

## Chapter 2 : New Study of Magic Squares 4x4 : Kanji Setsuda

### Section 6 : Classification of Standard Magic Squares 4x4 by the 'Composite Conditions' of 2x2 Little Squares within

#### #1. What I would like to report about in this section

First of all, I must mention that this article continued from the Section 5.

If you have not yet read the last section, read it before all, will you? Otherwise you cannot understand my discussion very well in this section, I am afraid.

When I read Mr. **William Walkington's** report, I began to think of classifying all the solutions of Standard Magic Squares of Order 4 by myself.

I tried to make lots of experiments by the same method using the Composite Sums of 2x2 Little Squares, and finally found something new and interesting.

I would like to report about it here in this section.

But I have to mention here that I would not verify the result of Mr. W. W. I want to classify the same object in a little different way: by mathematical method with fewer presuppositions, fewer logics and simplest tools.

I would explain about how and what I have just got as precisely as possible.

#### #2. Change our object from 880 'Standard' Solutions to 7040 'Primitive' Ones

At the end of last section I presented the list of 880 Standard Solutions of MS44 with their precise check-sum-errors and the 7 names of Composite Patterns.

And I put such the count-list of each Composite Pattern in the end as follows:

[Total Count of Solutions = 880 for 'Standard' solutions of Standard MS44;  
Counts of C-Patterns: 229/P1, 120/P2, 144/P3, 192/P4, 99/P5, 48/P6, 48/P7]

But I tried in vain to discover any consistent reason of their contents and counts clearly, especially about CP1, CP5, CP3 and CP7. Why not?

"Composite Patterns of them don't look 'symmetrical' with respect to the first primary diagonal {n1,n6,n11,n16}. They should conflict with the Normalization Standards when we get the 'Standard' solutions out of the 'Primitive' ones."

"Do we have to change our object for the classification now: from the 'Standard' solutions to the 'Primitive' ones?", I wondered.

I finally made up my mind to get the complete list of 7040 Primitive Solutions of MS44 with their new monitor of classified Composite Patterns.

I will show you what I have just got in the next sub-section #3.

[Total Count of Solutions = 7040; for 'Primitive' solutions of Standard MS44;  
Counts/CP: 1312/P1, 960/P2, 768/P3, 1536/P4, 1312/P5, 384/P6, 768/P7]

"These counts sound more reasonable", I thought when I saw the new result.

#### #3. Solution Lists of CP1, CP2, CP3, ..., CP7 Groups of Primitive Solutions

\*\* Standard Magic Squares of Order 4 Composed by the Ordinary Method:

Primitive Solutions of the CP1 Type with precise Check-Sums \*\*

Numb/Stnd/Type\Primary-diagonals/		Rows Columns Composite 2x2 Sums Name of C-Pattern	
1/	1/ST\34/34 Compst-Sums /CP1	2/	2/ST\34/34 Compst-Sums /CP1
1	2 15 16 34 34 29 34 39 34 XOXO	1	2 15 16 34 34 30 34 38 34 XOXO
12	14 3 5 34 34 46 34 22 34 XOXO	13	14 3 4 34 34 46 34 22 34 XOXO
13	7 10 4 34 34 39 34 29 34 XOXO	12	7 10 5 34 34 38 34 30 34 XOXO
8	11 6 9 34 34 22 34 46 34 XOXO	8	11 6 9 34 34 22 34 46 34 XOXO

3/ 4/ST\34/34|Compst-Sums|/CP1| 4/ 5/ST\34/34|Compst-Sums|/CP1|  
1 3 14 16|34|34|27 34 41 34|XOXO| 1 3 14 16|34|34|29 34 39 34|XOXO|  
10 13 4 7|34|34|44 34 24 34|XOXO| 12 13 4 5|34|34|48 34 20 34|XOXO|  
15 6 11 2|34|34|41 34 27 34|XOXO| 15 8 9 2|34|34|39 34 29 34|XOXO|  
8 12 5 9|34|34|24 34 44 34|XOXO| 6 10 7 11|34|34|20 34 48 34|XOXO|

5/ 6/ST\34/34|Compst-Sums|/CP1| 6/ 7/ST\34/34|Compst-Sums|/CP1|  
1 3 14 16|34|34|32 34 36 34|XOXO| 1 3 14 16|34|34|32 34 36 34|XOXO|  
15 13 4 2|34|34|44 34 24 34|XOXO| 15 13 4 2|34|34|48 34 20 34|XOXO|  
10 6 11 7|34|34|36 34 32 34|XOXO| 12 8 9 5|34|34|36 34 32 34|XOXO|  
8 12 5 9|34|34|24 34 44 34|XOXO| 6 10 7 11|34|34|20 34 48 34|XOXO|

7/ 12/ST\34/34|Compst-Sums|/CP1| 8/ 13/ST\34/34|Compst-Sums|/CP1|  
1 4 13 16|34|34|27 34 41 34|XOXO| 1 4 13 16|34|34|28 34 40 34|XOXO|  
8 14 3 9|34|34|42 34 26 34|XOXO| 8 15 2 9|34|34|42 34 26 34|XOXO|  
15 5 12 2|34|34|41 34 27 34|XOXO| 14 5 12 3|34|34|40 34 28 34|XOXO|  
10 11 6 7|34|34|26 34 42 34|XOXO| 11 10 7 6|34|34|26 34 42 34|XOXO|

9/ 14/ST\34/34|Compst-Sums|/CP1| 10/ 15/ST\34/34|Compst-Sums|/CP1|  
1 4 13 16|34|34|31 34 37 34|XOXO| 1 4 13 16|34|34|32 34 36 34|XOXO|  
12 14 3 5|34|34|50 34 18 34|XOXO| 12 15 2 5|34|34|50 34 18 34|XOXO|  
15 9 8 2|34|34|37 34 31 34|XOXO| 14 9 8 3|34|34|36 34 32 34|XOXO|  
6 7 10 11|34|34|18 34 50 34|XOXO| 7 6 11 10|34|34|18 34 50 34|XOXO|

11/ 23/ST\34/34|Compst-Sums|/CP1| 12/ 29/ST\34/34|Compst-Sums|/CP1|  
1 4 14 15|34|34|32 34 36 34|XOXO| 1 4 15 14|34|34|31 34 37 34|XOXO|  
16 11 5 2|34|34|42 34 26 34|XOXO| 16 10 5 3|34|34|42 34 26 34|XOXO|  
9 6 12 7|34|34|36 34 32 34|XOXO| 9 7 12 6|34|34|37 34 31 34|XOXO|  
8 13 3 10|34|34|26 34 42 34|XOXO| 8 13 2 11|34|34|26 34 42 34|XOXO|

13/ 36/ST\34/34|Compst-Sums|/CP1| 14/ 37/ST\34/34|Compst-Sums|/CP1|  
1 5 12 16|34|34|27 34 41 34|XOXO| 1 5 12 16|34|34|31 34 37 34|XOXO|  
10 11 6 7|34|34|40 34 28 34|XOXO| 14 11 6 3|34|34|48 34 20 34|XOXO|  
15 4 13 2|34|34|41 34 27 34|XOXO| 15 8 9 2|34|34|37 34 31 34|XOXO|  
8 14 3 9|34|34|28 34 40 34|XOXO| 4 10 7 13|34|34|20 34 48 34|XOXO|

15/ 38/ST\34/34|Compst-Sums|/CP1| 16/ 39/ST\34/34|Compst-Sums|/CP1|  
1 5 12 16|34|34|32 34 36 34|XOXO| 1 5 12 16|34|34|32 34 36 34|XOXO|  
15 11 6 2|34|34|40 34 28 34|XOXO| 15 11 6 2|34|34|48 34 20 34|XOXO|  
10 4 13 7|34|34|36 34 32 34|XOXO| 14 8 9 3|34|34|36 34 32 34|XOXO|  
8 14 3 9|34|34|28 34 40 34|XOXO| 4 10 7 13|34|34|20 34 48 34|XOXO|

17/ 44/ST\34/34|Compst-Sums|/CP1| 18/ 45/ST\34/34|Compst-Sums|/CP1|  
1 6 11 16|34|34|29 34 39 34|XOXO| 1 6 11 16|34|34|27 34 41 34|XOXO|  
7 15 2 10|34|34|40 34 28 34|XOXO| 8 12 5 9|34|34|38 34 30 34|XOXO|  
14 4 13 3|34|34|39 34 29 34|XOXO| 15 3 14 2|34|34|41 34 27 34|XOXO|  
12 9 8 5|34|34|28 34 40 34|XOXO| 10 13 4 7|34|34|30 34 38 34|XOXO|

19/ 46/ST\34/34|Compst-Sums|/CP1| 20/ 47/ST\34/34|Compst-Sums|/CP1|  
1 6 11 16|34|34|30 34 38 34|XOXO| 1 6 11 16|34|34|29 34 39 34|XOXO|  
8 15 2 9|34|34|38 34 30 34|XOXO| 12 10 7 5|34|34|38 34 30 34|XOXO|  
12 3 14 5|34|34|38 34 30 34|XOXO| 13 3 14 4|34|34|39 34 29 34|XOXO|  
13 10 7 4|34|34|30 34 38 34|XOXO| 8 15 2 9|34|34|30 34 38 34|XOXO|

21/ 50/ST\34/34|Compst-Sums|/CP1| 22/ 51/ST\34/34|Compst-Sums|/CP1|  
1 6 11 16|34|34|30 34 38 34|XOXO| 1 6 11 16|34|34|33 34 35 34|XOXO|  
13 10 7 4|34|34|38 34 30 34|XOXO| 14 12 5 3|34|34|50 34 18 34|XOXO|  
12 3 14 5|34|34|38 34 30 34|XOXO| 15 9 8 2|34|34|35 34 33 34|XOXO|  
8 15 2 9|34|34|30 34 38 34|XOXO| 4 7 10 13|34|34|18 34 50 34|XOXO|

23/ 52/ST\34/34|Compst-Sums|/CP1| 24/ 53/ST\34/34|Compst-Sums|/CP1|  
1 6 11 16|34|34|36 34 32 34|XOXO| 1 6 11 16|34|34|36 34 32 34|XOXO|  
14 15 2 3|34|34|40 34 28 34|XOXO| 14 15 2 3|34|34|50 34 18 34|XOXO|  
7 4 13 10|34|34|32 34 36 34|XOXO| 12 9 8 5|34|34|32 34 36 34|XOXO|  
12 9 8 5|34|34|28 34 40 34|XOXO| 7 4 13 10|34|34|18 34 50 34|XOXO|

25/ 59/P1	26/ 70/P1	27/ 71/P1	28/ 72/P1	29/ 75/P1	30/ 78/P1
1 6 12 15	1 7 10 16	1 7 10 16	1 7 10 16	1 7 10 16	1 7 10 16
16 9 7 2	8 12 5 9	8 14 3 9	12 9 8 5	14 9 8 3	15 9 8 2
13 8 10 3	14 2 15 3	12 2 15 5	15 4 13 2	15 6 11 2	12 4 13 5
4 11 5 14	11 13 4 6	13 11 6 4	6 14 3 11	4 12 5 13	6 14 3 11
31/ 79/P1	32/ 80/P1	33/ 81/P1	34/ 101/P1	35/ 102/P1	36/ 108/P1
1 7 10 16	1 7 10 16	1 7 10 16	1 8 9 16	1 8 9 16	1 8 10 15
15 9 8 2	15 12 5 2	15 14 3 2	7 13 4 10	14 13 4 3	16 13 3 2
14 6 11 3	14 9 8 3	12 9 8 5	14 2 15 3	7 2 15 10	5 4 14 11
4 12 5 13	4 6 11 13	6 4 13 11	12 11 6 5	12 11 6 5	12 9 7 6
37/ 124/P1	38/ 137/P1	39/ 138/P1	40/ 146/P1	41/ 147/P1	42/ 148/P1
1 8 13 12	1 9 8 16	1 9 8 16	1 10 7 16	1 10 7 16	1 10 7 16
16 11 2 5	7 15 2 10	14 15 2 3	12 8 9 5	12 13 4 5	12 15 2 5
3 6 15 10	14 4 13 3	7 4 13 10	15 3 14 2	15 8 9 2	8 3 14 9
14 9 4 7	12 6 11 5	12 6 11 5	6 13 4 11	6 3 14 11	13 6 11 4
43/ 149/P1	44/ 150/P1	45/ 151/P1	46/ 154/P1	47/ 155/P1	48/ 161/P1
1 10 7 16	1 10 7 16	1 10 7 16	1 10 7 16	1 10 7 16	1 10 8 15
14 8 9 3	14 11 6 3	14 15 2 3	15 11 6 2	15 13 4 2	16 13 3 2
15 5 12 2	15 8 9 2	8 5 12 9	14 8 9 3	12 8 9 5	5 4 14 11
4 11 6 13	4 5 12 13	11 4 13 6	4 5 12 13	6 3 14 11	12 7 9 6
49/ 169/P1	50/ 176/P1	51/ 179/P1	52/ 180/P1	53/ 181/P1	54/ 182/P1
1 10 15 8	1 11 6 16	1 11 6 16	1 11 6 16	1 11 6 16	1 11 6 16
16 6 3 9	7 13 4 10	12 8 9 5	12 14 3 5	12 14 3 5	13 14 3 4
5 11 14 4	14 2 15 3	14 2 15 3	8 2 15 9	13 7 10 4	12 7 10 5
12 7 2 13	12 8 9 5	7 13 4 10	13 7 10 4	8 2 15 9	8 2 15 9
55/ 185/P1	56/ 186/P1	57/ 187/P1	58/ 195/P1	59/ 202/P1	60/ 203/P1
1 11 6 16	1 11 6 16	1 11 6 16	1 11 14 8	1 12 5 16	1 12 5 16
14 13 4 3	15 8 9 2	15 14 3 2	16 5 4 9	10 13 4 7	14 9 8 3
7 2 15 10	14 5 12 3	8 5 12 9	7 12 13 2	15 6 11 2	15 6 11 2
12 8 9 5	4 10 7 13	10 4 13 7	10 6 3 15	8 3 14 9	4 7 10 13
61/ 204/P1	62/ 205/P1	63/ 211/P1	64/ 231/P1	65/ 253/P1	66/ 254/P1
1 12 5 16	1 12 5 16	1 12 6 15	1 12 13 8	1 13 4 16	1 13 4 16
15 9 8 2	15 13 4 2	16 9 7 2	16 7 2 9	14 8 9 3	14 12 5 3
14 6 11 3	10 6 11 7	13 8 10 3	3 10 15 6	12 2 15 5	8 2 15 9
4 7 10 13	8 3 14 9	4 5 11 14	14 5 4 11	7 11 6 10	11 7 10 6
67/ 255/P1	68/ 256/P1	69/ 262/P1	70/ 273/P1	71/ 280/P1	72/ 281/P1
1 13 4 16	1 13 4 16	1 13 8 12	1 13 12 8	1 14 3 16	1 14 3 16
15 8 9 2	15 12 5 2	16 11 2 5	16 7 2 9	10 11 6 7	12 9 8 5
12 3 14 5	8 3 14 9	3 6 15 10	3 10 15 6	15 4 13 2	15 4 13 2
6 10 7 11	10 6 11 7	14 4 9 7	14 4 5 11	8 5 12 9	6 7 10 11
73/ 282/P1	74/ 283/P1	75/ 289/P1	76/ 310/P1	77/ 327/P1	78/ 328/P1
1 14 3 16	1 14 3 16	1 14 4 15	1 14 11 8	1 15 2 16	1 15 2 16
15 9 8 2	15 11 6 2	16 11 5 2	16 5 4 9	12 10 7 5	13 10 7 4
12 4 13 5	10 4 13 7	9 6 12 7	7 12 13 2	13 3 14 4	12 3 14 5
6 7 10 11	8 5 12 9	8 3 13 10	10 3 6 15	8 6 11 9	8 6 11 9
79/ 334/P1	80/ 354/P1	81/ 375/P1	82/ 400/P1	83/ 418/P1	149/ 826/P1
1 15 4 14	1 15 10 8	1 16 2 15	1 16 9 8	2 1 16 15	3 2 13 16
16 10 5 3	16 6 3 9	12 9 7 6	14 5 4 11	11 13 4 6	14 12 7 1
9 7 12 6	5 11 14 4	13 4 14 3	7 10 15 2	14 8 9 3	11 5 10 8
8 2 13 11	12 2 7 13	8 5 11 10	12 3 6 13	7 12 5 10	6 15 4 9
212/1226/P1	313/1713/P1	387/2133/P1	471/2596/P1	556/3061/P1	657/3528/P1
4 1 14 15	5 2 15 12	6 1 12 15	7 1 14 12	8 1 12 13	9 1 16 8
13 11 8 2	3 13 4 14	4 16 5 9	2 16 3 13	9 14 7 4	6 7 10 11
12 6 9 7	16 8 9 1	13 3 10 8	15 9 6 4	6 3 10 15	15 12 5 2
5 16 3 10	10 11 6 7	11 14 7 2	10 8 11 5	11 16 5 2	4 14 3 13

758/4001/P1 843/4461/P1 927/4925/P1 1001/5351/P1 1102/5833/P1 1165/6237/P1  
 10 1 8 15 11 1 8 14 12 1 8 13 13 1 8 12 14 1 8 11 15 1 8 10  
 4 16 9 5 2 16 9 7 3 16 9 6 4 11 14 5 3 13 12 6 2 11 14 7  
 13 3 6 12 15 5 4 10 14 7 2 11 15 6 3 10 10 4 5 15 13 6 3 12  
 7 14 11 2 6 12 13 3 5 10 15 4 2 16 9 7 7 16 9 2 4 16 9 5

1231/6641/P1  
 16 1 8 9  
 3 12 13 6 (/ST:'Standard';  
 10 7 2 15 /SC:'Self-Complementary';  
 5 14 11 4 /PD:'Pan-Diagonal' Type)  
 [Counts of this Composite Pattern: 1312/P1]

**\*\* Primitive Solutions of the CP2 Type with precise Check-Sums \*\***

Numb/Stnd/Type\Primary-diagonals/  
 |Rows|Columns|Composite 2x2 Sums|Name of C-Pattern|

1/ 3/ST\34/34|Compst-Sums|/CP2| 2/ 8/ST\34/34|Compst-Sums|/CP2|  
 1 2 16 15|34|34|30 36 38 32|XXXX| 1 3 16 14|34|34|27 36 41 32|XXXX|  
 13 14 4 3|34|34|46 34 22 34|XOXO| 8 15 2 9|34|34|42 34 26 34|XOXO|  
 12 7 9 6|34|34|38 32 30 36|XXXX| 13 6 11 4|34|34|41 32 27 36|XXXX|  
 8 11 5 10|34|34|22 34 46 34|XOXO| 12 10 5 7|34|34|26 34 42 34|XOXO|

3/ 9/ST\34/34|Compst-Sums|/CP2| 4/ 10/ST\34/34|Compst-Sums|/CP2|  
 1 3 16 14|34|34|31 36 37 32|XXXX| 1 3 16 14|34|34|32 36 36 32|XXXX|  
 12 15 2 5|34|34|50 34 18 34|XOXO| 13 15 2 4|34|34|42 34 26 34|XOXO|  
 13 10 7 4|34|34|37 32 31 36|XXXX| 8 6 11 9|34|34|36 32 32 36|XXXX|  
 8 6 9 11|34|34|18 34 50 34|XOXO| 12 10 5 7|34|34|26 34 42 34|XOXO|

5/ 11/ST\34/34|Compst-Sums|/CP2| 6/ 20/ST\34/34|Compst-Sums|/CP2|  
 1 3 16 14|34|34|32 36 36 32|XXXX| 1 4 14 15|34|34|26 36 42 32|XXXX|  
 13 15 2 4|34|34|50 34 18 34|XOXO| 9 12 6 7|34|34|42 34 26 34|XOXO|  
 12 10 7 5|34|34|36 32 32 36|XXXX| 16 5 11 2|34|34|42 32 26 36|XXXX|  
 8 6 9 11|34|34|18 34 50 34|XOXO| 8 13 3 10|34|34|26 34 42 34|XOXO|

7/ 26/ST\34/34|Compst-Sums|/CP2| 8/ 40/ST\34/34|Compst-Sums|/CP2|  
 1 4 15 14|34|34|26 38 42 30|XXXX| 1 5 16 12|34|34|28 38 40 30|XXXX|  
 9 12 7 6|34|34|42 34 26 34|XOXO| 8 14 3 9|34|34|36 34 32 34|XOXO|  
 16 5 10 3|34|34|42 30 26 38|XXXX| 10 4 13 7|34|34|40 30 28 38|XXXX|  
 8 13 2 11|34|34|26 34 42 34|XOXO| 15 11 2 6|34|34|32 34 36 34|XOXO|

9/ 41/ST\34/34|Compst-Sums|/CP2| 10/ 42/ST\34/34|Compst-Sums|/CP2|  
 1 5 16 12|34|34|30 38 38 30|XXXX| 1 5 16 12|34|34|30 38 38 30|XXXX|  
 10 14 3 7|34|34|36 34 32 34|XOXO| 10 14 3 7|34|34|50 34 18 34|XOXO|  
 8 4 13 9|34|34|38 30 30 38|XXXX| 15 11 6 2|34|34|38 30 30 38|XXXX|  
 15 11 2 6|34|34|32 34 36 34|XOXO| 8 4 9 13|34|34|18 34 50 34|XOXO|

11/ 43/ST\34/34|Compst-Sums|/CP2| 12/ 58/ST\34/34|Compst-Sums|/CP2|  
 1 5 16 12|34|34|35 38 33 30|XXXX| 1 6 12 15|34|34|30 36 38 32|XXXX|  
 15 14 3 2|34|34|50 34 18 34|XOXO| 13 10 8 3|34|34|46 34 22 34|XOXO|  
 10 11 6 7|34|34|33 30 35 38|XXXX| 16 7 9 2|34|34|38 32 30 36|XXXX|  
 8 4 9 13|34|34|18 34 50 34|XOXO| 4 11 5 14|34|34|22 34 46 34|XOXO|

13/ 89/ST\34/34|Compst-Sums|/CP2| 14/ 95/ST\34/34|Compst-Sums|/CP2|  
 1 7 14 12|34|34|32 40 36 28|XXXX| 1 7 16 10|34|34|32 40 36 28|XXXX|  
 9 15 4 6|34|34|50 34 18 34|XOXO| 11 13 4 6|34|34|50 34 18 34|XOXO|  
 16 10 5 3|34|34|36 28 32 40|XXXX| 14 12 5 3|34|34|36 28 32 40|XXXX|  
 8 2 11 13|34|34|18 34 50 34|XOXO| 8 2 9 15|34|34|18 34 50 34|XOXO|

15/ 100/ST\34/34|Compst-Sums|/CP2| 16/ 103/ST\34/34|Compst-Sums|/CP2|  
 1 7 16 10|34|34|35 40 33 28|XXXX| 1 8 10 15|34|34|28 36 40 32|XXXX|  
 14 13 4 3|34|34|50 34 18 34|XOXO| 5 14 4 11|34|34|38 34 30 34|XOXO|  
 11 12 5 6|34|34|33 28 35 40|XXXX| 16 3 13 2|34|34|40 32 28 36|XXXX|  
 8 2 9 15|34|34|18 34 50 34|XOXO| 12 9 7 6|34|34|30 34 38 34|XOXO|

17/ 119/ST\34/34|Compst-Sums|/CP2| 18/ 139/ST\34/34|Compst-Sums|/CP2|  
 1 8 13 12|34|34|27 42 41 26|XXXX| 1 9 16 8|34|34|26 42 42 26|XXXX|  
 3 15 6 10|34|34|36 34 32 34|XOXO| 4 12 5 13|34|34|36 34 32 34|XOXO|  
 16 2 11 5|34|34|41 26 27 42|XXXX| 14 6 11 3|34|34|42 26 26 42|XXXX|  
 14 9 4 7|34|34|32 34 36 34|XOXO| 15 7 2 10|34|34|32 34 36 34|XOXO|

19/ 140/ST\34/34|Compst-Sums|/CP2| 20/ 141/ST\34/34|Compst-Sums|/CP2|  
 1 9 16 8|34|34|26 42 42 26|XXXX| 1 9 16 8|34|34|32 50 36 18|XXXX|  
 4 12 5 13|34|34|38 34 30 34|XOXO| 7 15 10 2|34|34|40 34 28 34|XOXO|  
 15 7 10 2|34|34|42 26 26 42|XXXX| 14 4 5 11|34|34|36 18 32 50|XXXX|  
 14 6 3 11|34|34|30 34 38 34|XOXO| 12 6 3 13|34|34|28 34 40 34|XOXO|

21/ 142/ST\34/34|Compst-Sums|/CP2| 22/ 143/ST\34/34|Compst-Sums|/CP2|  
 1 9 16 8|34|34|36 42 32 26|XXXX| 1 9 16 8|34|34|37 42 31 26|XXXX|  
 14 12 5 3|34|34|36 34 32 34|XOXO| 15 12 5 2|34|34|38 34 30 34|XOXO|  
 4 6 11 13|34|34|32 26 36 42|XXXX| 4 7 10 13|34|34|31 26 37 42|XXXX|  
 15 7 2 10|34|34|32 34 36 34|XOXO| 14 6 3 11|34|34|30 34 38 34|XOXO|

23/ 156/ST\34/34|Compst-Sums|/CP2| 24/ 164/ST\34/34|Compst-Sums|/CP2|  
 1 10 8 15|34|34|30 36 38 32|XXXX| 1 10 15 8|34|34|30 50 38 18|XXXX|  
 5 14 4 11|34|34|38 34 30 34|XOXO| 5 14 11 4|34|34|38 34 30 34|XOXO|  
 16 3 13 2|34|34|38 32 30 36|XXXX| 16 3 6 9|34|34|38 18 30 50|XXXX|  
 12 7 9 6|34|34|30 34 38 34|XOXO| 12 7 2 13|34|34|30 34 38 34|XOXO|

25/ 194/P2 26/ 209/P2 27/ 223/P2 28/ 257/P2 29/ 264/P2 30/ 265/P2  
 1 11 14 8 1 12 6 15 1 12 13 8 1 13 8 12 1 13 12 8 1 13 12 8  
 7 13 12 2 13 10 8 3 3 15 10 6 3 15 6 10 2 14 7 11 3 15 10 6  
 16 4 5 9 16 7 9 2 16 2 7 9 16 2 11 5 16 4 9 5 16 2 7 9  
 10 6 3 15 4 5 11 14 14 5 4 11 14 4 9 7 15 3 6 10 14 4 5 11

31/ 274/P2 32/ 279/P2 33/ 286/P2 34/ 307/P2 35/ 331/P2 36/ 348/P2  
 1 13 16 4 1 13 16 4 1 14 4 15 1 14 11 8 1 15 4 14 1 15 10 8  
 6 10 7 11 12 10 7 5 9 12 6 7 7 13 12 2 9 12 7 6 5 14 11 4  
 12 8 9 5 6 8 9 11 16 5 11 2 16 4 5 9 16 5 10 3 16 3 6 9  
 15 3 2 14 15 3 2 14 8 3 13 10 10 3 6 15 8 2 13 11 12 2 7 13

37/ 417/P2 89/ 817/P2 151/1225/P2 209/1697/P2 277/2134/P2 349/2585/P2  
 2 1 15 16 3 1 14 16 4 1 14 15 5 1 12 16 6 1 12 15 7 1 10 16  
 14 13 3 4 8 15 2 9 12 9 6 7 8 14 3 9 8 10 3 13 11 13 4 6  
 11 8 10 5 13 6 11 4 13 8 11 2 10 4 13 7 11 7 14 2 14 12 5 3  
 7 12 6 9 10 12 7 5 5 16 3 10 11 15 6 2 9 16 5 4 2 8 15 9

423/3059/P2 481/3521/P2 539/4007/P2 613/4466/P2 685/4930/P2 753/5345/P2  
 8 1 12 13 9 1 8 16 10 1 8 15 11 1 8 14 12 1 8 13 13 1 4 16  
 6 10 3 15 4 12 5 13 12 6 3 13 15 4 5 10 10 6 3 15 6 10 7 11  
 9 7 14 4 14 6 11 3 7 11 14 2 6 13 12 3 5 11 14 4 12 8 9 5  
 11 16 5 2 7 15 10 2 5 16 9 4 2 16 9 7 7 16 9 2 3 15 14 2

811/5836/P2 873/6241/P2 925/6693/P2  
 14 1 8 11 15 1 8 10 16 2 7 9  
 10 5 4 15 11 4 5 14 12 3 6 13  
 3 12 13 6 2 13 12 7 1 14 11 8  
 7 16 9 2 6 16 9 3 5 15 10 4

(/ST:'Standard';  
 /SC:'Self-Complementary';  
 /PD:'Pan-Diagonal' Type)

[Counts of this Composite Pattern: 960/P2]

\*\* Primitive Solutions of the CP3 Type with precise Check-Sums \*\*

Numb/Stnd/Type\Primary-diagonals/  
 |Rows|Columns|Composite 2x2 Sums|Name of C-Pattern|

1/ 16/ST\34/34|Compst-Sums|/CP3| 2/ 17/ST\34/34|Compst-Sums|/CP3|  
 1 4 13 16|34|34|34 34 34 34|0000| 1 4 13 16|34|34|34 34 34 34|0000|  
 14 15 2 3|34|34|42 34 26 34|XOXO| 14 15 2 3|34|34|50 34 18 34|XOXO|  
 8 5 12 9|34|34|34 34 34 34|0000| 12 9 8 5|34|34|34 34 34 34|0000|  
 11 10 7 6|34|34|26 34 42 34|XOXO| 7 6 11 10|34|34|18 34 50 34|XOXO|

3/ 18/ST\34/34|Compst-Sums|/CP3| 4/ 19/ST\34/34|Compst-Sums|/CP3|  
 1 4 13 16|34|34|34 34 34 34|0000| 1 4 13 16|34|34|34 34 34 34|0000|  
 15 14 3 2|34|34|42 34 26 34|XOXO| 15 14 3 2|34|34|50 34 18 34|XOXO|  
 8 5 12 9|34|34|34 34 34 34|0000| 12 9 8 5|34|34|34 34 34 34|0000|  
 10 11 6 7|34|34|26 34 42 34|XOXO| 6 7 10 11|34|34|18 34 50 34|XOXO|

5/ 24/ST\34/34|Compst-Sums|/CP3| 6/ 25/ST\34/34|Compst-Sums|/CP3|  
 1 4 14 15|34|34|34 34 34 34|0000| 1 4 14 15|34|34|34 34 34 34|0000|  
 16 13 3 2|34|34|42 34 26 34|XOXO| 16 13 3 2|34|34|50 34 18 34|XOXO|  
 7 6 12 9|34|34|34 34 34 34|0000| 11 10 8 5|34|34|34 34 34 34|0000|  
 10 11 5 8|34|34|26 34 42 34|XOXO| 6 7 9 12|34|34|18 34 50 34|XOXO|

7/ 30/ST\34/34|Compst-Sums|/CP3| 8/ 31/ST\34/34|Compst-Sums|/CP3|  
 1 4 15 14|34|34|34 34 34 34|0000| 1 4 15 14|34|34|34 34 34 34|0000|  
 16 13 2 3|34|34|42 34 26 34|XOXO| 16 13 2 3|34|34|50 34 18 34|XOXO|  
 6 7 12 9|34|34|34 34 34 34|0000| 10 11 8 5|34|34|34 34 34 34|0000|  
 11 10 5 8|34|34|26 34 42 34|XOXO| 7 6 9 12|34|34|18 34 50 34|XOXO|

9/ 48/ST\34/34|Compst-Sums|/CP3| 10/ 49/ST\34/34|Compst-Sums|/CP3|  
 1 6 11 16|34|34|34 34 34 34|0000| 1 6 11 16|34|34|34 34 34 34|0000|  
 12 15 2 5|34|34|38 34 30 34|XOXO| 12 15 2 5|34|34|50 34 18 34|XOXO|  
 8 3 14 9|34|34|34 34 34 34|0000| 14 9 8 3|34|34|34 34 34 34|0000|  
 13 10 7 4|34|34|30 34 38 34|XOXO| 7 4 13 10|34|34|18 34 50 34|XOXO|

11/ 54/ST\34/34|Compst-Sums|/CP3| 12/ 55/ST\34/34|Compst-Sums|/CP3|  
 1 6 11 16|34|34|34 34 34 34|0000| 1 6 11 16|34|34|34 34 34 34|0000|  
 15 12 5 2|34|34|38 34 30 34|XOXO| 15 12 5 2|34|34|50 34 18 34|XOXO|  
 8 3 14 9|34|34|34 34 34 34|0000| 14 9 8 3|34|34|34 34 34 34|0000|  
 10 13 4 7|34|34|30 34 38 34|XOXO| 4 7 10 13|34|34|18 34 50 34|XOXO|

13/ 60/ST\34/34|Compst-Sums|/CP3| 14/ 61/ST\34/34|Compst-Sums|/CP3|  
 1 6 12 15|34|34|34 34 34 34|0000| 1 6 12 15|34|34|34 34 34 34|0000|  
 16 11 5 2|34|34|38 34 30 34|XOXO| 16 11 5 2|34|34|50 34 18 34|XOXO|  
 7 4 14 9|34|34|34 34 34 34|0000| 13 10 8 3|34|34|34 34 34 34|0000|  
 10 13 3 8|34|34|30 34 38 34|XOXO| 4 7 9 14|34|34|18 34 50 34|XOXO|

15/ 64/ST\34/34|Compst-Sums|/CP3| 16/ 65/ST\34/34|Compst-Sums|/CP3|  
 1 6 15 12|34|34|34 34 34 34|0000| 1 6 15 12|34|34|34 34 34 34|0000|  
 16 11 2 5|34|34|38 34 30 34|XOXO| 16 11 2 5|34|34|50 34 18 34|XOXO|  
 4 7 14 9|34|34|34 34 34 34|0000| 10 13 8 3|34|34|34 34 34 34|0000|  
 13 10 3 8|34|34|30 34 38 34|XOXO| 7 4 9 14|34|34|18 34 50 34|XOXO|

17/ 73/ST\34/34|Compst-Sums|/CP3| 18/ 74/ST\34/34|Compst-Sums|/CP3|  
 1 7 10 16|34|34|34 34 34 34|0000| 1 7 10 16|34|34|34 34 34 34|0000|  
 12 14 3 5|34|34|36 34 32 34|XOXO| 12 14 3 5|34|34|50 34 18 34|XOXO|  
 8 2 15 9|34|34|34 34 34 34|0000| 15 9 8 2|34|34|34 34 34 34|0000|  
 13 11 6 4|34|34|32 34 36 34|XOXO| 6 4 13 11|34|34|18 34 50 34|XOXO|

19/ 76/ST\34/34|Compst-Sums|/CP3| 20/ 77/ST\34/34|Compst-Sums|/CP3|  
 1 7 10 16|34|34|34 34 34 34|0000| 1 7 10 16|34|34|34 34 34 34|0000|  
 14 12 5 3|34|34|36 34 32 34|XOXO| 14 12 5 3|34|34|50 34 18 34|XOXO|  
 8 2 15 9|34|34|34 34 34 34|0000| 15 9 8 2|34|34|34 34 34 34|0000|  
 11 13 4 6|34|34|32 34 36 34|XOXO| 4 6 11 13|34|34|18 34 50 34|XOXO|

21/ 84/ST\34/34|Compst-Sums|/CP3| 22/ 85/ST\34/34|Compst-Sums|/CP3|  
 1 7 12 14|34|34|34 34 34 34|0000| 1 7 12 14|34|34|34 34 34 34|0000|  
 16 10 5 3|34|34|36 34 32 34|XOXO| 16 10 5 3|34|34|50 34 18 34|XOXO|  
 6 4 15 9|34|34|34 34 34 34|0000| 13 11 8 2|34|34|34 34 34 34|0000|  
 11 13 2 8|34|34|32 34 36 34|XOXO| 4 6 9 15|34|34|18 34 50 34|XOXO|

23/ 93/ST\34/34|Compst-Sums|/CP3| 24/ 94/ST\34/34|Compst-Sums|/CP3|  
 1 7 14 12|34|34|34 34 34 34|0000| 1 7 14 12|34|34|34 34 34 34|0000|  
 16 10 3 5|34|34|36 34 32 34|XOXO| 16 10 3 5|34|34|50 34 18 34|XOXO|  
 4 6 15 9|34|34|34 34 34 34|0000| 11 13 8 2|34|34|34 34 34 34|0000|  
 13 11 2 8|34|34|32 34 36 34|XOXO| 6 4 9 15|34|34|18 34 50 34|XOXO|

25/ 144/P3 26/ 145/P3 27/ 152/P3 28/ 153/P3 29/ 159/P3 30/ 160/P3  
 1 10 7 16 1 10 7 16 1 10 7 16 1 10 7 16 1 10 8 15 1 10 8 15  
 8 15 2 9 8 15 2 9 15 8 9 2 15 8 9 2 16 7 9 2 16 7 9 2  
 12 3 14 5 14 5 12 3 12 3 14 5 14 5 12 3 11 4 14 5 13 6 12 3  
 13 6 11 4 11 4 13 6 6 13 4 11 4 11 6 13 6 13 3 12 4 11 5 14

31/ 170/P3 32/ 171/P3 33/ 177/P3 34/ 178/P3 35/ 183/P3 36/ 184/P3  
 1 10 15 8 1 10 15 8 1 11 6 16 1 11 6 16 1 11 6 16 1 11 6 16  
 16 7 2 9 16 7 2 9 8 14 3 9 8 14 3 9 14 8 9 3 14 8 9 3  
 4 11 14 5 6 13 12 3 12 2 15 5 15 5 12 2 12 2 15 5 15 5 12 2  
 13 6 3 12 11 4 5 14 13 7 10 4 10 4 13 7 7 13 4 10 4 10 7 13

37/ 190/P3 38/ 191/P3 39/ 196/P3 40/ 197/P3 41/ 249/P3 42/ 250/P3  
 1 11 8 14 1 11 8 14 1 11 14 8 1 11 14 8 1 13 4 16 1 13 4 16  
 16 6 9 3 16 6 9 3 16 6 3 9 16 6 3 9 8 12 5 9 8 12 5 9  
 10 4 15 5 13 7 12 2 4 10 15 5 7 13 12 2 14 2 15 3 15 3 14 2  
 7 13 2 12 4 10 5 15 13 7 2 12 10 4 5 15 11 7 10 6 10 6 11 7

43/ 251/P3 44/ 252/P3 45/ 260/P3 46/ 261/P3 47/ 271/P3 48/ 272/P3  
 1 13 4 16 1 13 4 16 1 13 8 12 1 13 8 12 1 13 12 8 1 13 12 8  
 12 8 9 5 12 8 9 5 16 4 9 5 16 4 9 5 16 4 5 9 16 4 5 9  
 14 2 15 3 15 3 14 2 10 6 15 3 11 7 14 2 6 10 15 3 7 11 14 2  
 7 11 6 10 6 10 7 11 7 11 2 14 6 10 3 15 11 7 2 14 10 6 3 15

49/ 424/P3 97/ 827/P3 145/1227/P3 193/1705/P3 241/2137/P3 289/2591/P3  
 2 3 13 16 3 2 13 16 4 1 14 15 5 2 11 16 6 1 12 15 7 1 12 14  
 15 14 4 1 14 15 4 1 13 16 3 2 12 15 6 1 11 16 5 2 10 16 5 3  
 8 5 11 10 8 5 10 11 7 6 9 12 8 3 10 13 7 4 9 14 6 4 9 15  
 9 12 6 7 9 12 7 6 10 11 8 5 9 14 7 4 10 13 8 3 11 13 8 2

337/3100/P3 385/3535/P3 433/4005/P3 481/4463/P3 529/4970/P3 577/5352/P3  
 8 2 11 13 9 2 7 16 10 1 8 15 11 1 8 14 12 2 7 13 13 1 8 12  
 9 15 6 4 8 15 10 1 7 16 9 2 6 16 9 3 5 15 10 4 4 16 9 5  
 5 3 10 16 12 3 6 13 11 4 5 14 10 4 5 15 9 3 6 16 10 6 3 15  
 12 14 7 1 5 14 11 4 6 13 12 3 7 13 12 2 8 14 11 1 7 11 14 2

625/5871/P3 673/6319/P3 721/6769/P3  
 14 2 7 11 15 3 6 10 16 4 5 9 (/ST:'Standard';  
 3 15 10 6 2 14 11 7 1 13 12 8 /SC:'Self-Complementary';  
 9 5 4 16 9 5 4 16 10 6 3 15 /PD:'Pan-Diagonal' Type)  
 8 12 13 1 8 12 13 1 7 11 14 2

[Counts of this Composite Pattern: 768/P3]

**\*\* Primitive Solutions of the CP4 Type with precise Check-Sums \*\***

Numb/Std/Type\Primary-diagonals/  
 |Rows|Columns|Composite 2x2 Sums|Name of C-Pattern|

1/ 21/ST\34/34|Compst-Sums|/CP4| 2/ 22/ST\34/34|Compst-Sums|/CP4|  
 1 4 14 15|34|34|34 36 34 32|OXOX| 1 4 14 15|34|34|34 36 34 32|OXOX|  
 13 16 2 3|34|34|42 34 26 34|XOXO| 13 16 2 3|34|34|50 34 18 34|XOXO|  
 8 5 11 10|34|34|34 32 34 36|OXOX| 12 9 7 6|34|34|34 32 34 36|OXOX|  
 12 9 7 6|34|34|26 34 42 34|XOXO| 8 5 11 10|34|34|18 34 50 34|XOXO|

3/ 27/ST\34/34|Compst-Sums|/CP4| 4/ 28/ST\34/34|Compst-Sums|/CP4|  
 1 4 15 14|34|34|34 38 34 30|OXOX| 1 4 15 14|34|34|34 38 34 30|OXOX|  
 13 16 3 2|34|34|42 34 26 34|XOXO| 13 16 3 2|34|34|50 34 18 34|XOXO|  
 8 5 10 11|34|34|34 30 34 38|OXOX| 12 9 6 7|34|34|34 30 34 38|OXOX|  
 12 9 6 7|34|34|26 34 42 34|XOXO| 8 5 10 11|34|34|18 34 50 34|XOXO|

5/ 32/ST\34/34|Compst-Sums|/CP4| 6/ 33/ST\34/34|Compst-Sums|/CP4|  
 1 4 16 13|34|34|34 38 34 30|OXOX| 1 4 16 13|34|34|34 38 34 30|OXOX|  
 14 15 3 2|34|34|42 34 26 34|XOXO| 14 15 3 2|34|34|50 34 18 34|XOXO|  
 7 6 10 11|34|34|34 30 34 38|OXOX| 11 10 6 7|34|34|34 30 34 38|OXOX|  
 12 9 5 8|34|34|26 34 42 34|XOXO| 8 5 9 12|34|34|18 34 50 34|XOXO|

7/ 34/ST\34/34|Compst-Sums|/CP4| 8/ 35/ST\34/34|Compst-Sums|/CP4|  
 1 4 16 13|34|34|34 36 34 32|OXOX| 1 4 16 13|34|34|34 36 34 32|OXOX|  
 15 14 2 3|34|34|42 34 26 34|XOXO| 15 14 2 3|34|34|50 34 18 34|XOXO|  
 6 7 11 10|34|34|34 32 34 36|OXOX| 10 11 7 6|34|34|34 32 34 36|OXOX|  
 12 9 5 8|34|34|26 34 42 34|XOXO| 8 5 9 12|34|34|18 34 50 34|XOXO|

9/ 56/ST\34/34|Compst-Sums|/CP4| 10/ 57/ST\34/34|Compst-Sums|/CP4|  
 1 6 12 15|34|34|34 36 34 32|OXOX| 1 6 12 15|34|34|34 36 34 32|OXOX|  
 11 16 2 5|34|34|38 34 30 34|XOXO| 11 16 2 5|34|34|50 34 18 34|XOXO|  
 8 3 13 10|34|34|34 32 34 36|OXOX| 14 9 7 4|34|34|34 32 34 36|OXOX|  
 14 9 7 4|34|34|30 34 38 34|XOXO| 8 3 13 10|34|34|18 34 50 34|XOXO|

11/ 62/ST\34/34|Compst-Sums|/CP4| 12/ 63/ST\34/34|Compst-Sums|/CP4|  
 1 6 15 12|34|34|34 42 34 26|OXOX| 1 6 15 12|34|34|34 42 34 26|OXOX|  
 11 16 5 2|34|34|38 34 30 34|XOXO| 11 16 5 2|34|34|50 34 18 34|XOXO|  
 8 3 10 13|34|34|34 26 34 42|OXOX| 14 9 4 7|34|34|34 26 34 42|OXOX|  
 14 9 4 7|34|34|30 34 38 34|XOXO| 8 3 10 13|34|34|18 34 50 34|XOXO|

13/ 66/ST\34/34|Compst-Sums|/CP4| 14/ 67/ST\34/34|Compst-Sums|/CP4|  
 1 6 16 11|34|34|34 42 34 26|OXOX| 1 6 16 11|34|34|34 42 34 26|OXOX|  
 12 15 5 2|34|34|38 34 30 34|XOXO| 12 15 5 2|34|34|50 34 18 34|XOXO|  
 7 4 10 13|34|34|34 26 34 42|OXOX| 13 10 4 7|34|34|34 26 34 42|OXOX|  
 14 9 3 8|34|34|30 34 38 34|XOXO| 8 3 9 14|34|34|18 34 50 34|XOXO|

15/ 68/ST\34/34|Compst-Sums|/CP4| 16/ 69/ST\34/34|Compst-Sums|/CP4|  
 1 6 16 11|34|34|34 36 34 32|OXOX| 1 6 16 11|34|34|34 36 34 32|OXOX|  
 15 12 2 5|34|34|38 34 30 34|XOXO| 15 12 2 5|34|34|50 34 18 34|XOXO|  
 4 7 13 10|34|34|34 32 34 36|OXOX| 10 13 7 4|34|34|34 32 34 36|OXOX|  
 14 9 3 8|34|34|30 34 38 34|XOXO| 8 3 9 14|34|34|18 34 50 34|XOXO|

17/ 82/ST\34/34|Compst-Sums|/CP4| 18/ 83/ST\34/34|Compst-Sums|/CP4|  
 1 7 12 14|34|34|34 38 34 30|OXOX| 1 7 12 14|34|34|34 38 34 30|OXOX|  
 10 16 3 5|34|34|36 34 32 34|XOXO| 10 16 3 5|34|34|50 34 18 34|XOXO|  
 8 2 13 11|34|34|34 30 34 38|OXOX| 15 9 6 4|34|34|34 30 34 38|OXOX|  
 15 9 6 4|34|34|32 34 36 34|XOXO| 8 2 13 11|34|34|18 34 50 34|XOXO|

19/ 90/ST\34/34|Compst-Sums|/CP4| 20/ 91/ST\34/34|Compst-Sums|/CP4|  
 1 7 14 12|34|34|34 42 34 26|OXOX| 1 7 14 12|34|34|34 42 34 26|OXOX|  
 10 16 5 3|34|34|36 34 32 34|XOXO| 10 16 5 3|34|34|50 34 18 34|XOXO|  
 8 2 11 13|34|34|34 26 34 42|OXOX| 15 9 4 6|34|34|34 26 34 42|OXOX|  
 15 9 4 6|34|34|32 34 36 34|XOXO| 8 2 11 13|34|34|18 34 50 34|XOXO|

21/ 96/ST\34/34|Compst-Sums|/CP4| 22/ 97/ST\34/34|Compst-Sums|/CP4|  
 1 7 16 10|34|34|34 42 34 26|OXOX| 1 7 16 10|34|34|34 42 34 26|OXOX|  
 12 14 5 3|34|34|36 34 32 34|XOXO| 12 14 5 3|34|34|50 34 18 34|XOXO|  
 6 4 11 13|34|34|34 26 34 42|OXOX| 13 11 4 6|34|34|34 26 34 42|OXOX|  
 15 9 2 8|34|34|32 34 36 34|XOXO| 8 2 9 15|34|34|18 34 50 34|XOXO|

23/ 98/ST\34/34|Compst-Sums|/CP4| 24/ 99/ST\34/34|Compst-Sums|/CP4|  
 1 7 16 10|34|34|34 38 34 30|OXOX| 1 7 16 10|34|34|34 38 34 30|OXOX|  
 14 12 3 5|34|34|36 34 32 34|XOXO| 14 12 3 5|34|34|50 34 18 34|XOXO|  
 4 6 13 11|34|34|34 30 34 38|OXOX| 11 13 6 4|34|34|34 30 34 38|OXOX|  
 15 9 2 8|34|34|32 34 36 34|XOXO| 8 2 9 15|34|34|18 34 50 34|XOXO|

25/ 104/ST\34/34|Compst-Sums|/CP4| 26/ 106/ST\34/34|Compst-Sums|/CP4|  
 1 8 10 15|34|34|34 36 34 32|OXOX| 1 8 10 15|34|34|34 36 34 32|OXOX|  
 11 14 4 5|34|34|50 34 18 34|XOXO| 13 12 6 3|34|34|50 34 18 34|XOXO|  
 16 9 7 2|34|34|34 32 34 36|OXOX| 16 9 7 2|34|34|34 32 34 36|OXOX|  
 6 3 13 12|34|34|18 34 50 34|XOXO| 4 5 11 14|34|34|18 34 50 34|XOXO|

27/ 109/ST\34/34|Compst-Sums|/CP4| 28/ 111/ST\34/34|Compst-Sums|/CP4|  
 1 8 11 14|34|34|34 38 34 30|OXOX| 1 8 11 14|34|34|34 38 34 30|OXOX|  
 10 15 4 5|34|34|50 34 18 34|XOXO| 13 12 7 2|34|34|50 34 18 34|XOXO|  
 16 9 6 3|34|34|34 30 34 38|OXOX| 16 9 6 3|34|34|34 30 34 38|OXOX|  
 7 2 13 12|34|34|18 34 50 34|XOXO| 4 5 10 15|34|34|18 34 50 34|XOXO|



29/ 117/SC\34\34|Compst-Sums|/CP4| 30/ 118/SC\34\34|Compst-Sums|/CP4|  
 1 8 12 13|34|34|34 38 34 30|OXOX| 1 8 12 13|34|34|34 36 34 32|OXOX|  
 14 11 7 2|34|34|50 34 18 34|XOXO| 15 10 6 3|34|34|50 34 18 34|XOXO|  
 15 10 6 3|34|34|34 30 34 38|OXOX| 14 11 7 2|34|34|34 32 34 36|OXOX|  
 4 5 9 16|34|34|18 34 50 34|XOXO| 4 5 9 16|34|34|18 34 50 34|XOXO|

31/ 120/ST\34\34|Compst-Sums|/CP4| 32/ 121/ST\34\34|Compst-Sums|/CP4|  
 1 8 13 12|34|34|34 42 34 26|OXOX| 1 8 13 12|34|34|34 42 34 26|OXOX|  
 10 15 6 3|34|34|50 34 18 34|XOXO| 11 14 7 2|34|34|50 34 18 34|XOXO|  
 16 9 4 5|34|34|34 26 34 42|OXOX| 16 9 4 5|34|34|34 26 34 42|OXOX|  
 7 2 11 14|34|34|18 34 50 34|XOXO| 6 3 10 15|34|34|18 34 50 34|XOXO|

33/ 128/SC\34\34|Compst-Sums|/CP4| 34/ 130/SC\34\34|Compst-Sums|/CP4|  
 1 8 14 11|34|34|34 42 34 26|OXOX| 1 8 14 11|34|34|34 36 34 32|OXOX|  
 12 13 7 2|34|34|50 34 18 34|XOXO| 15 10 4 5|34|34|50 34 18 34|XOXO|  
 15 10 4 5|34|34|34 26 34 42|OXOX| 12 13 7 2|34|34|34 32 34 36|OXOX|  
 6 3 9 16|34|34|18 34 50 34|XOXO| 6 3 9 16|34|34|18 34 50 34|XOXO|

35/ 134/SC\34\34|Compst-Sums|/CP4| 36/ 136/SC\34\34|Compst-Sums|/CP4|  
 1 8 15 10|34|34|34 42 34 26|OXOX| 1 8 15 10|34|34|34 38 34 30|OXOX|  
 12 13 6 3|34|34|50 34 18 34|XOXO| 14 11 4 5|34|34|50 34 18 34|XOXO|  
 14 11 4 5|34|34|34 26 34 42|OXOX| 12 13 6 3|34|34|34 30 34 38|OXOX|  
 7 2 9 16|34|34|18 34 50 34|XOXO| 7 2 9 16|34|34|18 34 50 34|XOXO|

37/ 157/P4 38/ 158/P4 39/ 165/P4 40/ 166/P4 41/ 172/P4 42/ 173/P4  
 1 10 8 15 1 10 8 15 1 10 15 8 1 10 15 8 1 10 16 7 1 10 16 7  
 7 16 2 9 7 16 2 9 7 16 9 2 7 16 9 2 8 15 9 2 8 15 9 2  
 12 3 13 6 14 5 11 4 12 3 6 13 14 5 4 11 11 4 6 13 13 6 4 11  
 14 5 11 4 12 3 13 6 14 5 4 11 12 3 6 13 14 5 3 12 12 3 5 14

43/ 174/P4 44/ 175/P4 45/ 188/P4 46/ 189/P4 47/ 192/P4 48/ 193/P4  
 1 10 16 7 1 10 16 7 1 11 8 14 1 11 8 14 1 11 14 8 1 11 14 8  
 15 8 2 9 15 8 2 9 6 16 3 9 6 16 3 9 6 16 9 3 6 16 9 3  
 4 11 13 6 6 13 11 4 12 2 13 7 15 5 10 4 12 2 7 13 15 5 4 10  
 14 5 3 12 12 3 5 14 15 5 10 4 12 2 13 7 15 5 4 10 12 2 7 13

49/ 198/P4 50/ 199/P4 51/ 200/P4 52/ 201/P4 53/ 206/P4 54/ 208/P4  
 1 11 16 6 1 11 16 6 1 11 16 6 1 11 16 6 1 12 6 15 1 12 6 15  
 8 14 9 3 8 14 9 3 14 8 3 9 14 8 3 9 7 14 4 9 13 8 10 3  
 10 4 7 13 13 7 4 10 4 10 13 7 7 13 10 4 16 5 11 2 16 5 11 2  
 15 5 2 12 12 2 5 15 15 5 2 12 12 2 5 15 10 3 13 8 4 9 7 14

55/ 212/P4 56/ 214/P4 57/ 220/P4 58/ 221/P4 59/ 225/P4 60/ 226/P4  
 1 12 7 14 1 12 7 14 1 12 8 13 1 12 8 13 1 12 13 8 1 12 13 8  
 6 15 4 9 13 8 11 2 14 7 11 2 15 6 10 3 6 15 10 3 7 14 11 2  
 16 5 10 3 16 5 10 3 15 6 10 3 14 7 11 2 16 5 4 9 16 5 4 9  
 11 2 13 8 4 9 6 15 4 9 5 16 4 9 5 16 11 2 7 14 10 3 6 15

61/ 235/P4 62/ 238/P4 63/ 243/P4 64/ 247/P4 65/ 258/P4 66/ 259/P4  
 1 12 14 7 1 12 14 7 1 12 15 6 1 12 15 6 1 13 8 12 1 13 8 12  
 8 13 11 2 15 6 4 9 8 13 10 3 14 7 4 9 4 16 5 9 4 16 5 9  
 15 6 4 9 8 13 11 2 14 7 4 9 8 13 10 3 14 2 11 7 15 3 10 6  
 10 3 5 16 10 3 5 16 11 2 5 16 11 2 5 16 15 3 10 6 14 2 11 7

67/ 266/P4 68/ 267/P4 69/ 275/P4 70/ 276/P4 71/ 277/P4 72/ 278/P4  
 1 13 12 8 1 13 12 8 1 13 16 4 1 13 16 4 1 13 16 4 1 13 16 4  
 4 16 9 5 4 16 9 5 8 12 9 5 8 12 9 5 12 8 5 9 12 8 5 9  
 14 2 7 11 15 3 6 10 10 6 7 11 11 7 6 10 6 10 11 7 7 11 10 6  
 15 3 6 10 14 2 7 11 15 3 2 14 14 2 3 15 15 3 2 14 14 2 3 15

73/ 284/P4 74/ 287/P4 75/ 290/P4 76/ 295/P4 77/ 302/P4 78/ 304/P4  
 1 14 4 15 1 14 4 15 1 14 7 12 1 14 7 12 1 14 8 11 1 14 8 11  
 7 12 6 9 11 8 10 5 4 15 6 9 11 8 13 2 12 7 13 2 15 4 10 5  
 16 3 13 2 16 3 13 2 16 3 10 5 16 3 10 5 15 4 10 5 12 7 13 2  
 10 5 11 8 6 9 7 12 13 2 11 8 6 9 4 15 6 9 3 16 6 9 3 16

79/ 305/P4    80/ 306/P4    81/ 313/P4    82/ 316/P4    83/ 321/P4    84/ 325/P4  
 1 14 11 8    1 14 11 8    1 14 12 7    1 14 12 7    1 14 15 4    1 14 15 4  
 4 15 10 5    7 12 13 2    8 11 13 2    15 4 6 9    8 11 10 5    12 7 6 9  
 16 3 6 9    16 3 6 9    15 4 6 9    8 11 13 2    12 7 6 9    8 11 10 5  
 13 2 7 12    10 5 4 15    10 5 3 16    10 5 3 16    13 2 3 16    13 2 3 16

85/ 329/P4    86/ 332/P4    87/ 335/P4    88/ 337/P4    89/ 342/P4    90/ 344/P4  
 1 15 4 14    1 15 4 14    1 15 6 12    1 15 6 12    1 15 8 10    1 15 8 10  
 6 12 7 9    10 8 11 5    4 14 7 9    10 8 13 3    12 6 13 3    14 4 11 5  
 16 2 13 3    16 2 13 3    16 2 11 5    16 2 11 5    14 4 11 5    12 6 13 3  
 11 5 10 8    7 9 6 12    13 3 10 8    7 9 4 14    7 9 2 16    7 9 2 16

91/ 346/P4    92/ 349/P4    93/ 359/P4    94/ 363/P4    95/ 369/P4    96/ 373/P4  
 1 15 10 8    1 15 10 8    1 15 12 6    1 15 12 6    1 15 14 4    1 15 14 4  
 4 14 11 5    6 12 13 3    8 10 13 3    14 4 7 9    8 10 11 5    12 6 7 9  
 16 2 7 9    16 2 7 9    14 4 7 9    8 10 13 3    12 6 7 9    8 10 11 5  
 13 3 6 12    11 5 4 14    11 5 2 16    11 5 2 16    13 3 2 16    13 3 2 16

97/ 421/P4    193/ 829/P4    289/1221/P4    385/1707/P4    481/2129/P4    577/2586/P4  
 2 3 13 16    3 2 13 16    4 1 13 16    5 2 11 16    6 1 11 16    7 1 10 16  
 14 15 1 4    15 14 1 4    14 15 3 2    15 12 1 6    12 15 5 2    12 14 5 3  
 7 6 12 9    6 7 12 9    7 6 10 11    4 7 14 9    7 4 10 13    6 4 11 13  
 11 10 8 5    10 11 8 5    9 12 8 5    10 13 8 3    9 14 8 3    9 15 8 2

673/3047/P4    769/3540/P4    865/3997/P4    961/4457/P4    1057/4914/P4    1153/5346/P4  
 8 1 10 15    9 2 7 16    10 1 7 16    11 1 6 16    12 1 6 15    13 1 4 16  
 11 14 5 4    15 8 1 10    8 15 9 2    8 14 9 3    7 14 9 4    8 12 9 5  
 13 12 3 6    4 11 14 5    11 4 6 13    10 4 7 13    13 8 3 10    10 6 7 11  
 2 7 16 9    6 13 12 3    5 14 12 3    5 15 12 2    2 11 16 5    3 15 14 2

1249/5822/P4    1345/6226/P4    1441/6668/P4  
 14 1 4 15    15 1 4 14    16 2 3 13  
 7 12 9 6    6 12 9 7    5 11 10 8  
 11 8 5 10    10 8 5 11    9 7 6 12  
 2 13 16 3    3 13 16 2    4 14 15 1  
 [Counts of this Composite Pattern: 1536/P4]

(/ST:'Standard';  
 /SC:'Self-Complementary';  
 /PD:'Pan-Diagonal' Type)

**\*\* Primitive Solutions of the CP5 Type with precise Check-Sums \*\***

Numb/Std/Type\Primary-diagonals/  
 |Rows|Columns|Composite 2x2 Sums|Name of C-Pattern|

1/ 86/ST\34/34 Compst-Sums /CP5  1 7 14 12 34 34 29 40 39 28 XXXX  6 15 4 9 34 34 34 34 34 34 0000  11 2 13 8 34 34 39 28 29 40 XXXX  16 10 3 5 34 34 34 34 34 34 0000	2/ 87/ST\34/34 Compst-Sums /CP5  1 7 14 12 34 34 29 36 39 32 XXXX  8 13 2 11 34 34 34 34 34 34 0000  9 4 15 6 34 34 39 32 29 36 XXXX  16 10 3 5 34 34 34 34 34 34 0000
3/ 88/ST\34/34 Compst-Sums /CP5  1 7 14 12 34 34 32 40 36 28 XXXX  9 15 4 6 34 34 34 34 34 34 0000  8 2 13 11 34 34 36 28 32 40 XXXX  16 10 3 5 34 34 34 34 34 34 0000	4/ 92/ST\34/34 Compst-Sums /CP5  1 7 14 12 34 34 32 36 36 32 XXXX  11 13 2 8 34 34 34 34 34 34 0000  6 4 15 9 34 34 36 32 32 36 XXXX  16 10 3 5 34 34 34 34 34 34 0000
5/ 113/ST\34/34 Compst-Sums /CP5  1 8 12 13 34 34 30 38 38 30 XXXX  6 15 3 10 34 34 34 34 34 34 0000  11 2 14 7 34 34 38 30 30 38 XXXX  16 9 5 4 34 34 34 34 34 34 0000	6/ 114/ST\34/34 Compst-Sums /CP5  1 8 12 13 34 34 30 36 38 32 XXXX  7 14 2 11 34 34 34 34 34 34 0000  10 3 15 6 34 34 38 32 30 36 XXXX  16 9 5 4 34 34 34 34 34 34 0000
7/ 125/ST\34/34 Compst-Sums /CP5  1 8 14 11 34 34 28 42 40 26 XXXX  4 15 5 10 34 34 34 34 34 34 0000  13 2 12 7 34 34 40 26 28 42 XXXX  16 9 3 6 34 34 34 34 34 34 0000	8/ 126/ST\34/34 Compst-Sums /CP5  1 8 14 11 34 34 28 36 40 32 XXXX  7 12 2 13 34 34 34 34 34 34 0000  10 5 15 4 34 34 40 32 28 36 XXXX  16 9 3 6 34 34 34 34 34 34 0000

9/ 131/ST\34/34|Compst-Sums|/CP5| 10/ 132/ST\34/34|Compst-Sums|/CP5|  
 1 8 15 10|34|34|27 42 41 26|XXXX| 1 8 15 10|34|34|27 38 41 30|XXXX|  
 4 14 5 11|34|34|34 34 34 34|0000| 6 12 3 13|34|34|34 34 34 34|0000|  
 13 3 12 6|34|34|41 26 27 42|XXXX| 11 5 14 4|34|34|41 30 27 38|XXXX|  
 16 9 2 7|34|34|34 34 34 34|0000| 16 9 2 7|34|34|34 34 34 34|0000|

11/ 162/ST\34/34|Compst-Sums|/CP5| 12/ 163/ST\34/34|Compst-Sums|/CP5|  
 1 10 15 8|34|34|27 44 41 24|XXXX| 1 10 15 8|34|34|27 40 41 28|XXXX|  
 3 13 6 12|34|34|34 34 34 34|0000| 5 11 4 14|34|34|34 34 34 34|0000|  
 14 4 11 5|34|34|41 24 27 44|XXXX| 12 6 13 3|34|34|41 28 27 40|XXXX|  
 16 7 2 9|34|34|34 34 34 34|0000| 16 7 2 9|34|34|34 34 34 34|0000|

13/ 167/ST\34/34|Compst-Sums|/CP5| 14/ 168/ST\34/34|Compst-Sums|/CP5|  
 1 10 15 8|34|34|36 44 32 24|XXXX| 1 10 15 8|34|34|36 40 32 28|XXXX|  
 12 13 6 3|34|34|34 34 34 34|0000| 14 11 4 5|34|34|34 34 34 34|0000|  
 5 4 11 14|34|34|32 24 36 44|XXXX| 3 6 13 12|34|34|32 28 36 40|XXXX|  
 16 7 2 9|34|34|34 34 34 34|0000| 16 7 2 9|34|34|34 34 34 34|0000|

15/ 218/ST\34/34|Compst-Sums|/CP5| 16/ 219/ST\34/34|Compst-Sums|/CP5|  
 1 12 8 13|34|34|38 38 30 30|XXXX| 1 12 8 13|34|34|38 36 30 32|XXXX|  
 10 15 3 6|34|34|34 34 34 34|0000| 11 14 2 7|34|34|34 34 34 34|0000|  
 7 2 14 11|34|34|30 30 38 38|XXXX| 6 3 15 10|34|34|30 32 38 36|XXXX|  
 16 5 9 4|34|34|34 34 34 34|0000| 16 5 9 4|34|34|34 34 34 34|0000|

17/ 222/ST\34/34|Compst-Sums|/CP5| 18/ 224/ST\34/34|Compst-Sums|/CP5|  
 1 12 13 8|34|34|29 46 39 22|XXXX| 1 12 13 8|34|34|29 38 39 30|XXXX|  
 2 14 7 11|34|34|34 34 34 34|0000| 6 10 3 15|34|34|34 34 34 34|0000|  
 15 3 10 6|34|34|39 22 29 46|XXXX| 11 7 14 2|34|34|39 30 29 38|XXXX|  
 16 5 4 9|34|34|34 34 34 34|0000| 16 5 4 9|34|34|34 34 34 34|0000|

19/ 227/ST\34/34|Compst-Sums|/CP5| 20/ 230/ST\34/34|Compst-Sums|/CP5|  
 1 12 13 8|34|34|38 46 30 22|XXXX| 1 12 13 8|34|34|38 38 30 30|XXXX|  
 11 14 7 2|34|34|34 34 34 34|0000| 15 10 3 6|34|34|34 34 34 34|0000|  
 6 3 10 15|34|34|30 22 38 46|XXXX| 2 7 14 11|34|34|30 30 38 38|XXXX|  
 16 5 4 9|34|34|34 34 34 34|0000| 16 5 4 9|34|34|34 34 34 34|0000|

21/ 232/ST\34/34|Compst-Sums|/CP5| 22/ 233/ST\34/34|Compst-Sums|/CP5|  
 1 12 13 8|34|34|38 38 30 30|XXXX| 1 12 14 7|34|34|32 50 36 18|XXXX|  
 16 9 4 5|34|34|34 34 34 34|0000| 4 15 9 6|34|34|34 34 34 34|0000|  
 2 7 14 11|34|34|30 30 38 38|XXXX| 13 2 8 11|34|34|36 18 32 50|XXXX|  
 15 6 3 10|34|34|34 34 34 34|0000| 16 5 3 10|34|34|34 34 34 34|0000|

23/ 236/ST\34/34|Compst-Sums|/CP5| 24/ 239/ST\34/34|Compst-Sums|/CP5|  
 1 12 14 7|34|34|32 36 36 32|XXXX| 1 12 15 6|34|34|29 48 39 20|XXXX|  
 11 8 2 13|34|34|34 34 34 34|0000| 3 13 8 10|34|34|34 34 34 34|0000|  
 6 9 15 4|34|34|36 32 32 36|XXXX| 14 4 9 7|34|34|39 20 29 48|XXXX|  
 16 5 3 10|34|34|34 34 34 34|0000| 16 5 2 11|34|34|34 34 34 34|0000|

25/ 240/P5 26/ 241/P5 27/ 244/P5 28/ 245/P5 29/ 248/P5 30/ 263/P5  
 1 12 15 6 1 12 15 6 1 12 15 6 1 12 15 6 1 12 15 6 1 13 12 8  
 4 14 9 7 7 9 4 14 10 8 3 13 10 13 8 3 14 9 4 7 2 14 7 11  
 13 3 8 10 10 8 13 3 7 9 14 4 7 4 9 14 3 8 13 10 15 3 10 6  
 16 5 2 11 16 5 2 11 16 5 2 11 16 5 2 11 16 5 2 11 16 4 5 9

31/ 268/P5 32/ 269/P5 33/ 270/P5 34/ 291/P5 35/ 293/P5 36/ 294/P5  
 1 13 12 8 1 13 12 8 1 13 12 8 1 14 7 12 1 14 7 12 1 14 7 12  
 6 10 3 15 11 14 7 2 15 10 3 6 6 15 4 9 8 13 2 11 9 15 4 6  
 11 7 14 2 6 3 10 15 2 7 14 11 11 2 13 8 9 4 15 6 8 2 13 11  
 16 4 5 9 16 4 5 9 16 4 5 9 16 3 10 5 16 3 10 5 16 3 10 5

37/ 296/P5 38/ 298/P5 39/ 301/P5 40/ 303/P5 41/ 312/P5 42/ 315/P5  
 1 14 7 12 1 14 7 12 1 14 8 11 1 14 8 11 1 14 12 7 1 14 12 7  
 11 13 2 8 16 5 10 3 10 15 5 4 13 12 2 7 6 15 9 4 13 8 2 11  
 6 4 15 9 9 4 15 6 7 2 12 13 4 5 15 10 11 2 8 13 4 9 15 6  
 16 3 10 5 8 11 2 13 16 3 9 6 16 3 9 6 16 3 5 10 16 3 5 10

43/ 317/P5 44/ 318/P5 45/ 319/P5 46/ 322/P5 47/ 323/P5 48/ 326/P5  
 1 14 15 4 1 14 15 4 1 14 15 4 1 14 15 4 1 14 15 4  
 5 11 8 10 6 12 9 7 7 9 6 12 10 8 5 11 10 11 8 5 12 9 6 7  
 12 6 9 7 11 5 8 10 10 8 11 5 7 9 12 6 7 6 9 12 5 8 11 10  
 16 3 2 13 16 3 2 13 16 3 2 13 16 3 2 13 16 3 2 13 16 3 2 13

49/ 341/P5 50/ 343/P5 51/ 345/P5 52/ 347/P5 53/ 351/P5 54/ 353/P5  
 1 15 8 10 1 15 8 10 1 15 10 8 1 15 10 8 1 15 10 8  
 11 14 5 4 13 12 3 6 3 13 6 12 5 11 4 14 12 13 6 3 14 11 4 5  
 6 3 12 13 4 5 14 11 14 4 11 5 12 6 13 3 5 4 11 14 3 6 13 12  
 16 2 9 7 16 2 9 7 16 2 7 9 16 2 7 9 16 2 7 9 16 2 7 9

55/ 355/P5 56/ 357/P5 57/ 358/P5 58/ 361/P5 59/ 362/P5 60/ 364/P5  
 1 15 12 6 1 15 12 6 1 15 12 6 1 15 12 6 1 15 12 6  
 3 13 8 10 7 9 4 14 7 14 9 4 10 13 8 3 13 8 3 10 14 9 4 7  
 14 4 9 7 10 8 13 3 10 3 8 13 7 4 9 14 4 9 14 7 3 8 13 10  
 16 2 5 11 16 2 5 11 16 2 5 11 16 2 5 11 16 2 5 11 16 2 5 11

61/ 365/P5 62/ 367/P5 63/ 368/P5 64/ 371/P5 65/ 372/P5 66/ 374/P5  
 1 15 14 4 1 15 14 4 1 15 14 4 1 15 14 4 1 15 14 4  
 5 11 8 10 7 9 6 12 7 12 9 6 10 11 8 5 11 8 5 10 12 9 6 7  
 12 6 9 7 10 8 11 5 10 5 8 11 7 6 9 12 6 9 12 7 5 8 11 10  
 16 2 3 13 16 2 3 13 16 2 3 13 16 2 3 13 16 2 3 13 16 2 3 13

67/ 376/P5 68/ 377/P5 69/ 378/P5 70/ 379/P5 71/ 384/P5 72/ 385/P5  
 1 16 3 14 1 16 3 14 1 16 3 14 1 16 3 14 1 16 5 12 1 16 5 12  
 8 11 6 9 12 7 10 5 13 7 10 4 13 11 6 4 8 13 4 9 10 6 11 7  
 13 2 15 4 13 2 15 4 12 2 15 5 8 2 15 9 10 3 14 7 15 3 14 2  
 12 5 10 7 8 9 6 11 8 9 6 11 12 5 10 7 15 2 11 6 8 9 4 13

73/ 386/P5 74/ 387/P5 75/ 394/P5 76/ 397/P5 77/ 398/P5 78/ 399/P5  
 1 16 5 12 1 16 5 12 1 16 7 10 1 16 7 10 1 16 9 8 1 16 9 8  
 10 13 4 7 15 6 11 2 11 5 12 6 14 5 12 3 4 10 7 13 4 11 6 13  
 8 3 14 9 10 3 14 7 14 4 13 3 11 4 13 6 15 5 12 2 14 5 12 3  
 15 2 11 6 8 9 4 13 8 9 2 15 8 9 2 15 14 3 6 11 15 2 7 10

79/ 401/P5 80/ 402/P5 81/ 411/P5 82/ 416/P5 83/ 496/P5 149/ 863/P5  
 1 16 9 8 1 16 9 8 1 16 13 4 1 16 13 4 2 7 11 14 3 5 12 14  
 14 11 6 3 15 10 7 2 6 9 8 11 12 9 8 5 5 16 4 9 6 11 8 9  
 4 5 12 13 4 5 12 13 12 7 10 5 6 7 10 11 12 1 13 8 15 2 13 4  
 15 2 7 10 14 3 6 11 15 2 3 14 15 2 3 14 15 10 6 3 10 16 1 7

212/1270/P5 313/1715/P5 387/2150/P5 471/2595/P5 556/3045/P5 657/3532/P5  
 4 5 9 16 5 2 15 12 6 1 16 11 7 1 14 12 8 1 10 15 9 2 7 16  
 6 15 3 10 4 13 8 9 3 14 7 10 2 13 8 11 3 13 6 12 3 13 6 12  
 11 2 14 7 14 3 10 7 13 4 9 8 15 4 9 6 14 4 11 5 14 4 11 5  
 13 12 8 1 11 16 1 6 12 15 2 5 10 16 3 5 9 16 7 2 8 15 10 1

758/4023/P5 843/4475/P5 927/4913/P5 1001/5359/P5 1102/5821/P5 1165/6225/P5  
 10 1 16 7 11 1 16 6 12 1 6 15 13 1 12 8 14 1 4 15 15 1 4 14  
 5 12 13 4 2 15 4 13 3 13 10 8 3 10 15 6 5 11 10 8 5 10 11 8  
 11 6 3 14 7 10 5 12 14 4 7 9 14 7 2 11 12 6 7 9 12 7 6 9  
 8 15 2 9 14 8 9 3 5 16 11 2 4 16 5 9 3 16 13 2 2 16 13 3

1231/6625/P5  
 16 1 4 13  
 5 8 9 12 (/ST:'Standard';  
 11 10 7 6 /SC:'Self-Complementary';  
 2 15 14 3 /PD:'Pan-Diagonal' Type)  
 [Counts of this Composite Pattern: 1312/P5]

\*\* Primitive Solutions of the CP6 Type with precise Check-Sums \*\*  
 Numb/Stnd/Type\Primary-diagonals/  
 |Rows|Columns|Composite 2x2 Sums|Name of C-Pattern|

1/ 105/PD\34\34|Compst-Sums|/CP6| 2/ 107/PD\34\34|Compst-Sums|/CP6|  
1 8 10 15|34|34|34 34 34 34|0000| 1 8 10 15|34|34|34 34 34 34|0000|  
12 13 3 6|34|34|34 34 34 34|0000| 14 11 5 4|34|34|34 34 34 34|0000|  
7 2 16 9|34|34|34 34 34 34|0000| 7 2 16 9|34|34|34 34 34 34|0000|  
14 11 5 4|34|34|34 34 34 34|0000| 12 13 3 6|34|34|34 34 34 34|0000|

3/ 110/PD\34\34|Compst-Sums|/CP6| 4/ 112/PD\34\34|Compst-Sums|/CP6|  
1 8 11 14|34|34|34 34 34 34|0000| 1 8 11 14|34|34|34 34 34 34|0000|  
12 13 2 7|34|34|34 34 34 34|0000| 15 10 5 4|34|34|34 34 34 34|0000|  
6 3 16 9|34|34|34 34 34 34|0000| 6 3 16 9|34|34|34 34 34 34|0000|  
15 10 5 4|34|34|34 34 34 34|0000| 12 13 2 7|34|34|34 34 34 34|0000|

5/ 122/PD\34\34|Compst-Sums|/CP6| 6/ 123/PD\34\34|Compst-Sums|/CP6|  
1 8 13 12|34|34|34 34 34 34|0000| 1 8 13 12|34|34|34 34 34 34|0000|  
14 11 2 7|34|34|34 34 34 34|0000| 15 10 3 6|34|34|34 34 34 34|0000|  
4 5 16 9|34|34|34 34 34 34|0000| 4 5 16 9|34|34|34 34 34 34|0000|  
15 10 3 6|34|34|34 34 34 34|0000| 14 11 2 7|34|34|34 34 34 34|0000|

7/ 207/PD\34\34|Compst-Sums|/CP6| 8/ 210/PD\34\34|Compst-Sums|/CP6|  
1 12 6 15|34|34|34 34 34 34|0000| 1 12 6 15|34|34|34 34 34 34|0000|  
8 13 3 10|34|34|34 34 34 34|0000| 14 7 9 4|34|34|34 34 34 34|0000|  
11 2 16 5|34|34|34 34 34 34|0000| 11 2 16 5|34|34|34 34 34 34|0000|  
14 7 9 4|34|34|34 34 34 34|0000| 8 13 3 10|34|34|34 34 34 34|0000|

9/ 213/PD\34\34|Compst-Sums|/CP6| 10/ 215/PD\34\34|Compst-Sums|/CP6|  
1 12 7 14|34|34|34 34 34 34|0000| 1 12 7 14|34|34|34 34 34 34|0000|  
8 13 2 11|34|34|34 34 34 34|0000| 15 6 9 4|34|34|34 34 34 34|0000|  
10 3 16 5|34|34|34 34 34 34|0000| 10 3 16 5|34|34|34 34 34 34|0000|  
15 6 9 4|34|34|34 34 34 34|0000| 8 13 2 11|34|34|34 34 34 34|0000|

11/ 228/PD\34\34|Compst-Sums|/CP6| 12/ 229/PD\34\34|Compst-Sums|/CP6|  
1 12 13 8|34|34|34 34 34 34|0000| 1 12 13 8|34|34|34 34 34 34|0000|  
14 7 2 11|34|34|34 34 34 34|0000| 15 6 3 10|34|34|34 34 34 34|0000|  
4 9 16 5|34|34|34 34 34 34|0000| 4 9 16 5|34|34|34 34 34 34|0000|  
15 6 3 10|34|34|34 34 34 34|0000| 14 7 2 11|34|34|34 34 34 34|0000|

13/ 285/PD\34\34|Compst-Sums|/CP6| 14/ 288/PD\34\34|Compst-Sums|/CP6|  
1 14 4 15|34|34|34 34 34 34|0000| 1 14 4 15|34|34|34 34 34 34|0000|  
8 11 5 10|34|34|34 34 34 34|0000| 12 7 9 6|34|34|34 34 34 34|0000|  
13 2 16 3|34|34|34 34 34 34|0000| 13 2 16 3|34|34|34 34 34 34|0000|  
12 7 9 6|34|34|34 34 34 34|0000| 8 11 5 10|34|34|34 34 34 34|0000|

15/ 292/PD\34\34|Compst-Sums|/CP6| 16/ 297/PD\34\34|Compst-Sums|/CP6|  
1 14 7 12|34|34|34 34 34 34|0000| 1 14 7 12|34|34|34 34 34 34|0000|  
8 11 2 13|34|34|34 34 34 34|0000| 15 4 9 6|34|34|34 34 34 34|0000|  
10 5 16 3|34|34|34 34 34 34|0000| 10 5 16 3|34|34|34 34 34 34|0000|  
15 4 9 6|34|34|34 34 34 34|0000| 8 11 2 13|34|34|34 34 34 34|0000|

17/ 308/PD\34\34|Compst-Sums|/CP6| 18/ 309/PD\34\34|Compst-Sums|/CP6|  
1 14 11 8|34|34|34 34 34 34|0000| 1 14 11 8|34|34|34 34 34 34|0000|  
12 7 2 13|34|34|34 34 34 34|0000| 15 4 5 10|34|34|34 34 34 34|0000|  
6 9 16 3|34|34|34 34 34 34|0000| 6 9 16 3|34|34|34 34 34 34|0000|  
15 4 5 10|34|34|34 34 34 34|0000| 12 7 2 13|34|34|34 34 34 34|0000|

19/ 330/PD\34\34|Compst-Sums|/CP6| 20/ 333/PD\34\34|Compst-Sums|/CP6|  
1 15 4 14|34|34|34 34 34 34|0000| 1 15 4 14|34|34|34 34 34 34|0000|  
8 10 5 11|34|34|34 34 34 34|0000| 12 6 9 7|34|34|34 34 34 34|0000|  
13 3 16 2|34|34|34 34 34 34|0000| 13 3 16 2|34|34|34 34 34 34|0000|  
12 6 9 7|34|34|34 34 34 34|0000| 8 10 5 11|34|34|34 34 34 34|0000|

21/ 336/PD\34\34|Compst-Sums|/CP6| 22/ 338/PD\34\34|Compst-Sums|/CP6|  
1 15 6 12|34|34|34 34 34 34|0000| 1 15 6 12|34|34|34 34 34 34|0000|  
8 10 3 13|34|34|34 34 34 34|0000| 14 4 9 7|34|34|34 34 34 34|0000|  
11 5 16 2|34|34|34 34 34 34|0000| 11 5 16 2|34|34|34 34 34 34|0000|  
14 4 9 7|34|34|34 34 34 34|0000| 8 10 3 13|34|34|34 34 34 34|0000|

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23/ 350/PD\34/34|Compst-Sums|/CP6| 24/ 352/PD\34/34|Compst-Sums|/CP6|
1 15 10 8|34|34|34 34 34 34|0000| 1 15 10 8|34|34|34 34 34 34|0000|
12 6 3 13|34|34|34 34 34 34|0000| 14 4 5 11|34|34|34 34 34 34|0000|
7 9 16 2|34|34|34 34 34 34|0000| 7 9 16 2|34|34|34 34 34 34|0000|
14 4 5 11|34|34|34 34 34 34|0000| 12 6 3 13|34|34|34 34 34 34|0000|

25/ 489/P6 49/ 882/P6 73/1276/P6 97/1774/P6 121/2183/P6 145/2632/P6
2 7 9 16 3 6 9 16 4 5 10 15 5 4 9 16 6 3 10 15 7 2 11 14
11 14 4 5 10 15 4 5 9 16 3 6 10 15 6 3 9 16 5 4 9 16 5 4
8 1 15 10 8 1 14 11 7 2 13 12 8 1 12 13 7 2 11 14 6 3 10 15
13 12 6 3 13 12 7 2 14 11 8 1 11 14 7 2 12 13 8 1 12 13 8 1

169/3062/P6 193/3604/P6 217/4054/P6 241/4498/P6 265/4927/P6 289/5393/P6
8 1 12 13 9 4 5 16 10 3 6 15 11 2 7 14 12 1 8 13 13 2 7 12
10 15 6 3 6 15 10 3 5 16 9 4 5 16 9 4 6 15 10 3 3 16 9 6
5 4 9 16 12 1 8 13 11 2 7 14 10 3 6 15 9 4 5 16 10 5 4 15
11 14 7 2 7 14 11 2 8 13 12 1 8 13 12 1 7 14 11 2 8 11 14 1

313/5834/P6 337/6239/P6 361/6689/P6
14 1 8 11 15 1 8 10 16 2 7 9 4 15 10 5 4 14 11 5 3 13 12 6 (/ST:'Standard';
9 6 3 16 9 7 2 16 10 8 1 15 /SC:'Self-Complementary';
7 12 13 2 6 12 13 3 5 11 14 4 /PD:'Pan-Diagonal' Type)
[Counts of this Composite Pattern: 384/P6]

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**\*\* Primitive Solutions of the CP7 Type with precise Check-Sums \*\***

```

Numb/Std/Type\Primary-diagonals/
|Rows|Columns|Composite 2x2 Sums|Name of C-Pattern|

1/ 115/ST\34/34|Compst-Sums|/CP7| 2/ 116/ST\34/34|Compst-Sums|/CP7|
1 8 12 13|34|34|34 38 34 30|OXOX| 1 8 12 13|34|34|34 36 34 32|OXOX|
10 15 3 6|34|34|34 34 34 34|0000| 11 14 2 7|34|34|34 34 34 34|0000|
7 2 14 11|34|34|34 30 34 38|OXOX| 6 3 15 10|34|34|34 32 34 36|OXOX|
16 9 5 4|34|34|34 34 34 34|0000| 16 9 5 4|34|34|34 34 34 34|0000|

3/ 127/ST\34/34|Compst-Sums|/CP7| 4/ 129/ST\34/34|Compst-Sums|/CP7|
1 8 14 11|34|34|34 42 34 26|OXOX| 1 8 14 11|34|34|34 36 34 32|OXOX|
10 15 5 4|34|34|34 34 34 34|0000| 13 12 2 7|34|34|34 34 34 34|0000|
7 2 12 13|34|34|34 26 34 42|OXOX| 4 5 15 10|34|34|34 32 34 36|OXOX|
16 9 3 6|34|34|34 34 34 34|0000| 16 9 3 6|34|34|34 34 34 34|0000|

5/ 133/ST\34/34|Compst-Sums|/CP7| 6/ 135/ST\34/34|Compst-Sums|/CP7|
1 8 15 10|34|34|34 42 34 26|OXOX| 1 8 15 10|34|34|34 38 34 30|OXOX|
11 14 5 4|34|34|34 34 34 34|0000| 13 12 3 6|34|34|34 34 34 34|0000|
6 3 12 13|34|34|34 26 34 42|OXOX| 4 5 14 11|34|34|34 30 34 38|OXOX|
16 9 2 7|34|34|34 34 34 34|0000| 16 9 2 7|34|34|34 34 34 34|0000|

7/ 216/ST\34/34|Compst-Sums|/CP7| 8/ 217/ST\34/34|Compst-Sums|/CP7|
1 12 8 13|34|34|34 38 34 30|OXOX| 1 12 8 13|34|34|34 36 34 32|OXOX|
6 15 3 10|34|34|34 34 34 34|0000| 7 14 2 11|34|34|34 34 34 34|0000|
11 2 14 7|34|34|34 30 34 38|OXOX| 10 3 15 6|34|34|34 32 34 36|OXOX|
16 5 9 4|34|34|34 34 34 34|0000| 16 5 9 4|34|34|34 34 34 34|0000|

9/ 234/ST\34/34|Compst-Sums|/CP7| 10/ 237/ST\34/34|Compst-Sums|/CP7|
1 12 14 7|34|34|34 50 34 18|OXOX| 1 12 14 7|34|34|34 36 34 32|OXOX|
6 15 9 4|34|34|34 34 34 34|0000| 13 8 2 11|34|34|34 34 34 34|0000|
11 2 8 13|34|34|34 18 34 50|OXOX| 4 9 15 6|34|34|34 32 34 36|OXOX|
16 5 3 10|34|34|34 34 34 34|0000| 16 5 3 10|34|34|34 34 34 34|0000|

11/ 242/ST\34/34|Compst-Sums|/CP7| 12/ 246/ST\34/34|Compst-Sums|/CP7|
1 12 15 6|34|34|34 50 34 18|OXOX| 1 12 15 6|34|34|34 38 34 30|OXOX|
7 14 9 4|34|34|34 34 34 34|0000| 13 8 3 10|34|34|34 34 34 34|0000|
10 3 8 13|34|34|34 18 34 50|OXOX| 4 9 14 7|34|34|34 30 34 38|OXOX|
16 5 2 11|34|34|34 34 34 34|0000| 16 5 2 11|34|34|34 34 34 34|0000|

```

13/ 299/ST\34/34|Compst-Sums|/CP7| 14/ 300/ST\34/34|Compst-Sums|/CP7|  
 1 14 8 11|34|34|34 42 34 26|OXOX| 1 14 8 11|34|34|34 36 34 32|OXOX|  
 4 15 5 10|34|34|34 34 34 34|0000| 7 12 2 13|34|34|34 34 34 34|0000|  
 13 2 12 7|34|34|34 26 34 42|OXOX| 10 5 15 4|34|34|34 32 34 36|OXOX|  
 16 3 9 6|34|34|34 34 34 34|0000| 16 3 9 6|34|34|34 34 34 34|0000|

15/ 311/ST\34/34|Compst-Sums|/CP7| 16/ 314/ST\34/34|Compst-Sums|/CP7|  
 1 14 12 7|34|34|34 50 34 18|OXOX| 1 14 12 7|34|34|34 36 34 32|OXOX|  
 4 15 9 6|34|34|34 34 34 34|0000| 11 8 2 13|34|34|34 34 34 34|0000|  
 13 2 8 11|34|34|34 18 34 50|OXOX| 6 9 15 4|34|34|34 32 34 36|OXOX|  
 16 3 5 10|34|34|34 34 34 34|0000| 16 3 5 10|34|34|34 34 34 34|0000|

17/ 320/ST\34/34|Compst-Sums|/CP7| 18/ 324/ST\34/34|Compst-Sums|/CP7|  
 1 14 15 4|34|34|34 50 34 18|OXOX| 1 14 15 4|34|34|34 42 34 26|OXOX|  
 7 12 9 6|34|34|34 34 34 34|0000| 11 8 5 10|34|34|34 34 34 34|0000|  
 10 5 8 11|34|34|34 18 34 50|OXOX| 6 9 12 7|34|34|34 26 34 42|OXOX|  
 16 3 2 13|34|34|34 34 34 34|0000| 16 3 2 13|34|34|34 34 34 34|0000|

19/ 339/ST\34/34|Compst-Sums|/CP7| 20/ 340/ST\34/34|Compst-Sums|/CP7|  
 1 15 8 10|34|34|34 42 34 26|OXOX| 1 15 8 10|34|34|34 38 34 30|OXOX|  
 4 14 5 11|34|34|34 34 34 34|0000| 6 12 3 13|34|34|34 34 34 34|0000|  
 13 3 12 6|34|34|34 26 34 42|OXOX| 11 5 14 4|34|34|34 30 34 38|OXOX|  
 16 2 9 7|34|34|34 34 34 34|0000| 16 2 9 7|34|34|34 34 34 34|0000|

21/ 356/ST\34/34|Compst-Sums|/CP7| 22/ 360/ST\34/34|Compst-Sums|/CP7|  
 1 15 12 6|34|34|34 50 34 18|OXOX| 1 15 12 6|34|34|34 38 34 30|OXOX|  
 4 14 9 7|34|34|34 34 34 34|0000| 10 8 3 13|34|34|34 34 34 34|0000|  
 13 3 8 10|34|34|34 18 34 50|OXOX| 7 9 14 4|34|34|34 30 34 38|OXOX|  
 16 2 5 11|34|34|34 34 34 34|0000| 16 2 5 11|34|34|34 34 34 34|0000|

23/ 366/ST\34/34|Compst-Sums|/CP7| 24/ 370/ST\34/34|Compst-Sums|/CP7|  
 1 15 14 4|34|34|34 50 34 18|OXOX| 1 15 14 4|34|34|34 42 34 26|OXOX|  
 6 12 9 7|34|34|34 34 34 34|0000| 10 8 5 11|34|34|34 34 34 34|0000|  
 11 5 8 10|34|34|34 18 34 50|OXOX| 7 9 12 6|34|34|34 26 34 42|OXOX|  
 16 2 3 13|34|34|34 34 34 34|0000| 16 2 3 13|34|34|34 34 34 34|0000|

25/ 380/P7 26/ 381/P7 27/ 382/P7 28/ 383/P7 29/ 388/P7 30/ 389/P7  
 1 16 4 13 1 16 4 13 1 16 4 13 1 16 4 13 1 16 6 11 1 16 6 11  
 6 11 7 10 7 10 6 11 10 7 11 6 11 6 10 7 4 13 7 10 7 10 4 13  
 15 2 14 3 14 3 15 2 15 2 14 3 14 3 15 2 15 2 12 5 12 5 15 2  
 12 5 9 8 12 5 9 8 8 9 5 12 8 9 5 12 14 3 9 8 14 3 9 8

31/ 390/P7 32/ 391/P7 33/ 392/P7 34/ 393/P7 35/ 395/P7 36/ 396/P7  
 1 16 6 11 1 16 6 11 1 16 7 10 1 16 7 10 1 16 7 10 1 16 7 10  
 10 7 13 4 13 4 10 7 4 13 6 11 6 11 4 13 11 6 13 4 13 4 11 6  
 15 2 12 5 12 5 15 2 14 3 12 5 12 5 14 3 14 3 12 5 12 5 14 3  
 8 9 3 14 8 9 3 14 15 2 9 8 15 2 9 8 8 9 2 15 8 9 2 15

37/ 403/P7 38/ 404/P7 39/ 405/P7 40/ 406/P7 41/ 407/P7 42/ 408/P7  
 1 16 10 7 1 16 10 7 1 16 10 7 1 16 10 7 1 16 11 6 1 16 11 6  
 4 13 11 6 6 11 13 4 11 6 4 13 13 4 6 11 4 13 10 7 7 10 13 4  
 15 2 8 9 15 2 8 9 8 9 15 2 8 9 15 2 14 3 8 9 14 3 8 9  
 14 3 5 12 12 5 3 14 14 3 5 12 12 5 3 14 15 2 5 12 12 5 2 15

43/ 409/P7 44/ 410/P7 45/ 412/P7 46/ 413/P7 47/ 414/P7 48/ 415/P7  
 1 16 11 6 1 16 11 6 1 16 13 4 1 16 13 4 1 16 13 4 1 16 13 4  
 10 7 4 13 13 4 7 10 6 11 10 7 7 10 11 6 10 7 6 11 11 6 7 10  
 8 9 14 3 8 9 14 3 12 5 8 9 12 5 8 9 8 9 12 5 8 9 12 5  
 15 2 5 12 12 5 2 15 15 2 3 14 14 3 2 15 15 2 3 14 14 3 2 15

49/ 498/P7 97/ 888/P7 145/1272/P7 193/1781/P7 241/2177/P7 289/2624/P7  
 2 7 11 14 3 6 10 15 4 5 9 16 5 4 10 15 6 3 9 16 7 2 9 16  
 9 16 4 5 9 16 4 5 10 15 3 6 9 16 6 3 10 15 5 4 11 14 5 4  
 8 1 13 12 8 1 13 12 7 2 14 11 8 1 11 14 7 2 12 13 6 3 12 13  
 15 10 6 3 14 11 7 2 13 12 8 1 12 13 7 2 11 14 8 1 10 15 8 1

337/3048/P7 385/3614/P7 433/4045/P7 481/4490/P7 529/4915/P7 577/5385/P7  
 8 1 10 15 9 4 6 15 10 3 5 16 11 2 5 16 12 1 6 15 13 2 3 16  
 12 13 6 3 5 16 10 3 6 15 9 4 7 14 9 4 8 13 10 3 7 12 9 6  
 5 4 11 14 12 1 7 14 11 2 8 13 10 3 8 13 9 4 7 14 10 5 8 11  
 9 16 7 2 8 13 11 2 7 14 12 1 6 15 12 1 5 16 11 2 4 15 14 1

625/5823/P7 673/6227/P7 721/6626/P7  
 14 1 4 15 15 1 4 14 16 1 4 13  
 8 11 10 5 8 10 11 5 6 11 10 7 (/ST:'Standard';  
 9 6 7 12 9 7 6 12 9 8 5 12 /SC:'Self-Complementary';  
 3 16 13 2 2 16 13 3 3 14 15 2 /PD:'Pan-Diagonal' Type)

[Counts of this Composite Pattern: 768/P7]  
 [Total Count of Solutions = 7040; Counts of Types: 384/PD, 384/SC, 7040/ST]

\*\* Calculated and Listed by Kanji Setsuda  
 on June 10, 2013 with MacOSX 10.8.4 & Xcode 4.6.2 \*\*

#### #4. Correspondence between the Standard Solutions and the Primitive Ones

Watch the next comparative count-lists of every CP groups again, please.

[Total Counts = 880 'Standard' Solutions upper and 7040 'Primitive' lower;  
 Counts/CP: 229/P1, 120/P2, 144/P3, 192/P4, 99/P5, 48/P6, 48/P7;  
 Counts/CP: 1312/P1, 960/P2, 768/P3, 1536/P4, 1312/P5, 384/P6, 768/P7;]

The results of CP2: 120x8=960; CP4: 192x8=1536; and CP6: 48x8=384; are quite reasonable. But, those of CP1, CP3, CP5 and CP7 are not the multiples of 8 at all. Why are they so irregular? Let me show you the next results of my experiments.

\* Restore the Primitive Solutions from Each Standard One by the 7 Transformations \*  
 \*\* Comparative 8 Primitive Solutions with Std\_N/Type/Name of C-Patn \*\*

[Original]	[Rotated-1]	[R2]	[R3]	[Reflected]	[Rotated-1]	[R2]	[R3]
1 2 3 4   13 9 5 1   16 15 14 13   4 8 12 16   1 5 9 13   4 3 2 1   16 12 8 4   13 14 15 16	5 6 7 8   14 10 6 2   12 11 10 9   3 7 11 15   2 6 10 14   8 7 6 5   15 11 7 3   9 10 11 12	9 10 11 12   15 11 7 3   8 7 6 5   2 6 10 14   3 7 11 15   12 11 10 9   14 10 6 2   5 6 7 8	13 14 15 16   16 12 8 4   4 3 2 1   1 5 9 13   4 8 12 16   16 15 14 13   13 9 5 1   1 2 3 4				

1/ST/P1	3438/ST/P5	3707/ST/P1	6819/ST/P5	222/ST/P5	7040/ST/P1	3603/ST/P5	3334/ST/P1
1 2 15 16   8 13 12 1   9 6 11 8   16 5 4 9   1 12 13 8   16 15 2 1   9 4 5 16   8 11 6 9	12 14 3 5   11 7 14 2   4 10 7 13   15 3 10 6   2 14 7 11   5 3 14 12   6 10 3 15   13 7 10 4	13 7 10 4   6 10 3 15   5 3 14 12   2 14 7 11   15 3 10 6   4 10 7 13   11 7 14 2   12 14 3 5	8 11 6 9   9 4 5 16   16 15 2 1   1 12 13 8   16 5 4 9   9 6 11 8   8 13 12 1   1 2 15 16				

3/ST/P2	3390/ST/P2	4143/ST/P2	6329/ST/P2	264/ST/P2	6624/ST/P2	4169/ST/P2	3325/ST/P2
1 2 16 15   8 12 13 1   10 5 11 8   15 3 6 10   1 13 12 8   15 16 2 1   10 6 3 15   8 11 5 10	13 14 4 3   11 7 14 2   6 9 7 12   16 4 9 5   2 14 7 11   3 4 14 13   5 9 4 16   12 7 9 6	12 7 9 6   5 9 4 16   3 4 14 13   2 14 7 11   16 4 9 5   6 9 7 12   11 7 14 2   13 14 4 3	8 11 5 10   10 6 3 15   15 16 2 1   1 13 12 8   15 3 6 10   10 5 11 8   8 12 13 1   1 2 16 15				

16/ST/P3	4745/ST/P7	2262/ST/P3	6742/ST/P7	299/ST/P7	7025/ST/P3	2296/ST/P7	4779/ST/P3
1 4 13 16   11 8 14 1   6 7 10 11   16 3 9 6   1 14 8 11   16 13 4 1   6 9 3 16   11 10 7 6	14 15 2 3   10 5 15 4   9 12 5 8   13 2 12 7   4 15 5 10   3 2 15 14   7 12 2 13   8 5 12 9	8 5 12 9   7 12 2 13   3 2 15 14   4 15 5 10   13 2 12 7   9 12 5 8   10 5 15 4   14 15 2 3	11 10 7 6   6 9 3 16   16 13 4 1   1 14 8 11   16 3 9 6   6 7 10 11   11 8 14 1   1 4 13 16				

21/ST/P4	5187/ST/P4	2252/ST/P4	6335/ST/P4	258/ST/P4	6620/ST/P4	2339/ST/P4	5205/ST/P4
1 4 14 15   12 8 13 1   6 7 9 12   15 3 10 6   1 13 8 12   15 14 4 1   6 10 3 15   12 9 7 6	13 16 2 3   9 5 16 4   10 11 5 8   14 2 11 7   4 16 5 9   3 2 16 13   7 11 2 14   8 5 11 10	8 5 11 10   7 11 2 14   3 2 16 13   4 16 5 9   14 2 11 7   10 11 5 8   9 5 16 4   13 16 2 3	12 9 7 6   6 10 3 15   15 14 4 1   1 13 8 12   15 3 10 6   6 7 9 12   12 8 13 1   1 4 14 15				

87/ST/P5	6940/ST/P1	1735/ST/P5	5229/ST/P1	101/ST/P1	5306/ST/P5	1812/ST/P1	6954/ST/P5
1 7 14 12   16 9 8 1   5 3 10 16   12 11 6 5   1 8 9 16   12 14 7 1   5 6 11 12   16 10 3 5	8 13 2 11   10 4 13 7   6 15 4 9   14 2 15 3   7 13 4 10   11 2 13 8   3 15 2 14   9 4 15 6	9 4 15 6   3 15 2 14   11 2 13 8   7 13 4 10   14 2 15 3   6 15 4 9   10 4 13 7   8 13 2 11	16 10 3 5   5 6 11 12   12 14 7 1   1 8 9 16   12 11 6 5   5 3 10 16   16 9 8 1   1 7 14 12				



105/PD/P6	6054/PD/P6	1282/PD/P6	6436/PD/P6	213/PD/P6	6552/PD/P6	1400/PD/P6	6146/PD/P6
1 8 10 15	14 7 12 1	4 5 11 14	15 6 9 4	1 12 7 14	15 10 8 1	4 9 6 15	14 11 5 4
12 13 3 6	11 2 13 8	9 16 2 7	10 3 16 5	8 13 2 11	6 3 13 12	5 16 3 10	7 2 16 9
7 2 16 9	5 16 3 10	6 3 13 12	8 13 2 11	10 3 16 5	9 16 2 7	11 2 13 8	12 13 3 6
14 11 5 4	4 9 6 15	15 10 8 1	1 12 7 14	15 6 9 4	4 5 11 14	14 7 12 1	1 8 10 15

115/ST/P7	6897/ST/P3	1273/ST/P7	5562/ST/P3	144/ST/P3	5768/ST/P7	1479/ST/P3	6926/ST/P7
1 8 12 13	16 7 10 1	4 5 9 16	13 6 11 4	1 10 7 16	13 12 8 1	4 11 6 13	16 9 5 4
10 15 3 6	9 2 15 8	11 14 2 7	12 3 14 5	8 15 2 9	6 3 15 10	5 14 3 12	7 2 14 11
7 2 14 11	5 14 3 12	6 3 15 10	8 15 2 9	12 3 14 5	11 14 2 7	9 2 15 8	10 15 3 6
16 9 5 4	4 11 6 13	13 12 8 1	1 10 7 16	13 6 11 4	4 5 9 16	16 7 10 1	1 8 12 13

I restored all the 8 Primitive Solutions in a line from the left top by the 7 types of transformations: combination of rotations and symmetric reflection. Each of these 8 is logically the same with the left top representative Standard Solution.

But, checking each C-Pattern of them, you see CP1 sometimes come to be CP5, CP5 to CP1; CP3 sometimes come to be CP7, and CP7 to CP3 in the same way.

Since they are originally made from the same Standard Solution, (CP1, CP5) should belong to the same sub-set of solutions, as well as (CP3, CP7) should.

The next comparative lists of the corresponding pairs of solutions belong to CP1 and CP5. What do you find in each pair of corresponding solutions?

1/ 1/ST R\C\Pd1/Pd2 Cmpst-SmE P1	1/ 222/ST R\C\Pd1/Pd2 Cmpst-SmE P5
1 2 15 16 0 0\ 0/ -7  -5 0 5 0	1 12 13 8 0 0\ 0/ -7  -5 12 5-12
12 14 3 5 0 0\ -17/-10  12 0-12 0	2 14 7 11 0 0\ 7/-10  0 0 0 0
13 7 10 4 0 0\ 10/ 17  5 0 -5 0	15 3 10 6 0 0\ 10/ 17  5-12 -5 12
8 11 6 9 0 0\ 7/ 0  -12 0 12 0	16 5 4 9 0 0\ -17/ 0  0 0 0 0

2/ 2/ST R\C\Pd1/Pd2 Cmpst-SmE P1	2/ 263/ST R\C\Pd1/Pd2 Cmpst-SmE P5
1 2 15 16 0 0\ 0/ -8  -4 0 4 0	1 13 12 8 0 0\ 0/ -8  -4 12 4-12
13 14 3 4 0 0\ -16/ -8  12 0-12 0	2 14 7 11 0 0\ 8/ -8  0 0 0 0
12 7 10 5 0 0\ 8/ 16  4 0 -4 0	15 3 10 6 0 0\ 8/ 16  4-12 -4 12
8 11 6 9 0 0\ 8/ 0  -12 0 12 0	16 4 5 9 0 0\ -16/ 0  0 0 0 0

4/ 4/ST R\C\Pd1/Pd2 Cmpst-SmE P1	3/ 162/ST R\C\Pd1/Pd2 Cmpst-SmE P5
1 3 14 16 0 0\ 0/ -3  -7 0 7 0	1 10 15 8 0 0\ 0/ -3  -7 10 7-10
10 13 4 7 0 0\ -17/-14  10 0-10 0	3 13 6 12 0 0\ 3/-14  0 0 0 0
15 6 11 2 0 0\ 14/ 17  7 0 -7 0	14 4 11 5 0 0\ 14/ 17  7-10 -7 10
8 12 5 9 0 0\ 3/ 0  -10 0 10 0	16 7 2 9 0 0\ -17/ 0  0 0 0 0

5/ 5/ST R\C\Pd1/Pd2 Cmpst-SmE P1	4/ 239/ST R\C\Pd1/Pd2 Cmpst-SmE P5
1 3 14 16 0 0\ 0/ -9  -5 0 5 0	1 12 15 6 0 0\ 0/ -9  -5 14 5-14
12 13 4 5 0 0\ -19/-10  14 0-14 0	3 13 8 10 0 0\ 9/-10  0 0 0 0
15 8 9 2 0 0\ 10/ 19  5 0 -5 0	14 4 9 7 0 0\ 10/ 19  5-14 -5 14
6 10 7 11 0 0\ 9/ 0  -14 0 14 0	16 5 2 11 0 0\ -19/ 0  0 0 0 0

6/ 6/ST R\C\Pd1/Pd2 Cmpst-SmE P1	5/ 345/ST R\C\Pd1/Pd2 Cmpst-SmE P5
1 3 14 16 0 0\ 0/ -8  -2 0 2 0	1 15 10 8 0 0\ 0/ -8  -2 10 2-10
15 13 4 2 0 0\ -12/ -4  10 0-10 0	3 13 6 12 0 0\ 8/ -4  0 0 0 0
10 6 11 7 0 0\ 4/ 12  2 0 -2 0	14 4 11 5 0 0\ 4/ 12  2-10 -2 10
8 12 5 9 0 0\ 8/ 0  -10 0 10 0	16 2 7 9 0 0\ -12/ 0  0 0 0 0

7/P1 355/P5	12/P1 131/P5	13/P1 125/P5
1 3 14 16  1 15 12 6	1 4 13 16  1 8 15 10	1 4 13 16  1 8 14 11
15 13 4 2  3 13 8 10	8 14 3 9  4 14 5 11	8 15 2 9  4 15 5 10
12 8 9 5  14 4 9 7	15 5 12 2  13 3 12 6	14 5 12 3  13 2 12 7
6 10 7 11  16 2 5 11	10 11 6 7  16 9 2 7	11 10 7 6  16 9 3 6

14/P1 240/P5	15/P1 233/P5	23/P1 399/P5
1 4 13 16  1 12 15 6	1 4 13 16  1 12 14 7	1 4 14 15  1 16 9 8
12 14 3 5  4 14 9 7	12 15 2 5  4 15 9 6	16 11 5 2  4 11 6 13
15 9 8 2  13 3 8 10	14 9 8 3  13 2 8 11	9 6 12 7  14 5 12 3
6 7 10 11  16 5 2 11	7 6 11 10  16 5 3 10	8 13 3 10  15 2 7 10

.....

The next list contains the corresponding pairs of (CP3, CP7).

```

16/ 16/ST|R\C\Pd1/Pd2|Cmpst-SmE P3|    1/ 299/ST|R\C\Pd1/Pd2|Cmpst-SmE P7|
1  4 13 16|0|0\  0/ -8|  0  0  0  0|    1 14  8 11|0|0\  0/ -8|  0  8  0 -8|
14 15  2  3|0|0\ -8/  0|  8  0 -8  0|    4 15  5 10|0|0\  8/  0|  0  0  0  0|
 8  5 12  9|0|0\  0/  8|  0  0  0  0|   13  2 12  7|0|0\  0/  8|  0 -8  0  8|
11 10  7  6|0|0\  8/  0| -8  0  8  0|   16  3  9  6|0|0\ -8/  0|  0  0  0  0|

```

```

17/ 17/ST|R\C\Pd1/Pd2|Cmpst-SmE P3|    2/ 311/ST|R\C\Pd1/Pd2|Cmpst-SmE P7|
1  4 13 16|0|0\  0/-16|  0  0  0  0|    1 14 12  7|0|0\  0/-16|  0 16  0-16|
14 15  2  3|0|0\ -16/  0| 16  0-16  0|    4 15  9  6|0|0\ 16/  0|  0  0  0  0|
12  9  8  5|0|0\  0/ 16|  0  0  0  0|   13  2  8 11|0|0\  0/ 16|  0-16  0 16|
 7  6 11 10|0|0\ 16/  0|-16  0 16  0|   16  3  5 10|0|0\ -16/  0|  0  0  0  0|

```

```

18/ 18/ST|R\C\Pd1/Pd2|Cmpst-SmE P3|    3/ 339/ST|R\C\Pd1/Pd2|Cmpst-SmE P7|
1  4 13 16|0|0\  0/ -8|  0  0  0  0|    1 15  8 10|0|0\  0/ -8|  0  8  0 -8|
15 14  3  2|0|0\ -8/  0|  8  0 -8  0|    4 14  5 11|0|0\  8/  0|  0  0  0  0|
 8  5 12  9|0|0\  0/  8|  0  0  0  0|   13  3 12  6|0|0\  0/  8|  0 -8  0  8|
10 11  6  7|0|0\  8/  0| -8  0  8  0|   16  2  9  7|0|0\ -8/  0|  0  0  0  0|

```

```

19/ 19/ST|R\C\Pd1/Pd2|Cmpst-SmE P3|    4/ 356/ST|R\C\Pd1/Pd2|Cmpst-SmE P7|
1  4 13 16|0|0\  0/-16|  0  0  0  0|    1 15 12  6|0|0\  0/-16|  0 16  0-16|
15 14  3  2|0|0\ -16/  0| 16  0-16  0|    4 14  9  7|0|0\ 16/  0|  0  0  0  0|
12  9  8  5|0|0\  0/ 16|  0  0  0  0|   13  3  8 10|0|0\  0/ 16|  0-16  0 16|
 6  7 10 11|0|0\ 16/  0|-16  0 16  0|   16  2  5 11|0|0\ -16/  0|  0  0  0  0|

```

```

24/ 24/ST|R\C\Pd1/Pd2|Cmpst-SmE P3|    5/ 392/ST|R\C\Pd1/Pd2|Cmpst-SmE P7|
1  4 14 15|0|0\  0/ -8|  0  0  0  0|    1 16  7 10|0|0\  0/ -8|  0  8  0 -8|
16 13  3  2|0|0\ -8/  0|  8  0 -8  0|    4 13  6 11|0|0\  8/  0|  0  0  0  0|
 7  6 12  9|0|0\  0/  8|  0  0  0  0|   14  3 12  5|0|0\  0/  8|  0 -8  0  8|
10 11  5  8|0|0\  8/  0| -8  0  8  0|   15  2  9  8|0|0\ -8/  0|  0  0  0  0|

```

```

25/P3|407/P7          30/P3|388/P7          31/P3|403/P7
1  4 14 15|  1 16 11  6    1  4 15 14|  1 16  6 11    1  4 15 14|  1 16 10  7
16 13  3  2|  4 13 10  7    16 13  2  3|  4 13  7 10    16 13  2  3|  4 13 11  6
11 10  8  5| 14  3  8  9    6  7 12  9| 15  2 12  5    10 11  8  5| 15  2  8  9
 6  7  9 12| 15  2  5 12    11 10  5  8| 14  3  9  8    7  6  9 12| 14  3  5 12

```

```

48/P3|216/P7          49/P3|234/P7          54/P3|340/P7
1  6 11 16|  1 12  8 13    1  6 11 16|  1 12 14  7    1  6 11 16|  1 15  8 10
12 15  2  5|  6 15  3 10    12 15  2  5|  6 15  9  4    15 12  5  2|  6 12  3 13
 8  3 14  9| 11  2 14  7    14  9  8  3| 11  2  8 13    8  3 14  9| 11  5 14  4
13 10  7  4| 16  5  9  4    7  4 13 10| 16  5  3 10    10 13  4  7| 16  2  9  7

```

```

55/P3|366/P7          60/P3|393/P7          61/P3|412/P7
1  6 11 16|  1 15 14  4    1  6 12 15|  1 16  7 10    1  6 12 15|  1 16 13  4
15 12  5  2|  6 12  9  7    16 11  5  2|  6 11  4 13    16 11  5  2|  6 11 10  7
14  9  8  3| 11  5  8 10    7  4 14  9| 12  5 14  3    13 10  8  3| 12  5  8  9
 4  7 10 13| 16  2  3 13    10 13  3  8| 15  2  9  8    4  7  9 14| 15  2  3 14

```

You see each pair of those solutions above tells us one is the 'reflected pattern' of the other. What type of reflection is it, then? It is the Symmetric Reflection with respect to the first primary diagonal {n1,n6,n11,n16} as dictated below.

```

1  2  3  4|  1  5  9 13    tn[1]=nm[1]; tn[2]=nm[5]; tn[3]=nm[9]; tn[4]=nm[13];
 5  6  7  8|  2  6 10 14    tn[5]=nm[2]; tn[6]=nm[6]; tn[7]=nm[10]; tn[8]=nm[14];
 9 10 11 12|  3  7 11 15    tn[9]=nm[3]; tn[10]=nm[7]; tn[11]=nm[11]; tn[12]=nm[15];
13 14 15 16|  4  8 12 16    tn[13]=nm[4]; tn[14]=nm[8]; tn[15]=nm[12]; tn[16]=nm[16];

```

From the viewpoint of Standard Solutions they should be the same and nothing else. It is the classic rule that we should count these Primitive Solutions as one. And only the representative one should be listed and the other 7 should be cut out by the Normalization Standards such as n1<n4, n1<n13, n1<n16 and n2<n5.

According to this rule, CP1 and CP5 should be the corresponding parts of the same set of solutions, as well as CP3 and CP7 should belong to the same set.

Correspondence between the Standard Solution and the Primitive Ones could be explained by the additions of their counts and multiplication of the sums by 8.

$$\text{Standard Solutions/P1+SS/P5} = 229 + 99 = 328;$$

$$\text{Primitive Solutions/P1+PS/P5} = 1312 + 1312 = 2624 = 328 \times 8;$$

[Total Counts = 880 'Standard' Solutions upper and 7040 'Primitive' lower;  
 Counts/CP: 229/P1, 120/P2, 144/P3, 192/P4, 99/P5, 48/P6, 48/P7;  
 Counts/CP: 1312/P1, 960/P2, 768/P3, 1536/P4, 1312/P5, 384/P6, 768/P7;]

$$\text{Standard Solutions/P3+SS/P7} = 144 + 48 = 192;$$

$$\text{Primitive Solutions/P3+PS/P7} = 768 + 768 = 1536 = 192 \times 8;$$

On the other hand, all the solutions of CP2, CP4 and CP6 are originally built under the perfect symmetry with respect to the first primary diagonal, and their solution sets prove to be 'closed' and 'independent'. They naturally obey our Normalization Standards in their sets themselves.

Thus I have found that all the Primitive Solutions could be classified into the following 5 groups: CP2, CP4, CP6, CP1+CP5 and CP3+CP7; How interesting!

To tell the truth, I have never imagined of this classification before I have actually obtained the list of 7040 Primitive Solutions.

## #5. Further Step of Classification by the Transformational Method

But this conclusion of #4 seemed to me a little too rough.

Though I am satisfied with the solution set of CP6 since it completely contains the 384 Pan-diagonal MS44 and nothing else in it, I am not satisfied with the result of CP4 case. It certainly contains the 384 Self-complementary MS44 in it, while it also has the other types of Standard MS44 there and the total count of solution set CP4 gets equal to as many as 1536.

My beloved Self-complementary type looks nothing special nor independent there. Why isn't it treated as equal as the Pan-diagonal one?

"Can we have another classification system, more exact and precise?"

I tried and tried lots of experiments in order to find that kind of method.

It was in spring, 2013 when I found something interesting about transformation.

It exchanges the contents of 2 middle rows with each other and then exchanges 2 middle columns with each other at the same time. See the next diagram that shows the concept of transformation with the original form and the final result.

/INI/OUT				** Rule of the Transformation **							
1	2	3	4	1	3	2	4	tn[ 1]=nm[ 1];	tn[ 2]=nm[ 3];	tn[ 3]=nm[ 2];	tn[ 4]=nm[ 4];
5	6	7	8	9	11	10	12	tn[ 5]=nm[ 9];	tn[ 6]=nm[11];	tn[ 7]=nm[10];	tn[ 8]=nm[12];
9	10	11	12	5	7	6	8	tn[ 9]=nm[ 5];	tn[10]=nm[ 7];	tn[11]=nm[ 6];	tn[12]=nm[ 8];
13	14	15	16	13	15	14	16	tn[13]=nm[13];	tn[14]=nm[15];	tn[15]=nm[14];	tn[16]=nm[16];

The rule of transformation is dictated as above left.

Apply this transformation to every solution one after another. And you could have another different solution restored from each, while you could have finally got the same solution set in total. They should return to themselves on the whole.

You could not make any other type of solutions by this transformation. You could find neither duplication nor drop-off of any solution. The solution set of Standard MS44 is totally 'closed' about this transformation, we have just known.

The next experiment I made was putting the new Monitor Table to each result of transformation and knowing how it is classified by the Composite Sums.

I was really afraid of repeating the same result at first, but I could actually have got such the new different results by our transformation as follows.

I think these results are very interesting, and I would like to show it to you.

The first objects of ours must be the 7040 Primitive Solutions of Standard MS44. I listed them out at the beginning of this article. Apply the new transformation to each solution of them and find which CP group each result is classified into.

I will report my conclusion at first in the two-dimensional form as follows.

**\*\* All the Subsets of Solutions classified by our new Transformation \*\***

[CP1:	In:	1312/P1,	0/P2,	0/P3,	0/P4,	0/P5,	0/P6,	0/P7;
	Out:	832/11,	480/12,	0/13,	0/14,	0/15,	0/16,	0/17]
[CP2:	In:	0/P1,	960/P2,	0/P3,	0/P4,	0/P5,	0/P6,	0/P7;
	Out:	480/21,	0/22,	0/23,	0/24,	480/25,	0/26,	0/27]
[CP3:	In:	0/P1,	0/P2,	768/P3,	0/P4,	0/P5,	0/P6,	0/P7;
	Out:	0/31,	0/32,	384/33,	384/34,	0/35,	0/36,	0/37]
[CP4:	In:	0/P1,	0/P2,	0/P3,	1536/P4,	0/P5,	0/P6,	0/P7;
	Out:	0/41,	0/42,	384/43,	384/44,	0/45,	384/46,	384/47]
[CP5:	In:	0/P1,	0/P2,	0/P3,	0/P4,	1312/P5,	0/P6,	0/P7;
	Out:	0/51,	480/52,	0/53,	0/54,	832/55,	0/56,	0/57]
[CP6:	In:	0/P1,	0/P2,	0/P3,	0/P4,	0/P5,	384/P6,	0/P7;
	Out:	0/61,	0/62,	0/63,	384/64,	0/65,	0/66,	0/67]
[CP7:	In:	0/P1,	0/P2,	0/P3,	0/P4,	0/P5,	0/P6,	768/P7;
	Out:	0/71,	0/72,	0/73,	384/74,	0/75,	0/76,	384/77]

They are classified into the 15 sub-groups by Composite Patterns, as you see.

I have also found there exist two major groups: (1) {CP1, CP2 and CP5} and (2) {CP3, CP4, CP6 and CP7}; according to their internal relations.

**#6. The Result List of New Classification of Standard MS44**

(1) The First Group contains CP1, CP2 and CP5.

\*\* Make CP1 MS44 into CP11 Type by the Transformation: Type 2

List of Primitive Solutions with precise Check-Sum-Errors: \*\*

Nmb/Stnd/Type|Rows|Columns\Pan-diagonals/|16 'Composite 2x2'; Name of CP|

/IN		Transform->		/OUT	
1/	1/ST R C\Pd1/Pd2 Cmpst-SmE P1	1/	328/ST R C\Pd1/Pd2 Cmpst-SmE P1	1/	328/ST R C\Pd1/Pd2 Cmpst-SmE P1
1 2 15 16 0 0\ 0/ -7  -5 0 5 0		1 15 2 16 0 0\ 0/ -9  5 0 -5 0		1 15 2 16 0 0\ 0/ -9  5 0 -5 0	
12 14 3 5 0 0\ -17/-10  12 0 -12 0		13 10 7 4 0 0\ 1/ 10  4 0 -4 0		13 10 7 4 0 0\ 1/ 10  4 0 -4 0	
13 7 10 4 0 0\ 10/ 17  5 0 -5 0		12 3 14 5 0 0\ -10/ -1  -5 0 5 0		12 3 14 5 0 0\ -10/ -1  -5 0 5 0	
8 11 6 9 0 0\ 7/ 0  -12 0 12 0		8 6 11 9 0 0\ 9/ 0  -4 0 4 0		8 6 11 9 0 0\ 9/ 0  -4 0 4 0	
2/	2/ST R C\Pd1/Pd2 Cmpst-SmE P1	2/	327/ST R C\Pd1/Pd2 Cmpst-SmE P1	2/	327/ST R C\Pd1/Pd2 Cmpst-SmE P1
1 2 15 16 0 0\ 0/ -8  -4 0 4 0		1 15 2 16 0 0\ 0/ -8  4 0 -4 0		1 15 2 16 0 0\ 0/ -8  4 0 -4 0	
13 14 3 4 0 0\ -16/ -8  12 0 -12 0		12 10 7 5 0 0\ 0/ 8  4 0 -4 0		12 10 7 5 0 0\ 0/ 8  4 0 -4 0	
12 7 10 5 0 0\ 8/ 16  4 0 -4 0		13 3 14 4 0 0\ -8/ 0  -4 0 4 0		13 3 14 4 0 0\ -8/ 0  -4 0 4 0	
8 11 6 9 0 0\ 8/ 0  -12 0 12 0		8 6 11 9 0 0\ 8/ 0  -4 0 4 0		8 6 11 9 0 0\ 8/ 0  -4 0 4 0	
3/	4/ST R C\Pd1/Pd2 Cmpst-SmE P1	3/	283/ST R C\Pd1/Pd2 Cmpst-SmE P1	3/	283/ST R C\Pd1/Pd2 Cmpst-SmE P1
1 3 14 16 0 0\ 0/ -3  -7 0 7 0		1 14 3 16 0 0\ 0/-13  7 0 -7 0		1 14 3 16 0 0\ 0/-13  7 0 -7 0	
10 13 4 7 0 0\ -17/-14  10 0 -10 0		15 11 6 2 0 0\ 1/ 14  6 0 -6 0		15 11 6 2 0 0\ 1/ 14  6 0 -6 0	
15 6 11 2 0 0\ 14/ 17  7 0 -7 0		10 4 13 7 0 0\ -14/ -1  -7 0 7 0		10 4 13 7 0 0\ -14/ -1  -7 0 7 0	
8 12 5 9 0 0\ 3/ 0  -10 0 10 0		8 5 12 9 0 0\ 13/ 0  -6 0 6 0		8 5 12 9 0 0\ 13/ 0  -6 0 6 0	

4/ 5/ST R\C\Pd1/Pd2 Cmpst-SmE P1	4/ 282/ST R\C\Pd1/Pd2 Cmpst-SmE P1
1 3 14 16 0 0\ 0/ -9  -5 0 5 0	1 14 3 16 0 0\ 0/-11  5 0 -5 0
12 13 4 5 0 0\ -19/-10  14 0-14 0	15 9 8 2 0 0\ -1/ 10  6 0 -6 0
15 8 9 2 0 0\ 10/ 19  5 0 -5 0	12 4 13 5 0 0\ -10/ 1  -5 0 5 0
6 10 7 11 0 0\ 9/ 0 -14 0 14 0	6 7 10 11 0 0\ 11/ 0  -6 0 6 0

5/ 6/ST R\C\Pd1/Pd2 Cmpst-SmE P1	5/ 280/ST R\C\Pd1/Pd2 Cmpst-SmE P1
1 3 14 16 0 0\ 0/ -8  -2 0 2 0	1 14 3 16 0 0\ 0/ -8  2 0 -2 0
15 13 4 2 0 0\ -12/ -4  10 0-10 0	10 11 6 7 0 0\ -4/ 4  6 0 -6 0
10 6 11 7 0 0\ 4/ 12  2 0 -2 0	15 4 13 2 0 0\ -4/ 4  -2 0 2 0
8 12 5 9 0 0\ 8/ 0 -10 0 10 0	8 5 12 9 0 0\ 8/ 0  -6 0 6 0

6/ 7/ST R\C\Pd1/Pd2 Cmpst-SmE P1	6/ 281/ST R\C\Pd1/Pd2 Cmpst-SmE P1
1 3 14 16 0 0\ 0/-12  -2 0 2 0	1 14 3 16 0 0\ 0/ -8  2 0 -2 0
15 13 4 2 0 0\ -16/ -4  14 0-14 0	12 9 8 5 0 0\ -4/ 4  6 0 -6 0
12 8 9 5 0 0\ 4/ 16  2 0 -2 0	15 4 13 2 0 0\ -4/ 4  -2 0 2 0
6 10 7 11 0 0\ 12/ 0 -14 0 14 0	6 7 10 11 0 0\ 8/ 0  -6 0 6 0

256/ST/P11	254/ST/P11	255/ST/P11	253/ST/P11	205/ST/P11	204/ST/P11
1 13 4 16	1 13 4 16	1 13 4 16	1 13 4 16	1 12 5 16	1 12 5 16
15 12 5 2	14 12 5 3	15 8 9 2	14 8 9 3	15 13 4 2	15 9 8 2
8 3 14 9	8 2 15 9	12 3 14 5	12 2 15 5	10 6 11 7	14 6 11 3
10 6 11 7	11 7 10 6	6 10 7 11	7 11 6 10	8 3 14 9	4 7 10 13

202/ST/P11	203/ST/P11	185/ST/P11	187/ST/P11	180/ST/P11	182/ST/P11
1 12 5 16	1 12 5 16	1 11 6 16	1 11 6 16	1 11 6 16	1 11 6 16
10 13 4 7	14 9 8 3	14 13 4 3	15 14 3 2	12 14 3 5	13 14 3 4
15 6 11 2	15 6 11 2	7 2 15 10	8 5 12 9	8 2 15 9	12 7 10 5
8 3 14 9	4 7 10 13	12 8 9 5	10 4 13 7	13 7 10 4	8 2 15 9

181/ST/P11	186/ST/P11	176/ST/P11	179/ST/P11	151/ST/P11	148/ST/P11
1 11 6 16	1 11 6 16	1 11 6 16	1 11 6 16	1 10 7 16	1 10 7 16
12 14 3 5	15 8 9 2	7 13 4 10	12 8 9 5	14 15 2 3	12 15 2 5
13 7 10 4	14 5 12 3	14 2 15 3	14 2 15 3	8 5 12 9	8 3 14 9
8 2 15 9	4 10 7 13	12 8 9 5	7 13 4 10	11 4 13 6	13 6 11 4

155/ST/P11	154/ST/P11	147/ST/P11	150/ST/P11	149/ST/P11	146/ST/P11
1 10 7 16	1 10 7 16	1 10 7 16	1 10 7 16	1 10 7 16	1 10 7 16
15 13 4 2	15 11 6 2	12 13 4 5	14 11 6 3	14 8 9 3	12 8 9 5
12 8 9 5	14 8 9 3	15 8 9 2	15 8 9 2	15 5 12 2	15 3 14 2
6 3 14 11	4 5 12 13	6 3 14 11	4 5 12 13	4 11 6 13	6 13 4 11

138/ST/P11	137/ST/P11	102/ST/P11	101/ST/P11	81/ST/P11	78/ST/P11
1 9 8 16	1 9 8 16	1 8 9 16	1 8 9 16	1 7 10 16	1 7 10 16
14 15 2 3	7 15 2 10	14 13 4 3	7 13 4 10	15 14 3 2	15 9 8 2
7 4 13 10	14 4 13 3	7 2 15 10	14 2 15 3	12 9 8 5	12 4 13 5
12 6 11 5	12 6 11 5	12 11 6 5	12 11 6 5	6 4 13 11	6 14 3 11

71/ST/P11	80/ST/P11	79/ST/P11	70/ST/P11	75/ST/P11	72/ST/P11
1 7 10 16	1 7 10 16	1 7 10 16	1 7 10 16	1 7 10 16	1 7 10 16
8 14 3 9	15 12 5 2	15 9 8 2	8 12 5 9	14 9 8 3	12 9 8 5
12 2 15 5	14 9 8 3	14 6 11 3	14 2 15 3	15 6 11 2	15 4 13 2
13 11 6 4	4 6 11 13	4 12 5 13	11 13 4 6	4 12 5 13	6 14 3 11

52/ST/P11	53/ST/P11	46/ST/P11	50/ST/P11	47/ST/P11	44/ST/P11
1 6 11 16	1 6 11 16	1 6 11 16	1 6 11 16	1 6 11 16	1 6 11 16
14 15 2 3	14 15 2 3	8 15 2 9	13 10 7 4	12 10 7 5	7 15 2 10
7 4 13 10	12 9 8 5	12 3 14 5	12 3 14 5	13 3 14 4	14 4 13 3
12 9 8 5	7 4 13 10	13 10 7 4	8 15 2 9	8 15 2 9	12 9 8 5

51/ST/P11	45/ST/P11	38/ST/P11	39/ST/P11	37/ST/P11	36/ST/P11
1 6 11 16	1 6 11 16	1 5 12 16	1 5 12 16	1 5 12 16	1 5 12 16
14 12 5 3	8 12 5 9	15 11 6 2	15 11 6 2	14 11 6 3	10 11 6 7
15 9 8 2	15 3 14 2	10 4 13 7	14 8 9 3	15 8 9 2	15 4 13 2
4 7 10 13	10 13 4 7	8 14 3 9	4 10 7 13	4 10 7 13	8 14 3 9

\*\* Only the Results of Transformation in Compact Style with Sol\_N/Type/C\_PatN \*\*

15/ST/P11	13/ST/P11	14/ST/P11	12/ST/P11	6/ST/P11	7/ST/P11
1 4 13 16	1 4 13 16	1 4 13 16	1 4 13 16	1 3 14 16	1 3 14 16
12 15 2 5	8 15 2 9	12 14 3 5	8 14 3 9	15 13 4 2	15 13 4 2
14 9 8 3	14 5 12 3	15 9 8 2	15 5 12 2	10 6 11 7	12 8 9 5
7 6 11 10	11 10 7 6	6 7 10 11	10 11 6 7	8 12 5 9	6 10 7 11

5/ST/P11	4/ST/P11	2/ST/P11	1/ST/P11	774/ST/P11	1153/ST/P11
1 3 14 16	1 3 14 16	1 2 15 16	1 2 15 16	2 16 1 15	3 15 2 14
12 13 4 5	10 13 4 7	13 14 3 4	12 14 3 5	14 9 8 3	16 10 7 1
15 8 9 2	15 6 11 2	12 7 10 5	13 7 10 4	11 4 13 6	6 4 13 11
6 10 7 11	8 12 5 9	8 11 6 9	8 11 6 9	7 5 12 10	9 5 12 8

1670/ST/P11	2058/ST/P11	2568/ST/P11	3022/ST/P11	3513/ST/P11	3955/ST/P11
4 16 1 13	5 15 2 12	6 16 1 11	7 16 1 10	8 16 1 9	9 16 1 8
15 9 8 2	16 9 8 1	15 9 8 2	14 9 8 3	11 10 7 6	15 5 12 2
5 3 14 12	3 4 13 14	3 5 12 14	2 5 12 15	2 5 12 15	6 10 7 11
10 6 11 7	10 6 11 7	10 4 13 7	11 4 13 6	13 3 14 4	4 3 14 13

4433/ST/P11	4892/ST/P11	5327/ST/P11	5798/ST/P11	6206/ST/P11	6623/ST/P11
10 16 1 7	11 16 1 6	12 15 2 5	13 16 1 4	14 15 2 3	15 16 1 2
15 5 12 2	14 5 12 3	13 6 11 4	11 5 12 6	11 4 13 6	6 4 13 11
3 9 8 14	2 9 8 15	1 10 7 16	2 10 7 15	1 10 7 16	3 9 8 14
6 4 13 11	7 4 13 10	8 3 14 9	8 3 14 9	8 5 12 9	10 5 12 7

7040/ST/P11  
 16 15 2 1  
 5 3 14 12 (/SC:'Self-Complementary',  
 4 10 7 13 /PD:'Pan-Diagonal',  
 9 6 11 8 /ST:'Standard' Type;)

[Total Count of Solutions = 1312; Counts of Types: 0/PD, 0/SC, 1312/ST]

[T-Type 2; Counts/C-Patterns:

In: 1312/P1, 0/P2, 0/P3, 0/P4, 0/P5, 0/P6, 0/P7;  
 Out: 832/11, 480/12, 0/13, 0/14, 0/15, 0/16, 0/17]

\*\* Make CP1 MS44 into CP12 Type by the Transformation: Type 2

List of Primitive Solutions with precise Check-Sum-Errors: \*\*

Nmb/Stnd/Type|Rows|Columns\Pan-diagonals/|16 'Composite 2x2'|

/IN	Transform->	/OUT
11/ 23/ST R\C\Pd1/Pd2 Cmpst-SmE P1		1/ 286/ST R\C\Pd1/Pd2 Cmpst-SmE P2
1 4 14 15 0 0\ 0/ -6  -2 0 2 0		1 14 4 15 0 0\ 0/-12  2 2 -2 -2
16 11 5 2 0 0\ -10/ -4  8 0 -8 0		9 12 6 7 0 0\ -4/ 4  8 0 -8 0
9 6 12 7 0 0\ 4/ 10  2 0 -2 0		16 5 11 2 0 0\ -4/ 8  -2 -2 2 2
8 13 3 10 0 0\ 6/ 0  -8 0 8 0		8 3 13 10 0 0\ 8/ 0  -8 0 8 0
12/ 29/ST R\C\Pd1/Pd2 Cmpst-SmE P1		2/ 331/ST R\C\Pd1/Pd2 Cmpst-SmE P2
1 4 15 14 0 0\ 0/ -5  -3 0 3 0		1 15 4 14 0 0\ 0/-15  3 4 -3 -4
16 10 5 3 0 0\ -11/ -6  8 0 -8 0		9 12 7 6 0 0\ -1/ 6  8 0 -8 0
9 7 12 6 0 0\ 6/ 11  3 0 -3 0		16 5 10 3 0 0\ -6/ 9  -3 -4 3 4
8 13 2 11 0 0\ 5/ 0  -8 0 8 0		8 2 13 11 0 0\ 7/ 0  -8 0 8 0
25/ 59/ST R\C\Pd1/Pd2 Cmpst-SmE P1		3/ 209/ST R\C\Pd1/Pd2 Cmpst-SmE P2
1 6 12 15 0 0\ 0/-10  -2 0 2 0		1 12 6 15 0 0\ 0/-16  2 2 -2 -2
16 9 7 2 0 0\ -14/ -4  12 0 -12 0		13 10 8 3 0 0\ -8/ 4  12 0 -12 0
13 8 10 3 0 0\ 4/ 14  2 0 -2 0		16 7 9 2 0 0\ -4/ 12  -2 -2 2 2
4 11 5 14 0 0\ 10/ 0  -12 0 12 0		4 5 11 14 0 0\ 12/ 0  -12 0 12 0
36/ 108/ST R\C\Pd1/Pd2 Cmpst-SmE P1		4/ 156/ST R\C\Pd1/Pd2 Cmpst-SmE P2
1 8 10 15 0 0\ 0/ -8  4 0 -4 0		1 10 8 15 0 0\ 0/ -2  -4 2 4 -2
16 13 3 2 0 0\ 0/ 8  4 0 -4 0		5 14 4 11 0 0\ -6/ -8  4 0 -4 0
5 4 14 11 0 0\ -8/ 0  -4 0 4 0		16 3 13 2 0 0\ 8/ 10  4 -2 -4 2
12 9 7 6 0 0\ 8/ 0  -4 0 4 0		12 7 9 6 0 0\ -2/ 0  -4 0 4 0

```

37/ 124/ST|R\C\Pd1/Pd2|Cmpst-SmE P1|    5/ 257/ST|R\C\Pd1/Pd2|Cmpst-SmE P2|
1  8 13 12|0|0\  0/ -4|  2  0 -2  0|    1 13  8 12|0|0\  0/ -8| -2  8  2 -8|
16 11  2  5|0|0\  0/  4|  2  0 -2  0|    3 15  6 10|0|0\  4/ -4|  2  0 -2  0|
  3  6 15 10|0|0\ -4/  0| -2  0  2  0|    16 2 11  5|0|0\  4/ 12|  2 -8 -2  8|
14  9  4  7|0|0\  4/  0| -2  0  2  0|    14  4  9  7|0|0\ -8/  0| -2  0  2  0|

```

```

48/ 161/ST|R\C\Pd1/Pd2|Cmpst-SmE P1|    6/ 103/ST|R\C\Pd1/Pd2|Cmpst-SmE P2|
1 10  8 15|0|0\  0/-10|  6  0 -6  0|    1  8 10 15|0|0\  0/  0| -6  2  6 -2|
16 13  3  2|0|0\  2/ 12|  4  0 -4  0|    5 14  4 11|0|0\ -8/-12|  4  0 -4  0|
  5  4 14 11|0|0\ -12/ -2| -6  0  6  0|    16 3 13  2|0|0\ 12/ 12|  6 -2 -6  2|
12  7  9  6|0|0\ 10/  0| -4  0  4  0|    12  9  7  6|0|0\ -4/  0| -4  0  4  0|

```

\*\* Only the Results of Transformation in Compact Style with Sol\_N/Type/C\_PatN \*\*

```

348/ST/P12    307/ST/P12    58/ST/P12    265/ST/P12    119/ST/P12    223/ST/P12
1 15 10  8    1 14 11  8    1  6 12 15    1 13 12  8    1  8 13 12    1 12 13  8
5 14 11  4    7 13 12  2    13 10  8  3    3 15 10  6    3 15  6 10    3 15 10  6
16 3  6  9    16 4  5  9    16 7  9  2    16 2  7  9    16 2 11  5    16 2  7  9
12 2  7 13    10 3  6 15    4 11  5 14    14 4  5 11    14 9  4  7    14 5  4 11

```

```

20/ST/P12    194/ST/P12    26/ST/P12    164/ST/P12    3/ST/P12    141/ST/P12
1  4 14 15    1 11 14  8    1  4 15 14    1 10 15  8    1  2 16 15    1  9 16  8
9 12  6  7    7 13 12  2    9 12  7  6    5 14 11  4    13 14  4  3    7 15 10  2
16 5 11  2    16 4  5  9    16 5 10  3    16 3  6  9    12  7  9  6    14  4  5 11
 8 13  3 10    10 6  3 15    8 13  2 11    12  7  2 13    8 11  5 10    12  6  3 13

```

```

662/ST/P12    1064/ST/P12    1553/ST/P12    2088/ST/P12    2412/ST/P12    2954/ST/P12
2 13  3 16    3 13  2 16    4 14  1 15    5 16  2 11    6 12  1 15    7 14  1 12
10 11  5  8    11 10  5  8    12  9  6  7    13  8 10  3    13 10  3  8    15  6  9  4
15  6 12  1    14  7 12  1    13  8 11  2    4  1 15 14    4  5 16  9    2  3 16 13
 7  4 14  9    6  4 15  9    5  3 16 10    12  9  7  6    11  7 14  2    10 11  8  5

```

```

3356/ST/P12    3743/ST/P12    4255/ST/P12    4709/ST/P12    5166/ST/P12    5613/ST/P12
8 12  1 13    9  7  2 16    10  8  1 15    11  8  1 14    12  8  1 13    13  8  1 12
6 10  3 15    13  6  3 12    13  6  3 12    15  4  5 10    14  2  7 11    15  3  6 10
9  7 14  4    8 11 14  1    4  9 16  5    2  9 16  7    3  9 16  6    4 14 11  5
11 5 16  2    4 10 15  5    7 11 14  2    6 13 12  3    5 15 10  4    2  9 16  7

```

```

6062/ST/P12    6468/ST/P12    6900/ST/P12
14  8  1 11    15  8  1 10    16  8  1  9
10  5  4 15    13  3  6 12    10  2  7 15    (/SC:'Self-Complementary',
 3 12 13  6    2 14 11  7    3 13 12  6    /PD:'Pan-Diagonal',
 7  9 16  2    4  9 16  5    5 11 14  4    /ST:'Standard' Type;)

```

[Total Count of Solutions = 1312; Counts of Types: 0/PD, 0/SC, 1312/ST]

[T-Type 2; Counts/C-Patterns:

```

In: 1312/P1, 0/P2, 0/P3, 0/P4, 0/P5, 0/P6, 0/P7;
Out: 832/11, 480/12, 0/13, 0/14, 0/15, 0/16, 0/17]

```

\*\* Make CP2 MS44 into CP21 Type by the Transformation: Type 2

List of Primitive Solutions with precise Check-Sum-Errors: \*\*

```

Nmb/Std/Type|Rows|Columns\Pan-diagonals/|16 'Composite 2x2'|
  /IN Transform-> /OUT
1/ 3/ST|R\C\Pd1/Pd2|Cmpst-SmE P2|    1/ 375/ST|R\C\Pd1/Pd2|Cmpst-SmE P1|
1  2 16 15|0|0\  0/-10| -4  2  4 -2|    1 16  2 15|0|0\  0/ -8|  4  0 -4  0|
13 14  4  3|0|0\ -14/ -8| 12  0 -12  0|    12  9  7  6|0|0\  0/  8|  4  0 -4  0|
12  7  9  6|0|0\  8/ 18|  4 -2 -4  2|    13  4 14  3|0|0\ -8/  0| -4  0  4  0|
 8 11  5 10|0|0\  6/  0|-12  0 12  0|    8  5 11 10|0|0\  8/  0| -4  0  4  0|

6/ 20/ST|R\C\Pd1/Pd2|Cmpst-SmE P2|    2/ 289/ST|R\C\Pd1/Pd2|Cmpst-SmE P1|
1  4 14 15|0|0\  0/ -2| -8  2  8 -2|    1 14  4 15|0|0\  0/-16|  8  0 -8  0|
9 12  6  7|0|0\ -14/-16|  8  0 -8  0|    16 11  5  2|0|0\  0/ 16|  8  0 -8  0|
16 5 11  2|0|0\ 16/ 18|  8 -2 -8  2|    9  6 12  7|0|0\ -16/  0| -8  0  8  0|
 8 13  3 10|0|0\ -2/  0| -8  0  8  0|    8  3 13 10|0|0\ 16/  0| -8  0  8  0|

```

```

7/ 26/ST|R\C\Pd1/Pd2|Cmpst-SmE P2|      3/ 334/ST|R\C\Pd1/Pd2|Cmpst-SmE P1|
1  4 15 14|0|0\ 0/ -4| -8  4  8 -4|      1 15  4 14|0|0\ 0/-16|  8  0 -8  0|
9 12  7  6|0|0\ -12/-16|  8  0 -8  0|    16 10  5  3|0|0\ 0/ 16|  8  0 -8  0|
16  5 10  3|0|0\ 16/ 20|  8 -4 -8  4|     9  7 12  6|0|0\ -16/ 0| -8  0  8  0|
 8 13  2 11|0|0\ -4/  0| -8  0  8  0|     8  2 13 11|0|0\ 16/  0| -8  0  8  0|

12/ 58/ST|R\C\Pd1/Pd2|Cmpst-SmE P2|      4/ 211/ST|R\C\Pd1/Pd2|Cmpst-SmE P1|
1  6 12 15|0|0\ 0/-10| -4  2  4 -2|      1 12  6 15|0|0\ 0/-16|  4  0 -4  0|
13 10  8  3|0|0\ -14/ -8| 12  0 -12  0|    16  9  7  2|0|0\ -8/  8| 12  0 -12  0|
16  7  9  2|0|0\  8/ 18|  4 -2 -4  2|     13  8 10  3|0|0\ -8/  8| -4  0  4  0|
 4 11  5 14|0|0\  6/  0| -12  0 12  0|     4  5 11 14|0|0\ 16/  0| -12  0 12  0|

16/ 103/ST|R\C\Pd1/Pd2|Cmpst-SmE P2|     5/ 161/ST|R\C\Pd1/Pd2|Cmpst-SmE P1|
1  8 10 15|0|0\ 0/  0| -6  2  6 -2|      1 10  8 15|0|0\ 0/-10|  6  0 -6  0|
 5 14  4 11|0|0\ -8/-12|  4  0 -4  0|    16 13  3  2|0|0\ 2/ 12|  4  0 -4  0|
16  3 13  2|0|0\ 12/ 12|  6 -2 -6  2|     5  4 14 11|0|0\ -12/ -2| -6  0  6  0|
12  9  7  6|0|0\ -4/  0| -4  0  4  0|    12  7  9  6|0|0\ 10/  0| -4  0  4  0|

17/ 119/ST|R\C\Pd1/Pd2|Cmpst-SmE P2|     6/ 262/ST|R\C\Pd1/Pd2|Cmpst-SmE P1|
1  8 13 12|0|0\ 0/ -3| -7  8  7 -8|      1 13  8 12|0|0\ 0/ -9|  7  0 -7  0|
 3 15  6 10|0|0\ -1/-14|  2  0 -2  0|    16 11  2  5|0|0\ 5/ 14|  2  0 -2  0|
16  2 11  5|0|0\ 14/ 17|  7 -8 -7  8|     3  6 15 10|0|0\ -14/ -5| -7  0  7  0|
14  9  4  7|0|0\ -13/  0| -2  0  2  0|    14  4  9  7|0|0\  9/  0| -2  0  2  0|

```

\*\* Only the Results of Transformation in Compact Style with Sol\_N/Type/C\_PatN \*\*

```

400/ST/P21      108/ST/P21      354/ST/P21      310/ST/P21      59/ST/P21      273/ST/P21
1 16  9  8      1  8 10 15      1 15 10  8      1 14 11  8      1  6 12 15      1 13 12  8
14  5  4 11     16 13  3  2     16  6  3  9     16  5  4  9     16  9  7  2     16  7  2  9
 7 10 15  2      5  4 14 11      5 11 14  4      7 12 13  2     13  8 10  3     3 10 15  6
12  3  6 13     12  9  7  6     12  2  7 13     10  3  6 15     4 11  5 14     14  4  5 11

124/ST/P21     231/ST/P21     23/ST/P21      195/ST/P21     29/ST/P21     169/ST/P21
1  8 13 12     1 12 13  8     1  4 14 15     1 11 14  8     1  4 15 14     1 10 15  8
16 11  2  5     16  7  2  9     16 11  5  2     16  5  4  9     16 10  5  3     16  6  3  9
 3  6 15 10     3 10 15  6     9  6 12  7     7 12 13  2     9  7 12  6     5 11 14  4
14  9  4  7     14  5  4 11     8 13  3 10     10  6  3 15     8 13  2 11     12  7  2 13

731/ST/P21     1066/ST/P21    1554/ST/P21    2087/ST/P21    2410/ST/P21    2951/ST/P21
 2 15  1 16     3 13  2 16     4 14  1 15     5 16  2 11     6 12  1 15     7 14  1 12
11 10  8  5     14 12  7  1     13 11  8  2     12  7  9  6     11 14  7  2     10  8 11  5
14  3 13  4     11  5 10  8     12  6  9  7     13 10  8  3     8  3 10 13     15  9  6  4
 7  6 12  9     6  4 15  9     5  3 16 10     4  1 15 14     9  5 16  4     2  3 16 13

3360/ST/P21    3784/ST/P21    4250/ST/P21    4705/ST/P21    5161/ST/P21    5610/ST/P21
 8 12  1 13     9  8  1 16     10  8  1 15     11  8  1 14     12  8  1 13     13  8  1 12
 9 14  7  4     6 13 12  3     7 14 11  2     6 12 13  3     5 14 11  4     6  9 16  3
 6  3 10 15     15  2  7 10     12  3  6 13     15  5  4 10     10  3  6 15     11  2  7 14
11  5 16  2     4 11 14  5     5  9 16  4     2  9 16  7     7  9 16  2     4 15 10  5

6058/ST/P21    6462/ST/P21    6872/ST/P21
14  8  1 11     15  8  1 10     16  7  2  9
 3 13 12  6     2 12 13  7     1 11 14  8
10  4  5 15     11  5  4 14     12  6  3 13
 7  9 16  2     6  9 16  3     5 10 15  4
(/SC:'Self-Complementary',
/PD:'Pan-Diagonal',
/ST:'Standard' Type;)

```

[Total Count of Solutions = 960; Counts of Types: 0/PD, 0/SC, 960/ST]

[T-Type 2; Counts/C-Patterns:

```

In:  0/P1, 960/P2,  0/P3,  0/P4,  0/P5,  0/P6,  0/P7;
Out: 480/21,  0/22,  0/23,  0/24, 480/25,  0/26,  0/27]

```

\*\* Make CP2 MS44 into CP25 Type by the Transformation: Type 2

List of Primitive Solutions with precise Check-Sum-Errors: \*\*

```

Nmb/Stnd/Type|Rows|Columns\Pan-diagonals/|16 'Composite 2x2'|
/IN Transform-> /OUT

```



2/ 8/ST R\C\Pd1/Pd2 Cmpst-SmE P2	1/ 379/ST R\C\Pd1/Pd2 Cmpst-SmE P5
1 3 16 14 0 0\ 0/ -3  -7 2 7 -2	1 16 3 14 0 0\ 0/ -9  7 2 -7 -2
8 15 2 9 0 0\ -13/ -14  8 0 -8 0	13 11 6 4 0 0\ 9/ 14  0 0 0 0
13 6 11 4 0 0\ 14/ 17  7 -2 -7 2	8 2 15 9 0 0\ -14/ -5  -7 -2 7 2
12 10 5 7 0 0\ -1/ 0  -8 0 8 0	12 5 10 7 0 0\ 5/ 0  0 0 0 0

3/ 9/ST R\C\Pd1/Pd2 Cmpst-SmE P2	2/ 378/ST R\C\Pd1/Pd2 Cmpst-SmE P5
1 3 16 14 0 0\ 0/ -15  -3 2 3 -2	1 16 3 14 0 0\ 0/ -5  3 2 -3 -2
12 15 2 5 0 0\ -17/ -6  16 0 -16 0	13 7 10 4 0 0\ 5/ 6  0 0 0 0
13 10 7 4 0 0\ 6/ 21  3 -2 -3 2	12 2 15 5 0 0\ -6/ -1  -3 -2 3 2
8 6 9 11 0 0\ 11/ 0  -16 0 16 0	8 9 6 11 0 0\ 1/ 0  0 0 0 0

4/ 10/ST R\C\Pd1/Pd2 Cmpst-SmE P2	3/ 376/ST R\C\Pd1/Pd2 Cmpst-SmE P5
1 3 16 14 0 0\ 0/ -8  -2 2 2 -2	1 16 3 14 0 0\ 0/ -4  2 2 -2 -2
13 15 2 4 0 0\ -8/ -4  8 0 -8 0	8 11 6 9 0 0\ 4/ 4  0 0 0 0
8 6 11 9 0 0\ 4/ 12  2 -2 -2 2	13 2 15 4 0 0\ -4/ 0  -2 -2 2 2
12 10 5 7 0 0\ 4/ 0  -8 0 8 0	12 5 10 7 0 0\ 0/ 0  0 0 0 0

5/ 11/ST R\C\Pd1/Pd2 Cmpst-SmE P2	4/ 377/ST R\C\Pd1/Pd2 Cmpst-SmE P5
1 3 16 14 0 0\ 0/ -16  -2 2 2 -2	1 16 3 14 0 0\ 0/ -4  2 2 -2 -2
13 15 2 4 0 0\ -16/ -4  16 0 -16 0	12 7 10 5 0 0\ 4/ 4  0 0 0 0
12 10 7 5 0 0\ 4/ 20  2 -2 -2 2	13 2 15 4 0 0\ -4/ 0  -2 -2 2 2
8 6 9 11 0 0\ 12/ 0  -16 0 16 0	8 9 6 11 0 0\ 0/ 0  0 0 0 0

8/ 40/ST R\C\Pd1/Pd2 Cmpst-SmE P2	5/ 386/ST R\C\Pd1/Pd2 Cmpst-SmE P5
1 5 16 12 0 0\ 0/ 0  -6 4 6 -4	1 16 5 12 0 0\ 0/ -10  6 4 -6 -4
8 14 3 9 0 0\ -4/ -12  2 0 -2 0	10 13 4 7 0 0\ 10/ 12  0 0 0 0
10 4 13 7 0 0\ 12/ 12  6 -4 -6 4	8 3 14 9 0 0\ -12/ -2  -6 -4 6 4
15 11 2 6 0 0\ -8/ 0  -2 0 2 0	15 2 11 6 0 0\ 2/ 0  0 0 0 0

9/ 41/ST R\C\Pd1/Pd2 Cmpst-SmE P2	6/ 384/ST R\C\Pd1/Pd2 Cmpst-SmE P5
1 5 16 12 0 0\ 0/ -2  -4 4 4 -4	1 16 5 12 0 0\ 0/ -8  4 4 -4 -4
10 14 3 7 0 0\ -2/ -8  2 0 -2 0	8 13 4 9 0 0\ 8/ 8  0 0 0 0
8 4 13 9 0 0\ 8/ 10  4 -4 -4 4	10 3 14 7 0 0\ -8/ 0  -4 -4 4 4
15 11 2 6 0 0\ -6/ 0  -2 0 2 0	15 2 11 6 0 0\ 0/ 0  0 0 0 0

387/ST/P25	385/ST/P25	298/ST/P25	397/ST/P25	394/ST/P25	401/ST/P25
1 16 5 12	1 16 5 12	1 14 7 12	1 16 7 10	1 16 7 10	1 16 9 8
15 6 11 2	10 6 11 7	16 5 10 3	14 5 12 3	11 5 12 6	14 11 6 3
10 3 14 7	15 3 14 2	9 4 15 6	11 4 13 6	14 4 13 3	4 5 12 13
8 9 4 13	8 9 4 13	8 11 2 13	8 9 2 15	8 9 2 15	15 2 7 10

402/ST/P25	399/ST/P25	398/ST/P25	232/ST/P25	416/ST/P25	411/ST/P25
1 16 9 8	1 16 9 8	1 16 9 8	1 12 13 8	1 16 13 4	1 16 13 4
15 10 7 2	4 11 6 13	4 10 7 13	16 9 4 5	12 9 8 5	6 9 8 11
4 5 12 13	14 5 12 3	15 5 12 2	2 7 14 11	6 7 10 11	12 7 10 5
14 3 6 11	15 2 7 10	14 3 6 11	15 6 3 10	15 2 3 14	15 2 3 14

667/ST/P25	1108/ST/P25	1666/ST/P25	1974/ST/P25	2562/ST/P25	2800/ST/P25
2 13 4 15	3 14 1 16	4 16 1 13	5 12 1 16	6 16 1 11	7 10 1 16
7 10 5 12	13 11 6 4	14 3 10 7	10 13 4 7	12 5 4 13	14 5 12 3
14 3 16 1	8 2 15 9	11 6 15 2	8 3 14 9	7 10 15 2	11 4 13 6
11 8 9 6	10 7 12 5	5 9 8 12	11 6 15 2	9 3 14 8	2 15 8 9

3226/ST/P25	3785/ST/P25	4431/ST/P25	4891/ST/P25	5326/ST/P25	5498/ST/P25
8 9 2 15	9 8 1 16	10 16 1 7	11 16 1 6	12 15 2 5	13 4 1 16
14 4 13 3	14 11 6 3	15 2 13 4	14 3 10 7	13 4 9 8	12 9 8 5
11 5 12 6	4 5 12 13	6 11 8 9	4 13 8 9	3 14 7 10	6 7 10 11
1 16 7 10	7 10 15 2	3 5 12 14	5 2 15 12	6 1 16 11	3 14 15 2

5902/ST/P25	6274/ST/P25	6630/ST/P25	
14 3 2 15	15 2 3 14	16 1 4 13	
11 10 7 6	12 7 10 5	11 8 9 6	(/SC:'Self-Complementary',
5 8 9 12	6 9 8 11	5 10 7 12	/PD:'Pan-Diagonal',
4 13 16 1	1 16 13 4	2 15 14 3	/ST:'Standard' Type;)

[Total Count of Solutions = 960; Counts of Types: 0/PD, 0/SC, 960/ST]

[T-Type 2; Counts/C-Patterns:

In: 0/P1, 960/P2, 0/P3, 0/P4, 0/P5, 0/P6, 0/P7;  
 Out: 480/21, 0/22, 0/23, 0/24, 480/25, 0/26, 0/27]

\*\* Make CP5 MS44 into CP52 Type by the Transformation: Type 2

List of Primitive Solutions with precise Check-Sum-Errors: \*\*

Nmb/Std/Type|Rows|Columns\Pan-diagonals/|16 'Composite 2x2'|

/IN		Transform->		/OUT	
21/ 232/ST	R C\Pd1/Pd2 Cmpst-SmE P5	1/ 264/ST	R C\Pd1/Pd2 Cmpst-SmE P2		
1 12 13 8 0 0\ 0/ -8	4 4 -4 -4	1 13 12 8 0 0\ 0/-10	-4 12 4-12		
16 9 4 5 0 0\ 8/ 8	0 0 0 0	2 14 7 11 0 0\ 6/ -8	2 0 -2 0		
2 7 14 11 0 0\ -8/ 0	-4 -4 4 4	16 4 9 5 0 0\ 8/ 18	4-12 -4 12		
15 6 3 10 0 0\ 0/ 0	0 0 0 0	15 3 6 10 0 0\ -14/ 0	-2 0 2 0		
38/ 298/ST	R C\Pd1/Pd2 Cmpst-SmE P5	2/ 89/ST	R C\Pd1/Pd2 Cmpst-SmE P2		
1 14 7 12 0 0\ 0/ -4	2 2 -2 -2	1 7 14 12 0 0\ 0/-20	-2 6 2 -6		
16 5 10 3 0 0\ 4/ 4	0 0 0 0	9 15 4 6 0 0\ -12/ -4	16 0-16 0		
9 4 15 6 0 0\ -4/ 0	-2 -2 2 2	16 10 5 3 0 0\ 4/ 24	2 -6 -2 6		
8 11 2 13 0 0\ 0/ 0	0 0 0 0	8 2 11 13 0 0\ 8/ 0	-16 0 16 0		
67/ 376/ST	R C\Pd1/Pd2 Cmpst-SmE P5	3/ 10/ST	R C\Pd1/Pd2 Cmpst-SmE P2		
1 16 3 14 0 0\ 0/ -4	2 2 -2 -2	1 3 16 14 0 0\ 0/ -8	-2 2 2 -2		
8 11 6 9 0 0\ 4/ 4	0 0 0 0	13 15 2 4 0 0\ -8/ -4	8 0 -8 0		
13 2 15 4 0 0\ -4/ 0	-2 -2 2 2	8 6 11 9 0 0\ 4/ 12	2 -2 -2 2		
12 5 10 7 0 0\ 0/ 0	0 0 0 0	12 10 5 7 0 0\ 4/ 0	-8 0 8 0		
68/ 377/ST	R C\Pd1/Pd2 Cmpst-SmE P5	4/ 11/ST	R C\Pd1/Pd2 Cmpst-SmE P2		
1 16 3 14 0 0\ 0/ -4	2 2 -2 -2	1 3 16 14 0 0\ 0/-16	-2 2 2 -2		
12 7 10 5 0 0\ 4/ 4	0 0 0 0	13 15 2 4 0 0\ -16/ -4	16 0-16 0		
13 2 15 4 0 0\ -4/ 0	-2 -2 2 2	12 10 7 5 0 0\ 4/ 20	2 -2 -2 2		
8 9 6 11 0 0\ 0/ 0	0 0 0 0	8 6 9 11 0 0\ 12/ 0	-16 0 16 0		
69/ 378/ST	R C\Pd1/Pd2 Cmpst-SmE P5	5/ 9/ST	R C\Pd1/Pd2 Cmpst-SmE P2		
1 16 3 14 0 0\ 0/ -5	3 2 -3 -2	1 3 16 14 0 0\ 0/-15	-3 2 3 -2		
13 7 10 4 0 0\ 5/ 6	0 0 0 0	12 15 2 5 0 0\ -17/ -6	16 0-16 0		
12 2 15 5 0 0\ -6/ -1	-3 -2 3 2	13 10 7 4 0 0\ 6/ 21	3 -2 -3 2		
8 9 6 11 0 0\ 1/ 0	0 0 0 0	8 6 9 11 0 0\ 11/ 0	-16 0 16 0		
70/ 379/ST	R C\Pd1/Pd2 Cmpst-SmE P5	6/ 8/ST	R C\Pd1/Pd2 Cmpst-SmE P2		
1 16 3 14 0 0\ 0/ -9	7 2 -7 -2	1 3 16 14 0 0\ 0/ -3	-7 2 7 -2		
13 11 6 4 0 0\ 9/ 14	0 0 0 0	8 15 2 9 0 0\ -13/-14	8 0 -8 0		
8 2 15 9 0 0\ -14/ -5	-7 -2 7 2	13 6 11 4 0 0\ 14/ 17	7 -2 -7 2		
12 5 10 7 0 0\ 5/ 0	0 0 0 0	12 10 5 7 0 0\ -1/ 0	-8 0 8 0		

\*\* Only the Results of Transformation in Compact Style with Sol\_N/Type/C\_PatN \*\*

41/ST/P52	43/ST/P52	40/ST/P52	42/ST/P52	100/ST/P52	95/ST/P52
1 5 16 12	1 5 16 12	1 5 16 12	1 5 16 12	1 7 16 10	1 7 16 10
10 14 3 7	15 14 3 2	8 14 3 9	10 14 3 7	14 13 4 3	11 13 4 6
8 4 13 9	10 11 6 7	10 4 13 7	15 11 6 2	11 12 5 6	14 12 5 3
15 11 2 6	8 4 9 13	15 11 2 6	8 4 9 13	8 2 9 15	8 2 9 15
143/ST/P52	142/ST/P52	139/ST/P52	140/ST/P52	279/ST/P52	274/ST/P52
1 9 16 8	1 9 16 8	1 9 16 8	1 9 16 8	1 13 16 4	1 13 16 4
15 12 5 2	14 12 5 3	4 12 5 13	4 12 5 13	12 10 7 5	6 10 7 11
4 7 10 13	4 6 11 13	14 6 11 3	15 7 10 2	6 8 9 11	12 8 9 5
14 6 3 11	15 7 2 10	15 7 2 10	14 6 3 11	15 3 2 14	15 3 2 14
568/ST/P52	1036/ST/P52	1675/ST/P52	2056/ST/P52	2565/ST/P52	3016/ST/P52
2 9 8 15	3 12 5 14	4 16 5 9	5 15 2 12	6 16 1 11	7 16 1 10
16 14 1 3	15 13 2 4	3 15 10 6	14 10 3 7	13 9 4 8	11 9 6 8
5 7 12 10	6 8 11 9	13 1 8 12	4 8 13 9	3 7 14 10	2 4 15 13
11 4 13 6	10 1 16 7	14 2 11 7	11 1 16 6	12 2 15 5	14 5 12 3

3361/ST/P52	3923/ST/P52	4429/ST/P52	4885/ST/P52	5277/ST/P52	5795/ST/P52
8 12 1 13	9 15 2 8	10 16 1 7	11 16 1 6	12 14 1 7	13 16 1 4
11 7 2 14	12 4 5 13	11 3 6 14	7 5 10 12	6 4 9 15	6 2 11 15
5 9 16 4	6 14 11 3	5 13 12 4	2 4 15 13	3 5 16 10	3 7 14 10
10 6 15 3	7 1 16 10	8 2 15 9	14 9 8 3	13 11 8 2	12 9 8 5

6219/ST/P52	6316/ST/P52	6767/ST/P52	
14 16 1 3	15 3 2 14	16 4 1 13	
4 2 13 15	12 8 9 5	11 7 10 6	(/SC:'Self-Complementary',
5 7 12 10	6 10 7 11	5 9 8 12	/PD:'Pan-Diagonal',
11 9 8 6	1 13 16 4	2 14 15 3	/ST:'Standard' Type;)

[Total Count of Solutions = 1312; Counts of Types: 0/PD, 0/SC, 1312/ST]

[T-Type 2; Counts/C-Patterns:

In:	0/P1,	0/P2,	0/P3,	0/P4,	1312/P5,	0/P6,	0/P7;
Out:	0/51,	480/52,	0/53,	0/54,	832/55,	0/56,	0/57]

\*\* Make CP5 MS44 into CP55 Type by the Transformation: Type 2

List of Primitive Solutions with precise Check-Sum-Errors: \*\*

Nmb/Std/Type|Rows|Columns\Pan-diagonals/|16 'Composite 2x2'

/IN	Transform->	/OUT
1/ 86/ST R C\Pd1/Pd2 Cmpst-SmE P5		1/ 296/ST R C\Pd1/Pd2 Cmpst-SmE P5
1 7 14 12 0 0\ 0/ -1  -5 6 5 -6		1 14 7 12 0 0\ 0/ -7  5 2 -5 -2
6 15 4 9 0 0\ 1/-10  0 0 0 0		11 13 2 8 0 0\ 7/ 10  0 0 0 0
11 2 13 8 0 0\ 10/ 11  5 -6 -5 6		6 4 15 9 0 0\ -10/ -3  -5 -2 5 2
16 10 3 5 0 0\ -11/ 0  0 0 0 0		16 3 10 5 0 0\ 3/ 0  0 0 0 0
2/ 87/ST R C\Pd1/Pd2 Cmpst-SmE P5		2/ 294/ST R C\Pd1/Pd2 Cmpst-SmE P5
1 7 14 12 0 0\ 0/ 3  -5 2 5 -2		1 14 7 12 0 0\ 0/-11  5 6 -5 -6
8 13 2 11 0 0\ -3/-10  0 0 0 0		9 15 4 6 0 0\ 11/ 10  0 0 0 0
9 4 15 6 0 0\ 10/ 7  5 -2 -5 2		8 2 13 11 0 0\ -10/ 1  -5 -6 5 6
16 10 3 5 0 0\ -7/ 0  0 0 0 0		16 3 10 5 0 0\ -1/ 0  0 0 0 0
3/ 88/ST R C\Pd1/Pd2 Cmpst-SmE P5		3/ 293/ST R C\Pd1/Pd2 Cmpst-SmE P5
1 7 14 12 0 0\ 0/ -4  -2 6 2 -6		1 14 7 12 0 0\ 0/ -4  2 2 -2 -2
9 15 4 6 0 0\ 4/ -4  0 0 0 0		8 13 2 11 0 0\ 4/ 4  0 0 0 0
8 2 13 11 0 0\ 4/ 8  2 -6 -2 6		9 4 15 6 0 0\ -4/ 0  -2 -2 2 2
16 10 3 5 0 0\ -8/ 0  0 0 0 0		16 3 10 5 0 0\ 0/ 0  0 0 0 0
4/ 92/ST R C\Pd1/Pd2 Cmpst-SmE P5		4/ 291/ST R C\Pd1/Pd2 Cmpst-SmE P5
1 7 14 12 0 0\ 0/ 0  -2 2 2 -2		1 14 7 12 0 0\ 0/ -8  2 6 -2 -6
11 13 2 8 0 0\ 0/ -4  0 0 0 0		6 15 4 9 0 0\ 8/ 4  0 0 0 0
6 4 15 9 0 0\ 4/ 4  2 -2 -2 2		11 2 13 8 0 0\ -4/ 4  -2 -6 2 6
16 10 3 5 0 0\ -4/ 0  0 0 0 0		16 3 10 5 0 0\ -4/ 0  0 0 0 0
5/ 113/ST R C\Pd1/Pd2 Cmpst-SmE P5		5/ 219/ST R C\Pd1/Pd2 Cmpst-SmE P5
1 8 12 13 0 0\ 0/ 0  -4 4 4 -4		1 12 8 13 0 0\ 0/ -6  4 2 -4 -2
6 15 3 10 0 0\ 0/ -8  0 0 0 0		11 14 2 7 0 0\ 6/ 8  0 0 0 0
11 2 14 7 0 0\ 8/ 8  4 -4 -4 4		6 3 15 10 0 0\ -8/ -2  -4 -2 4 2
16 9 5 4 0 0\ -8/ 0  0 0 0 0		16 5 9 4 0 0\ 2/ 0  0 0 0 0
6/ 114/ST R C\Pd1/Pd2 Cmpst-SmE P5		6/ 218/ST R C\Pd1/Pd2 Cmpst-SmE P5
1 8 12 13 0 0\ 0/ 2  -4 2 4 -2		1 12 8 13 0 0\ 0/ -8  4 4 -4 -4
7 14 2 11 0 0\ -2/ -8  0 0 0 0		10 15 3 6 0 0\ 8/ 8  0 0 0 0
10 3 15 6 0 0\ 8/ 6  4 -2 -4 2		7 2 14 11 0 0\ -8/ 0  -4 -4 4 4
16 9 5 4 0 0\ -6/ 0  0 0 0 0		16 5 9 4 0 0\ 0/ 0  0 0 0 0

\*\* Only the Results of Transformation in Compact Style with Sol\_N/Type/C\_PatN \*\*

303/ST/P55	301/ST/P55	343/ST/P55	341/ST/P55	353/ST/P55	351/ST/P55
1 14 8 11	1 14 8 11	1 15 8 10	1 15 8 10	1 15 10 8	1 15 10 8
13 12 2 7	10 15 5 4	13 12 3 6	11 14 5 4	14 11 4 5	12 13 6 3
4 5 15 10	7 2 12 13	4 5 14 11	6 3 12 13	3 6 13 12	5 4 11 14
16 3 9 6	16 3 9 6	16 2 9 7	16 2 9 7	16 2 7 9	16 2 7 9

347/ST/P55 1 15 10 8 5 11 4 14 12 6 13 3 16 2 7 9	345/ST/P55 1 15 10 8 3 13 6 12 14 4 11 5 16 2 7 9	114/ST/P55 1 8 12 13 7 14 2 11 10 3 15 6 16 9 5 4	113/ST/P55 1 8 12 13 6 15 3 10 11 2 14 7 16 9 5 4	270/ST/P55 1 13 12 8 15 10 3 6 2 7 14 11 16 4 5 9	269/ST/P55 1 13 12 8 11 14 7 2 6 3 10 15 16 4 5 9
268/ST/P55 1 13 12 8 6 10 3 15 11 7 14 2 16 4 5 9	263/ST/P55 1 13 12 8 2 14 7 11 15 3 10 6 16 4 5 9	315/ST/P55 1 14 12 7 13 8 2 11 4 9 15 6 16 3 5 10	312/ST/P55 1 14 12 7 6 15 9 4 11 2 8 13 16 3 5 10	364/ST/P55 1 15 12 6 14 9 4 7 3 8 13 10 16 2 5 11	362/ST/P55 1 15 12 6 13 8 3 10 4 9 14 7 16 2 5 11
361/ST/P55 1 15 12 6 10 13 8 3 7 4 9 14 16 2 5 11	358/ST/P55 1 15 12 6 7 14 9 4 10 3 8 13 16 2 5 11	357/ST/P55 1 15 12 6 7 9 4 14 10 8 13 3 16 2 5 11	355/ST/P55 1 15 12 6 3 13 8 10 14 4 9 7 16 2 5 11	230/ST/P55 1 12 13 8 15 10 3 6 2 7 14 11 16 5 4 9	227/ST/P55 1 12 13 8 11 14 7 2 6 3 10 15 16 5 4 9
224/ST/P55 1 12 13 8 6 10 3 15 11 7 14 2 16 5 4 9	222/ST/P55 1 12 13 8 2 14 7 11 15 3 10 6 16 5 4 9	92/ST/P55 1 7 14 12 11 13 2 8 6 4 15 9 16 10 3 5	88/ST/P55 1 7 14 12 9 15 4 6 8 2 13 11 16 10 3 5	87/ST/P55 1 7 14 12 8 13 2 11 9 4 15 6 16 10 3 5	86/ST/P55 1 7 14 12 6 15 4 9 11 2 13 8 16 10 3 5
126/ST/P55 1 8 14 11 7 12 2 13 10 5 15 4 16 9 3 6	125/ST/P55 1 8 14 11 4 15 5 10 13 2 12 7 16 9 3 6	236/ST/P55 1 12 14 7 11 8 2 13 6 9 15 4 16 5 3 10	233/ST/P55 1 12 14 7 4 15 9 6 13 2 8 11 16 5 3 10	374/ST/P55 1 15 14 4 12 9 6 7 5 8 11 10 16 2 3 13	372/ST/P55 1 15 14 4 11 8 5 10 6 9 12 7 16 2 3 13
371/ST/P55 1 15 14 4 10 11 8 5 7 6 9 12 16 2 3 13	368/ST/P55 1 15 14 4 7 12 9 6 10 5 8 11 16 2 3 13	367/ST/P55 1 15 14 4 7 9 6 12 10 8 11 5 16 2 3 13	365/ST/P55 1 15 14 4 5 11 8 10 12 6 9 7 16 2 3 13	132/ST/P55 1 8 15 10 6 12 3 13 11 5 14 4 16 9 2 7	131/ST/P55 1 8 15 10 4 14 5 11 13 3 12 6 16 9 2 7
168/ST/P55 1 10 15 8 14 11 4 5 3 6 13 12 16 7 2 9	167/ST/P55 1 10 15 8 12 13 6 3 5 4 11 14 16 7 2 9	163/ST/P55 1 10 15 8 5 11 4 14 12 6 13 3 16 7 2 9	162/ST/P55 1 10 15 8 3 13 6 12 14 4 11 5 16 7 2 9	248/ST/P55 1 12 15 6 14 9 4 7 3 8 13 10 16 5 2 11	245/ST/P55 1 12 15 6 10 13 8 3 7 4 9 14 16 5 2 11
244/ST/P55 1 12 15 6 10 8 3 13 7 9 14 4 16 5 2 11	241/ST/P55 1 12 15 6 7 9 4 14 10 8 13 3 16 5 2 11	240/ST/P55 1 12 15 6 4 14 9 7 13 3 8 10 16 5 2 11	239/ST/P55 1 12 15 6 3 13 8 10 14 4 9 7 16 5 2 11	326/ST/P55 1 14 15 4 12 9 6 7 5 8 11 10 16 3 2 13	323/ST/P55 1 14 15 4 10 11 8 5 7 6 9 12 16 3 2 13
322/ST/P55 1 14 15 4 10 8 5 11 7 9 12 6 16 3 2 13	319/ST/P55 1 14 15 4 7 9 6 12 10 8 11 5 16 3 2 13	318/ST/P55 1 14 15 4 6 12 9 7 11 5 8 10 16 3 2 13	317/ST/P55 1 14 15 4 5 11 8 10 12 6 9 7 16 3 2 13	599/ST/P55 2 11 7 14 12 13 1 8 5 4 16 9 15 6 10 3	994/ST/P55 3 10 6 15 12 13 1 8 5 4 16 9 14 7 11 2
1396/ST/P55 4 9 5 16 11 14 2 7 6 3 15 10 13 8 12 1	1889/ST/P55 5 10 3 16 11 13 2 8 6 4 15 9 12 7 14 1	2299/ST/P55 6 9 3 16 13 12 2 7 4 5 15 10 11 8 14 1	2956/ST/P55 7 14 1 12 15 9 4 6 2 8 13 11 10 3 16 5	3265/ST/P55 8 10 1 15 14 11 4 5 3 6 13 12 9 7 16 2	3745/ST/P55 9 7 2 16 14 11 4 5 3 6 13 12 8 10 15 1
4128/ST/P55 10 5 3 16 13 8 2 11 4 9 15 6 7 12 14 1	4592/ST/P55 11 5 2 16 14 9 4 7 3 8 13 10 6 12 15 1	5075/ST/P55 12 6 1 15 14 7 4 9 3 10 13 8 5 11 16 2	5732/ST/P55 13 12 1 8 14 2 7 11 3 15 10 6 4 5 16 9	5942/ST/P55 14 4 1 15 12 7 6 9 5 10 11 8 3 13 16 2	6351/ST/P55 15 4 1 14 12 6 7 9 5 11 10 8 2 13 16 3

```
6724/ST/P55
16 3 2 13
12 6 9 7 (/SC:'Self-Complementary',
5 11 8 10 /PD:'Pan-Diagonal',
1 14 15 4 /ST:'Standard' Type;)
```

```
[Total Count of Solutions = 1312; Counts of Types: 0/PD, 0/SC, 1312/ST]
[T-Type 2; Counts/C-Patterns:
In: 0/P1, 0/P2, 0/P3, 0/P4, 1312/P5, 0/P6, 0/P7;
Out: 0/51, 480/52, 0/53, 0/54, 832/55, 0/56, 0/57]
```

\*\* Calculated and Listed by Kanji Setsuda  
on June 19, 2013 with MacOSX 10.8.4 & Xcode 4.6.3 \*\*

(2) The Second Group contains CP3, CP4, CP6 and CP5.

\*\* Make CP3 MS44 into CP33 Type by the Transformation: Type 2  
List of Primitive Solutions with precise Check-Sum-Errors: \*\*  
Nmb/Std/Type|Rows|Columns\Pan-diagonals/|16 'Composite 2x2'|

/IN										Transform->										/OUT												
1/ 16/ST R\C\Pd1/Pd2 Cmpst-SmE P3										1/ 249/ST R\C\Pd1/Pd2 Cmpst-SmE P3										1/ 249/ST R\C\Pd1/Pd2 Cmpst-SmE P3												
1	4	13	16	0 0\	0/	-8	0	0	0	0	1	13	4	16	0 0\	0/	-2	0	0	0	0	1	13	4	16	0 0\	0/	-2	0	0	0	0
14	15	2	3	0 0\	-8/	0	8	0	-8	0	8	12	5	9	0 0\	-2/	0	2	0	-2	0	8	12	5	9	0 0\	-2/	0	2	0	-2	0
8	5	12	9	0 0\	0/	8	0	0	0	0	14	2	15	3	0 0\	0/	2	0	0	0	0	14	2	15	3	0 0\	0/	2	0	0	0	0
11	10	7	6	0 0\	8/	0	-8	0	8	0	11	7	10	6	0 0\	2/	0	-2	0	2	0	11	7	10	6	0 0\	2/	0	-2	0	2	0
2/ 17/ST R\C\Pd1/Pd2 Cmpst-SmE P3										2/ 251/ST R\C\Pd1/Pd2 Cmpst-SmE P3										2/ 251/ST R\C\Pd1/Pd2 Cmpst-SmE P3												
1	4	13	16	0 0\	0/-16	0	0	0	0	1	13	4	16	0 0\	0/	-2	0	0	0	0	1	13	4	16	0 0\	0/	-2	0	0	0	0	
14	15	2	3	0 0\	-16/	0	16	0	-16	0	12	8	9	5	0 0\	-2/	0	2	0	-2	0	12	8	9	5	0 0\	-2/	0	2	0	-2	0
12	9	8	5	0 0\	0/	16	0	0	0	0	14	2	15	3	0 0\	0/	2	0	0	0	0	14	2	15	3	0 0\	0/	2	0	0	0	0
7	6	11	10	0 0\	16/	0	-16	0	16	0	7	11	6	10	0 0\	2/	0	-2	0	2	0	7	11	6	10	0 0\	2/	0	-2	0	2	0
3/ 18/ST R\C\Pd1/Pd2 Cmpst-SmE P3										3/ 250/ST R\C\Pd1/Pd2 Cmpst-SmE P3										3/ 250/ST R\C\Pd1/Pd2 Cmpst-SmE P3												
1	4	13	16	0 0\	0/	-8	0	0	0	0	1	13	4	16	0 0\	0/	-4	0	0	0	0	1	13	4	16	0 0\	0/	-4	0	0	0	0
15	14	3	2	0 0\	-8/	0	8	0	-8	0	8	12	5	9	0 0\	-4/	0	4	0	-4	0	8	12	5	9	0 0\	-4/	0	4	0	-4	0
8	5	12	9	0 0\	0/	8	0	0	0	0	15	3	14	2	0 0\	0/	4	0	0	0	0	15	3	14	2	0 0\	0/	4	0	0	0	0
10	11	6	7	0 0\	8/	0	-8	0	8	0	10	6	11	7	0 0\	4/	0	-4	0	4	0	10	6	11	7	0 0\	4/	0	-4	0	4	0
4/ 19/ST R\C\Pd1/Pd2 Cmpst-SmE P3										4/ 252/ST R\C\Pd1/Pd2 Cmpst-SmE P3										4/ 252/ST R\C\Pd1/Pd2 Cmpst-SmE P3												
1	4	13	16	0 0\	0/-16	0	0	0	0	1	13	4	16	0 0\	0/	-4	0	0	0	0	1	13	4	16	0 0\	0/	-4	0	0	0	0	
15	14	3	2	0 0\	-16/	0	16	0	-16	0	12	8	9	5	0 0\	-4/	0	4	0	-4	0	12	8	9	5	0 0\	-4/	0	4	0	-4	0
12	9	8	5	0 0\	0/	16	0	0	0	0	15	3	14	2	0 0\	0/	4	0	0	0	0	15	3	14	2	0 0\	0/	4	0	0	0	0
6	7	10	11	0 0\	16/	0	-16	0	16	0	6	10	7	11	0 0\	4/	0	-4	0	4	0	6	10	7	11	0 0\	4/	0	-4	0	4	0
9/ 48/ST R\C\Pd1/Pd2 Cmpst-SmE P3										5/ 177/ST R\C\Pd1/Pd2 Cmpst-SmE P3										5/ 177/ST R\C\Pd1/Pd2 Cmpst-SmE P3												
1	6	11	16	0 0\	0/	-4	0	0	0	0	1	11	6	16	0 0\	0/	-2	0	0	0	0	1	11	6	16	0 0\	0/	-2	0	0	0	0
12	15	2	5	0 0\	-4/	0	4	0	-4	0	8	14	3	9	0 0\	-2/	0	2	0	-2	0	8	14	3	9	0 0\	-2/	0	2	0	-2	0
8	3	14	9	0 0\	0/	4	0	0	0	0	12	2	15	5	0 0\	0/	2	0	0	0	0	12	2	15	5	0 0\	0/	2	0	0	0	0
13	10	7	4	0 0\	4/	0	-4	0	4	0	13	7	10	4	0 0\	2/	0	-2	0	2	0	13	7	10	4	0 0\	2/	0	-2	0	2	0
10/ 49/ST R\C\Pd1/Pd2 Cmpst-SmE P3										6/ 183/ST R\C\Pd1/Pd2 Cmpst-SmE P3										6/ 183/ST R\C\Pd1/Pd2 Cmpst-SmE P3												
1	6	11	16	0 0\	0/-16	0	0	0	0	1	11	6	16	0 0\	0/	-2	0	0	0	0	1	11	6	16	0 0\	0/	-2	0	0	0	0	
12	15	2	5	0 0\	-16/	0	16	0	-16	0	14	8	9	3	0 0\	-2/	0	2	0	-2	0	14	8	9	3	0 0\	-2/	0	2	0	-2	0
14	9	8	3	0 0\	0/	16	0	0	0	0	12	2	15	5	0 0\	0/	2	0	0	0	0	12	2	15	5	0 0\	0/	2	0	0	0	0
7	4	13	10	0 0\	16/	0	-16	0	16	0	7	13	4	10	0 0\	2/	0	-2	0	2	0	7	13	4	10	0 0\	2/	0	-2	0	2	0

\*\* Only the Results of Transformation in Compact Style with Sol\_N/Type/C\_PatN \*\*

178/ST/P33	184/ST/P33	144/ST/P33	152/ST/P33	145/ST/P33	153/ST/P33
1 11 6 16	1 11 6 16	1 10 7 16	1 10 7 16	1 10 7 16	1 10 7 16
8 14 3 9	14 8 9 3	8 15 2 9	15 8 9 2	8 15 2 9	15 8 9 2
15 5 12 2	15 5 12 2	12 3 14 5	12 3 14 5	14 5 12 3	14 5 12 3
10 4 13 7	4 10 7 13	13 6 11 4	6 13 4 11	11 4 13 6	4 11 6 13

<b>73/ST/P33</b>	<b>76/ST/P33</b>	<b>74/ST/P33</b>	<b>77/ST/P33</b>	<b>48/ST/P33</b>	<b>54/ST/P33</b>
1 7 10 16	1 7 10 16	1 7 10 16	1 7 10 16	1 6 11 16	1 6 11 16
12 14 3 5	14 12 5 3	12 14 3 5	14 12 5 3	12 15 2 5	15 12 5 2
8 2 15 9	8 2 15 9	15 9 8 2	15 9 8 2	8 3 14 9	8 3 14 9
13 11 6 4	11 13 4 6	6 4 13 11	4 6 11 13	13 10 7 4	10 13 4 7
<b>49/ST/P33</b>	<b>55/ST/P33</b>	<b>16/ST/P33</b>	<b>18/ST/P33</b>	<b>17/ST/P33</b>	<b>19/ST/P33</b>
1 6 11 16	1 6 11 16	1 4 13 16	1 4 13 16	1 4 13 16	1 4 13 16
12 15 2 5	15 12 5 2	14 15 2 3	15 14 3 2	14 15 2 3	15 14 3 2
14 9 8 3	14 9 8 3	8 5 12 9	8 5 12 9	12 9 8 5	12 9 8 5
7 4 13 10	4 7 10 13	11 10 7 6	10 11 6 7	7 6 11 10	6 7 10 11
<b>696/ST/P33</b>	<b>1144/ST/P33</b>	<b>1660/ST/P33</b>	<b>2048/ST/P33</b>	<b>2555/ST/P33</b>	<b>3009/ST/P33</b>
2 14 3 15	3 15 2 14	4 16 1 13	5 15 2 12	6 16 1 11	7 16 1 10
7 11 6 10	6 10 7 11	5 9 8 12	4 10 7 13	3 9 8 14	2 9 8 15
13 1 16 4	13 1 16 4	14 2 15 3	11 1 16 6	12 2 15 5	12 3 14 5
12 8 9 5	12 8 9 5	11 7 10 6	14 8 9 3	13 7 10 4	13 6 11 4
<b>3480/ST/P33</b>	<b>3911/ST/P33</b>	<b>4420/ST/P33</b>	<b>4879/ST/P33</b>	<b>5316/ST/P33</b>	<b>5789/ST/P33</b>
8 15 2 9	9 15 2 8	10 16 1 7	11 16 1 6	12 15 2 5	13 16 1 4
1 10 7 16	4 6 11 13	3 5 12 14	2 5 12 15	1 6 11 16	2 3 14 15
11 4 13 6	7 1 16 10	8 2 15 9	8 3 14 9	7 4 13 10	8 5 12 9
14 5 12 3	14 12 5 3	13 11 6 4	13 10 7 4	14 9 8 3	11 10 7 6
<b>6197/ST/P33</b>	<b>6606/ST/P33</b>	<b>7022/ST/P33</b>			
14 15 2 3	15 14 3 2	16 13 4 1			
1 4 13 16	1 4 13 16	2 3 14 15			
7 6 11 10	6 7 10 11	5 8 9 12			
12 9 8 5	12 9 8 5	11 10 7 6			

(/SC:'Self-Complementary', /PD:'Pan-Diagonal', /ST:'Standard' Type;)  
 [Total Count of Solutions = 768; Counts of Types: 0/PD, 0/SC, 768/ST]  
 [T-Type 2; Counts/C-Patterns:  
 In: 0/P1, 0/P2, 768/P3, 0/P4, 0/P5, 0/P6, 0/P7;  
 Out: 0/31, 0/32, 384/33, 384/34, 0/35, 0/36, 0/37]

**\*\* Make CP3 MS44 into CP34 Type by the Transformation: Type 2**  
 List of Primitive Solutions with precise Check-Sum-Errors: \*\*  
 Nmb/Std/Type|Rows|Columns\Pan-diagonals/|16 'Composite 2x2'

/IN	Transform->	/OUT
5/ 24/ST R C\Pd1/Pd2 Cmpst-SmE P3		1/ 284/ST R C\Pd1/Pd2 Cmpst-SmE P4
1 4 14 15 0 0\ 0/ -8  0 0 0 0		1 14 4 15 0 0\ 0/ -6  0 2 0 -2
16 13 3 2 0 0\ -8/ 0  8 0 -8 0		7 12 6 9 0 0\ -2/ 0  4 0 -4 0
7 6 12 9 0 0\ 0/ 8  0 0 0 0		16 3 13 2 0 0\ 0/ 6  0 -2 0 2
10 11 5 8 0 0\ 8/ 0  -8 0 8 0		10 5 11 8 0 0\ 2/ 0  -4 0 4 0
6/ 25/ST R C\Pd1/Pd2 Cmpst-SmE P3		2/ 287/ST R C\Pd1/Pd2 Cmpst-SmE P4
1 4 14 15 0 0\ 0/ -16  0 0 0 0		1 14 4 15 0 0\ 0/ -6  0 2 0 -2
16 13 3 2 0 0\ -16/ 0  16 0 -16 0		11 8 10 5 0 0\ -2/ 0  4 0 -4 0
11 10 8 5 0 0\ 0/ 16  0 0 0 0		16 3 13 2 0 0\ 0/ 6  0 -2 0 2
6 7 9 12 0 0\ 16/ 0  -16 0 16 0		6 9 7 12 0 0\ 2/ 0  -4 0 4 0
7/ 30/ST R C\Pd1/Pd2 Cmpst-SmE P3		3/ 329/ST R C\Pd1/Pd2 Cmpst-SmE P4
1 4 15 14 0 0\ 0/ -8  0 0 0 0		1 15 4 14 0 0\ 0/ -6  0 4 0 -4
16 13 2 3 0 0\ -8/ 0  8 0 -8 0		6 12 7 9 0 0\ 2/ 0  2 0 -2 0
6 7 12 9 0 0\ 0/ 8  0 0 0 0		16 2 13 3 0 0\ 0/ 6  0 -4 0 4
11 10 5 8 0 0\ 8/ 0  -8 0 8 0		11 5 10 8 0 0\ -2/ 0  -2 0 2 0
8/ 31/ST R C\Pd1/Pd2 Cmpst-SmE P3		4/ 332/ST R C\Pd1/Pd2 Cmpst-SmE P4
1 4 15 14 0 0\ 0/ -16  0 0 0 0		1 15 4 14 0 0\ 0/ -6  0 4 0 -4
16 13 2 3 0 0\ -16/ 0  16 0 -16 0		10 8 11 5 0 0\ 2/ 0  2 0 -2 0
10 11 8 5 0 0\ 0/ 16  0 0 0 0		16 2 13 3 0 0\ 0/ 6  0 -4 0 4
7 6 9 12 0 0\ 16/ 0  -16 0 16 0		7 9 6 12 0 0\ -2/ 0  -2 0 2 0

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13/ 60/ST|R|C\Pd1/Pd2|Cmpst-SmE P3| 5/ 206/ST|R|C\Pd1/Pd2|Cmpst-SmE P4|
1 6 12 15|0|0\ 0/ -4| 0 0 0 0| 1 12 6 15|0|0\ 0/-10| 0 2 0 -2|
16 11 5 2|0|0\ -4/ 0| 4 0 -4 0| 7 14 4 9|0|0\ -6/ 0| 8 0 -8 0|
7 4 14 9|0|0\ 0/ 4| 0 0 0 0| 16 5 11 2|0|0\ 0/ 10| 0 -2 0 2|
10 13 3 8|0|0\ 4/ 0| -4 0 4 0| 10 3 13 8|0|0\ 6/ 0| -8 0 8 0|

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14/ 61/ST|R|C\Pd1/Pd2|Cmpst-SmE P3| 6/ 208/ST|R|C\Pd1/Pd2|Cmpst-SmE P4|
1 6 12 15|0|0\ 0/-16| 0 0 0 0| 1 12 6 15|0|0\ 0/-10| 0 2 0 -2|
16 11 5 2|0|0\ -16/ 0| 16 0 -16 0| 13 8 10 3|0|0\ -6/ 0| 8 0 -8 0|
13 10 8 3|0|0\ 0/ 16| 0 0 0 0| 16 5 11 2|0|0\ 0/ 10| 0 -2 0 2|
4 7 9 14|0|0\ 16/ 0| -16 0 16 0| 4 9 7 14|0|0\ 6/ 0| -8 0 8 0|

```

\*\* Only the Results of Transformation in Compact Style with Sol\_N/Type/C\_PatN \*\*

```

284/ST/P34 287/ST/P34 329/ST/P34 332/ST/P34 206/ST/P34 208/ST/P34
1 14 4 15 1 14 4 15 1 15 4 14 1 15 4 14 1 12 6 15 1 12 6 15
7 12 6 9 11 8 10 5 6 12 7 9 10 8 11 5 7 14 4 9 13 8 10 3
16 3 13 2 16 3 13 2 16 2 13 3 16 2 13 3 16 5 11 2 16 5 11 2
10 5 11 8 6 9 7 12 11 5 10 8 7 9 6 12 10 3 13 8 4 9 7 14

```

```

335/ST/P34 337/ST/P34 212/ST/P34 214/ST/P34 290/ST/P34 295/ST/P34
1 15 6 12 1 15 6 12 1 12 7 14 1 12 7 14 1 14 7 12 1 14 7 12
4 14 7 9 10 8 13 3 6 15 4 9 13 8 11 2 4 15 6 9 11 8 13 2
16 2 11 5 16 2 11 5 16 5 10 3 16 5 10 3 16 3 10 5 16 3 10 5
13 3 10 8 7 9 4 14 11 2 13 8 4 9 6 15 13 2 11 8 6 9 4 15

```

```

104/ST/P34 106/ST/P34 346/ST/P34 349/ST/P34 109/ST/P34 111/ST/P34
1 8 10 15 1 8 10 15 1 15 10 8 1 15 10 8 1 8 11 14 1 8 11 14
11 14 4 5 13 12 6 3 4 14 11 5 6 12 13 3 10 15 4 5 13 12 7 2
16 9 7 2 16 9 7 2 16 2 7 9 16 2 7 9 16 9 6 3 16 9 6 3
6 3 13 12 4 5 11 14 13 3 6 12 11 5 4 14 7 2 13 12 4 5 10 15

```

```

305/ST/P34 306/ST/P34 120/ST/P34 121/ST/P34 225/ST/P34 226/ST/P34
1 14 11 8 1 14 11 8 1 8 13 12 1 8 13 12 1 12 13 8 1 12 13 8
4 15 10 5 7 12 13 2 10 15 6 3 11 14 7 2 6 15 10 3 7 14 11 2
16 3 6 9 16 3 6 9 16 9 4 5 16 9 4 5 16 5 4 9 16 5 4 9
13 2 7 12 10 5 4 15 7 2 11 14 6 3 10 15 11 2 7 14 10 3 6 15

```

```

661/ST/P34 1062/ST/P34 1550/ST/P34 1931/ST/P34 2406/ST/P34 2875/ST/P34
2 13 3 16 3 13 2 16 4 14 1 15 5 11 2 16 6 12 1 15 7 12 1 14
8 11 5 10 8 10 5 11 7 9 6 12 8 10 3 13 7 9 4 14 6 9 4 15
15 4 14 1 14 4 15 1 13 3 16 2 12 6 15 1 11 5 16 2 10 5 16 3
9 6 12 7 9 7 12 6 10 8 11 5 9 7 14 4 10 8 13 3 11 8 13 2

```

```

3315/ST/P34 3741/ST/P34 4251/ST/P34 4707/ST/P34 5124/ST/P34 5611/ST/P34
8 11 2 13 9 7 2 16 10 8 1 15 11 8 1 14 12 7 2 13 13 8 1 12
5 10 3 16 12 6 3 13 11 5 4 14 10 5 4 15 9 6 3 16 10 3 6 15
9 6 15 4 8 10 15 1 7 9 16 2 6 9 16 3 5 10 15 4 4 9 16 5
12 7 14 1 5 11 14 4 6 12 13 3 7 12 13 2 8 11 14 1 7 14 11 2

```

```

6029/ST/P34 6420/ST/P34 6815/ST/P34
14 7 2 11 15 6 3 10 16 5 4 9
9 4 5 16 9 4 5 16 10 3 6 15 (/SC: 'Self-Complementary',
3 10 15 6 2 11 14 7 1 12 13 8 /PD: 'Pan-Diagonal',
8 13 12 1 8 13 12 1 7 14 11 2 /ST: 'Standard' Type;);

```

[Total Count of Solutions = 768; Counts of Types: 0/PD, 0/SC, 768/ST]

[T-Type 2; Counts/C-Patterns:

```

In: 0/P1, 0/P2, 768/P3, 0/P4, 0/P5, 0/P6, 0/P7;
Out: 0/31, 0/32, 384/33, 384/34, 0/35, 0/36, 0/37]

```

\*\* Make CP4 MS44 into CP43 Type by the Transformation: Type 2

List of Primitive Solutions with precise Check-Sum-Errors: \*\*

```

Nmb/Stnd/Type|Rows|Columns\Pan-diagonals/|16 'Composite 2x2'|
/IN Transform-> /OUT

```

25/ 109/ST R C\Pd1/Pd2 Cmpst-SmE P4	1/ 190/ST R C\Pd1/Pd2 Cmpst-SmE P3
1 8 11 14 0 0\ 0/-20  0 4 0 -4	1 11 8 14 0 0\ 0/ -2  0 0 0 0
10 15 4 5 0 0\ -12/ 0  16 0-16 0	16 6 9 3 0 0\ -2/ 0  2 0 -2 0
16 9 6 3 0 0\ 0/ 20  0 -4 0 4	10 4 15 5 0 0\ 0/ 2  0 0 0 0
7 2 13 12 0 0\ 12/ 0 -16 0 16 0	7 13 2 12 0 0\ 2/ 0  -2 0 2 0
26/ 120/ST R C\Pd1/Pd2 Cmpst-SmE P4	2/ 260/ST R C\Pd1/Pd2 Cmpst-SmE P3
1 8 13 12 0 0\ 0/-24  0 8 0 -8	1 13 8 12 0 0\ 0/ -2  0 0 0 0
10 15 6 3 0 0\ -8/ 0  16 0-16 0	16 4 9 5 0 0\ -2/ 0  2 0 -2 0
16 9 4 5 0 0\ 0/ 24  0 -8 0 8	10 6 15 3 0 0\ 0/ 2  0 0 0 0
7 2 11 14 0 0\ 8/ 0 -16 0 16 0	7 11 2 14 0 0\ 2/ 0  -2 0 2 0
27/ 104/ST R C\Pd1/Pd2 Cmpst-SmE P4	3/ 159/ST R C\Pd1/Pd2 Cmpst-SmE P3
1 8 10 15 0 0\ 0/-18  0 2 0 -2	1 10 8 15 0 0\ 0/ -4  0 0 0 0
11 14 4 5 0 0\ -14/ 0  16 0-16 0	16 7 9 2 0 0\ -4/ 0  4 0 -4 0
16 9 7 2 0 0\ 0/ 18  0 -2 0 2	11 4 14 5 0 0\ 0/ 4  0 0 0 0
6 3 13 12 0 0\ 14/ 0 -16 0 16 0	6 13 3 12 0 0\ 4/ 0  -4 0 4 0
28/ 121/ST R C\Pd1/Pd2 Cmpst-SmE P4	4/ 261/ST R C\Pd1/Pd2 Cmpst-SmE P3
1 8 13 12 0 0\ 0/-24  0 8 0 -8	1 13 8 12 0 0\ 0/ -4  0 0 0 0
11 14 7 2 0 0\ -8/ 0  16 0-16 0	16 4 9 5 0 0\ -4/ 0  4 0 -4 0
16 9 4 5 0 0\ 0/ 24  0 -8 0 8	11 7 14 2 0 0\ 0/ 4  0 0 0 0
6 3 10 15 0 0\ 8/ 0 -16 0 16 0	6 10 3 15 0 0\ 4/ 0  -4 0 4 0
31/ 106/ST R C\Pd1/Pd2 Cmpst-SmE P4	5/ 160/ST R C\Pd1/Pd2 Cmpst-SmE P3
1 8 10 15 0 0\ 0/-18  0 2 0 -2	1 10 8 15 0 0\ 0/ -8  0 0 0 0
13 12 6 3 0 0\ -14/ 0  16 0-16 0	16 7 9 2 0 0\ -8/ 0  8 0 -8 0
16 9 7 2 0 0\ 0/ 18  0 -2 0 2	13 6 12 3 0 0\ 0/ 8  0 0 0 0
4 5 11 14 0 0\ 14/ 0 -16 0 16 0	4 11 5 14 0 0\ 8/ 0  -8 0 8 0
32/ 111/ST R C\Pd1/Pd2 Cmpst-SmE P4	6/ 191/ST R C\Pd1/Pd2 Cmpst-SmE P3
1 8 11 14 0 0\ 0/-20  0 4 0 -4	1 11 8 14 0 0\ 0/ -8  0 0 0 0
13 12 7 2 0 0\ -12/ 0  16 0-16 0	16 6 9 3 0 0\ -8/ 0  8 0 -8 0
16 9 6 3 0 0\ 0/ 20  0 -4 0 4	13 7 12 2 0 0\ 0/ 8  0 0 0 0
4 5 10 15 0 0\ 12/ 0 -16 0 16 0	4 10 5 15 0 0\ 8/ 0  -8 0 8 0

\*\* Only the Results of Transformation in Compact Style with Sol\_N/Type/C\_PatN \*\*

84/ST/P43	271/ST/P43	60/ST/P43	272/ST/P43	61/ST/P43	85/ST/P43
1 7 12 14	1 13 12 8	1 6 12 15	1 13 12 8	1 6 12 15	1 7 12 14
16 10 5 3	16 4 5 9	16 11 5 2	16 4 5 9	16 11 5 2	16 10 5 3
6 4 15 9	6 10 15 3	7 4 14 9	7 11 14 2	13 10 8 3	13 11 8 2
11 13 2 8	11 7 2 14	10 13 3 8	10 6 3 15	4 7 9 14	4 6 9 15
93/ST/P43	196/ST/P43	24/ST/P43	197/ST/P43	25/ST/P43	94/ST/P43
1 7 14 12	1 11 14 8	1 4 14 15	1 11 14 8	1 4 14 15	1 7 14 12
16 10 3 5	16 6 3 9	16 13 3 2	16 6 3 9	16 13 3 2	16 10 3 5
4 6 15 9	4 10 15 5	7 6 12 9	7 13 12 2	11 10 8 5	11 13 8 2
13 11 2 8	13 7 2 12	10 11 5 8	10 4 5 15	6 7 9 12	6 4 9 15
64/ST/P43	170/ST/P43	30/ST/P43	171/ST/P43	31/ST/P43	65/ST/P43
1 6 15 12	1 10 15 8	1 4 15 14	1 10 15 8	1 4 15 14	1 6 15 12
16 11 2 5	16 7 2 9	16 13 2 3	16 7 2 9	16 13 2 3	16 11 2 5
4 7 14 9	4 11 14 5	6 7 12 9	6 13 12 3	10 11 8 5	10 13 8 3
13 10 3 8	13 6 3 12	11 10 5 8	11 4 5 14	7 6 9 12	7 4 9 14
650/ST/P43	1043/ST/P43	1474/ST/P43	2031/ST/P43	2462/ST/P43	2920/ST/P43
2 12 7 13	3 12 6 13	4 11 5 14	5 14 4 11	6 13 3 12	7 13 2 12
15 5 10 4	14 5 11 4	13 6 12 3	12 3 13 6	11 4 14 5	10 4 15 5
9 3 16 6	9 2 16 7	10 1 15 8	9 2 16 7	10 1 15 8	11 1 14 8
8 14 1 11	8 15 1 10	7 16 2 9	8 15 1 10	7 16 2 9	6 16 3 9
3442/ST/P43	3894/ST/P43	4338/ST/P43	4797/ST/P43	5274/ST/P43	5692/ST/P43
8 14 1 11	9 14 4 7	10 13 3 8	11 13 2 8	12 14 1 7	13 11 2 8
9 3 16 6	8 3 13 10	7 4 14 9	6 4 15 9	5 3 16 10	4 6 15 9
12 2 13 7	5 2 16 11	6 1 15 12	7 1 14 12	8 2 13 11	7 1 12 14
5 15 4 10	12 15 1 6	11 16 2 5	10 16 3 5	9 15 4 6	10 16 5 3



```

6160/ST/P43   6558/ST/P43   6976/ST/P43
14 12 1 7    15 12 1 6    16 11 2 5
 3 5 16 10   2 5 16 11    1 6 15 12
 8 2 11 13   8 3 10 13    7 4 9 14
 9 15 6 4    9 14 7 4    10 13 8 3

```

[Total Count of Solutions = 1536; Counts of Types: 384/PD, 384/SC, 768/ST]  
[T-Type 2; Counts/C-Patterns:  
In: 0/P1, 0/P2, 0/P3, 1536/P4, 0/P5, 0/P6, 0/P7;  
Out: 0/41, 0/42, 384/43, 384/44, 0/45, 384/46, 384/47]

\*\* Make CP4 MS44 into CP44 Type by the Transformation: Type 2  
List of Primitive Solutions with precise Check-Sum-Errors: \*\*  
Nmb/Std/Type|Rows|Columns\Pan-diagonals/|16 'Composite 2x2'|

/IN	Transform->	/OUT
29/ 128/SC R C\Pd1/Pd2 Cmpst-SmE P4		1/ 304/SC R C\Pd1/Pd2 Cmpst-SmE P4
1 8 14 11 0 0\ 0/-24  0 8 0 -8		1 14 8 11 0 0\ 0/ -6  0 2 0 -2
12 13 7 2 0 0\ -8/ 0  16 0-16 0		15 4 10 5 0 0\ -2/ 0  4 0 -4 0
15 10 4 5 0 0\ 0/ 24  0 -8 0 8		12 7 13 2 0 0\ 0/ 6  0 -2 0 2
6 3 9 16 0 0\ 8/ 0 -16 0 16 0		6 9 3 16 0 0\ 2/ 0  -4 0 4 0
30/ 134/SC R C\Pd1/Pd2 Cmpst-SmE P4		2/ 344/SC R C\Pd1/Pd2 Cmpst-SmE P4
1 8 15 10 0 0\ 0/-24  0 8 0 -8		1 15 8 10 0 0\ 0/ -6  0 4 0 -4
12 13 6 3 0 0\ -8/ 0  16 0-16 0		14 4 11 5 0 0\ 2/ 0  2 0 -2 0
14 11 4 5 0 0\ 0/ 24  0 -8 0 8		12 6 13 3 0 0\ 0/ 6  0 -4 0 4
7 2 9 16 0 0\ 8/ 0 -16 0 16 0		7 9 2 16 0 0\ -2/ 0  -2 0 2 0
33/ 117/SC R C\Pd1/Pd2 Cmpst-SmE P4		3/ 221/SC R C\Pd1/Pd2 Cmpst-SmE P4
1 8 12 13 0 0\ 0/-20  0 4 0 -4		1 12 8 13 0 0\ 0/-10  0 2 0 -2
14 11 7 2 0 0\ -12/ 0  16 0-16 0		15 6 10 3 0 0\ -6/ 0  8 0 -8 0
15 10 6 3 0 0\ 0/ 20  0 -4 0 4		14 7 11 2 0 0\ 0/ 10  0 -2 0 2
4 5 9 16 0 0\ 12/ 0 -16 0 16 0		4 9 5 16 0 0\ 6/ 0  -8 0 8 0
34/ 136/SC R C\Pd1/Pd2 Cmpst-SmE P4		4/ 342/SC R C\Pd1/Pd2 Cmpst-SmE P4
1 8 15 10 0 0\ 0/-20  0 4 0 -4		1 15 8 10 0 0\ 0/-10  0 8 0 -8
14 11 4 5 0 0\ -12/ 0  16 0-16 0		12 6 13 3 0 0\ 6/ 0  2 0 -2 0
12 13 6 3 0 0\ 0/ 20  0 -4 0 4		14 4 11 5 0 0\ 0/ 10  0 -8 0 8
7 2 9 16 0 0\ 12/ 0 -16 0 16 0		7 9 2 16 0 0\ -6/ 0  -2 0 2 0
35/ 118/SC R C\Pd1/Pd2 Cmpst-SmE P4		5/ 220/SC R C\Pd1/Pd2 Cmpst-SmE P4
1 8 12 13 0 0\ 0/-18  0 2 0 -2		1 12 8 13 0 0\ 0/-12  0 4 0 -4
15 10 6 3 0 0\ -14/ 0  16 0-16 0		14 7 11 2 0 0\ -4/ 0  8 0 -8 0
14 11 7 2 0 0\ 0/ 18  0 -2 0 2		15 6 10 3 0 0\ 0/ 12  0 -4 0 4
4 5 9 16 0 0\ 14/ 0 -16 0 16 0		4 9 5 16 0 0\ 4/ 0  -8 0 8 0
36/ 130/SC R C\Pd1/Pd2 Cmpst-SmE P4		6/ 302/SC R C\Pd1/Pd2 Cmpst-SmE P4
1 8 14 11 0 0\ 0/-18  0 2 0 -2		1 14 8 11 0 0\ 0/-12  0 8 0 -8
15 10 4 5 0 0\ -14/ 0  16 0-16 0		12 7 13 2 0 0\ 4/ 0  4 0 -4 0
12 13 7 2 0 0\ 0/ 18  0 -2 0 2		15 4 10 5 0 0\ 0/ 12  0 -8 0 8
6 3 9 16 0 0\ 14/ 0 -16 0 16 0		6 9 3 16 0 0\ -4/ 0  -4 0 4 0

\*\* Only the Results of Transformation in Compact Style with Sol\_N/Type/C\_PatN \*\*

316/SC/P44	363/SC/P44	118/SC/P44	359/SC/P44	117/SC/P44	313/SC/P44
1 14 12 7	1 15 12 6	1 8 12 13	1 15 12 6	1 8 12 13	1 14 12 7
15 4 6 9	14 4 7 9	15 10 6 3	8 10 13 3	14 11 7 2	8 11 13 2
8 11 13 2	8 10 13 3	14 11 7 2	14 4 7 9	15 10 6 3	15 4 6 9
10 5 3 16	11 5 2 16	4 5 9 16	11 5 2 16	4 5 9 16	10 5 3 16
238/SC/P44	373/SC/P44	130/SC/P44	369/SC/P44	128/SC/P44	235/SC/P44
1 12 14 7	1 15 14 4	1 8 14 11	1 15 14 4	1 8 14 11	1 12 14 7
15 6 4 9	12 6 7 9	15 10 4 5	8 10 11 5	12 13 7 2	8 13 11 2
8 13 11 2	8 10 11 5	12 13 7 2	12 6 7 9	15 10 4 5	15 6 4 9
10 3 5 16	13 3 2 16	6 3 9 16	13 3 2 16	6 3 9 16	10 3 5 16

247/SC/P44	325/SC/P44	136/SC/P44	321/SC/P44	134/SC/P44	243/SC/P44
1 12 15 6	1 14 15 4	1 8 15 10	1 14 15 4	1 8 15 10	1 12 15 6
14 7 4 9	12 7 6 9	14 11 4 5	8 11 10 5	12 13 6 3	8 13 10 3
8 13 10 3	8 11 10 5	12 13 6 3	12 7 6 9	14 11 4 5	14 7 4 9
11 2 5 16	13 2 3 16	7 2 9 16	13 2 3 16	7 2 9 16	11 2 5 16

675/SC/P44	1074/SC/P44	1570/SC/P44	1939/SC/P44	2420/SC/P44	2882/SC/P44
2 13 7 12	3 13 6 12	4 14 5 11	5 11 4 14	6 12 3 13	7 12 2 13
16 3 9 6	16 2 9 7	15 1 10 8	16 2 9 7	15 1 10 8	14 1 11 8
11 8 14 1	10 8 15 1	9 7 16 2	10 8 15 1	9 7 16 2	9 6 16 3
5 10 4 15	5 11 4 14	6 12 3 13	3 13 6 12	4 14 5 11	4 15 5 10

3310/SC/P44	3751/SC/P44	4261/SC/P44	4715/SC/P44	5116/SC/P44	5618/SC/P44
8 11 1 14	9 7 4 14	10 8 3 13	11 8 2 13	12 7 1 14	13 8 2 11
13 2 12 7	16 2 5 11	15 1 6 12	14 1 7 12	13 2 8 11	12 1 7 14
10 5 15 4	6 12 15 1	5 11 16 2	5 10 16 3	6 9 15 4	3 10 16 5
3 16 6 9	3 13 10 8	4 14 9 7	4 15 9 6	3 16 10 5	6 15 9 4

6023/SC/P44	6410/SC/P44	6798/SC/P44	
14 7 1 12	15 6 1 12	16 5 2 11	
11 2 8 13	10 3 8 13	9 4 7 14	(/SC:'Self-Complementary',
4 9 15 6	4 9 14 7	3 10 13 8	/PD:'Pan-Diagonal',
5 16 10 3	5 16 11 2	6 15 12 1	/ST:'Standard' Type;)

[Total Count of Solutions = 1536; Counts of Types: 384/PD, 384/SC, 768/ST]

[T-Type 2; Counts/C-Patterns:

In:	0/P1,	0/P2,	0/P3,	1536/P4,	0/P5,	0/P6,	0/P7;
Out:	0/41,	0/42,	384/43,	384/44,	0/45,	384/46,	384/47]

\*\* Make CP4 MS44 into CP46 Type by the Transformation: Type 2

List of Primitive Solutions with precise Check-Sum-Errors: \*\*

Nmb/Std/Type|Rows|Columns\Pan-diagonals/|16 'Composite 2x2'

/IN	Transform->	/OUT
1/ 21/ST R\C\Pd1/Pd2 Cmpst-SmE P4		1/ 285/PD R\C\Pd1/Pd2 Cmpst-SmE P6
1 4 14 15 0 0\ 0/-10  0 2 0 -2		1 14 4 15 0 0\ 0/ 0  0 0 0 0
13 16 2 3 0 0\ -6/ 0  8 0 -8 0		8 11 5 10 0 0\ 0/ 0  0 0 0 0
8 5 11 10 0 0\ 0/ 10  0 -2 0 2		13 2 16 3 0 0\ 0/ 0  0 0 0 0
12 9 7 6 0 0\ 6/ 0  -8 0 8 0		12 7 9 6 0 0\ 0/ 0  0 0 0 0
2/ 22/ST R\C\Pd1/Pd2 Cmpst-SmE P4		2/ 288/PD R\C\Pd1/Pd2 Cmpst-SmE P6
1 4 14 15 0 0\ 0/-18  0 2 0 -2		1 14 4 15 0 0\ 0/ 0  0 0 0 0
13 16 2 3 0 0\ -14/ 0  16 0 -16 0		12 7 9 6 0 0\ 0/ 0  0 0 0 0
12 9 7 6 0 0\ 0/ 18  0 -2 0 2		13 2 16 3 0 0\ 0/ 0  0 0 0 0
8 5 11 10 0 0\ 14/ 0  -16 0 16 0		8 11 5 10 0 0\ 0/ 0  0 0 0 0
3/ 27/ST R\C\Pd1/Pd2 Cmpst-SmE P4		3/ 330/PD R\C\Pd1/Pd2 Cmpst-SmE P6
1 4 15 14 0 0\ 0/-12  0 4 0 -4		1 15 4 14 0 0\ 0/ 0  0 0 0 0
13 16 3 2 0 0\ -4/ 0  8 0 -8 0		8 10 5 11 0 0\ 0/ 0  0 0 0 0
8 5 10 11 0 0\ 0/ 12  0 -4 0 4		13 3 16 2 0 0\ 0/ 0  0 0 0 0
12 9 6 7 0 0\ 4/ 0  -8 0 8 0		12 6 9 7 0 0\ 0/ 0  0 0 0 0
4/ 28/ST R\C\Pd1/Pd2 Cmpst-SmE P4		4/ 333/PD R\C\Pd1/Pd2 Cmpst-SmE P6
1 4 15 14 0 0\ 0/-20  0 4 0 -4		1 15 4 14 0 0\ 0/ 0  0 0 0 0
13 16 3 2 0 0\ -12/ 0  16 0 -16 0		12 6 9 7 0 0\ 0/ 0  0 0 0 0
12 9 6 7 0 0\ 0/ 20  0 -4 0 4		13 3 16 2 0 0\ 0/ 0  0 0 0 0
8 5 10 11 0 0\ 12/ 0  -16 0 16 0		8 10 5 11 0 0\ 0/ 0  0 0 0 0
9/ 56/ST R\C\Pd1/Pd2 Cmpst-SmE P4		5/ 207/PD R\C\Pd1/Pd2 Cmpst-SmE P6
1 6 12 15 0 0\ 0/ -6  0 2 0 -2		1 12 6 15 0 0\ 0/ 0  0 0 0 0
11 16 2 5 0 0\ -2/ 0  4 0 -4 0		8 13 3 10 0 0\ 0/ 0  0 0 0 0
8 3 13 10 0 0\ 0/ 6  0 -2 0 2		11 2 16 5 0 0\ 0/ 0  0 0 0 0
14 9 7 4 0 0\ 2/ 0  -4 0 4 0		14 7 9 4 0 0\ 0/ 0  0 0 0 0

```

10/ 57/ST|R\C\Pd1/Pd2|Cmpst-SmE P4| 6/ 210/PD|R\C\Pd1/Pd2|Cmpst-SmE P6|
1 6 12 15|0|0\ 0/-18| 0 2 0 -2| 1 12 6 15|0|0\ 0/ 0| 0 0 0 0|
11 16 2 5|0|0\ -14/ 0| 16 0-16 0| 14 7 9 4|0|0\ 0/ 0| 0 0 0 0|
14 9 7 4|0|0\ 0/ 18| 0 -2 0 2| 11 2 16 5|0|0\ 0/ 0| 0 0 0 0|
8 3 13 10|0|0\ 14/ 0|-16 0 16 0| 8 13 3 10|0|0\ 0/ 0| 0 0 0 0|

```

\*\* Only the Results of Transformation in Compact Style with Sol\_N/Type/C\_PatN \*\*

```

336/PD/P46 338/PD/P46 213/PD/P46 215/PD/P46 292/PD/P46 297/PD/P46
1 15 6 12 1 15 6 12 1 12 7 14 1 12 7 14 1 14 7 12 1 14 7 12
8 10 3 13 14 4 9 7 8 13 2 11 15 6 9 4 8 11 2 13 15 4 9 6
11 5 16 2 11 5 16 2 10 3 16 5 10 3 16 5 10 5 16 3 10 5 16 3
14 4 9 7 8 10 3 13 15 6 9 4 8 13 2 11 15 4 9 6 8 11 2 13

```

```

105/PD/P46 107/PD/P46 350/PD/P46 352/PD/P46 110/PD/P46 112/PD/P46
1 8 10 15 1 8 10 15 1 15 10 8 1 15 10 8 1 8 11 14 1 8 11 14
12 13 3 6 14 11 5 4 12 6 3 13 14 4 5 11 12 13 2 7 15 10 5 4
7 2 16 9 7 2 16 9 7 9 16 2 7 9 16 2 6 3 16 9 6 3 16 9
14 11 5 4 12 13 3 6 14 4 5 11 12 6 3 13 15 10 5 4 12 13 2 7

```

```

308/PD/P46 309/PD/P46 122/PD/P46 123/PD/P46 228/PD/P46 229/PD/P46
1 14 11 8 1 14 11 8 1 8 13 12 1 8 13 12 1 12 13 8 1 12 13 8
12 7 2 13 15 4 5 10 14 11 2 7 15 10 3 6 14 7 2 11 15 6 3 10
6 9 16 3 6 9 16 3 4 5 16 9 4 5 16 9 4 9 16 5 4 9 16 5
15 4 5 10 12 7 2 13 15 10 3 6 14 11 2 7 15 6 3 10 14 7 2 11

```

```

660/PD/P46 1061/PD/P46 1549/PD/P46 1930/PD/P46 2405/PD/P46 2874/PD/P46
2 13 3 16 3 13 2 16 4 14 1 15 5 11 2 16 6 12 1 15 7 12 1 14
7 12 6 9 6 12 7 9 5 11 8 10 4 14 7 9 3 13 8 10 2 13 8 11
14 1 15 4 15 1 14 4 16 2 13 3 15 1 12 6 16 2 11 5 16 3 10 5
11 8 10 5 10 8 11 5 9 7 12 6 10 8 13 3 9 7 14 4 9 6 15 4

```

```

3313/PD/P46 3737/PD/P46 4247/PD/P46 4703/PD/P46 5118/PD/P46 5606/PD/P46
8 11 2 13 9 7 2 16 10 8 1 15 11 8 1 14 12 7 2 13 13 8 1 12
1 14 7 12 4 14 11 5 3 13 12 6 2 13 12 7 1 14 11 8 2 11 14 7
15 4 9 6 15 1 8 10 16 2 7 9 16 3 6 9 15 4 5 10 16 5 4 9
10 5 16 3 6 12 13 3 5 11 14 4 5 10 15 4 6 9 16 3 3 10 15 6

```

```

6026/PD/P46 6413/PD/P46 6812/PD/P46
14 7 2 11 15 6 3 10 16 5 4 9
1 12 13 8 1 12 13 8 2 11 14 7 (/SC:'Self-Complementary',
15 6 3 10 14 7 2 11 13 8 1 12 /PD:'Pan-Diagonal',
4 9 16 5 4 9 16 5 3 10 15 6 /ST:'Standard' Type;)

```

[Total Count of Solutions = 1536; Counts of Types: 384/PD, 384/SC, 768/ST]

[T-Type 2; Counts/C-Patterns:

```

In: 0/P1, 0/P2, 0/P3, 1536/P4, 0/P5, 0/P6, 0/P7;
Out: 0/41, 0/42, 384/43, 384/44, 0/45, 384/46, 384/47]

```

\*\* Make CP4 MS44 into CP47 Type by the Transformation: Type 2

List of Primitive Solutions with precise Check-Sum-Errors: \*\*

Nmb/Stnd/Type|Rows|Columns\Pan-diagonals/|16 'Composite 2x2'|

```

/IN Transform-> /OUT
5/ 32/ST|R\C\Pd1/Pd2|Cmpst-SmE P4| 1/ 381/ST|R\C\Pd1/Pd2|Cmpst-SmE P7|
1 4 16 13|0|0\ 0/-12| 0 4 0 -4| 1 16 4 13|0|0\ 0/ -2| 0 2 0 -2|
14 15 3 2|0|0\ -4/ 0| 8 0 -8 0| 7 10 6 11|0|0\ 2/ 0| 0 0 0 0|
7 6 10 11|0|0\ 0/ 12| 0 -4 0 4| 14 3 15 2|0|0\ 0/ 2| 0 -2 0 2|
12 9 5 8|0|0\ 4/ 0| -8 0 8 0| 12 5 9 8|0|0\ -2/ 0| 0 0 0 0|

```

```

6/ 33/ST|R\C\Pd1/Pd2|Cmpst-SmE P4| 2/ 383/ST|R\C\Pd1/Pd2|Cmpst-SmE P7|
1 4 16 13|0|0\ 0/-20| 0 4 0 -4| 1 16 4 13|0|0\ 0/ -2| 0 2 0 -2|
14 15 3 2|0|0\ -12/ 0| 16 0-16 0| 11 6 10 7|0|0\ 2/ 0| 0 0 0 0|
11 10 6 7|0|0\ 0/ 20| 0 -4 0 4| 14 3 15 2|0|0\ 0/ 2| 0 -2 0 2|
8 5 9 12|0|0\ 12/ 0|-16 0 16 0| 8 9 5 12|0|0\ -2/ 0| 0 0 0 0|

```

```

7/ 34/ST|R\C\Pd1/Pd2|Cmpst-SmE P4| 3/ 380/ST|R\C\Pd1/Pd2|Cmpst-SmE P7|
1 4 16 13|0|0\ 0/-10| 0 2 0 -2| 1 16 4 13|0|0\ 0/ -4| 0 4 0 -4|
15 14 2 3|0|0\ -6/ 0| 8 0 -8 0| 6 11 7 10|0|0\ 4/ 0| 0 0 0 0|
6 7 11 10|0|0\ 0/ 10| 0 -2 0 2| 15 2 14 3|0|0\ 0/ 4| 0 -4 0 4|
12 9 5 8|0|0\ 6/ 0| -8 0 8 0| 12 5 9 8|0|0\ -4/ 0| 0 0 0 0|

```

```

8/ 35/ST|R\C\Pd1/Pd2|Cmpst-SmE P4| 4/ 382/ST|R\C\Pd1/Pd2|Cmpst-SmE P7|
1 4 16 13|0|0\ 0/-18| 0 2 0 -2| 1 16 4 13|0|0\ 0/ -4| 0 4 0 -4|
15 14 2 3|0|0\ -14/ 0| 16 0 -16 0| 10 7 11 6|0|0\ 4/ 0| 0 0 0 0|
10 11 7 6|0|0\ 0/ 18| 0 -2 0 2| 15 2 14 3|0|0\ 0/ 4| 0 -4 0 4|
8 5 9 12|0|0\ 14/ 0| -16 0 16 0| 8 9 5 12|0|0\ -4/ 0| 0 0 0 0|

```

```

13/ 66/ST|R\C\Pd1/Pd2|Cmpst-SmE P4| 5/ 389/ST|R\C\Pd1/Pd2|Cmpst-SmE P7|
1 6 16 11|0|0\ 0/-12| 0 8 0 -8| 1 16 6 11|0|0\ 0/ -2| 0 2 0 -2|
12 15 5 2|0|0\ 4/ 0| 4 0 -4 0| 7 10 4 13|0|0\ 2/ 0| 0 0 0 0|
7 4 10 13|0|0\ 0/ 12| 0 -8 0 8| 12 5 15 2|0|0\ 0/ 2| 0 -2 0 2|
14 9 3 8|0|0\ -4/ 0| -4 0 4 0| 14 3 9 8|0|0\ -2/ 0| 0 0 0 0|

```

```

14/ 67/ST|R\C\Pd1/Pd2|Cmpst-SmE P4| 6/ 391/ST|R\C\Pd1/Pd2|Cmpst-SmE P7|
1 6 16 11|0|0\ 0/-24| 0 8 0 -8| 1 16 6 11|0|0\ 0/ -2| 0 2 0 -2|
12 15 5 2|0|0\ -8/ 0| 16 0 -16 0| 13 4 10 7|0|0\ 2/ 0| 0 0 0 0|
13 10 4 7|0|0\ 0/ 24| 0 -8 0 8| 12 5 15 2|0|0\ 0/ 2| 0 -2 0 2|
8 3 9 14|0|0\ 8/ 0| -16 0 16 0| 8 9 3 14|0|0\ -2/ 0| 0 0 0 0|

```

\*\* Only the Results of Transformation in Compact Style with Sol\_N/Type/C\_PatN \*\*

```

388/ST/P47 390/ST/P47 393/ST/P47 396/ST/P47 392/ST/P47 395/ST/P47
1 16 6 11 1 16 6 11 1 16 7 10 1 16 7 10 1 16 7 10 1 16 7 10
4 13 7 10 10 7 13 4 6 11 4 13 13 4 11 6 4 13 6 11 11 6 13 4
15 2 12 5 15 2 12 5 12 5 14 3 12 5 14 3 14 3 12 5 14 3 12 5
14 3 9 8 8 9 3 14 15 2 9 8 8 9 2 15 15 2 9 8 8 9 2 15

```

```

405/ST/P47 406/ST/P47 403/ST/P47 404/ST/P47 409/ST/P47 410/ST/P47
1 16 10 7 1 16 10 7 1 16 10 7 1 16 10 7 1 16 11 6 1 16 11 6
11 6 4 13 13 4 6 11 4 13 11 6 6 11 13 4 10 7 4 13 13 4 7 10
8 9 15 2 8 9 15 2 15 2 8 9 15 2 8 9 8 9 14 3 8 9 14 3
14 3 5 12 12 5 3 14 14 3 5 12 12 5 3 14 15 2 5 12 12 5 2 15

```

```

407/ST/P47 408/ST/P47 414/ST/P47 415/ST/P47 412/ST/P47 413/ST/P47
1 16 11 6 1 16 11 6 1 16 13 4 1 16 13 4 1 16 13 4 1 16 13 4
4 13 10 7 7 10 13 4 10 7 6 11 11 6 7 10 6 11 10 7 7 10 11 6
14 3 8 9 14 3 8 9 8 9 12 5 8 9 12 5 12 5 8 9 12 5 8 9
15 2 5 12 12 5 2 15 15 2 3 14 14 3 2 15 15 2 3 14 14 3 2 15

```

```

733/ST/P47 1110/ST/P47 1511/ST/P47 1977/ST/P47 2370/ST/P47 2796/ST/P47
2 15 3 14 3 14 2 15 4 13 1 16 5 12 2 15 6 11 1 16 7 10 1 16
8 9 5 12 8 9 5 12 7 10 6 11 8 9 3 14 7 10 4 13 6 11 4 13
13 4 16 1 13 4 16 1 14 3 15 2 11 6 16 1 12 5 15 2 12 5 14 3
11 6 10 7 10 7 11 6 9 8 12 5 10 7 13 4 9 8 14 3 9 8 15 2

```

```

3222/ST/P47 3789/ST/P47 4210/ST/P47 4639/ST/P47 5036/ST/P47 5496/ST/P47
8 9 2 15 9 8 2 15 10 7 1 16 11 6 1 16 12 5 2 15 13 4 1 16
5 12 3 14 12 5 3 14 11 6 4 13 10 7 4 13 9 8 3 14 10 7 6 11
11 6 13 4 7 10 16 1 8 9 15 2 8 9 14 3 7 10 13 4 8 9 12 5
10 7 16 1 6 11 13 4 5 12 14 3 5 12 15 2 6 11 16 1 3 14 15 2

```

```

5901/ST/P47 6272/ST/P47 6628/ST/P47
14 3 2 15 15 2 3 14 16 1 4 13
9 8 5 12 9 8 5 12 10 7 6 11
7 10 11 6 6 11 10 7 5 12 9 8
4 13 16 1 4 13 16 1 3 14 15 2

```

[Total Count of Solutions = 1536; Counts of Types: 384/PD, 384/SC, 768/ST]

[T-Type 2; Counts/C-Patterns:

```

In: 0/P1, 0/P2, 0/P3, 1536/P4, 0/P5, 0/P6, 0/P7;
Out: 0/41, 0/42, 384/43, 384/44, 0/45, 384/46, 384/47]

```

\*\* Make CP6 MS44 into CP64 Type by the Transformation: Type 2  
 List of Primitive Solutions with precise Check-Sum-Errors: \*\*  
 Nmb/Std/Type|Rows|Columns\Pan-diagonals/|16 'Composite 2x2'

/IN				Transform->				/OUT			
1/ 105/PD R C\Pd1/Pd2 Cmpst-SmE P6				1/ 157/ST R C\Pd1/Pd2 Cmpst-SmE P4				1/ 157/ST R C\Pd1/Pd2 Cmpst-SmE P4			
1	8	10	15 0 0\ 0/ 0  0 0 0 0	1	10	8	15 0 0\ 0/ -6  0 2 0 -2	1	10	8	15 0 0\ 0/ -6  0 2 0 -2
12	13	3	6 0 0\ 0/ 0  0 0 0 0	7	16	2	9 0 0\ -2/ 0  4 0 -4 0	7	16	2	9 0 0\ -2/ 0  4 0 -4 0
7	2	16	9 0 0\ 0/ 0  0 0 0 0	12	3	13	6 0 0\ 0/ 6  0 -2 0 2	12	3	13	6 0 0\ 0/ 6  0 -2 0 2
14	11	5	4 0 0\ 0/ 0  0 0 0 0	14	5	11	4 0 0\ 2/ 0  -4 0 4 0	14	5	11	4 0 0\ 2/ 0  -4 0 4 0
2/ 107/PD R C\Pd1/Pd2 Cmpst-SmE P6				2/ 158/ST R C\Pd1/Pd2 Cmpst-SmE P4				2/ 158/ST R C\Pd1/Pd2 Cmpst-SmE P4			
1	8	10	15 0 0\ 0/ 0  0 0 0 0	1	10	8	15 0 0\ 0/-10  0 2 0 -2	1	10	8	15 0 0\ 0/-10  0 2 0 -2
14	11	5	4 0 0\ 0/ 0  0 0 0 0	7	16	2	9 0 0\ -6/ 0  8 0 -8 0	7	16	2	9 0 0\ -6/ 0  8 0 -8 0
7	2	16	9 0 0\ 0/ 0  0 0 0 0	14	5	11	4 0 0\ 0/ 10  0 -2 0 2	14	5	11	4 0 0\ 0/ 10  0 -2 0 2
12	13	3	6 0 0\ 0/ 0  0 0 0 0	12	3	13	6 0 0\ 6/ 0  -8 0 8 0	12	3	13	6 0 0\ 6/ 0  -8 0 8 0
3/ 110/PD R C\Pd1/Pd2 Cmpst-SmE P6				3/ 188/ST R C\Pd1/Pd2 Cmpst-SmE P4				3/ 188/ST R C\Pd1/Pd2 Cmpst-SmE P4			
1	8	11	14 0 0\ 0/ 0  0 0 0 0	1	11	8	14 0 0\ 0/ -6  0 4 0 -4	1	11	8	14 0 0\ 0/ -6  0 4 0 -4
12	13	2	7 0 0\ 0/ 0  0 0 0 0	6	16	3	9 0 0\ 2/ 0  2 0 -2 0	6	16	3	9 0 0\ 2/ 0  2 0 -2 0
6	3	16	9 0 0\ 0/ 0  0 0 0 0	12	2	13	7 0 0\ 0/ 6  0 -4 0 4	12	2	13	7 0 0\ 0/ 6  0 -4 0 4
15	10	5	4 0 0\ 0/ 0  0 0 0 0	15	5	10	4 0 0\ -2/ 0  -2 0 2 0	15	5	10	4 0 0\ -2/ 0  -2 0 2 0
4/ 112/PD R C\Pd1/Pd2 Cmpst-SmE P6				4/ 189/ST R C\Pd1/Pd2 Cmpst-SmE P4				4/ 189/ST R C\Pd1/Pd2 Cmpst-SmE P4			
1	8	11	14 0 0\ 0/ 0  0 0 0 0	1	11	8	14 0 0\ 0/-12  0 4 0 -4	1	11	8	14 0 0\ 0/-12  0 4 0 -4
15	10	5	4 0 0\ 0/ 0  0 0 0 0	6	16	3	9 0 0\ -4/ 0  8 0 -8 0	6	16	3	9 0 0\ -4/ 0  8 0 -8 0
6	3	16	9 0 0\ 0/ 0  0 0 0 0	15	5	10	4 0 0\ 0/ 12  0 -4 0 4	15	5	10	4 0 0\ 0/ 12  0 -4 0 4
12	13	2	7 0 0\ 0/ 0  0 0 0 0	12	2	13	7 0 0\ 4/ 0  -8 0 8 0	12	2	13	7 0 0\ 4/ 0  -8 0 8 0
5/ 122/PD R C\Pd1/Pd2 Cmpst-SmE P6				5/ 258/ST R C\Pd1/Pd2 Cmpst-SmE P4				5/ 258/ST R C\Pd1/Pd2 Cmpst-SmE P4			
1	8	13	12 0 0\ 0/ 0  0 0 0 0	1	13	8	12 0 0\ 0/-10  0 8 0 -8	1	13	8	12 0 0\ 0/-10  0 8 0 -8
14	11	2	7 0 0\ 0/ 0  0 0 0 0	4	16	5	9 0 0\ 6/ 0  2 0 -2 0	4	16	5	9 0 0\ 6/ 0  2 0 -2 0
4	5	16	9 0 0\ 0/ 0  0 0 0 0	14	2	11	7 0 0\ 0/ 10  0 -8 0 8	14	2	11	7 0 0\ 0/ 10  0 -8 0 8
15	10	3	6 0 0\ 0/ 0  0 0 0 0	15	3	10	6 0 0\ -6/ 0  -2 0 2 0	15	3	10	6 0 0\ -6/ 0  -2 0 2 0
6/ 123/PD R C\Pd1/Pd2 Cmpst-SmE P6				6/ 259/ST R C\Pd1/Pd2 Cmpst-SmE P4				6/ 259/ST R C\Pd1/Pd2 Cmpst-SmE P4			
1	8	13	12 0 0\ 0/ 0  0 0 0 0	1	13	8	12 0 0\ 0/-12  0 8 0 -8	1	13	8	12 0 0\ 0/-12  0 8 0 -8
15	10	3	6 0 0\ 0/ 0  0 0 0 0	4	16	5	9 0 0\ 4/ 0  4 0 -4 0	4	16	5	9 0 0\ 4/ 0  4 0 -4 0
4	5	16	9 0 0\ 0/ 0  0 0 0 0	15	3	10	6 0 0\ 0/ 12  0 -8 0 8	15	3	10	6 0 0\ 0/ 12  0 -8 0 8
14	11	2	7 0 0\ 0/ 0  0 0 0 0	14	2	11	7 0 0\ -4/ 0  -4 0 4 0	14	2	11	7 0 0\ -4/ 0  -4 0 4 0
7/ 207/PD R C\Pd1/Pd2 Cmpst-SmE P6				7/ 56/ST R C\Pd1/Pd2 Cmpst-SmE P4				7/ 56/ST R C\Pd1/Pd2 Cmpst-SmE P4			
1	12	6	15 0 0\ 0/ 0  0 0 0 0	1	6	12	15 0 0\ 0/ -6  0 2 0 -2	1	6	12	15 0 0\ 0/ -6  0 2 0 -2
8	13	3	10 0 0\ 0/ 0  0 0 0 0	11	16	2	5 0 0\ -2/ 0  4 0 -4 0	11	16	2	5 0 0\ -2/ 0  4 0 -4 0
11	2	16	5 0 0\ 0/ 0  0 0 0 0	8	3	13	10 0 0\ 0/ 6  0 -2 0 2	8	3	13	10 0 0\ 0/ 6  0 -2 0 2
14	7	9	4 0 0\ 0/ 0  0 0 0 0	14	9	7	4 0 0\ 2/ 0  -4 0 4 0	14	9	7	4 0 0\ 2/ 0  -4 0 4 0
8/ 210/PD R C\Pd1/Pd2 Cmpst-SmE P6				8/ 57/ST R C\Pd1/Pd2 Cmpst-SmE P4				8/ 57/ST R C\Pd1/Pd2 Cmpst-SmE P4			
1	12	6	15 0 0\ 0/ 0  0 0 0 0	1	6	12	15 0 0\ 0/-18  0 2 0 -2	1	6	12	15 0 0\ 0/-18  0 2 0 -2
14	7	9	4 0 0\ 0/ 0  0 0 0 0	11	16	2	5 0 0\ -14/ 0  16 0 -16 0	11	16	2	5 0 0\ -14/ 0  16 0 -16 0
11	2	16	5 0 0\ 0/ 0  0 0 0 0	14	9	7	4 0 0\ 0/ 18  0 -2 0 2	14	9	7	4 0 0\ 0/ 18  0 -2 0 2
8	13	3	10 0 0\ 0/ 0  0 0 0 0	8	3	13	10 0 0\ 14/ 0  -16 0 16 0	8	3	13	10 0 0\ 14/ 0  -16 0 16 0
9/ 213/PD R C\Pd1/Pd2 Cmpst-SmE P6				9/ 82/ST R C\Pd1/Pd2 Cmpst-SmE P4				9/ 82/ST R C\Pd1/Pd2 Cmpst-SmE P4			
1	12	7	14 0 0\ 0/ 0  0 0 0 0	1	7	12	14 0 0\ 0/ -6  0 4 0 -4	1	7	12	14 0 0\ 0/ -6  0 4 0 -4
8	13	2	11 0 0\ 0/ 0  0 0 0 0	10	16	3	5 0 0\ 2/ 0  2 0 -2 0	10	16	3	5 0 0\ 2/ 0  2 0 -2 0
10	3	16	5 0 0\ 0/ 0  0 0 0 0	8	2	13	11 0 0\ 0/ 6  0 -4 0 4	8	2	13	11 0 0\ 0/ 6  0 -4 0 4
15	6	9	4 0 0\ 0/ 0  0 0 0 0	15	9	6	4 0 0\ -2/ 0  -2 0 2 0	15	9	6	4 0 0\ -2/ 0  -2 0 2 0
10/ 215/PD R C\Pd1/Pd2 Cmpst-SmE P6				10/ 83/ST R C\Pd1/Pd2 Cmpst-SmE P4				10/ 83/ST R C\Pd1/Pd2 Cmpst-SmE P4			
1	12	7	14 0 0\ 0/ 0  0 0 0 0	1	7	12	14 0 0\ 0/-20  0 4 0 -4	1	7	12	14 0 0\ 0/-20  0 4 0 -4
15	6	9	4 0 0\ 0/ 0  0 0 0 0	10	16	3	5 0 0\ -12/ 0  16 0 -16 0	10	16	3	5 0 0\ -12/ 0  16 0 -16 0
10	3	16	5 0 0\ 0/ 0  0 0 0 0	15	9	6	4 0 0\ 0/ 20  0 -4 0 4	15	9	6	4 0 0\ 0/ 20  0 -4 0 4
8	13	2	11 0 0\ 0/ 0  0 0 0 0	8	2	13	11 0 0\ 12/ 0  -16 0 16 0	8	2	13	11 0 0\ 12/ 0  -16 0 16 0

```

11/ 228/PD|R|C\Pd1/Pd2|Cmpst-SmE P6| 11/ 266/ST|R|C\Pd1/Pd2|Cmpst-SmE P4|
1 12 13 8|0|0\ 0/ 0| 0 0 0 0| 1 13 12 8|0|0\ 0/-18| 0 16 0-16|
14 7 2 11|0|0\ 0/ 0| 0 0 0 0| 4 16 9 5|0|0\ 14/ 0| 2 0 -2 0|
4 9 16 5|0|0\ 0/ 0| 0 0 0 0| 14 2 7 11|0|0\ 0/ 18| 0-16 0 16|
15 6 3 10|0|0\ 0/ 0| 0 0 0 0| 15 3 6 10|0|0\ -14/ 0| -2 0 2 0|

12/ 229/PD|R|C\Pd1/Pd2|Cmpst-SmE P6| 12/ 267/ST|R|C\Pd1/Pd2|Cmpst-SmE P4|
1 12 13 8|0|0\ 0/ 0| 0 0 0 0| 1 13 12 8|0|0\ 0/-20| 0 16 0-16|
15 6 3 10|0|0\ 0/ 0| 0 0 0 0| 4 16 9 5|0|0\ 12/ 0| 4 0 -4 0|
4 9 16 5|0|0\ 0/ 0| 0 0 0 0| 15 3 6 10|0|0\ 0/ 20| 0-16 0 16|
14 7 2 11|0|0\ 0/ 0| 0 0 0 0| 14 2 7 11|0|0\ -12/ 0| -4 0 4 0|

```

\*\* Only the Results of Transformation in Compact Style with Sol\_N/Type/C\_PatN \*\*

```

21/ST/P64 22/ST/P64 90/ST/P64 91/ST/P64 192/ST/P64 193/ST/P64
1 4 14 15 1 4 14 15 1 7 14 12 1 7 14 12 1 11 14 8 1 11 14 8
13 16 2 3 13 16 2 3 10 16 5 3 10 16 5 3 6 16 9 3 6 16 9 3
8 5 11 10 12 9 7 6 8 2 11 13 15 9 4 6 12 2 7 13 15 5 4 10
12 9 7 6 8 5 11 10 15 9 4 6 8 2 11 13 15 5 4 10 12 2 7 13

27/ST/P64 28/ST/P64 62/ST/P64 63/ST/P64 165/ST/P64 166/ST/P64
1 4 15 14 1 4 15 14 1 6 15 12 1 6 15 12 1 10 15 8 1 10 15 8
13 16 3 2 13 16 3 2 11 16 5 2 11 16 5 2 7 16 9 2 7 16 9 2
8 5 10 11 12 9 6 7 8 3 10 13 14 9 4 7 12 3 6 13 14 5 4 11
12 9 6 7 8 5 10 11 14 9 4 7 8 3 10 13 14 5 4 11 12 3 6 13

554/ST/P64 959/ST/P64 1436/ST/P64 1854/ST/P64 2339/ST/P64 2837/ST/P64
2 9 7 16 3 9 6 16 4 10 5 15 5 9 4 16 6 10 3 15 7 11 2 14
8 15 1 10 8 14 1 11 7 13 2 12 8 12 1 13 7 11 2 14 6 10 3 15
11 4 14 5 10 4 15 5 9 3 16 6 10 6 15 3 9 5 16 4 9 5 16 4
13 6 12 3 13 7 12 2 14 8 11 1 11 7 14 2 12 8 13 1 12 8 13 1

3354/ST/P64 3657/ST/P64 4174/ST/P64 4676/ST/P64 5162/ST/P64 5578/ST/P64
8 12 1 13 9 5 4 16 10 6 3 15 11 7 2 14 12 8 1 13 13 7 2 12
5 9 4 16 12 8 1 13 11 7 2 14 10 6 3 15 9 5 4 16 10 4 5 15
10 6 15 3 6 10 15 3 5 9 16 4 5 9 16 4 6 10 15 3 3 9 16 6
11 7 14 2 7 11 14 2 8 12 13 1 8 12 13 1 7 11 14 2 8 14 11 1

6060/ST/P64 6465/ST/P64 6875/ST/P64
14 8 1 11 15 8 1 10 16 7 2 9
9 3 6 16 9 2 7 16 10 1 8 15 (/SC:'Self-Complementary',
4 10 15 5 4 11 14 5 3 12 13 6 /PD:'Pan-Diagonal',
7 13 12 2 6 13 12 3 5 14 11 4 /ST:'Standard' Type;)

```

[Total Count of Solutions = 384; Counts of Types: 0/PD, 0/SC, 384/ST]

[T-Type 2; Counts/C-Patterns:

```

In: 0/P1, 0/P2, 0/P3, 0/P4, 0/P5, 384/P6, 0/P7;
Out: 0/61, 0/62, 0/63, 384/64, 0/65, 0/66, 0/67]

```

\*\* Make CP7 MS44 into CP74 Type by the Transformation: Type 2

List of Primitive Solutions with precise Check-Sum-Errors: \*\*

Nmb/Std/Type|Rows|Columns\Pan-diagonals/|16 'Composite 2x2'|

```

/IN Transform-> /OUT
25/ 388/ST|R|C\Pd1/Pd2|Cmpst-SmE P7| 1/ 68/ST|R|C\Pd1/Pd2|Cmpst-SmE P4|
1 16 6 11|0|0\ 0/ -8| 0 8 0 -8| 1 6 16 11|0|0\ 0/ -6| 0 2 0 -2|
4 13 7 10|0|0\ 8/ 0| 0 0 0 0| 15 12 2 5|0|0\ -2/ 0| 4 0 -4 0|
15 2 12 5|0|0\ 0/ 8| 0 -8 0 8| 4 7 13 10|0|0\ 0/ 6| 0 -2 0 2|
14 3 9 8|0|0\ -8/ 0| 0 0 0 0| 14 9 3 8|0|0\ 2/ 0| -4 0 4 0|

26/ 392/ST|R|C\Pd1/Pd2|Cmpst-SmE P7| 2/ 98/ST|R|C\Pd1/Pd2|Cmpst-SmE P4|
1 16 7 10|0|0\ 0/ -8| 0 8 0 -8| 1 7 16 10|0|0\ 0/ -6| 0 4 0 -4|
4 13 6 11|0|0\ 8/ 0| 0 0 0 0| 14 12 3 5|0|0\ 2/ 0| 2 0 -2 0|
14 3 12 5|0|0\ 0/ 8| 0 -8 0 8| 4 6 13 11|0|0\ 0/ 6| 0 -4 0 4|
15 2 9 8|0|0\ -8/ 0| 0 0 0 0| 15 9 2 8|0|0\ -2/ 0| -2 0 2 0|

```

```

27/ 403/ST|R\C\Pd1/Pd2|Cmpst-SmE P7|    3/ 174/ST|R\C\Pd1/Pd2|Cmpst-SmE P4|
1 16 10 7|0|0\ 0/-16| 0 16 0-16|    1 10 16 7|0|0\ 0/ -6| 0 2 0 -2|
4 13 11 6|0|0\ 16/ 0| 0 0 0 0|    15 8 2 9|0|0\ -2/ 0| 4 0 -4 0|
15 2 8 9|0|0\ 0/ 16| 0-16 0 16|    4 11 13 6|0|0\ 0/ 6| 0 -2 0 2|
14 3 5 12|0|0\ -16/ 0| 0 0 0 0|    14 5 3 12|0|0\ 2/ 0| -4 0 4 0|

28/ 407/ST|R\C\Pd1/Pd2|Cmpst-SmE P7|    4/ 200/ST|R\C\Pd1/Pd2|Cmpst-SmE P4|
1 16 11 6|0|0\ 0/-16| 0 16 0-16|    1 11 16 6|0|0\ 0/ -6| 0 4 0 -4|
4 13 10 7|0|0\ 16/ 0| 0 0 0 0|    14 8 3 9|0|0\ 2/ 0| 2 0 -2 0|
14 3 8 9|0|0\ 0/ 16| 0-16 0 16|    4 10 13 7|0|0\ 0/ 6| 0 -4 0 4|
15 2 5 12|0|0\ -16/ 0| 0 0 0 0|    15 5 2 12|0|0\ -2/ 0| -2 0 2 0|

29/ 380/ST|R\C\Pd1/Pd2|Cmpst-SmE P7|    5/ 34/ST|R\C\Pd1/Pd2|Cmpst-SmE P4|
1 16 4 13|0|0\ 0/ -4| 0 4 0 -4|    1 4 16 13|0|0\ 0/-10| 0 2 0 -2|
6 11 7 10|0|0\ 4/ 0| 0 0 0 0|    15 14 2 3|0|0\ -6/ 0| 8 0 -8 0|
15 2 14 3|0|0\ 0/ 4| 0 -4 0 4|    6 7 11 10|0|0\ 0/ 10| 0 -2 0 2|
12 5 9 8|0|0\ -4/ 0| 0 0 0 0|    12 9 5 8|0|0\ 6/ 0| -8 0 8 0|

30/ 393/ST|R\C\Pd1/Pd2|Cmpst-SmE P7|    6/ 96/ST|R\C\Pd1/Pd2|Cmpst-SmE P4|
1 16 7 10|0|0\ 0/ -4| 0 4 0 -4|    1 7 16 10|0|0\ 0/-10| 0 8 0 -8|
6 11 4 13|0|0\ 4/ 0| 0 0 0 0|    12 14 5 3|0|0\ 6/ 0| 2 0 -2 0|
12 5 14 3|0|0\ 0/ 4| 0 -4 0 4|    6 4 11 13|0|0\ 0/ 10| 0 -8 0 8|
15 2 9 8|0|0\ -4/ 0| 0 0 0 0|    15 9 2 8|0|0\ -6/ 0| -2 0 2 0|

```

\*\* Only the Results of Transformation in Compact Style with Sol\_N/Type/C\_PatN \*\*

```

175/ST/P74    277/ST/P74    32/ST/P74    66/ST/P74    201/ST/P74    278/ST/P74
1 10 16 7    1 13 16 4    1 4 16 13    1 6 16 11    1 11 16 6    1 13 16 4
15 8 2 9    12 8 5 9    14 15 3 2    12 15 5 2    14 8 3 9    12 8 5 9
6 13 11 4    6 10 11 7    7 6 10 11    7 4 10 13    7 13 10 4    7 11 10 6
12 3 5 14    15 3 2 14    12 9 5 8    14 9 3 8    12 2 5 15    14 2 3 15

35/ST/P74    69/ST/P74    198/ST/P74    275/ST/P74    33/ST/P74    99/ST/P74
1 4 16 13    1 6 16 11    1 11 16 6    1 13 16 4    1 4 16 13    1 7 16 10
15 14 2 3    15 12 2 5    8 14 9 3    8 12 9 5    14 15 3 2    14 12 3 5
10 11 7 6    10 13 7 4    10 4 7 13    10 6 7 11    11 10 6 7    11 13 6 4
8 5 9 12    8 3 9 14    15 5 2 12    15 3 2 14    8 5 9 12    8 2 9 15

172/ST/P74    276/ST/P74    67/ST/P74    97/ST/P74    173/ST/P74    199/ST/P74
1 10 16 7    1 13 16 4    1 6 16 11    1 7 16 10    1 10 16 7    1 11 16 6
8 15 9 2    8 12 9 5    12 15 5 2    12 14 5 3    8 15 9 2    8 14 9 3
11 4 6 13    11 7 6 10    13 10 4 7    13 11 4 6    13 6 4 11    13 7 4 10
14 5 3 12    14 2 3 15    8 3 9 14    8 2 9 15    12 3 5 14    12 2 5 15

474/ST/P74    876/ST/P74    1342/ST/P74    1746/ST/P74    2227/ST/P74    2683/ST/P74
2 5 15 12    3 5 14 12    4 6 13 11    5 3 12 14    6 4 11 13    7 4 10 13
16 11 1 6    16 10 1 7    15 9 2 8    16 10 1 7    15 9 2 8    14 9 3 8
3 8 14 9    2 8 15 9    1 7 16 10    2 8 15 9    1 7 16 10    1 6 16 11
13 10 4 7    13 11 4 6    14 12 3 5    11 13 6 4    12 14 5 3    12 15 5 2

3133/ST/P74    3578/ST/P74    4104/ST/P74    4563/ST/P74    4998/ST/P74    5550/ST/P74
8 3 9 14    9 3 8 14    10 4 7 13    11 4 6 13    12 3 5 14    13 6 4 11
13 10 4 7    16 6 1 11    15 5 2 12    14 5 3 12    13 6 4 11    12 3 5 14
2 5 15 12    2 12 15 5    1 11 16 6    1 10 16 7    2 9 15 8    1 10 16 7
11 16 6 1    7 13 10 4    8 14 9 3    8 15 9 2    7 16 10 1    8 15 9 2

5983/ST/P74    6384/ST/P74    6842/ST/P74
14 5 3 12    15 5 2 12    16 6 1 11
11 4 6 13    10 4 7 13    9 3 8 14
2 9 15 8    3 9 14 8    4 10 13 7
7 16 10 1    6 16 11 1    5 15 12 2

```

[Total Count of Solutions = 768; Counts of Types: 0/PD, 0/SC, 768/ST]

[T-Type 2; Counts/C-Patterns:

```

In:    0/P1,    0/P2,    0/P3,    0/P4,    0/P5,    0/P6,    768/P7;
Out:   0/71,    0/72,    0/73,    384/74,    0/75,    0/76,    384/77]

```

\*\* Make CP7 MS44 into CP77 Type by the Transformation: Type 2  
 List of Primitive Solutions with precise Check-Sum-Errors: \*\*  
 Nmb/Std/Type|Rows|Columns\Pan-diagonals/|16 'Composite 2x2'

/IN		Transform->	/OUT	
1/ 115/ST R C\Pd1/Pd2 Cmpst-SmE P7	1 8 12 13 0 0\ 0/ -4  0 4 0 -4		1/ 217/ST R C\Pd1/Pd2 Cmpst-SmE P7	1 12 8 13 0 0\ 0/ -2  0 2 0 -2
10 15 3 6 0 0\ 4/ 0  0 0 0 0			7 14 2 11 0 0\ 2/ 0  0 0 0 0	
7 2 14 11 0 0\ 0/ 4  0 -4 0 4			10 3 15 6 0 0\ 0/ 2  0 -2 0 2	
16 9 5 4 0 0\ -4/ 0  0 0 0 0			16 5 9 4 0 0\ -2/ 0  0 0 0 0	
2/ 127/ST R C\Pd1/Pd2 Cmpst-SmE P7	1 8 14 11 0 0\ 0/ -8  0 8 0 -8		2/ 300/ST R C\Pd1/Pd2 Cmpst-SmE P7	1 14 8 11 0 0\ 0/ -2  0 2 0 -2
10 15 5 4 0 0\ 8/ 0  0 0 0 0			7 12 2 13 0 0\ 2/ 0  0 0 0 0	
7 2 12 13 0 0\ 0/ 8  0 -8 0 8			10 5 15 4 0 0\ 0/ 2  0 -2 0 2	
16 9 3 6 0 0\ -8/ 0  0 0 0 0			16 3 9 6 0 0\ -2/ 0  0 0 0 0	
3/ 116/ST R C\Pd1/Pd2 Cmpst-SmE P7	1 8 12 13 0 0\ 0/ -2  0 2 0 -2		3/ 216/ST R C\Pd1/Pd2 Cmpst-SmE P7	1 12 8 13 0 0\ 0/ -4  0 4 0 -4
11 14 2 7 0 0\ 2/ 0  0 0 0 0			6 15 3 10 0 0\ 4/ 0  0 0 0 0	
6 3 15 10 0 0\ 0/ 2  0 -2 0 2			11 2 14 7 0 0\ 0/ 4  0 -4 0 4	
16 9 5 4 0 0\ -2/ 0  0 0 0 0			16 5 9 4 0 0\ -4/ 0  0 0 0 0	
4/ 133/ST R C\Pd1/Pd2 Cmpst-SmE P7	1 8 15 10 0 0\ 0/ -8  0 8 0 -8		4/ 340/ST R C\Pd1/Pd2 Cmpst-SmE P7	1 15 8 10 0 0\ 0/ -4  0 4 0 -4
11 14 5 4 0 0\ 8/ 0  0 0 0 0			6 12 3 13 0 0\ 4/ 0  0 0 0 0	
6 3 12 13 0 0\ 0/ 8  0 -8 0 8			11 5 14 4 0 0\ 0/ 4  0 -4 0 4	
16 9 2 7 0 0\ -8/ 0  0 0 0 0			16 2 9 7 0 0\ -4/ 0  0 0 0 0	
5/ 129/ST R C\Pd1/Pd2 Cmpst-SmE P7	1 8 14 11 0 0\ 0/ -2  0 2 0 -2		5/ 299/ST R C\Pd1/Pd2 Cmpst-SmE P7	1 14 8 11 0 0\ 0/ -8  0 8 0 -8
13 12 2 7 0 0\ 2/ 0  0 0 0 0			4 15 5 10 0 0\ 8/ 0  0 0 0 0	
4 5 15 10 0 0\ 0/ 2  0 -2 0 2			13 2 12 7 0 0\ 0/ 8  0 -8 0 8	
16 9 3 6 0 0\ -2/ 0  0 0 0 0			16 3 9 6 0 0\ -8/ 0  0 0 0 0	
6/ 135/ST R C\Pd1/Pd2 Cmpst-SmE P7	1 8 15 10 0 0\ 0/ -4  0 4 0 -4		6/ 339/ST R C\Pd1/Pd2 Cmpst-SmE P7	1 15 8 10 0 0\ 0/ -8  0 8 0 -8
13 12 3 6 0 0\ 4/ 0  0 0 0 0			4 14 5 11 0 0\ 8/ 0  0 0 0 0	
4 5 14 11 0 0\ 0/ 4  0 -4 0 4			13 3 12 6 0 0\ 0/ 8  0 -8 0 8	
16 9 2 7 0 0\ -4/ 0  0 0 0 0			16 2 9 7 0 0\ -8/ 0  0 0 0 0	

\*\* Only the Results of Transformation in Compact Style with Sol\_N/Type/C\_PatN \*\*

116/ST/P77	314/ST/P77	115/ST/P77	360/ST/P77	311/ST/P77	356/ST/P77
1 8 12 13	1 14 12 7	1 8 12 13	1 15 12 6	1 14 12 7	1 15 12 6
11 14 2 7	11 8 2 13	10 15 3 6	10 8 3 13	4 15 9 6	4 14 9 7
6 3 15 10	6 9 15 4	7 2 14 11	7 9 14 4	13 2 8 11	13 3 8 10
16 9 5 4	16 3 5 10	16 9 5 4	16 2 5 11	16 3 5 10	16 2 5 11
129/ST/P77	237/ST/P77	127/ST/P77	370/ST/P77	234/ST/P77	366/ST/P77
1 8 14 11	1 12 14 7	1 8 14 11	1 15 14 4	1 12 14 7	1 15 14 4
13 12 2 7	13 8 2 11	10 15 5 4	10 8 5 11	6 15 9 4	6 12 9 7
4 5 15 10	4 9 15 6	7 2 12 13	7 9 12 6	11 2 8 13	11 5 8 10
16 9 3 6	16 5 3 10	16 9 3 6	16 2 3 13	16 5 3 10	16 2 3 13
135/ST/P77	246/ST/P77	133/ST/P77	324/ST/P77	242/ST/P77	320/ST/P77
1 8 15 10	1 12 15 6	1 8 15 10	1 14 15 4	1 12 15 6	1 14 15 4
13 12 3 6	13 8 3 10	11 14 5 4	11 8 5 10	7 14 9 4	7 12 9 6
4 5 14 11	4 9 14 7	6 3 12 13	6 9 12 7	10 3 8 13	10 5 8 11
16 9 2 7	16 5 2 11	16 9 2 7	16 3 2 13	16 5 2 11	16 3 2 13
597/ST/P77	992/ST/P77	1394/ST/P77	1893/ST/P77	2296/ST/P77	2754/ST/P77
2 11 7 14	3 10 6 15	4 9 5 16	5 10 4 15	6 9 3 16	7 9 2 16
8 13 1 12	8 13 1 12	7 14 2 11	8 11 1 14	7 12 2 13	6 12 3 13
9 4 16 5	9 4 16 5	10 3 15 6	9 6 16 3	10 5 15 4	11 5 14 4
15 6 10 3	14 7 11 2	13 8 12 1	12 7 13 2	11 8 14 1	10 8 15 1



3261/ST/P77	3698/ST/P77	4127/ST/P77	4588/ST/P77	5073/ST/P77	5442/ST/P77
8 10 1 15	9 6 4 15	10 5 3 16	11 5 2 16	12 6 1 15	13 3 2 16
5 11 4 14	12 7 1 14	11 8 2 13	10 8 3 13	9 7 4 14	10 8 5 11
12 6 13 3	5 10 16 3	6 9 15 4	7 9 14 4	8 10 13 3	7 9 12 6
9 7 16 2	8 11 13 2	7 12 14 1	6 12 15 1	5 11 16 2	4 14 15 1

5940/ST/P77	6349/ST/P77	6721/ST/P77	
14 4 1 15	15 4 1 14	16 3 2 13	
9 7 6 12	9 6 7 12	10 5 8 11	(/SC:'Self-Complementary',
8 10 11 5	8 11 10 5	7 12 9 6	/PD:'Pan-Diagonal',
3 13 16 2	2 13 16 3	1 14 15 4	/ST:'Standard' Type;)

[Total Count of Solutions = 768; Counts of Types: 0/PD, 0/SC, 768/ST]

[T-Type 2; Counts/C-Patterns:

In:	0/P1,	0/P2,	0/P3,	0/P4,	0/P5,	0/P6,	768/P7;
Out:	0/71,	0/72,	0/73,	384/74,	0/75,	0/76,	384/77]

\*\* Calculated and Listed by Kanji Setsuda  
on June 18, 2013 with MacOSX 10.8.4 & Xcode 4.6.3 \*\*

## #7. Discussion

We have obtained the new result of classification for Standard MS44 as shown above, after the transformation of 7040 Primitive Solutions. The 15 small groups below are found classified by the Composite Sums of 2x2 Little Squares.

We have now come to the summary page of this article.

But I think we should have a little more discussion about certain groups which have many 'same solutions' made from the original set and brought into there.

We must check them from the viewpoint of 880 'Standard' Solutions.

### \*\* Result of the Transformation Listed by the Input Sources:

In: Before the Transformation; Out: After the Transformation; \*\*

[CP1:	In:	1312/P1,	0/P2,	0/P5,	0/P3,	0/P4,	0/P6,	0/P7;
	Out:	832/11,	480/12,	0/15,	0/13,	0/14,	0/16,	0/17]
[CP2:	In:	0/P1,	960/P2,	0/P5,	0/P3,	0/P4,	0/P6,	0/P7;
	Out:	480/21,	0/22,	480/25,	0/23,	0/24,	0/26,	0/27]
[CP5:	In:	0/P1,	0/P2,	1312/P5,	0/P3,	0/P4,	0/P6,	0/P7;
	Out:	0/51,	480/52,	832/55,	0/53,	0/54,	0/56,	0/57]
[CP3:	In:	0/P1,	0/P2,	0/P5,	768/P3,	0/P4,	0/P6,	0/P7;
	Out:	0/31,	0/32,	0/35,	384/33,	384/34,	0/36,	0/37]
[CP4:	In:	0/P1,	0/P2,	0/P5,	0/P3,	1536/P4,	0/P6,	0/P7;
	Out:	0/41,	0/42,	0/45,	384/43,	384/44,	384/46,	384/47]
[CP6:	In:	0/P1,	0/P2,	0/P5,	0/P3,	0/P4,	384/P6,	0/P7;
	Out:	0/61,	0/62,	0/65,	0/63,	384/64,	0/66,	0/67]
[CP7:	In:	0/P1,	0/P2,	0/P5,	0/P3,	0/P4,	0/P6,	768/P7;
	Out:	0/71,	0/72,	0/75,	0/73,	384/74,	0/76,	384/77]

In the First Group let's compare and study both 832/CP11 and 832/CP55 at first.

\*\* Compare 832/CP11(Upper 6) with 832/CP55(Lower 6): Sol\_N/Type/C\_PatN \*\*

328/ST/P11	327/ST/P11	283/ST/P11	282/ST/P11	280/ST/P11	281/ST/P11
1 15 2 16	1 15 2 16	1 14 3 16	1 14 3 16	1 14 3 16	1 14 3 16
13 10 7 4	12 10 7 5	15 11 6 2	15 9 8 2	10 11 6 7	12 9 8 5
12 3 14 5	13 3 14 4	10 4 13 7	12 4 13 5	15 4 13 2	15 4 13 2
8 6 11 9	8 6 11 9	8 5 12 9	6 7 10 11	8 5 12 9	6 7 10 11
↑↓	↑↓	↑↓	↑↓	↑↓	↑↓

270/ST/P55	230/ST/P55	353/ST/P55	364/ST/P55	168/ST/P55	248/ST/P55
1 13 12 8	1 12 13 8	1 15 10 8	1 15 12 6	1 10 15 8	1 12 15 6
15 10 3 6	15 10 3 6	14 11 4 5	14 9 4 7	14 11 4 5	14 9 4 7
2 7 14 11	2 7 14 11	3 6 13 12	3 8 13 10	3 6 13 12	3 8 13 10
16 4 5 9	16 5 4 9	16 2 7 9	16 2 5 11	16 7 2 9	16 5 2 11

Each couple of two solutions upper and lower makes the corresponding pair.  
 How do you get them from each other by any transformation?  
 How about the following two pairs of comparative solution sets?

\*\* Compare 480/CP21(Upper 6) with 480/CP25(Lower 6): Sol\_N/Type/C\_PatN \*\*

375/ST/P21	289/ST/P21	334/ST/P21	211/ST/P21	161/ST/P21	262/ST/P21
1 16 2 15	1 14 4 15	1 15 4 14	1 12 6 15	1 10 8 15	1 13 8 12
12 9 7 6	16 11 5 2	16 10 5 3	16 9 7 2	16 13 3 2	16 11 2 5
13 4 14 3	9 6 12 7	9 7 12 6	13 8 10 3	5 4 14 11	3 6 15 10
8 5 11 10	8 3 13 10	8 2 13 11	4 5 11 14	12 7 9 6	14 4 9 7
↑↓	↑↓	↑↓	↑↓	↑↓	↑↓
232/ST/P25	401/ST/P25	402/ST/P25	416/ST/P25	386/ST/P25	379/ST/P25
1 12 13 8	1 16 9 8	1 16 9 8	1 16 13 4	1 16 5 12	1 16 3 14
16 9 4 5	14 11 6 3	15 10 7 2	12 9 8 5	10 13 4 7	13 11 6 4
2 7 14 11	4 5 12 13	4 5 12 13	6 7 10 11	8 3 14 9	8 2 15 9
15 6 3 10	15 2 7 10	14 3 6 11	15 2 3 14	15 2 11 6	12 5 10 7

\*\* Compare 480/CP12(Upper 6) with 480/CP52(Lower 6): Sol\_N/Type/C\_PatN \*\*

286/ST/P12	331/ST/P12	209/ST/P12	156/ST/P12	257/ST/P12	103/ST/P12
1 14 4 15	1 15 4 14	1 12 6 15	1 10 8 15	1 13 8 12	1 8 10 15
9 12 6 7	9 12 7 6	13 10 8 3	5 14 4 11	3 15 6 10	5 14 4 11
16 5 11 2	16 5 10 3	16 7 9 2	16 3 13 2	16 2 11 5	16 3 13 2
8 3 13 10	8 2 13 11	4 5 11 14	12 7 9 6	14 4 9 7	12 9 7 6
↑↓	↑↓	↑↓	↑↓	↑↓	↑↓
142/ST/P52	143/ST/P52	279/ST/P52	41/ST/P52	10/ST/P52	40/ST/P52
1 9 16 8	1 9 16 8	1 13 16 4	1 5 16 12	1 3 16 14	1 5 16 12
14 12 5 3	15 12 5 2	12 10 7 5	10 14 3 7	13 15 2 4	8 14 3 9
4 6 11 13	4 7 10 13	6 8 9 11	8 4 13 9	8 6 11 9	10 4 13 7
15 7 2 10	14 6 3 11	15 3 2 14	15 11 2 6	12 10 5 7	15 11 2 6

Every pairs of them are coupled with each other by the ‘Symmetric Reflection’ with respect to the first primary diagonal. They should be essentially regarded as the same solutions with each other from the viewpoint of Standard Solutions.

Because you could couple all the pair solutions between those two sets, you should accept those two solution sets are the same with each other on the whole.

Therefore there should be the 3 sets in all in the First Group as follows:

[1] (832/CP11+832/CP55), [2] (480/CP21+480/CP25), [3] (480/CP12+480/CP52)

But the next pair of solution sets are not the same with each other. We could not find any corresponding ‘Reflected Patterns’ there, while we could only find the ‘Reversible Pairs’ among them related by our new transformation.

\*\* Compare 480/CP12(Upper 6) with 480/CP21(Lower 6): Sol\_N/Type/C\_PatN \*\*

286/ST/P12	331/ST/P12	209/ST/P12	156/ST/P12	257/ST/P12	103/ST/P12
1 14 4 15	1 15 4 14	1 12 6 15	1 10 8 15	1 13 8 12	1 8 10 15
9 12 6 7	9 12 7 6	13 10 8 3	5 14 4 11	3 15 6 10	5 14 4 11
16 5 11 2	16 5 10 3	16 7 9 2	16 3 13 2	16 2 11 5	16 3 13 2
8 3 13 10	8 2 13 11	4 5 11 14	12 7 9 6	14 4 9 7	12 9 7 6
↑↓	↑↓	↑↓	↑↓	↑↓	↑↓
23/ST/P21	29/ST/P21	59/ST/P21	108/ST/P21	124/ST/P21	161/ST/P21
1 4 14 15	1 4 15 14	1 6 12 15	1 8 10 15	1 8 13 12	1 10 8 15
16 11 5 2	16 10 5 3	16 9 7 2	16 13 3 2	16 11 2 5	16 13 3 2
9 6 12 7	9 7 12 6	13 8 10 3	5 4 14 11	3 6 15 10	5 4 14 11
8 13 3 10	8 13 2 11	4 11 5 14	12 9 7 6	14 9 4 7	12 7 9 6

We should accept that these two sets are different from each other.

The Second Group looks a little bit more complicated.

Each of the next pair sets should be regarded as the same with each other, because all pair solutions are only the Reflected Patterns from each other.

\*\* Comparison of 384/CP33(Upper 6) and 384/CP77(Lower 6): Sol\_N/Type/C\_PatN \*\*

249/ST/P33	251/ST/P33	250/ST/P33	252/ST/P33	177/ST/P33	183/ST/P33
1 13 4 16	1 13 4 16	1 13 4 16	1 13 4 16	1 11 6 16	1 11 6 16
8 12 5 9	12 8 9 5	8 12 5 9	12 8 9 5	8 14 3 9	14 8 9 3
14 2 15 3	14 2 15 3	15 3 14 2	15 3 14 2	12 2 15 5	12 2 15 5
11 7 10 6	7 11 6 10	10 6 11 7	6 10 7 11	13 7 10 4	7 13 4 10
↑↓	↑↓	↑↓	↑↓	↑↓	↑↓
129/ST/P77	237/ST/P77	135/ST/P77	246/ST/P77	116/ST/P77	314/ST/P77
1 8 14 11	1 12 14 7	1 8 15 10	1 12 15 6	1 8 12 13	1 14 12 7
13 12 2 7	13 8 2 11	13 12 3 6	13 8 3 10	11 14 2 7	11 8 2 13
4 5 15 10	4 9 15 6	4 5 14 11	4 9 14 7	6 3 15 10	6 9 15 4
16 9 3 6	16 5 3 10	16 9 2 7	16 5 2 11	16 9 5 4	16 3 5 10

\*\* Comparison of 384/CP34(Upper 6) and 384/CP74(Lower 6): Sol\_N/Type/C\_PatN \*\*

284/ST/P34	287/ST/P34	329/ST/P34	332/ST/P34	206/ST/P34	208/ST/P34
1 14 4 15	1 14 4 15	1 15 4 14	1 15 4 14	1 12 6 15	1 12 6 15
7 12 6 9	11 8 10 5	6 12 7 9	10 8 11 5	7 14 4 9	13 8 10 3
16 3 13 2	16 3 13 2	16 2 13 3	16 2 13 3	16 5 11 2	16 5 11 2
10 5 11 8	6 9 7 12	11 5 10 8	7 9 6 12	10 3 13 8	4 9 7 14
↑↓	↑↓	↑↓	↑↓	↑↓	↑↓
98/ST/P74	200/ST/P74	68/ST/P74	174/ST/P74	96/ST/P74	277/ST/P74
1 7 16 10	1 11 16 6	1 6 16 11	1 10 16 7	1 7 16 10	1 13 16 4
14 12 3 5	14 8 3 9	15 12 2 5	15 8 2 9	12 14 5 3	12 8 5 9
4 6 13 11	4 10 13 7	4 7 13 10	4 11 13 6	6 4 11 13	6 10 11 7
15 9 2 8	15 5 2 12	14 9 3 8	14 5 3 12	15 9 2 8	15 3 2 14

\*\* Comparison of 384/CP43(Upper 6) and 384/CP47(Lower 6): Sol\_N/Type/C\_PatN \*\*

190/ST/P43	260/ST/P43	159/ST/P43	261/ST/P43	160/ST/P43	191/ST/P43
1 11 8 14	1 13 8 12	1 10 8 15	1 13 8 12	1 10 8 15	1 11 8 14
16 6 9 3	16 4 9 5	16 7 9 2	16 4 9 5	16 7 9 2	16 6 9 3
10 4 15 5	10 6 15 3	11 4 14 5	11 7 14 2	13 6 12 3	13 7 12 2
7 13 2 12	7 11 2 14	6 13 3 12	6 10 3 15	4 11 5 14	4 10 5 15
↑↓	↑↓	↑↓	↑↓	↑↓	↑↓
405/ST/P47	406/ST/P47	409/ST/P47	410/ST/P47	414/ST/P47	415/ST/P47
1 16 10 7	1 16 10 7	1 16 11 6	1 16 11 6	1 16 13 4	1 16 13 4
11 6 4 13	13 4 6 11	10 7 4 13	13 4 7 10	10 7 6 11	11 6 7 10
8 9 15 2	8 9 15 2	8 9 14 3	8 9 14 3	8 9 12 5	8 9 12 5
14 3 5 12	12 5 3 14	15 2 5 12	12 5 2 15	15 2 3 14	14 3 2 15

But the next pair set should be strictly regarded as different from each other.

\*\* Compare 384/CP46(Upper 6) with 384/CP64(Lower 6): Sol\_N/Type/C\_PatN \*\*

285/PD/P46	288/PD/P46	330/PD/P46	333/PD/P46	207/PD/P46	210/PD/P46
1 14 4 15	1 14 4 15	1 15 4 14	1 15 4 14	1 12 6 15	1 12 6 15
8 11 5 10	12 7 9 6	8 10 5 11	12 6 9 7	8 13 3 10	14 7 9 4
13 2 16 3	13 2 16 3	13 3 16 2	13 3 16 2	11 2 16 5	11 2 16 5
12 7 9 6	8 11 5 10	12 6 9 7	8 10 5 11	14 7 9 4	8 13 3 10
↑↓	↑↓	↑↓	↑↓	↑↓	↑↓
21/ST/P64	22/ST/P64	27/ST/P64	28/ST/P64	56/ST/P64	57/ST/P64
1 4 14 15	1 4 14 15	1 4 15 14	1 4 15 14	1 6 12 15	1 6 12 15
13 16 2 3	13 16 2 3	13 16 3 2	13 16 3 2	11 16 2 5	11 16 2 5
8 5 11 10	12 9 7 6	8 5 10 11	12 9 6 7	8 3 13 10	14 9 7 4
12 9 7 6	8 5 11 10	12 9 6 7	8 5 10 11	14 9 7 4	8 3 13 10

We could find no Reflected Patterns between them, while we could find the 'reversible' pair solutions instead. These two sets are related to each other by our new transformation, but they should be regarded as different on the whole.

How about the case of **384/CP44**? Which set is it related to?

\*\* Comparison of **384/CP44**(Upper 6) with itself(Lower 6): Sol\_N/Type/C\_PatN \*\*

(1)

<b>304/SC/P44</b>	<b>344/SC/P44</b>	<b>221/SC/P44</b>	<b>342/SC/P44</b>	<b>220/SC/P44</b>	<b>302/SC/P44</b>
1 14 8 11	1 15 8 10	1 12 8 13	1 15 8 10	1 12 8 13	1 14 8 11
15 4 10 5	14 4 11 5	15 6 10 3	12 6 13 3	14 7 11 2	12 7 13 2
12 7 13 2	12 6 13 3	14 7 11 2	14 4 11 5	15 6 10 3	15 4 10 5
6 9 3 16	7 9 2 16	4 9 5 16	7 9 2 16	4 9 5 16	6 9 3 16
↑↓	↑↓	↑↓	↑↓	↑↓	↑↓
<b>363/SC/P44</b>	<b>316/SC/P44</b>	<b>373/SC/P44</b>	<b>238/SC/P44</b>	<b>325/SC/P44</b>	<b>247/SC/P44</b>
1 15 12 6	1 14 12 7	1 15 14 4	1 12 14 7	1 14 15 4	1 12 15 6
14 4 7 9	15 4 6 9	12 6 7 9	15 6 4 9	12 7 6 9	14 7 4 9
8 10 13 3	8 11 13 2	8 10 11 5	8 13 11 2	8 11 10 5	8 13 10 3
11 5 2 16	10 5 3 16	13 3 2 16	10 3 5 16	13 2 3 16	11 2 5 16

(2)

<b>304/SC/P44</b>	<b>344/SC/P44</b>	<b>221/SC/P44</b>	<b>342/SC/P44</b>	<b>220/SC/P44</b>	<b>302/SC/P44</b>
1 14 8 11	1 15 8 10	1 12 8 13	1 15 8 10	1 12 8 13	1 14 8 11
15 4 10 5	14 4 11 5	15 6 10 3	12 6 13 3	14 7 11 2	12 7 13 2
12 7 13 2	12 6 13 3	14 7 11 2	14 4 11 5	15 6 10 3	15 4 10 5
6 9 3 16	7 9 2 16	4 9 5 16	7 9 2 16	4 9 5 16	6 9 3 16
↑↓	↑↓	↑↓	↑↓	↑↓	↑↓
<b>128/SC/P44</b>	<b>134/SC/P44</b>	<b>117/SC/P44</b>	<b>136/SC/P44</b>	<b>118/SC/P44</b>	<b>130/SC/P44</b>
1 8 14 11	1 8 15 10	1 8 12 13	1 8 15 10	1 8 12 13	1 8 14 11
12 13 7 2	12 13 6 3	14 11 7 2	14 11 4 5	15 10 6 3	15 10 4 5
15 10 4 5	14 11 4 5	15 10 6 3	12 13 6 3	14 11 7 2	12 13 7 2
6 3 9 16	7 2 9 16	4 5 9 16	7 2 9 16	4 5 9 16	6 3 9 16

\*\* Calculated and Listed by Kanji Setsuda  
on July 16, 2013 with MacOSX 10.8.4 & Xcode 4.6.3 \*\*

As you see, you could find both Reflected Patterns and Reversible Ones there in this set itself. And this set isn't related to any other one at all.

The solution set **CP44** is found 'closed' or 'concluded' for the transformation.

And this set contains all the Self-complementary MS44 and nothing else in it.

How interesting and how wonderful it is that we have got this 'independent' set for our beloved object!

In the second group there are 6 subsets as follows, we have found:

[1] (**384/CP33**+**384/CP77**), [2] (**384/CP34**+**384/CP74**), [3] (**384/CP43**+**384/CP47**),  
[4] **384/CP44**, [5] **384/CP46**, [6] **384/CP64**

## #8. Conclusion

We have thus obtained those 9(=3+6) groups of Primitive Solutions classified by the Composite Sums of 2x2 Little Squares and our single transformation system.

I am very happy I can report about it right here in this section.

But I am sorry for my bringing the long list of 7040 Primitive Solutions into our discussion. You might think a little too difficult to read the long story, but it was inevitable, I should say. The Composite Conditions themselves conflict with the Normalization Standards when you get the 880 Standard Solutions from the 7040 Primitive Ones. They might have hidden the true secrets from our eyes.

From my experience, I know we had better study about the Primitive Solutions for this case, especially when we deal with the transformation system.

I am lucky I could have got the fruitful transformation system, for applying it to every primitive solutions could make me have beautiful results of classification.

But I still wonder why I could have succeeded in my classification by this single system of transformation. Why could it really give me a miracle?

Perhaps it is because that it might have given a different 'angle' for us to see our object wider by the 'two dimensional distribution'.

I must say that it made me extremely happy when I knew the classified result of Self-complementary MS44. It surely exists in the 'independent' solution set of CP44. After the transformation SCMS44 has become treated as 'special', as equal as the Pan-diagonal Type. That was far beyond my expectation.

For this reason, I could really believe I have succeeded in this classification.

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(Written by Kanji Setsuda on June 27 and July 18, 2013  
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