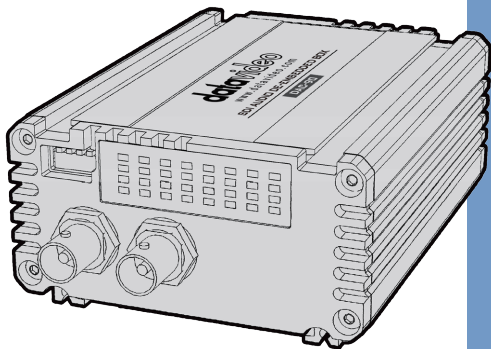


# datavideo



**SDI AUDIO  
DE-EMBEDDER  
DAC-90**

## **Instruction Manual**

[www.datavideo.com](http://www.datavideo.com)

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### Disclaimer of Product and 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's 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 begins 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.
- All non-Datavideo manufactured products (product without

Datavideo logo) have only one year warranty from the date of purchase.

- 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.
- All accessories including headphones, 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 indicates that it should not be treated as household waste. It must be handed over to the applicable take-back scheme for the recycling of Waste Electrical and Electronic Equipment. For more detailed information about the recycling of this product, please contact your local Datavideo office.



CE Marking is the symbol as shown on the left of this page. The letters "CE" are the abbreviation of French phrase "Conformité Européene" which literally means "European Conformity". The term initially used was "EC Mark" and it was officially replaced by "CE Marking" in the Directive 93/68/EEC in 1993. "CE Marking" is now used in all EU official documents.

## Introduction

DAC-90 is an audio de-embedding box that allows the user to de-embed 16 analog audio signals (4 at a time) from the SDI video signal.

It features 3G/HD/SD-SDI to support up to 1080p/60 video format and automatically detects and switches between different formats. In addition, 4 mini XLR audio connectors are provided to output analog audio to audio devices such as monitors, recorders, switchers, and audio mixers.

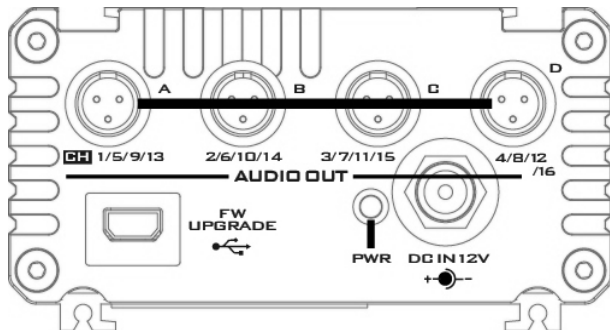
SMPTE and EBU settings are available on the audio box and assignments of the de-embedded audio signal are set using the built-in DIP switches.

## Features

- Audio de-embedding from SDI signal
- Automatic detection of 3G, HD, and SD signals
- 4 analog MINI XLR audio outputs
- Assignable de-embedded audio signals
- Audio level indicator display
- Switchable SMPTE and EBU audio levels
- Control via DIP Switches

# Connections & Controls

## Front Panel



### Mini-XLR

Balanced XLR Audio Output



FW  
UPGRADE

### USB

Firmware Upgrade Port



PWR

### Power Indicator

Indicates the power status



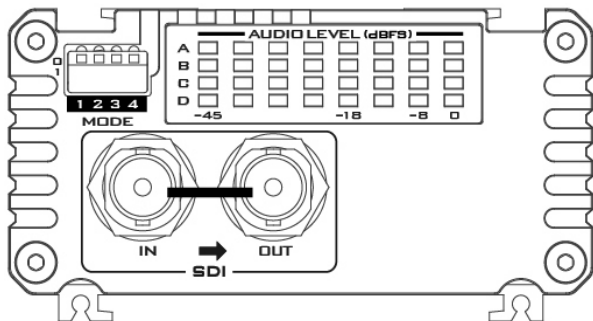
DC IN 12V

### DC In Socket

Connects the supplied 12V PSU to this socket. The connection can be secured by screwing the outer fastening ring of the DC In plug to the socket.



## Rear Panel



### SDI IN

SDI input for video and audio



### SDI OUT

Re-clocked Video and Audio output from SDI input

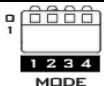


### Audio level indicator display

Indications of current audio level

Green				Yellow	Red		
-45~-40	-39~-35	-34~-29	-28~-24	-23~-18	-17~-13	-12~-8	-7~0

(Unit : dBFS)



### 4 PIN DIP Switch

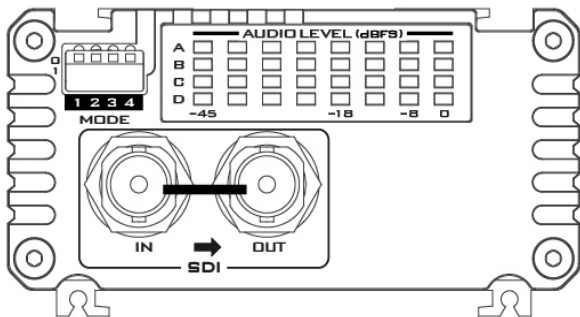
Audio level adjustment

### 4 PIN DIP Switch Configuration

DIP SWITCH SETTING			
1	2	3	4
AUDIO LEVEL	AUDIO DE-EMBED OUTPUT		FIRMWARE UPDATE
<input type="checkbox"/> SMPTE	<input type="checkbox"/> GROUP 1 CH 1 2 3 4	<input type="checkbox"/> GROUP 3 CH 9 10 11 12	<input type="checkbox"/> DISABLE
<input checked="" type="checkbox"/> EBU	<input type="checkbox"/> GROUP 2 CH 5 6 7 8	<input checked="" type="checkbox"/> GROUP 4 CH 13 14 15 16	<input checked="" type="checkbox"/> ENABLE

# Firmware Update

1. Disconnect DC 12V Power Supply from DAC-90 and remove Mini-USB connection
2. Set DIP SW4 to 1 (1: down; 0: up)

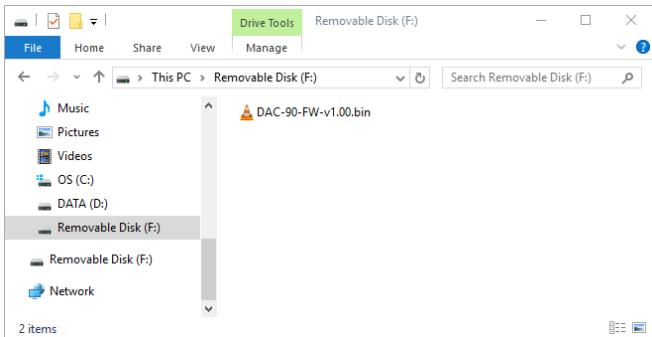


3. Connect the DAC-90 mini-USB port to the PC via a USB cable (you do not need to connect the DC 12V Power at this point and the PWR LED should be off)
4. The PC will detect the USB device. If this is your first time connecting the DAC-90 to the PC, you will see “DAC-90 Datavideo Tech USB Drive” appearing at the bottom right hand corner of the desktop. You should see an empty drive after it is opened.

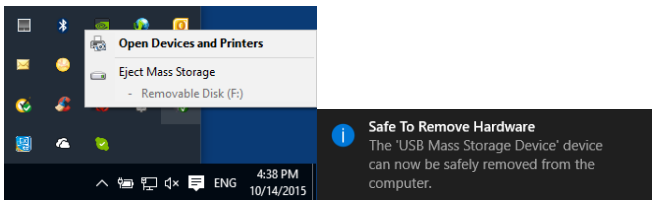
Need a clearer picture



5. Copy and paste the latest firmware file (DAC-90-FW-v1.00.bin) to the device



6. Safely remove the Datavideo USB device



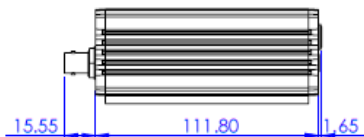
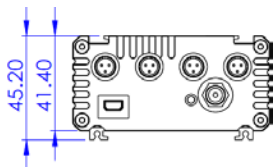
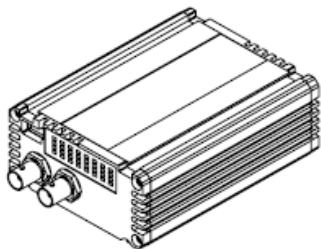
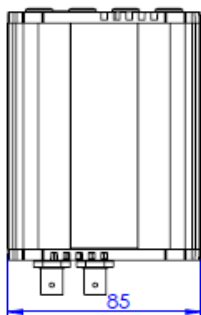
7. Set DIP SW 4 to 0 and then remove the Mini USB connection after the update is completed
8. After the DC 12V Power Supply is connected, you will then see the PWR LED turned on, Audio Level Indicators all ON and then fade towards the left, indicating that the device is operating properly.

## Frequently-Asked Questions

This section describes problems that you may encounter while using DAC-90. If you have questions, please refer to related sections and follow all the suggested solutions. If problem still exists, please contact your distributor or the service center.

No.	Problems	Solutions
1.	What are the corresponding SMPTE and EBU audio output levels?	If the maximum SDI audio input level is 0 dBFS, then the Mini-XLR output level is 24dBu for SMPTE and 18dBu for EBU.

## Dimensions & Weight



All measurements in mm

Unboxed Unit Weight: 0.37 Kg

Boxed Unit Weight: 0.6 Kg

## Specifications

Interface	
<b>SDI Video Input</b>	3G/HD/SD SDI x 1
<b>SDI Video Output</b>	3G/HD/SD SDI x 1 (Re-clocked Loop through)
<b>Analog Audio Output</b>	Mini XLR (Balanced) x 4
<b>Audio Level Indicator</b>	Power LED x 1 Audio Level LED : 4 rows
<b>Updates and Configuration</b>	Mini USB x 1
Standards	
<b>SDI Format Support</b>	SD: NTSC 525/29.97 and PAL 625/25 HD: 1080p 23.98/24/25/29.97/30/50/59.94/60 1080i 50/59.94/60 720p 23.98/24/25/29.97/30/50/59.94/60
<b>SDI Compliance</b>	SMPTE 259M, SMPTE 292M, SMPTE 296M, SMPTE 424M, SMPTE 425M-AB ITU-R BT.656, ITU-R BT.1120-6
<b>SDI Video Rates</b>	SDI video connections are switchable between standard definition and high definition.
<b>SDI Video Sampling</b>	4:2:2 / 4:4:4
<b>SDI Audio Sampling</b>	24-bit (SD 20-bit), 48KHz
<b>SDI Color Precision</b>	4:2:2 / 4:4:4 (8/10/12-bit)
<b>SDI Color Space</b>	YUV, RGB
<b>SDI Auto Switching</b>	Automatically detects SD, HD, 3G

<b>Audio Level</b>	SMPTE and EBU switchable
<b>General</b>	
<b>Settings Control</b>	DIP Switch
<b>Power Supply</b>	DC 12V
<b>Operating Temperature</b>	0°C to 50°C (32°F to 122°F)
<b>Operating Humidity</b>	10% to 90% (non condensing)
<b>Certification</b>	CE, FCC
<b>Accessory</b>	Power Adapter, QSG

# 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](http://www.datavideo.com) for answers to common questions, support requests or contact your local office below.

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Jan-16-2018

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