



**TY 21 Substitute Forms W-3/W-2  
2-D Barcoding Standards**

Version 1.0

Updated October 18, 2021

## What's New

Version	Date	Summary Of Changes	Editor
1.0	10/18/2021	<ul style="list-style-type: none"><li>• TY 20 changed to TY 21</li><li>• Updated W-3 barcode layout. Updated line 5 Specification Version to 21.01.</li><li>• Updated W-2 barcode layout. Updated line 5 Specification Version to 21.01.</li><li>• Added link for 2019 Taxpayer First Act</li></ul>	OCO, OEIO, DTTPS, MSB

## Substitute Forms W-3/W-2 2-D Barcoding Standards

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## 1. Overview

This document relates to TY 21 Substitute Forms W-3/W-2 2-D Barcoding Standards. Information and specifications for Substitute Forms W-2 and W-3 can be found in Internal Revenue Service (IRS) [Publication 1141](#) *General Rules and Specifications for Substitute Forms W-2 and W-3*. The 2-D barcode is intended to represent the information on the paper Forms W-2 and W-3. In a situation where multiple Forms W-2 are provided to an employee from one employer (for instance, an employee has more state withholding information than can fit on a single form) a barcode will be placed on each Form W-2 and will only contain the data on that form. This version will comply with computerized industry standards. If the software does not support 2-D barcodes, visit [Publication 1141](#), specifically Section 2.2 Specifications for Substitute Black-and-White Copy A and W-3 Forms Filed With the SSA.

**Note:** The Social Security Administration (SSA) encourages all employers to e-file. E-filing can save time and effort, and helps ensure accuracy. You can complete and electronically submit up to 50 Forms W-2 by using W-2 Online. For additional information, visit the Business Services Online (BSO) site at: [www.socialsecurity.gov/employer](http://www.socialsecurity.gov/employer). You can also visit <https://www.ssa.gov/employer/taxpayer.html> for information regarding the 2019 Taxpayer First Act.

## 2. Approval Requirements

Below are the requirements for software vendors when submitting 2-D barcoded Forms W-2 and W-3 for review and approval:

- Include in your submission the name, telephone number, fax number, and email address of a contact person who can answer questions regarding your sample vendor forms.
- A vendor code is required to submit barcoded forms for approval and must be displayed on all pages. If you do not have a vendor code, contact the National Association of Computerized Processors (NACTP) at <https://www.nactp.org/>. For non-NACTP members, contact SSA at [Copy.A.Forms@ssa.gov](mailto:Copy.A.Forms@ssa.gov) to obtain an SSA-issued code.
- You can expect approval or denial via email by the SSA within 30 days of receipt of your sample vendor forms.
- You are required to submit:
  - One set of blank (without data) 2-D barcoded Forms W-2 and W-3
  - One set of dummy-data 2-D barcoded Forms W-2 and W-3
  - One set of maximum filled 2-D barcoded Forms W-2 and W-3

**Note:** Sample forms that are maximum filled must have data in each box entry and filled to the maximum length using numeric or alpha data. The data contained in the 2-D barcode samples must reflect the data on the forms.

- Mail your barcoded Forms W-2 and W-3 for review and approval to:  
Social Security Administration  
Direct Operations Center  
Attn: Copy A Forms Approval, Room 341  
1150 E. Mountain Drive  
Wilkes-Barre, PA 18702-7997

**Note:** Please remind your customers NOT to mail their company's payroll to the Copy A mailing address. They must mail the copies to the address listed on the W-3.

### 3. Duration of Approvals

Approvals are valid for only one tax year (January through December). Each tax year requires a new approval.

**Note:** Questions about the barcode approval requirements may be emailed to [Copy.A.Forms@ssa.gov](mailto:Copy.A.Forms@ssa.gov).

### 4. Barcode Specifications

Below are specifications that must be followed when preparing barcoded Forms W-2 and W-3:

- The barcode will be a 2-D barcode in the PDF-417 format. The PDF-417 has error detection and correction capabilities. The error correction level should be set to level 4.
- All fields within the barcode will use the carriage return <cr> as a field delimiter.
- All barcode fields are required. If no data is provided, the barcode data for that field will be blank followed by the <cr> delimiter. Exception: Federal ID fields may not be left empty i.e., Employer Identification Number (EIN) and Social Security Number (SSN).
- Do not zero fill or fill with spaces if a field is to be left blank. If there is no data, the field should be left empty followed by a terminating <cr>. It is up to the decoder to determine how to handle empty fields. *Exception:* Federal ID fields must be zero filled if no data is available.
- Do not handwrite changes or make any modifications after printing the form and barcode.
- The Y/X ratio will be 2.
- The Mode setting will be ASCII to cover alpha-numeric characters.
- The truncate symbol setting should be off to allow for right-side endbars.
- End of Data (EOD), the final field in the data stream, should be the characters \*EOD\* followed by a <cr>.
- Do not stretch or scale the barcode, it changes its integrity and reduces the readability.

### 5. 2-D Barcode Rules

Barcode rules are applied for the following fields on the 2-D barcoded Forms W-2 and W-3:

- Money fields must:
  - o Contain only numbers
  - o Not contain punctuation
  - o Not contain signed amounts (high order signed or low order signed)
  - o Not contain negative amounts
  - o Include both dollars and cents with the decimal point assumed i.e., 59.60 = 5960
  - o Not be rounded to the nearest dollar

- Address fields must:
  - Contain only the two-letter abbreviations for U.S. States
  - Conform to United States Postal Service (USPS) rules since address fields are used by SSA to prepare mail correspondence when necessary. For more information, please see:
    - USPS Publication 28 for Postal Addressing Standards at:  
<https://pe.usps.com/cpim/ftp/pubs/Pub28/pub28.pdf>
    - USPS address formats at:  
<https://pe.usps.com/BusinessMail101/Index?ViewName=Addressing>
    - Or call the USPS at 1-800-275- 8777.
  
- Employer Identification Number (EIN) field must:
  - Contain only numeric characters
  - Not contain hyphens
  - Match the EIN under which tax payments were submitted to the IRS under Form 941, 943, 944, CT-1, or Schedule H.
  - Not begin with 00, 07, 08, 09, 17, 18, 19, 28, 29, 49, 69, 70, 78, 79, or 89

**Note:** Visit the IRS website where employers can apply for an Employer Identification Number (EIN) online at: [Apply for an Employer Identification Number \(EIN\) Online | Internal Revenue Service \(irs.gov\)](#).

- Social Security Number (SSN) field must:
  - Use the number shown on the original/replacement SSN card
  - Contain only numeric characters
  - Not contain hyphens
  - Not begin with 000, 666, or 9
  - Not end in 0000
  - Not be a fictitious SSN i.e., 111111111, 333333333, 123456789
  - Be zero filled if the employee's SSN is unknown
  - Not only show the last four digits of an SSN i.e., xxx-xx-1234

**Note:** The SSA allows employers to verify employee names and SSNs online using the Social Security Number Verification Service (SSNVS). For information about this free Service, visit the Employer W-2 Filing Instructions & Information website at: [www.socialsecurity.gov/employer](http://www.socialsecurity.gov/employer). If there is no SSN available for the employee, enter zeros (000000000) and have your employee call the SSA at 1-800-772-1213 or visit their local Social Security office to obtain an SSN.

- Employer's Email Address field must:
  - o Contain only one @ symbol
  - o Not contain consecutive periods
  - o Not contain empty spaces
  - o Not contain a period in the first or last position
  - o Not contain a period immediately to the left or right of the @ symbol

**Note:** An example of a well-formed email address contains a local part (everything before the @ symbol) and a domain part (everything after the @ symbol). Within the domain, everything after the last "." is considered the top-level domain. The following example describes the various parts of an E-mail: local-part@domain.top-level-domain. An example of a well-formed email address is: jsmith@example.com.

- Employee Name fields must:
  - o Contain the name as shown on your employee's Social Security Card (first name, middle initial, last name)
  - o Contain suffix (if shown on Social Security Card) i.e., "Jr.", "Sr."
  - o Not include any titles i.e., "Dr.", "RN"

## 6. Field Types

Field Type	Data Limitations	Print Format	2-D Barcode Format
Text	<ul style="list-style-type: none"> <li>All printable characters allowed</li> <li>No leading or trailing blanks</li> </ul>		
Amount	<ul style="list-style-type: none"> <li>Money fields</li> <li>Only characters 0-9 allowed</li> <li>Right justified, no leading zeroes</li> </ul>	999999999.99	99999999999
Federal ID	<ul style="list-style-type: none"> <li>Only characters 0-9 allowed</li> <li>Must contain exactly nine characters</li> <li>Must not be blank</li> </ul>	99-9999999 123-45-6789	999999999 123456789
Alpha-Numeric	<ul style="list-style-type: none"> <li>Only characters A-Z allowed</li> <li>Only characters 0-9 allowed</li> </ul>		
Numeric	Only characters 0-9 allowed		
Check Box	Must be Upper Case "X" or blank		



## 7. W-3 Barcode Layout

Line Number And Description	Box # on Form	Field Type	Max Field Length	Field Notes
1 - Header Version Number		Text	2	Version of general 2-D specs used to create barcode. This field is static. Currently, the text "T1"
2 - Developer Code		Numeric	4	Vendor's NACTP ID or SSA provided ID. ID code should be present.
3 - Form Description		Numeric	5	33333
4 - Form Year		Numeric	4	Four digit year (CCYY)
5 - Specification Version		Text	5	Version of this specification used to create barcode. Currently, the text "21.01"
6 - Software ID		Text	30	Software product used to create barcode. Should indicate product name and version.
7 - Control Number	a	Text	16	This field is not used by SSA for paper processing. This field is used for numbering the whole transmittal. This field can be blank.
8 - Employer Identification Number (EIN)	e	Federal ID	9	<ul style="list-style-type: none"> <li>• Only numeric characters</li> <li>• Omit hyphens</li> <li>• Must NOT begin with 00, 07, 08, 09, 17, 18, 19, 28, 29, 49, 69, 70, 78, 79, or 89.</li> </ul>
9 - Kind of Payer - 941	b	Check Box	1	"X" or blank. Only one Kind of Payer box can be checked.
10 - Kind of Payer - Military	b	Check Box	1	"X" or blank. Only one Kind of Payer box can be checked.
11 - Kind of Payer - 943	b	Check Box	1	"X" or blank. Only one Kind of Payer box can be checked.
12 - Kind of Payer - 944	b	Check Box	1	"X" or blank. Only one Kind of Payer box can be checked.
13 - Kind of Payer - CT1	b	Check Box	1	"X" or blank. Only one Kind of Payer box can be checked.
14 - Kind of Payer - Household	b	Check Box	1	"X" or blank. Only one Kind of Payer box can be checked.

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Line Number And Description	Box # on Form	Field Type	Max Field Length	Field Notes
15 - Kind of Payer - Medicare Gov Emp	b	Check Box	1	“X” or blank. Only one Kind of Payer box can be checked.
16 - Kind of Employer - None Apply	b	Check Box	1	“X” or blank. Only one box can be checked unless the 2 <sup>nd</sup> one is the 3rd party sick pay box.
17 - Kind of Employer - 501c Non-Govt	b	Check Box	1	“X” or blank. Only one box can be Checked unless the 2nd one is the 3rd party sick pay box.
18 - Kind of Employer - State/Local non - 501c	b	Check Box	1	“X” or blank. Only one box can be checked unless the 2nd one is the 3rd party sick pay box.
19 - Kind of Employer - State/Local 501c	b	Check Box	1	“X” or blank. Only one box can be checked unless the 2nd one is the 3rd party sick pay box.
20 - Kind of Employer - Federal Govt	b	Check Box	1	“X” or blank. Only one box can be checked unless the 2nd one is the 3rd party sick pay box.
21 - Third-Party Sick Pay indicator	b	Check Box	1	“X” or blank.
22 - Total number of forms W-2	c	Numeric	7	
23 - Establishment Number	d	Alpha-Numeric	4	For multiple ER reports with same EIN. Enter any combination of blanks, numbers or letters.
24 - Employer Name	f	Text	57	
25 - Employer Address Line 1	g	Text	35	
26 - Employer Address Line 2	g	Text	35	
27 - Employer City	g	Text	35	
28 - Employer State	g	Text	2	
29 - Employer Postal Code	g	Text	9	Populated for non-foreign addresses only.

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Line Number And Description	Box # on Form	Field type	Max Field Length	Field Notes
30 - Employer Country	g	Text	32	This field is not used by SSA for paper processing.
31 - Other EIN used this year	h	Numeric	9	<ul style="list-style-type: none"> <li>• Field can be blank;</li> <li>• Only numeric characters</li> <li>• Omit hyphens</li> <li>• If not blank, the Other EIN must NOT begin with 00, 07, 08, 09, 17, 18, 19, 28, 29, 49, 69, 70, 78, 79 or 89.</li> </ul>
32 - Wages, Tips, other compensation	1	Amount	15	
33 - Federal Income Tax withheld	2	Amount	15	
34 - Social Security Wages	3	Amount	15	
35 - Social Security Tax withheld	4	Amount	15	
36 - Medicare wages and tips	5	Amount	15	
37 - Medicare tax withheld	6	Amount	15	
38 - Social Security tips	7	Amount	15	
39 - Allocated tips	8	Amount	15	
40 -	9	Amount	15	Blank
41 - Dependent Care Benefits	10	Amount	15	

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<b>Line Number And Description</b>	<b>Box # on Form</b>	<b>Field Type</b>	<b>Max Field Length</b>	<b>Field Notes</b>
42 - Nonqualified plans	11	Amount	15	
43 - Deferred compensation	12a	Amount	15	
44 -	12b	Amount	15	Blank
45 - For third-party sick pay use only	13	Text	26	This field is not used by SSA for paper processing "Third-Party Sick Pay RECAP"
46 - Income tax withheld by payer of third-party sick pay	14	Amount	15	
47 - State Code	15	Text	2	
48 - State ID number	15	Text	26	Employer's state ID number
49 - State Wages	16	Amount	15	State wages, tips, etc.
50 - State Withheld	17	Amount	15	State income tax
51 - Local Wages	18	Amount	15	Local wages, tips, etc.
52 - Local Withheld	19	Amount	15	Local income tax
53 - Employer's Contact Person		Text	27	Enter the name of the person to be contacted by SSA concerning earnings
54 - Employer's telephone number		Numeric	20	Enter Employer's telephone number including the area code (15 characters) and extension number (5 characters)

Line Number And Description	Box # on Form	Field type	Max Field Length	Field Notes
55 - Employer's fax number		Numeric	10	Enter Employer's fax number including area code
56 - Employer's email address		Text	40	Enter Employer's email address
57 - End of Data indicator		Text	5	*EOD*

## 8. W-2 Barcode Layout

Line Number And Description	Box # on Form	Field type	Max Field Length	Field Notes
1 - Header Version Number		Text	2	Version of general 2-D specs used to create barcode. This field is static. Currently, the text "T1"
2 - Developer Code		Numeric	4	Vendor's NACTP ID or SSA provided ID. ID code should be present.
3 - Form Description/Form ID		Numeric	5	22222
4 - Form Year (Tax Year)		Numeric	4	Four digit year (CCYY)
5 - Specification Version		Text	5	Version of this specification used to create barcode. Currently, the text "21.01"
6 - Software ID		Text	30	Software product used to create barcode. Should indicate product name and version.
7 - Control Number	d	Text	21	This field is not used by SSA for paper processing. This field is used for numbering the whole transmittal. This field can be blank.

Social Security Administration TY 21 Substitute Forms W-3/W-2 2-D Barcoding Standards

Line Number And Description	Box # on Form	Field type	Max Field Length	Field Notes
8 - Employer Identification Number (EIN)	b	Federal ID	9	This is a required field <ul style="list-style-type: none"> <li>• Only numeric characters</li> <li>• Omit hyphens</li> <li>• Must NOT begin with 00, 07, 08, 09, 17, 18, 19, 28, 29, 49, 69, 70, 78, 79, or 89.</li> </ul>
9 - Employer Name	c	Text	41	
10 - Employer Address Line 1	c	Text	41	SSA will truncate as needed
11 - Employer Address Line 2	c	Text	41	
12 - Employer City	c	Text	27	
13 - Employer State	c	Text	2	For a foreign address, fill with blanks
14 - Employer Postal Code	c	Text	9	
15 - Employer Country	c	Text	41	For use with Foreign addresses
16 - Employee SSN	a	Federal ID	9	No dashes
17 - Employee First Name	e	Text	15	
18 - Employee Middle Initial	e	Text	1	

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<b>Line Number And Description</b>	<b>Box # on Form</b>	<b>Field type</b>	<b>Max Field Length</b>	<b>Field Notes</b>
19- Employee Last Name	e	Text	20	
20 - Employee Suffix	e	Text	4	
21 - Employee Address Line 1	f	Text	41	SSA will truncate as needed
22 - Employee Address Line 2	f	Text	41	
23 - Employee City	f	Text	27	
24 - Employee State	f	Text	2	
25 - Employee Postal Code	f	Text	9	
26 - Employee Country	f	Text	41	For use with foreign addresses
27 - Wages, Tips, other compensation	1	Amount	11	
28 - Federal Withholding	2	Amount	11	
29 - Social Security Wages	3	Amount	11	
30 - Social Security Tax	4	Amount	11	
31 - Medicare Wages and Tips	5	Amount	11	

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<b>Line Number And Description</b>	<b>Box # on Form</b>	<b>Field type</b>	<b>Max Field Length</b>	<b>Field Notes</b>
32 - Medicare Tax	6	Amount	11	
33 - Social Security Tips	7	Amount	11	
34 - Allocated Tips	8	Amount	11	
35 -	9	Alpha- Numeric	16	Blank
36 - Dependent care	10	Amount	11	
37 - Non-qualified plan	11	Amount	11	
38 - Code 1	12a	Text	2	These are for box 12; up to four box 12 items per form are supported
39 - Code 1 Year		Numeric	2	
40 - Code 1 Amount	12a	Amount	11	
41 - Code 2	12b	Text	2	
42 - Code 2 Year		Numeric	2	
43 - Code 2 Amount	12b	Amount	11	
44 - Code 3	12c	Text	2	
45 - Code 3 Year		Numeric	2	



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Line Number And Description	Box # on Form	Field type	Max Field Length	Field Notes
46 - Code 3 Amount	12c	Amount	11	
47 - Code 4	12d	Text	2	
48 - Code 4 Year		Numeric	2	
49 - Code 4 Amount	12d	Amount	11	
50 - Statutory Employee	13	Checkbox	1	“X” or blank.
51 - Retirement Plan	13	Checkbox	1	“X” or blank.
52 - Third Party Sick pay	13	Checkbox	1	“X” or blank.
53 - Other 1	14	Alpha- Numeric	15	These are for box 14; up to four box 14 items per form are supported. Description first followed by amount
54 - Other 2	14	Alpha- Numeric	17	
55 - Other 3	14	Alpha- Numeric	17	
56 - Other 4	14	Alpha- Numeric	17	
57 - State 1 Code	15	Text	2	
58 - State 1 ID number	15	Text	18	

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<b>Line Number And Description</b>	<b>Box # on Form</b>	<b>Field type</b>	<b>Max Field Length</b>	<b>Field Notes</b>
59 - State 1 Wages	16	Amount	11	
60 - State 1 Income Tax	17	Amount	11	
61 - State 2 Code	15	Text	2	
62 - State 2 ID number	15	Text	18	
63 - State 2 Wages	16	Amount	11	
64 - State 2 Income Tax	17	Amount	11	
65 - Locality 1 Name	20	Text	7	
66 - Local 1 Wages	18	Amount	11	
67 - Local 1 Income Tax	19	Amount	11	
68 - Locality 2 Name	20	Text	7	
69 - Local 2 Wages	18	Amount	11	
70 - Local 2 Income Tax	19	Amount	11	
71 - End of Data indicator		Text	5	*EOD*