4 Way Track crossing scenario

 **I have ignored the track going LEFT on P1 as no polarity switch**

**1/ If Track 1 (P1) is Live going RIGHT**

 **Then Tracks 3 (P2), 5 (P3), 7 (P4), 9 (P5) can be available going RIGHT**

 **But no Tracks to LEFT side are available**

**2/ If Track 2 (P2) is Live going LEFT**

**Then Tracks (3 error) 5 (P3), 7 (P4), 9 (P5) are available going RIGHT or Tracks 4 (P3), 6 (P4), 8 (P5), available LEFT**

**3/ If Track 3 (P2) is Live going RIGHT**

**Then Tracks P1 LEFT no polarity switch, or ( (2 error) and 5 (P3), 7 (P4), 9 (P5) available going RIGHT no other LEFT**

**4/ If Track 4 (P3) is Live going LEFT**

**Then Tracks 2 (P2), 6 (P4), 8 (P5) available LEFT and (5 error), 7 (P4), 9 (P5) available RIGHT**

**5/ If Track 5 (P3) is live going RIGHT**

**Then Tracks 1 (P1), 3 (P2), 7 (P4), 9 (P5) available RIGHT or 2 (P2) available LEFT and *7 (P4), 9 (P5) available going RIGHT***

**6/ If Track 6 (P4) is Live going LEFT**

**Then Tracks 2 (P2), 4 (P3), 8 (P5), available LEFT and *( 7 error ) 9 error (P5), available RIGHT***

**7/ If Track 7 (P4) is Live going RIGHT**

**Then 1 (P1), 3 (P2), 5 (P3), 9 (P5), are available RIGHT or Tracks 2 (P2), 4 (P3), *( 6 error (P4)) available LEFT***

**8/ If Track 8 (P5) is Live going LEFT**

**Then Tracks 2 (P2), 4 (P3), 6 (P4), is only available going LEFT**

Track Polarity that is switched

1. **Track 1 (P1) Right**
2. **Polarity + at top .. 1A 1B 1C 1D…**
3. **Track 3(P2) Right**
4. **Polarity + at Top … 2A 2B 2C…**
5. **Track 5 (P3) Right**
6. **Polarity + at Top … 3A 3B…**
7. **Track 7 (P4) Right**
8. **Polarity + at Top … 4A**
9. **Track 9 (P5)**
10. **Polarity is not required**
11. **Track 2 (P2) Left**
12. **Polarity – at Top … 1A**
13. **Track Polarity if selected with (P3 P4 or P5) Right**
14. **Polarity + at Top**
15. **Track 5 (P3) … 3A 3B**
16. **Track 7 (P4) … 4A**
17. **Track 9 (P5) polarity not required**
18. **Ytack Polarity if selected with (P3 P4 or P5) Left**
19. **Polarity – at top**
20. **Track 4 (P3) … 2A 1B**
21. **Track 6 (P4) … 3A 2B 1C**
22. **Track 8 (P5) … 4A 3B 2C 1D**
23. **Track 3 (P2) Right**
24. **Polarity + at top … 2A 2B 2C**
25. **Track polarity if selected with (P3 P4 or P5) Right**
26. **Polarity + at Top**
27. **Track 5 (P3) … 3A 3B**
28. **Track 7 (P4) … 4A**
29. **Track 9 (P5) polarity not required**
30. **Track 4 (P3) Left**
31. **Polarity – at top … 2A 1B**
32. **Track polarity if selected with (P2 P4 or P5 ) Left**
33. **Polarity - at top**
34. **Track 2 (P2) … 1A**
35. **Track 6 (P4) … 3A 2B 1C**
36. **Track 8 (P5) … 4A 3B 2C 1D**
37. **IF**
38. **Track polarity if selected with (P4 P5) Right**
39. **Polarity + at top**
40. **Track 7 (P4) …4A**
41. **Track 9 (P5) polarity not required**
42. **Track 5 (P3) Right**
43. **Polarity + at Top … 3A 3B**
44. **Track polarity if selected with ( P1 P2 P4 or P5) Right**
45. **Polarity + at top**
46. **Track 1 (P1) … 1A 1B 1C 1D**
47. **Track 3 (P2) … 2A 2B 2C**
48. **Track 7 (P4) … 4A**
49. **Track 9 polarity not required**
50. **IF**
51. **Track polarity if selected (P2 ) Left**
52. **Track - at Top**
53. **Track 2 (P2) … 1A ( conflict with Track 1 (P1)**
54. **Track polarity if selected with (7 (P4) 9 (P5))**
55. **Polarity + at top**
56. **Track 7 (P4) … 4A**
57. **Track 9 (P5) polarity not required (Think already done above)**
58. **Track 6 (P4) Left**
59. **Polarity – at Top … 3A 2B 1C**
60. **Track polarity if selected with (P2 P3 P5) Left**
61. **Polarity – at Top**
62. **Track 2 (P2) … 1A**
63. **Track 4 (P3) … 2A 1B**
64. **Track 8 (P5) … 4A 3B 2C 1D**
65. **Track 7 and 9 not available**
66. **Track 7 (P4) Right**
67. **Polarity + at Top … 4A**
68. **Track polarity if selected with (P1 P2 P3 P5) Right**
69. **Track + at Top**
70. **Track 2 (P2) … 1A 1B 1C 1D**
71. **Track 3 (P2) … 2A 2B 2C**
72. **Track 5 (P3) … 3A 3B**
73. **Track 9 (P5) polarity not required**
74. **IF**
75. **Track polarity if selected with (P2 P3) Left**
76. **Polarity – at Top**
77. **Track 2 (P2) … 1A (conflict with above)**
78. **Track 4 (P3) … 2A 1B (conflict with above)**
79. **Track 8 (P5) Left**
80. **Polarity – at Top … 4A 3B 2C 1D**
81. **Track polarity if selected with (P2 P3 P4) Left**
82. **Polarity – at Top**
83. **Track 2 (P2) … 1A**
84. **Track 4 (P3) … 2A 1B**
85. **Track 6 (P4) … 3A 2B 1C**

**The main problem is when you look through this polarity switching scenario is if points are selected in a certain manner if a point that will cause a conflict with polarity cannot be selected…**