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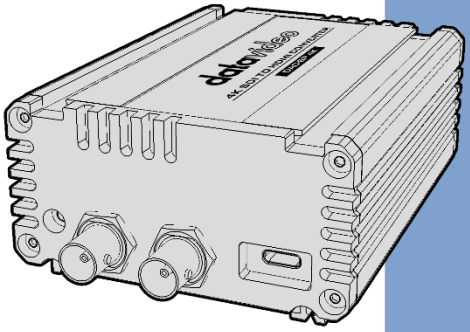

4K SDI to HDMI Converter

DAC-8P 4K

Instruction Manual

www.datavideo.com

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Disclaimer of Product & Services

The information offered in this instruction manual is intended as a guide only. At all times, Datavideo Technologies will try to give correct, complete and suitable information. However, Datavideo Technologies cannot exclude that some information in this manual, from time to time, may not be correct or may be incomplete. This manual may contain typing errors, omissions or incorrect information. Datavideo Technologies always recommend that you double check the information in this document for accuracy before making any purchase decision or using the product. Datavideo Technologies is not responsible for any omissions or errors, or for any subsequent loss or damage caused by using the information contained within this manual. Further advice on the content of this manual or on the product can be obtained by contacting your local Datavideo Office or dealer.

FCC Compliance Statement

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 may cause undesired operation.

Warnings and Precautions

1. Read all of these warnings and save them for later reference.
2. Follow all warnings and instructions marked on this unit.
3. Unplug this unit from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
4. Do not use this unit in or near water.
5. Do not place this unit on an unstable cart, stand, or table. The unit may fall, causing serious damage.
6. Slots and openings on the cabinet top, back, and bottom are provided for ventilation. To ensure safe and reliable operation of this unit, and to protect it from overheating, do not block or cover these openings. Do not place this unit on a bed, sofa, rug, or similar surface, as the ventilation openings on the bottom of the cabinet will be blocked. This unit should never be placed near or over a heat register or radiator. This unit should not be placed in a built-in installation unless proper ventilation is provided.
7. This product should only be operated from the type of power source indicated on the marking label of the AC adapter. If you are not sure of the type of power available, consult your Datavideo dealer or your local power company.
8. Do not allow anything to rest on the power cord. Do not locate this unit where the power cord will be walked on, rolled over, or otherwise stressed.
9. If an extension cord must be used with this unit, make sure that the total of the ampere ratings on the products plugged into the extension cord do not exceed the extension cord rating.

10. Make sure that the total amperes of all the units that are plugged into a single wall outlet do not exceed 15 amperes.
11. Never push objects of any kind into this unit through the cabinet ventilation slots, as they may touch dangerous voltage points or short out parts that could result in risk of fire or electric shock. Never spill liquid of any kind onto or into this unit.
12. Except as specifically explained elsewhere in this manual, do not attempt to service this product yourself. Opening or removing covers that are marked “Do Not Remove” may expose you to dangerous voltage points or other risks, and will void your warranty. Refer all service issues to qualified service personnel.
13. Unplug this product from the wall outlet and refer to qualified service personnel under the following conditions:
    a. When the power cord is damaged or frayed;
    b. When liquid has spilled into the unit;
    c. When the product has been exposed to rain or water;
    d. When the product does not operate normally under normal operating conditions. Adjust only those controls that are covered by the operating instructions in this manual; improper adjustment of other controls may result in damage to the unit and may often require extensive work by a qualified technician to restore the unit to normal operation;
    e. When the product has been dropped or the cabinet has been damaged;
    f. When the product exhibits a distinct change in performance, indicating a need for service.

Warranty

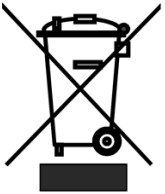
Standard Warranty

- Datavideo equipment are guaranteed against any manufacturing defects for one year from the date of purchase.
- The original purchase invoice or other documentary evidence should be supplied at the time of any request for repair under warranty.
- The product warranty period beings on the purchase date. If the purchase date is unknown, the product warranty period begins on the thirtieth day after shipment from a Datavideo office.
- Damage caused by accident, misuse, unauthorized repairs, sand, grit or water is not covered under warranty.
- Viruses and malware infections on the computer systems are not covered under warranty.
- Any errors that are caused by unauthorized third-party software installations, which are not required by our computer systems, are not covered under warranty.
- All mail or transportation costs including insurance are at the expense of the owner.
- All other claims of any nature are not covered.
- Cables and batteries are not covered under warranty.
- Warranty only valid in the country or region of purchase.
- Your statutory rights are not affected.

Three Year Warranty

- All Datavideo products purchased after July 1st, 2017 are qualified for a free two years extension to the standard warranty, providing the product is registered with Datavideo within 30 days of purchase.
- Certain parts with limited lifetime expectancy such as LCD panels, DVD drives, Hard Drive, Solid State Drive, SD Card, USB Thumb Drive, Lighting, Camera module, PCIe Card are covered for 1 year.
- The three-year warranty must be registered on Datavideo's official website or with your local Datavideo office or one of its authorized distributors within 30 days of purchase.

Disposal



For EU Customers only - WEEE Marking

This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

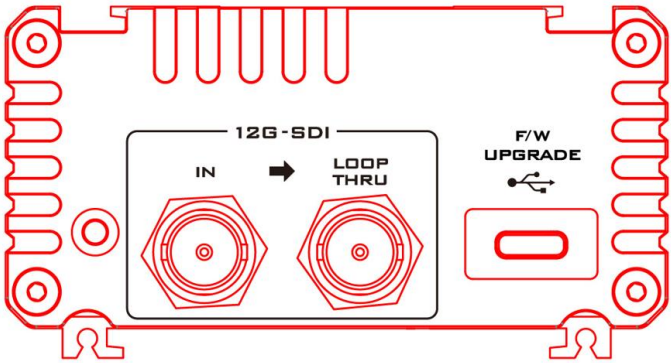
1. Introduction

The DAC-8P4K Converter converts 12G-SDI in resolutions up to 4K50/60to 4K HDMI, it is easy to connect the 4K HDMI signal devices and professional 12G-SDI video equipment.
Featuring SDI input and both an SDI and an HDMI output, the audio is de-embedded from the SDI input, and available in the HDMI output and analog audio output.
The DAC-8P4K Converter is useful for a variety of broadcast and professional AV applications.

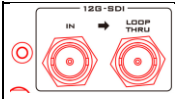
Features

- Supports up to DCI 4K (4096 x 2160) and UHD 4K (3840 x 2160)
- 12G-SDI input and loop-thru output
- Supports HDMI 2.0 to 18 Gbps Video bandwidth
- Supports Re-Clocking
- Provides Additional 2-Channel RCA Analog Audio Output
- Supports Automatic Input Signal Detection
- Supports HDMI Deep Color function.
- Aluminum appearance design, which is rugged and durable.

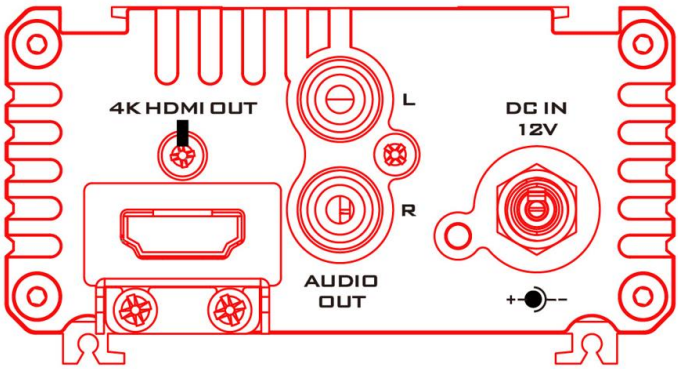
2. Connections and Controls



2.1Front Panel

	**12G-SDI HD/SD - SDI Input & Output (bypass)** SDI provides video signals for professional applications and allows long distance signal transmission. IN：12G HD/SD-SDI Input. LOOP THRU：12G-HD/SD-SDI Loop Through Output. **Signal LED Indicator**： When the input signal is connected, this indicator will light up.
	F/W UPGRADE This USB Type C interface is used for firmware update only.

2.2 Rear Panel



	DC IN Socket Please connect the supplied 12V DC adapter to this interface. The connection can be secured by screwing the outer fastening ring of the DC In plug to the socket. **Power LED Indicator** If the DC IN 12V power is connected, this indicator will light up.
	4K HDMI OUT This is the 4K HDMI OUT interface.

	AUDIO OUT RCA Output Two channels of Unbalanced L / R Audio input. The audio signal can be de-embedded from the SDI input signal and then be outputted from this AUDIO OUT interface.

3. Firmware Update

Firmware Update Procedure for DAC-8P 4K

3.1 Introduction

The firmware is updated by connecting a USB Type C male to USB Type-A male adapter cable from the USB Type C interface of your DAC-8P 4K to the USB Type-A interface of your laptop or PC. After that, please use the Firmware Update Tool for updating the firmware.

This firmware update procedure applies to the following product.

Product Model	DAC-8P 4K
Product Name	4K SDI to HDMI Converter

There is one firmware

- Firmware x 1: CV-315KZ-DV-R3_211028A.bin

This document describes how to perform a firmware update on a Windows computer

Screen images from the Windows 10 operating system are used in this document as an example. Images used in this document may differ from the actual screens. For details on Windows and computer operations, please refer to the instruction manual of your computer.

3.2 Preparation

3.2.1 System Requirements

A computer that meets the following requirements is necessary to perform the firmware update procedure.

Laptop	A normal laptop which supports a USB 3.0 interface is needed.

Operation is not guaranteed on all computers that meet the above requirements

3.2.2 Firmware Update Preparation

The following items are required to perform this firmware update. Please prepare these items in advance before performing the update.

DAC-8P 4K x 1	The DAC-8P 4K which is needed for updating the firmware.
USB Type-C to USB Type-A adapter cable x 1	The USB Type-C to USB Type-A adapter cable for connecting the DAC-8P 4K and your laptop or PC.
Firmware Update Tool x 1	The firmware update tool which is used to update the firmware.
Latest Firmware ● CV-315KZ-DV-R3_211028A.bin	The Latest downloaded firmware.

3.2.3 System Connection Diagram

3.2.4 Preparing the Firmware

3.2.4.1. Download the Firmware

DAC-8P 4K Product Page from the Datavideo website:

https://www.datavideo.com/product/DAC-8P%204K

3.2.4.2. Unzip the firmware

Please download the firmware to the hard disk of your laptop. After that, please unzip the firmware and then you can see the DAC-8P 4K firmware and firmware update tool which are shown in the following diagram.

CV-315KZ-DV-R3_211028A.bin

DAC-8PA FW TOOL-V1.04

3.3 Update

3.3.1 Updating the firmware

3.1.1.1 Please connect a 12V adapter to the DC IN 12V power interface.

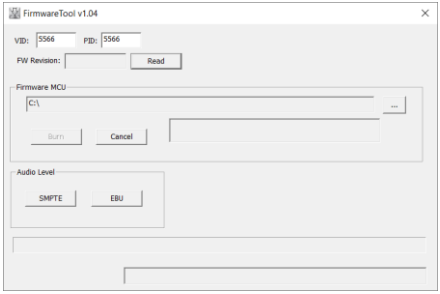
Please use a 12V power adapter to connect to the DC IN 12V power interface of the DAC-8P 4K.

3.3.1.2. Please use a USB Type-C to USB Type-A adapter cable to connect DAC-8P 4K and your laptop or PC.

Please use a USB Type-C to USB Type A adapter cable to connect from the USB Type-C interface of the DAC-8P 4K to the USB Type-A interface of your laptop or PC.

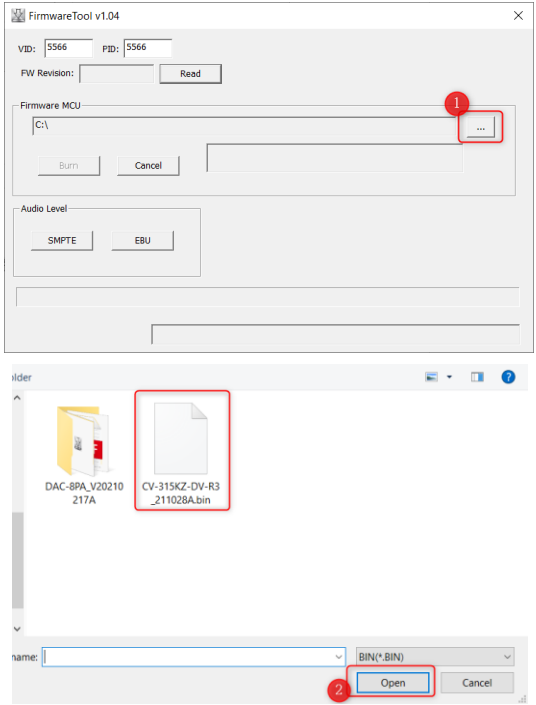
3.3.1.3. Please open your firmware update tool.

Please open your firmware update tool “DAC-8PA FW TOOL V1.04”



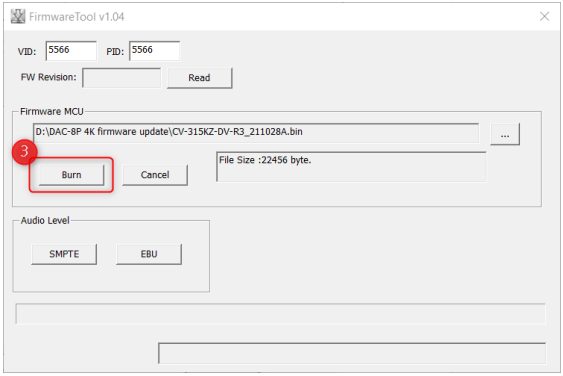
3.3.1.4. Please click the button which is next to the “Firmware MCU” button to select your downloaded firmware.

Please click the button which is next to the “Firmware MCU” button to select your downloaded firmware and then please press the “Open” button to load the firmware.



3.3.1.5. You can see that the firmware is selected successfully.

You can see that the firmware is selected successfully. Please press the “Burn” button for starting the firmware update. After the progress bar below reaches 100%, the whole firmware update procedure is done successfully.



3.4 How to check the firmware version

3.4.1 Please use a 12V power adapter to connect to the DC IN 12V interface.

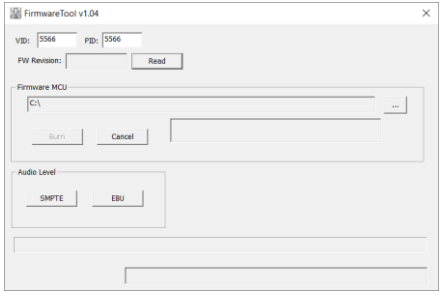
Please use a 12V power adapter to connect to the DC IN 12V power interface of the DAC-8P 4K.

3.4.2. Please use a USB Type-C to USB Type-A adapter cable to connect the DAC-8P 4K and your laptop or PC.

Please use a USB Type-C to USB Type-A adapter cable to connect from the USB Type-C interface of the DAC-8P 4K to the USB Type-A interface of your laptop or PC.

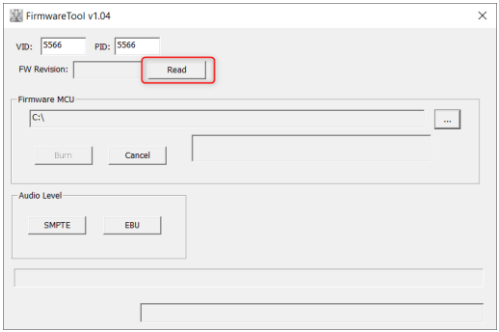
3.4.3. Please open the downloaded firmware update tool.

Please open the downloaded firmware update tool “DAC-8PA FW TOOL V1.04”.

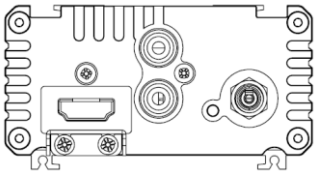


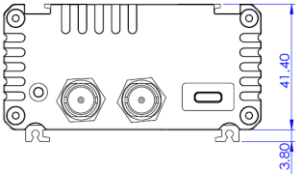
3.4.4. Please press the “Read” button which is next to the “FW Revision” column.

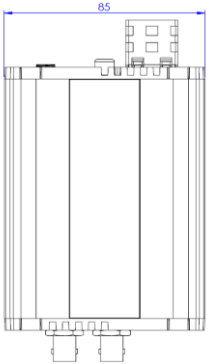
Please press the “Read” button which is next to the “FW Revision” column for reading the current firmware version.

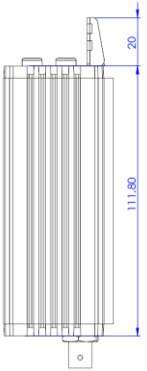

FirmwareTool v1.04
VID: 5566
PID: 5566
FW Revision:
Read
Firmware MCU
C:\
...
Burn
Cancel
Audio Level
SMPTE
EBU

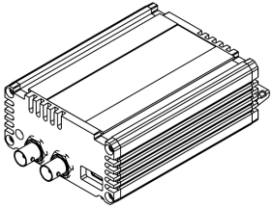
4. Dimensions











All measurements in millimeters (mm)

5. Specifications

Model Name	DAC-8P 4K
Product Name	4K SDI to HDMI Converter
Conversion	12G-SDI to HDMI 2.0
Video Input	12G-SDI x 1
Loop Through	1
Video Output	1x HDMI 2.0 with embedded Audio
Audio Input	SDI embedded audio, 24-bit, 16-channel
Audio Output	RCA x 2 (Unbalanced Audio L/R) HDMI embedded audio, 24-bit, 8-channel
Supported Video Input Formats	4096x2160p: 60/59.94/50/30/29.97/25/24/23.98 3840x2160p: 60/59.94/50/30/29.97/25/24/23.98 1080p: 60/59.94/50/30/29.97/25/24/23.98 1080i: 60/59.94/50, 720p: 60/59.94/50

Output Resolutions	Automatically matches the HD, 3G and 12G SDI video input
Equalizer	Yes
Reclock	Yes
SDI Cable Drive	Yes
Updates and Configuration	USB Type C x 1
Dimension (LxWxH)	112 x 85 x 45 mm
Weight	0.3 kg
Operating Temp. Range	0~40 °C
Power	DC 12V, 8.64W

Note

Service & Support

It is our goal to make your products ownership a satisfying experience. Our supporting staff is available to assist you in setting up and operating your system. Please refer to our web site www.datavideo.com for answers to common questions, support requests or contact your local office below.

https://www.datavideo.com/product/DAC-8P%204K

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