



## Optional Diablo 120 DAC module

The Diablo 120 DAC module is the perfect match for the Diablo 120 integrated amplifier, adding 4 top notch digital inputs to the Diablo 120's existing five analog inputs. With the DAC module build in, the Diablo 120 display informs you about the chosen digital input Sampling frequency, PCM/DSD format and chosen digital filter setting.



### **Diablo 120 display DAC information, example**

1. '06:' actual digital input number ( 06 to 9 ).
2. 'USB' input name, which can be changed via the Diablo 120 menu, please consult the Diablo 120 user instruction for details.
3. 'FS:' actual sample frequency.
4. Diablo 120 DAC locked/unlocked to input signal, indicated by padlock symbol.
5. 'FILTER:' Actual format being played, PCM or DSD and actual Digital Filter being used.
6. '06' actual volume level (00 to 45).



### **DIABLO 300 DAC USER INSTRUCTIONS:**

Blue LED indicator to the left of ON/STB symbol:  
Flashing when Diablo 120 (with DAC module installed) is ON, indicates that the USB Super-Cap supply is being charged. This can take up to 4 minutes, depending upon the degree of Super-Cap discharge, at the time the Diablo 120 is powered up.

The blue LED indicator stops blinking when the USB Super-Cap supply is fully charged.



Changes the Diablo 120 input down by one step.

Input 01 to 05 are analog inputs.

Input 06 to 9 are digital inputs and are only present when the Diablo 120 DAC module is installed.

Changes the Diablo 120 input up by one step.

Input 01 to 05 are analog inputs.

Input 06 to 9 are digital inputs and are only present when the Diablo 120 DAC module is installed.

### **Diablo 120 DAC 'MENU' guide:**

To be able to navigate through the DAC menu options, after entering the Diablo 120 MENU option, some of the Diablo 120 front touch buttons changes function:



MENU button is now used to toggle through the Diablo 120 menu options.



MON.(MONITOR) now acts as the menu ENTER button, confirming the selected option.



INP. down and up buttons now scrolls down and up between the possible sub-menu settings.

VOL. down and 'VOL. up buttons are used to scroll between the possible digital filter and gain settings.

### CHANGING STANDARD DAC SETTINGS:

When the Gryphon Diablo 120 DAC module is installed in the Diablo 120, it is possible to change several standard Digital Filter and output settings via the Diablo 120 'MENU' function.

The standard settings were chosen by Gryphon because these standard settings perform very well sonically. Regarding sound quality, we recommend to use a high quality high-end USB cable between the PC/Mac and Diablo 120 DAC USB input – not a standard USB data cable.

1. First access the 'DAC SETUP' sub-menu by touching the following Diablo 120 front touch button combination:
  - a. MENU'
  - b. INP. down or 'INP. up
  - c. MON.'
  - d. 4 times 'MENU'
  - e. MON.'
  
2. Now the Diablo 120 display shows: 'PCM DSD GAIN'  
Where 'PCM' is blinking, indicating the actual choice.

Touch the 'INP. down or 'INP.up to toggle between the 'PCM DSD GAIN' options.

Confirm the actual choice by touching the 'MON.' button.

3. With the 'VOL. down or 'VOL. up touch buttons it is now possible to change the Diablo 120 DAC's digital filter slope for the PCM format:
  - a. 'PCM FILTER: SLOW' indicates Slow Roll Off (short Group Delay) digital filter (standard setting).
  - b. 'PCM FILTER: FAST' indicates Sharp Roll Off (long Group Delay) digital filter.

Confirm the chosen setting by touching the 'MON.' button.

4. If 'DSD' was chosen in the DAC setup menu, the below DSD digital filter options are available:  
DSD FILTER: 50kHz', a curser is blinking, indicating the active line.  
DSD LP FILTER: OFF'

Touch 'INP. down or 'INP. up to toggle between the two DSD filter lines.

Use 'VOL.down (or 'VOL. up ) to select between '50kHz', 60kHz' or '70kHz', -3dB pass band frequency. (50kHz is standard).

Use 'VOL. down (or 'VOL. up) to select between first order analog DSD Low-Pass filter 'ON' or 'OFF' when the 'DSD LP FILTER: OFF' line is active (OFF is standard).

Confirm the chosen settings by touching the 'MON.' button.

5. If 'GAIN' were chosen in the DAC setup menu, the following DAC output level options are available: '0dB' or '-6dB' toggle between the settings with 'VOL. down' or 'VOL. up'. Confirm the chosen DAC output level by touching the 'MON.' button.

The chosen DAC output level is valid for all 4 digital inputs. (0dB is standard)

Leave the Diablo 120 MENU function, please consult the Diablo 120 user manual for details.

It is always possible to reset possibly changed DAC settings back to standard, using the Diablo 120 MENU function 'RESTORE SETTINGS', please consult the Diablo 120 user manual for details.

**WARNING:** Be aware that 'RESTORE SETTING' also resets all other Diablo 120 settings too, ex. 'INPUT NAMING' and 'INPUT LEVEL MATCH'!



### **Diablo 120 DAC module connections:**

USB, INPUT 6:

Connect to PC or Mac through your preferred dedicated USB Audio cable. Please see separate PC/Mac player information and guide on:

[www.gryphon-audio.com](http://www.gryphon-audio.com) .

Accepted USB formats and sample rates:

**PCM (Pulse Code Modulated):**

Fs: 44.1Khz, 48Khz, 88.2Khz, 96Khz 176.4Khz, 192Khz, 352.8Khz or 384Khz

**DSD (Direct-Stream Digital):** Mac: DSD64 and DSD128

Windows: DSD64, DSD128, DSD256 and DSD512

**NO Drivers needed for Mac OSX 10.6+ and Linux with UAC2 compliant kernel.**

Diablo 120 DAC Kernel-Streaming/ ASIO drivers for MS OS XP to Win10 32-64bit, can be downloaded at:

[www.gryphon-audio.com](http://www.gryphon-audio.com) .

AES/EBU, INPUT 7:

Connect a digital source with balanced 110 Ohm output to this XLR input.

S/PDIF, INPUT 8

Connect digital sources with optical output to this input. If fitted, please remove the protection plastic plug, before connecting the optical cable.

TOSLINK, INPUT 9

Connect digital sources with single-ended 75 Ohm output to these inputs.

### **Diablo 120 DAC features and specifications:**

- \* True Dual Mono Class A Analog configuration
- \* Zero negative feedback
- \* Sabre ES9018 High-End D/A converter
- \* USB input compatible with following audio formats via PC/MAC/Linux:  
PCM: 44.1, 48, 88.2, 96, 176.4, 192, 352.8 and 384 kHz, up to 32 bits  
DSD via USB: DSD64 (2.822MHz), DSD128 (3.072MHz), DSD256\* (5.644MHz) and DSD512\* (6.144MHz)
- \* XLR and BNC inputs compatible with PCM: 22.05, 24, 32, 44.1, 48, 88.2, 96, 176.4 and 192 kHz, up to 32 bits
- \* TOSLINK input compatible with PCM: 22.05, 24, 32, 44.1, 48, 88.2 and 96 kHz, up to 32 bits
- \* User-selectable PCM and DSD digital roll-off filters
- \* Temperature-compensated, ultra-low jitter crystal oscillator with better than 5 parts per million accuracy
- \* Super-Capacitor (12.5 Farad!) power supply for USB module - acts like a true battery supply



- \* First-order PCM analogue filters and second-order DSD analogue filters with silvered Mica and Polypropylene capacitors
- \* Analogue output stages with discrete, ultra-low noise +/- 22VDC regulated voltage supplies for best analogue THD and noise suppression
- \* Multiple Local Voltage regulators for best digital noise suppression
- \* Discrete, separate left/right channel ultra-low noise power supply for analogue section of ES9018 DAC
- \* Ultra-short signal path
- \* Minimal internal wiring
- \* Four-layer printed circuit board with 70my copper
- \* PCB-mounted sockets eliminate wiring and shorten signal path
- \* Gold-plated Swiss Neutric XLR socket for one balanced 110 Ohm AES source
- \* Gold-plated 75 Ohm BNC sockets with Teflon insulation for S/PDIF source
- \* One TOSLINK optical fiber input
- \* Designed and built in Denmark

(at the moment, DSD256 and DSD512 only on Windows systems)

Specifications can be changed by Gryphon Audio Designs without further notice.



