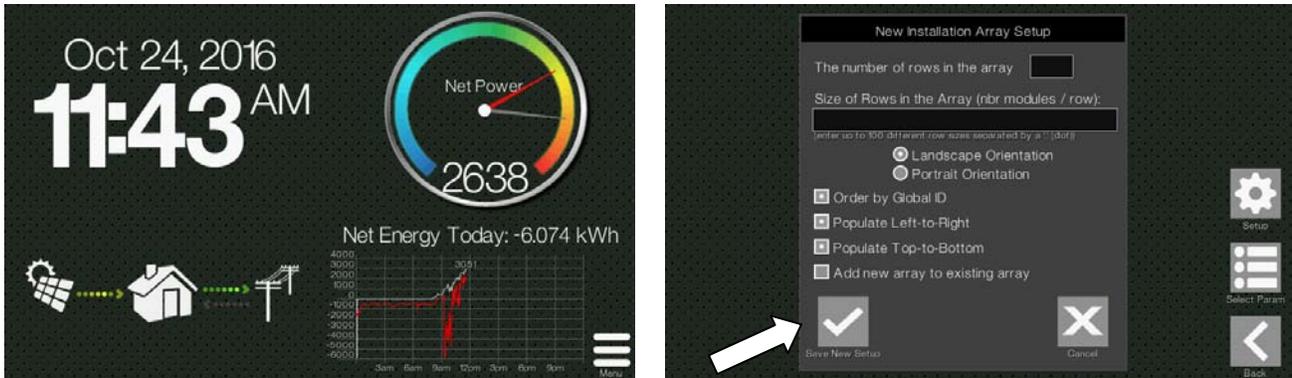# Array Configuration Using the CP-100 Gateway

Mapping the solar array allows for module level viewing by both the customer and installation team. In addition, the layout provides a useful way to locate particular modules should they need servicing. Modules must be added through the editor in order to see their associated power production and *monitor other key performance parameters. The array layout configuration can either be done by* logging into the Chilicon Power monitoring site or directly through the gateway. This guide addresses the installation procedure using the gateway. *Important: Prior to configuration, ensure that the gateway has the latest firmware version.**

1) **Use the mapping editor to set up the first array section**

2) **Add additional array sections**

3) **Delete modules from sections**

4) **Move modules to new locations**

5) **Swap the location of microinverter serial numbers assigned to modules**

6) **Pair modules for systems with the CP-720**

7) **Designate a micro as a repeater in a branch (Only if needed)**
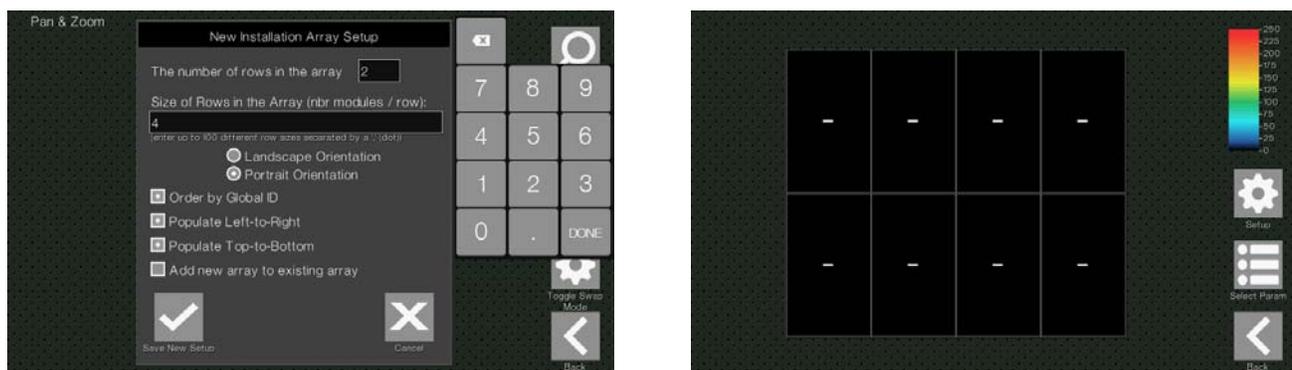
8) **Register the system**

* *"Technical Bulletin -Updating Gateway Firmware"* shows the process by which to do this.

1) Setting up the First Array Section: Start by pressing on the center of the **Net Power** dial on the homepage of the gateway. This will open the *Mapping Editor*.
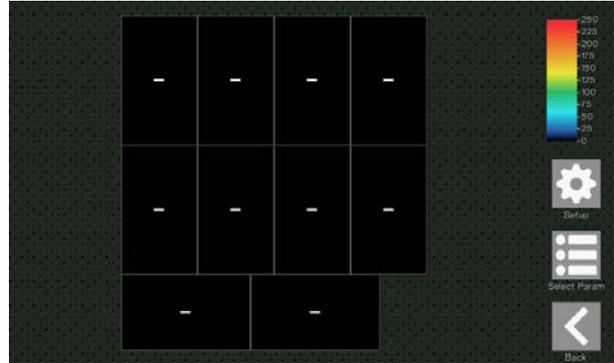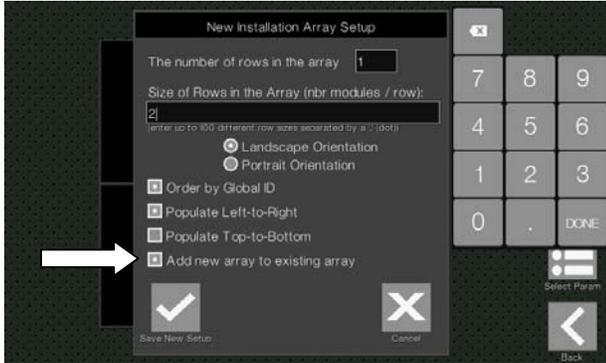

The *New Array Installation Array Setup* screen will appear if this is a new configuration. If you are modifying a preconfigured array, this step will take you directly to the existing array. Next, choose 1) the number of rows in the array, 2) how many modules per row, and 3) whether the modules are in landscape or portrait mode. Click the **Save New Setup** to generate the array. Note that if the system consists of both portrait and landscape modules, they must be entered in as separate arrays.
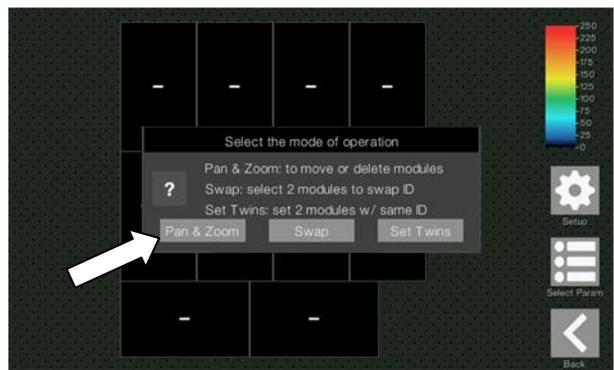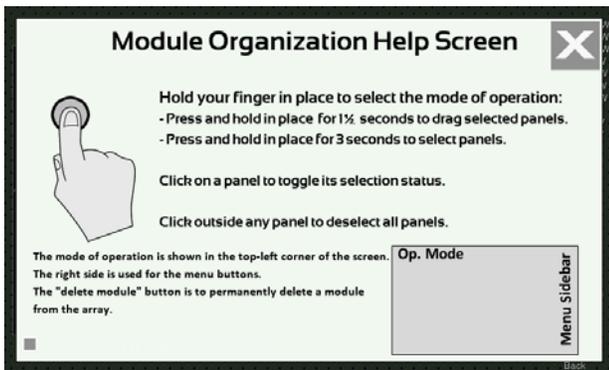
For example, a 2 X 4 in portrait mode array would be entered as below. Select **DONE** and then **Save New Setup** to confirm. The array will appear as below, except with serial numbers of each micro inverter if the discovery procedure is first performed by the Gateway. The initial assignment of the serial numbers to the modules is based on alphanumerical ascending order from top left to bottom right and will most likely not correspond to that as deployed. Step 5 will detail how to rearrange the serial numbers based on the location as captured in the installation layout map. For the CP-250E microinverter, each module will have an associated serial number. However, the CP-720 Duo micro inverter will generate two different modules (one with a serial number and one empty one without). You will later need to pair units together for the CP-720s as detailed in Step 6.
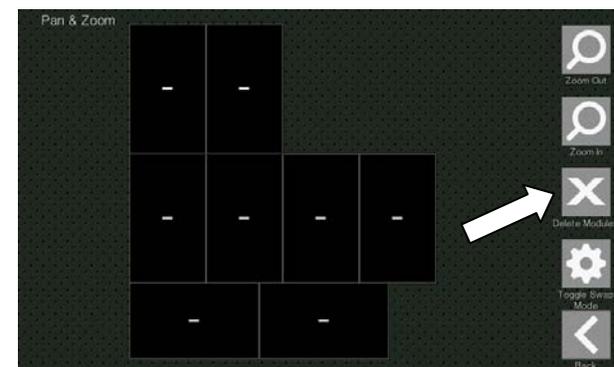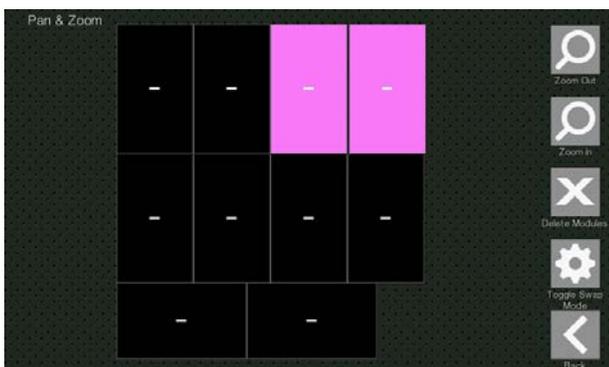
2) Adding Additional Array Sections: Reselect *Setup* and *Add*. For example: If you next want to add two additional modules in landscape mode, enter 1, then 2, and select Landscape. Make sure to also check the ***Add new array to existing array*** box, otherwise the prior array will be lost. Click the ***Save New Setup*** icon and *OK* on the following screens. The new array will now appear as below:
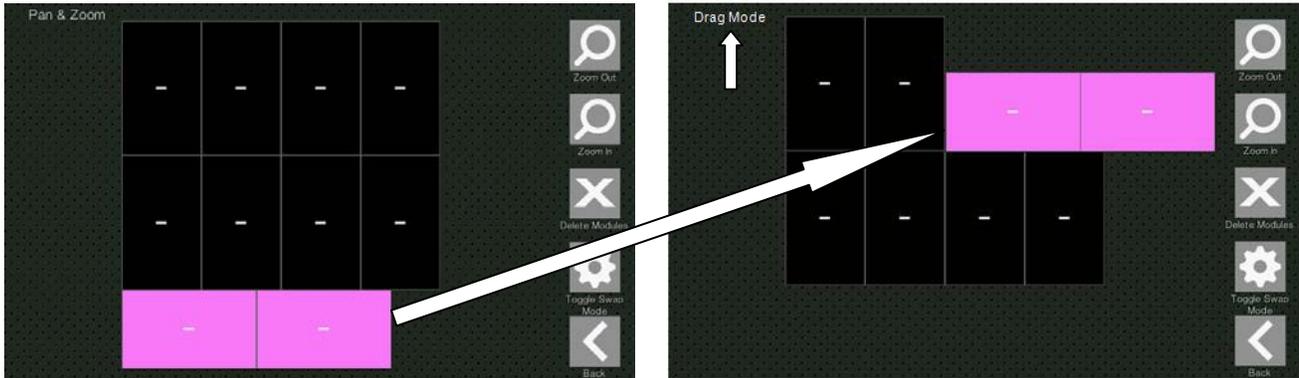

3) Deleting Modules from Sections: Click the *Setup* icon but now select *Arrange*. A help screen will appear with instructions. Click on the X in the upper right corner to exit. You will now be taken to an option screen. Select the ***Pan & Zoom*** button and the *OK* on the following screen.
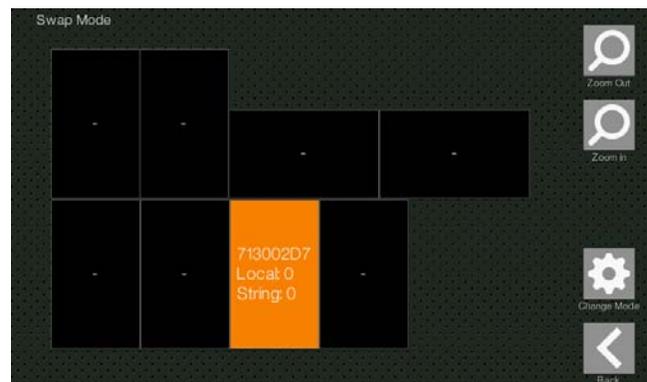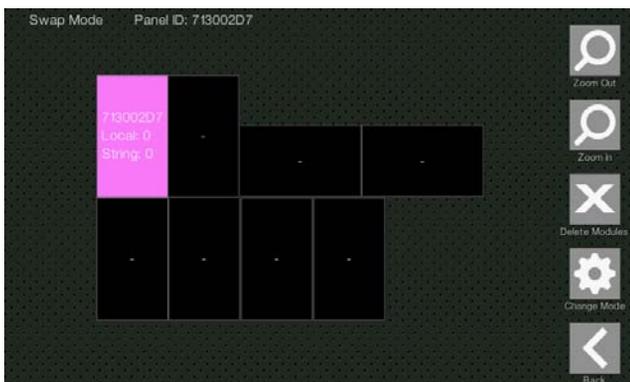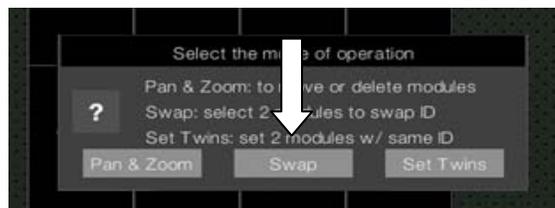

Touching one or more modules with will highlight them. Click on the **X** icon above ***Delete Modules*** to remove the modules from the array and then confirm the change.
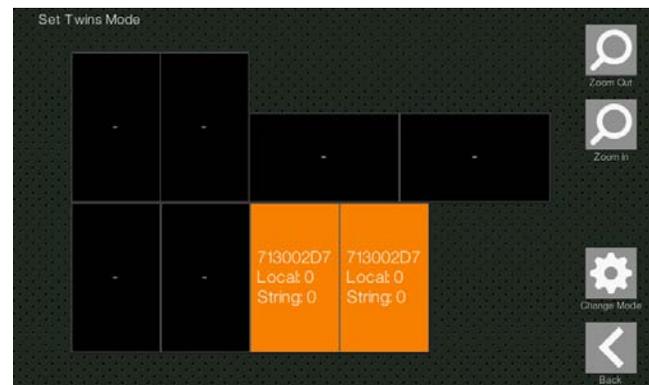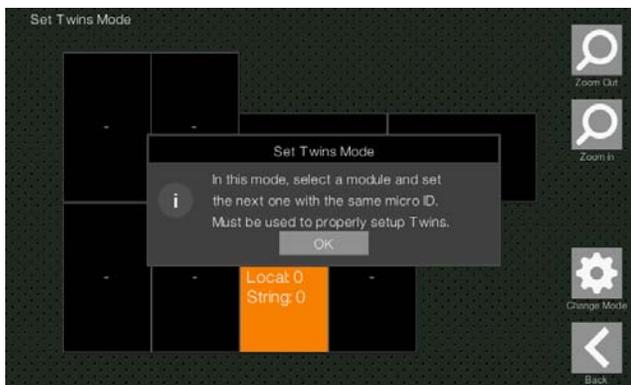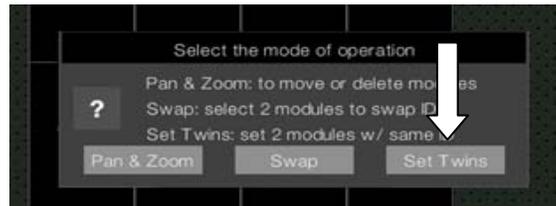
4) Moving Modules to New Locations: Click the **Setup** and **Arrange** button. Exit the help screen. Select **Pan & Zoom** and **OK**. Touching a module will highlight the module and select *the entire array*. To move *just that module*, hold the module until the upper left corner text changes from *Pan & Zoom* to *Drag Mode.* If you highlight multiple modules and hold the last one, you can move multiple modules at the same time. For example, the two landscape modules are now moved to a new location as a pair.

5) Swapping the Module Microinverter Serial Numbers: As previously mentioned, the gateway will initially assign microinverter serial numbers to the modules starting from the top left. To modify the serial number locations to correspond with the array map, click the **Setup** icon and select **Arrange**. A help screen will again appear as above. Exit and now select **Swap** on the following screen. Select the module with the serial number of interest and then the new location for that serial number in the array. Repeat this process until each of the microinverter serial numbers are correctly assigned to the primary module for each. You will next need to twin paired modules for the CP-720.

6) Pairing Modules: To associate modules for the CP-720 on the array map, **c**lick the *Setup* icon and select *Arrange*. Exit the help screen and select *Set Twins* and *OK* on the following screens. Select the module with the serial number of interest and then select the second module tied to the same microinverter on the array map. The serial number will now appear on the second module. Repeat until all of the modules have been paired.

7) Designating Microinverters as Repeaters: Chilicon Power utilizes sophisticated error correction coding to achieve robust PLC communication between the microinverters and the CP-100 gateway. However, for challenging deployments where a microinverter has difficulty communicating, it is possible to use a nearby micro with strong communication as a repeater. This is accessed by clicking on the *Setup* then *Strings* icon. The help screen will again appear. From the next screen you can associate microinverters into communication strings and define the micro which will serve as the repeater for that string. For more details on this process, please contact a Chilicon Power representative for assistance.

8) Registering the System: Prior to logging into the monitoring site, from the CP-100 Gateway you will first register your system. To do this, press the *Advanced Settings* and then *Cloud Setup* icon in of the menu to link this installation to the Chilicon cloud using your email address. This will send an invitation email to set up your password for the cloud. Once your email address and password have been set up, sign into the monitoring portal by either going directly to cloud.chiliconpower.com or through the login tab at the company website www.chiliconpower.com.

For additional information, contact Chilicon Power at (310) 800-1396