Check Digit Formulas

FEIN/Sequence Number Check Digit Formula (for IL-501, IL-941, IL-941-A)

- Beginning at the left, add every other digit starting with the second to obtain Sum A.

EXAMPLE: ***FEIN Sequence Number = 362603598000***
SUM A: 6 + 6 + 3 + 9 + 0 + 0 = 24

- Beginning with the left most digit, add every other digit twice, then add the sums to obtain Sum B.

EXAMPLE: FEIN and sequence number = *362603598000*

Digit #	Step 1	Step 2
(1)	3 + 3 = 06	0 + 6 = 6
(3)	2 + 2 = 04	0 + 4 = 4
(5)	0 + 0 = 00	0 + 0 = 0
(7)	5 + 5 = 10	1 + 0 = 1
(9)	8 + 8 = 16	1 + 6 = 7
(11)	0 + 0 = 00	0 + 0 = 0
	Sum B	= 18

- Add Sum A and Sum B to obtain Sum C. (Example above: Sum A 24 + Sum B 18 = Sum C 42)
- If the unit position of Sum C is zero, no subtraction is necessary, zero is the check digit.
- Subtract the unit position of Sum C from 10. 10 - 2 = 8. **8** is the check digit.

FEIN/Sequence Number Check Digit Formula (for IL-990-T-V, IL-1120-ES, IL-1041-V, IL-1065-V, IL-1120-ST-V, IL-1120-V, IL-1000-V)

EXAMPLE: FEIN and sequence number = *362603598000*

- Beginning with the left most digit, multiply each digit of the FEIN alternating by 2 and then 1.

	3	6	2	6	0	3	5	9	8	0	0	0
X	2	1	2	1	2	1	2	1	2	1	2	1
=	6	6	4	6	0	3	10	9	16	0	0	0

- Add any two digit numbers in the products together to obtain 1 digit.
- Add products together.
  6 + 6 + 4 + 6 + 0 + 3 + (10 = 1 + 0) 1 + 9 + (16 = 1 + 6) 7 + 0 + 0 + 0 = 42
- If the units position of the sum is a zero, no subtraction is necessary, zero is the check digit.
- Subtract the units position of the sum of the products from 10. 10 - 2 = 8. **8** is the check digit.

Form Code/Liability Period Check Digit Formula (for IL-990-T-V, IL-1040-V, IL-1120-ES, IL-1041-V, IL-1065-V, IL-1120-ST-V, IL-1120-V, IL-1000-V)

****This is an example only - you will need to calculate the check digit with the appropriate form code and liability period.**

EXAMPLE: Form Code/Liability Period = *990201204*

- Multiply the left most digit by 10, the next digit by 9, the next by 8 and so on until all digits have a total.

	9	9	0	2	0	1	2	0	4
X	10	9	8	7	6	5	4	3	2
=	90	81	0	14	0	5	8	0	8

- Add the totals together.
  90 + 81 + 0 + 14 + 0 + 5 + 8 + 0 + 8 = 206
- Divide the sum by 11. If the remainder is 0 or 1, no subtraction is necessary, the remainder is the check digit. If the remainder is greater than 1, subtract the remainder from 11 to obtain the check digit.
  206 divided by 11 = 18 with a remainder of 8. 11 - 8 = 3. **3** is the check digit.

Form Code/Liability Period/Software/Forms Developer ID No. Check Digit Formula (ST-1, ST-14)

****This is an example only - you will need to calculate the check digit with the appropriate form code, liability period, and PCID information.**

EXAMPLE: Form Code/Liability Period/PCID Number = 0020111041234

- Beginning with the left most digit multiply the first digit by 14, the next digit by 13 and so on, until all digits have a total.

	0	0	2	0	1	1	1	0	4	1	2	3	4
X	14	13	12	11	10	9	8	7	6	5	4	3	2
=	0	0	24	0	10	9	8	0	24	5	8	9	8

- Add the products together.
  0 + 0 + 24 + 0 + 10 + 9 + 8 + 0 + 24 + 5 + 8 + 9 + 8 = 105
- Divide the sum by 11. If the remainder is 0 or 1, no subtraction is necessary and the remainder is the check digit. If the remainder is greater than 1, subtract the remainder from 11 to obtain the check digit.

  105 divided by 11 = 9 with a remainder of 6. 11 - 6 = 5. **5** is the check digit.

IBT Number/Payment Due Date Check Digit Formula (RR-3)

****This is an example only - you will need to calculate the check digit with the appropriate IBT number and payment due date information.**

EXAMPLE: IBT number/Payment Due Date = 12345678113002

- Beginning at the left, multiply every other digit by 2.

	1	2	3	4	5	6	7	8	1	1	3	0	0	2
X	2		2		2		2		2		2		2	
=	2		6		10		14		2		6		0	

- Add any two digit numbers from the totals together to obtain 1 digit.
- Add the totals together.
  2 + 6 + (10 = 1 + 0) 1 + (14 = 1 + 4) 5 + 2 + 6 + 0 = 22
- Add the even numbers in the scan line together.
  2 + 4 + 6 + 8 + 1 + 0 + 2 = 23
- Add the results of these two calculations together.
  22 + 23 = 45
- Subtract the units position of the sum from 10. If the sum ends in 0, no subtraction is necessary, 0 is the check digit.

  10 - 5 = 5. **5** is the check digit.

Numeric Post Check Digit Formula (IL-1040-V)

EXAMPLE: Numeric Post = 10151405

- Multiply the left most digit by 9, the next digit by 8 and so, until all digits have a total.

	1	0	1	5	1	4	0	5
X	9	8	7	6	5	4	3	2
=	9	0	7	30	5	16	0	10

- Add the totals together.
  9 + 0 + 7 + 30 + 5 + 16 + 0 + 10 = 77
- Divide the sum by 11. If the remainder is 0 or 1, no subtraction is necessary, the remainder is the check digit. If the remainder is greater than 1, subtract the remainder from 11 to obtain the check digit.
  77 divided by 11 = 7 with a remainder of 0. **0** is the check digit.

SSN Check Digit Formula (IL-1040-V, IL-1040-ES)

EXAMPLE: SSN = 343347631

- Beginning with the left most digit, multiply each digit of the SSN alternating by 2 and then 1.

	3	4	3	3	4	7	6	3	1
X	2	1	2	1	2	1	2	1	2
=	6	4	6	3	8	7	12	3	2

- Add any two digit numbers in the totals together to obtain 1 digit.
- Add totals together.

  6 + 4 + 6 + 3 + 8 + 7 + (12 = 1 + 2) 3 + 3 + 2 = 42
- If the sum is zero, no subtraction is necessary, and zero is the check digit.
- Subtract the unit position of the sum of the products from 10. 10 - 2 = 8. **8** is the check digit.