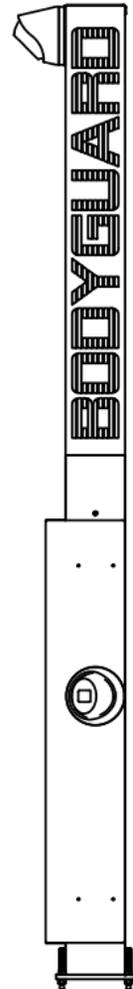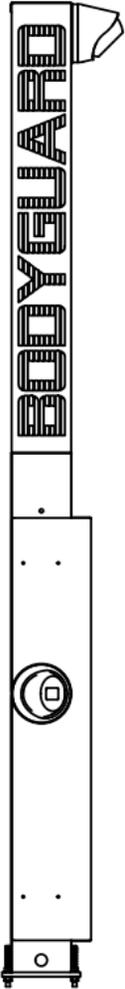# BODYGUARD

Installation Manual

Version 1.1
Please read through all instructions carefully before beginning the installation.
Contact support@banalogic.com for help. Remember to include site location, server ID, and pictures when necessary

Installation Instructions

Site Requirements

Before the assembly and installation of the BODYGUARD towers, the necessary cables should be in place. · Each tower requires one network cable and one 16AWG/2-Conductor copper cable from each tower to the Server Box (max cable length 100'). Cabling must be secured along a wall or structure and protected from any potential mechanical damage. Ground cable covering is required if applicable.

Each server box requires one 110-240VAC wall outlet if and one internet drop. Each pair of towers consumes 300W.

The server box must be installed on a wall in the surrounding area, no greater than 75' away from the BODYGUARD towers.

Network Configuration:

- The BODYGUARD server is configured to use an IP address received via DHCP
- To correctly work the BODYGUARD server requires ability to make outbound requests using port 443 (HTTPS) Internet Speed
- For optimal performance, BODYGUARD requires a minimum of 15 Mb/s upload and download speed. For higher volume sites (300 cars/day) 20-30 Mb/s is recommended

BODYGUARD Lane Diagram:

Cables required:

- 16AWG 2 conductor cable (Length depends on site requirements)
- Cat 5 cable (Length depends on site requirements)
- 1 x Locally sourced IEC C13 power cable
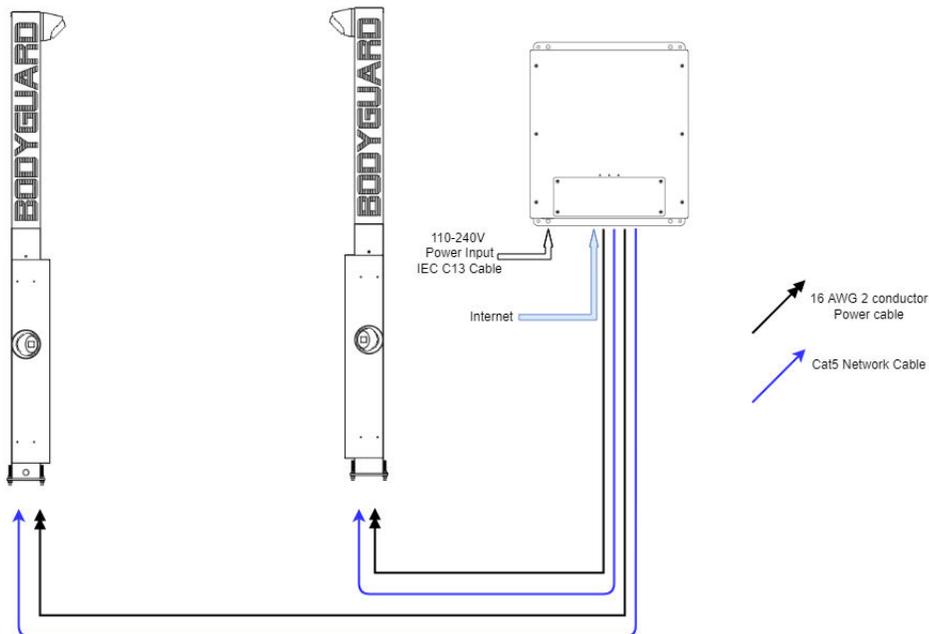
Positioning

Each BODYGUARD system comes with two towers that are functionally identical. One tower is placed on either side of a diving lane. BODYGUARDs are most often placed near the garage door at the service area intake. The positioning of the towers must satisfy the following criteria:

- **The BODYGUARD Towers capture pictures optimally when they are 10-12ft apart, up to a maximum possible distance of 13ft.**
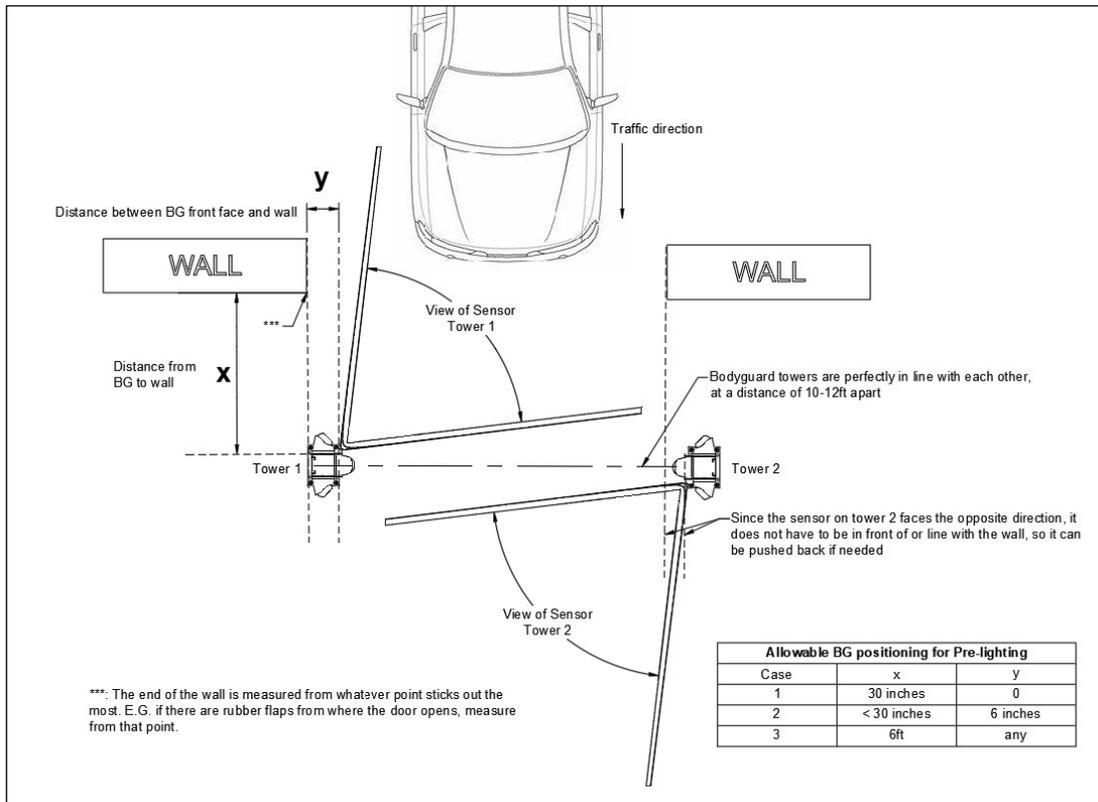- **The towers must be facing each other perfectly straight, neither tower can be rotated at an angle.**
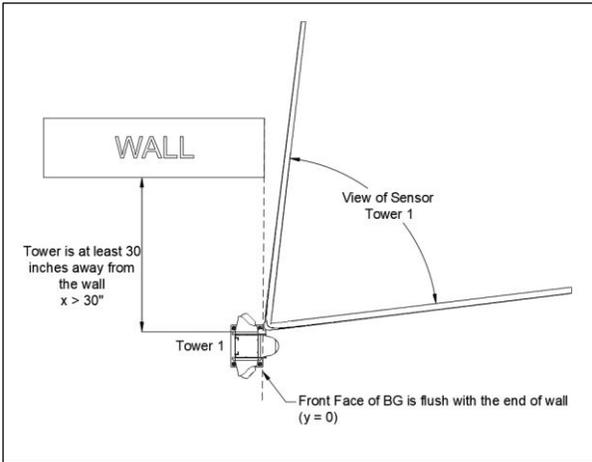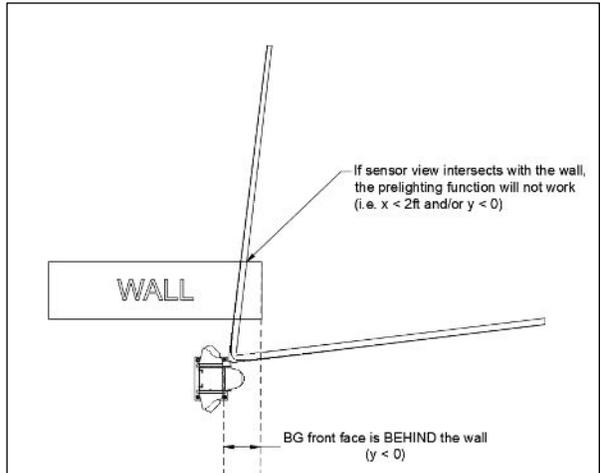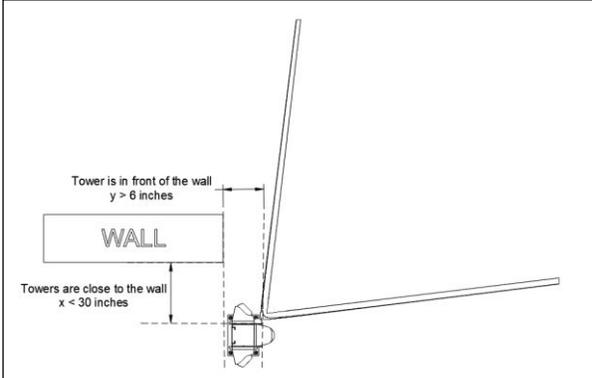
Pre-Lighting

For lights to turn on before the car crosses the towers, there must be nothing obstructing the view of the angled sensor. If the towers are placed by the garage door opening, it is important that the towers are not too close to the wall so that the sensor can see oncoming cars. The tower with the sensor facing the garage door must be carefully positioned to conform with one of the following 3 cases:

Case 1: The standard configuration with front face of Tower 1 flush with the garage door opening, and it is AT LEAST 30 inches away from the wall.

Case 2: The customer wants to install the BG closer to the wall, so the front face of the tower must be at least 6 inches in front of the end of the wall for the sensor to not hit the wall. Tower 1 will encroach on the driving lane so it is best to push tower 2 back a bit to give drivers more room.

Case 3: The customer wants to space the BODYGUARDs farther apart so they do not encroach on the driving lane. The front faces of both towers are behind the wall. In this case the towers must be at least 6ft away from the wall for the sensor to function normally.
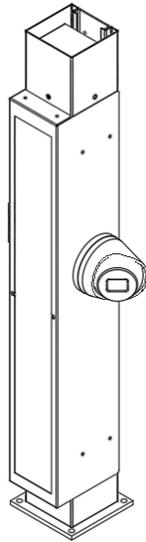

Traffic direction

Distance between BG front face and wall

WALL

View of Sensor Tower 1

Distance from BG to wall   **x**

Tower 1

Tower 2

Bodyguard towers are perfectly in line with each other, at a distance of 10-12ft apart

WALL

Since the sensor on tower 2 faces the opposite direction, it does not have to be in front of or line with the wall, so it can be pushed back if needed

View of Sensor Tower 2

***: The end of the wall is measured from whatever point sticks out the most. E.G. if there are rubber flaps from where the door opens, measure from that point.

Allowable BG positioning for Pre-lighting		
Case	x	y
1	30 inches	0
2	< 30 inches	6 inches
3	6ft	any

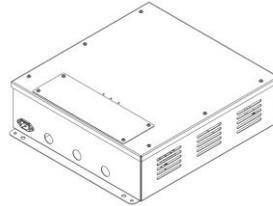| Allowable Cases	Not Allowable
Case 1	
Case 2	
	It is important to note that if the positioning is incorrect, only the pre-lighting function will be affected. If the towers are placed incorrectly and it is too late to change it, the BODYGUARD system will still work, but the lights will only turn on once a car has crossed the towers. So, the images of the front of the car will be darker.
Case 3	
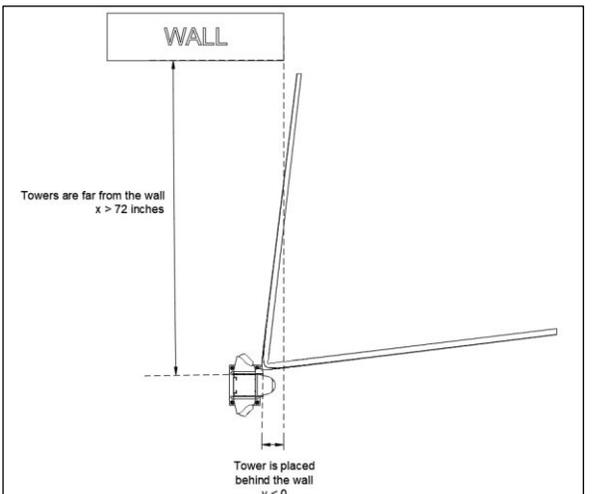
1 - Parts List
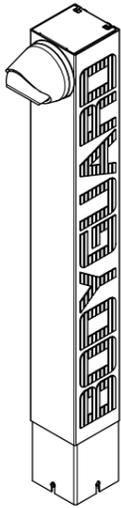
| 1. | 2. | 3. | 4. |

1. 2 x Top post
2. 2 x Bottom Post
3. 1 x Server Box
4. 8 x 3/8" Concrete Anchors, 2 nuts and washers per anchor

Fasteners table (per tower)			
REF.	Qty	Image	Description
F1	3		5/16" K-locknut
F2	2		Sheet metal screw
F3	2		Hole plug
F4	8		3/8" nut
F5	8		3/8" Washer
F6	4		3/8" Concrete Anchor

2 – Assembly

| Ref	Procedure	Required Tools
2.1	Drill 4 holes in the ground at the desired location. Mounting Flange dimensions found in section 5	3/8" Masonry drill bit
2.2	Anchor to ground using concrete anchors.	9/16" or 14mm socket wrench
2.3	Remove back access panel from Bottom Post	If it's tight, use a flat screwdriver at the bottom to dislodge
2.4	Remove back access panel from the Top Post by unscrewing two sheet metal screws	Philips screwdriver
2.5	Loosen the K-locknuts on the Bottom Post and place Top Post on Bottom Post	
2.6	Fasten Top and bottom posts together using K-Locknuts	½" or 13mm socket wrench
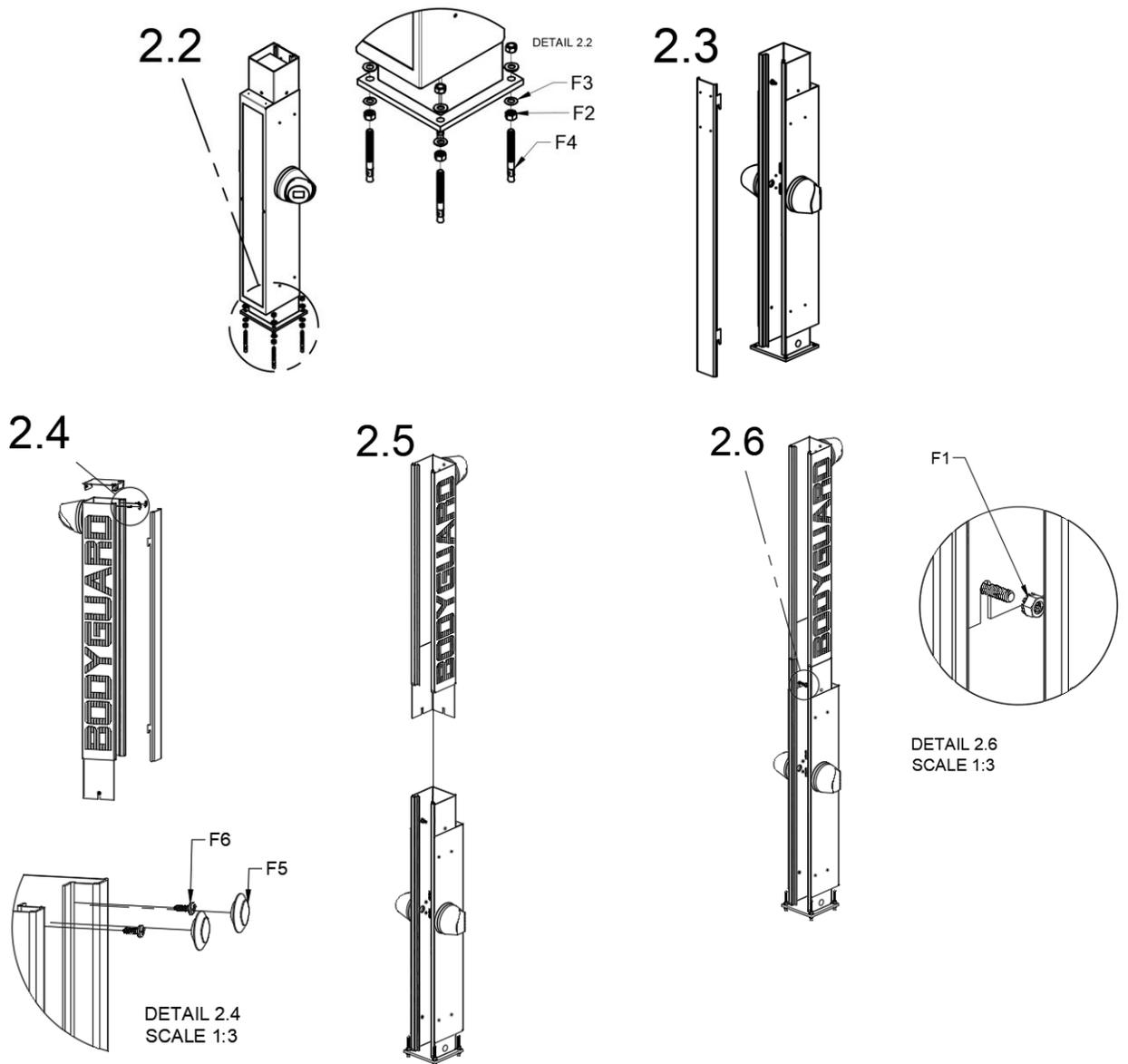
3 - Internal Wiring

Ref	Procedure
3.1	Plug in the following three wires into the top camera: • Black DC power cable • Blue network cable • Multicolored trigger cable into the port labelled "ALARM"
3.2	Run the Network and power cables from the server box into the tower. There is a hole at the base of the tower to feed cables. Some sites prefer to drill their own holes to feed the cables through the top of side of the tower.
3.3	Connect the Network cable from the server box into the open network port Connect the power cables from the server box to the 48V input at the bottom of the circuit board

3.1 Network Switch

3.2 Cable Entry

3.3 DETAIL 3.3 SCALE 1:8 Internet Input 48V Power Input
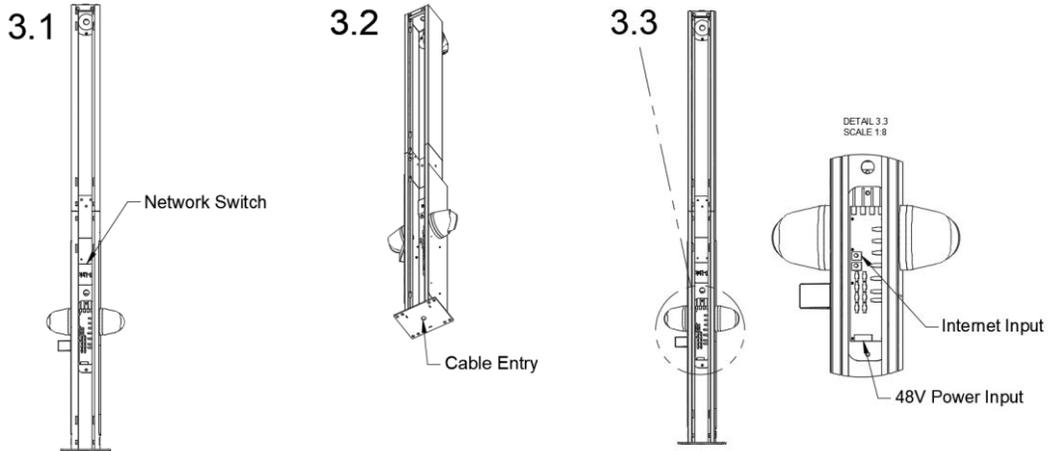
3.3a

This diagram shows where to plug in the network cable and the 2 conductor power cables into the tower board.

To Server (in Server box)

48V input   Ground
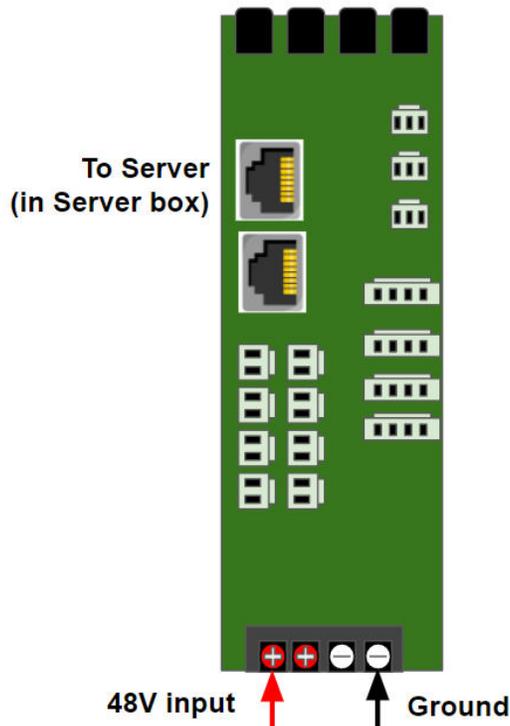
4 - Server Setup

The server box must be mounted to the wall anywhere within 75ft of the BODYGUARD towers. The server box will be connected to each tower using cables that do not exceed 100ft in length. It is most often positioned high on a wall in the service area but may be placed in an adjacent server room as long as the cables do not exceed the 100ft constraint. Longer cables will cause a voltage drop and may damage the equipment.
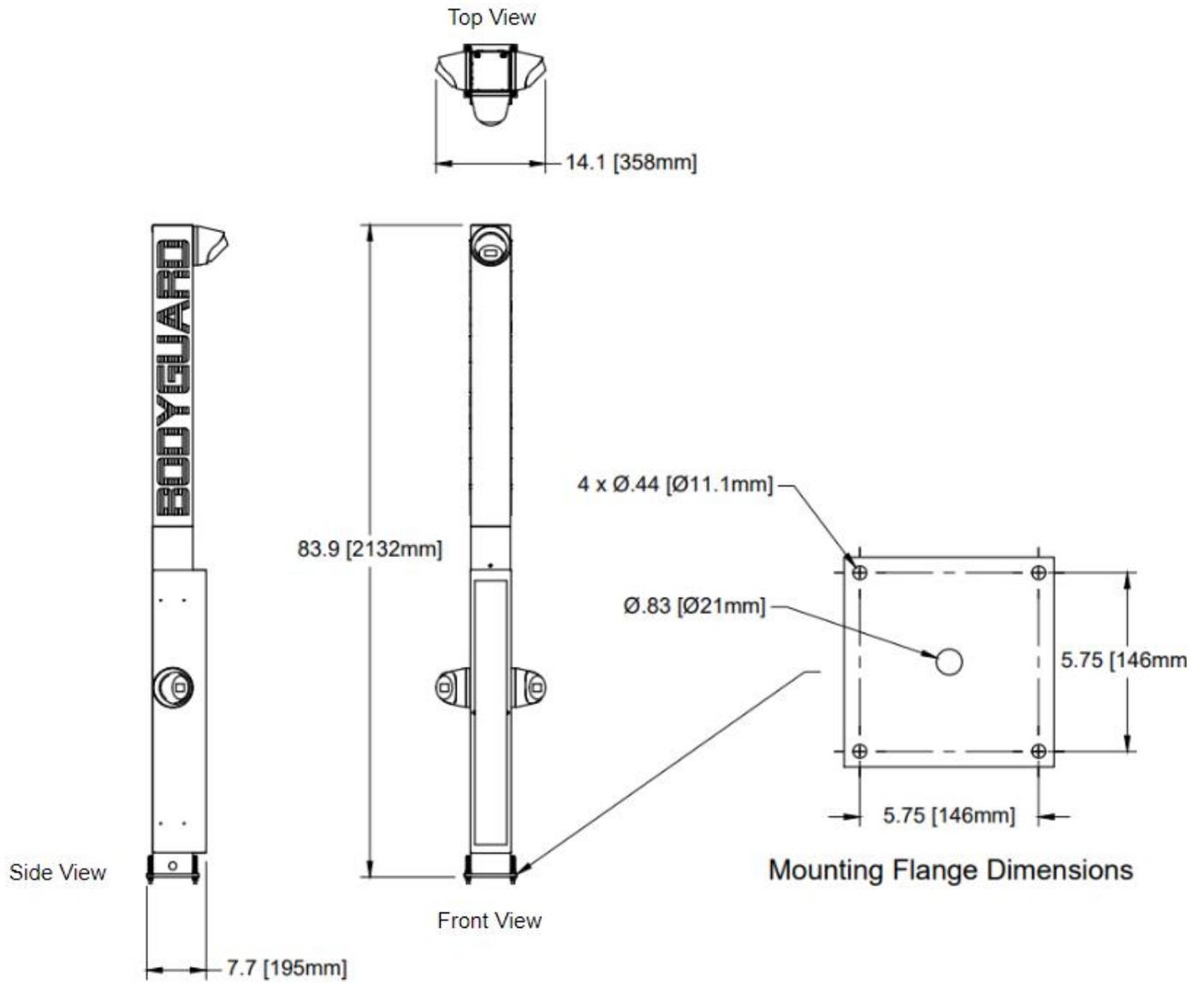
Server box mounting hardware is not included
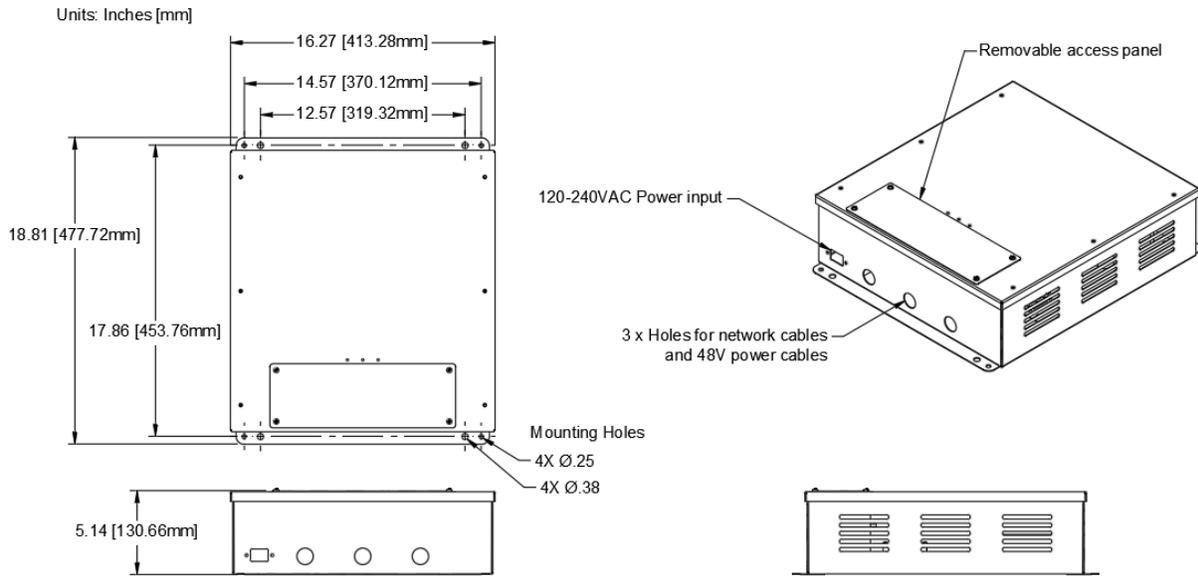
The server box interior is fully prewired. An installer needs only to open up the access panel to plug in the cables which include the network and power cables coming from the 2 BODYGUARD towers, and the internet drop.

5 – Dimensions

Top View

14.1 [358mm]

83.9 [2132mm]

4 x Ø.44 [Ø11.1mm]

Ø.83 [Ø21mm]

5.75 [146mm]

5.75 [146mm]

Mounting Flange Dimensions

Side View

Front View

7.7 [195mm]

User Manual

Best practices

To keep the BODYGUARD working at optimal accuracy and efficiency there are a couple practices users should follow.

- Do not leave cars parked in between towers. This will create long junk recordings and slow down the server.
- Do not tailgate when driving through the towers. The BODYGUARD needs 1 second in between crossings in order to create two distinct recordings. If the recordings of two cars are joined in a single video, then one of the cars will be unsearchable by license plate.
- Drive slowly (<5mph) through the towers. The slower the car, the more pictures are captured.

Status LEDs

There are 3 status LEDs on the front face of the server box which signify the following:

Internet: There is a live internet connection
Power: power is being provided to both towers.
**Status** Both towers are running normally.

It may take 5-10 minutes for all lights to power up after the towers have been activated for the first time. If any lights are off then contact the customer care team using the info listed on the server box.

1-855-233-8632, support@banalogic.com

Using the Webapp

Log on to https://app.BODYGUARDcam.com/ using the login credentials provided to you by our support team. After logging in the first time, it is highly recommended to change your password.
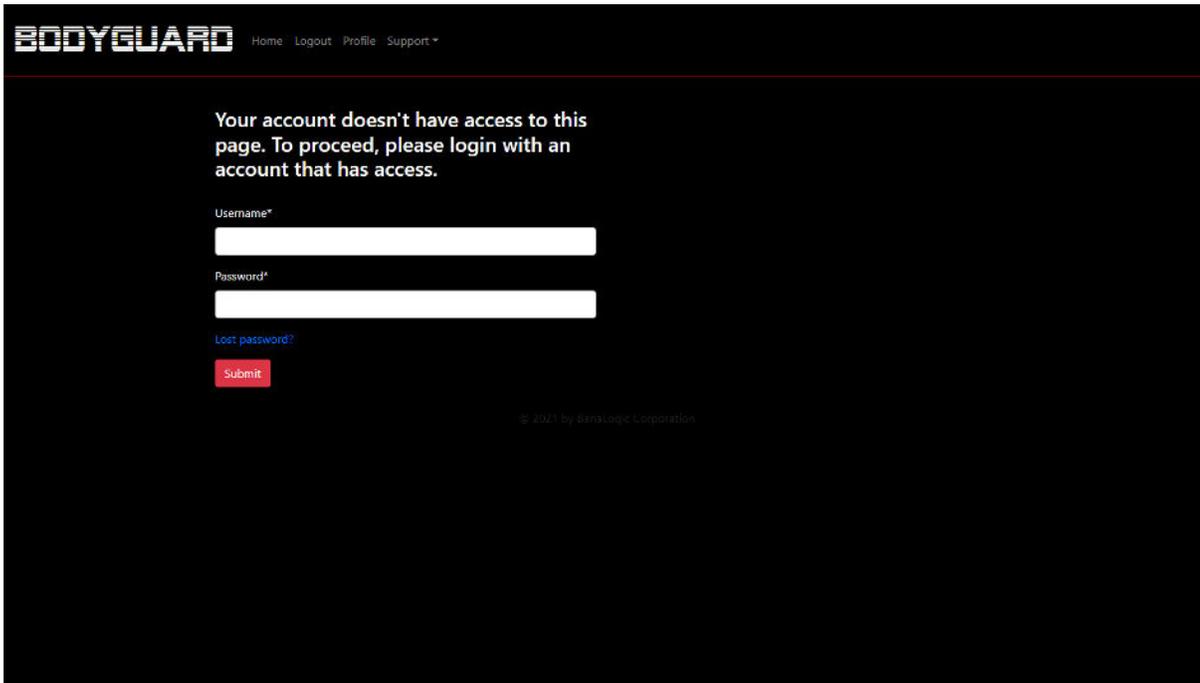
You will be brought to the home page which displays all the recordings from your site in chronological order. You can search for a specific recording using the blue button in the top right corner. You can search by license plate or by date.
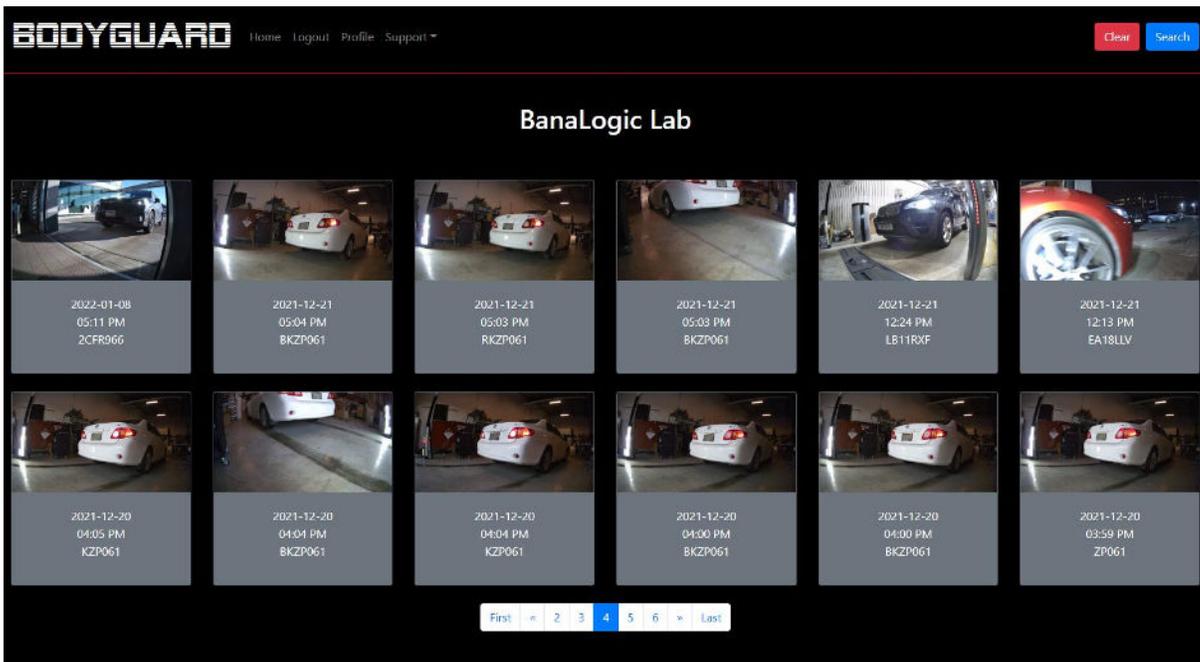
Once you select a recording you'll be brought to this page
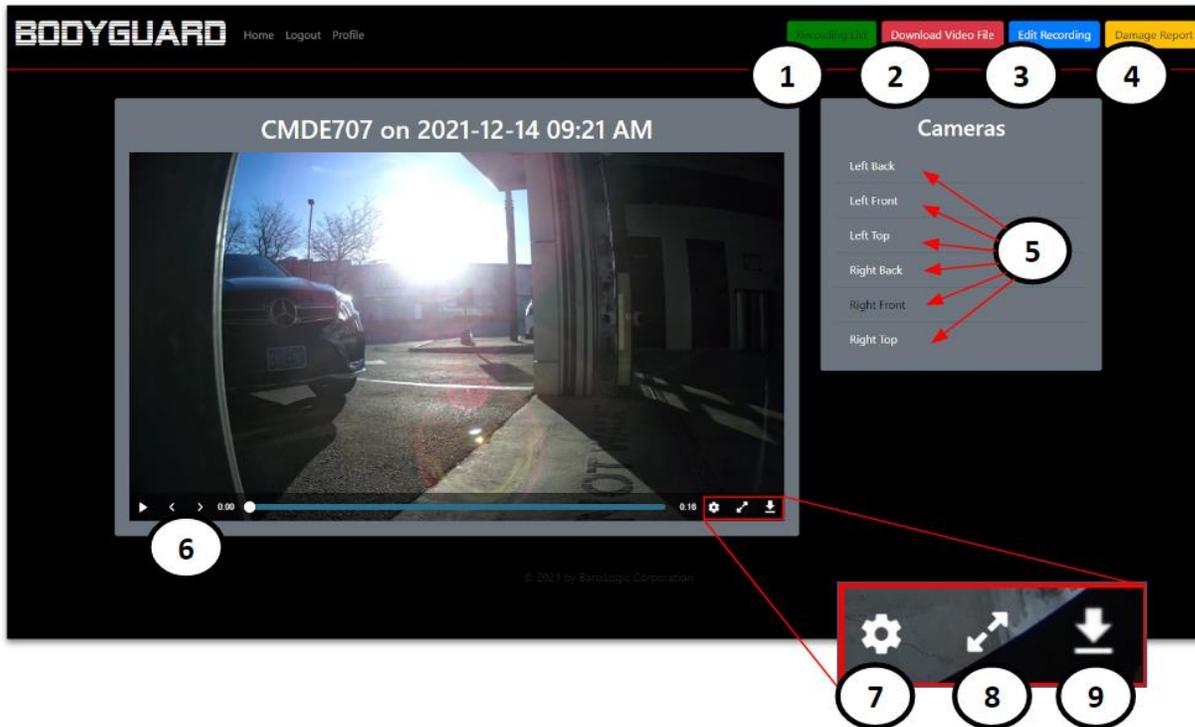
(1) Recording List: takes you back to the home page

(2) Download Video File: downloads the video of the active view

(3) Edit Recording: Allows you to edit the name of the recording

(4) Damage Report: Allows you to save notes about the recording and flag it for later review.

(5) Select one of 6 views

(6) Use the arrows to move through the video frame by frame

(7) Control Zoom

(8) Full Screen

(9) Download a still image of the active frame