



## RJS Online Bar Code Verifier SV Series - Product Description

The SV Series of scanner/verifiers by RJS provides both fixed position scanning and high-speed on-line ANSI method verification of linear bar codes. This unique instrument can be used for many types of bar code scanning and/or verifying applications.

The SV Series assures that bar code print quality is at an acceptable level. It checks to make sure the print mechanism has not failed or gone out of adjustment during operation. It even makes sure that the correct data is encoded and that the encoded data is in the proper format.

### The SV SERIES of SCANNER/VERIFIERS are ON-LINE VERIFIERS

The SV Series analyzes and reports virtually every verification parameter known. ANSI and Traditional print quality parameters are transmitted along with decoded data. The reported symbol quality parameters ensure the print method or complete bar code process is optimized. This is important for ISO corrective action procedures, label manufacturing and printing, tracking systems, ink jet applications and more.

### The SV SERIES of SCANNER/VERIFIERS are FIXED POSITION SCANNERS

The SV Series can operate as a fixed position scanner. But, since it also provides diagnostic bar code quality information, it can reduce system downtime and save material costs. It does this by isolating the source of the problem. Once the source of the problem is found, it can be corrected before non-readable bar codes are printed and material is wasted.

The diagnostic capability is also useful when installing the scanner or after a conveyor or printer maintenance cycle. The available print quality information gives an indication of first time read rates, optimal scanner alignment, optimal conveyor speed and optimal printer settings and adjustments. In short, everything that is needed to ensure proper set-up of a system.

### EASY SETUP / FLEXIBLE INTERFACE

The SV Series uses a serial port to interface with RJS ScanVision, a PC based software package used for set-up and monitoring. Use ScanVision for SV setup while the scanner/verifier is off line and/or use it for real-time bar code quality analysis while the scanner/verifier is operating. The unit also incorporates Model SV download language for setup without RJS ScanVision.

Five hardware outputs are available via an I/O-Power port for logic operation such as No Read, Poor Quality, Good Quality or Good Read status. Two synchronization inputs are also available for robust No Read evaluations. Two LED's are available for status indications.

The serial port can also be used without ScanVision to provide decoded data and/or bar code analysis information to a host system.

## SV Series Model Specifications

	Analyses/sec	Beam Width	Focus Distance	X dim (min)
SV100	100	6" (152mm)	8" (203mm)	.0067" (.17mm)
SV100HD	100	4.5" (114mm)	6" (152mm)	.005" (.127mm)
SV200-1	200	2.5" (63.5mm)	8" (203mm)	.0067" (.17mm)
SV200-2	200	1.75" (44mm)	6" (152mm)	.005" (.127mm)

## SV Series Scanner/Verifier - Statement of Compliance

The RJS Series of Scanner/Verifiers gathers data per the ISO/ANSI method of verification to perform practically all the industry standard bar code quality parameter calculations. These include all ISO/ANSI method parameters, PCS, ratio, X dimension calculation, modulo check digit calculations, average bar deviation, etc., along with decoding the symbol.

### Reflectance Compliance – 660 nm wavelength (red) light

The reflectance values embedded in the calibration symbol supplied with each SV unit are traceable to Applied Image Primary Verification Calibrated Standard per ANSI X3.182 Step Reflectance Chart (see note 2.) Applied Image certified Calibration Standards are manufactured to Applied Image, Inc. and Uniform Code Council, Inc. specifications, using ANSI X3.182-1990 methodology, and are calibrated using standards traceable to the National Institute of Standards and Technology (N.I.S.T.)

### ISO/ANSI Method Compliance

The RJS SV Series gathers data and performs all ISO/ANSI method parameter calculations per the ISO/IEC 15416 and ANSI X3.182-1990 methodologies with a few special considerations and exceptions. The SV Series also conforms to ISO/IEC 15426-1 per the requirements specified in Section 2. The exceptions and considerations are related to the instrument's design and mission. The design incorporates a proprietary analog laser scanner that can be assembled with various focus lengths to produce different beam spot sizes. The mission is to not only analyze bar code quality, but also to detect any printer failures, process failures or media problems. For maximum performance and to conform to quality specifications, a fixed mounting distance and angle are required. A beam spot size able to detect errors of the particular print method is highly recommended. This beam spot size used may or may not correspond to the recommendations in various specifications that it be related to the X dimension of a particular symbol, but instead correspond to the printer's resolution or some other parameter(s) critical in the application. A major philosophy of an on-line verification system is; if the printer and/or process is operating correctly and the media has proper reflectance properties, the best print quality for that particular print method and material is achieved by definition.

### Special Considerations

The SV Series can be calibrated to practically any reflectance standard. Internal high and low calibration reflectance normalization settings are user programmable via commands.

1. Final system tests are performed at the proper focus distance and at an angle of 22 degrees. Units with common focus distances are checked to yield analysis results within +/- 4 % of all target values except +/- 3% for the Rmin calculation.
2. SV models with an 8 inch focus distance have a spot size that gathers light equivalent to a 6 mil round aperture. For these models, final test includes analyzing UPC symbols on the Calibrated Conformance Standard Test Card for EAN/UPC Symbol Verifiers. Results are checked to be within +/- 4% (+/- 3% for Rmin) of the marked values on the test card. SV100 and SV200-1 are examples of models with a focus distance of 8 inches.
3. SV models with an 15 inch focus distance have a spot size that gathers light equivalent to a 10 mil round aperture. For these models, final test includes analyzing UPC symbols on the Calibrated Conformance Standard Test Card for Use with 10 mil Apertures Only UCC/EAN 128 Master. Results are checked to be within +/- 4% (+/- 3% for Rmin) of the marked values on the test card. The SV100C has a focus distance of 15 inches.
4. All SV Series units use the same laser diode with wavelength of 660 +/- 10 nm. Therefore, any ISO/ANSI overall symbol grade calculated by an SV Series unit includes 660 as the wavelength portion of the grade.
5. The laser spot size of an SV unit is reported by the status of the -HX### command.  
HX070 – HX085 = 6 mil spot size  
HX060 – HX070 = 4 mil spot size  
HX140 – HX160 = 10 mil spot size.

Contact The Danby Group for details on other settings, as these may be custom.

### Exceptions to the ISO/ANSI method

1. The Defects calculation does not include the quiet zone area. A separate quiet zone check is implemented to easier isolate print problems vs. setup problems in an on-line environment.
2. A laser spot is used instead of a round aperture. The spot size is dependent on the focus distance of the unit's optical system. See Special Considerations section 6 for standard spot sizes.

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