## HD WAVE SOLUTION AND BEST DUPLICATE ALGORITHM

HD Wave Solution and the Best Duplicate algorithm can account for directional sensitivity of bipolar electrograms by looking at two orthogonal bipole pairs and then using the point with the larger voltage on the map.

Two orthogonal bipole points recorded at the same time at the same location can record different voltage values based on different orientations of the electrode pairs, down the spline or across the spline.

Identifying a duplicate point pair to demonstrate this concept can be impactful in your initial cases. Find a representative point pair to prove the concept in your own lab in your own case with your own patient.





Same Order of Collection

Used Point

Difference in voltage based on directionality

Higher voltage is used on the map (blue star)

Orthogonal pair of B1-B2 is B1-C1
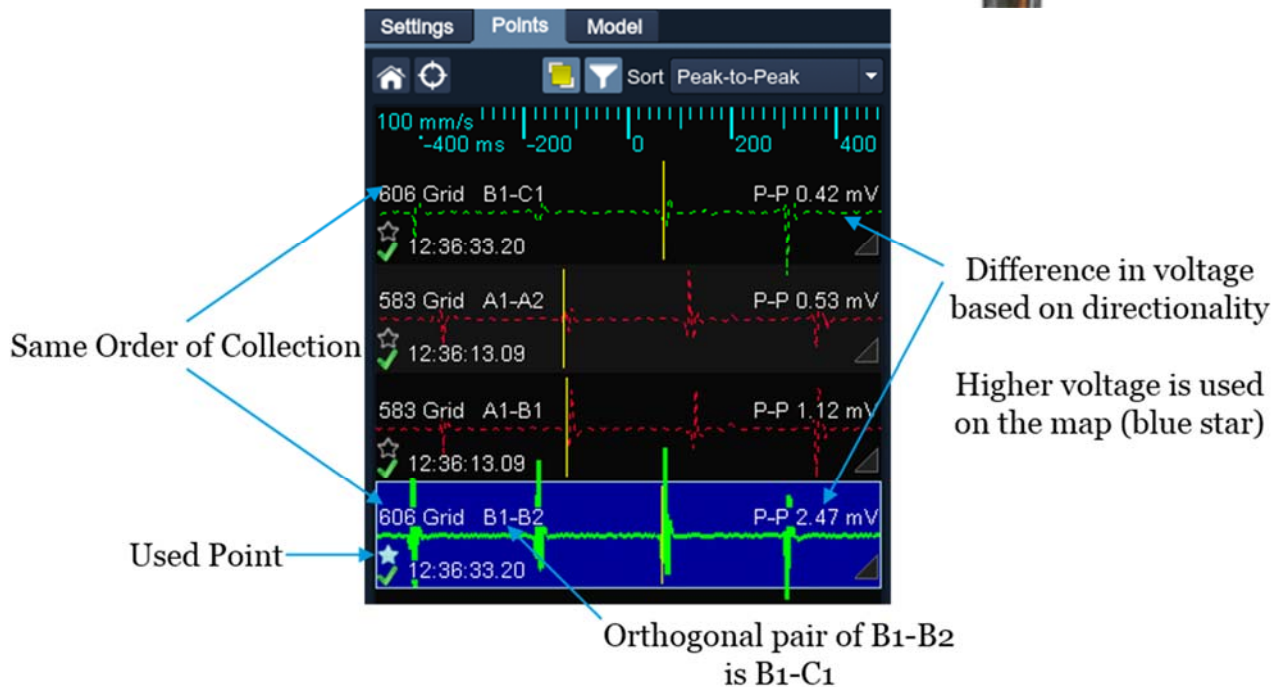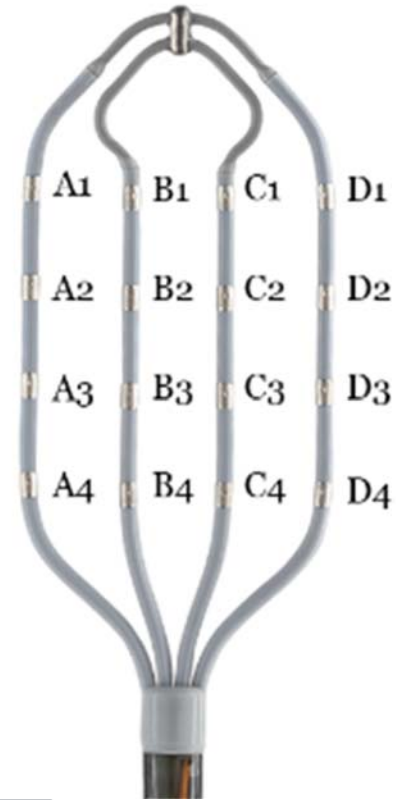
## IDENTIFYING DUPLICATES IN AN HD GRID STUDY

1. Within an HD Grid study, load a map created using HD Wave Solution.

2. Navigate to the **Mapping task** and open the **Points** list for review.

3. Change the map type to **Peak-to-Peak**.

4. Select the **Filter** to only display used points in the list.

5. Click on a map point.

6. Select the **Duplicates** icon to view all points considered in the Best Duplicate algorithm.

7. Identify a point pair to demonstrate a voltage difference as in the proof of concept. Search through several points to identify one that shows the largest voltage difference.

   • This point pair is more impactful if demonstrating healthy tissue or scar based on routinely used high and low voltage settings.

   • Be sure to pay attention to the order of collection number such that the points were collected at the same time.

   • Make sure the points represent orthogonal bipoles. (ex. A1-A2 and A1-B1).

8. Once a point is identified, create a map point **annotation** to label the point.

|  | ELECTRODE PAIR | ORDER OF COLLECTION | PEAK-TO-PEAK VOLTAGE |
|---|---|---|---|
| **POINT** |  |  |  |
| **DUPLICATE** |  |  |  |