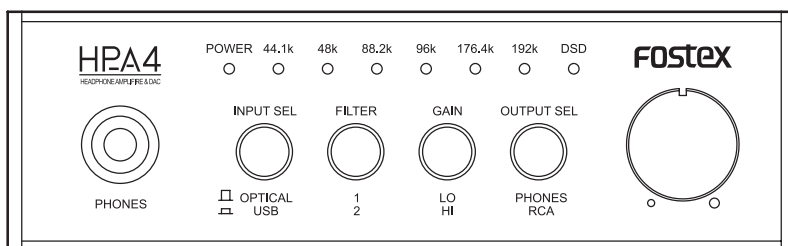


## Owner's Manual

# HP-A4


## 2-ch DAC & Headphone Amplifier



<Note>:

If you connect the HP-A4 to a Windows computer via USB, you must install the dedicated USB Audio Class 2.0 driver which can be downloaded from the Fostex website ([www.fostex.com](http://www.fostex.com)).

If you use a Mac computer, you do not need to download a driver.

<b>CAUTION</b>	
RISK OF ELECTRIC SHOCK DO NOT OPEN	
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER - SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.	

**“WARNING”**

“TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.”



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

**SAFETY INSTRUCTIONS**

- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>1) Read these instructions.</li> <li>2) Keep these instructions.</li> <li>3) Heed all warnings.</li> <li>4) Follow all instructions.</li> <li>5) Do not use this apparatus near water.</li> <li>6) Clean only with dry cloth.</li> <li>7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.</li> <li>8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.</li> <li>9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.</li> <li>10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.</li> </ol> | <ol style="list-style-type: none"> <li>11) Only use attachments/accessories specified by the manufacturer.</li> <li>12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.</li> </ol> |
|---|---|



- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- 15) Excessive sound pressure from earphones and headphones can cause hearing loss.

**FCC (U.S.A.) & ICES-003 (Canada) INFORMATION**

**1. IMPORTANT NOTICE**  
This product, when installed as indicated in the instructions contained in this manual, meets FCC and ICES-003 requirements. Changes or modifications not expressly approved by Fostex Company for compliance could void the user’s authority to operate the equipment. **DO NOT MODIFY THIS PRODUCT.**

**2. IMPORTANT**  
In order to comply with FCC and ICES-003 requirements, use high quality shielded cables for connection to accessories and / or another products. If any cables are supplied with this product, they **MUST** be used. Follow all installation instructions. Failure to do so could void your FCC / ICES-003 authorization to use this product in the USA / Canada.

**3. NOTE**  
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with instructions, may cause harmful interference to radio communications. However, there is no guarantee that

interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**4. Compliance with Part 15 of FCC Rules and Canadian ICES-003.**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that many cause undesired operation.

This Class B digital apparatus complies with Canadian ICES-003.  
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

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## Introduction

Thank you very much for purchasing the Fostex product.  
To ensure the best performance, read this manual thoroughly before using the unit. Keep this manual handy for future reference.

## Overview

The Fostex HP-A4 is the high performance DA converter with a headphone amplifier.

The unit receives a digital audio signal from the USB connector or the optical digital connector, and converts it to an analog signal, which is fed from the analog line output connectors as well as the headphones output connectors.

The unit can play back PCM audio as well as DSD audio natively. You can enjoy up to 24-bit/192-kHz PCM source as well as up to 5.6-MHz DSD source in excellent quality.

- Features a high quality DAC (PCM1792A).
- Supports asynchronous mode controlled by a crystal oscillator.
- Powered by USB.
- Supports 24-bit/192-kHz PCM playback as well as 5.6-MHz DSD native playback.  
\* Note that to play back DSD audio, an appropriate DSD audio playback software application is required on your computer.
- Equipped with a microSD (SDHC) card drive, which can be used for future upgrade.  
\* Note that the unit cannot playback audio data on a microSD card.

## Supplied accessories

The following are supplied with the HP-A4.

- USB cable x 1
- Rubber feet x 4
- Owner's manual (this manual)

After purchasing the HP-A4, check all accessories are included in the package. The four rubber feet should be attached on the bottom of the unit by yourself.

## About power supply

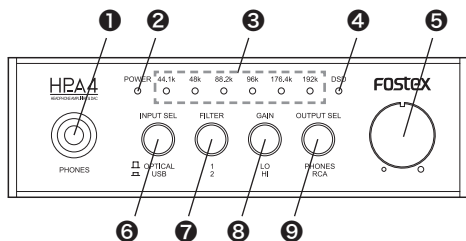
The HP-A4 runs on USB bus power. Therefore when you use the optical [DIGITAL IN] connector as the input source, you have to connect the [USB] connector to a device (computer, USB mobile power supply, etc.) that can provide USB bus power to the unit and turn on the device.

## Maintenance

If the unit becomes dirty, wipe it with a soft dry cloth or a soft cloth dipped in water with neutral detergent. Do not use volatile chemicals such as benzene or thinner. Otherwise, the panel may be damaged.

<Caution>:For your safety, disconnect the USB power before cleaning.

## Front panel



### 1 [PHONES] connector (1/4" stereo phone jack)

This connector is used to connect to stereo headphones.

It is active when the [OUTPUT SEL] switch on the front panel is set to the up ("PHONES") position.

### 2 [POWER] indicator

This indicator is illuminated in red when the USB bus power is supplied to the unit.

### 3 Input indicators (44.1k, 48k, 88.2k, 96k, 176.4k, 192k, DSD)

The appropriate indicator is illuminated in green depending on the input audio source.

When no signal is input or when a signal with an unsupported audio format is input, no input indicator is illuminated.

\* With a PCM audio source

The indicator corresponding to the sampling frequency of the input signal is illuminated.

\* With a DSD audio source

When the sampling frequency of the input signal is 2.8 MHz, the "44.1k" and "DSD" indicators are illuminated.

When the sampling frequency of the input signal is 5.6 MHz, the "88.2k" and "DSD" indicators are illuminated.

<Note>:Immediately after the power is supplied to the unit, no input indicator is illuminated.

### 4 [DSD] indicator

This indicator is illuminated in green when the unit plays back DSD audio.

### 5 Volume control knob

Adjusts the analog output level of [PHONES] and [OUTPUT] connectors.

(See "HP-A4 settings" on page E-8.)

### 6 [INPUT SEL] switch

Selects the digital input source between the [USB] and [DIGITAL IN] connectors.

(See "HP-A4 settings" on page E-8.)

### 7 [FILTER SEL] switch

Selects the digital filter characteristics of the DAC.

(See "HP-A4 settings" on page E-8.)

### 8 [GAIN SEL] switch

Selects the gain of the headphone output amplifier.

(See "HP-A4 settings" on page E-8.)

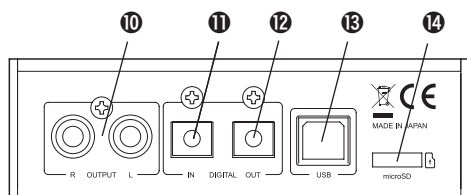
<Caution>:Turn the volume control knob all the way toward the left before you operate the switch.

### 9 [OUTPUT SEL] switch

Selects the analog output destination between the [PHONES] and [OUTPUT] connectors.

(See "HP-A4 settings" on page E-8.)

## Front panel



### 10 [OUTPUT] (L and R) connectors (RCA pin jacks)

These connectors output an analog audio signal after the D/A converter. They are used to connect to an audio amplifier, etc.

They are active when the [OUTPUT SEL] switch on the front panel is set to the down (“RCA”) position.

<Note>: You can adjust the audio output level from the [OUTPUT] connectors using the volume control knob.

### 11 [DIGITAL IN] connector (optical)

This connector inputs PCM digital audio. It is used to connect to a digital audio source device such as a CD player.

<Note>: This connector does not accept DSD audio.

### 12 [DIGITAL OUT] connector (optical)

This connector outputs PCM digital audio received from the [USB] or [DIGITAL IN] connector in S/PDIF format. When the unit receives DSD audio, no signal is output.

It is used to connect to a digital audio device.

### 13 [USB] connector

When you play back USB audio, connect a computer to this connector using the supplied USB cable.

When you play back audio received from the [DIGITAL IN] connector, connect a device that can supply USB bus power (such as a computer, USB mobile power supply, etc.) to this connector.

<Notes>:

- To get stable power supply, directly connect the USB cable without using a USB hub.
- To receive digital audio from your computer via USB, you should make audio output setting of the computer appropriately. Also note that to play back DSD audio, an appropriate DSD audio playback software application is required on your computer.

### 14 [microSD] slot

When you upgrade the HP-A4 software in the future, insert a microSDHC card that contains a software upgrade file to this slot.

You can only use a microSDHC card (32GB or less).

<Note>:

- You can download the software upgrade file together with the Update Notes and Manual Supplement from the Fostex website ([www.fostex.com](http://www.fostex.com)).
- The unit cannot playback audio data on a microSD card.

## Computer connection and settings

When you use a computer as the input source of the unit, you need to make the following preparations.

### Computer requirements

You can connect a computer that satisfies the following requirements.

- A USB 2.0 (or higher) port is provided.
- OS:
  - Windows XP
  - Windows Vista
  - Windows 7
  - Windows 8
  - Mac OS X

### Installing the USB driver (Windows only)

Before you connect the unit via USB to a Windows computer, the dedicated USB Audio Class 2.0 driver must be installed to the computer.

You can download the driver software from the Fostex website ([www.fostex.com](http://www.fostex.com)).

\* When you connect the unit via USB to a Macintosh computer, you do not need to install a driver software.

### DSD audio playback software application

To playback DSD audio, an appropriate DSD audio playback software application must be installed on your computer.

The unit supports both ASIO and DoP, so a DSD audio playback software application that supports either ASIO or DoP can be used.

<Notes>:

- If an audio playback software application sends illegal data to the unit, audio may not be played back.
- With some of audio playback software applications, the beginning of a song may be muted when you switch between DSD and PCM.
- Before you operate an audio playback software application, it is recommended to turn down the HP-A4 audio output volume.
- It is recommended that tracks in the playlist of an audio playback software application have the same sampling rate.

### Connecting a computer

Connect the HP-A4 to your computer using the supplied USB cable.

After making connection, the computer recognizes the unit and the [POWER] indicator of the unit is lit in red showing that the USB bus power is supplied to the unit.

<Notes>:

- To get stable power supply, connect the USB cable directly to a USB port of your computer. The use of USB hubs is not recommended.
- The unit works in asynchronous transmission mode. The incoming audio data is processed using the unit's crystal clock.

### Setting the sound output destination

The following describes how to set the HP-A4 as the device for sound output of a computer for each OS.

<Note>:When you reboot your computer or reconnect the unit, check that the sound output destination is correctly set.

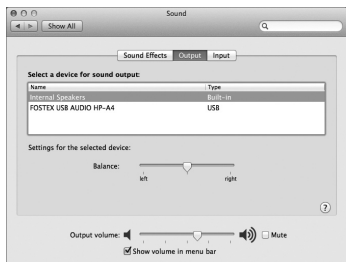
#### • Mac OS

1) Select "System preferences" from the Apple drop-down menu.

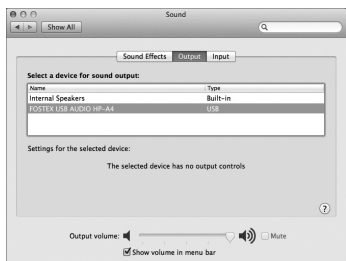


# Computer connection and settings

2) Select “Sound” to open the “Sound” window and select “Output” tab at the top of the window.



3) Select “FOSTEX USB AUDIO HP-A4” in the list box.



## • Windows 7

1) Select “Hardware and Sound” from the Control panel.

2) Select “Sound” to open the “Sound” window.

3) Select “Playback” tab.

4) Select “FOSTEX USB AUDIO HP-A4” and click the “Set Default” button, followed by the “OK” button.



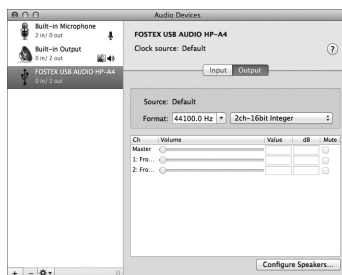
## Detail settings for sound

By making sound output settings on a computer appropriately, you may be able to monitor the sound better.

Depending on a computer OS, the setting window differs. The following briefly introduces the setting window for each OS. See the computer manual or help screen for details.

### • Mac OS

The “Audio MIDI setting” utility in the Utility folder in the Application folder allows you to select the sampling rate and bit rate.



### • Windows 7

Clicking the “Property” button on the “Sound” window opens the window where you can select the sampling rate, etc.



## Computer sound output volume

By setting the sound output volume level at maximum, you can get the optimum sound quality. Note that, with Mac OS, the output level is fixed to the maximum.

### [INPUT SEL] switch setting

This switch selects the audio input source. At the down (“USB”) position, the unit plays back a USB audio signal from a USB-connected computer. At the up (“OPT”) position, the unit plays back a signal from the [DIGITAL IN] connector.

<Notes>:The unit cannot input signals from the [USB] and [DIGITAL IN] connectors simultaneously

### [FILTER] switch setting

This switch selects the digital filter characteristics of the DAC. Depending on the format of an audio source, it works differently.

\* With a PCM audio source

At the “1” position, a slow roll-off digital filter is applied.

At the “2” position, a sharp roll-off digital filter is applied.

\* With a DSD audio source

At the “1” position, a digital filter with high cut-off frequency is applied.

At the “2” position, a digital filter with low cut-off frequency is applied.

### [GAIN SEL] switch setting

This switch selects the gain of the headphone output amplifier. At the “HI” position, the gain is 10 dB higher than the gain at the “LO” position.

<Caution>:Turn the volume control knob all the way toward the left before you operate the switch.

### [OUTPUT SEL] switch setting

This switch selects the analog output destination between the [PHONES] and [OUTPUT] connectors.

- To monitor audio from headphones that is connected to the [PHONES] connector, set it to the “PHONE” position.
- To monitor audio from an amplifier/speaker system that is connected to the [OUTPUT] connector, set it to “RCA” position.

<Note>:You cannot output the signal from both of the [PHONES] and [OUTPUT] connectors simultaneously.

### Volume level setting

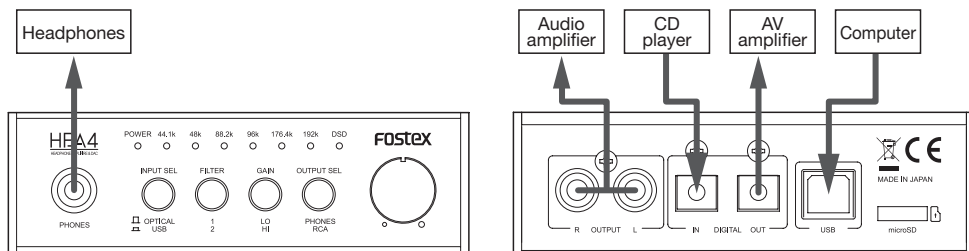
You can adjust the analog output level of [PHONES] and [OUTPUT] connectors using the volume control knob.

<Notes>:

- To get the optimum sound quality, it is recommended to set the sound output volume of your computer to maximum and adjust the volume using the volume control knob of the HP-A4. Note that, with Mac OS, the sound output level is fixed to the maximum.
- The volume control knob does not affect the output level of the [DIGITAL OUT] connector.



## Connection example



<Note>: When a PCM source is input, the [DIGITAL OUT] connector directly outputs the input signal.  
 \* When a DSD source is input, no signal is output from the [DIGITAL OUT] connector.

## Specifications

### Inputs

- [USB] connector
  - Interface: USB 2.0 high speed
  - Supporting sampling frequency:
    - (PCM): 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz
    - (DSD): 2.8 MHz, 5.6 MHz
  - Supporting quantization bit width: 16 bit, 24 bit
- [DIGITAL IN] connector
  - Connector type: TOSLINK optical
  - Format: S/PDIF
  - Supporting sampling frequency: 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz
  - Supporting quantization bit width: 16 bit, 24 bit

### Outputs

- [PHONES] connector
  - Connector type: 1/4-inch stereo jack
  - Maximum output: 100 mW (32 ohms load) 20 mW (300 ohms load)
  - Applicable load impedance: 16 ohms or more
  - THD: 0.04% or less (at 1 kHz, 32 ohm load, 100 mW output)
  - Frequency response: 20 Hz to 80 kHz, +/- 3 dB (32 ohm load, 100 mW output)
- [OUTPUT (L, R)] connectors
  - Connector type: RCA pin jack
  - Nominal output level: 2 Vrms (0 dBFS)
  - Applicable load impedance: 10 kohms or more
  - THD: 0.01% or less (at 1 kHz)
  - Frequency response: 20 Hz to 80 kHz, +/- 3 dB (at nominal level)

- [DIGITAL OUT] connector
  - Connector type: TOSLINK optical
  - Format: S/PDIF
  - Supporting sampling frequency: 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz
  - Supporting quantization bit width: 16 bit, 24 bit

### General

- microSD card slot
  - Format: FAT32
  - Usable card: microSDHC card (4GB to 32GB)
- Supplied accessories: rubber feet (x 4), USB cable (x 1), Owner's manual (x 1)
- Power requirement: DC 5 V (supplied from the USB port)
- Power consumption: 2.5 W
- External dimensions: 112 (W) x 34 (H, excluding rubber feet) x 135.5 (D, including protrusions) mm
- Weight: 500 g

\* Specifications and appearance are subject to change without notice for product improvement.

\* Windows is a registered trademark of Microsoft Corporation in the United States and other countries.

\* Mac is a trademark of Apple Inc., registered in the U.S. and other countries.

\* DSD is a trademark.

\* All other trademarks are the property of their respective owners.

## Declaration of EC Directive

This equipment is compatible with the EMC Directive (2004/108/EC) - Directive on approximation of member nation's ordinance concerning the electromagnetic compatibility and with the Low Voltage Directive (73/23/EEC) - Directive on approximation of member nation's ordinance concerning electric equipment designed to be used within the specified voltage range.

### The Affect of Immunity on This Equipment

The affect of the European Specification EN61000-6-1 (coexistence of electromagnetic waves - common immunity specification) on this equipment are as shown below.

In the electrical fast transient/burst requirements, surge, conducted disturbances by radio-frequency fields, power frequency magnetic field, radiate electromagnetic field requirements and static electricity discharging environment, this could be affected by generation of noise in some cases.

## FOSTEX DISTRIBUTORS LIST IN EUROPE

\* Including non-EU countries (as of September 2013)

### <AUSTRIA>

NAME: Mega Audio GmbH  
ADD: Stromberger Str. 32, D-55411 Bingen, Germany  
TEL: (+49) 6721-94330, FAX: (+49) 6721-32046

### <CZECHO>

NAME: Praha Music Center spol s.r.o.  
ADD: Ocelarska 937/39, Praha 9, 190 00, Czecho  
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### <DENMARK>

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### <FINLAND>

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### <FRANCE>

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NAME: SCV London  
ADD: 40 Chigwell Lane, Oakwood Hill Industrial Estate, Loughton, Essex IG10 3NY U. K.  
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