```
TwoPass@k_MD := TwoPass@k =
    Block[{a, c, n = Length@k, p = List @@ Build@k // (#ᵀ⋃ (Abs@Reverse@# Sign@#)ᵀ)ᵀ[[2]] &,
      v, y = {}}, Do[v = Abs@p[[Mod[{i, i + 1}, 2 n, 1]]];
     If[Sort@Sign@p[[Mod[{i, i + 1}, 2 n, 1]]] == {-1, 1},
       Do[If[Total@Mod[l, 2] == 2, c = Range @@@ Partition[l + {1, -1, 1, -1}, 2];
         If[¬ MemberQ[Join @@ c, i], l = RotateLeft@l;
          c = Mod[Range @@@ Partition[l + {1, -1, 1, 2 n - 1}, 2], 2 n, 1]];
         If[Length[Join @@ c] < 2 n - 4 ⋀ v⋃Join @@ c == Abs@p[[Join @@ c]]⋃Mod[{i, i + 1}, 2 n,
               1], (*A 2-pass can be made with the given settings.*)AppendTo[y,
           Convert[Build@k /. x_Integer :> PassMapping[v, l, p, c, n, Abs@x, i]]]]],
        {l, Sort@Join[#, v] & /@ Subsets[Delete[Range[2 n],
            Mod[{{i, i + 1}}ᵀ, 2 n, 1]], {2}]}]], {i, 2 n}];
    KnotSort[Minimal /@ y⋃{}]];
```