

**CORBEL GEOMETRIES INC.**

User's Manual

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# **CAMERA HUB**



CH01B

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## **WARNING!**

*Do not insert any foreign objects into any ventilation holes.*

*Do not use ungrounded power cords, power outlets or power strips. This product may only be connected to 3-wire grounded AC outlets to avoid shock hazard.*

*Only qualified technicians should service this product as incorrect disassembly can create an electric shock hazard.*

## **Safety Precautions Regarding Static Electricity**

*Always follow these important precautions to protect yourself and the product from harm.*

*1. Static discharge can damage the product. Before using the system, ground yourself to neutralize the static electricity that might be in your body.*

2. To avoid electrical shock, always disconnect the power from your system before you work on it.
3. Disconnect power before making any configuration changes to the system. The sudden onset of current as you connect a jumper or install a plug may damage sensitive components.

### **Support**

Should you have any questions or comments, please send an email to [info@corbel3d.com](mailto:info@corbel3d.com)

### **Fourth edition: April 26, 2018**

**IMPORTANT:** Please note CH01B is updated versions from older models CH01. There are two major updates.

1. A new type of DC8V output socket is used, which prevents damage to the camera by mistakenly plugging in triggering (3.5mm) plug into the 8V output. Older models WITHOUT 'B' uses Power Jack DC 2.5X5.5. Please verify if you are using/purchasing correct power plugs.
2. Middle pins of trigger links are connected to middle pins of trigger outputs with diode isolated. This new feature enables the pre-trigger module and auto-focus function.

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# 1 Introduction

This Camera Hub is designed to provide a 3D Stereophotogrammetry scanning system with DC power supplies and diode isolated camera trigger signals to DSLR cameras. One Camera Hub can serve up to 16 cameras with DC power and trigger signals.

## 2 Installation

### 2.1 Unpacking

Inspect the product for any possible signs of external damage or loose or damaged components. If the module is visibly damaged, please notify our service department or our local sales representative immediately.

A damaged camera hub should not be used within your system.

### 2.2 Installation

The Camera Hub should be securely fastened before plugging in any cables.

Please follow the steps below to install the Camera Hub on your system.

Step 1: Ground yourself to neutralize the static electricity that might be in your body.

Step 2: Make sure the power is **OFF**. Plug in camera power cables and camera trigger cables into the power ports and trigger ports respectively.

Step 3: Plug the trigger link cable into the Trigger Link socket of your Camera Hub to link several Camera Hubs together.

Step 4: Plug a trigger source (e.g. remote controller, or control box) into the other Trigger Link sockets of your Camera Hub to provide the trigger signal.

Step 5: Plug the AC power cord into the power sockets both in the Camera Hub and the AC power source.

### 3 Power and Trigger outputs

#### 3.1 Overview

Maintaining stable signal connections is essential for sending and receiving data correctly. A good signal connection can prevent costly damage to your hardware devices.

#### 3.2 LED Indicator Status Description

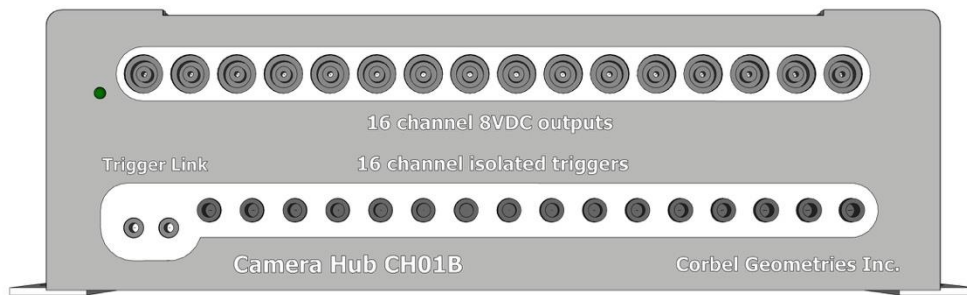


Fig. 3.2-1

LED	Status Description
On	Power on
Off	Power off

### 3.3 Power outputs

There are 16 channels of DC 8V outputs (no load). Each channel can output up to 1A DC current. This works well with Canon brand products. Please confirm that the camera hub will work with your cameras BEFORE plugging them into the power sockets.

### 3.4 Trigger outputs

The 16 channel trigger outputs are isolated with diodes to eliminate any interference between the cameras.

### 3.5 Field Wiring Considerations

When using the Camera Hub in your system, external noise in the environment might significantly affect the operation of your system if due precautions are not taken. The following measures will be helpful in reducing possible interference from wires in between signal sources and the Camera Hub.

- The signal cables must be kept away from strong electromagnetic sources such as power lines, large electric motors, circuit breakers, or welding machines because they may cause strong interference.
- Avoid running the signal cables through any conduit that might have power lines in it.
- If you must place your signal cable parallel to a power line with high voltage or high current running through it, keep a safe distance between them or position the signal cable at a right angle to the power line.

## 4 Specifications

### 4.1 General

<b>Dimensions</b>	251 X 254 X 73.5 mm (9.8" X 10" X 2.9")
<b>Power Input</b>	
Voltage	100~240VAC
Frequency	50/60Hz
AC Current (Typ)	2.5A/115V, 1.3A/230V
Inrush Current (Typ)	20A/115V, 40A/230V
Leakage Current	<1mA/240VAC
Power entry style	IEC 320-C14

### Power Output

Channels	16
Voltage	DC 8V±0.1V (no load)
Rated Current	max 1A/channel, 16A total
Ripple & Noise (max.)	150mVp-p
Line Regulation	±0.5%
Load Regulation	±1.0%
Setup, Rise Time	500mS,50mS/230VAC, 3000mS,50mS/115VAC at full load
Hold Up Time	8mS at full load, 230VAC/115VAC

### Power output protection

Overload	105~135% rated output power Protection type: Hiccup mode, recovers automatically after fault condition removed.
Overvoltage	9.4~10.9V rated output power Protection type: Shut down o/p voltage, re-power on to recover.
Over temperature	Shutdown o/p voltage, recovers automatically after temperature goes down.

### Environment

Working Temp.	0~40° C (32 ~104°F)
Working Humidity	20-90%RH non-condensing
Storage temp., Humidity	-40~85° C (-40~185°F), 10~95%RH
Temp. Coefficient	±0.03%/° C (0~45° C)
Vibration	10~500Hz, 2G 10min./1 cycle, 60min. each along X, Y, Z axes

Fuse	5x20mm 250V3A
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## 4.2 Connections

8V POWER OUTPUTS	CONN PWR JACK 1.4X4.3X6.5mm, central pin positive
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Mating plug	PP-016 (CUI Inc.)
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TRIGGER LINK	CONN JACK STEREO 2.5MM
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Mating plug	SP-2501 (CUI Inc.)
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ISOLATED TRIGGERS	CONN JACK STEREO 3.5MM, diode isolated
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Mating plug	SP-3501 (CUI Inc.)
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Power entry style: IEC 320-C14

Mating plug

IEC 320-C13



Figure 4.2-1

### 4.3 Dimensions

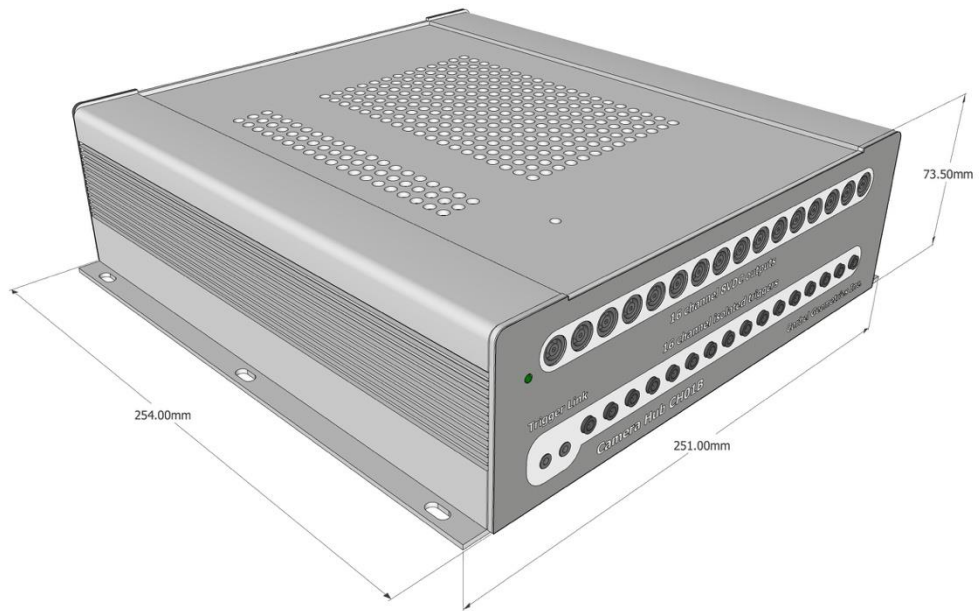


Figure 4.3-1

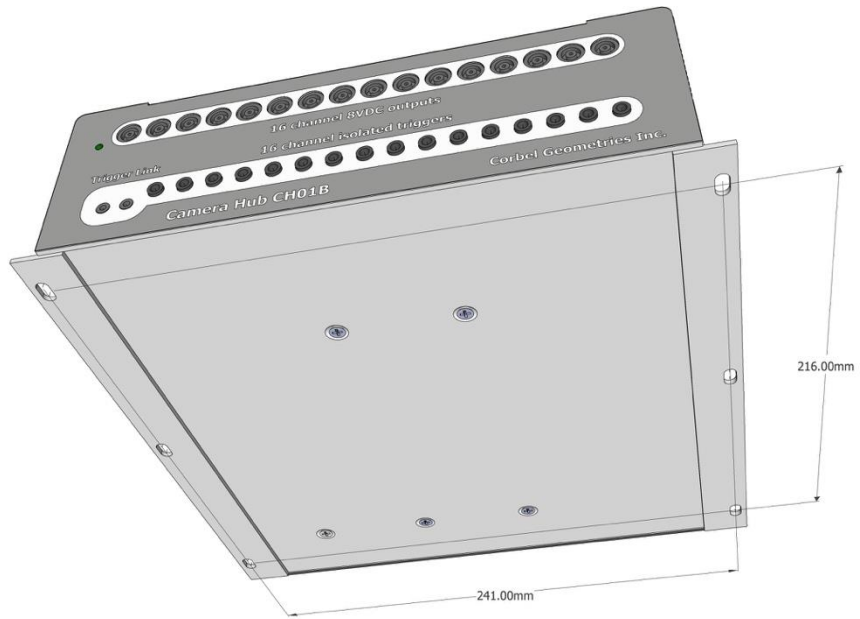


Figure 4.3-2

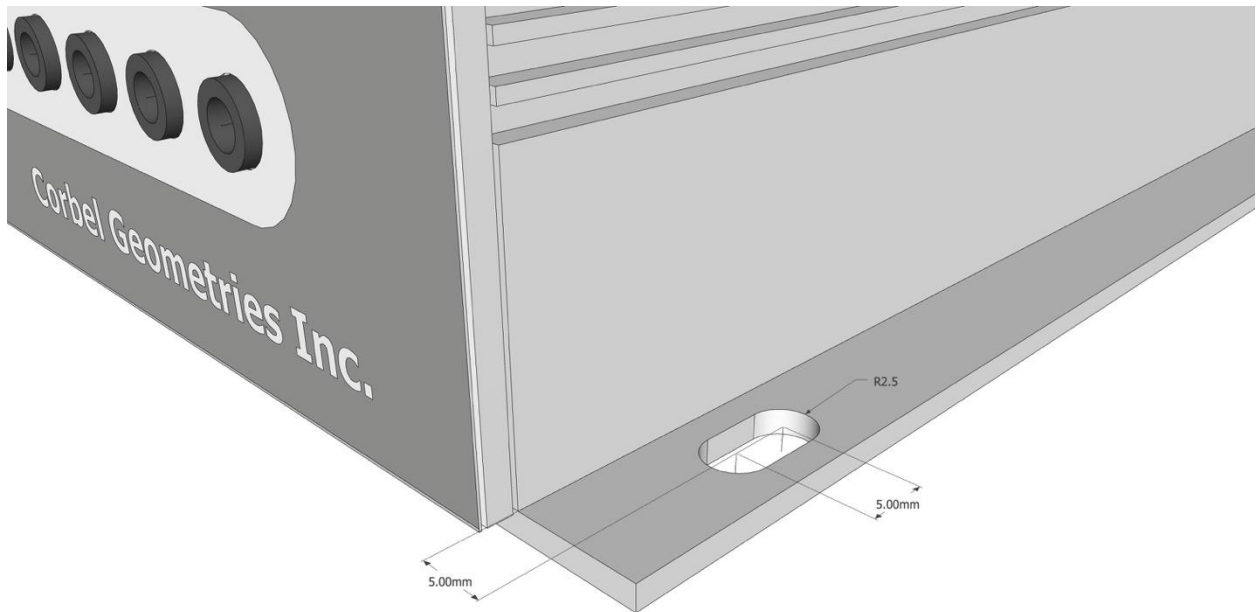


Figure 4.3-3