*" or "*Fader*"
    3. To choose a **Trigger Condition**: "*Pulse*" or "*State*" (for the GPI mode only)
3. [**Task fields**] allows to define up to 8 independent actions associated to that GPIO:
    1. To activate/stop the associated task
    2. To select the "**Group**" of components: "*Inputs*", "*Mixers*" or "*Outputs*"
    3. To select the "**Component**" to control which depends of the group selected
    4. To choose the "**Trigger**" type when available (depend of the component selected)

Notices:

- The management of the GPIOs is running only when a GPIO refresh rate is set (cf. chapter "General software setting menu")
- When a GPIO is set to ON, it is analyzed at 3 different frequencies defined by GPIO refresh rate (i.e. Fast, Medium, Low)
- The task(s) associated to GPIO depend of selected **GPIO Mode**

4.6.4.1 GPIO in GPI Mode

When GPI Mode is selected for a GPIO, 2 trigger conditions can be chosen:

- **Pulse**: Task1-8 are running when a rising edge is detected on the selected GPI between 2 GPIO periods. This trigger must be used for push button.
- **State**: Task1-8 are running if a level change appears on the selected GPI between 2 GPIO periods. This trigger must be used for button with 2 states (On/Off)

For each GPIO defined as a GPI, up to 8 tasks can be set to manage a specific action on the AVDT-BOB:
- Each task can be set individually and may be started/stopped via ON/OFF button.
- The actions that can be set for a task are the following:

Group	Component	Function Managed
Inputs	MicLine1-2	Mute, Unmute, Phase[On/Off], 48V[On/Off]
	AES3 in1-2	Mute, Unmute, Phase[On/Off]
	Dante in1-4	Mute, Unmute, Phase[On/Off]
	All Inputs	Mute, Unmute
Mixers	Master1-4	Mute, Unmute
	All Mixers	Mute, Unmute
Outputs	Analog out1-2	Mute, Unmute
	AES3 out1-2	Mute, Unmute
	Dante out1-4	Mute, Unmute
	All Outputs	Mute, Unmute
Scene	SceneName1-7	Load

Notices:

- The actions are treated sequentially from task 1 to task 8
- When "State" is selected for the GPI trigger, all functions except "Scene/Load" reflects the State of the GPI. For instances
    1. If "Mute" function is set as an action, the mute is done when the external GPI is changed from 0 to 1 and Unmute when it is changed from 1 to 0.
    2. If "Unmute" function is set as an action, the Unmute is done when the external GPI is changed from 0 to 1 and Mute when it is changed from 1 to 0.
- The use of the Scene must be done with care and should be the last task "On" for the GPI
- The GPIO settings are saved with each scene and it is possible to cascade the automation using multi scenes

4.6.4.2 GPIO in GPO Mode

When GPO Mode is selected for a GPIO, a source can be selected for driving the level of the GPO. This enables to reflect externally internal button functions.

There are many combinations of sources that can be selected for GPO. The summary for these sources are the following:

Trigger object	Object source	Trigger function
Inputs	MicLine1-2	Mute, Unmute, Phase[On/Off], 48V[On/Off]
	AES3 in1-2	Mute, Unmute, Phase[On/Off]
	Dante in1-4	Mute, Unmute, Phase[On/Off]
Mixers	Master1-4	Mute, Unmute
Outputs	Analog out1-2	Mute, Unmute
	AES3 out1-2	Mute, Unmute
	Dante out1-4	Mute, Unmute

Notices:

- The automation is evaluated from GPIO1 to GPIO4
- In GPO mode, the Trigger function on a component determines the internal button in an AVDT-BOB that will set/reset the external GPIO.
- For instance, in the previous screen shot:

    1. GPIO2 will act as a GPO
    2. The mute function on Dante input 3 is selected as source of the GPIO2
    3. GPIO will have level 1 When the "On/Off" button of Dante in3 is set to OFF
    4. GPIO will have level 0 When the "On/Off" button of Dante in3 is set to ON

4.6.4.3 GPIO in Fader Mode

When Fader Mode is selected for a GPIO, the GPIO can be used as a VCA to control AVDT-BOB gains

For each GPIO defined as a Fader, up to 8 tasks can be set to manage the gains on an AVDT-BOB:

- Each task can be set individually and may be started/stopped via ON/OFF button.
- The actions that can be set for a task are the following:

Group	Component	Function Managed
Inputs	MicLine1-2	Gain, Reverse gain
	Dante in1-4	Gain, Reverse gain
	All Inputs	Gain, Reverse gain
Mixers	Master1-4	Gain, Reverse gain
	All Mixers	Gain, Reverse gain
Outputs	Analog out1-2	Gain, Reverse gain
	AES3 out1-2	Gain, Reverse gain
	Dante out1-4	Gain, Reverse gain
	All Outputs	Gain, Reverse gain

Notices:

- The automation is evaluated from GPIO1 to GPIO4.
- The GPIO actions are treated sequentially from task 1 to task 8
- "*Gain*" function enables to set a Gain on the component proportionally to the voltage apply on the GPIO
- "*Reverse gain*" function enables to set a Gain on the component inversely proportional to the voltage apply on the GPIO
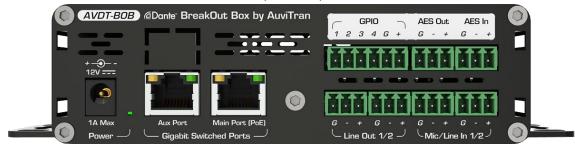
5 GPIO wiring for AVDT-BOB-ADE8io or AVDT-BOB-ADX8io

The AVDT-BOB-ADE8io and AVDT-BOB-ADX8io have 4 GPIO. These GPIO are individually configurable by software to work as GPI, GPO or as Fader.

The setting of these GPIO mode is presented in chapter 4.6.4 of this manual.

4 GPIO Pins plus Ground and Vcc are available in the rear of the AVDT-BOB. These pins are located:

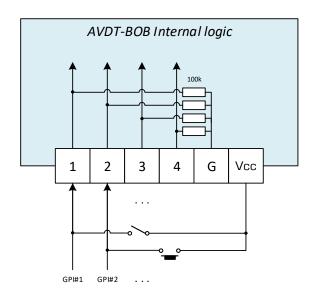- For the AVDT-BOB-ADE8io on the top left 6-pole Euroblock

- For the AVDT-BOB-ADX8io on the SUBD pins

5.1 GPIO Connection for "GPI" mode

The GPIO can be configurable as a GPI via the software interface. In this case, the GPIO must be wired as displayed bellow:
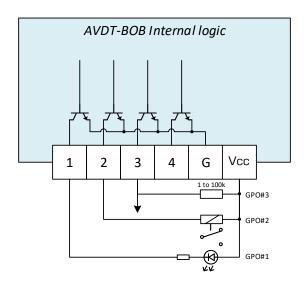

Notes:

✓ Each GPI is weakly pulled down to 100KΩ
✓ Input range is between 0 -> +12V, referenced to device ground.
✓ Input a level < 1.8V for a logic '0',
✓ Input a level > 2.4V for a logic '1'.
✓ Devices like switches or push/buttons can be plugged directly between VCC and GPIO.

5.2 GPIO Connection for "GPO" mode

The GPIO can be configurable as a GPO via the software interface. In this case, the GPIO must be wired as displayed bellow:
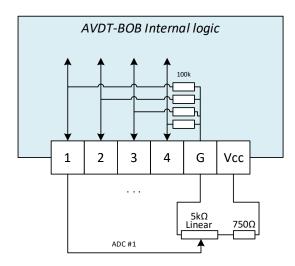

Notes:

✓ GPOs are Open-Collector type and must be pulled high to have a '1' logic level. Otherwise, pin will be floating (High-Z).

✓ It can be done via Vcc pin, or any external power supply referenced to device ground (+60V max). Max current through each pin is 500mA.

✓ Devices like relays or LEDs can be plugged directly between Vcc and GPOx.

5.3 GPIO Connection for "Fader" mode

The GPIO can be configurable as a Fader via the software interface. In this case, the GPIO must be wired as displayed bellow:

Notes:

✓ Each Fader/ADC is weakly pulled down to 100KΩ.

✓ Each Fader/ADC is linear to its input voltage in a range of is 0 to +10V referenced to device ground.
  - 0V referees to « minimum » value
  - +10V referees to « maximum » value.

✓ VCC provides a voltage between 11.5V and 12V

✓ It is possible to connect GPIO in fader mode using for instance a linear potentiometer of 5KΩ plugged after a resistance of ~ 750Ω between Vcc and Gnd as shown on left diagram.