

PRODUCT BULLETIN

Software Feature

MICROSCAN

MS-850 Daisy Chain

Used with multiple scanners when you need to locate bar code on different sides of packages *or* on the same side of packages, but in both the picket fence and ladder orientation.



MS-850

Important ordering information:

The Daisy Chain software feature is readily available with the scanners listed below. Please note the FIS number when ordering. If you are interested in using the Daisy Chain software with a different model/option, please call Microscan at **(425) 226-5700**.

MS-850 Scanner

The MS-850 is an industrial laser based raster scanner. Standard options include high density (HD), standard density (SD), or low density (LD) optics.

- ◆ Visible, LDFIS-0850-0001
- ◆ Visible, SDFIS-0850-0002
- ◆ Visible, HDFIS-0850-0003
- ◆ Visible, SD, Code 49, Pharmacode softwareFIS-0850-0004

Daisy Chain is also available with MS-710, MS-810, MS-7100/7180, and Quadrus™ readers. Note, however, that cable connections and pinouts will vary by model. Contact Microscan for more information.

MS-710 Scanner

Standard options for the MS-710 include a single or raster scan line, right angle down mirror (RAD), MS-sensor, top mount (TM), low density (LD), or high density (HD) optics, and RS-232 or RS-422/485 communications.

When using Daisy Chain with the MS-710 an IB-105 interface box is required (P/N 99-42000-XX).

MS-810 Scanner

Standard options for the MS-810 include a single or raster scan line, top mount (TM), low density (LD), or high density (HD) optics, and RS-232 or RS-422/485 communications.

MS-7100/7180 Scanners

The MS-7100 is a single line visible laser scanner while the MS-7180 scanner has a sweeping raster pattern and a visible laser. Their standard options are low density (LD), high density (HD), or ultra high density (UHD) optics.

Quadrus™ Reader

Standard options for the Quadrus™ 2D code reader include low density (LD), high density (HD), or ultra high density (UHD) optics.

The daisy chain option allows you to connect additional scanners through the auxiliary port using the Slave Mode setting. The scanners—when connected to a single serial port—are treated as a single unit by the host. This software option is complete with full screen menus and host download commands.

Features

Scanner ID: this option is available in standard software and allows up to two preamble characters to be entered. The preamble will be attached to the scanned data for each scanner. This feature is designed to give users ability to detect which MS-850 read the bar code in Daisy Chain mode.

Cascading Trigger: this option uses just one trigger for the master scanner and subsequently serially triggers the slave scanners.

Daisy Chain Accessory Cable: this 3-ft. cable supports both the MS-850 and Quadrus™ readers. The part number is 61-130029-01.

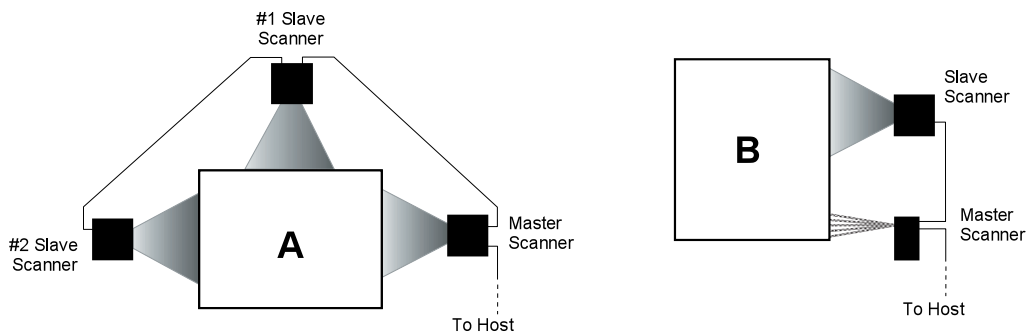
USING DAISY CHAIN

Required Settings for a Slave Scanner

Postamble = CR (^M)
 Postamble = Enabled
 Field Separator = matches the master scanner's setting
 Serial Trigger Character = matches the master scanner's setting
 Noread message should be disabled

NOTE: The field separator must be the same for the master scanner and all scanners in Slave Mode.

The drawings below illustrate how Daisy Chain can be used. The "A" setup positions three scanners each in the ladder orientation around the package to detect data on any one of the sides. The "B" setup positions two scanners on one side of the package, but in different orientations to capture both ladder and picket fence oriented labels.



Timing is a key component of Daisy Chain. Correct timing enables data to be transferred from the last slave scanner up line through the master scanner to the host, allowing multiple scanners to seemingly function as one. However, each complete transaction must occur within a small window of opportunity since scanners will only accept and send data during their read cycle and up to 20 ms after the end of their read cycle. The Noread message should be disabled in all units except the master. If a scanner receives a complete message in time it sends the message up line (or to the host if it is the master scanner).

RS-232 Transmission Delay Considerations: In the Daisy Chain setup, the last slave scanner has the shortest timeout period, while the master scanner has the longest. The master scanner should time out approximately 50 ms to 100 ms after the slave #1 scanner. The slave #1 scanner should time out approximately 50 ms to 100 ms after the slave #2 scanner, and so on. (For a 50 ms time lapse, where slave #2's timeout equals t , slave #1's timeout would equal $t + 50$ ms, and the master scanner's timeout would equal $t + 100$ ms.) When estimating timeout periods, note that baud rate and cable length will affect the transmission speed and therefore will also affect the timing in the chain. It is best if the slave scanners use the same trigger source and setting as the master scanner.

If using more than one label, field separators are necessary to separate each label and are used by the master scanner to count the number of labels received at the aux port. The master scanner must read and receive no less than the number of bar codes set in Number of Labels (it can read more without incident). If it reads less, it will interpret the aux data it receives as the missing labels and will add a noread message to the data for each label missing.

Triggering can be done externally, as shown in the diagram below, or serially. Each serial trigger command received by the master scanner is relayed via the RS-232 cable down the chain.

CABLE CONNECTIONS

MS-850 Host Connector

Pin	Function
1	ground
2	host, RS-232 Tx
3	host, RS-232 Rx
4	aux, RS-232 Tx
5	aux, RS-232 Rx

