Multi-purpose Bar Code Workstation

(Catalog No. 2755-DH1)

Product Data

Overview

The Catalog Number 2755-DH1 Multi-purpose Bar Code Workstation is a dedicated bar code decoder that supports one of many Allen-Bradley attended scanning devices. These devices include hand-held laser scanners (guns), wands and slot scanners, In addition, you can use a stop-n-scan scanner Catalog No. 2755-LD1 & LD2) for unattended scanning.

The decoder is ready to use *right out of the box*. The default configuration will support many applications. You can customize its operation by sending it escape sequences from the host, or by scanning the configuration bar code symbols supplied in the User Manual.

The decoder's *Host Computer port* is used by the:

- decoder to send decoded bar code data to the host for processing
- host computer to display the configuration screen
- host computer to send messages to Display Terminal
- host computer to download commands (escape sequences) to the decoder

A *Display Terminal port* is also supplied to:

- view decoded information
- view the decoder's configuration
- enter supplemental information
- enter bar code data to the host in case a symbol cannot be read by your system
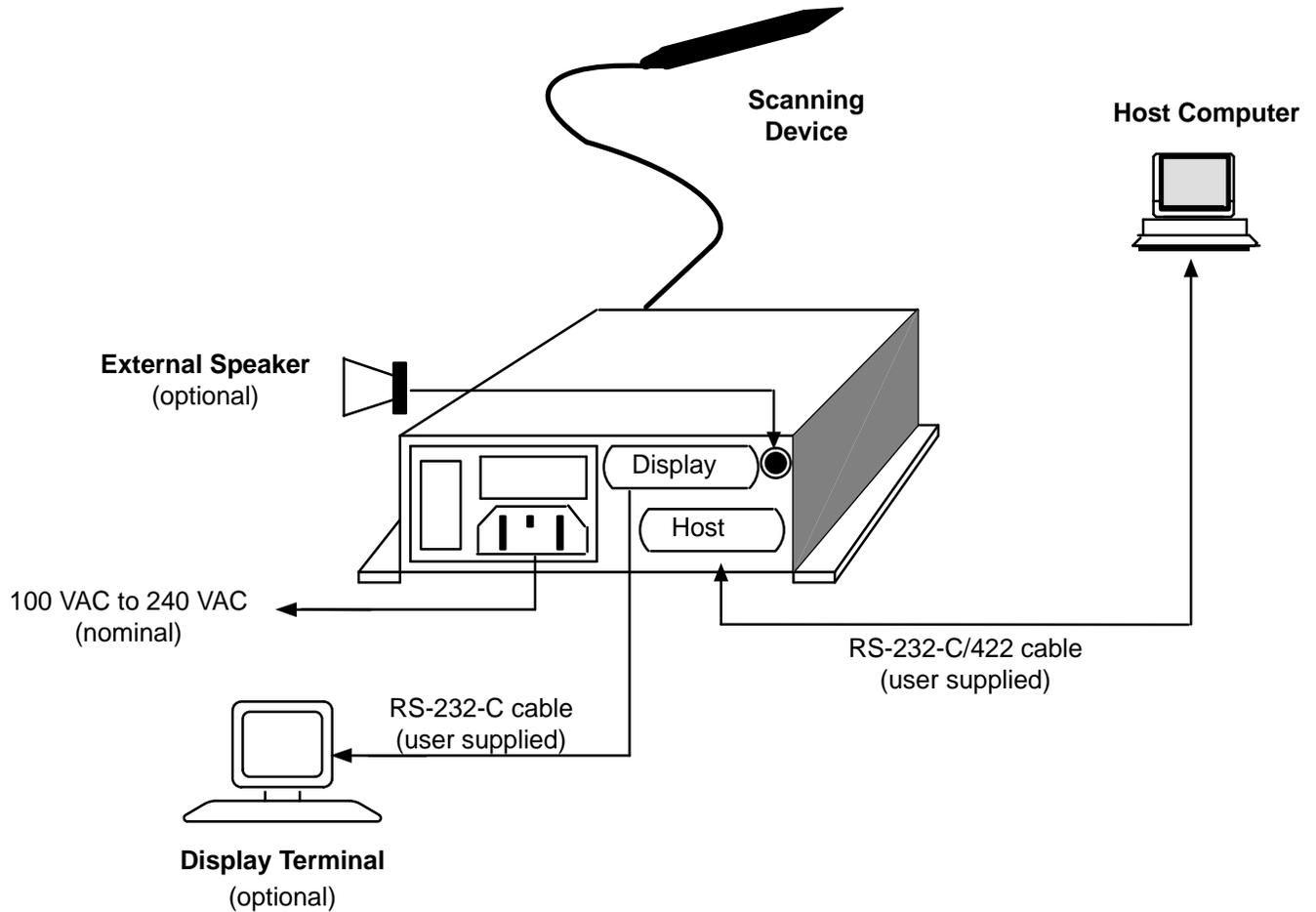
Features

The features of the decoder are as follows:

- integral power supply used to power the decoder and scanning device. It accepts input voltages from 100 to 240 Volts AC
- autodiscrimination of the following symboloigies:
  ▶ Code 39
  ▶ Interleaved 2 of 5
  ▶ UPC and UPC with supplemental digits
  ▶ EAN and EAN with supplemental digits
  ▶ Codabar
  ▶ Code 128
  ▶ Code 11
- programmable by bar code symbols or escape sequences
- nonvolatile memory (EEPROM) used for storing configuration parameters
- full duplex RS-232-C or RS-422 port for communication with a host computer
- separate RS-232-C port for communication to a display terminal
- LED indicators to monitor system status and assist in programming
- built-in speaker with variable volume
- external speaker jack
- automatic laser scan shutoff
- detachable IEC 320 power cable
- compatibility with a variety of scanning devices including hand-held laser scanners, wands and unattended scanners
- NEMA 1 steel enclosure
- designed to meet UL and CSA standards
- label on bottom provides a quick reference guide to connector pinouts

Typical Setup

Illustrated below is an example of the decoder's connectivity.

Scanning Device

Host Computer

External Speaker (optional)

Display

Host

100 VAC to 240 VAC (nominal)

RS-232-C/422 cable (user supplied)

RS-232-C cable (user supplied)

Display Terminal (optional)

Applications

The decoder can be used for the manual (attended) scanning of data into RS-232-C or RS-422 host devices. Host devices include display terminals and IBM compatible computers.

Typical attended applications include:

- distribution
- receiving
- production control

- kitting
- tracking
- records management

Typical unattended applications include:

- sorting
- product verification
- automated storage and retrieval

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Changing the Default Configuration

The decoder's configuration may be changed by either sending an escape sequence from the host computer to the decoder or by scanning a series of configuration bar code symbols.

Escape Sequences

Commands are sent to the decoder as groups of characters beginning with the ASCII escape character Esc. These characters are referred to as escape sequences. Each escape sequence has the following format:

Esc – y   <n>   <alpha>   <optional>

where:

Esc   is the ASCII escape character (hexadecimal 18 or decimal 27).

–   is an ACSII '–' character (hexadecimal 2D or decimal 45).

y   is a lower case ASCII 'y' character (hexadecimal 79 or decimal 121).

< n >   is a decimal number, one or two ASCII digits.

< alpha >   is an ASCII letter of the alphabet, usually upper case. The exception is when using it in a string, known as a concatenated sequence.

< optional>   is supplemental character data, or optional data used for concatenating, or stringing, several escape sequences together.

Some escape sequences control more than one function, depending on the value you substitute for < n >.

For example, the escape sequence Esc – y <n> Z will either reset the decoder, or store the current configuration in EEPROM.

Esc – y 1Z resets the decoder

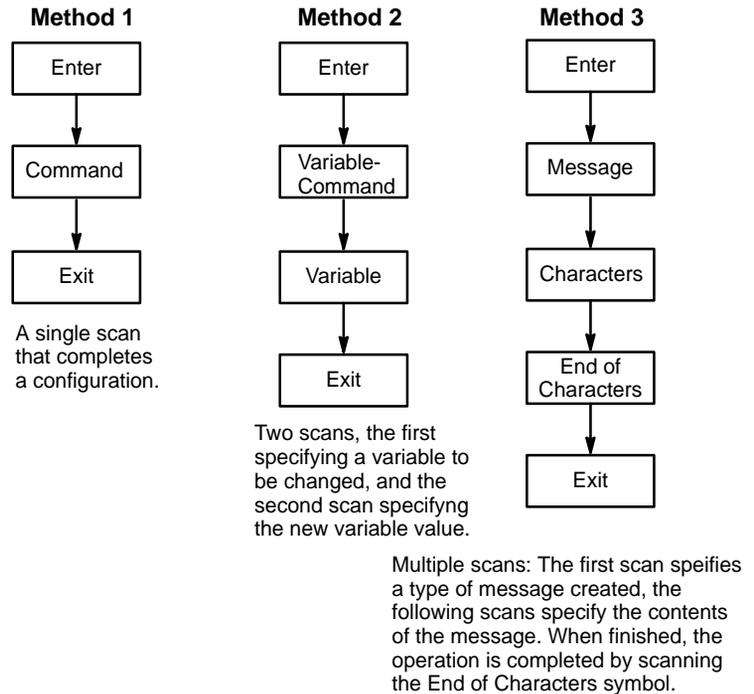Esc – y 5Z stores the current configuration in EEPROM

Escape sequences may be sent independently, or concatenated and sent as one long string of commands from the host. These commands may also be kept in batch commands for later execution.

The concatenated escape sequence Esc – y 5f 9g 1X changes the configuration to the following:

- selected codes UPC and Code 39 (5f)
- Code 39 check characters are verified and transmitted (9g)
- XON/XOFF pacing is enabled (1X)
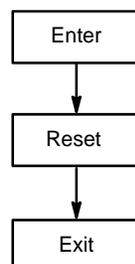
Configuration Bar Code Symbols

When using the configuration bar code symbols, there are three methods of configuration:

Method 1	**Method 2**	**Method 3**
Enter	Enter	Enter
↓	↓	↓
Command	Variable-Command	Message
↓	↓	↓
Exit	Variable	Characters
	↓	↓
	Exit	End of Characters
		↓
		Exit

A single scan that completes a configuration.

Two scans, the first specifying a variable to be changed, and the second scan specifyng the new variable value.

Multiple scans: The first scan speifies a type of message created, the following scans specify the contents of the message. When finished, the operation is completed by scanning the End of Characters symbol.

In the following example, we will reset the decoder by scanning the following three configuration bar code symbols:

- Enter Configuration Mode
- Reset
- Exit Configuration Mode

Although we are not showing the actual bar code symbols, the flow chart shown below represents the order in which to scan the symbols. In some cases, there is more than one flow chart illustrating the different ways to implement a command.

Enter
↓
Reset
↓
Exit

Flow charts like this one appear in the User Manual next to each configuration bar code symbol. These flow charts show the order in which you should scan the symbols.

Specifications

Electrical

Input Line Voltage:	90-264 VAC, 50/60 Hz
Operating Current	0.5 Amp maximum
Power Consumption	40VA maximum
External Speaker Impedance	4-32 Ohms

Mechanical

Enclosure	NEMA 1 steel enclosure
LED Indicators	• Power
	• Laser On
	• Valid Read
	• Transmitted data
	• Received data
	• Laser scanner mode
Weight	4 lbs. 4 oz. (2.0 kg).
Physical Dimensions	8"L x 8"W x 2–1/4"H (20.3 x 20.3 x 5.7 cm).

Environmental

Operating Temperature	0° to 40°C (32° to 104°F)
Storage Temp.	–40° to 85°C (–40° to 185°F)
Relative Humidity	95%, noncondensing.
Vibration	2.5 Gs, 0 – 2000 Hx, 3 axis, operating or 5Gs nonoperating
Shock	30 Gs, maximum, operating 50 Gs nonoperating
Regulation Compliance	Designed to meet UL and CSA requirements

Decoding Capabilities

Autodiscriminating	Yes
Code Types	• Code 39
	• Extended Code 39 (full ASCII)
	• Interleaved (2 of 5)
	• Codabar
	• UPC–A, UPC–E, EAN–13, EAN–8 (with 2– and 5– character supplements)
	• Code 128
	• Code 11

Communications

Stop bits   1 or 2
Data bits   7
Parity
- 0's (space)
- 1's (mark)
- even
- odd

Baud Rate
- 600
- 1200
- 2400
- 4800
- 9600
- 19.2K

Electrical Standard

Host Computer Port   • RS–232–C or RS–422
Display Terminal Port   • RS–232–C

Product Data
Multi-purpose Bar Code Workstation

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