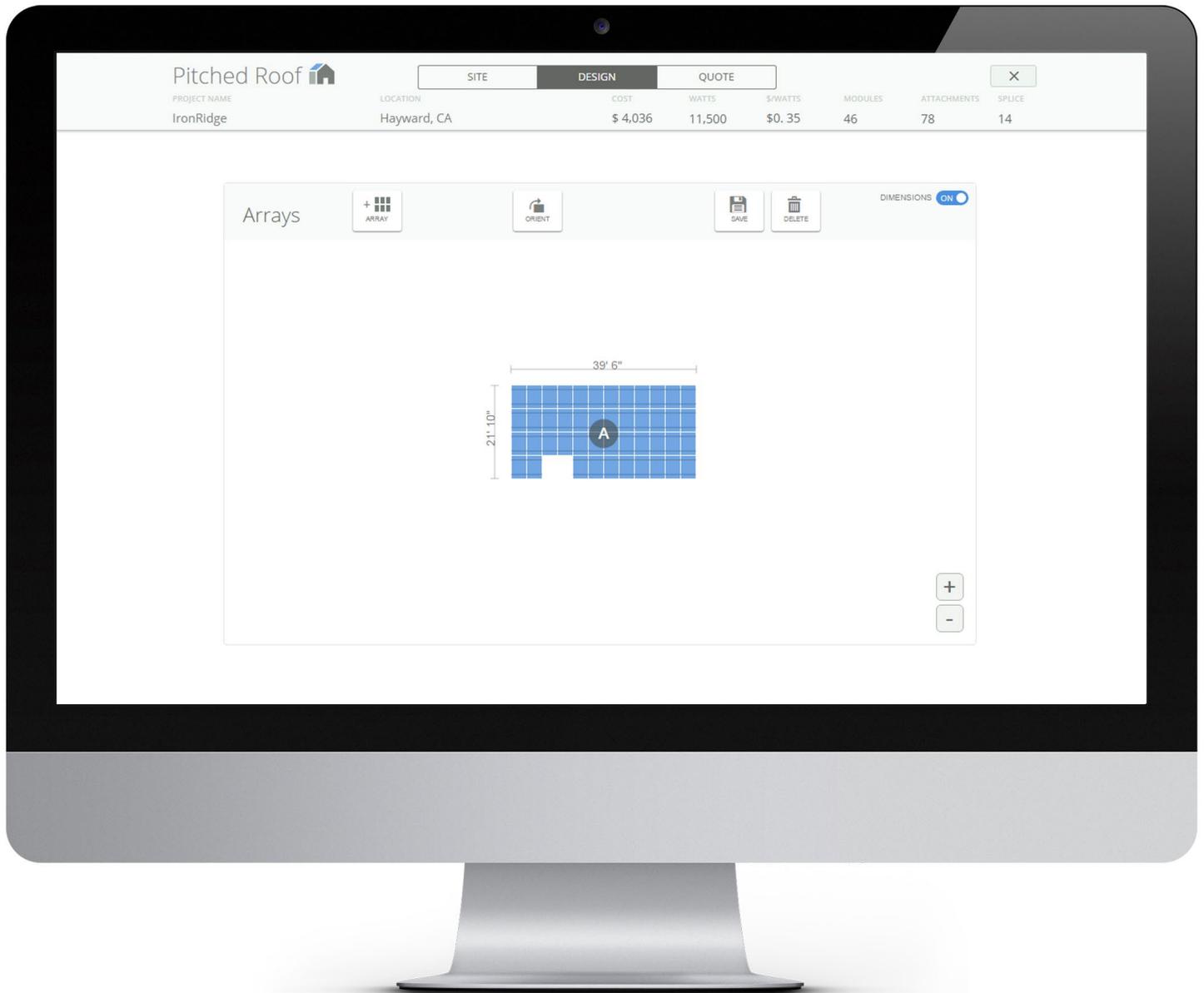


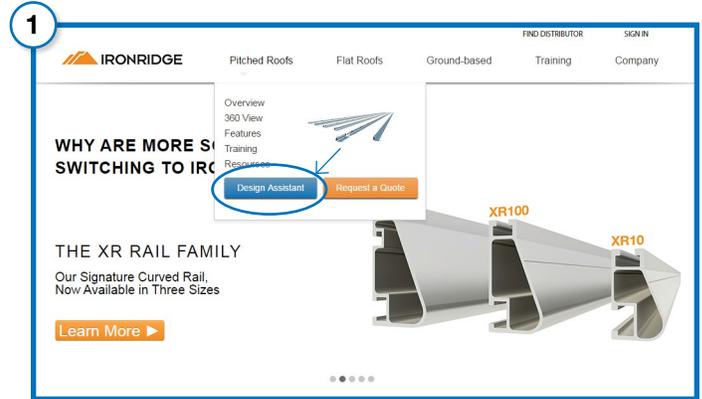
# PITCHED ROOF DESIGN ASSISTANT™



# GET STARTED

## 1. START DESIGN ASSISTANT

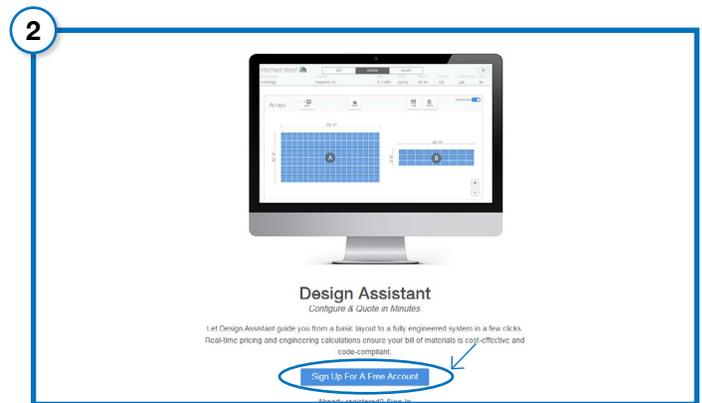
Go to the IronRidge home page at [ironridge.com](http://ironridge.com), then hover over the "Pitched Roofs" menu at the top and click the blue "Design Assistant" button.



## 2. SIGN UP FOR AN ACCOUNT

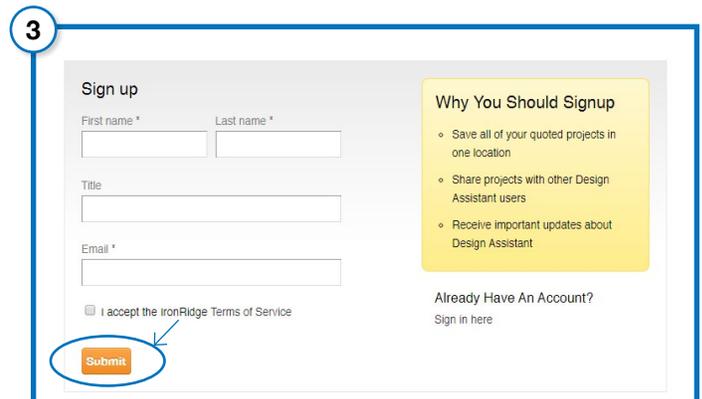
If you don't have an account, click the blue [sign up](#) link at the bottom of the page. If you already have an account click the [sign in](#) link.

💡 **Having a Design Assistant account allows you to save all of your quoted projects in one location, share projects with other Design Assistant users, and receive important updates.**



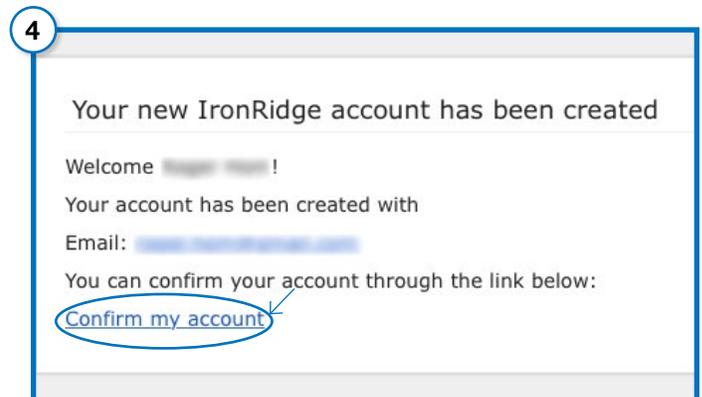
## 3. FILL OUT AND SUBMIT FORM

Fill out the web form as required, agree to the IronRidge [terms of service](#), and then click the "submit" button. You will then be logged into the Pitched Roof Design Assistant.



## 4. CONFIRM YOUR ACCOUNT

Click the "confirm my account" link in your confirmation email. You will be automatically signed in. Now you're ready to create a new project.



## A NAVIGATION

Design Assistant starts by asking for site details in the "Site" section. Click the tabs to jump to the corresponding sections of your project.

## B PROJECT INFO

Name your project, to identify it from other projects you make later. Then, enter a zip code. Typical wind and snow values will be loaded for the zip code entered.

## C BUILDING HEIGHT

Select the height of the building.

## D ROOF SLOPE

Select the roof slope (degrees).

💡 If your roof slope is 0-6°, use [Flat Roof Design Assistant](#).

## E WIND EXPOSURE

Select wind exposure category B, C or D.

## F RISK CATEGORY

Select risk category I or II.

## G WIND SPEED

The default wind speed for your zip code is automatically selected, but a different wind speed can be chosen.

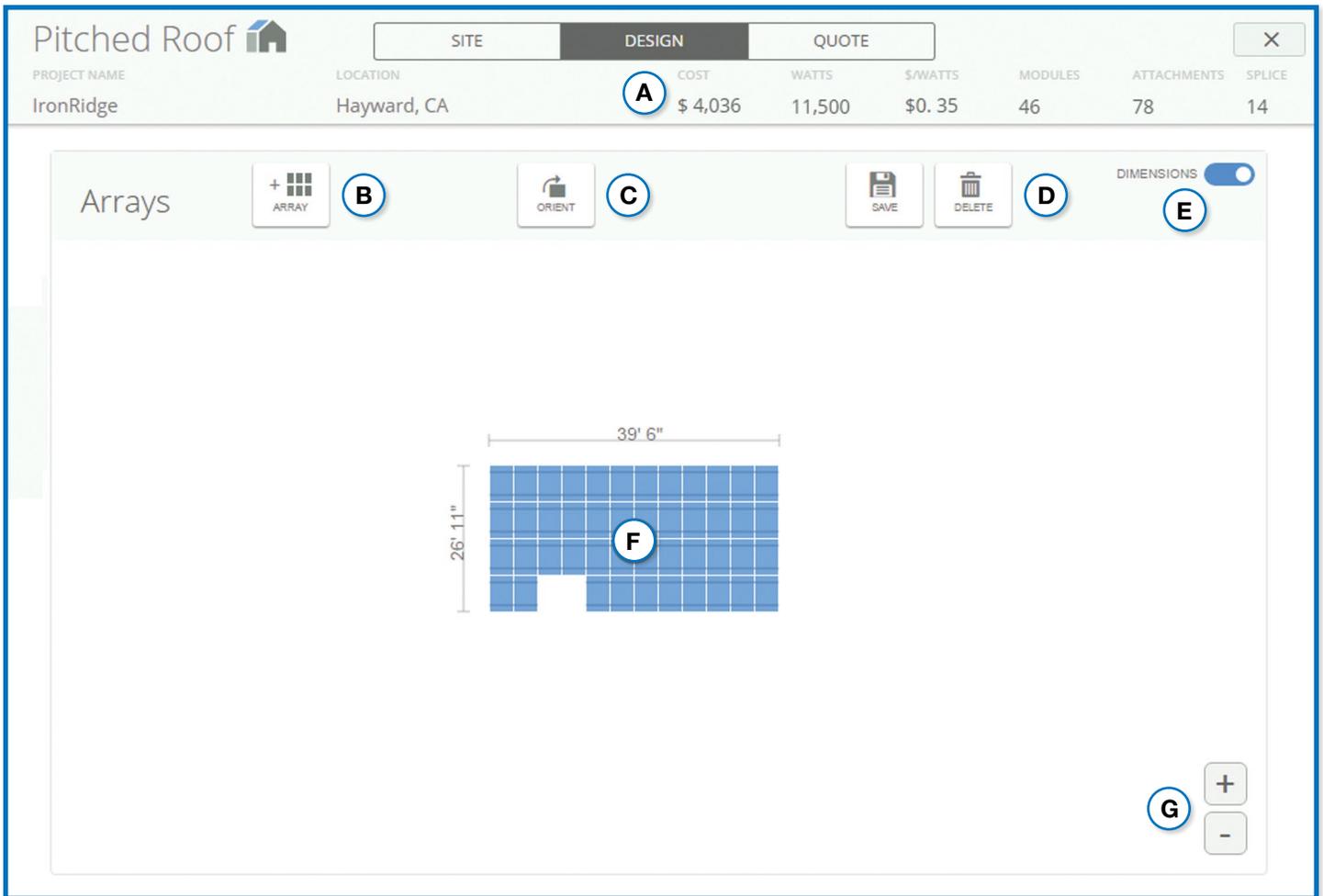
## H GROUND SNOW LOAD

The ground snow load for your zip code is automatically selected, but a different snow load can be chosen.

## I MODULE

Select the module manufacturer and model. Confirm the module dimensions listed. Design Assistant calculates specifications from a database of nearly 3,000 modules.

💡 Contact [support@ironridge.com](mailto:support@ironridge.com) if a module is not listed or dimensions are inaccurate.



## A PROJECT OVERVIEW

The cost, watts, cost per watt, and number of modules, attachments, and splices will always be shown at the top and will update as changes are made in real time.

## B ARRAY ENTRY

Click the “+ Array” icon and hover over the number of modules (columns) and rows for your array. Click on the selection to confirm the array. Repeat to add additional subarrays.

💡 **Pitched Roof Design Assistant gives you a visual interface for entering the number of modules (columns) and rows for each subarray. If you prefer not to use the visual interface, click the “+ Array” icon and select “Enter Manually.”**

## C ARRAY ORIENTATION

Select the desired array and click the “Orient” icon to change your module orientation between Portrait and Landscape.

💡 **If you select landscape orientation for your array, make sure this installation method does not void your modules’ warranty.**

## D DELETE ARRAY

Click on the subarray you want to delete and click the “Delete” icon to remove it from your design.

## E ARRAY DIMENSIONS

Toggle dimensions for array perimeters on and off.

## F MOVE & REMOVE MODULES

The visual interface allows you to position your subarrays and remove modules. Simply click and hold a subarray to drag and drop it into the desired position. Click on specific modules in a subarray to remove them.

## G ZOOM LEVELS

Zooming out can help to keep track of multiple arrays and see the entire project at once. Zoom back in to focus on specific arrays.

# Pitched Roof

SITE

DESIGN

QUOTE

X

PROJECT NAME  
IronRidge

LOCATION  
Hayward, CA

COST  
\$ 4,036

WATTS  
11,500

\$/WATTS  
\$0.35

MODULES  
46

ATTACHMENTS  
78

SPLICE  
14

## Attachments H

ATTACHMENTS ⌵

COLOR

FlashFoot ⌵

## Engineering

### REACTION FORCES

	DOWN <span style="font-size: 0.8em;">⌵</span>	UPLIFT <span style="font-size: 0.8em;">⌵</span>	LATERAL <span style="font-size: 0.8em;">⌵</span>
Zone 1	142.00 LBS	-88.00 LBS	0.00 LBS
Zone 2	142.00 LBS	-165.00 LBS	0.00 LBS
Zone 3	142.00 LBS	-268.00 LBS	0.00 LBS

### WEIGHT

TOTAL SYSTEM WEIGHT	WEIGHT/ATTACHMENT
0 LBS	0.0 LBS

DISTRIBUTED WEIGHT  
0.0 LBS

## Rails I

ATTACHMENT SPAN ⌵

4

FT ⌵

RAIL			
	XR10		XR1000
COLOR	<div style="width: 20px; height: 20px; background-color: #add8e6; border: 1px solid #000;"></div> <div style="width: 20px; height: 20px; background-color: #333; border: 1px solid #000;"></div>	<div style="width: 20px; height: 20px; background-color: #add8e6; border: 1px solid #000;"></div> <div style="width: 20px; height: 20px; background-color: #333; border: 1px solid #000;"></div>	<div style="width: 20px; height: 20px; background-color: #add8e6; border: 1px solid #000;"></div>

	Zone 1	Zone 2	Zone 3
MAX SPAN <span style="font-size: 0.8em;">⌵</span>	6' 11"	10' 6"	13' 11"
	6' 2"	9' 2"	12' 1"
	4' 11"	7' 3"	9' 7"

	Zone 1	Zone 2	Zone 3
MAX CANTILEVER <span style="font-size: 0.8em;">⌵</span>	2' 9"	4' 2"	5' 7"
	2' 6"	3' 8"	4' 10"
	2'	2' 11"	3' 10"

## Clamps

MID CLAMPS

COLOR

Integrated Grounding, T-Bolt ⌵

### H ATTACHMENTS

Select the roof attachment you plan on using.

- 💡 FlashFoot is an all-in-one composition shingle attachment, exclusive to IronRidge, that reduces cost and installation time.
- 💡 Visit the IronRidge Pitched Roof [resources page](#) for more info on compatible third-party attachments for different roof types.

### I ATTACHMENT SPACING

Enter the attachment spacing.

- 💡 Larger attachment spacing reduces the number of attachments and roof penetrations, but may require larger rail sizes and will increase the loads at each attachment point.

### J ORIENTATION TOGGLE

Toggle between portrait and landscape array data.

### K RAIL SELECTOR

Select your rail and finish color.

- 💡 XR10, XR100, and XR1000 rails are available in clear finish. XR10 and XR100 rails are also available in black finish.

### L MAX SPAN

The rail's maximum allowed span between attachments.

### M MAX CANTILEVER

The maximum length of rail past the last attachment.

Pitched Roof 

SITE
DESIGN
QUOTE
X

PROJECT NAME	LOCATION	COST	WATTS	\$/WATTS	MODULES	ATTACHMENTS	SPLICE
IronRidge	Hayward, CA	\$ 4,036	11,500	\$0.35	46	78	14

### Attachments

ATTACHMENTS <sup>Ⓛ</sup>

FlashFoot ▼

COLOR

### Engineering

#### REACTION FORCES

	DOWN <sup>Ⓛ</sup> <b>N</b>	UPLIFT <sup>Ⓛ</sup> <b>O</b>	LATERAL <sup>Ⓛ</sup> <b>P</b>
Zone 1	142.00 LBS	-88.00 LBS	0.00 LBS
Zone 2	142.00 LBS	-165.00 LBS	0.00 LBS
Zone 3	142.00 LBS	-268.00 LBS	0.00 LBS

#### WEIGHT <sup>Ⓛ</sup> **Q**

TOTAL SYSTEM WEIGHT	WEIGHT/ATTACHMENT
0 LBS	0.0 LBS

DISTRIBUTED WEIGHT  
0.0 LBS

### Rails <sup>Ⓛ</sup>

ATTACHMENT SPAN <sup>Ⓛ</sup>

4

FT

RAIL				
	XR10	XR100	XR1000	
COLOR	<div style="display: flex; gap: 5px;"> <div style="width: 15px; height: 15px; background-color: #ccc; border: 1px solid #000;"></div> <div style="width: 15px; height: 15px; background-color: #333; border: 1px solid #000;"></div> </div>	<div style="display: flex; gap: 5px;"> <div style="width: 15px; height: 15px; background-color: #ccc; border: 1px solid #000;"></div> <div style="width: 15px; height: 15px; background-color: #333; border: 1px solid #000;"></div> </div>	<div style="width: 15px; height: 15px; background-color: #ccc; border: 1px solid #000;"></div>	
MAX SPAN <sup>Ⓛ</sup>	Zone 1 6' 11"	Zone 1 10' 6"	Zone 1 13' 11"	
	Zone 2 6' 2"	Zone 2 9' 2"	Zone 2 12' 1"	
	Zone 3 4' 11"	Zone 3 7' 3"	Zone 3 9' 7"	
MAX CANTILEVER <sup>Ⓛ</sup>	Zone 1 2' 9"	Zone 1 4' 2"	Zone 1 5' 7"	
	Zone 2 2' 6"	Zone 2 3' 8"	Zone 2 4' 10"	
	Zone 3 2'	Zone 3 2' 11"	Zone 3 3' 10"	

### Clamps <sup>Ⓛ</sup> **M**

MID CLAMPS

Integrated Grounding, T-Bolt ▼

COLOR

**M CLAMP SELECTOR**

Select clamps and finish color.

<sup>Ⓛ</sup> When Integrated Grounding is selected, Grounding Mid Clamps and T-bolt Grounding Lugs are added to the Bill of Materials.

**N DOWN (COMPRESSIVE) LOAD**

The maximum downforce per attachment (perpendicular to roof) due to system weight and snow and wind loads.

**O UPLIFT LOAD**

The maximum uplift at each attachment (perpendicular to the roof) due to wind load.

**P LATERAL LOAD**

The average lateral force at each attachment (parallel to the roof) due to the snow load and system weight.

**Q WEIGHT**

The specific weights of the system, including modules.

Pitched Roof 

SITE DESIGN QUOTE X

PROJECT NAME: IronRidge LOCATION: Hayward, CA COST: \$ 4,036 WATTS: 11,500 \$/WATTS: \$0.35 MODULES: 46 ATTACHMENTS: 78 SPLICE: 14

### Array Details

Lengths: 11,14,17 U

ARRAY	BLOCK	X	REQ RAIL <sup>①</sup> <span style="float: left;">R</span>	PROVIDED RAIL <sup>①</sup> <span style="float: left;">S</span>	ATTACH <sup>①</sup> <span style="float: left;">T</span>	MID CLAMPS	END CLAMPS	SPLICES
A		1x	6' 9"	1 set of 11.0'[1 x 11']	4	2	4	0
		1x	6' 9"	1 set of 11.0'[1 x 11']	4	2	4	0
		1x	26' 5"	1 set of 28.0'[2 x 14']	14	14	4	2
		1x	26' 5"	1 set of 28.0'[2 x 14']	14	14	4	2
		3x	39' 6"	1 set of 42.0'[3 x 14']	20	22	4	4
	... (12)							
		3x	39' 6"	1 set of 42.0'[3 x 14']	20	22	4	4
	... (12)							

### R REQUIRED RAIL

Required rail is the exact length of rail required to fully support the number of modules in each row of the subarray.

### U LENGTHS

Select rail length. XR rails come in stock lengths of 11', 14' and 17'.

 Select custom lengths by choosing from the drop-down menu. If you choose custom lengths, be sure to check with your distributor for availability and shipping times.

 Design Assistant automatically selects the optimized rail length if "Stock Lengths" is selected.

### S PROVIDED RAIL

Design Assistant automatically takes into consideration the available rail lengths and recommends the optimal lengths for each row, based on minimizing the amount of extra rail.

### T ATTACHMENTS

The number of attachments required for the array.

SITE

DESIGN

QUOTE

A

PROJECT NAME

LOCATION

COST

WATTS

\$/WATTS

MODULES

ATTACHMENTS

SPLICE

IronRidge

Hayward, CA

\$ 4,036

11,500

\$0.35

46

78

14

Accessories B

WIRE CLIPS<sup>Ⓛ</sup>

END CAPS<sup>Ⓛ</sup>

MICROINVERTER KITS<sup>Ⓛ</sup>

Bill of Materials C

D

PART	DESCRIPTION	QTY <sup>Ⓒ</sup>	PRICE/EA	TOTAL PRICE
XR-100-168A	XR100, Rail 168" (14 Feet) Clear	- 22 +	\$73.80	\$1,623.60
XR-100-SPLC	Kit, Splice XR100, Mill (1)	- 14 +	\$8.00	\$112.00
RS-GD-MCL-250	Kit, 4pcs, Grounding Mid Clamp 2.50", Clear	- 21 +	\$14.00	\$294.00
RS-GDST-001	Kit, 2pcs, Grounding Strap	- 4 +	\$18.00	\$72.00
RS-GDLG-002	Kit, 2pcs, Grounding Lug T-Bolt	- 3 +	\$14.00	\$42.00
29-7000-214	4-pack, End Clamp (F) 1.81", Mill	- 5 +	\$12.00	\$60.00
RF-FLSH-001	6-pack, IronRidge FlashFoot (Mill)(L-foot, lag-bolt included)	- 13 +	\$132.00	\$1,716.00
XR-100-132A	XR100, Rail 132" (11 Feet) Clear	- 2 +	\$58.00	\$116.00

Discount

0 % E

Total Price

\$4,035.60

\$/Watt

\$0.35

BOM CSV F

Request Quote

Project

Print

Share

PROJECT NAME	WATTS	MODULES	QTY
IronRidge	11,500	Kyocera	46

Documents

ZIP

Roof Mount Install Manual

FlashFoot Certification

FlashFoot Install Manual

UL 2703 Certification

Engineering Design Guide

Fire Rating Certification

AutoCAD DWG

CA XR100 Flush Certification

AutoCAD PDF Preview

### A SAVE & CLOSE

Exiting your current project automatically saves your current project and takes you to the "My Projects" page, which lists all your prior projects for easy access.

### B ACCESSORIES

Add accessories to the project.

**Wire Clips** help to manage PV cables and **End Caps** provide a finished look and keep rails free of debris. **Microinverter Kits** provide hardware to mount microinverters or power optimizers.

### C BILL OF MATERIALS

Materials are listed based on the array details provided.

### D QUANTITY

Use the minus or plus buttons to modify quantities. Get extra parts, just in case, or use parts you already have.

### E DISCOUNT LEVEL

Enter a distributor discount, if given, to update pricing.

### F DOWNLOAD CSV

Download the complete Bill of Materials spreadsheet.

SITE

DESIGN

QUOTE

X

PROJECT NAME

LOCATION

COST

WATTS

\$/WATTS

MODULES

ATTACHMENTS

SPLICE

IronRidge

Hayward, CA

\$ 4,036

11,500

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78

14

Accessories

WIRE CLIPS<sup>Ⓛ</sup>
 END CAPS<sup>Ⓛ</sup>
 MICROINVERTER KITS<sup>Ⓛ</sup>

### Bill of Materials

PART	DESCRIPTION	QTY <sup>Ⓛ</sup>	PRICE/EA	TOTAL PRICE
XR-100-168A	XR100, Rail 168" (14 Feet) Clear	- 22 +	\$73.80	\$1,623.60
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XR-100-132A	XR100, Rail 132" (11 Feet) Clear	- 2 +	\$58.00	\$116.00

Discount  %

Total Price \$4,035.60

\$/Watt \$0.35

BOM CSV

Request Quote G

### Project

PROJECT NAME

WATTS

MODULES

QTY

IronRidge

11,500

Kyocera

46

Print

Share H

### Documents I

ZIP

Roof Mount Install Manual

FlashFoot Certification

FlashFoot Install Manual

UL 2703 Certification

Engineering Design Guide

Fire Rating Certification

AutoCAD DWG

CA XR100 Flush Certification

AutoCAD PDF Preview

## G REQUEST QUOTE

Send project details to an IronRidge distributor near you.

## H SHARE PROJECT

Share your project with another Design Assistant user by entering their email. They can then edit and update.

## I DOWNLOAD DOCUMENTS

Relevant documents are provided, based on inputs. Download those you want or a ZIP file of all of them.

**IronRidge.com/design**

