OCR SCAN LINE SPECIFICATION FOR INCOME PAYMENT VOUCHER (IN-114 & IN-116)

Scanline Font:

- Must be printed using a fixed 10-pitch, OCR-A font at 12-point size) font. The use of Courier or OCR-B is not permitted.

Scanline structure – IN-114, IN-116 (length 45)

Field Name	Number of Characters	Description
Voucher Type	3	IN-114 = EST IN-116 = RTN
ID	11	9 length, (SSN) leading 0's
Tax Year	4	YYYY
Payment Amount	14	Numeric, (no decimal, leading 0's)
Last Name	10	First 10 characters of last name, leading 0's
Vendor Number	2	Is the last 2 digits in the barcode
N/A - Check Digit	1	Scanline Check Digit (1 digit, see table at the end of this section)

Sample IN-114 ScanLine: EST000091234562018000000000075000TYLERMOOREWW4

Check Digit Logic
Luhn Modulus 10 Check Digit with Alpha

The Check Digit is computed using Luhn Modulus 10 as follows:

1. Convert all alpha characters to numeric values. No punctuation.

- Each Alpha character is converted to its EBCDIC numeric value (see following table):

A	B	C	D	E	F	G	H	I
J	K	L	M	N	O	P	Q	R
	S	T	U	V	W	X	Y	Z
1	2	3	4	5	6	7	8	9

Use For Loop with If/ElseIf to walk through scanline and change all alphas to numbers.

- Example:
  For i = 1 to Len(ScanLine)
  If(ScanLine(i) = "A" or ScanLine(i) = "J" or ScanLine(i) = 1) then 1
  ElseIf (ScanLine(i) = "B" or ScanLine(i) = "K" or ScanLine(i) = "S" or ScanLine(i) = 2) then 2
  …
  ElseIf(ScanLine(i) = "I" or ScanLine(i) = "R" or ScanLine(i) = "Z" or ScanLine(i) = 9) then 9
  Else 0

Next

2. Multiply each digit in the converted scanline by a weighting factor. The weighting factors are based on digit's position in the scanline. Starting from the right most digit (including the check digit) double every second digit until you have reached the left most digit.

Sample Number String = 10134567890000012004

Apply weights from **right to left**

1	0	1	3	4	5	6	7	8	9	0	0	0	0	0	1	2	0	0	4
1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2

Multiply Digits by Weights

	1	0	1	3	4	5	6	7	8	9	0	0	0	0	0	1	2	0	0	4
X	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
	1	0	1	6	4	10	6	14	8	18	0	0	0	0	0	2	2	0	0	8

- Use For loop to perform weighting from Right to Left
  - For i = Len(ScanLine) to 1

If ScanLine(i) Mod 2 = 0 Then Weight(i) = 2
Else Weight(i) = 1

3. Sum the digits that resulted from the multiplication with the weighting factors.

If product of a weighting factor multiplication is 10 or higher, then Sum the Digits of the Products (10 would be 1+0, 14 would be 1+4, 18 would be 1+8)

From above example: 1+0+1+6+4+1+0+6+1+4+8+1+8+0+0+0+0+0+2+2+0+0+8 = 53

- Inside Same For Loop use If/Else to determine Sum
  - If ScanLine(i) x Weight(i) > 9

then Sum = Sum + ((ScanLine(i) x Weight(i)) – 9)
Else Sum = Sum + (ScanLine(i) x Weight(i))
Next

4. Subtract the sum from the next highest multiple of 10. The result is the Check Digit.

For a Sum of 53:

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 60
-53
  7 = Check Digit
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- Determine Check Digit from Sum
  - CheckDigit = 10 - Right(Sum, 1)

If CheckDigit = 10 Then CheckDigit = 0