# Computer Form Specifications for Substitute Form Developers: Income Tax Payment Vouchers

**Computer form facsimiles must be reviewed and approved by the Department of Revenue prior to use.** The following guidelines must be used in order for computer-generated income tax payment vouchers to be processed. The form should be clearly labeled. **Data-filled test copies of your form must be submitted for approval prior to use.** Additional guidance on substitute form developer approval is available by emailing DOR_FD_Vendor@state.co.us.

The list of income tax payment vouchers that MUST be submitted with scan lines are listed on Page 2. Forms and other specification documents are available at https://sites.google.com/a/state.co.us/software-vendors-tax-forms/software-developers-main-page, the Colorado Department of Revenue Substitute Form Developer (SFD) website. Registration with the Colorado Department of Revenue as a substitute form developer is required.

**FORM SIZE**: The width must be 8½ inches. **Do not cut or clip the form, leave at 8½ by 11 inches.**

**SCAN LINE**: Use only font OCR-A size 10 point for the OCR scan line, using six lines to the inch. Your printer must print crisp, clear characters with no unconnected lines or filled in spaces. Placement of the scanline is highlighted on each form in the 6x10 grid layer and on the DR 5347 which is the standard CDOR layout template.

**FORMAT**: The format and data layout must match the examples that are provided in this document.

**DATA FONT SIZE**: All printed form data must have a font size of 10 point. Preferred font styles for displayed data in the payment coupons are "Arial" and "Courier."

**MAILING**: The Department will accept printed copies for approval however electronic PDF versions are preferred. If sending printed versions of PDF forms, please be sure Paper Scaling is set to "None" and Auto Rotate and Center box is not selected. If this is not done, your forms may "shrink-to-fit" upon printing and will not meet the Department's specifications.

**OCR SCAN SPACE**: The bottom margin of row 62–66 of the form, front and back, must be free from extraneous marks and printing that would give false OCR reading. The data on the scan line MUST be printed on the third print line from the bottom (on row 64) and MUST conform to the following specifications. Variation will make the line unreadable. The right margin on the form should be from column 81-85.

**OCR PRINT POSITIONS**: Using OCR-A print font, reading from left to right beginning at the **left edge** of the form, the following record spacing corresponds with each data element:

| Column Number from the Left Form Edge | Length | Contents |
|---|---|---|
| 1-13 | 13 | leave blank, not a part of the scan line |
| 14-17 | 4 | vendor identification (4 digit NACTP assigned code) |
| 18-21 | 4 | document code (see Table 1 on page 2) |
| 22 | 1 | leave blank |
| 23-30 | 8 | filing period end date (mmddyyyy) |
| 31 | 1 | leave blank |
| 32-33 | 2 | second account number type (see Table 2 on page 2) |
| 34 | 1 | leave blank |
| 35-46 | 12 | second account number / SSN (zero fill to left, use all 12 spaces) |
| 47 | 1 | leave blank |
| 48-49 | 2 | account number type (see Table 2 on page 2) |
| 50 | 1 | leave blank |
| 51-61 | 11 | primary account number / SSN (zero fill to left, use all 11 spaces) |
| 62 | 1 | leave blank |
| 63 | 1 | check digit 2 (Y in the examples) |
| 64 | 1 | check digit 1 (X in the examples) |
| 65-85 | 20 | leave blank, not a part of the scan line |

All fields **must** be numeric. Scan line **must** have non-zero value in one of the account number fields.

**Note on Filing Period:** Use all 8 spaces to fill in the dates in the filing period field. Example, for January 2009 through December 2009, the entry would be '12312009.' For April 2017 through March 2018, the entry would be '03312018.' **The filing period must agree with the tax year on the document.**

**Note on Second Account Identification:** This element is optional and must be all zeroes if unused. If a secondary account is not used (e.g. all zeros) then the two-digit account number type must be "00." For joint filings on individual accounts, use the spouse's Social Security Number.
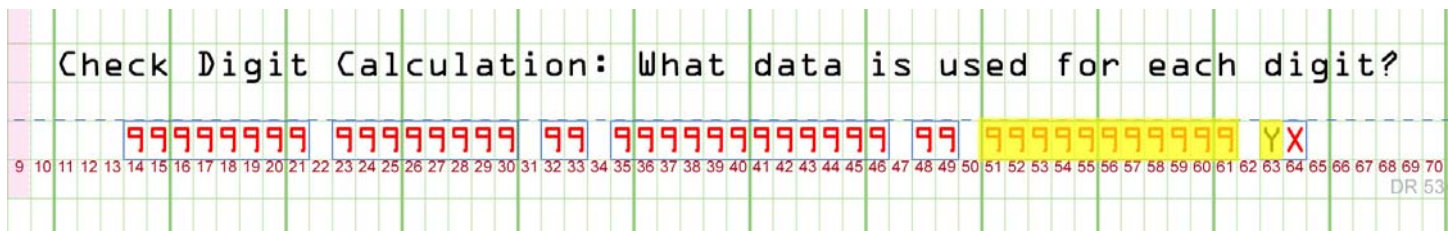
Table 1: Income Tax Payment Voucher Document Codes:

| Form | Title | Doc Code |
|---|---|---|
| 104BEP | Nonresident Beneficiary Estimated Income Tax Payment Voucher | 0068 |
| 104EP | Estimated Income Tax Payment Voucher | 0012 |
| 105EP | Estate/Trust Estimated Tax Payment Voucher | 0032 |
| 106EP | Composite Nonresident Return Estimated Tax Payment Voucher | 0042 |
| 112EP | Corporate Estimated Tax Payment Voucher | 0022 |
| DR 158C | Payment Voucher for Extension of Time for Filing a C Corporation Income Tax Return | 0029 |
| DR 158F | Payment Voucher for Automatic Extension for Estates or Trusts | 0039 |
| DR 158-I | Extension Payment Voucher for Individual Income Tax | 0019 |
| DR 158N | Payment Voucher for Extension of Time for Filing a Composite Nonresident Income Tax Return | 0049 |
| DR 900 | Individual Income Tax Payment Voucher | 0011 |
| DR 900C | C Corporation Income Tax Payment Voucher | 0021 |
| DR 900F | Fiduciary Income Tax Payment Voucher | 0031 |
| DR 900P | Partnership/S-Corp Income Tax Payment Voucher | 0041 |

Table 2: Account Number Types:

| Description | Code |
|---|---|
| Social Security Number | 01 |
| Federal Employer Identification Number | 02 |
| Individual Taxpayer Identification Number | 03 |
| Colorado Account Number | 11 |

**CHECK DIGIT CALCULATION:** Each of the two check digits are calculated using a Luhn algorithm (or modulus 10 or mod 10 algorithm.) There are numerous resources and calculators available that can be used to assist in calculating and verifying the check digit calculation. We also provide two different samples of how the check digits are calculated for our scan line data later in this document.



To calculate check digit 1 (labeled as "X" in the examples), you will use every digit in column 14 through 61, as labeled above in red.

To calculate check digit 2 (labeled as "Y" in the examples), you will use every digit in column 51 through 61, as highlighted above in yellow.

**Check Digit Calculation Example A:**

The form DR 0900 (individual income return payment: doc code 0011) filed for tax year 2017, primary taxpayer Social Security Number (code 01) is 111-22-3333, and spouse Social Security Number (code 01) is 444-55-6666. NACTP vendor code is 2222. Scan line without check digits:
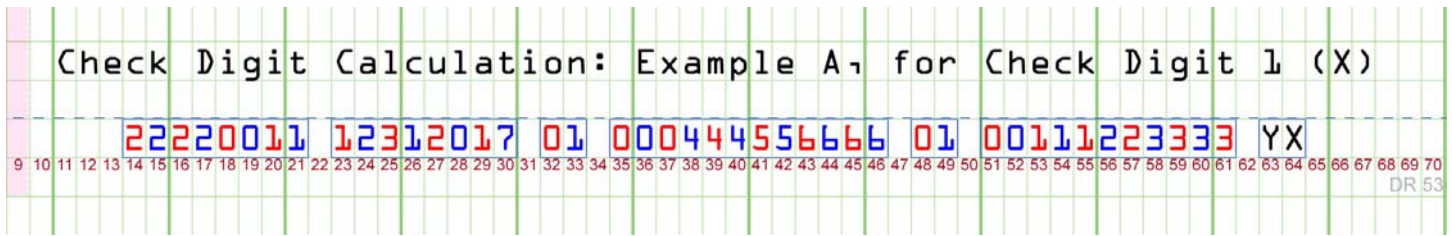


Check Digit 1, Step 1: Beginning with the right-most digit (column 61), double the value of every other digit. In our example, each of these digits is colored red.

Check Digit 1, Step 2: Sum the digits of the products from step 1. If the product of any of the digit doubling was a two digit number, sum each digit of the result. For example, doubling 5 results in 10, treat this product as 1 + 0 = 1.

| Step 1 | 2 | 2 | 0 | 1 | 1 | 3 | 2 | 1 | 0 | 0 | 0 | 4 | 5 | 6 | 6 | 0 | 0 | 1 | 1 | 2 | 3 | 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Step 1 | 4 | 4 | 0 | 2 | 2 | 6 | 4 | 2 | 0 | 0 | 0 | 8 | 10 | 12 | 12 | 0 | 0 | 2 | 2 | 4 | 6 | 6 |
| Step 2 | 4+ | 4+ | 0+ | 2+ | 2+ | 6+ | 4+ | 2+ | 0+ | 0+ | 0+ | 8+ | 1+ | 3+ | 3+ | 0+ | 0+ | 2+ | 2+ | 4+ | 6+ | 6 |

Result = 59

Check Digit 1, Step 3: Add together the un-doubled digits, colored blue in the example above.

| Step 3 | 2+ | 2+ | 0+ | 1+ | 2+ | 1+ | 0+ | 7+ | 1+ | 0+ | 4+ | 4+ | 5+ | 6+ | 6+ | 1+ | 0+ | 1+ | 2+ | 3+ | 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

Result = 51

Check Digit 1, Step 4: Add the two totals and deduct the last digit of that sum from 10.
Ex: 59 + 51 = 110, 10-0 = 10. If the check digit is 10, use only the 0. In this example, check digit 1 or "X" is 0.
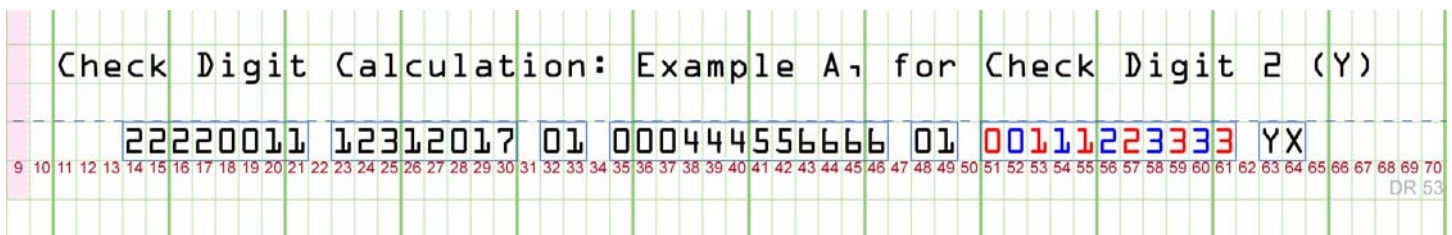


Check Digit 2, Step 1: Beginning with the right-most digit (column 61), double the value of every other digit. In our example, each of these digits is colored red.

Check Digit 2, Step 2: Sum the digits of the products from step 1. If the product of any of the digit doubling was a two digit number, sum each digit of the result. For example, doubling 5 results in 10, treat this product as a "1" and a "0".

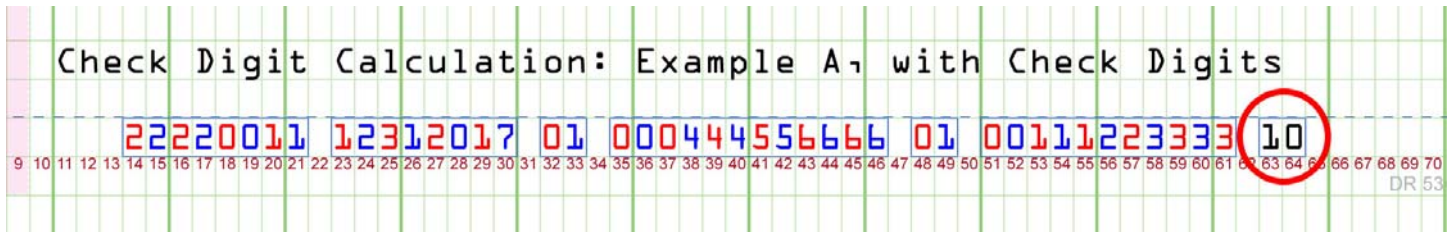| Step 1 | 0 | 1 | 1 | 2 | 3 | 3 |
|---|---|---|---|---|---|---|
| Step 1 | 0 | 2 | 2 | 4 | 6 | 6 |
| Step 2 | 0+ | 2+ | 2+ | 4+ | 6+ | 6 |

Result = 20

Check Digit 2, Step 3: Add together the un-doubled digits, colored blue in the example above.

| Step 3 | 0+ | 1+ | 2+ | 3+ | 3+ |
|---|---|---|---|---|---|

Result = 9

Check Digit 2, Step 4: Add the two totals and deduct the last digit of that sum from 10.
Ex: 20 + 9 = 29, 10-9 = 1. If the check digit is 10, use only the 0. In this example, check digit 2 or "Y" is 1.



The final scan line is shown for Example A with the completed check digits at the end.


**Check Digit Calculation Example B:**

The form DR 0112EP (corporate estimated payment: doc code 0022) filed for tax year 2018, Colorado Account Number (code 11) is 7867867 and FEIN (code 02) is 84-4564564. NACTP vendor code is 2222. Scan line without check digits:
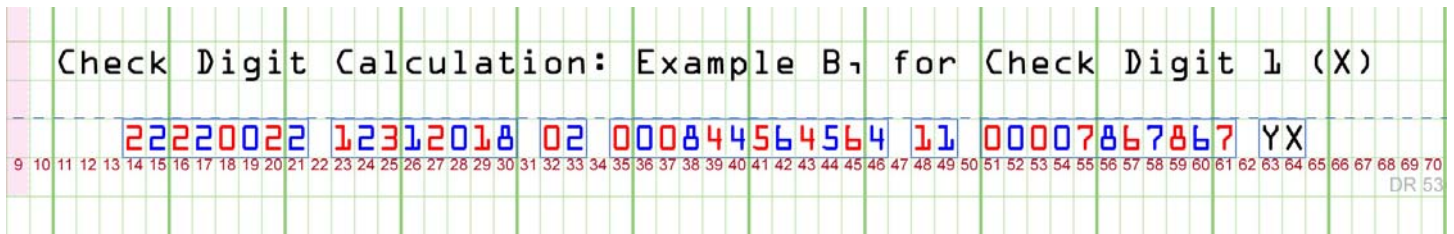


Check Digit 1, Step 1: Beginning with the right-most digit (column 61), double the value of every other digit.  In our example, each of these digits is colored red.

Check Digit 1, Step 2: Sum the digits of the products from step 1.  If the product of any of the digit doubling was a two digit number, sum each digit of the result.  For example, doubling 5 results in 10, treat this product as a "1" and a "0".

| Step 1 | 2 | 2 | 0 | 2 | 1 | 3 | 2 | 1 | 0 | 0 | 0 | 4 | 5 | 4 | 6 | 1 | 0 | 0 | 7 | 6 | 8 | 7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Step 1 | 4 | 4 | 0 | 4 | 2 | 6 | 4 | 2 | 0 | 0 | 0 | 8 | 10 | 8 | 12 | 2 | 0 | 0 | 14 | 12 | 16 | 14 |
| Step 2 | 4+ | 4+ | 0+ | 4+ | 2+ | 6+ | 4+ | 2+ | 0+ | 0+ | 0+ | 8+ | 1+ | 8+ | 3+ | 2+ | 0+ | 0+ | 5+ | 3+ | 7+ | 5 |

Result = 68

Check Digit 1, Step 3: Add together the un-doubled digits, colored blue in the example above.

| Step 3 | 2+ | 2+ | 0+ | 2+ | 2+ | 1+ | 0+ | 8+ | 2+ | 0+ | 8+ | 4+ | 6+ | 5+ | 4+ | 1+ | 0+ | 0+ | 8+ | 7+ | 6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

Result = 68

Check Digit 1, Step 4: Add the two totals and deduct the last digit of that sum from 10.
Ex: 68 + 21 = 136, 10-6 = 4. If the check digit is 10, use only the 0. In this example, check digit 1 or "X" is 4.

```
      22220022 12312018 02 00084456456U 11 0000786786   YX
9  10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70
                                                                                                                                                                            DR 53
```

Check Digit 2, Step 1: Beginning with the right-most digit (column 61), double the value of every other digit. In our example, each of these digits is colored red.

Check Digit 2, Step 2: Sum the digits of the products from step 1. If the product of any of the digit doubling was a two digit number, sum each digit of the result. For example, doubling 5 results in 10, treat this product as a "1" and a "0".

| Step 1 | 0 | 0 | 7 | 6 | 8 | 7 |
|--------|-----|-----|------|------|------|------|
| Step 1 | 0 | 0 | 14 | 12 | 16 | 14 |
| Step 2 | 0+ | 0+ | 5+ | 3+ | 7+ | 5 |

Result = 20

Check Digit 2, Step 3: Add together the un-doubled digits, colored blue in the example above.

| Step 3 | 0+ | 0+ | 8+ | 7+ | 6+ |
|--------|-----|-----|------|------|------|

Result = 21

Check Digit 2, Step 4: Add the two totals and deduct the last digit of that sum from 10.
Ex: 20 + 21 = 41, 10-1 = 9. If the check digit is 10, use only the 0. In this example, check digit 2 or "Y" is 9.

```
      22220011 12312017 01 00044556666 01 00111223333  94
9  10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70
                                                                                                                                                                            DR 53
```

The final scan line is shown for Example B with the completed check digits at the end.