Unlike manipulating SP2100 settings using the System Menu, Setup Barcodes are a quick and easy way to make changes to the settings of the SP2100’s decoder directly. The decoder is the hardware that controls how the beam comes out of and how reflected returning light is interpreted and changed to ASCII before being sent to the SP2100’s firmware and then to the connected host.

The format to change the option is to scan the Programming “ON” barcode, scanning the appropriate setup barcodes then scanning the Programming “OFF” barcode. The Programming “ON” and Programming “OFF” barcodes are provided at the top of each page of Appendix B and are labeled labeled as figure B.0.

For example, if you wanted to turn off or not allow the SP2100 decode any Plessey barcodes, you would turn the Plessey barcode symbology off by scanning setup barcodes in the following sequence:

1. Scan the Programming “ON” barcode from figure B.0 at the top of the page.
2. Scan the Plessey Disable barcode.
3. Scan the Programming “OFF” barcode.

From Appendix H, you can see the full list of barcodes your SP2100 supports, depending on whether you have the 1D or 2D model. In this Appendix the defaults are marked with a red star beside them for easy identification.

Set Factory Defaults

IMPORTANT: By scanning this barcode, you are resetting the options of the SP2100 2D IMAGER DECODER. The barcode scanner options throughout Appendix B of this User’s Guide are completely different than those options available from the SP2100’s SYSTEM MENU (Appendix K) AND WON’T EFFECT SYSTEM MENU SETTING! These settings are for the IMAGER only! Refer to Appendix B for SP2100 LASER decoder settings!

Unlike manipulating SP2100 settings using the System Menu, Setup Barcodes are a quick and easy way to make changes...
Use these General Settings to enable or disable all or whole types of barcode symbologies.

**Min and Max String Lengths** - To limit the length of the barcode string as a form of validation, you can set a minimum and maximum string length. These lengths include check and stop/start digits if applicable to the symbology. To set the string length:

1. Scan the Programming “ON” barcode.
2. Scan the Set Min Length barcode, then scan the digit code(s) from Section B.29 of this Appendix (B) for the number representing the minimum length.
3. Scan the Save Programming barcode.
4. Scan the Set Max Length barcode, then scan the digit code(s) from Section B.29 of this Appendix (B) for the number representing the minimum length.

**NOTES:** * String length must be less than 127 bytes.  
  * MAX LENGTH must be less than or equal to MIN LENGTH.  
  * If MIN LENGTH = MAXLENGTH, only that single length barcode string will be allowed.

**B.4 - UCC/EAN-8**

Use the Transmit EAN-8 2-Digit Addenda barcode to add a 2-digit addenda to EAN-8 barcodes.
Figure B.0

Instructions: To change the option, first scan the Programming “ON” barcode. Then scan the Option Code. Finally scan the Programming “OFF” barcode.

B.4 - UCC/EAN-8, con’t

- Transmit EAN-8 5-Digit Addenda
- Don’t Transmit EAN-8 5-Digit Addenda

- Expand to EAN-13
- NO Expand to EAN-13

B.5 - EAN-13

- Set EAN-13 Factory Defaults
- Disable EAN-13
- Enable EAN-13

- Transmit EAN-13 Check Digit (Single, Right)
- Don’t Transmit EAN-13 Check Digit (Single, Right)

- Transmit EAN-13 2-Digit Addenda
- Don’t Transmit EAN-13 2-Digit Addenda

- Transmit EAN-13 5-Digit Addenda
- Don’t Transmit EAN-13 5-Digit Addenda

5-Digit Addenda Code in Red
2-Digit Addenda Code in Red
2-Digit Addenda Code in Red
5-Digit Addenda Code in Red
APPENDIX B - SP2100 2D Imager Setup Barcodes, con’t

Instructions: To change the option, first scan the Programming “ON” barcode. Then scan the Option Code. Finally scan the Programming “OFF” barcode.

B.6 - UPC-E

- Set UPC-E Factory Defaults
- Disable UPC-E
- Enable UPC-E
- Transmit UPC-E Check Digit (Single, Right)
- Don’t Transmit UPC-E Check Digit (Single, Right)
- Transmit UPC-E 2-Digit Addenda
- Don’t Transmit UPC-E 2-Digit Addenda
- Transmit UPC-E 5-Digit Addenda
- Don’t Transmit UPC-E 5-Digit Addenda
- UPC-E Transmit Default 0
- UPC-E Don’t Transmit Default 0
- UPC-E Expand to UPC-A
- UPC-E Don’t Expand to UPC-A
APPENDIX B - SP2100 2D Imager Setup Barcodes, con’t

Instructions: To change the option, first scan the Programming “ON” barcode. Then scan the Option Code. Finally scan the Programming “OFF” barcode.

Figure B.0

B.7 - UPC-A

- Set UPC-A Factory Defaults
- Disable UPC-A
- Enable UPC-A

Transmit UPC-A Check Digit (Single, Right)
Don’t Transmit UPC-A Check Digit (Single, Right)

2-Digit Addenda Code in Red

Transmit UPC-A 2-Digit Addenda
Don’t Transmit UPC-A 2-Digit Addenda

Transmit UPC-A 5-Digit Addenda
Don’t Transmit UPC-A 5-Digit Addenda

UPC-A Transmit Default 0
UPC-A Don’t Transmit Default 0

B.8 - Interleaved 2 of 5 (I2of5)

- Set I2of5 Factory Defaults
- Disable I2of5
- Enable I2of5

5. Scan the Save Programming barcode, then scan the Programming “OFF” barcode.

Min and Max String Lengths: To limit the length of the barcode string as a form of validation, you can set a minimum and maximum string length. These lengths include check and stop/start digits if applicable to the symbology. To set the string length:

1. Scan the Programming “ON” barcode.
2. Scan the Set Min Length barcode, then scan the digit code(s) from Section B.29 of this Appendix (B) for the number representing the minimum length.
3. Scan the Save Programming barcode.
4. Scan the Set Max Length barcode, then scan the digit code(s) from Section B.29 of this Appendix (B) for the number representing the minimum length.
APPENDIX B - SP2100 2D Imager Setup Barcodes, con’t

**Instructions:** To change the option, first scan the Programming “ON” barcode. Then scan the Option Code. Finally scan the Programming “OFF” barcode.

**Figure B.0**

---

### B.8 - Interleaved 2 of 5 (I2of5), con’t

#### 5. Scan the Save Programming barcode, then scan the Programming “OFF” barcode.

Interleaved 2 of 5 may include a Check Digit (not compulsory) as the last digit of the encoded string. When used, the check digit is the result of the symbology's mathematical check of the preceding digits. Below are the options:

- **No Check Digit** - Read without performing the check using the last digit and transmit all digits. In effect, there is no check digit present.
- **Transmit Check Digit** - The last digit is a check digit. Perform the mathematical check using the last digit as validation. Transmit the check digit as part of the string to the host.

- **Check Digit Don’t Transmit** - The last digit is a check digit. Perform the mathematical check using the last digit as validation, but don't transmit the check digit to the host.

#### Specified Lengths

- To limit the length of the barcode string as a form of validation, you can set a specified length in accordance with the following rules:
  - Scan the Specified Length as a 3 digit number; i.e: a length of 12 would be scanned as 0 1 2.
  - The Specified Length value must be an even number between 2 and 24.

**Example:** Only allow barcodes to be scanned that are 12 or 24 digits long:

1. Scan the Programming “ON” barcode.
2. Scan the Enable Specified Length, then scan the Add Length Code barcode.
3. Scan the 3 digit representation of the length desired from Section B.29 of this Appendix (B) in this case 0 1 2.
4. Scan the 3 digit representation of the length desired from Section B.29 of this Appendix (B) in this case 0 2 4.
B.9 - ITF-14

5. Scan the Save Programming barcode, then scan the Programming “OFF” barcode.

B.10 - ITF-6

ITF-14 is a 14 character long Interleaved 2 of 5 barcode with a check digit.

B.11 - Code 39

ITF-6 is a 6 character long Interleaved 2 of 5 barcode with a check digit.

Because Code 39 is commonly generated without a check digit, it has asterick (*) start and stop characters surrounding the encoded string:

Min and Max String Lengths - To limit the length of the barcode string as a form of validation, you can set a minimum and maximum string length. These lengths include check and stop/start digits if applicable to the symbology. To set the string length:

1. Scan the Programming “ON” barcode.
2. Scan the Set Min Length barcode, then scan the digit code(s) from Section B.29 of this Appendix (B) for the number representing the minimum length.
3. Scan the Save Programming barcode.
4. Scan the Set Max Length barcode, then scan the digit code(s) from Section B.29 of this Appendix (B) for the number representing the minimum length.

NOTES:
* String length must be less than 127 bytes.
* MAX LENGTH must be less than or equal to MIN LENGTH.
* If MIN LENGTH = MAX LENGTH, only that single length barcode string will be allowed.

Set Code 39
Min Code Length (Default = 1)

Set Code 39
Max Code Length (Default = 42)
**APPENDIX B** - SP2100 2D Imager Setup Barcodes, con’t

<table>
<thead>
<tr>
<th>Instruction</th>
<th>Barcode Image</th>
</tr>
</thead>
<tbody>
<tr>
<td>Programming “ON”</td>
<td><img src="image1" alt="Barcode" /></td>
</tr>
<tr>
<td>Programming “OFF”</td>
<td><img src="image2" alt="Barcode" /></td>
</tr>
</tbody>
</table>

**Instructions:** To change the option, first scan the Programming “ON” barcode. Then scan the Option Code. Finally scan the Programming “OFF” barcode.

**Figure B.0**

### B.11 - Code 39, con’t

5. Scan the Save Programming barcode, then scan the Programming “OFF” barcode.

<table>
<thead>
<tr>
<th>Code 39</th>
<th><img src="image3" alt="Barcode" /></th>
</tr>
</thead>
<tbody>
<tr>
<td>No Check Digit</td>
<td><img src="image4" alt="Barcode" /></td>
</tr>
<tr>
<td>Transmit Check Digit</td>
<td><img src="image5" alt="Barcode" /></td>
</tr>
<tr>
<td>Don’t Transmit</td>
<td><img src="image6" alt="Barcode" /></td>
</tr>
</tbody>
</table>

**Code 39 MAY be encoded with a check digit. The check digit is optional.**

**Min and Max String Lengths:** To limit the length of the barcode string as a form of validation, you can set a minimum and maximum string length. These lengths include check and stop/start digits if applicable to the symbology. To set the string length:

1. Scan the Programming “ON” barcode.
2. Scan the Set Min Length barcode, then scan the digit code(s) from Section B.29 of this Appendix (B) for the number representing the minimum length.
3. Scan the Save Programming barcode.
4. Scan the Set Max Length barcode, then scan the digit code(s) from Section B.29 of this Appendix (B) for the number representing the minimum length.

<table>
<thead>
<tr>
<th>Set Codabar Factory Defaults</th>
<th><img src="image7" alt="Barcode" /></th>
</tr>
</thead>
<tbody>
<tr>
<td>Disable Codabar</td>
<td><img src="image8" alt="Barcode" /></td>
</tr>
<tr>
<td>Enable Codabar</td>
<td><img src="image9" alt="Barcode" /></td>
</tr>
</tbody>
</table>

**NOTES:**
- *String length must be less than 127 bytes.*
- *MAX LENGTH must be less than or equal to MIN LENGTH.*
- *If MIN LENGTH = MAX LENGTH, only that single length barcode string will be allowed.*

5. Scan the Save Programming barcode, then scan the Programming “OFF” barcode.

<table>
<thead>
<tr>
<th>Codabar</th>
<th><img src="image10" alt="Barcode" /></th>
</tr>
</thead>
<tbody>
<tr>
<td>No Check Digit</td>
<td><img src="image11" alt="Barcode" /></td>
</tr>
<tr>
<td>Transmit Check Digit</td>
<td><img src="image12" alt="Barcode" /></td>
</tr>
<tr>
<td>Don’t Transmit</td>
<td><img src="image13" alt="Barcode" /></td>
</tr>
</tbody>
</table>
APPENDIX B - SP2100 2D Imager Setup Barcodes, con’t

Instructions: To change the option, first scan the Programming “ON” barcode. Then scan the Option Code. Finally scan the Programming “OFF” barcode.

Figure B.0

B.12 - Codabar, con’t

Barcodes are shown below:

- **Codabar - Transmit Both Prefix/Suffix**
- **Codabar - Transmit Neither Prefix/Suffix**
- **Codabar - Use ABCD/ABCD As Start & Stop Character**
- **Codabar - Use ABCD/TN*E As Start & Stop Character**
- **Codabar - Use Upper Case Prefix/Suffix**
- **Codabar - Use Lower Case Prefix/Suffix**

Code 39 MAY be encoded with a check digit. The check digit is optional.

B.13 - Code 93

- **Set Code 93 Factory Defaults**
- **Disable Code 93**
- **Enable Code 93**

Codabar uses either one of “A”, “B”, “C” and “D” as the prefix & suffix characters. Transmission of them can be selected.

**Min and Max String Lengths** - To limit the length of the barcode string as a form of validation, you can set a minimum and maximum string length. These lengths include check and stop/start digits if applicable to the symbology. To set the string length:

1. Scan the Programming “ON” barcode.
2. Scan the Set Min Length barcode, then scan the digit code(s) from Section B.29 of this Appendix (B) for the number representing the minimum length.
3. Scan the Save Programming barcode.
4. Scan the Set Max Length barcode, then scan the digit code(s) from Section B.29 of this Appendix (B) for the number representing the minimum length.

**NOTES:**

- String length must be less than 127 bytes.
- MAX LENGTH must be less than or equal to MIN LENGTH.
- If MIN LENGTH = MAXLENGTH, only that single length barcode string will be allowed.
APPENDIX B - SP2100 2D Imager Setup Barcodes, con’t

Instructions: To change the option, first scan the **Programming “ON”** barcode. Then scan the Option Code. Finally scan the **Programming “OFF”** barcode.

Figure B.0

### B.13 - Code 93, con’t

5. Scan the Save Programming barcode, then scan the Programming “OFF” barcode.

Code 93 may include 2 Check Digits (not compulsory) as the last 2 digits of the encoded string. When used, the check digit is the result of the symbology’s mathematical check of the preceding digits. Below are the options:

- **No Check Digits** - Read without performing the check using the last 2 digits and transmit all digits. In effect, there is no check digit present.
- **Transmit Check Digits** - The last 2 digits are check digits. Perform the mathematical check using the last 2 digits as validation. Transmit the check digits as part of the string to the host.

### B.14 - UCC/EAN-128

- **Set UCC/ EAN-128**
- **Disable UCC/ EAN-128**
- **Enable UCC/ EAN-128**

### B.15 - GS1 Databar

- **Set GS1 Databar**
- **Disable GS1 Databar**
- **Enable GS1 Databar**

- **GS1 Databar - Transmit Al (01) Character**
- **GS1 Databar - Do Not Transmit Al (01) Character**

### B.16 - EAN/UCC Composite

- **Set EAN/ UCC Composite**
- **Disable EAN/ UCC Composite**
- **Enable EAN/ UCC Composite**
APPENDIX B - SP2100 2D Imager Setup Barcodes, con’t

Instructions: To change the option, first scan the Programming “ON” barcode. Then scan the Option Code. Finally scan the Programming “OFF” barcode.

Figure B.0

B.16 - EAN/UCC Composite, con’t

- Enable UPC/EAN Composite
- Disable UPC/EAN Composite

B.17 - Code 11

- Enable Code 11
- Disable Code 11

- Check Digit Don’t Transmits - The last digits are check digits. Perform the mathematical check using the last digits as validation, but don’t transmit the check digits to the host.

Min and Max String Lengths - To limit the length of the barcode string as a form of validation, you can set a minimum and maximum string length. These lengths include check and stop/start digits if applicable to the symbology. To set the string length:

1. Scan the Programming “ON” barcode.
2. Scan the Set Min Length barcode, then scan the digit code(s) from Section B.29 of this Appendix (B) for the number representing the minimum length.
3. Scan the Save Programming barcode.
4. Scan the Set Max Length barcode, then scan the digit code(s) from Section B.29 of this Appendix (B) for the number representing the minimum length.
5. Scan the Save Programming barcode, then scan the Programming “OFF” barcode.

Code 11 may include a single or double Check Digit (not compulsory) as the last digit(s) of the encoded string. When used, the check digit is the result of the symbology’s mathematical check of the preceding digits - either a MOD 11 or MOD 9 result.

- No Check Digit - Read without performing the check using the last digit and transmit all digits. In effect, there is no check digit present.

NOTES:
- String length must be less than 127 bytes.
- MAX LENGTH must be less than or equal to MIN LENGTH.
- If MIN LENGTH = MAX LENGTH, only that single length barcode string will be allowed.

Set Code 11 Min Code Length
( Default = 4 )

Set Code 11 Max Code Length
( Default = 48 )

Code 11
No Check Digit

Code 11 - Transmit
Check Digit(s)

Code 11 - Check Digit(s)
Don’t Transmit
APPENDIX B - SP2100 2D Imager Setup Barcodes, con’t

Instructions: To change the option, first scan the Programming “ON” barcode. Then scan the Option Code. Finally scan the Programming “OFF” barcode.

Figure B.0

B.17 - Code 11, con’t

- Code 11 Single Check Digit, MOD 11
- Code 11 - Double Check Digits, MOD 11/ MOD 9
- Code 11 - Double Check Digits, MOD 11/ MOD 11

B.18 - ISBN

- Set ISBN
  - Factory Defaults
- Disable ISBN
  - Enable ISBN
- ISBN - Transmit 10 Digits
- ISBN - Transmit 13 Digits

B.19 - Industrial 25

- Set Industrial 25
  - Factory Defaults
- Disable Industrial 25
  - Enable Industrial 25

- Transmit Check Digit - The last digit is a check digit. Perform the mathematical check using the last digit as validation. Transmit the check digit as part of the string to the host.
- Check Digit Don’t Transmit - The last digit is a check digit. Perform the mathematical check using the last digit as validation, but don’t transmit the check digit to the host.

Min and Max String Lengths - To limit the length of the barcode string as a form of validation, you can set a minimum and maximum string length. These lengths include check and stop/start digits if applicable to the symbology. To set the string length:

1. Scan the Programming “ON” barcode.
2. Scan the Set Min Length barcode, then scan the digit code(s) from Section B.29 of this Appendix (B) for the number representing the minimum length.
**APPENDIX B - SP2100 2D Imager Setup Barcodes, con’t**

**Instructions:** To change the option, first scan the Programming “ON” barcode. Then scan the Option Code. Finally scan the Programming “OFF” barcode.

<table>
<thead>
<tr>
<th>Programming “ON”</th>
<th>Programming “OFF”</th>
</tr>
</thead>
</table>

**Figure B.0**

### B.19 - Industrial 25, con’t

- **Set Industrial 25 Min Code Length** *(Default = 6)*
- **Set Industrial 25 Max Code Length** *(Default = 48)*

**NOTES:**
- *String length must be less than 127 bytes.*
- *MAX LENGTH must be less than or equal to MIN LENGTH.*
- *If MIN LENGTH = MAXLENGTH, only that single length barcode string will be allowed.*

3. Scan the Save Programming barcode.

4. Scan the Set Max Length barcode, then scan the digit code(s) from **Section B.29** of this Appendix (B) for the number representing the minimum length.

5. Scan the Save Programming barcode, then scan the Programming “OFF” barcode.

Industrial 25 may include Check Digit (not compulsory) as the last digit of the encoded string. When used, the check digit is the result of the symbology’s mathematical check of the preceding digits. Below are the options:

- **No Check Digit** - Read without performing the check using the last digit and transmit all digits. In effect, there is no check digit present.

    - **Industrial 25 No Check Digit**
    - **Industrial 25 - Transmit Check Digit**
    - **Industrial 25 - Don’t Transmit Check Digit**

6. **Transmit Check Digit** - The last digit is a check digit. Perform the mathematical check using the last digit as validation. Transmit the check digit as part of the string to the host.

7. **Check Digit Don’t Transmit** - The last digit is a check digit. Perform the mathematical check using the last digit as validation, but don’t transmit the check digit to the host.

### B.20 - Standard 25

- **Set Standard 25 Factory Defaults**
- **Disable Standard 25**
- **Enable Standard 25**

**NOTES:**
- *String length must be less than 127 bytes.*
- *MAX LENGTH must be less than or equal to MIN LENGTH.*
- *If MIN LENGTH = MAXLENGTH, only that single length barcode string will be allowed.*

- **Transmit Check Digit** - The last digit is a check digit. Perform the mathematical check using the last digit as validation. Transmit the check digit as part of the string to the host.

- **Check Digit Don’t Transmit** - The last digit is a check digit. Perform the mathematical check using the last digit as validation, but don’t transmit the check digit to the host.

**Min and Max String Lengths** - To limit the length of the barcode string as a form of validation, you can set a minimum and maximum string length. These lengths include check and stop/start digits if applicable to the symbology. To set the string length:

1. Scan the Programming “ON” barcode.

2. Scan the Set Min Length barcode, then scan the digit code(s) from **Appendix G** for the number representing the minimum length.

    - **Set Standard 25 Min Code Length** *(Default = 6)*
    - **Set Standard 25 Max Code Length** *(Default = 48)*
APPENDIX B  - SP2100 2D Imager Setup Barcodes, con’t

Instructions: To change the option, first scan the Programming “ON” barcode. Then scan the Option Code. Finally scan the Programming “OFF” barcode.

Figure B.0

B.20 - Standard 25, con’t

3. Scan the Save Programming barcode.
4. Scan the Set Max Length barcode, then scan the digit code(s) from Appendix G for the number representing the minimum length.
5. Scan the Save Programming barcode, then scan the Programming “OFF” barcode.

Standard 25 may include Check Digit (not compulsory) as the last digit of the encoded string. When used, the check digit is the result of the symbology’s mathematical check of the preceding digits. Below are the options:

- **No Check Digit** - Read without performing the check using the last digit and transmit all digits. In effect, there is no check digit present.
- **Transmit Check Digit** - The last digit is a check digit. Perform the mathematical check using the last digit as validation. Transmit the check digit as part of the string to the host.
- **Check Digit Don’t Transmit** - The last digit is a check digit. Perform the mathematical check using the last digit as validation, but don’t transmit the check digit to the host.

Min and Max String Lengths - To limit the length of the barcode string as a form of validation, you can set a minimum and maximum string length. These lengths include check and stop/start digits if applicable to the symbology. To set the string length:

1. Scan the Programming “ON” barcode.
2. Scan the Set Min Length barcode, then scan the digit code(s) from Section B.29 of this Appendix (B) for the number representing the minimum length.
3. Scan the Save Programming barcode.
4. Scan the Set Max Length barcode, then scan the digit code(s) from Section B.29 of this Appendix (B) for the number representing the minimum length.
5. Scan the Save Programming barcode, then scan the Programming “OFF” barcode.

NOTES: * String length must be less than 127 bytes.
* MAX LENGTH must be less than or equal to MIN LENGTH.
* If MIN LENGTH = MAXLENGTH, only that single length barcode string will be allowed.

Plessey may include a Check Digit (not compulsory) as the last digit of the encoded string. When used, the check digit is the result of the symbology’s mathematical check of the preceding digits. Below are the options:

- **No Check Digit** - Read without performing the check using the last digit and transmit all digits. In effect, there is no check digit present.
APPENDIX B - SP2100 2D Imager Setup Barcodes, con’t

Instructions: To change the option, first scan the Programming “ON” barcode. Then scan the Option Code. Finally scan the Programming “OFF” barcode.

Figure B.0

B.21 - Plessey, con’t

- **Transmit Check Digit** - The last digit is a check digit. Perform the mathematical check using the last digit as validation. Transmit the check digit as part of the string to the host.
- **Check Digit Don’t Transmit** - The last digit is a check digit. Perform the mathematical check using the last digit as validation, but don’t transmit the check digit to the host.

Min and Max String Lengths - To limit the length of the barcode string as a form of validation, you can set a minimum and maximum string length. These lengths include check and stop/start digits if applicable to the symbology. To set the string length:

1. Scan the Programming “ON” barcode.
2. Scan the Set Min Length barcode, then scan the digit code(s) from Section B.29 of this Appendix (B) for the number representing the minimum length.

3. Scan the Save Programming barcode.
4. Scan the Set Max Length barcode, then scan the digit code(s) from Section B.29 of this Appendix (B) or the number representing the minimum length.
5. Scan the Save Programming barcode, then scan the Programming “OFF” barcode.

NOTES:
- String length must be less than 127 bytes.
- MAX LENGTH must be less than or equal to MIN LENGTH.
- If MIN LENGTH = MAXLENGTH, only that single length barcode string will be allowed.

B.22 - MSI-Plessey

- **Set MSI-Plessey Factory Defaults**
- **Disable MSI-Plessey**
- **Enable MSI-Plessey**

MSI-Plessey may include a single Mod 10 or double MOD 10/MOD10 or MOD 10/MOD11 Check Digit(s) (not compulsory) as the last digit(s) of the encoded string. When used, the check digit(s) is the result of the symbology's mathematical check of the preceding digits.
**APPENDIX B - SP2100 2D Imager Setup Barcodes, con’t**

**Instructions:** To change the option, first scan the *Programming “ON”* barcode. Then scan the Option Code. Finally scan the *Programming “OFF”* barcode.

Figure B.0

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**B.22 - MSI-Plessey, con’t**

- **MSI-Plessey - Single Check Digit, MOD 10**
- **MSI-Plessey - Double Check Digits, MOD 10/ MOD 10**
- **MSI-Plessey - Double Check Digits, MOD 10/ MOD 11**

---

**B.23 - PDF417**

- **Set PDF417 Factory Defaults**
- **Disable PDF417**
- **Enable PDF417**

- **No Check Digit** - Read without performing the check using the last digit and transmit all digits. In effect, there is no check digit present.
- **Transmit Check Digit** - The last digit is a check digit. Perform the mathematical check using the last digit as validation. Transmit the check digit as part of the string to the host.
- **Check Digit Don’t Transmit** - The last digit is a check digit. Perform the mathematical check using the last digit as validation, but don’t transmit the check digit to the host.

**Min and Max String Lengths** - To limit the length of the barcode string as a form of validation, you can set a minimum and maximum string length. These lengths include check and stop/start digits if applicable to the symbology. To set the string length:

1. Scan the *Programming “ON”* barcode.

   - **Set PDF417 Min Code Length (Default = 1)**
   - **Set PDF417 Max Code Length (Default = 2710)**

   - **NOTES:**
     - * String length must be less than 65535 bytes.
     - * MAX LENGTH must be less than or equal to MIN LENGTH.
     - * If MIN LENGTH = MAXLENGTH, only that single length barcode string will be allowed.

2. Scan the *Set Min Length* barcode, then scan the digit code(s) from *Section B.29* of this Appendix (B) for the number representing the minimum length.

3. Scan the *Save Programming* barcode.

4. Scan the *Set Max Length* barcode, then scan the digit code(s) from *Section B.29* of this Appendix (B) for the number representing the minimum length.

5. Scan the *Save Programming* barcode, then scan the *Programming “OFF”* barcode.

---

**Single PDF417 Only**

**Twin PDF417 Only**

**Single & Twin PDF417**
APPENDIX B - SP2100 2D Imager Setup Barcodes, con’t

**Instructions:** To change the option, first scan the Programming “ON” barcode. Then scan the Option Code. Finally scan the Programming “OFF” barcode.

**Figure B.0**

### B.24 - QR Code

PDF417 twin code is a combination of two PDF417 barcodes, paired either vertically (on top) or horizontally (side by side). They must be encoded in the same direction. They must have the same resolution with little white/quiet zones between them. There are 3 options for reading PDF417 twin code:

- **Single PDF417 Only:** Read either PDF417 code.
- **Twin PDF417 Only:** Read both PDF417 codes. The transmission sequence is: left (upper) PDF417 code followed by right (lower) PDF417 code.
- **Both Single & Twin:** Read both single and twin PDF417 codes.

**Min and Max String Lengths** - To limit the length of the barcode string as a form of validation, you can set a minimum and maximum string length. These lengths include check and stop/start digits if applicable to the symbology. To set the string length:

1. Scan the Programming “ON” barcode.
2. Scan the Set Min Length barcode, then scan the digit code(s) from Section B.29 of this Appendix (B) for the number representing the minimum length.
3. Scan the Save Programming barcode.
4. Scan the Set Max Length barcode, then scan the digit code(s) from Section B.29 of this Appendix (B) for the number representing the minimum length.

**NOTES:**
- * String length must be less than 65535 bytes.
- * MAX LENGTH must be less than or equal to MIN LENGTH.
- * If MIN LENGTH = MAX LENGTH, only that single length barcode string will be allowed.

### B.25 - Aztec

- **Single QRCode Only**
- **Twin QRCode Only**
- **Single & Twin QRCode**

**Set Aztec Factory Defaults**

**Enable Aztec**

**Disable Aztec**
APPENDIX B - SP2100 2D Imager Setup Barcodes, con’t

**Instructions:** To change the option, first scan the Programming “ON” barcode. Then scan the Option Code. Finally scan the Programming “OFF” barcode.

---

**B.25 - Aztec, con’t**

5. Scan the Save Programming barcode, then scan the Programming “OFF” barcode.

QR Code twin code is a combination of two QR Code barcodes, paired either vertically (on top) or horizontally (side by side). They must be encoded in the same direction. They must have the same resolution with little white/quiet zones between them. There are 3 options for reading QR Code twin code:

- **Single QR Code Only**: Read either QR Code type.
- **Twin QR Code Only**: Read both QR Code types. The transmission sequence is: left (upper) QR Code code followed by right (lower) PDF417 code.
- **Both Single & Twin**: Read both single and twin QR Code codes.

---

**NOTES:**

* String length must be less than 65535 bytes.
* MAX LENGTH must be less than or equal to MIN LENGTH.
* If MIN LENGTH = MAXLENGTH, only that single length barcode string will be allowed.

---

**Min and Max String Lengths:** To limit the length of the barcode string as a form of validation, you can set a minimum and maximum string length. These lengths include check and stop/start digits if applicable to the symbology. To set the string length:

1. Scan the Programming “ON” barcode.
2. Scan the Set Min Length barcode, then scan the digit code(s) from *Section B.29* of this Appendix (B) for the number representing the minimum length.
3. Scan the Save Programming barcode.

---

**“Number of Barcodes” for Modes 2 & 3**

1. 2.
2. 3.
3. 4.
4. 5.
5. 6.
6. 7.
7. 8.
8.
APPENDIX B - SP2100 2D Imager Setup Barcodes, con’t

Instructions: To change the option, first scan the Programming “ON” barcode. Then scan the Option Code. Finally scan the Programming “OFF” barcode.

Figure B.0

B.26 - Data Matrix

4. Scan the Set Max Length barcode, then scan the digit code(s) from Section B.29 of this Appendix (B) for the number representing the maximum length.
5. Scan the Save Programming barcode, then scan the Programming “OFF” barcode.

You can read multiple barcodes within the imager’s field of view. There are three modes:

- **Mode 1**: Read one barcode only.
- **Mode 2**: Read fixed number of barcodes only.
- **Mode 3**: Composite Reading. Try to decode the fixed number of barcodes. If failure then read one barcode only.

NOTES:

* String length must be less than 65535 bytes.
* MAX LENGTH must be less than or equal to MIN LENGTH.
* If MIN LENGTH = MAXLENGTH, only that single length barcode string will be allowed.

Data Matrix

Min Code Length  
(Default = 1)

Max Code Length  
(Default = 3116)

Programing Method: Scan the Programming “ON” barcode, then the Mode Barcode. If you scan Mode 2 or Mode 3, then scan the appropriate “Number of Barcodes” numeric code below. Then scan the Programming “OFF” barcode.

Min and Max String Lengths - To limit the length of the barcode string as a form of validation, you can set a minimum and maximum string length. These lengths include check and stop/start digits if applicable to the symbology. To set the string length:

1. Scan the Programming “ON” barcode.
2. Scan the Set Min Length barcode, then scan the digit code(s) from Section B.29 of this Appendix (B) for the number representing the minimum length.
3. Scan the Save Programming barcode.
4. Scan the Set Max Length barcode, then scan the digit code(s) from Section B.29 of this Appendix (B) for the number representing the minimum length.
APPENDIX B - SP2100 2D Imager Setup Barcodes, con’t

Instructions: To change the option, first scan the Programming “ON” barcode. Then scan the Option Code. Finally scan the Programming “OFF” barcode.

Figure B.0

B.26 - Data Matrix, con’t

Data Matrix barcodes have two formats: Square Symbols that have the same amount of elements (models / squares) within their

![Data Matrix Light Background, Dark Barcode](image)

![Data Matrix Dark Background, Light Barcode](image)

![Data Matrix Both Light and Dark Barcode](image)

B.27 - MaxiCode

![Set MaxiCode Factory Defaults](image)

![Disable MaxiCode](image)

![Enable MaxiCode](image)

5. Scan the Save Programming barcode, then scan the Programming “OFF” barcode.

A Data Matrix twin code is a combination of two Data Matrix barcodes, paired either vertically (on top) or horizontally (side by side). They must be encoded in the same direction. They must have the same resolution with little white/quiet zones between them. There are 3 options for reading Data Matrix twin code:

- **Single Data Matrix Only**: Read either Data Matrix code.
- **Twin Data Matrix Only**: Read both Data Matrix codes. The transmission sequence is: left (upper) Data Matrix code followed by right (lower) Data Matrix code.
- **Both Single & Twin**: Read both single and twin Data Matrix codes.

**NOTES:**

* String length must be less than 65535 bytes.
* MAX LENGTH must be less than or equal to MIN LENGTH.
* If MIN LENGTH = MAXLENGTH, only that single length barcode string will be allowed.

B.28 - OCR

![Set OCR Factory Defaults](image)

![Disable OCR](image)

![Enable OCR](image)

5. Scan the Save Programming barcode, then scan the Programming “OFF” barcode.

A Data Matrix twin code is a combination of two Data Matrix barcodes, paired either vertically (on top) or horizontally (side by side). They must be encoded in the same direction. They must have the same resolution with little white/quiet zones between them. There are 3 options for reading Data Matrix twin code:

- **Single Data Matrix Only**: Read either Data Matrix code.
- **Twin Data Matrix Only**: Read both Data Matrix codes. The transmission sequence is: left (upper) Data Matrix code followed by right (lower) Data Matrix code.
- **Both Single & Twin**: Read both single and twin Data Matrix codes.

**NOTES:**

* String length must be less than 65535 bytes.
* MAX LENGTH must be less than or equal to MIN LENGTH.
* If MIN LENGTH = MAXLENGTH, only that single length barcode string will be allowed.
B.29 - SP2100-2D Length Barcodes for Maximum and Minimum Barcode Length

0
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F