Addendum for 4MB JANUS User Manuals

With release 4.05, several significant changes were made to the JANUS software. These changes include:

- MSI, Plessey, Code 16K, and Code 11 symbologies were removed to make room for the new ISBT Code symbology. The removed symbologies are still available if you load an older version (Release 4.04 or earlier) of the decoding and configuration system on your JANUS device.

  To restore the removed symbologies, you must load DECSCAN.EXE, CFGUMA.EXE, LOADUMA.EXE, RSERUMA.EXE, IC.EXE, and IC001.DAT on Drive D of your JANUS device.

- The manual viewporting function now supports true manual viewporting. Earlier versions of the JANUS software set viewport movement to automatic when a DOS program was executed.

- The autobacklight function was modified and now allows you to turn on the backlight when a key on the keyboard is pressed.

- You can now use the MakeDisk utility to extract individual files from a JANUS image file.

This information supplements the information provided in your JANUS user's manual. Please keep this addendum with your user's manual.

Code 128 Enhancements

Purpose: Enables, disables, or configures decoding of Code 128 symbology. Code 128 is a very high density alphanumeric symbology that supports the extended ASCII character set. It is a variable length, continuous code that uses multiple element widths.

Default: Standard

Syntax: CH*data*

Acceptable values for *data* are:

0	Disabled
1	Standard Code 128
2	UCC/EAN Code 128
8	ISBT Code 128

Scan: One of these bar codes:

Disable Code 128

||||||| ||| ||||| |||||| |||| ||| ||||| |||

$+CH0

Enable Standard Code 128

| |||||| | ||| | ||||| ||||| |||| ||| ||||

$+CH1

Enable UCC/EAN Code 128

| ||||||| | ||| ||||| ||||| |||| ||| |||

$+CH2

Enable ISBT Code 128

| ||||| | ||| | ||||| ||||| |||| ||| ||||

$+CH8

Standard Code 128

If you configure Standard Code 128, the reader does not decode Function Code 1 characters in the first position of a bar code label. Any subsequent Function Code 1 characters are translated to the ASCII GS character as a separator for variable length fields.

UCC/EAN Code 128

If you configure UCC/EAN Code 128, the reader decodes a bar code label as Standard Code 128 unless the first two characters are a start character and a Function Code 1 character. If the first two characters are a start character and a Function Code 1 character:

1. The Function Code 1 character is not transmitted.

2. The three symbology ID characters,]C1, are transmitted.

3. The remaining Code 128 characters are decoded as Standard Code 128.

ISBT Code 128

You can also configure your JANUS device to perform other functions when you use ISBT Code 128. You can set these parameters with Code 39 bar codes, through the JANUS configuration application (IC.EXE), or using Code 128 symbology. Spacing between concatenable bar codes must be between 2 and 5 character widths.

For more information on ISBT Code 128, refer to the *ISBT 128 Bar Code Symbology and Application Specification for Labeling of Whole Blood and Blood Components* prepared by the International Council for Commonality in Blood Banking Automation.
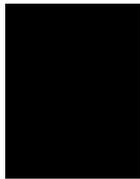
Configuring ISBT Code 128 With Code 39 Bar Codes

The following Code 39 configuration bar codes are processed in any Code 128 mode, but only effect reader operation in ISBT Code 128 mode. Bar codes may be truncated as desired.

Syntax: CH8*ABCDEF*

Character	Value	Description
A	0	No symbology identifier.
	1	Symbology identifier enabled (Default). Output of]C0 indicates a single ISBT 128 bar code was read. Output of]C4 indicates that a pair of ISBT Code 128 bar codes was read.
B	0	No concatenation (Default).
	1	Restricted concatenation enabled.
C	= or &	Left bar code, primary data identifier to be matched for restricted concatenation (Default is =).
D	See List*	Left bar code, secondary data identifier to be matched for restricted concatenation (Default is W).
		*Valid secondary identifiers are upper and lower case A through Z, 0 through 9 , ! " $ % & ' ( ) * , - . / : ; < = > ? and _.
E	= or &	Right bar code, primary data identifier to be matched for restricted concatenation (Default is =).
F	See List*	Right bar code, secondary data identifier to be matched for restricted concatenation (Default is %).
		*Valid secondary identifiers are upper and lower case A through Z, 0 through 9 , ! " $ % & ' ( ) * , - . / : ; < = > ? and _.

Scan: One of these bar codes:

No Symbology Identifier

$+CH80

Symbology Identifier Output

$+CH81

No Identifier/No Concatenation

$+CH800

No Identifier/Restricted Concatenation

$+CH801

Identifier/No Concatenation

$+CH810

Identifier/Restricted Concatenation

$+CH811

Note: Primary and secondary data identifiers are used for restricted bar code concatenation purposes only. For example, only bar codes with data identifiers matching the configured data identifiers will be concatenated. Spacing between concatenable bar codes must be between 2 and 5 character widths.

Configuring With Code 128 Bar Codes

You can also configure the reader using Code 128 bar codes. Configuration commands must be in the exact format shown below:

Syntax: *=&F3CDEFmmtuv*

| Character	Value	Description
=	=	Primary data identifier.
&	&	Secondary data identifier.
F3		Code 128 Function 3 character.
C	= or &	Left bar code, primary data identifier to be matched for restricted concatenation (Default is =).
D	See List*	Left bar code, secondary data identifier to be matched for restricted concatenation (Default is W).
		*Valid secondary identifiers are upper and lower case A through Z, 0 through 9 , ! ” $ % & ’ ( ) * , - . / : ; < = > ? and _.
E	= or &	Right bar code, primary data identifier to be matched for concatenation (Default is =).
F	See List*	Right bar code, secondary data identifier to be matched for concatenation (Default is %).
		*Valid secondary identifiers are upper and lower case A through Z, 0 through 9 , ! ” $ % & ’ ( ) * , - . / : ; < = > ? and _.
mmt	000 - 999	Approximate time (in milliseconds) that the JANUS device will scan, attempting to concatenate both bar codes before returning a single unconcatenated bar code. Maximum time is 999.
		000 implies one scan, 999 implies 24 scans.
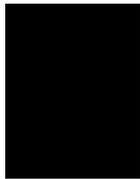
| Character	Value	Description
u	t	Must be a lower case t or the time value is ignored.
v	0 or 1	Use 0 to disable restricted concatenation. Use 1 to enable restricted concatenation.

Scan: One of these bar codes:

Concat. Donation ID # and ABO/Rh Grou

|||||||||||||||||||||||||

= & ³ = W = % 1 4 0 t 1

Concat. Manuf. ID/Container and Lot #

|||||||||||||||||||||||||

= & ³ =) &) 2 0 0 t 1

Configuring With IC.EXE

You can also configure your JANUS device using the Interactive Configuration application (IC.EXE). Access the Code 128 configuration screen from the Sym menu (bar code symbologies) of the Interactive Configuration application.

```
        CONFIGURATION
          Code 128

Enable: Standard

ISBT Configure:
   L Data ID Pri:  =
   L Data ID Sec:  W
   R Data ID Pri:  =
   R Data ID Sec:  %
Concaten : Disable
Symbol ID: Enable

    OK              Cancel
?   ↓      ↑
```
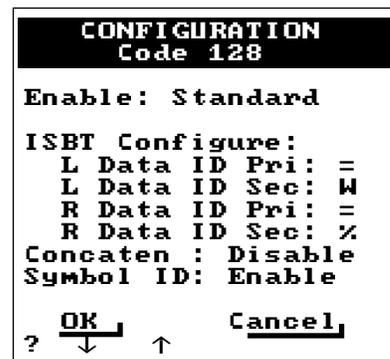
20X0A.050

You can set the following parameters on the Code 128 configuration screen.

Enable   Use the ◀ or ▶ key to toggle between Standard, ICC/EAN-128, ISBT, and Disabled (Default is Standard).

L Data ID Pri   Left bar code, primary data identifier to be matched for restricted concatenation (Default is =). The other valid data identifier is &.

L Data ID Sec   Left bar code, secondary data identifier to be matched for restricted concatenation (Default is W). Valid secondary identifiers are upper and lower case A through Z, 0 through 9 , ! " $ % & ' ( ) * , - . / : ; < = > ? and _.

R Data ID Pri   Right bar code, primary data identifier to be matched for restricted concatenation (Default is =). The other valid data identifier is &.

R Data ID Sec   Right bar code, secondary data identifier to be matched for restricted concatenation (Default is %). Valid secondary identifiers are upper and lower case A through Z, 0 through 9 , ! " $ % & ' ( ) * , - . / : ; < = > ? and _.

Concaten   Use the ← or → key to toggle between Disable and Enable matched for the restricted concatenation feature (Default is Disable).

Symbology ID   Use the ← or → key to toggle between Enable and Disable for the symbology identifier feature.

Manual Viewport Changes

The JANUS display driver subsystem was modified to fix a problem with the manual viewport movement function. Earlier versions (before release 4.05) of the JANUS software set the viewport to follow the cursor when a program was started from the DOS prompt.

With release 4.05, the display driver subsystem allows you to force the viewport follow cursor mode to follow the state you set using Configuration Manager. You can only access this feature through a new set of enable/disable commands that are used in your application.

You can only access the new commands through software interrupt 7E (hex). You must use application calls to the appropriate software interrupt to enable or disable this feature.

Use command 23 (dec) to force the viewport follow cursor mode to NOT change when you invoke a DOS program. Use command 24 (dec) to return the JANUS software to its original state.

Sample Code to Enable Manual Viewport Mode

```
_asm {
        mov ah,23           ; Enable True Manual Service Code
        mov al,0x00         ; Function Code
        int 0x7e            ; Display Interrupt
}
```

Sample Code to Disable Manual Viewport Movement

```
_asm {
        mov ah,24           ; Disable True Manual Service Code
        mov al,0x00         ; Function Code
        int 0x7e            ; Display Interrupt
}
```

Autobacklight Enhancements

An autobacklight function has been added to provide the capability of turning the backlight on when you press a key on the keyboard or press the trigger. The backlight then shuts off automatically based on the backlight timeout value.

This enhancement was implemented by incorporating two new functions to the miscellaneous video services interrupt backlight subfunction (interrupt 79 hex, subfunction 01). The Interrupt Services Routine (ISR) for interrupt 09 (keyboard) was modified to call the display interrupt every time you press a key. The trigger interrupt routine was also modified to call the display interrupt. You must use application calls to the appropriate software interrupt to enable or disable this feature.

Sample Code to Enable Autobacklight

```
_asm {
        mov ah,0x01        ; Backlight Services Subfunction
        mov al,0x08        ; Autobacklight Control Function Code
        mov bl,0x01        ; Enable
        int 0x79           ; Misc Video Services Interrupt
}
```

Sample Code to Disable Autobacklight

```
asm {
        mov ah,0x01        ; Backlight Services Subfunction
        mov al,0x08        ; Autobacklight Control Function Code
        mov bl,0x00        ; Disable
        int 0x79           ; Misc Video Services Interrupt
}
```

Using the New MakeDisk Option

A new MakeDisk option allows you to extract files from the image file loaded on a JANUS device. You can then modify the files and download a new image to the JANUS device. This eliminates one step in the process of creating and downloading a drive C or D image.

The following table compares the old method of changing drive C or D with the new MakeDisk option.

Old Method	Using the New MakeDisk Option
1. Connect the JANUS device to the host PC using and appropriate serial device.	1. Connect the JANUS device to the host PC using and appropriate serial device.
2. Use Interlnk and PutDisk to load the image file from the PC to the JANUS device.	2. Use MakeDisk /x to expand files from the drive C or D image file loaded on the host PC.
3. Copy files from the JANUS device back to the host PC.	3. Modify the files on the host PC.
4. Modify the files on the host PC.	4. Use MakeDisk to create the new drive image.
5. Use MakeDisk to create the new drive image.	5. Use PutDisk to load the image file onto the JANUS device.
6. Use PutDisk to load the image file onto the JANUS device.	

Type the following to extract files from a drive image file.

```
makedisk /x {/o=[output file] /s=[source path] /r=[report]}
```

where:

output file   specifies the full path and name of the image file to create. The default is the current directory \XDRIVE.

The output file parameter is optional.

source path   specifies the location of the image file. The default is the current directory \DRIVE_C.IMG.

The source path parameter is optional.

report   report version information from the image file, no extraction is performed.

The report parameter is optional.