Logic Gate Functions:

NSeq2(Seq2,Seq1,Seq0,Treset,SW1,SW2,SW3,SW4) = Sum(20, 33, 34, 49, 50, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 171, 171, 172, 173, 174,175, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255)

= Seq1'Seq0'TresetSW1'SW2SW3'SW4' + Seq1'Seq0SW1'SW2'SW3'SW4 + Seq1'Seq0SW1'SW2'SW3SW4' + Seq2SW4 + Seq2SW2 + Seq2Seq1 + Seq2Treset'SW3' + Seq2Seq0'SW3 + Seq2TresetSW1

NSeq1(Seq2,Seq1,Seq0,Treset,SW1,SW2,SW3,SW4) = Sum(20, 32, 35, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 147, 149, 150, 151, 153, 154, 155, 156, 157, 158, 159, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255)

= Seq2'TresetSW1'SW2SW3'SW4' + Seq2'Seq0SW3SW4 + Seq2'Seq0SW2 + Seq2'Seq0SW1 + Seq2'Seq1'Seq0SW3'SW4' + Seq1Treset' + Seq2'Seq1SW4 + Seq2'Seq1SW3 + Seq2'Seq1SW1 + Seq2Seq1'Seq0'TresetSW3SW4 + Seq2Seq1'Seq0'TresetSW2SW4 + Seq2Seq1'Seq0'TresetSW2SW3 + Seq2Seq1'Seq0'TresetSW1SW4 + Seq2Seq1'Seq0'TresetSW1SW3 + Seq2Seq1'Seq0'TresetSW1SW2 + Seq2Seq1Seq0

NSeq0(Seq2,Seq1,Seq0,Treset,SW1,SW2,SW3,SW4) = Sum(0, 20, 33, 36, 49, 52, 80, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 144, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255)

= Seq2'Seq1'Seq0'Treset'SW1'SW2'SW3'SW4' + Seq2'Seq1'TresetSW1'SW2SW3'SW4' + Seq0SW1'SW2'SW3'SW4 + Seq0SW1'SW2SW3'SW4' + Seq2'Seq1TresetSW1'SW2'SW3'SW4' + Seq1Seq0 + Seq2Seq1'TresetSW1'SW2'SW3'SW4' + Seq2Seq0

L1(Seq2,Seq1,Seq0,Treset,SW1,SW2,SW3,SW4) = Sum(71, 72, 73, 74, 75,76, 77, 78, 79, 88, 89, 90, 91, 92, 93, 94, 95, 97, 99, 101, 103, 105, 107, 109, 111, 113, 115, 117, 119, 121, 123, 125, 127, 130, 131, 134, 135, 138, 139, 142, 143, 146, 147, 150, 151, 154, 155, 158,159,161, 161, 163, 165, 167, 169, 171, 173, 175, 177, 179, 181, 183, 185, 187, 189, 191, 194, 195, 198, 199, 202, 203, 206, 207, 210, 211, 214, 215, 218, 219, 222, 223)

= Seq2'Seq1Seq0'SW1 + Seq2'Seq1Seq0SW4 + Seq2Seq0'SW3 + Seq2Seq1'Seq0SW4 + Seq2'Seq1Treset'SW2SW3SW4

L2(Seq2,Seq1,Seq0,Treset,SW1,SW2,SW3,SW4) = Sum(68, 69, 70, 76, 77, 78, 79, 84, 85, 86, 87, 94, 95, 92, 93, 104, 105, 106, 107, 108, 109, 110, 111, 120, 121, 122, 123, 124, 125, 126, 127, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149, 151, 153, 155, 157, 159, 162, 167, 170, 171, 174, 175, 178, 179, 182, 183, 186, 187, 190, 191, 193, 195, 197, 199, 201, 203, 205, 207, 209, 211, 213, 215, 217, 219, 221, 223)

= Seq2'Seq1Seq0'SW2SW4' + Seq2'Seq1Seq0SW1 + Seq2Seq0'SW4 + Seq2Seq1'Seq0SW2'SW3SW4' + Seq2Seq1'SW2SW3SW4 + Seq2Seq1'Seq0SW1SW3 + Seq2Seq1'Seq0TresetSW3 + Seq2'Seq1Seq0'SW2SW3' + Seq1Seq0'SW1SW2SW4 + Seq2'Seq1Seq0'TresetSW2

L3(Seq2,Seq1,Seq0,Treset,SW1,SW2,SW3,SW4) = Sum(66, 67, 70, 71, 74, 75, 78, 79, 82, 83, 86, 87, 90, 91, 94, 95, 100, 101, 102, 103, 108, 109, 110, 111, 116, 117, 118, 119, 124, 125, 126, 127, 136, 137, 138, 139, 140, 141, 142, 143, 152, 153, 154, 155, 156, 157, 158, 159, 164, 165, 166, 167, 172, 173, 174, 175, 180, 181, 182, 183, 188, 189, 190, 191, 200, 201, 202, 203, 204, 205, 206, 207, 216, 217, 218, 219, 220, 221, 222, 223)

= Seq2'Seq1Seq0'SW3 + Seq2'Seq1Seq0SW2 + Seq2Seq0'SW1 + Seq2Seq1'Seq0SW2

L4(Seq2,Seq1,Seq0,Treset,SW1,SW2,SW3,SW4) = Sum(65, 67, 69, 71, 73, 75, 77, 79, 81, 83, 85, 87, 89, 91, 93, 95, 98, 99, 102, 103, 106, 107, 110, 111, 114, 115, 118, 119, 122, 123, 126, 127, 132, 134, 135, 140, 141, 142, 143, 148, 149, 150, 151, 156, 157, 158, 159, 168, 169, 170, 171, 172, 173, 174, 175, 184, 185, 186, 187, 188, 189, 190, 191, 196, 197, 198, 199, 204, 205, 206, 207, 212, 213, 214, 215, 220, 221, 222, 223)

= Seq2'Seq1Seq0'SW4 + Seq2'Seq1Seq0SW3 + Seq2Seq0'SW2SW4' + Seq2Seq0'SW2SW3 + Seq2Seq0'TresetSW2 + Seq2Seq1'Seq0SW1 + Seq2Seq1'SW1SW2 + Seq1Seq0'SW2SW4

a(Seq2,Seq1,Seq0,Treset,SW1,SW2,SW3,SW4) = Sum(96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223)

= Seq2'Seq1Seq0 + Seq2Seq0'

b(Seq2,Seq1,Seq0,Treset,SW1,SW2,SW3,SW4) = Sum(64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191)

= Seq2'Seq1 + Seq2Seq1'

c(Seq2,Seq1,Seq0,Treset,SW1,SW2,SW3,SW4) = Sum(64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223)

= Seq1Seq0' + Seq2Seq1'

d(Seq2,Seq1,Seq0,Treset,SW1,SW2,SW3,SW4) = Sum(96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223)

= Seq2'Seq1Seq0 + Seq2Seq0'

e(Seq2,Seq1,Seq0,Treset,SW1,SW2,SW3,SW4) = Sum(96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127)

= Seq2'Seq1Seq0

f(Seq2,Seq1,Seq0,Treset,SW1,SW2,SW3,SW4) = Sum(160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223)

= Seq2Seq1'Seq0 + Seq2Seq1Seq0'

g(Seq2,Seq1,Seq0,Treset,SW1,SW2,SW3,SW4) = Sum(96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223)

= Seq2'Seq1Seq0 + Seq2Seq1' + Seq2Seq0'