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Explanation of the changes between RJS D4000 Firmware version A.03/A.05 and firmware version A.06/A.07

The D4000 firmware A.06/A.07 has a number of functional changes from the previous A.03/A.05 firmware versions:

- Updated Terminology The firmware will update the terminology used in both the symbology and the sub-symbology names as listed on the Setup menu options and the printed reports
- Addition of the Decodability Percentage and Grade to the Pass/Fail Analysis Screen (Displayed after a scan is captured)
- Full GS1-128 Application Identifier Support Current D4000 units have a limit of 32 characters, and are missing some newer Application Identifiers (AIs). The new A.06/A.07 allows for the full GS1 limit of 48 data characters to be inspected and will not impose a limit on the maximum number of AIs in the bar code.
- Improvements for Interleave 2 of 5 and Code 39 ratio testing will be upgraded, to report ratio warnings in addition to ratio failures

	Ve	Version	
Setting	A.03/A.05	A.06/A.07	
Decode 3of9 as	USS 3of9	Code 3of9	
Decode I2of5 as	Case Code	ITF14 Case Code	
Decode I2of5 as	USS 2of5	Std I2of5	
Decode C128 as	N/A	Std 128	
Decode C128 as	N/A	GS1-128	
Database Storage	0-20kb 0-20kb	N/A (all Database)	

Setup Menu Options (Applies to D4000 Auto Optic and Laser)

Pass/Fail Analysis Screen (Applies to D4000 Laser ONLY)

	Version	
	A.03/A.05	A.06/A.07
Description of screen information:	Displays Bar Tolerance Chart	Displays ISO/ANSI Decodability results
Screen Examples:	*1234ABCD* Code 3of9 -100% Tol. +100% RRARR+++	*1234ABCD* Code 3of9 D/bility % .64 D/bility Grade A

GS1-128 Testing (Applies to D4000 Laser with version A.06/A.07 ONLY)

Testing Parameters

The D4000 Laser will inspect all GS1 Application Identifier (AI) content and length, this includes:

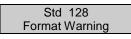
- FNC1 (Variable length Als must start with a FNC1 character)
- Multiple AI support (unlimited number of AIs in a bar code)
- Date encodation (Als with dates will be tested for proper formatting)
- GTIN prefixes (Some AIs require a prefix digit in the GTIN),
- Linked Als (Some Als require another Al to be encoded in the bar code)
- Numeric requirements (Some Als are numeric only)
- Testing to ensure 48 data characters (excludes sub-set changes) are not exceeded

FNC1 Testing

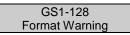
When a Code 128 symbol is decoded **AND** the first character after the Start character is **FNC1** then the symbol must follow the GS1-128 format and the verifier must have the following Code 128 sub-specifications setting:



When a Code 128 symbol is decoded with the Code 128 sub-specifications setting of **Std 128** but the first character after the Start character **is** a **FNC1** then the following error will be displayed:

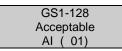


When a Code 128 symbol is decoded with the Code 128 sub-specifications setting of **GS1-128** and the first character after the Start character **is not** a **FNC1** then the following error will be displayed:



Data Content Testing

When Code 128 sub-specifications setting is GS1-128 and a GS1-128 bar code is inspected an additional screen will be inserted into the Data Analysis screens:



Example of a bad check digit in the GTIN:

GS1-128		
Bad Mod. Check		
AI (01)		

Data Content Testing (continued)

Example of an alpha-character in a numeric only AI:

Note:

If a bar code has multiple errors **only** the first error will be displayed

Example of a bar code with more than 48 data characters:

GS1-128 Exceeds 48 Chars Al (250)

Note:

If a bar code data length is exceeded, the AI that exceeded the 48 character limit will be displayed

Example of an invalid date encoded in an AI:

Note:

For Month and Year only encodes the Day may be encoded as "00"