doric

Behavior & Bundle Photometry Console 300

User Manual

Version 1.0.1

# Contents

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Overview

1.1 System Overview

Streamline experiments with the Behavior and Bundle Photometry Console 300 (BBC300, Fig. 1.1a). This new console is designed to drive all of Doric's bundle photometry systems (BFMC gen.1, RBFMC gen.2 and BFTO) but can also be used to drive up to four behavior rigs simultaneously. Compared to the first-generation of OTPG and BFPD, this newest data acquisition console synchronizes many more cameras, light sources, and behavior-related devices. The BBC300 works seamlessly with *Doric Neuroscience Studio*, providing a single user-friendly interface to record and visualize both photometry, behavior video, light source excitations, and behavior-related inputs and outputs (Fig. 1.1b).
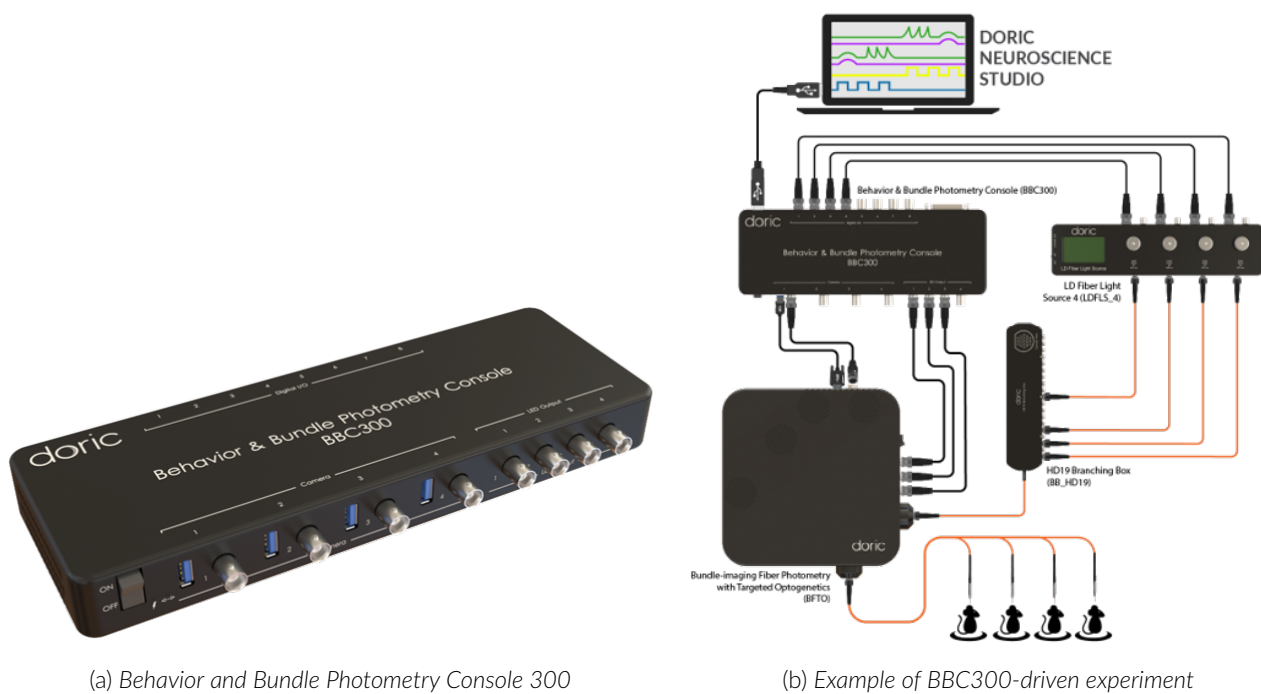
(a) *Behavior and Bundle Photometry Console 300*

(b) *Example of BBC300-driven experiment*

Figure 1.1: *Behavior and Bundle Photometry Console 300 overview*

1.2 Ports presentation

The Behavior and Bundle Photometry Console 300 is equipped with different types of dedicated ports that can be used separately or in combination with one another for multi-modalities experiments (Fig. 1.2):

- 4 USB3.0 ports for either Doric Behavior Camera or Bundle Photometry Sensors

- 4 Camera Trigger BNC ports.

- 8 Digital Input/Output BNC ports.

- 1 DB25 port including 8 Digital Inputs/Outputs, 8 Digital Inputs and 8 Digital Outputs (DB25 adapter to wires included) (pinout described in Fig. 1.3).

The Behavior and Bundle Photometry Console 300 is also equipped with:

- At the front of the device: (Fig. 1.2a)

  - An ON/OFF power switch.
  - A light indicator that is ON and static when the BBC300 is powered ON.
  - A light indicator that is ON and static when the BBC300 is connected to the Doric Neuroscience Studio software.

- At the back of the device: (Fig. 1.2b)

  - A USB3.0 port to connect the console to the computer.
  - A 12V power input port.
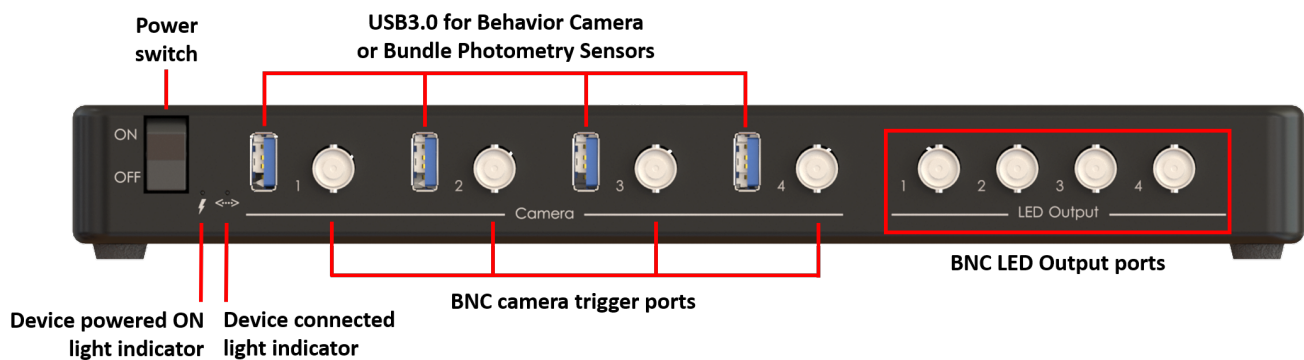
(a) *Front view*

(b) *Back view*

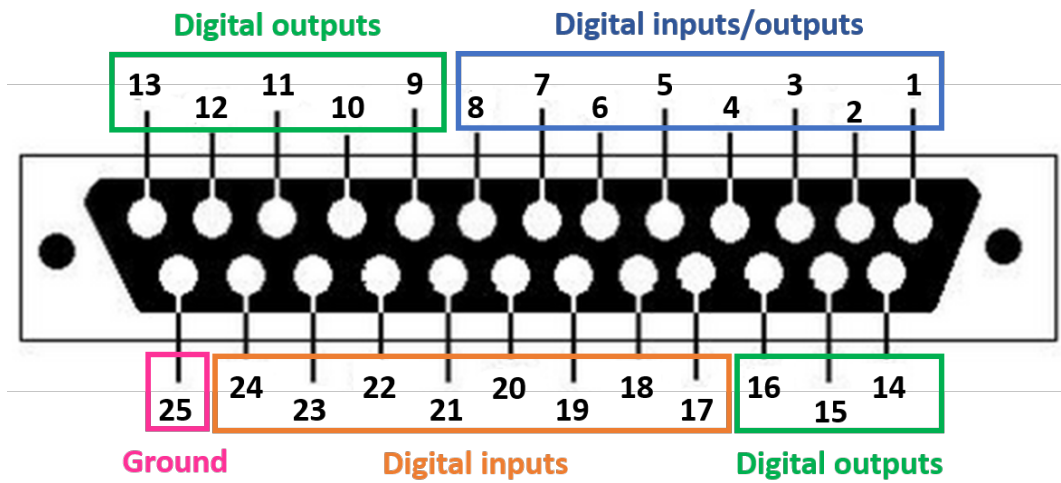Figure 1.2: *Behavior and Bundle Photometry Console 300 connectivity*

Figure 1.3: *DB25 port pinout description*

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Operations Guide

2.1 Connecting the Behavior and Bundle Photometry Console 300

Follow this quick start procedure to install and connect the system. We recommend the following order to avoid device and driver detection problems.

1. **Install Doric Neuroscience Studio software**. Follow the on-screen instructions to install the Doric Neuroscience Studio Software on the hard drive of your computer. For more details, refer to the Doric Neuroscience Studio Software User Manual.

2. **Connect the Behavior and Bundle Photometry Console 300.** The console unit is powered with a 12 VDC power supply adapter. Then connect the console to the computer via the USB 3.0 cable.

3. **Connect other devices (optional).** Connect to the BBC300 other devices that may be needed depending on the experiment (behavior cameras or *Doric* bundle photometry systems, for instance), using 1 of 4 available USB 3.0 ports and their corresponding trigger BNC ports.

4. **Connect outputs (optional).** The console can send TTL pulses or analog outputs (0-5 V) to other devices. Connect these devices to the Digital I/O or LED port of the *BBC 300* with a BNC cable.

5. **Connect inputs (optional).** Digital inputs receive TTL pulses (0-5 V signals) that can be displayed and saved using the *Doric Neuroscience Studio*. Connect the devices to Digital I/O ports of the *Behavior and Bundle Photometry console 300* with a BNC cable.

6. **Launch Doric Neuroscience Studio software**.

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Specifications

3.1 General specifications

Table 3.1: *General specifications for the Behavior and Bundle Photometry Console 300*

SPECIFICATION	VALUE	NOTES
Digital I/O		
Number of ports	32	-
Maximum sampling rate	10 kSps	-
Maximum output frequency	5 kHz	-
Interface	8 BNC I/O + 1 DB25 (8 I/O + 8 Input + 8 Output)	DB25 adapter to wires included
LED Control (Analog)		
Number of ports	4	-
Output range	0-5 V	Analog
Interface	BNC ports	-
Camera Control		
Number of ports	4	-
Trigger input range	0-5 V	TTL
Interface	USB3.0 (data) + BNC (output trigger)	-
Computer requirement		
Operating system	Microsoft 10, 64 bit	-
Memory	8 GB RAM minimum (16 GB recommended)	-
Processor speed	3 GHz and 8 cores	-
Hard drive	500 MB of free hard disk space	SSD recommended
Connection to computer	USB3.0	Cable included
Physical properties		
Size	283x98x32 mm	-

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3.2   Environmental specifications

Table 3.2: *Recommended Environmental Specifications*

DESCRIPTION	OPERATION	STORAGE
Use	Indoor	Indoor
Temperature	0-40 ° C	0-40 ° C
Humidity	40-60% RH, non condensing	40-60% RH, non condensing

Support

4.1   Maintenance

The product does not require any maintenance. Do not open the enclosure. Contact Doric Lenses for return instructions if the unit does not work properly and needs to be repaired.

4.2   Warranty

This product is under warranty for a period of 12 months. Contact Doric Lenses for return instructions. This warranty will not be applicable if the unit is damaged or needs to be repaired as a result of improper use or operation outside the conditions stated in this manual. For more information, see our Website.

4.3   Disposition

Figure 4.1: *WEEE directive logo*

According with the directive 2012/19/EU of the European Parliament and the Council of the European Union regarding Waste Electrical and Electronic Equipment (WEEE), when the product will reach its end-of-life phase, it must not be disposed with regular waste. Make sure to dispose of it with regards of your local regulations. For more information about how and where to dispose of the product, please contact Doric Lenses.

4.4   Contact us

For any questions or comments, do not hesitate to contact us by:

Phone 1-418-877-5600

Email sales@doriclenses.com

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