![FoxJet - An ITW Company logo]

BoxWriter™
User's Manual
Version 3.2
For
FXJet™ Marksman®

![BoxWriter™ logo]

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Contents

Introduction

This manual can be found in the software under Help/User's Manual.
(Manual can only be accessed on-line when logged in.)

FXJet Marksman

The FXJet Marksman is a high-resolution ink jet printing system with a 586-computer platform that can store and retrieve up to 100,000 tasks and a graphical user interface that makes it very easy to create, place, and execute tasks.

It prints alphanumeric tasks up to 40 inches in length and bar codes including I-2 of 5, Code 128, Code 39, EAN 13, EAN 128, and UPC at up to 250 feet per minute. Date, time, shift, and count capabilities are standard features with every system, and an RS-232 port is provided for connection with a variety of user-supplied equipment. There are LED's and alarms on the system monitor screen for high voltage, low temperature, low ink, and out of ink conditions. It can be set up to serve one or more packaging lines as a single unit or a networked system.

You can use a variety of printheads including the UJII 96/32, UJII 192/32, UJII 352/32 and AlphaCoder. Inks are available in red, blue, green, and black.

Components

Printer

A 586-computer platform utilizing standard and custom Windows™ software, standard interfaces RS-232 and RS-422, and a graphical user interface for creating and editing tasks.

Printheads

Each printer can control up to six printheads that can be purchased with it or added later. The printheads operate at approximately 140°F (60°C) and can cause burns if touched. Always allow the printheads to cool before handling. Never touch or clean the orifice plates on the printheads with anything except lint-free cloths. Fibers from other wipes can destroy the print orifice plate and will void your warranty.

Display

VGA LCD touch screen.

Keypad

Standard 81-key keyboard.

Printhead Cables

Available in 10, 25, and 50-foot lengths.

Printhead Mounting Brackets

Used to mount the printheads to the conveyors.

<u>Optional Accessories</u>

Printheads

Up to six printheads can be added to the FXJet Marksman.

External Encoders

The external encoder is mounted to the conveyor to track the belt speed. When printing barcodes, it is recommended that you use an external encoder.

Strobe Light

The strobe light is an indicator of error conditions.

Differential Cable

The differential cable passes a photocell and/or encoder signal from one printer to another. Practical limitations restrict passing the photocell signal more than one or two times.

Software Installation

Insert the Marksman Software installation into the machine and go to the Start menu. Select Run. Type "A:\Setup" (without quotes where "A" is applicable drive letter) in the space and click OK.

When the setup program is started, the Microsoft® installation wizard will guide you through the installation process. You will be instructed to close all other programs and agree or disagree with the software license (If you disagree, the software will not be installed).

Choose which software to install.

BoxWriter Host

> Choose this option if the computer, on which the software is being installed, is the designated host for the networked system.

BoxWriter Workstation

> Choose this option if the computer, on which the software is being installed, is to be designated as a workstation. Upon starting the software, the system will prompt the user as to whether the workstation software should be ran in networked or standalone mode.

Marksman Printer

> Choose this option if the printer, on which the software is being installed, is to be designated as a printer. Upon starting the software, the system will prompt the user as to whether the printer software should be ran in networked or standalone mode
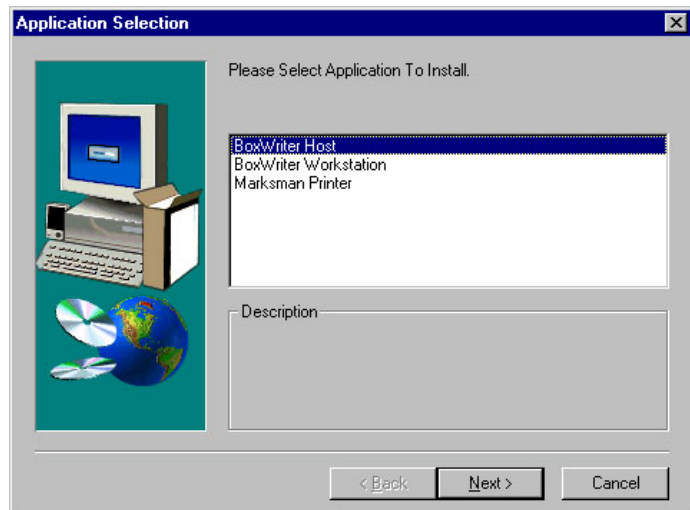
✦ The FXJet Marksman Printer

Networked and Stand-Alone

Initial Boot

Upon initial boot of the Marksman Printer, the software will prompt you whether you wish to run the Networked or Standalone version of the software.

If you choose to run the network version, the software will try to connect to a BoxWriter Host system.

If you choose to run the standalone version, the software will run the standard Marksman software.
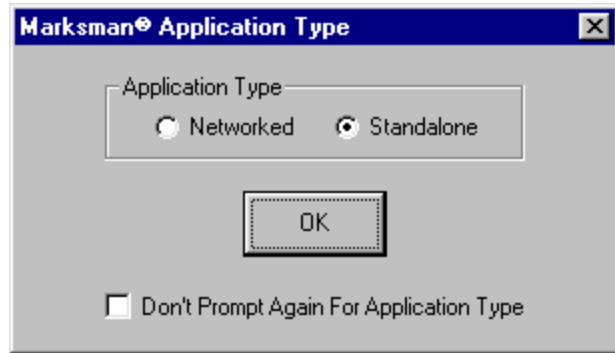
In either case, if you choose to select the "Don't Prompt Again for Application Type" option, the software will not prompt you again to choose the application type. Please keep in mind that the two versions of the software use separate databases.

Overview

The monitor screen displays green LED's for heads that are installed and active, grayed LED's for heads that are installed but not on, and dots where there are no heads installed.

The main screen, shown on the right, displays a common setup that includes two heads engaged in a split task operation. For more information on Split Task mode and Split Task view, see the Split Task section of this manual.
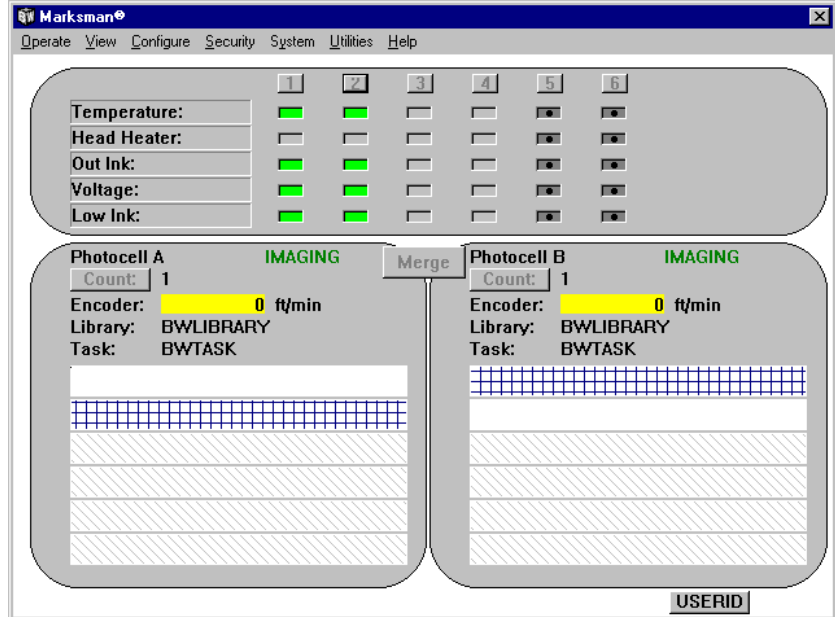
<u>Security</u>

Login

To log in to either a networked or stand-alone system, click on Security and select Login. You can also click on the USERID button at the bottom of the screen, or you can use the keyboard shortcut, Ctrl+L, to open the login box. In order to prevent an accidental log out, there is no button for this function.

To log in the first time, click inside the box beside User Name and type the default username, **MARKSMAN**. Next, click inside the box beside password and type **MARKSMAN**. Once you have logged on to the printer, you may create a personalized username and password as explained in the Security/Modify section.

Modify

> **Warning: Be sure you do not delete all users with Supervisor, Administrator, and Security privileges. The system will allow you to delete all of these users, which will leave you with no means to administer your system.**

Adds, deletes, or modifies user information such as User Name, Password, and Access Level. Only the Password and/or Access Level may be changed for an existing user. To add, delete, or modify user information, click on Security and select Modify. The screen at right is displayed.

User Name

To add, edit, or delete a username, type in the name or use the arrow key in the box to locate a particular username.

Password

Type the password to enter or change in the password box.

Access Level

Click on an access level to assign it to a particular user. The five default access levels are:

Operator – has access to Start Task, Stop Task, Idle Task, Resume Task, Print Test Pattern, Change Count, Input Data, User Manual, Log Off, Exit Printer, Reset Strobe, Reset Scanner Count, and Exit Workstation.

Programmer - Same as Operator with the addition of Change Head Delays and Edit Task.

Administrator - has access to all functions except: Update User Info, Change Security for Commands, Change Security Options, Change Host Configurations, Change System Options, Host User Access Reports, Host Clear Pending, and Change Advanced Host Options.

Supervisor - has access to all functions except: Change System Options and Change Advanced Host Options.

Security - has access to Update User Info, User Manual, Log Off, Change Security for Commands, Change Security Options, and Host User Access Report.

The Save button saves the information entered. The Delete button deletes the selected user. The Exit button closes the Security/Modify user box.

Logout

When you are finished using the Marksman System, open the Security menu and click on Logout. This will render the system unresponsive to user input until someone else logs in again.

Commands

Allows you to assign functions to the various access levels. For instance, if you want an operator to have task start and stop capabilities only, you could assign the Operator an access level with those functions and remove all others.

Options

Allows you to add five more access level options (for a total of ten) to the Modify Users dialog box. This allows you to customize the software to meet your needs.
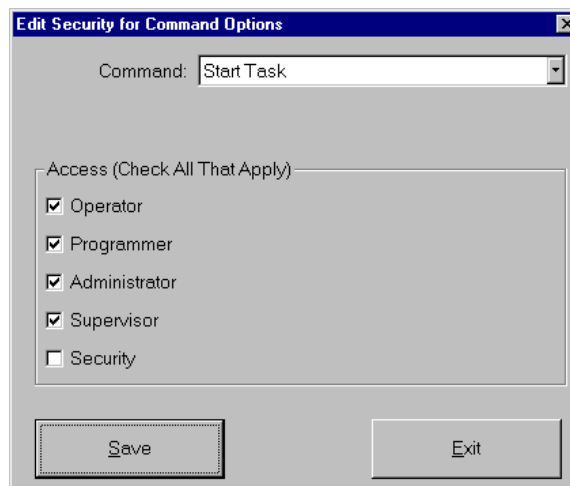
System

Settings
Hour Codes

Alphanumeric characters that can be included in tasks to indicate a particular hour (the first character represents the first hour, the second character represents the second hour, etc.).

Month Codes
Alphanumeric characters indicating a particular month (the first character represents the first month, the second character represents the second month, etc.).

Date Format
Can be displayed in either European (16 JAN 96, 16/01/96, or 16-01-96) or American (16 JAN 96, 01/16/96 or 01-16-96) format.

Measure Units
Can be either Metric (cm/100) or Standard (in/100).

Split Task
Can be set to Yes or No. Turning Split Task on changes many things throughout the system. It allows the main screen to change so that you can see the heads assigned to each photocell. It changes Configure/Count, Start, Idle, Resume, Stop, Test, View/User Element, and any other place a photocell setting can be changed.

The Split Task function creates many new options as well as limitations. In Configure/Heads for example, while a task is started on photocell A, no changes to the configuration of heads associated with photocell A can be made. However, changes can be made to heads associated with photocell B excluding changing which photocell the head is associated with.

Device Select
When enabled in conjunction with download string and split task features, the Marksman will send out "SOH" and either a "DC1" or a "DC2" character preceding any download string out of the AUX port. The "DC1" character signifies photocell A was started and "DC2" for photocell B.

Activity Log
By selecting this box, any changes to the system will be recorded in a user activity log. This report is accessed through System/User Activity Report.

Continuous Counts
With this feature enabled, the system will not reset the counts for Photocell A and Photocell B at the start of a task. The system will continue the counts from the previous task.

Photocell A
Can be named anything you like up to 12 characters.

Photocell B

Can be named anything you like up to 12 characters. However, it would not be wise to give each photocell the same name. If both photocells are being used to print the same message on the same type product, you should give them similar names like Product A and Product B.

Port Configuration

The Marksman printer has four communication ports. The mouse function for the touch screen uses COM2 located on the CPU board. The optional hand-scanner used for scan and shoot applications is on AUX located on the SIB board. This leaves two open COM ports—one for each of the on-line scanners. The software convention is as follows:

SCANNER1 uses the COM1 port located on the CPU board.

SCANNER2 uses the PORT A port located on the SIB controller.

The ports for these devices are set-up differently from one another. SCANNER1's options are set-up through the Windows interface: *Start/Settings/Control Panel/System/Device Manager/Ports.*

In order for any changes made to SCANNER1 to take effect, you must exit and restart the Marksman program. SCANNER2's options are set-up through the Marksman interface *System/Port Configuration/Port A (the left side of the window).* The right side of the window is for the hand scanner or serial input (AUX). Any changes made to SCANNER2 and AUX will take effect immediately.

Cable Type

Default for Port A is RS232. Default for AUX is RS232. If you connect a device to this port, the user's documentation for that device will list the appropriate cable setting.

Baud Rate

Default for Port A is 9600. Default for AUX is 9600. If you connect a device to this port, the user's documentation for that device will list the appropriate baud rate.

Task Start Position

This option relates to the character position where the task name is located. Remember, the first character is at position 0. For example, if the bar code 1234567890ABCDE is scanned as serial data, and the TASK start position is 5, the task name will be read as 67890ABCDE with the Task name length set to 10 or greater.

Task Name Length

This option allows you to shorten the length of the task name. By default, the task name is 15 characters long. The name length may be 15 characters or less. If the task length is shorter than the characters scanned, the remaining characters will be used as the library name of where the task is located. For example, if the task name is 67890ABCDE, when scanned, the system searches for the "67890ABCDE" task in the active library. However, if

the task name length is 5, the system will search for the "67890" TASK in the "ABCDE" library.

Prompt on Serial Split Task

When selected, the Marksman software will allow you to use one scanner to control both lines in split task mode. Once a barcode is scanned and transferred to the Marksman, the system will prompt you to select which photocell you wish to start the scanned task on.

Photocell A Data

When using the serial protocol with a split task system, you may need to send serial data only to a photocell A. To do this, specify which port will be used to receive the serial data on photocell A.

Photocell B Data

When using the serial protocol with a split task system, you may need to send serial data only to a photocell B. To do this, specify which port will be used to receive the serial data on photocell B. You may use the same port as is specified in the Photocell A Data field.

Printer Report

Displays the printer report window. The data is arranged in the following order: USER, TYPE, LIBRARY, TASK, PHOTOCELL, COUNT, STIME, SDATE, ETIME, EDATE, SCANNER, GOOD, and BAD.

Scanner Report

Displays the scanner report window. The data is arranged in the following order: USER, TYPE, LIBRARY, TASK, PHOTOCELL, SCANNER, GOOD, BAD, %GOOD, TIME, DATE, STIME, and SDATE.

User Activity Report

Displays the user activity report window. The data is arranged in the following order: TIME, USER, REMOTE, and USER ACTIVITY.

These windows are a representation of the file C:\MK6000\NODE\REPORT.DBF. This file is written in Dbase 4 format and can be manipulated by Dbase software. Data is entered into this file every time a task is started or stopped regardless of photocell name.

After viewing the information, three options are available: Click on Exit to return to the BoxWriter program, click Clear to erase the database, or select Save to File to save the database as a text file. After a long period of usage, the database may become extremely large and take a long time to load. Routine clearing of the database is recommended.

Networked FXJet Marksman Printer

> **All previous options in this section are available in a stand-alone system. However, the System/Host options are only available if your printer is networked.**

Host Login
Logs the printer into the BoxWriter host.

Host Logout
Logs the printer out of the BoxWriter host.

Host Configuration
Displays the window for configuring the BoxWriter host. See the Host section of this manual for more details on Host Configuration.

View

Preview Mode

Displays on the main screen what is to be printed and is accessed by pressing Ctrl+M. Plus, if Preview Mode is activated, *and* Split Task is selected, You may split the view displaying information associated with each photocell.

Ink Usage

Ctrl + K calculates the price of ink per print. Type in the price you pay for a 500ml bottle of ink and press Recalculate Price.

User Elements

User Elements are created in the BoxWriter Editor by going to the Tool menu and choosing User or by pressing F9. Then, in the BoxWriter application software, you are allowed to choose a photocell for the currently running task and view the user elements assigned to a photocell.

That is, if a user element is created for head 1 and head 1 is on photocell A, then the user element will be assigned to

photocell A. When user elements are added to a task from the BoxWriter Editor, they can be altered from the main screen. For instance, if an inspector number is printed on boxes, and the inspector changes, you can go to View/User Elements and change data being printed.

If you have two photocells and the printer is NOT IN SPLIT TASK mode, you will receive an error message when you change the user element and hit OK. You would receive the same error message if you were in Split Task and had a User Element on photocell A and then tried to change it by choosing photocell B.

<u>Configure</u>

Heads

Before printing, the heads must be configured. To change the configuration, select Configure/Heads (you can also click on the head number above the status lights in the main screen or press Ctrl+H). The Configure/Heads screen is displayed. The items under Configure/Heads are described below.

Head

Configures printheads 1 through 6. To choose a printhead, click on the arrow beside the Head box and click on the number of the printhead you want to configure. The information for that printhead is then displayed on screen.

Head Type

The Marksman software currently offers ten types of printheads. They are the AlphaCoder, 352/32 UJII, 192/32 UJII, 96/32 UJII, Magnum XI, Magnum VI, Magnum III, 8-shooter, 6-shooter, and 3-shooter.

Ink Type

There are three types of ink to choose from depending on what type of head you are using. To determine what type of ink a particular head uses, look at the color-coded tab on the ink reservoir. VersaPrint ink type heads have a green "VersaPrint" tab located on the ink reservoir. AlphaMark ink type heads have a purple "AlphaMark" tab located on the ink reservoir and can only be used with the AlphaCoder head. The Hi-Def Ink type is used with 3-Shooter, 6-Shooter, and 8-Shooter printheads and has a red vent cap.

> **Putting the wrong type of ink in a printhead will cause severe problems.**

Angle Type

The angle type is mounting angle of the printhead. The 96/32 UJII, 3-Shooter, Magnum III, 192/32 UJII, 6-Shooter, and Magnum VI can use all five angles. **The 352/32 UJII, 8-Shooter, and Magnum XI can only be mounted at 90 degrees.**

Distance

This is the distance from a photocell to a particular printhead. This is measured in hundredths of an inch (i.e. If a printhead is 3 inches from the photocell it is using, the distance would be 00300). Measure as accurately as possible to find this distance and then make adjustments to correct your print.

Photocell

Assigns a photocell to each printhead. The choices are Photocell A, Photocell B, and Serial Photocell, which is a photocell signal passed from another system through a differential cable.

In a simple system with only one photocell plugged into printhead 1, all printheads should be set to Photocell A. However, if you are using two photocells, the first photocell must be plugged into printhead 1 and the second photocell can be plugged into any other printhead. Next, when setting up the heads in the software, choose the photocell closest to the head that is triggered before the box passes by the head. The distance from this photocell to the head should be entered in the distance box. If you want to use a photocell signal passed from another system to start the printing process, click Serial Photocell. When using Serial Photocell, you must attach a differential cable to the IN port of the system receiving the Serial Photocell signal. The other end of the differential cable must be plugged into the OUT port of the system that will pass the photocell signal.

When a task is started on photocell A, you can't make changes to the configuration of heads associated with it. However, changes can be made to heads associated with photocell B excluding changing which photocell the head is associated with.

In Use

Select whether or not a particular head is in use. The head must be in use in order to print from that head. LED lights will also be enabled on the main screen for diagnosis.

Direction

The direction the product is moving with respect to a particular printhead. To determine the direction for a particular head, stand behind the head. The direction the product moves will be the direction for that printhead.
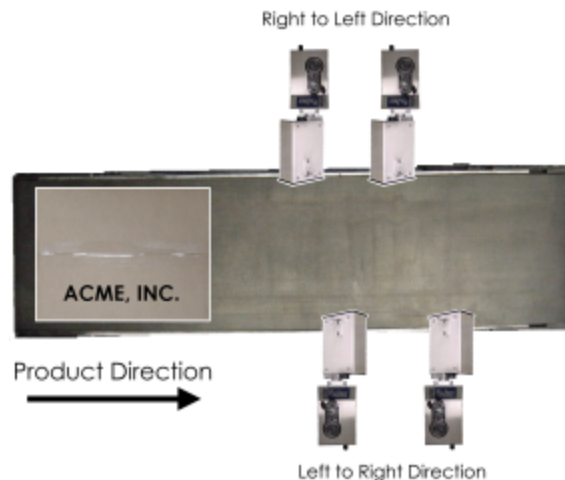
Text

This is the orientation of the print on the container. Upright prints text right side up. Inverted prints text that is upside down. This applies to the entire printhead. To invert just one element, refer to the editor software.

Head Pitch

The new printheads in stainless steel cases are positive pitch. Some much older printheads are negative pitch. An incorrect pitch setting will result in slanted text.

Pulse

Select single or double pulse for a particular printhead. Double pulsing will cause a darker print. You can only set the 96/32 UJII, Magnum III, and 3-shooter printhead type to double pulse. All other head waveforms are double pulsed. The system will not allow the other head waveforms to be double pulsed twice.

Save

When you have made all the necessary changes to a printhead, click save. If you have selected a head number, above the status lights in the main screen after saving changes to

the head, the Configure/Heads window will close. Repeat the above procedure to configure additional printheads.

Printer

The Printer option lets you enter shift code times, shift codes, encoder type, internal encoder speed, and signals you wish to output to other printers. To change printer information, click on Configure/Printer (Ctrl+P will also work). The Configure/Printer screen is displayed at right. The options under Configure/Printer are described below.

Shift Codes

Shift Codes can be printed as part of your task. Enter the time you want as the starting Shift Code Time and an alphanumeric character to represent that particular shift. To change Shift Code Time or Shift Code, click in the box beside the code you want to change and enter the new value.

Encoder Speed

Encoder Speed applies when you are using an internal encoder. This value is entered in inches per second times 100 (*example, a conveyor moving 60 feet per minute would be entered as 1200--12 inches per second times 100*), and the value is to be added to or subtracted from the current setting. To change encoder speed, click in the box beside the encoder needing to be changed and enter the new value.

Internal Encoder Speed (Ft/Min)

Photocell A and Photocell B

Choose the type of encoder signal to be used with Photocell A and Photocell B. If your not using photocell B, you won't need to configure it. Encoder A and Encoder B are both external encoder signals. Whether or not an external encoder is A or B is determined by which port the external encoder is connected to. It is important to use an external encoder any time you print bar codes. You cannot change encoders if any photocells are activated on the system.

Internal signal is used when an encoder signal is to be generated internally through the Marksman software and hardware. If internal signal is chosen, an encoder speed must be entered. Serial Signal is used when an encoder signal is to be shared between one or more printers through the differential cable.

Out Encoder

Sends the encoder signal to be shared by another device through the In/Out port (See Technical Assistance portion of this manual). The choices are Encoder A, Encoder B, or Serial Signal (an encoder signal received through the In/Out port from another device).

Out Photocell

Sends a photocell signal out through the In/Out port to be shared by another device. The choices are Photocell A, Photocell B, or Serial Signal.

Roll Over Date on Start of Third Shift

Roll Over Date on Start of 3rd Shift will change the date printed when 3rd shift starts. You can change this time under Shift Code Time 3.

Save

When you have made all necessary changes to printers, click save.

Scanner

Scanner No Read String

If you have a scanner reading bar codes in order to check accuracy, the scanner must be programmed to send a string when it fails to read. The Scanner No Read String must be the exact information the scanner is programmed to send. If the default is used, the scanner must be programmed to send the string "NO READ" when it is unable to read any data.

Consecutive Bad Scans per Scanner to Generate Error

This setting allows you to decide how many bad scans may pass before receiving an error light or the strobe activates.

ASCII Scanner PostAmble

User defined ASCII (not hexadecimal) code designated to be sent by the scanner after all reads. This code must be something that will never appear in a bar code. This is used to let the system know when a scan has ended. Default is ASCII 17, <DC1>.

Collect Scanner Information

Creates a log of good reads and bad reads and displays them. However, Preview Mode will override this option and cover the scanner log.

Display Scanner Information

Displays good and bad scans as well as percent of good scans.

Reset Scanner Information at Task Start

Resets scanner information automatically at the start of each task. This keeps you from having to press the reset button after a new task is started.

Idle Task on Consecutive Bad Scans

Causes the current task to be placed on idle when the number of bad scans equals the amount set in Consecutive Bad Scans per Scanner to Generate Error.

Reset Scanner Info

Sets good and bad reads to zero. Clears any error conditions with the scanner and writes the scanner information to the report database.

Reset Scanner Error

Resets the scanners error condition without generating a report or clearing good and bad reads.

Count

Photocell

Choose the photocell for which you would like to set the count.

Count

Enter the count for the photocell chosen.

Delays

Photocell

Choose the photocell for which you would like to set the delay.

Head

Displays six heads but only allows delay changes to active heads.

Delay

Enter the delay for the selected head.
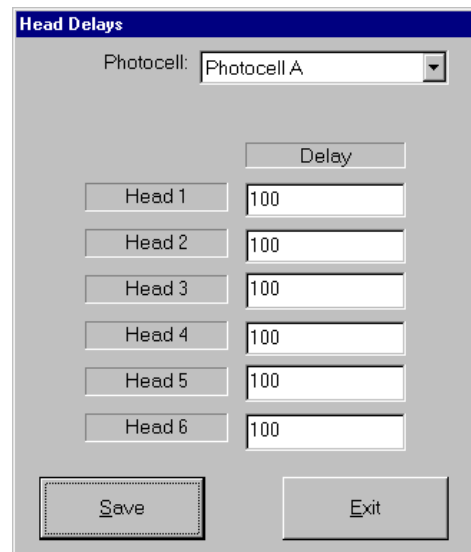
<u>Operate</u>

Start (Load Task)

Starts printing a new task and resets the count. The following window appears (shown below left) when Start is chosen from the Operate menu. Be sure that you are in the library where the required task is stored. In the Library section of the Load Task dialog box, all of your libraries will be listed. Click on a library to see the tasks it contains. Find the task you wish to start in the Task Name section. Next, click on the task name and then click on Load.

Load Task

Library:

BWLIBRARY

Task Name:

BWTASK

BWTASK

Photocell(s) for Task:

Photocell A

Task Description: This is a sample description of a task

Load   Cancel
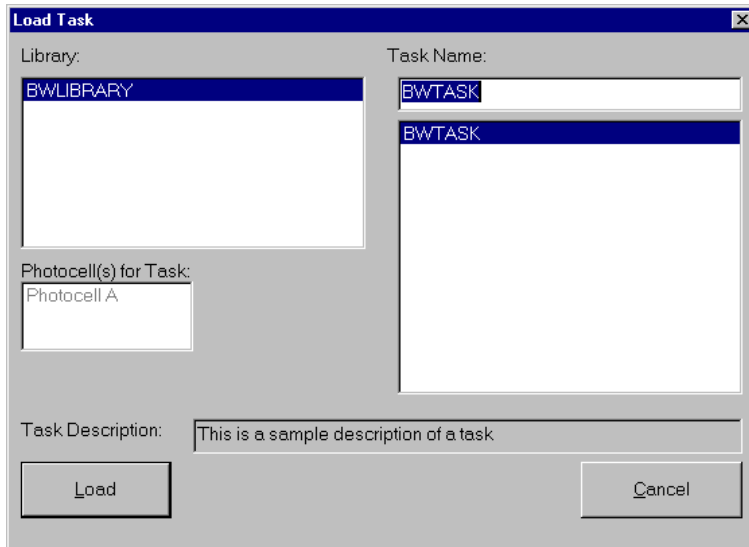
If you are in Split Task mode, both photocells will be selected when you open Load Task. Select the photocell you want a given task on and then choose the task. Next, click Load. If you are not in Split Task mode, the photocells will be grayed out.

From the BoxWriter Editor, in Defines/Down Load String, you can define a string of characters for downloading. If you do, there will be a check box in the Load Task window for you to choose whether or not you want to send the Down Load String. If there is no string defined in the editor, there will be no check box. If you have defined a down load string previously for a serially started task, the string will be sent automatically upon task start or when the software is started and the last task running was a serially started task.

Stop

Stops the task from printing. To continue printing, you have to use the Start command.

Resume

Resumes printing after using the idle command. The count is not reset.

Idle

Suspends printing. To continue printing, you have to use the Resume command. A system may remain idle for long periods and be resumed without problems. If the system does not image properly when resumed, check the troubleshooting section of this manual for solutions.

Test

Prints a test task as shown below. This is helpful in determining if all the print channels are functioning. To run the test, you must stop any running tasks. To return to a task, you must stop the test task and restart.

Edit

Opens the BoxWriter editor. The editor is used to create tasks. (See Using the Editor)

Exit

Exits the program. The system will not print if you exit the program.

<u>Utilities</u>

> **These functions should only be used when the system is idled or stopped!**

Sync Data

This option will not be in the menu for stand-alone units. The only Utilities menu options in a stand-alone printer are Export to File and Import from File.

> **If a system has been off for a long time, a lot of changes might have been made to the rest of the network. If this is the case, select the Clear *Pending Files On Host* option and then start the printer that has been off or disconnected. Next, use Sync Data.**

Be sure all tasks have been stopped before trying to use Sync Data. Sync Data only works if the Marksman printer is connected to a host. When Sync Data is chosen, and the settings of the host and printer are not identical, the printer's settings are overwritten with the host's settings.

Export to File

Export to File is used to move settings, tasks, etc. from one system to another. If you need to edit a task from a particular printer on your workstation, you would need to export not only the task itself from the printer, but you would also need to export the configuration of the printer as well because the workstation uses default factory settings that will not match any actual system setup.
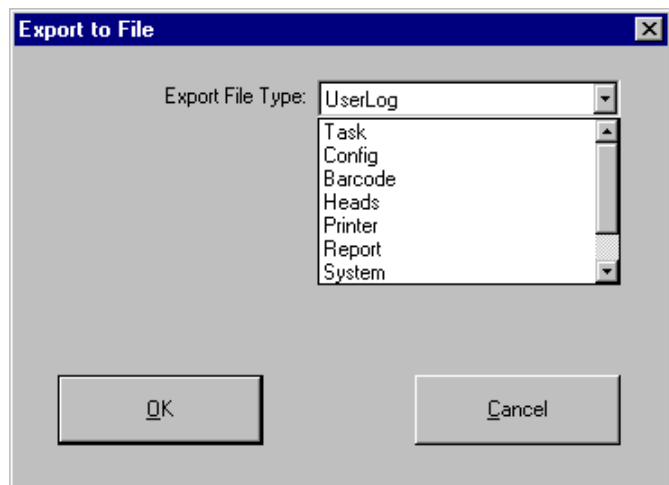
Export File Type

Allows you to choose types of settings from all the different parts of the system. For instance, if you choose to export templates, you would choose Template and press OK. After choosing the type of setting you want to export, a browser window will open allowing you to export the file to any directory you choose. When Save is pressed, the template database is saved as an MKF file in the directory of your choice.

If the printer is not networked, you must copy the exported MKF files to floppy disks and physically transport them to their destination.

Import From File

After a file has been exported and is on a floppy disk or in a network accessible directory, you must use Import From File to get that information to the desired location.

If you exported the configuration from a printer and need to get it into your workstation for editing a task, you would use Import From File to set the workstation up just like the printer that the task came from. This insures the task will print correctly when it is exported from the workstation and imported back into the printer.

Import File Type

Allows you to choose types of settings from all the different parts of the system. Once the type of setting is chosen, you must choose which library will receive the imported setting. Next, a browser window will open allowing you to search your directories for the file. Once found, you may double click or select the file and press OK. The file will then be imported.
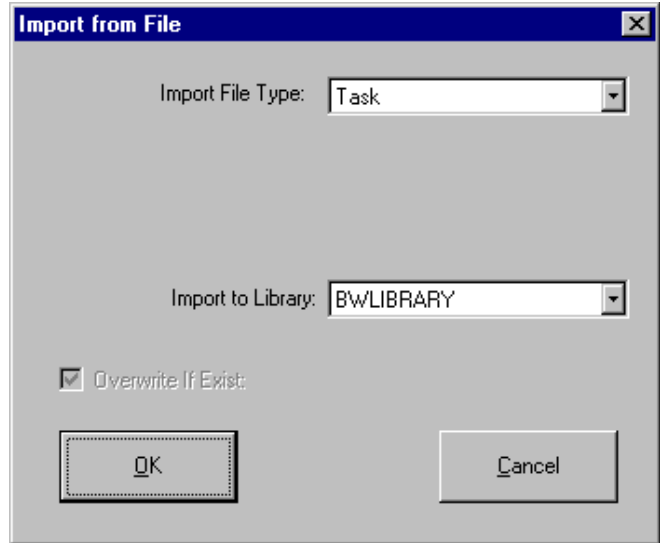
Help

User's Manual

This will display the User's manual in PDF format. Adobe Acrobat will be displayed in another window.

About

Software version and copyright information.

Split Task
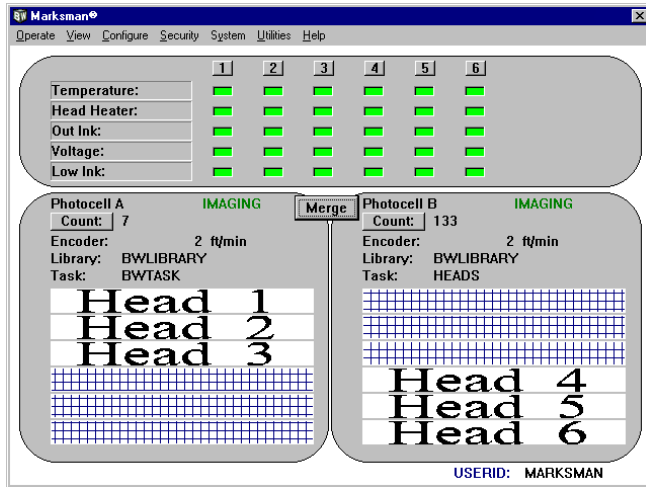
The Split Task feature executes multiple (same two or two different) tasks on separate photocells. The heads assigned to a particular photocell will show when starting a task.

Turning Split Task on changes several things throughout the system. It allows the main screen to change, so you can see the heads assigned to each photocell. It changes Configure/Count, Start, Idle, Resume, Stop, Test, View/User Element, and any place a photocell setting can be changed.

The Split Task function creates many new options as well as limitations. In Configure/Heads for example, while a task is started on photocell A, you can't make changes to the configuration of the heads assigned to photocell A. However, changes can be made to heads assigned to photocell B excluding changing which photocell the head is associated with.

Preview Mode, in Split Task Mode, gives you a Split button above the viewing area. When you click the button, the viewing area splits into two sections (as seen above left). Each side represents specific photocell--heads, design elements, and count. Heads not in use will be grayed out. When viewing Photocell A, heads assigned to Photocell B will show up as blue areas in Photocell A's preview region. To rejoin the separated previews, click the Merge button.

Also, note the "Show" and "Hide" buttons on the main screen. Clicking "Hide" on Photocell A, for example, will cover all heads associated with Photocell A with a blue grid (Shown above right), likewise for Photocell B.
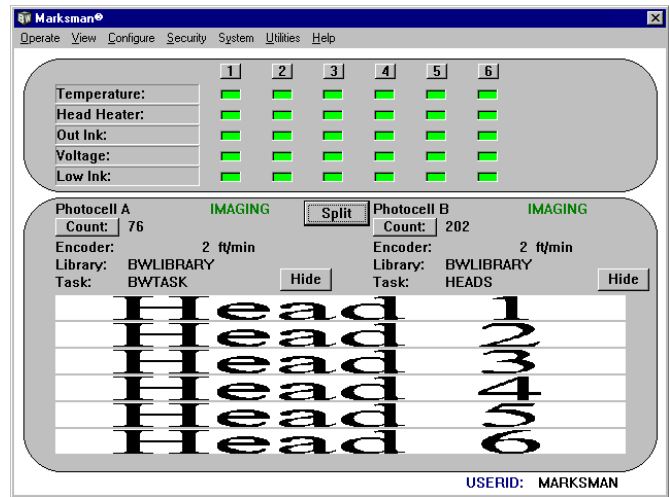
Configure Heads

You can't have a photocell active while you're configuring heads. All tasks must be stopped to cease photocell functions before making any configuration changes to the heads. However, changes can be made to heads associated with photocell B--excluding changing which photocell the head is associated with. Only delays in Quick Head Info can be altered while photocells are running.

Test

As long as any photocells are functioning, you can't run Test. To run Test, go to Operate/Stop and stop any tasks that are currently running. Once that is done, you may run Test. When finished using Test, you must stop it.

Activating Split Task

To turn Split Task Mode on, go to System/Settings. The dialog box at right will appear. Place a check in the box beside Split Task to activate this feature. To deactivate, remove the check from the box by clicking on the box again. In this dialog box, you have the option to give the photocells unique names. You may name them whatever you like. However, you should not give them the exact same name.

Starting a Task in Split Task Mode

To start a new task and reset the count, choose Operate/Start. The window below left appears when Start is chosen from the Operate menu. If you type the name of the task in the task box instead of selecting one with the touch screen, be sure that you are in the library that has the required task. If you are not in the correct library, a window with "Invalid Task Name Entered" will appear.

If you are in Split Task mode, available photocells will be selected when you open Load Task. All you need to do is choose the photocell you want a given task on and then choose the task. Next, click Load. If you are not in Split Task mode, the photocells will be grayed out.

Stopping a Task in Split Task Mode

Though you can start both photocells at the same time using the same task while in Split Task Mode, you cannot stop both photocells at once. You must go to Operate/Stop, choose the photocell, and click OK. Then, go back to Operate/Stop, select the remaining photocell and stop it.

Idling a Task in Split Task Mode

To idle a task while in Split Task Mode, go to Operate/Idle. A dialog box will appear so you can choose the photocell and task you want to idle. If all running tasks are idled and you choose Idle again, you will be given an error message.

Resuming a Task in Split Task Mode

To resume a task, go to Operate/Resume and choose the appropriate photocell and task from the dialog box. If all running tasks have been resumed, or were not idled and you click on Resume again, you will be given an error message.

User Elements

User Elements are created in the BoxWriter Editor by going to the Tool menu and choosing User or by pressing F9. You view user elements assigned to a photocell by choosing View/User Elements. Select the photocell and then click OK. All the user elements running on that photocell are displayed, and you can input new data. If a user element is created for head 1 and head 1 is on photocell A, then the user element will be assigned to photocell A. When user elements are added to a task from the BoxWriter Editor, they can be altered from the main screen. For instance, if an inspector number is printed on boxes, and the inspector changes, you can go to View/User Elements and change the number being printed.

Software Features of the Marksman Printer

Backup (Standalone Marksman Printers only)

This feature is used to backup the C:\MK6000\LNODE directory. This program can be accessed by clicking on the Start menu Programs/Accessories/System Tools/Backup. Then, click the plus sign beside the C drive. Next, click the plus sign by the MK6000 directory. Next, click on the clear box next to the Data file to select it for back up. The plus sign opens the directory, and putting a check in the blank box will select that file (or entire directory) for back up. Finally, click Next Step and follow the directions. You will be prompted to insert blank 3.5" floppy disks and to name the backup. All of the files in the Data directory will be stored as .qic files under the name you specify. For clarity's sake, we recommend you name the .qic group Data. This may require several floppy disks.
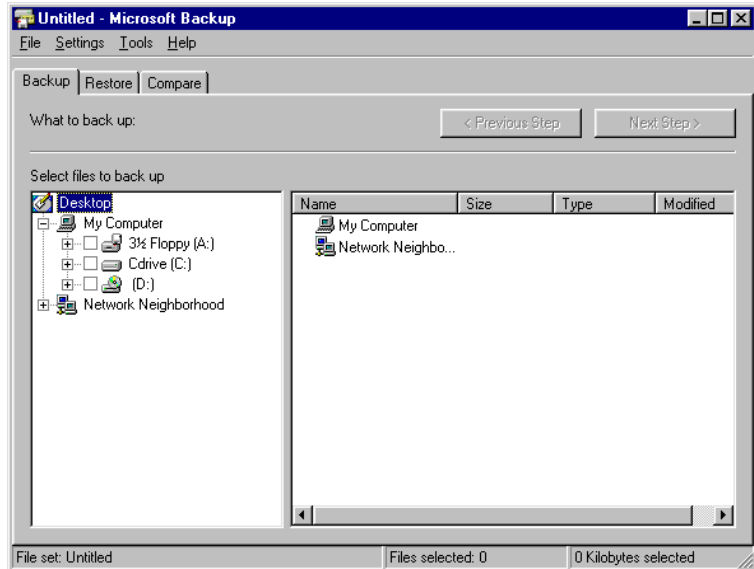
Restore

This feature is used to restore a copy of the C:\MK6000\LNODE directory. This program can be accessed by going to the Start menu/Programs/Accessories/System Tools/Backup. Then, select the Restore tab at the top of the Backup program window. You will be prompted to select the source that will be used to retrieve the files. Be sure the final disk in the series is in the floppy drive and select 3.5" Floppy. Follow the directions on the screen. You will be prompted to insert the 3.5" floppy disks that were used for a previous backup. When the backup is complete, restart the Marksman printer
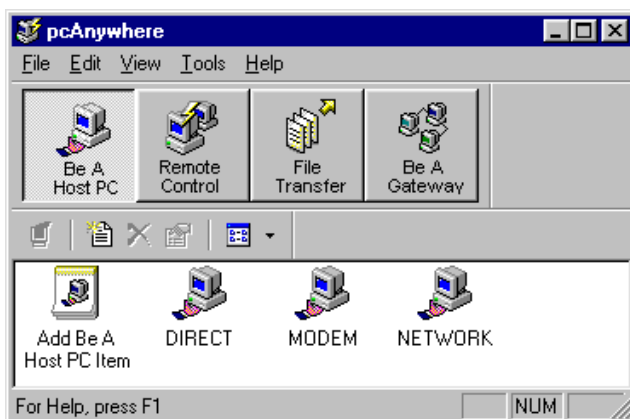
Remote Diagnostic Capabilities

Symantec's pcANYWHERE32 program makes it easy for FoxJet and you distributor to connect directly to your Marksman system and manipulate your applications. It allows us to work simultaneously with you to solve problems fast.

✦ The BoxWriter Editor

The BoxWriter Editor is unlike anything currently on the market. A Microsoft® Windows™ based environment allows you to point and click to operate virtually everything. The Windows environment also shows the task exactly as it will be printed. Competitive systems boast the WYSIWYG (What You See Is What You Get) feature; however, they typically only allow you to see one head at a time. The BoxWriter Editor displays all six heads and lets you edit while you are in WYSIWYG mode.

A Few Starting Tips

1. Solid Lines separate each individual heads.

2. Do not place an element on these lines unless you are intentionally trying to split the element between two or more heads. Be careful not to split an element over two heads on different photocells.

3. Selecting a large font size and placing text on these lines can create dual and larger text.

4. Do not overlap elements unless absolutely necessary. Overlapped elements may cause strange results.

5. All elements are created at the horizontal and vertical position listed while the element is created. Moving the cursor, or a single click of the left mouse button at a new position can change the position.

6. The cursor will not be printed.

7. After creating an element, you can right-click and select properties or double left-click on it to change it.

8. If you lose an element, simply go to Help/List Elements, select that element, and press Delete. The element will be deleted, and you can recreate it.

9. After the product range is specified, be careful that you don't click the cursor too close to the edge of the range when inserting an element. The BoxWriter Editor will not let you move an element out of the defined product range; however, when an element is being created, it can cross the defined product range boundary. Check all elements to be sure they're within the limits of your product range. Otherwise, elements will be truncated.

10. Experiment with different font types, styles, and sizes. You should make sure that the same fonts are installed on the host, workstation, and printer. To install fonts, see your Windows manual.

11. Define Product length first. You can set up a product for each photocell. If different sized product lengths are entered, the editor will use the longer of the two.

12. If you are going to edit a task on the workstation in standalone mode, you must export the configuration of the printer you are running the task on and import it to the workstation you plan to use for the editing because the BoxWriter software uses factory default settings that will not match your hardware. In a network system, simply select the printer that is going to run the task from the printer selection box in the editor that defaults to "LOCAL".

13. If you are using the editor on the host, you must choose a printer before continuing. Once you have chosen a printer, opened and edited a task, you must save the task before switching to another printer. When a different printer is selected, the current task is cleared.

14. It is recommend that you create libraries according to head configuration, so the tasks in that library will be printed according to a specific configuration. This will decrease the chances of unexpected results.

Using the Editor

At the bottom of the editor screen, you will notice a status bar containing the four pieces of information Task, Library, Zoom, and Photo. Task displays the current task. Library displays the library containing the task. Zoom displays the zoom factor as a percentage of the screen. Photo displays the photocell assigned to the selected head. Below Zoom, there is a pair of numbers arranged like a Cartesian graph set (i.e. 0, 0). They are the coordinates of the cursor with reference to the rulers on the top and left of the editing area. It is a good idea to reference these displays frequently to make sure the chosen task matches the correct printer configuration. To access the BoxWriter Editor, click on Operate/Edit. The screen below is displayed.

The BoxWriter Editor screen (Shown to the right) has some innovative functions. The tool bar and the text-editing drop down lists can be moved to any place on the screen.

As shown at right, the tool bar is placed out of the editing area and runs across the bottom of the editor. However, both the tool bar and the text-editing drop down lists can be moved onto the editing area or to the sides of the screen. The BoxWriter Editor remembers where you placed them and will place them there the next time you open the editor.

Plus, most of the BoxWriter Editor's functions can be summoned by pressing Shift and touching inside the editing area (the equivalent of right clicking with the mouse). Press shift and touch on empty editing space, and the menu seen below left appears. Press shift and touch on an element, and the menu seen below right appears.
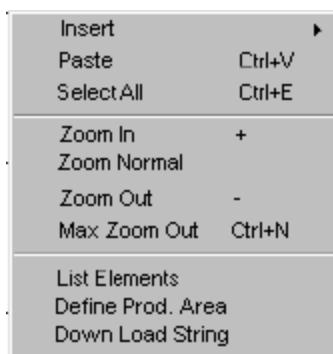
Shift & touch on empty space
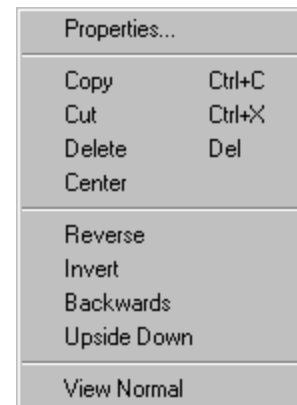
Shift & touch on an element

The Editor Tool Bar

To resize the tool bar after you have moved it, place your cursor on the right or left edge of the tool bar. The cursor will change into a double-sided arrow, and you will see an outline of the tool bar change shape as you move the cursor. This outline represents the shape and size of the tool bar with respect to the cursor's movement. You can also close the tool bar. Pressing the shift key plus touching an empty spot on the screen and going to insert can reach all of the elements in the tool bar. You can go to Tools on the menu bar to create elements or use the function keys to reach the same result.

Text

Click the text icon (F1) when you want to add text to a task. Another way to enter text is to click the left mouse button on the point you want to enter text and start typing.

Data

Type the element's contents here.

Vertical Position

Location (top to bottom) where the element should be placed. This number defaults to the cursor coordinates. 100 equals 1 inch or 1 centimeter depending on the measure units setting.

Horizontal Position

Location (left to right) where the element should be placed. This number also defaults to the cursor coordinates. 100 equals 1 inch or 1 centimeter depending on the measure units setting.

Type

With serial communications, the text can be defined two ways. Text is always fixed for non-serial applications no matter which of the following is selected:

Fixed- The data cannot be changed through a serial link.

Serial- The data can be changed through a serial link.

A task with several variable elements will slow down the highest possible conveyor speed.

Reverse Print

This will print white letters on a black background.

Invert Print

Invert print causes the text to be upside down.

Upside Down

Text is inverted and backwards. When upside down is selected, invert and backwards will also be selected.

Backwards

Text is printed backwards.

Data Start Position

This option only applies to serial data. The printer must know where to start reading the data for this element. If a remote computer sends the string "12Testing12" and the element is supposed to be "Testing", the start character is the T. Remember that the first character is in position 0. This makes the data start position 2.

Logo

Click the logo icon (F2) when you want to add a logo to the task.

Name

The name of the bitmap file located in the C:\MK6000\LOGOS directory. The maximum number of characters per logo is eight not including the extension (XXXXXXXX.BMP). Although Windows will allow you to put a logo into the logo directory with more than eight characters, the system will not show that logo in the names box when inserting the logo into the task.
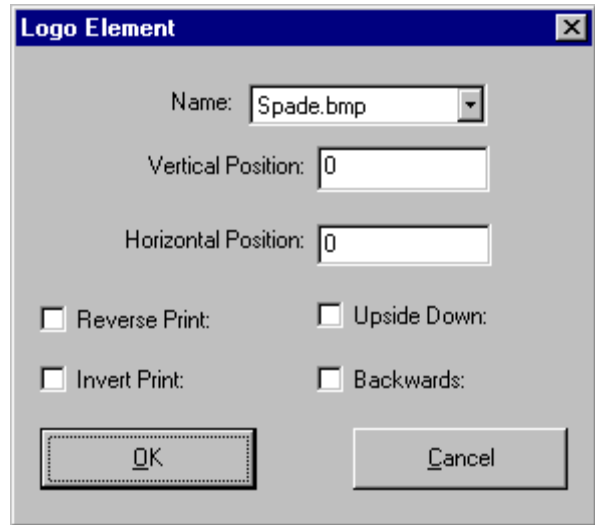
Bar Code

Click the bar code icon (F3) to add a bar code to a task.
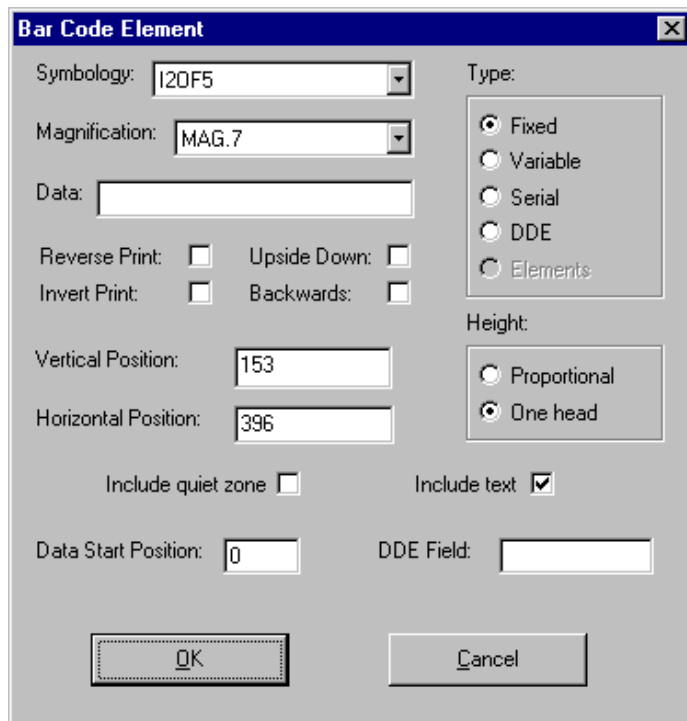
Symbology

Available symbologies are displayed in the drop down list. They include Code 128 (with Application Identifiers) and EAN-128 (with Application Identifiers). If either Code 128 or EAN-128 are chosen, the Elements option in the Type box will be made available. This dialog box allows you to choose the industry standard Application Identifier you need.

Magnification

Size compared to common bar code sizes.

Data

Information contained in the bar code. Certain bar codes can only use alphanumeric characters.

Type

Variable Bar Code Information such as time can be entered using the "|" key. Select variable type then enter a | in data field and choose from the selections listed at the right. After entering the variable field, enter another | character. For example, a bar code with the date and then the value 123 would be entered as |MMDDYY|123 in the data field.

Alpha Data (MMM for DEC) entered into a numeric only bar code will be replaced with zeros (000). Data entered is case sensitive!

Data Entered	Type of Field	Result
DD	Day	21
JJJ	Julian Day	356
MM	Month	12
MMM	Month	DEC
YY	Year	99
hh	Hour	04
mm	Minute	59
ss	Second	58
CCCCCCCCC	Counter	000000008
S	Shift Code	A
ED	EXP Date	21
EJJ	EXP Julian	128
EM	EXP Month	12
EY	EXP Year	01
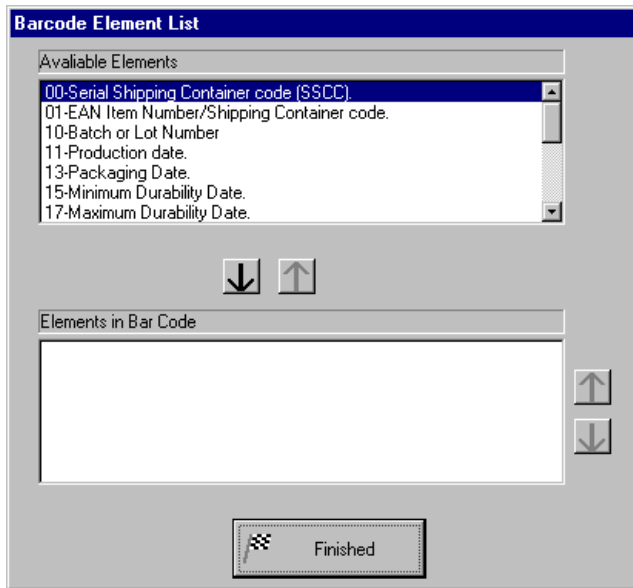
Bar Code Element List

This is a list of available elements for your bar code. Select the predefined element and click on the down arrow to add the element to your bar code. If the element is designated as an application identifier, it will appear in parentheses in your bar code.

Include Quiet Zone

A predetermined amount of blank space is left before and after the bar code for scanners. This space can be eliminated in some cases and make the bar code shorter. The quiet zone is only visible if the bar code has bearer bars (a surrounding box).

Include Text

This option places human readables (text) under the bar code.

Height

Bar codes have a height to width proportion. FoxJet has developed bar code data that is designed to print at a specific height and width. This option uses these default bar codes. Set the height to proportional to achieve the proper height to width ratio.

Some manufacturers desire their bar codes to be disproportional. When set to one head, the width stays the same but the height changes. To print a bar code on one head using all 32 channels, this option should be chosen.

Data Start Position

This option only applies to serial data. The Marksman printer must know where to start reading the data for this element. For Example, if a remote computer sends the string "12TESTING12" and the element is suppose to be "TESTING," the start character is the "T." Remember that the first character is in position 0. This makes the data start position 2.

DDE Field

This is an advanced feature. This should be attempted only with the assistance of FoxJet personnel and/or your distributor. In any case, this deals with the ability of the Marksman printer to connect to a 3rd party DDE server to update fields automatically.

Count

Click the count icon (F4) to place the count in the task layout. The count increases each time the photocell is triggered. The count increments according to the photocell that controls the head where the count element is placed.

Count Element

Number of Places:	9
Vertical Position:	68
Horizontal Position:	38

☑ Leading Zeros:

☐ Reverse Print: ☐ Upside Down:

☐ Invert Print: ☐ Backwards:

OK   Cancel

Number of Places

The count can be from one to nine digits long.

Leading Zeros

Places leading zeros in the count. For example, the 20th print with the Number of Places set as 6 can print as either 20 or 000020.
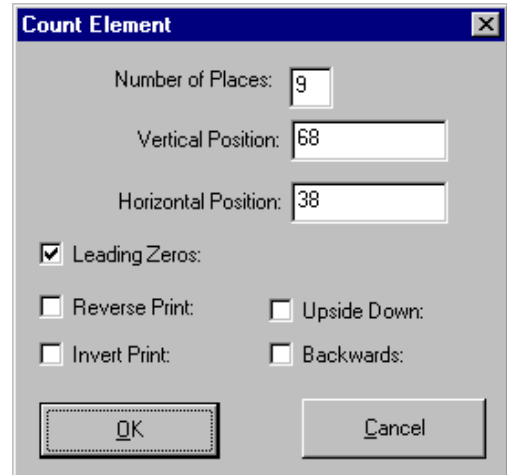
Date

Click the date icon (F5) when you want to include the date in the task.

Date Element

Format:	MM/DD/YY
Vertical Position:	15
Horizontal Position:	11

☑ Leading Zeros:

☐ Reverse Print: ☐ Upside Down:

☐ Invert Print: ☐ Backwards:

OK   Cancel
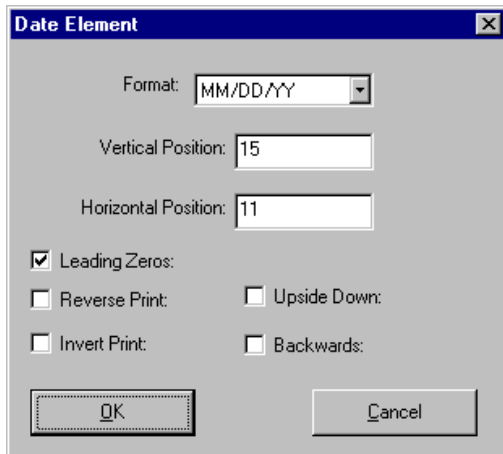
Format

The date can be in different formats as shown in the table below.

Format	Result
MM/DD/YY	08/07/01
MM-DD-YY	08-07-01
DD MON YY	07 AUG 01
JULIAN	219
MM	08
MONTH	AUG
MONTH CODE	H
DD	07
Y	1
YY	01
YYYY	2001
MDDMY	00781

Time

Click the time icon (F6) when you want to include the time in the task layout.

Time Element

Format:	HH:MM:SS

Style: ☐ 12 Hour   ◉ 24 Hour

Vertical Position:	5
Horizontal Position:	295

☐ Reverse Print: ☐ Upside Down:

☐ Invert Print: ☐ Backwards:

OK   Cancel

Format

The time can be in different formats.

Style

Can be either 12 hour or 24hour style.

Format	Result
HH:MM:SS	12:59:30
HH:MM	12:59
HH	12
MM	59
SS	30
HOUR CODE	O
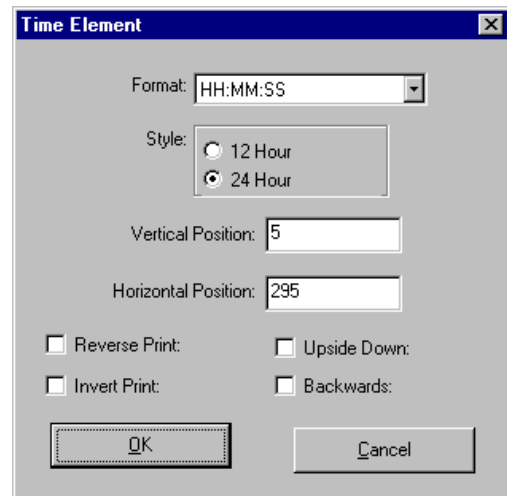
Expiration Date

Click the expiration date icon (F7) to place the expiration date in the task layout.

Format

The expiration date can be in different formats such as

Format	Result
MM/DD/YY	08/07/01
MM-DD-YY	08-07-01
DD MON YY	07 AUG 01
JULIAN	219
MM	08
MONTH	AUG
MONTH CODE	H
DD	07
Y	1
YY	01
YYYY	2001
MDDMY	00781

Expiration Period

Sets the period between current date (system date) and expiration date in Months or Days.

Number Periods

Sets the number of months or days between current date (system date) and expiration period.

Leading Zeros

Places leading zeros in the date. For example, the 1st day can print as either 1 or 01.

Shift

Click the shift icon (F8) to place the shift code in the task layout. The shift element correlates to the System/Setting screen settings. The shift code will change automatically as the shift changes throughout the day.

User

Click the user icon (F9) to place user variable information in the task layout (batch numbers, serial numbers, etc.). This user variable information can be updated without restarting the task from View/User Elements in the Marksman printer main screen.

Data

Type the appropriate number of W's in this field. The W is the widest character in most fonts and will allocate enough space for any future data. For example, if this field is going to be used for a 3-digit serial number, type WWW.

Prompt

This eight-character description will be shown when you have to enter the data. Use relevant names such as serial #, batch #, or a similar name.

Prompt at Task Start

If this option is selected, when the task is started, you will be asked to enter the element data.

> **Any user elements with the same prompt and same length will be considered to be the same piece of information. Thus, the system will only prompt the user once when entering user element information.**

Zoom Out – Click to view a larger portion of the task layout.

Zoom Normal – Click to return to normal viewing after using zoom out, zoom in, or max zoom.

Zoom In – Click for a closer view of the task layout

Max Zoom – Click to reduce the task layout to its smallest view.

Cut – Places the selected task element in the clipboard. The element can be retrieved using the paste button.

Copy – Places a copy of the selected task element in the clipboard. The element can be retrieved using the paste button.

Paste – Retrieves a cut or copied element from the clipboard and places it into the task layout.

Center – Centers the selected element to the defined product area.

Define Product

Click the define product icon to define the area that you will be printing on (the side or end panel of a box for example). The screen will then represent this area.

Define Product *(dialog box)*

Units
- ○ Inches
- ○ CM
- ○ Head Pixels

☑ Use Active Heads Only
☑ Auto Scroll
☑ Snap to Head
[3]   Max Distance to Snap

Description: [This is a sample description of a task]

Product Length 1: [1650]	Product Length 2: [1650]
Count Start 1: [1]	Count Start 2: [1]
Count End 1: [999999999]	Count End 2: [999999999]
Count Increment 1: [1]	Count Increment 2: [1]

[OK]   [Cancel]

Units

Units can either be in Inches, centimeters (2.54 cm/inch), or head pixels (153.8 pixels/inch).

Use Active Heads Only

If selected, grays out all heads that are not in use in the printer configuration.

Auto Scroll

When dragging an element (Left mouse button held down on an element and moving the mouse), the screen will scroll if the element goes off of the edge of the screen.

Snap to Head

Snaps the element to the nearest head. This makes lining up elements quick and easy. The number in the Max Distance to Snap box represents how many pixels the element can be from a head and still snap.

Description

Enter a brief message to identify the task that will appear when saving and loading the task.

Product Length 1

This defines the length of the substrate (material being printed on). The longer product length will be used for the editor. However, if an element is extended over the defined length, the element will be cut off at the defined product length when it is being printed. Remember, 1 inch =100, 1 cm = 100, 1 Head Pixel = 1). This length defines the printable area for all heads tied to photocell A in the head configuration for the printer.

Product Length 2

This field is the same as Product Length 1 except that it deals with photocell B. Set the length to the correct length keeping in mind that this field relates only to heads tied to photocell B.

Count Start

The number that will begin the count. This number increases each time the photocell is triggered.

Count End

Once this number is reached, the count will roll over to Count Start value.

Count Increment

The number the count will increase each time the photocell is triggered.

Font Toolbar

The font toolbar allows you to select the font style (regular, bold, italic, etc.) and size to be used for the selected element.

The font, point size, and style of type can all be altered within the BoxWriter Editor by selecting (clicking on) a text element. If a text element is to be created, click on the Text icon on the Tool Bar and use the drop down lists to achieve the desired appearance. FoxJet does not suggest using Windows fonts for User or Variable elements. Only MK fonts will give predictable results with these types of elements. For text objects, Windows fonts are fine.

Directly beneath the File, Edit, View, Tools, Defines, and Help menus are boxes with a down-pointing arrow directly to the right. These boxes are called drop down list boxes. In the picture above right, the font drop down list box is displaying the font MK Avalon. Clicking on the arrow lowers the list of True Type fonts. Click on the font desired.

To choose the size of the font, go to the drop down list box to the right of the font box and press the arrow to see a selection of sizes. Choose one of the sizes in the drop down list or type a number in the box and the font will resize. If the text element is dragged to a different head, it will not change size after a user-entered font size is entered for that element.

Just to the right of the font size drop down list there are two buttons for changing the style of the text. The "B" button makes text bold and the "I" button italicizes the text.

Next to the type style buttons, there are five alignment icons: align left, right, center, top, and bottom respectively. You can easily line up multiple elements by selecting them and clicking on one of the alignment icons. You can also go to Edit/Align to accomplish this.

The last button is resize logo. Selecting a logo and then clicking this button lets you resize it.

The BoxWriter Editor is true WYSIWYG software. The element, as measured by the horizontal and vertical rulers on the screen, will print exactly as it appears (one screen inch equals one printed inch).

Click and Drag

Once you choose an element and place it in your defined product area, you can touch the element and, keeping your finger in contact with the screen, drag it to another location in your defined product area.

Editing an Existing Element

Once you have created an element, you can edit it by pressing Shift and touching an empty area of the screen and choosing properties. You can also double click while on the element. This will bring up a menu you can use to make changes to that element. You can choose multiple elements by holding Ctrl and touching or left clicking on the desired elements. Also,

you can touch an unused portion of the editing area and drag your finger across all desired elements. A selection box will be displayed as you drag and select.

To change the font, the style, or the size of an element, touch that element to select it. Then, use the drop lists (box with a down-pointing arrow on the right) for font selection, font size, and text style to make the desired changes.

Resizing Logos

Once you have chosen a Logo from the Tool Bar or the Tools menu, you may resize (stretch or shrink) it. To do so, select the element by touching it. Next, touch the resize button to the right of the alignment buttons. Then, you may resize the element by dragging one of its corners.

Saving a Task

Once you are through creating or editing a task, you can save it by selecting Save Task or Save Task As under the File menu. The Save Task option saves the task with the last name you were working with. The Save Task As option allows you to save the task with a new name. Remember the library in which the task is saved because you must return to that library to edit or to print the task.

Editor Menu Items

File

New

Creates a new task. This option removes all elements on the screen and resets the task.

Load Task

Displays a list of libraries, tasks, and descriptions. Select the library that contains the task you need and choose the task in the list on the right. Libraries are directories where tasks are stored. The maximum number of libraries is 500. The maximum number of tasks per library is 3,000 -- not to exceed a total of 100,000 tasks. It is important to know which library contains the tasks you need because you cannot start a specific task if you are in the wrong one.

Save Task

Saves the current opened task.

Save Task As

Saves the current opened task under its existing name or a new name. If you had a task named LABEL, and you wanted a backup copy called LABEL2, you would use Save Task As.

Adding a Library

Enter the name of the new library in the box beside library name. Click on Add when you are ready to add the library. Once you are finished, click on Exit to return to the BoxWriter Editor.

Task Manager

The Task Manager allows you to delete a single task, all tasks in a library at once, or an entire library. Before you can delete an entire library, you must clear all the tasks it contains.

Edit

Delete

Deletes the element you have selected.

Undo

Erases the last editing function you executed. The BoxWriter Editor now remembers the last ten changes you made and allows you to undo them.

Cut, Copy, and Paste

These features allow you to cut, copy, and paste an element or multiple elements in a task. Also, the BoxWriter Editor allows you to cut or copy an element from one task and paste it in another.

Select All

Selects all elements in a task. This allows you to move them all at once, cut, or copy then paste.

Align
> When multiple elements are selected, you can align them to the left, right, top, or bottom. For instance, if you have selected two or more images and you choose align left, the elements will all line up with the left-most element.

Center
> Centers an element in the defined product area.

View

Tools
> If checked, the tool bar is displayed.

Head Boundaries
> Displays or removes head boundary lines from editing area.

Zoom In
> Gives you a closer look at the message.

Zoom Out
> Gives you a better over all view of the message layout.

Max Zoom Out
> Shows you the entire message.

Tools

Gives you access to all the tool functions in the tool bar. The tools are also accessible by pressing Shift and touching the screen in empty editing space and selecting insert.

Defines

Font Width
> (Zero is default—height and width are the same) Shrinks or widens letter size. For Variable Data, the font width must be the same as the font size box at the top of the editor.

Custom Bar Codes
> Do not alter unless you know what you are doing. Call FoxJet or your distributor for assistance if necessary. See Custom Barcode section for further information.

Define Product Area
> Sets up measurements of the intended printing area.

Down Load String
> Creates a string of information, including special characters that can be sent out the AUX port when the task is started. If you start a serial task containing a download string or open the BoxWriter when the last running task was serial and contained a download string, the string will automatically send.
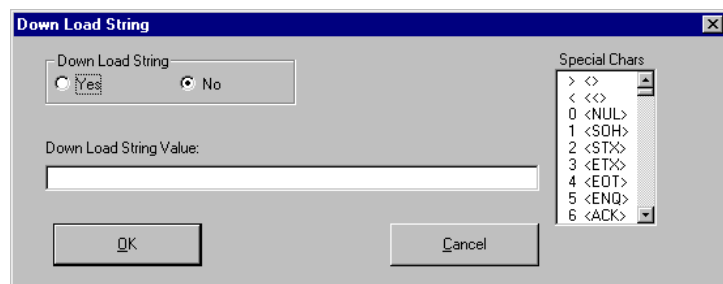
The Special Characters field can hold up to 200 characters. Keep in mind that one special character may be several characters in the Special Character field. For example, the carriage return character, <CR>, is actually four characters -- the first bracket (less than sign), the C (carriage), the R (return), and the final bracket (greater than sign).

Define Sub-Elements

Contains templates of several default element structures including Application Identifiers to be used with Code 128 and EAN-128 bar codes. You can now include multiple counts, independently changing at different increments, in the same message.

If you use one of the default templates from this box, FoxJet suggests you do not change it. You have the option of creating your own template by typing a name for it in the Template ID box. You may then choose how elements will be arranged in your template.

Format String

The following element types require a format string. All formats are case sensitive. Multiple formats are allowable in some formats as specified as shown in the tables below.

Time	Date	Expiration Date
HH mm:ss or hh mm ss	DD or dd	DD or dd
H mm ss or h mm ss	DDD or ddd	DDD or ddd
HH or hh	MM or mm	MM or mm
H or h	MMM or mmm	MMM or mmm
mm	YY or yy	YY or yy
ss	YYYY or yyyy	YYYY or yyyy

The above items can be concatenated. If the current date is January 24, 2001, then using MMM DD YYYY will print JAN 24 2001 or using MM DD YY will print 01 24 01. The DDD format will print a three character alpha day of the week such as FRI for Friday.

Mask String

Serial and user elements require a mask string. The mask string is the default string that will be printed if data is not entered or sent via RS232 communications at print time.

Data

Fixed elements require the data file to be filled in. This is the default data that will print in the message. You will be prompted for new data at the time the bar code is inserted in the message.

Some Application Identifiers have not been included in the BoxWriter software. If you need an AI that is not listed, you can create the template in this window and check the Application Identifier check box on the upper right of the window. These templates only work with Code 128 and EAN-128 bar codes.

Help

List Elements

Lists all the elements in the current task. It displays the elements data, type (text, image, etc.), horizontal and vertical position, which head it's on, and whether it is selected or not. This window is also useful in locating "lost" and "blank" elements.

About

A window will appear displaying software version number and copyright information.

Creating and Working with Task Elements

Creating a Task

To open the BoxWriter Editor, go to Operate/Edit in the BoxWriter printer, host, or workstation software. The BoxWriter Editor will automatically open to the last edited task. If you would like to edit a previously created task, go to File/Open and choose the task to be edited. If you are creating a task, you can immediately start placing elements in the editor. You can import image files into the editor and place them where you like. You can also resize an image by clicking on it and using your pointing device. For more detail, see the Resizing Logo section.

To create text, left click in the design area on the spot you would like your text to start and begin typing. You can also click on the text button located in the tool bar. Enter the text and click OK or press Enter. The new text will appear on the editor screen as selected text. You can adjust its position by clicking and dragging. The appearance can be changed by using the drop lists at the top of the editor. For more detail, see the Font Toolbar section.

Creating Bar Codes of Type Elements

When entering a bar code from Bar Code Element into a task, and you choose a Code 128 or an EAN-128 bar code, you will be allowed to select the Elements type. When you click OK, you are given the Bar Code Element List dialog box. This information was covered in the Bar Code section. However, to make full use of the bar code elements, you will need use Defines/Define Sub-Elements where you will be given a list of built-in bar code elements. Some of them are Application Identifiers and some of them are plain elements. If the bar code is an application identifier, a check will appear in the box next to Application Identifier.

In the Template ID drop list box, there is a list of existing bar code elements you may use. However, if you need a User Prompted element longer than the templates provide, do the following:

1. Highlight the text inside the Template ID drop list text box. Type in the name you wish your element to have. (USR for User Prompted for example)

2. Choose User Prompted under Element Type.

3. Under Field Type, choose whether you want your User Prompted element to be Alphanumeric, Numeric Only, or Alpha Only (alphabetic only).

4. Next specify Maximum Length by entering the number of characters your User Prompted element will have. Variable Length is not active for User Prompted elements.

5. The bottom field, Data, is the Mask for User Prompted elements. The mask you type in is simply a padded number of spaces equal to the Maximum Length. For instance, if you typed in 2 for Maximum Length, you can type in "WW" (or any two characters excluding the quote marks) for your mask.

6. Type in a description that reflects what you have created. Save and then exit.

Now, when you go to insert a bar code into your design and you are given the Bar Code Element dialog box, and you choose C128 or EAN-128, you will be given the option in the Type area to choose elements. If you select elements and click OK, you will be given the Bar code Element List. The list contains all of the templates you saw in Defines/Define Sub-Elements and the custom bar code element you created. Select the USR element and click ok to enter the element you just creating into a barcode in the task.

Below is the list of built-in bar code element templates. Remember, you can alter any of these templates to suit your needs, and it will permanently change the template in the system. However, if you delete your database, the default templates will be rebuilt the next time the software is started.

ID	Element Description	AI Code
00	Serial Shipping Container Code (SSCC)	Yes
01	EAN Item Number/Shipping Container Code	Yes
10	Batch or Lot Number	Yes
11	Production Date	Yes
13	Packaging Date	Yes
15	Minimum Durability Date	Yes
17	Maximum Durability Date	Yes
D1	Generic American Date	No
D2	Generic European Date	No
D3	3 Digit Julian Date	No
D4	Two-Digit Day	No
HC	Hour Code	No
M1	Two-Digit Month	No
MC	Month Code	No
T1	Generic Time Field	No
Y1	Last Two Digits of the Year	No
Y2	4 Digit Year	No

Custom Bar Codes

When the Define/Custom Bar codes option is selected in The BoxWriter™6000 Editor, the screen below is displayed.

> **Do not attempt to change these settings unless you know what you are doing. Any incorrect changes can cause the system to malfunction.**

Custom Bar codes is primarily used to change sizes of existing bar code types. For example, if you wanted a UPC bar code but wanted the height to be different, this is where you would change it. To do this, open your Custom Bar Codes window and do the following:

1. Select a bar code type, size, and Ink Type--in our example, you would choose I2OF5, Mag.7, VERSAPRINT.

2. Click on Load. The blanks in the dialog box will be filled with the sizes associated with the selected bar code.

3. The example is an I2OF5. An I2OF5 has only 2 sizes—Mag.7 and Mag1. Select the text inside the Size drop list box and type in any name you want to describe the new bar code variation. For example, you could call it "Mag.7C".

4. Adjust the Space and Bar Height settings. Side, Top, and Bottom Frame are widths of the frame in pixels.

5. Select Save to enter your custom bar code into the system.

6. To use your bar code, go to Tools (or right click somewhere in the layout white space and choose Insert/Bar Code) and select Bar Code. When the Bar Code properties box appears, choose I2OF5 bar code (or whatever type you made your custom bar code) and in the size drop list you will find Mag.7C in addition to Mag.7 and Mag1.

✦ The BoxWriter Host

The Host is a desktop computer that serves as a centralized database and control center connected to any combination of 16 total workstations and printers with the potential of utilizing 96 printheads simultaneously.

Operate

Start

Starts printing a new task and resets the count. The following window appears (shown right) when Start is chosen from the Operate menu. Select the printer you want to print the task. Next, select the library containing the task. When a library is chosen, its contents will be shown in the task window.

You then select the photocell. You can choose photocell A, B, or both. When all selections have been made, click on the task you want to start and then click the start task button.

From the BoxWriter Editor, in Defines/Down Load String, you can define a string of characters for downloading. If you have defined a download string previously for a serially started task, the string will be sent automatically upon task start or when the software is started and the last task running was a serially started task.

Stop

Stops a printing task. To continue printing, you have to use the Start command.

Resume

Resumes printing after using the Idle command. The count is not reset.

Idle

Suspends printing. To continue printing, you have to use the Resume command. A system may remain idle for long periods and be resumed without problems. If the system does not image properly when resumed, check the troubleshooting section of this manual for solutions.

Edit

Opens the BoxWriter Editor.

Import Task

This option allows you to import tasks created with the workstations or printers.

Export Task

This selection allows you to export tasks created on the host to workstations and printers.

Exit

Shuts down the BoxWriter™6000 Host.

View

User Log

Contains a record of user activity for the host, workstation, and printers.

Printer Report

Shows all print jobs that have been executed on the selected printer. When printer report is selected, the Select Printer dialog box opens by default.

Scanner Report

Displays a report of all scanners reads.

System

Security

Select or move the mouse over the security item and the following options will be presenting to you.

Login

To log in for the first time, type the username MARKSMAN and the password MARSMAN. Click login and you will be in the host software.

Logout

Logs the current user out of the Host software but does not close it.

Users

Adds, deletes, or modifies user information. If you are making modifications, only Password and Access Level may be changed for an existing user. To modify the username, delete it and add it again.

> **Do not delete all users with Supervisor, Administrator, and Security privileges because you would then have no way to administer your Marksman system.**

Options

This selection allows you to add up to ten security options. The Marksman comes with five default options: Operator, Programmer, Administrator, Supervisor, and Security. Each has its own set of default functions that can be modified. See the Security/Modify in the printer section for more information.

Commands

From this menu, you can select a command such as Start Task and choose what level of login security it is assigned. For instance, if you wanted everyone to be able to start a task, you would choose Start Task and then select all security levels.

Printer

Select or move the mouse over the printer item and the following options will be presenting to you.

Add/Remove

This option allows you to add or remove printers attached to the network. The computer name is the network computer name of the printer or workstation connecting to the host. The friendly name is whatever you would like to call the printer or workstation. Password is the password the printer or workstation uses to connect to the host. The Session Type option, Printer or Workstation, is grayed out once the new connection has been saved. A Session Type cannot be changed once is has been created.

Export Configuration

Export Configuration allows you to choose a connected printer and export its configuration to an .mkc file. The file can then be imported into a workstation or printer.

Clear Pending Files

Clears all updates waiting to effect printers that haven't connected since the updates were made. If you have a printer that hasn't connected to the system for a few weeks or more, the number of pending files could be huge. The best thing to do is clear the pending files and use the sync data option on the printer.

Advanced

For FoxJet technicians only!

Options

Port Number

Altering this setting can destroy your network connections. Many of the system port numbers are being used or are reserved for use. Choosing numbers without knowing which ones are being used or reserved can cause problems.

Sync Interval (in minutes)

This causes the printer to sync its clock with the host. If you enter an interval of 10 minutes, every 10 minutes the printer's clock will be set to the host. Workstation modules do not sync to the host's clock.

Sync Printer Clock

If you want to utilize this feature, click on the box. A check will appear when selected.
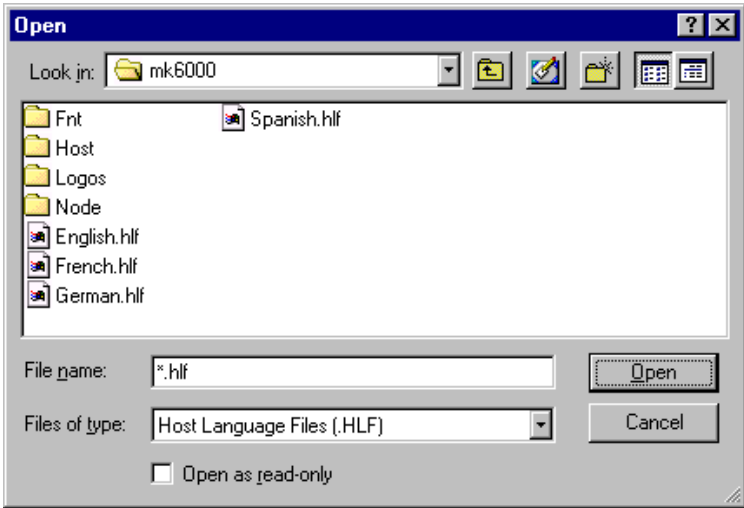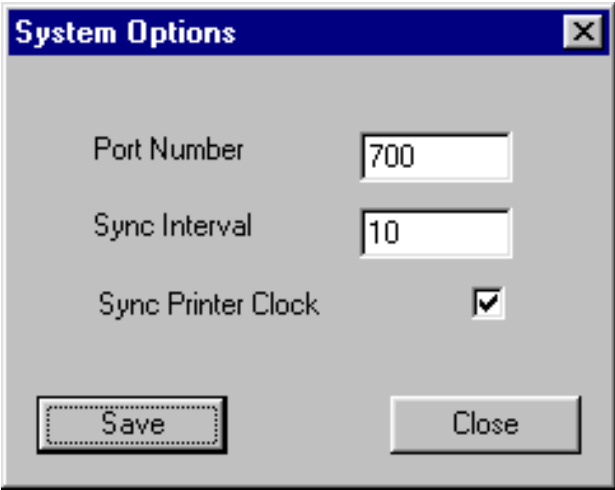
Language

The Language option allows you to select either English, French, German, or Spanish as the default language. When you select the Language option, the screen at the top of the next page appears. Select the language file you want and click open. You will receive a warning stating that the application must be restarted for the changes to take effect. Exit the software and restart. The application will now be in the language you chose.

Printer

Head Configuration

When you click on head configuration, the printer select window appears. Choose a printer from the drop down list or enter the name in the space provided then click OK. The head configuration window shown at right will be displayed. The following contains brief information about the head configuration options. For more information, refer to the head configuration section in the printer software section.

Head

For Head select a printhead to configure. Type a number in the space provided or choose one from the drop down list.

Angle

This is the mounting angle of the printhead.

Distance

For this selection enter the distance from a photocell to the selected printhead.

Ink Type

Enter the Ink Type that the particular head uses.

In Use

Select whether a head is in use or not by clicking yes or no.

Pitch

Choose from Negative or Positive pitch. Most applications call for Positive pitch.

Photocell

Choose the photocell that the printhead will use when printing.

Direction

The direction the product is moving with respect to a particular printhead. To determine the direction for a particular head, stand behind the head. The direction the product moves will be the direction for that printhead.

Head Type

This selection defines the head type for the selected printhead.

Pulse

Select single or double pulse for a particular printhead. Double pulsing will cause a darker print. However, only a 96/32 UJII, 3-shooter, or Magnum III can be double pulsed.

Text

This option sets the orientation of the print on the container. Upright prints text right side up. Inverted prints text that is upside down.

Save Changes to Head

When you have made all the necessary changes to a printhead, click Save.

System Configuration

When you click on system configuration, the printer select window appears. Choose a printer from the drop down list or enter the name in the space provided then click OK. The system configuration window shown at right will be displayed. The following contains brief information about the system configuration options. For more information, refer to the system configuration section in the printer software section.

Measure Units

Can be either metric or English.

Split Task

Sets the selected printer to a split task system if set to yes. For further information, See the Split Task section of this manual.

Date Format

The date can be displayed in either European (02 JAN 96, 02/01/96, or 02-01-96) or American (02 JAN 96, 01/02/96 or 01-02-96) format.

Photocell A and Photocell B Uses

Choose the type of encoder signal to be used with Photocell A and Photocell B (If you are not using photocell B, you won't need to configure it).

Shift Time 1, 2, and 3

The option sets the time that each shift begins. In the screen capture, the first shift (shift time 1) begins at 08:00 (8:00 a.m.) Shift time 2 is at 16:00 (4:00 p.m.) and shift time 3 is 00:00 (12:00 a.m.).

Shift Code 1, 2, and 3

Enter an alphanumeric character to represent each shift.

Out Photocell

Sends a photocell signal out through the differential port to be shared by another device. The choices are Photocell A, Photocell B, or Serial Signal.

Out Encoder

Sends the encoder signal to be shared by another device through the differential port. The choices are Encoder A, Encoder B, or Serial Signal.

Month Codes

Enter alphanumeric characters indicating a particular month. The first character represents the first month, the second character represents the second month, etc.

Hour Codes

Enter alphanumeric characters that can be included in tasks to indicate a particular hour. The first character represents the first hour, the second character represents the second hour, etc.

Photocell A

Can be named anything you like up to 12 characters.

Photocell B

Can be named anything you like up to 12 characters. However, it would not be wise to give each photocell the same name.

Encoder 1 and 2 Speed

Encoder Speed applies when you are using an internal encoder. This value is entered in inches per second times 100, and the value is to be added to or subtracted from the current setting. Example, a conveyor moving 60 feet per minute would be entered as 1200 (12 inches per second times 100). To change encoder speed, click in the box beside the item needing to be changed and enter the new value.

Port Configuration

When you click on port configuration, the printer select window appears. Choose a printer from the drop down list or enter the name in the space provided then click OK. The port configuration window shown at right will be displayed. The following contains brief information about the port configuration options. For more information, refer to the port configuration section in the printer software section.

Port

This selection allows you to choose which port you are going to configure. Click on the arrow beside the box and then choose AUX or Port A. After you specify the port, you can then configure it.

Baud Rate

The default for Port A is 9600. The default for AUX is 9600. If you connect a device to this port, the user's documentation for that device will list the appropriate baud rate.

Parity

The parity should be configured to match the device connected to the port. For example, if information is being sent with even parity, then set the parity to even or the data will not be read correctly. The default position is None.

Data Bits

Can be set to 7 or 8. The default is 8.

Stop Bits

Can be set to 1 or 2. The default is 1.

Cable Type

Port A can be configured to RS232 or RS422 with default being RS232. If you connect a device to this port, the user's documentation for that device will list the appropriate cable setting. AUX can only be configured for RS232.

Task Start Position

This option relates to the character position where the task name is located. Remember, the first character is at position 0.

Task Name Length

This option allows you to shorten the length of the task name. By default, the task name is 15 characters long. The name length may be 15 characters or less.

<u>Help</u>

About

This windows will display software version and available information.

Manual

When selected, the user's manual in PDF format will be shown in a separate Adobe Acrobat window.

✦ The BoxWriter Workstation

Networked and Stand-Alone

The Workstation software in network mode allows you to connect a desktop computer to the BoxWriter Host through a Local Area Network (LAN). If the workstation software is in stand-alone mode, you must export settings from printers and import them into the workstation. You must change settings in the workstation for each printer on which you edit tasks. Through the workstation software, you can import, edit, and export tasks back to the printer(s). You can also modify security commands and host communications as well.

Operate

Edit
Opens the BoxWriter Editor.

Exit
Closes the workstation program. You must be logged in to exit the program.

Security

Modify
Add, delete, or change user information.

> **Warning: Be sure you do not delete all users with Supervisor, Administrator, and Security privileges. The system will allow you to delete all users leaving you with no way to administer your Marksman system.**

Login
Logs you into the workstation program. Default user is MARKSMAN with MARKSMAN password.

Logout
Logs you out of the workstation software.

Commands

Gives you the ability to determine what each security login is capable of controlling. For instance, the commands dialog box enables you to configure the software so that only an Administrator can start or stop a task.

Options

This selection allows you to create security login options. For example, you could create an option called Guest and configure the system to allow the Guest to do only what you choose.

<u>System</u>

> **The System/Host settings are only active if the workstation is networked to the host**

Host Login

Connects the workstation to the BoxWriter Host.

Host Logout

Disconnects the workstation from the BoxWriter Host.

Host Configuration

Configures communications with the host.
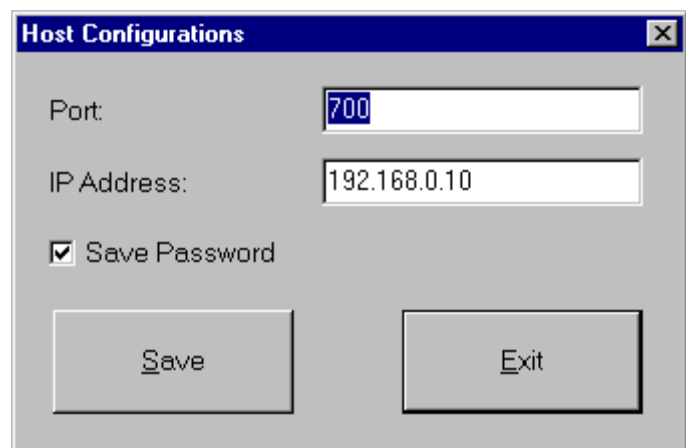
Port
> The port number should not be changed by anyone who is not absolutely sure of what they are doing. Default is 700.

IP Address
> The IP address is the computer's Internet Protocol. It is a 32 bit binary number that uniquely identifies a computer on a network.

Save Password
> Checking the save password option allows the workstation to automatically connect to the host without having to prompt you for the password. If this option is not checked, you will have to enter the password each time you connect to the host.

Utilities

Sync Data (only present if the workstation is networked to a host)

Downloads data from the host and stores it locally. This option is only active if the workstation is networked to a host.

Export to File

Export to File is used to move settings, tasks, etc. from one system to another. If you need to edit a task that is on a particular Marksman printer or workstation, you would not only export the task itself, but you would also need to export the configuration as well. The workstation uses default factory settings, which probably does not match your actual system setup. Exporting the configuration from the printer lets you take it and import it to the workstation. Once the task has been edited, you must export it from the workstation and import it back into the printer.

Import from File

After a file has been exported and is on a floppy disk or in a network accessible directory, you must use Import from File to get that information to the desired location.

If you exported the configuration from a printer and need to have it on your workstation for editing a task, then you would use Import From File to set the workstation up just like the printer that the task came from. This insures the task will print correctly when it is exported from the workstation and imported back into the printer.

Help

User's Manual

The option display the user's manual in PDF format in an Abode Acrobat window.

About

Displays software version information.

Technical Assistance

This section of the manual will provide you with detailed information for the Marksman printer hardware and software. This section is provided to assist you with maintenance and troubleshooting. However, this is not a substitute for the expertise of a factory authorized distributor or FoxJet representative. Please call for assistance if you are experiencing a problem that you are unsure how to fix.

The Technical Assistance section is split into four section, Printer Hardware and Software, Printhead Troubleshooting, and Preventative Maintenance.

The Printer Hardware and software sections contain information such as technical specifications, dimensions CMOS settings, and other information not covered in the Marksman software portion of the manual. Also including in this section is step-by-step instructions on how to install and setup a network card in a standalone Marksman printer to make it a network Marksman printer.

In the Printhead Troubleshooting section you will find basic troubleshooting techniques to use with the printhead and Marksman controller. Information contained includes correcting printhead configuration and priming issues as well as basic errors that may occur on the Marksman printer.

The final section, Preventative Maintenance, will focus on techniques to keep the printer running in showroom condition. In addition to preventative maintain, proper shutdown procedures are also discussed in this section.

Marksman Printer Hardware

FXJet Marksman Printer Specifications

Air Pressure Requirements	15 PSI for NEMA 4 Option
Electrical Requirements	110v/220v, 50-60Hz, 42 amps
System Weight	46 lbs./20.9 kg
Case Construction	Heavy Gage Stainless Steel, NEMA 2 std., NEMA 4 Optional
Conveyor Requirements	Slider Belt Conveyor
Acoustic Noise	Less than 45 DBA
Encoder	External Conveyor Mounted at 307 Pulses per Inch or Internal
Mounting Options	Table Top, Floor Stand, or Wall Mount
Keyboard	Built-in 81 Key
Display	10.4" Color Backlit Touch Screen
Application Software	BoxWriter
Operating System	Windows 95
Internal Counters	Date, Time, Shift, and Count
Alarms	Warning Indicators and Optional Strobe Light
Diagnostics	Temperature and Ink Status
Printhead Cable Length	Up to 100 Feet
Printheads Supported	96/32 UJII, 3-Shooter, Magnum III, 192/32 UJII, 6-Shooter, Magnum VI, 352/32 UJII, 8-Shooter, Magnum XI, AlphaCoder

Ink Compatibility By Printhead

	VersaPrint	AlphaMark
96/32 UJII	✪	
192/32 UJII	✪	
352/32 UJII	✪	
AlphaCoder		✪

Environmental Limits

	Operating	Storage	Transit
Temperature (°F)	32 to 104	-40 to 104	-40 to 104
Temperature (°C)	0 to 40	-40 to 40	-40 to 40
Relative Humidity (%)	10 to 80	10 to 90	5 to 95

Print Messages

Maximum Length	40 Inches
Alphanumeric Lines per Head	Up to 5
Fonts	All True Type Windows Fonts
Bar Code	I2OF5, Code 39, Code 128, UPC-A, EAN 13, EAN 128 (Code 128 and EAN 128 can contain Application Identifiers)
Message Storage	100,000 Messages
Graphic/Logos	BMP Files (bitmap, 2 colored), Sized on Screen

Marksman printer overall dimensions

The following diagrams depict the overall dimensions of the Marksman printer. For additional dimension measurements and mounting instruction see Mounting Options on the following page.

17.50 in
44.50 cm

1.00 in
2.54 cm

.375 in
.953 cm

3.375 in
8.57 cm

.50 in
1.27 cm

15.88 in
40.4 cm

16.00 in
40.64 cm

21.00 in
53.34 cm

Marksman Front Panel

9.625 in
24.45 cm

1.5 in
3.81 cm

5.875 in
14.93 cm

.625 in
1.59 cm

1.5 in
3.81 cm

1.25 in
3.18 cm

8.25 in
20.96 cm

4.875 in
12.38 cm

.875 in
2.22 cm
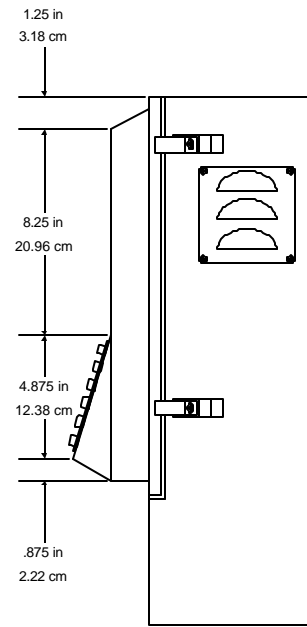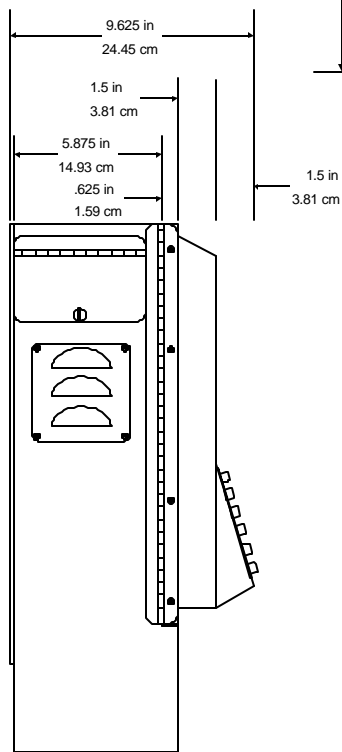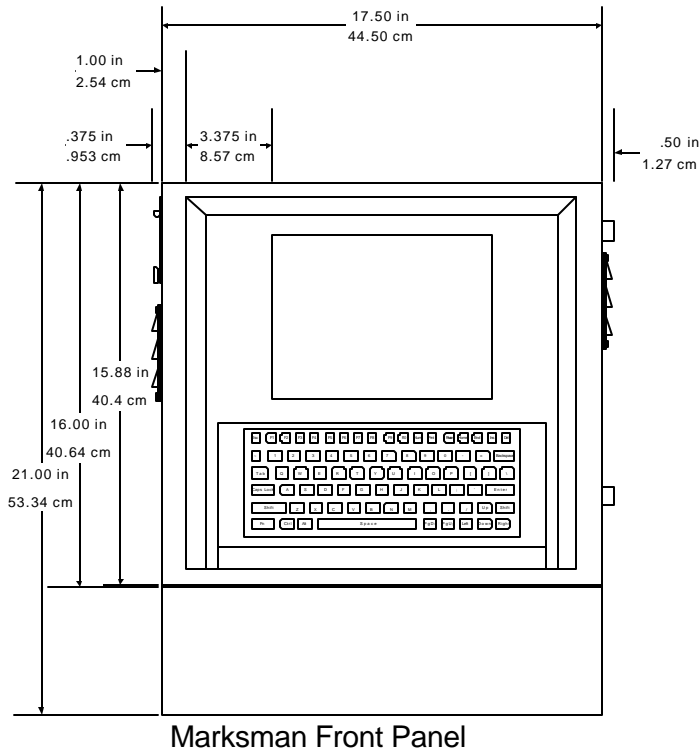
Marksman Left Panel

Marksman Right Panel

Mounting Options and Dimensions for the Marksman Printer

There are several ways to mount the Marksman printer. Two mounting brackets are included with the Marksman printer in order to more easily install the printer into a production setting. In order to install the mounting brackets, use a 1/8" hex key wrench and the supplied 10-32 ½" flathead screws.
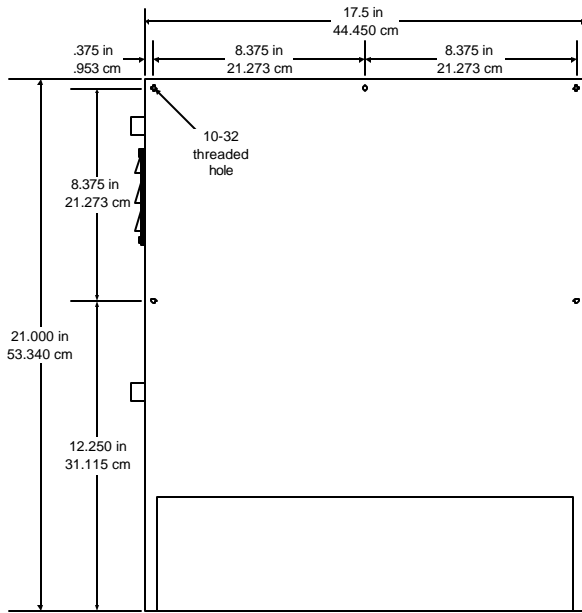
Back Panel without Mounting Brackets
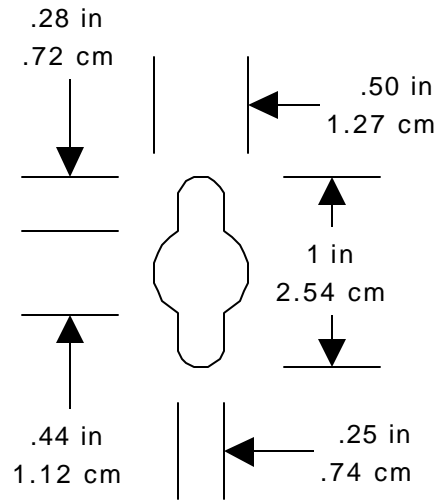
Mounting Eye Hole on Bracket
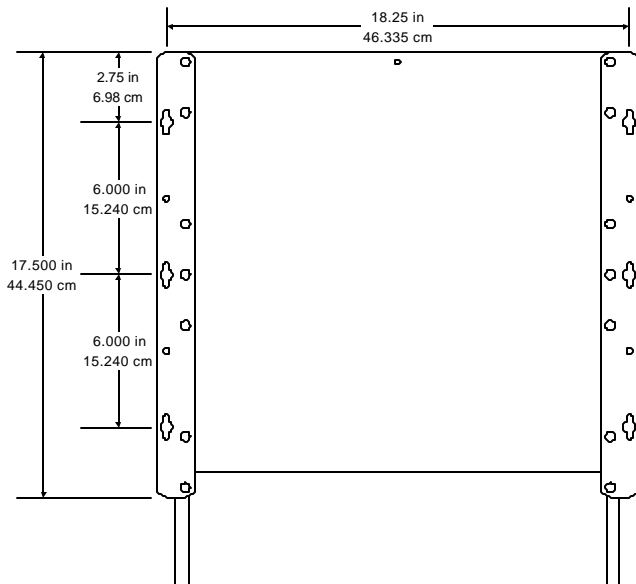
Vertical Mounting Option
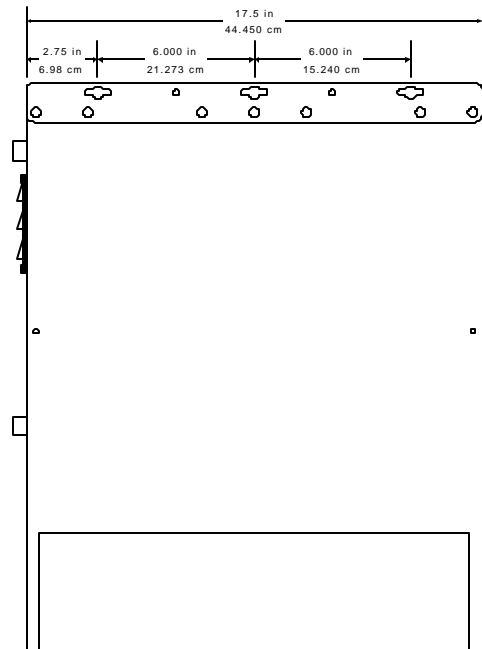
Horizontal Mounting Option

Connecting External Devices to the Marksman Printer

Connect all external devices to the proper ports. The following diagram and descriptions will provide a brief overview of the correct connection points for each of the devices that connect to the Marksman.

Parallel Port
Used to connect a desktop printer or a Backpack® bantum CD-Ro m drive.

Encoder A
Connect an external shaft encoder into this port. It will be referred to in the software as encoder A.

Encoder B
Connect an external shaft encoder into this port. It will be referred to in the software as encoder B.

Strobe
An external strobe device can be connected to this port. In addition, the customer may wish to activate a PLC upon an error condition by connecting it to this port.

Aux (Auxiliary Port)
Used primarily for a hand scanner for the purpose of scan and shoot operation, but also used for serial communications.

Port A
Primarily used to connect a fixed mount scanner.

Keybd (External Keyboard Port)
Used to connect an external keyboard.

Com 1
Primarily used to connect a fixed mount scanner.

Video (External Monitor Port)
Used to connect a monitor.

BNC (Bayonet Nut Connection)
Used for coaxial network connections.

TP (Twisted Pair)
Used for twisted pair network connections.

In
Used for inputting serial encoders and photocells.

Out
Used for outputting serial encoders and photocells.

Head 1-6
Connect printheads 1-6 to these ports. Some of these ports may be left blank.

Modem
Used for remote diagnostics.
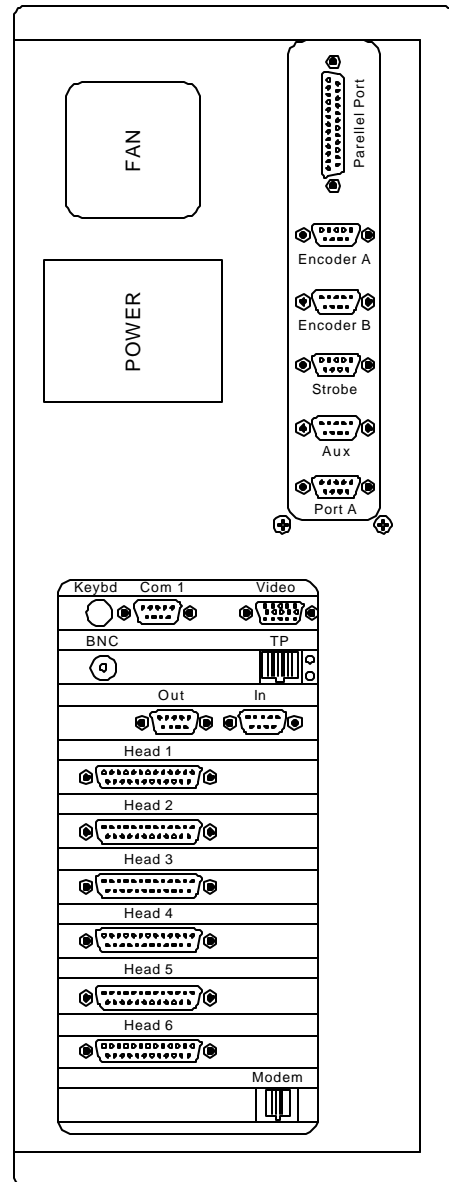
Pin outs for Bottom panel DB9 and DB25 ports

Six external device ports are available on the Marksman printer as a standard feature. They are used to connect external encoders, strobes, scanners, and other devices. Below are the pin outs of each port for your convenience.
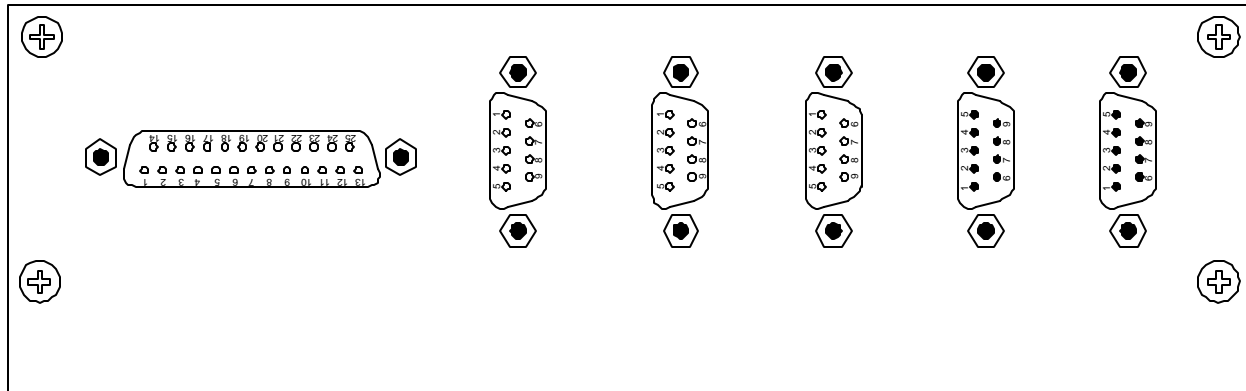
	Parallel Port		A	B	Strobe	Auxiliary	Port A
				Encoder			

Pin	Parallel Port	Encoder A	Encoder B	Strobe	Auxiliary	Port A
1	Strobe	Tach B+	Tach B+	+12V	+12V	DCD
2	Data Bit 0	Tach B-	Tach B-	Not Used	RXD	RXD
3	Data Bit 1	GND	GND	+5V	TXD	TXD
4	Data Bit 2	Tach A-	Tach A-	Strobe Out	Not Used	DTR
5	Data Bit 3	Tach A+	Tach A+	GND	GND	GND
6	Data Bit 4	GND	GND	Not Used	Not Used	DSR
7	Data Bit 5	+12V	+12V	GND	RTS	RTS
8	Data Bit 6	+12V	+12V	Strobe Out	CTS	CTS
9	Data Bit 7	GND	GND	Not Used	Not Used	RI
10	Acknowledge					
11	Busy					
12	Paper End					
13	Select					
14	Auto Feed					
15	Error					
16	Printer Init.					
17	Select					
18	GND					
19	GND					
20	GND					
21	GND					
22	GND					
23	GND					
24	GND					
25	GND					

Door Assembly

The following diagram identifies the connection points as well as the circuit board used to control the touch screen and keyboard.

FxJet Marksman Door Assembly - 61276

Touchscreen Controller Board - 1049268

Inverter Light Board - 1049238

LCD Interface Board - 61261

Video - To Motherboard (Video)

+5V - To Passive Backplane

Mouse Control - To Motherboard (COM2)

Keyboard - To Motherboard (Keyboard)

Analog Power Supply 1 & 2 115/230 AC

Digital Power Supply 115/230 AC

Ground Wire
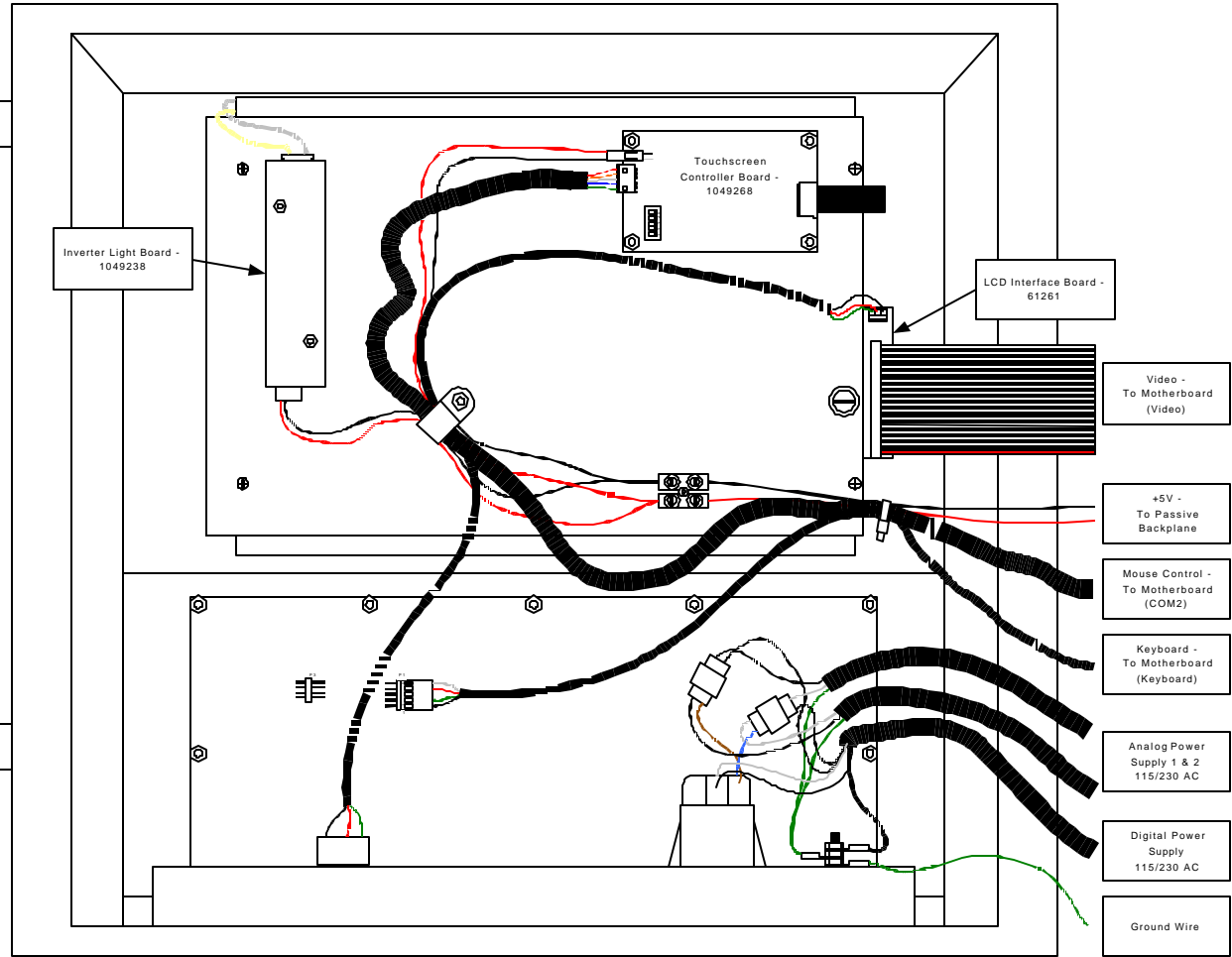
Printhead Controller Board Settings

The Marksman controller can control up to six printhead assemblies. A separate Printhead Controller Board (PHC) is necessary for each head. Each PHC must be jumpered correctly for the specific head number that it is to control.
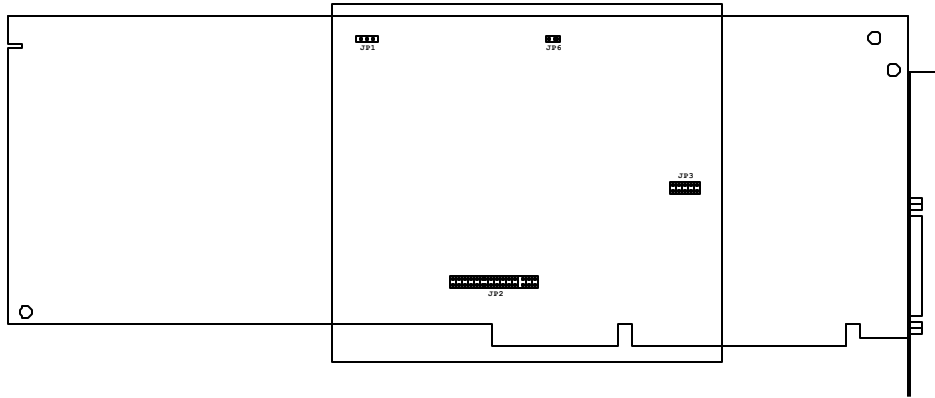
Head 1   Head 2   Head 3
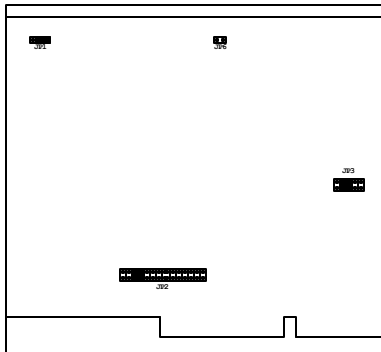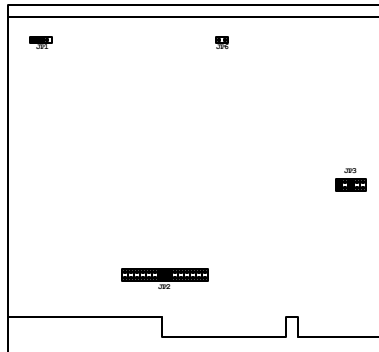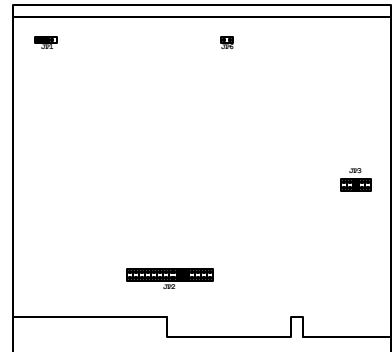
Head 4   Head 5   Head 6
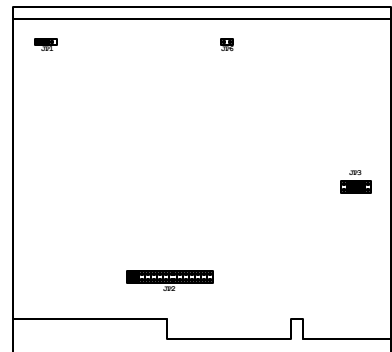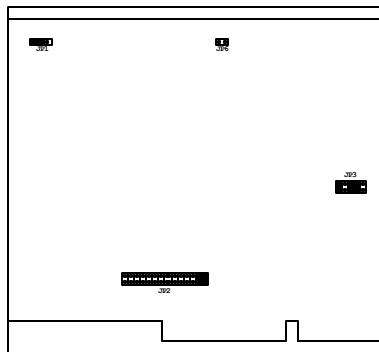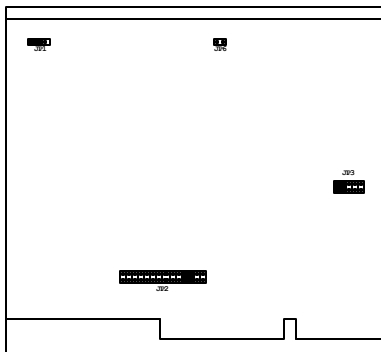
Single Interface Board Settings (SIB)

The SIB board controls the interface of information between the PHC boards and the motherboard. In order to use a standard encoder (P.N. 5277), remove the DIFF ENC jumper and move the encoder wire from DIFF ENCODER to ENCODER.
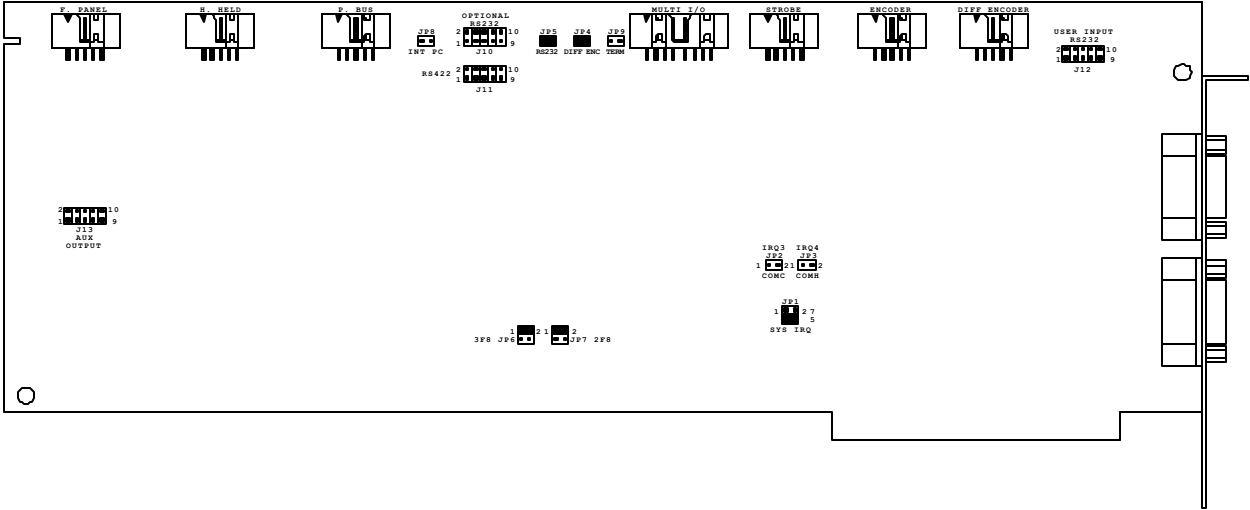
Motherboard Settings

Ensure that the jumper setting on the motherboard match the factory specifications.
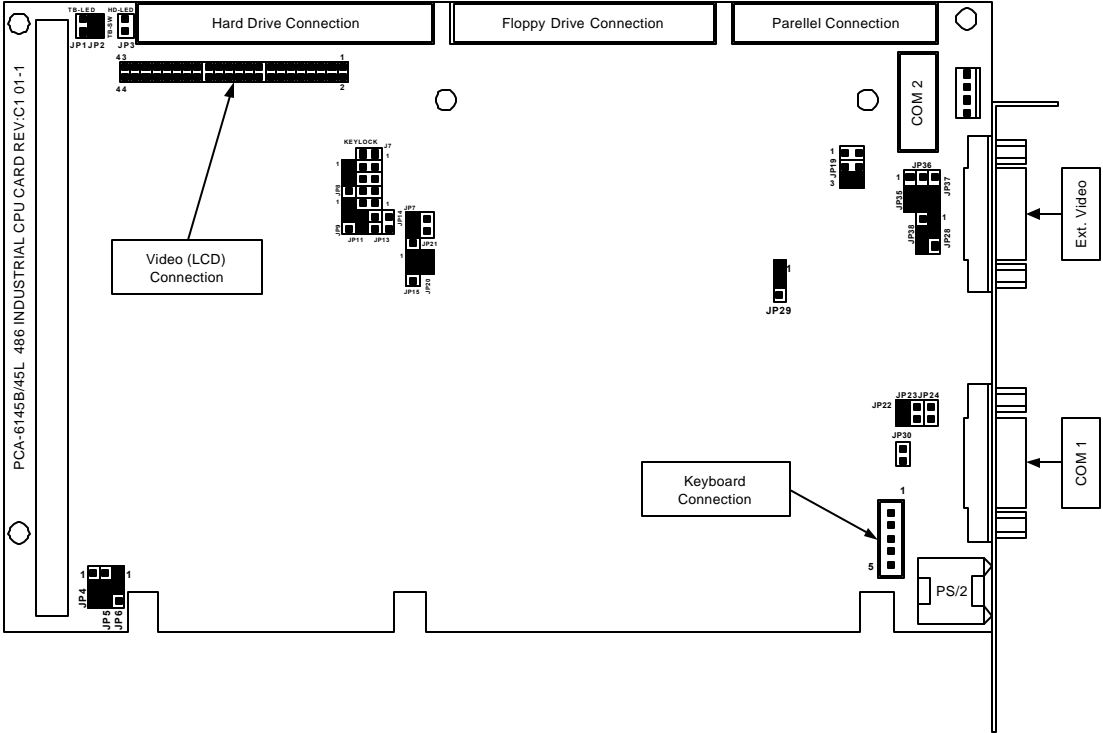
Network Card and Modem Settings

The following diagram depicts the correct switch and jumper settings. The Marksman has very few available IRQ slots, so it is necessary to set the LAN card and modem exactly as specified. The part number for the LAN Card is 1049126. The modem's part number is 1049215

IRQ	I2	I1	I0
2/9	0	0	0
3	0	0	1
4	0	1	0
5	0	1	1
10	1	0	0
11	1	0	1
12	1	1	0
15	1	1	1

I/O	A3	A2	A1	A0
300	0	0	0	0
320	0	0	0	1
340	0	0	1	0
360	0	0	1	1
380	1	0	0	0
3A0	1	0	0	1
3C0	1	0	1	0
3E0	1	0	1	1
200	1	0	0	0
220	0	1	0	1
240	0	1	1	0
260	0	1	1	1
280	1	1	0	0
2A0	1	1	0	1
2C0	1	1	1	0
2E0	1	1	1	1

ON   EGE

1 2 3 4 5 6 7 8 9 10 1112

JP1
* PnP
S.W.
H.W.

JP2
AUI
*TP/BNC

EAI

JP3   1

PNP

MAN 1

IRQ   11 9 5 3

12 10 7 4
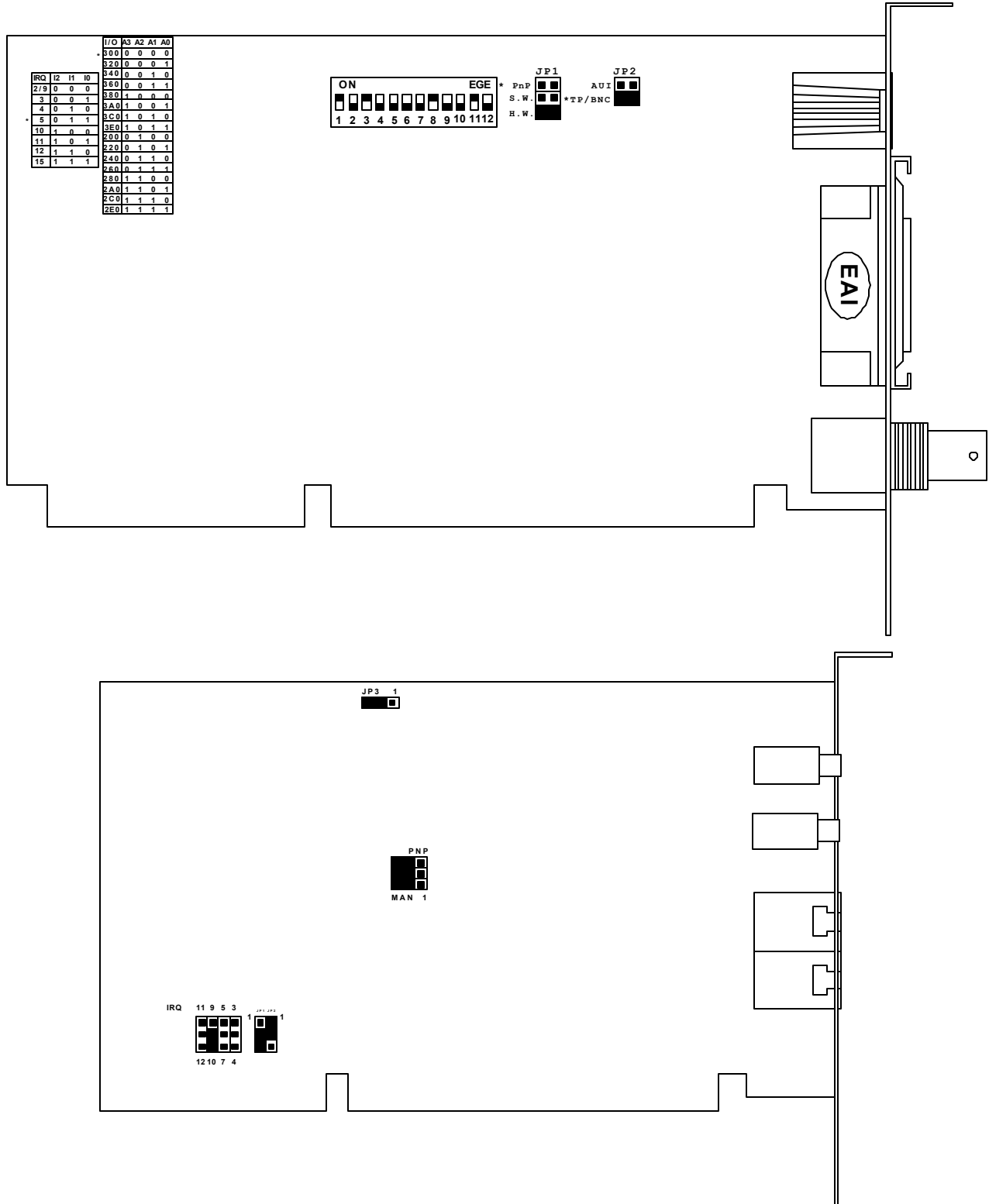
Marksman Printer Software

CMOS Settings for Marksman Motherboard

The following is a list of the CMOS settings required to run the BoxWriter software correctly. In order to enter the CMOS setup, press the DEL key upon boot up of the system.

CMOS SETUP

Date: Set to current date.   Time: Set to current time.

	Type	Cyl	HD	PREcomp	Lzone	Sectors	Size	Mode
Hard Disk C	Auto	0	0	0	0	0	0	Auto
Hard Disk D	Auto	0	0	0	0	0	0	Auto

Floppy Drive A	1.44 MB 3 $^{1}/_{2}$
Floppy Drive B	Not Installed
Video	EGA/VGA
Halt On	No Errors

Bios Features		**Chipset Features**	
Virus warning	disabled	Auto configuration	enabled
CPU internal cache	enabled	Decoupled refresh	enabled
External cache	enabled	Relocate 256K/384K	disabled
Quick power on self test	enabled	Video BIOS cacheable	enabled
Boot sequence	A,C	System BIOS cacheable	enabled
Swap floppy drive	disabled	External cache scheme	write back
Boot up floppy seek	enabled	Combine alter & tag bits	enabled
Boot up number lock status	off	CHRDY for ISA master	enabled
Boot up system speed	High	Memory hole at 15 MB addr.	disabled
IDE HDD block mode	Enabled	Cache timing control	fast
Gate A20 option	Fast	DRAM timing control	fast
Memory parity check	disabled	Fast DRAM	enabled
Typematic rate setting	disabled	Burst write	disabled
Typematic rate (char/sec)	6	CPU write back cache	disabled
Typematic delay (msec)	250	Set turbo pin function	turbo
Security option	setup	Set mouse lock	disabled
PS/2 mouse function control	disabled	Onboard local bus IDE	enabled
OS select for DRAM>64MB	non-OS2	IDE primary master PIO	auto
Video BIOS shadow	enabled	IDE primary slave PIO	auto
C8000-CBFFF shadow	disabled	Onboard FDC controller	enabled
CC000-CFFFF	disabled	Onboard UART 1	3F8/IRQ4
D0000-D3FFF	disabled	Onboard UART 2	2F8/IRQ3
D4000-D7FFF	disabled	Onboard parallel port	3BC/IRQ7
D8000-DBFFF	disabled	Parallel port mode	normal
DC000-DFFFF	disabled		

Serial Protocol

The serial protocol option allows the user, after logging into the Marksman, to use remote commands to control the Marksman system through a serial port (AUX port or Port A).

Although the serial communication specifications can be changed through the Marksman software in the System, Port Configuration screen, the default values are as follows:

Baud Rate	9600
Parity Bit	None
Data Bits	8
Stop Bit	1
Flow Control	None

Note, Flow Control cannot be modified and must be specified as none on the remote computer.

Starting Tasks from the active library

In order to start a task through the serial protocol, the Marksman must already have the task saved in its memory. See the editor portion of this manual for help on creating tasks. Once the task is created and saved, the remote computer can call a task up from the Marksman memory by sending a start command in the format below. Note, the Marksman will only search the active library for the task. The active library is the library in which the currently printing task or last printed task is located.

O	S	P_H	T	A	S	K	N	A	M	E	*	*	*	*	*	*	*	ESC	CR
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

- P_H is the number of the photocell you wish to start in a split task system. A P_H of "space" starts both photocells. A P_H of 1 or 2 will start that respective photocell.

- TASKNAME is the name of the task that is to be started. It is not necessary to pad the taskname with spaces.

- ESC (Escape) is ASCII 27 and CR (Carriage Return) is ASCII 13.

Starting Tasks from any library

If you need to start a task from a library that is not active, you may specify the library for the Marksman to search through. Use the following format.

O	S	P_H	T	A	S	K	N	A	M	E	*	*	*	*	*	*	*	L	I
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

B	R	A	R	Y	N	A	M	E	*	*	*	*	ESC	CR
20	21	22	23	24	25	26	27	28	29	30	31	32	33	34

- TASKNAME is the name of the task that is to be started. It is necessary to pad the taskname with spaces

- LIBRARYNAME is the name of the library that contains the task to be started. It is necessary to pad the libraryname with spaces.

Stopping Tasks

If you need to stop a task that is currently running, use the following format.

O	T	P_H	ESC	CR
0	1	2	3	4

- P_H is the number of the photocell you wish to stop in a split task system. A P_H of "space" stops both photocells. A P_H of 1 or 2 will stop that respective photocell.

Requesting Printer Status

The Marksman has the ability to give its current status to the remote computer. In order to prompt the Marksman to transfer its current status, send the following command.

O	M	ESC	CR
0	1	2	3

In return, the Marksman will reply in the following 152 characters. Note the bolder boxes are single items.

P	H	O	T	O	C	E	L	L	S_P	A	T	A	S	K	N	A	M	E	A	S_P	S_P	S_P	S_P	S_P	S_P
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

L	I	B	R	A	R	Y	N	A	M	E	A	S_P	S_P	S_P	S	T	A	T	E	A	S_P	C	O	U	N	T	A	S_P	S_P	S_P
26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56

P	H	O	T	O	C	E	L	L	S_P	B	T	A	S	K	N	A	M	E	B	S_P	S_P	S_P	S_P	S_P	S_P
57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82

L	I	B	R	A	R	Y	N	A	M	E	B	S_P	S_P	S_P	S	T	A	T	E	B	S_P	C	O	U	N	T	B	S_P	S_P	S_P
83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113

AC1	AT1	HT1	LI1	HV1	OI1	AC2	AT2	HT2	LI2	HV2	OI2	AC3	AT3	HT3	LI3	HV3	OI3	AC4	AT4	HT4	LI4	HV4	OI4	AC5	AT5	HT5	LI5	HV5	OI5
114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143

AC6	AT6	HT6	LI6	HV6	OI6	SYE	CR
144	145	146	147	148	149	150	151

- Depending on the outcome of the request, all fields of the top four data rows will be padded with spaces where needed to fill the entire data field.

- If either photocell is not active, each data field will be filled in with asterisks for that photocell.

- If any head is not set to in use "Yes", then the 5 data fields associated with that head are filled with asterisks. When there is no PHC card for the head, all 6 fields are asterisked.

- If any head conditions are set to "E" on any head, the SYE field or System Error field is set to Y and this also indicates that the strobe light is enabled and printing has been stopped due to this error.

- The following describes each head data field. Note, each data field is suffixed with a number that indicates the head that it relates to. This applies to characters 114-149.

Field	Description	Values	Comment
AC#	Print Head In Use?	Y/N	If N, next 5 fields are asterisked.
AT#	At Temp?	Y/E	If E, SYE is set to Y
HT#	Head Heater On?	Y/N	
LI#	Low Ink?	Y/E	If E, SYE is set to Y
HV#	High Volt OK?	Y/E	If E, SYE is set to Y
OI#	Out of Ink?	Y/E	If E, SYE is set to Y

- All remote commands are ended with ESC (ASCII 27) and CR (ASCII 13).

- All remote commands except printer status request return a response of the following.

For Successful Commands, | 1 | CR |
                                               0   1

For Unsuccessful Commands, | 0 | CR |
                                                 0   1

Sending Variable Text to the Marksman

If the message that you are printing has an element with a type set to serial, the Marksman has the ability to receive that serial data through the AUX port or PORT A serial port and fill in the element with this data. For more information on message creation with serial data elements, please refer to the editor portion of this manual. For more information on Port Configuration refer to System, Port Configuration in the printer section of the manual.

The format for the serial data string is simply a string of text up to 255 characters long ending with only a CR (ASCII 27) character.

V	A	R	I	B	L	E		T	E	X	T		H	E	R	E	...	CR
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	...	254

Guidelines for Installing BoxWriter™ and Marksman® Software V.3.20

In order to proceed in the correct installation path, please refer to the following flow diagram. Once you have determined which installation path to follow proceed to the section for that installation.

Note: If you are upgrading an existing system, please find the currently installation version number in the Help, About box on the Main system screen.
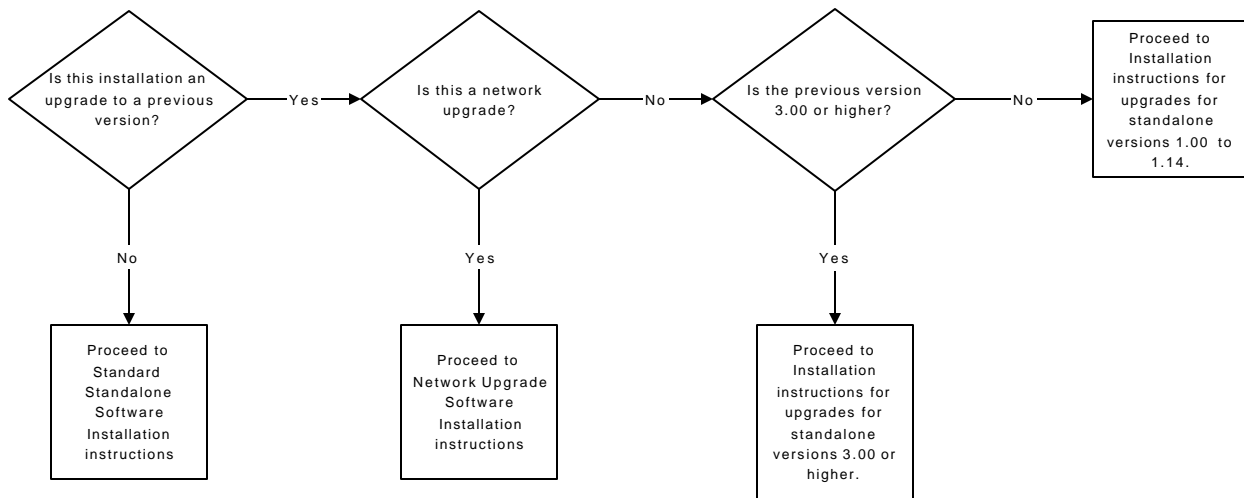
The following pages present the installation instructions for each installation path. Complete only one of the installation paths.

Before upgrading any software exit the printer, workstation, or host software even if the installation instructions do not explicitly state this. Only remain in the software if you are told to use a function only found inside the software.

Note, although the installation comes with four floppy disks, depending on the installation type that you choose (host, workstation or printer), the installation may only prompt you for three of the four disks. Simply following the prompts on the screen to insure that you have inserted the correct disk.

Standard Standalone Software Installation Instructions

1. Insert the BoxWriter Version 3.20 Disk #1 into the floppy drive. For host or workstation installations, you may also use the CD-Rom version of the installation in which case you will need to insert the CD-Rom into the CD-Rom drive of the computer.

2. From the Start menu, choose Run. Next, type **X:\Setup** and click OK. Replace "X" with the name of the drive. For most floppy drives, the letter will be "A", whereas CD-Rom drives will most often be "D".

3. Follow the on-screen instructions and be sure to select the correct software application during the installation (Host, Workstation, or Printer).

4. Once the software installation is complete, you will be prompted to restart your computer. Click OK.

5. After the system has rebooted and the application is running, the system will prompt you whether you wish to run the standalone or network version of the software. If this system will be connected to a host computer, select network. If not, select standalone. You may also click the "do not prompt again" option so that the software will automatically answer this question for you in the future.

6. Next, log in to the printer software using the following:

7. Username: MARKSMAN

8. Password: MARKSMAN

9. This is the completion of the Standard Standalone Software Installation Instructions. Do not continue on to other types of installations. Refer to your user's manual for information on how to use your BoxWriter software.

Installation Instructions for upgrades for standalone versions 3.00 or higher

1. Before upgrading your software, make a backup of the software directory in case an error occurs during setup. To do this, Click Start, Programs, Windows Explorer.

2. On the left side of the screen you should see the contents of the C drive. If the contents are not visible, double click on the C drive icon.

3. Click on the MK6000 directory.

4. Click on the Edit Menu option and select Copy.

5. Click on the C Drive icon on the left side of the screen.

6. Click on the Edit Menu option and select Paste.

7. There should now be a "Copy of MK6000" directory in the C drive on the left side of the screen. Click on it, Click on File in the menu, and click on rename.

8. Rename the "Copy of MK6000" to "MK6000XXX" where "XXX" is the name of the previous version of software you are upgrading from (MK6000312).

9. Double-click on the MK6000 directory and Double-click on the "LNODE" directory.

10. Click on the File menu option and select Rename.

11. Change the name of the LNODE directory to DATA.

12. Exit the Windows Explorer Program.

13. Insert the BoxWriter Version 3.20 Disk #1 into the floppy drive. For workstation installations, you may also use the CD-Rom version of the installation in which case you will need to insert the CD-Rom into the CD-Rom drive of the computer.

14. From the Start menu, choose Run. Next, type **X:\Setup** and click OK. Replace "X" with the name of the drive. For most floppy drives, the letter will be "A", whereas CD-Rom drives will most often be "D".

15. Follow the on-screen instructions and be sure to select the correct software application during the installation (Workstation, or Printer).

16. Once the software installation is complete, you will be prompted to restart your computer. Click OK.

17. After the system has rebooted and the application is running, the system will prompt you whether you wish to run the standalone or network version of the software. If this system will be connected to a host computer, select network. If not, select standalone. You may also click the "do not prompt again" option so that the software will automatically answer this question for you in the future.

18. Next, log in to the printer software using the following:

19. Username: MARKSMAN

20. Password: MARKSMAN

21. The software will not contain any of your previous information. You must import the data from the previous version. To do this, choose Utilities, Import from File from the menu.

22. Choose Task and select the library to import the data into. If you would like to create a new library first to import the data into, please enter the editor before attempting to import data and select File, Add Library from the Editor's menu to add a new library to the system.

23. After selecting the library, you will be prompted for the correct location for the file containing the import information. In the Look In box select the down arrow and choose the MK6000 directory. First select the C drive then in the box below choose the MK6000 directory.

24. Type mk6v3cnv.cvt in the File Name box and Click Open.

25. Next, import the Configuration file from the previous version. Choose Utilities, Import from File.

26. Choose the Config option and Click OK. In the same method as above select the MK6000 directory and type mk6v3cnv.cvm into the File Name box and Click Open.

27. Exit out of the software and reenter by clicking on the appropriate icon on the desktop. Use the same security name as before to log in.

28. You will lose the security portion of the database, but the Workstation or Printer should be identical to previous version. You will need to recreate your security preferences.

29. This is the completion of this type of Installation Instructions. Do not continue on to other types of installations. Refer to your user's manual for information on how to use your BoxWriter software.

Installation Instructions for upgrades for standalone versions 1.00 to 1.14

1. Before upgrading your software, make a backup of the software directory in case an error occurs during setup. To do this, Click Start, Programs, Windows Explorer.

2. On the left side of the screen you should see the contents of the C drive. If the contents are not visible, double click on the C drive icon.

3. Click on the MK6000 directory.

4. Click on the Edit Menu option and select Copy.

5. Click on the C Drive icon on the left side of the screen.

6. Click on the Edit Menu option and select Paste.

7. There should now be a "Copy of MK6000" directory in the C drive on the left side of the screen. Click on it, Click on File in the menu, and click on rename.

8. Rename the "Copy of MK6000" to "MK6000XXX" where "XXX" is the name of the previous version of software you are upgrading from (MK6000114).

9. Exit the Windows Explorer Program.

10. Insert the BoxWriter Version 3.20 Disk #1 into the floppy drive.

11. From the Start menu, choose Run. Next, type **X:\Setup** and click OK. Replace "X" with the name of the drive. For most floppy drives, the letter will be "A".

12. Follow the on-screen instructions and be sure to select the Printer software application during the installation.

13. Once the software installation is complete, you will be prompted to restart your computer. Click OK.

14. After the system has rebooted and the application is running, the system will prompt you whether you wish to run the standalone or network version of the software. If this system will be connected to a host computer, select network. If not, select standalone. You may also click the "do not prompt again" option so that the software will automatically answer this question for you in the future.

15. Next, log in to the printer software using the following:

16. Username: MARKSMAN

17. Password: MARKSMAN

18. The software will not contain any of your previous information. You must import the data from the previous version. To do this, choose Utilities, Import from File from the menu.

19. Choose Task and select the library to import the data into. If you would like to create a new library first to import the data into, please enter the editor before attempting to import data and select File, Add Library from the Editor's menu to add a new library to the system.

20. After selecting the library, you will be prompted for the correct location for the file containing the import information. In the Look In box select the down arrow and choose the MK6000 directory. First select the C drive then in the box below choose the MK6000 directory.

21. Type mk6v3cnv.cvt in the File Name box and Click Open.

22. Next, import the Configuration file from the previous version. Choose Utilities, Import from File.

23. Choose the Config option and Click OK. In the same method as above select the MK6000 directory and type mk6v3cnv.cvm into the File Name box and Click Open.

24. Exit out of the software and reenter by clicking on the appropriate icon on the desktop. Use the same security name as before to log in.

25. You will lose the security portion of the database, but the Printer should be identical to previous version. You will need to recreate your security preferences.

26. This is the completion of this type of Installation Instructions. Do not continue on to other types of installations. Refer to your user's manual for information on how to use your BoxWriter software.

Network Upgrade Software Instructions

Note: Upgrading a network system is a lengthy process. It requires that the each printer be shutdown and idled for at least 30 minutes. Please make sure that your production can accommodate this. Make sure that all workstations and printers are currently connected to the host to assure good network connectivity. When all the systems are connected to the host system, record the computer name and friendly name of each system connected to the host. After you recorded all the system information, disconnect the network wire from each of the printers and workstations. Each system should drop offline within a few minutes and will run in standalone until further notice.

BoxWriter Host

1. Before upgrading your software, make a backup of the software directory in case an error occurs during setup. To do this, Click Start, Programs, Windows Explorer.

2. On the left side of the screen you should see the contents of the C drive. If the contents are not visible, double click on the C drive icon.

3. Click on the MK6000 directory.

4. Click on the File Menu option and choose rename.

5. Rename the "MK6000" to "MK6000XXX" where "XXX" is the name of the previous version of software you are upgrading from (MK6000312).

6. Exit the Windows Explorer Program.

7. Insert the BoxWriter Version 3.20 CD-Rom into the CD-Rom drive.

8. From the Start menu, choose Run. Next, type **X:\Setup** and click OK. Replace "X" with the name of the drive. For most CD-Rom drives, the letter will be "D".

9. Follow the on-screen instructions and be sure to select the Host software application during the installation.

10. Once the software installation is complete, you will be prompted to restart your computer. Click OK.

11. After the system has rebooted and the application is running, log in to the Host software using the following:

12. Username: MARKSMAN

13. Password: MARKSMAN

14. The software will not contain any of your previous information. The data will be imported via the printers and workstations. The security protocol must be recreated from scratch.

15. Next, setup each of the printers that were connected to the host earlier. This information should be recorded prior to the installation process as documented above.

16. Leave the BoxWriter Host software running.

Marksman Printers and Workstations

1. First, select the printer with the production line down. If none are down, you must wait until that time presents itself before continuing. This process could take as long as an hour.

2. Log into the available printer as administrator.

3. Goto Utilities, Export to file. Select Task and Click OK.

4. The Task Export Screen will appear. Select one of the libraries and select all the tasks in that library. Remember the library name that you are exporting.

5. Next, choose the location to save the exported file. Most likely it will default to the MK6000 directory. This is an ideal location.

6. Rename the File Name to the library name. Click OK. The tasks will be exported.

7. Repeat steps 3-6 until you have exported all libraries out of the printer.

8. Click Utilities, Export to file. Select Config and Click OK.

9. Next, choose the location to save the exported file. Most likely it will default to the MK6000 directory. This is an ideal location.

10. Rename the File Name to the line name such as "Line1". Make sure this name will be easy to identify with a system for future use.

11. The task may be restarted on this printer for the time being if necessary. Repeat steps 8-10 for each printer and workstation connected to the host. You will not need to stop production for this process. However, there may some remote instances where the Marksman will miss a few prints. Be prepared to pull off boxes if this happens.

12. Go back to the first printer and exit the printer software. This procedure could take as long as 2 hours on the first printer in which no printing may take place. Each additional printer should take no longer than 15-30 minutes.

13. Before upgrading your software, make a backup of the software directory in case an error occurs during setup. To do this, Click Start, Programs, Windows Explorer.

14. On the left side of the screen you should see the contents of the C drive. If the contents are not visible, double click on the C drive icon.

15. Click on the MK6000 directory.

16. Click on the File Menu option and choose rename.

17. Rename the "MK6000" to "MK6000XXX" where "XXX" is the name of the previous version of software you are upgrading from (MK6000312).

18. Exit the Windows Explorer Program.

19. Insert the BoxWriter Version 3.20 Disk #1 into the floppy drive.

20. From the Start menu, choose Run. Next, type **X:\Setup** and click OK. Replace "X" with the name of the drive. For most floppy drives, the letter will be "A".

21. Follow the on-screen instructions and be sure to select the printer software application during the installation.

22. Once the software installation is complete, you will be prompted to restart your computer. Click OK.

23. After the system has rebooted, choose the network option and the application will try to connect to the host system. It should connect to the host. If it does not, please check you network connections and try again.

24. Once the application is running, log in to the printer software using the following:

25. Username: MARKSMAN

26. Password: MARKSMAN

27. The software will not contain any of your previous information. You must import the data from the previous version. To do this, choose Utilities, Import from File from the menu.

28. Choose Task and select the library to import the data into. If you would like to create a new library first to import the data into, please enter the editor before attempting to import data and select File, Add Library from the Editor's menu to add a new library to the system.

29. After selecting the library, you will be prompted for the correct location for the file containing the import information. In the Look In box select the down arrow and choose the MK6000 directory. First select the C drive then in the box below choose the MK6000 directory.

30. Select the correct ".tsk" file from the available files. Click OK.

31. Repeat Steps 26-28 for each library you originally exported.

32. Next, import the Configuration file from the previous version. Choose Utilities, Import from File.

33. Choose the Config option and Click OK. In the same method as above select the MK6000 directory and select the configuration file applicable for this printer and Click OK. There should be only one configuration file because each printer was exported separately.

34. Exit out of the software and reenter by clicking on the appropriate icon on the desktop. Use the same security name as before to log in.

35. Again, you will need to recreate your security preferences if you have not already done so on the host.

36. Finally, test the system with a couple of tasks normally ran on this system and make sure that they print correctly.

37. This printer may be put back online and print while the rest of the printers and workstations are upgraded.

38. Next, go to the next printer that can be down for 15-30 minutes.

39. Before upgrading your software, make a backup of the software directory in case an error occurs during setup. To do this, Click Start, Programs, Windows Explorer.

40. On the left side of the screen you should see the contents of the C drive. If the contents are not visible, double click on the C drive icon.

41. Click on the MK6000 directory.

42. Click on the File Menu option and choose rename.

43. Rename the "MK6000" to "MK6000XXX" where "XXX" is the name of the previous version of software you are upgrading from (MK6000312).

44. Exit the Windows Explorer Program.

45. Insert the BoxWriter Version 3.20 Disk #1 into the floppy drive. For workstation installations, you may also use the CD-Rom version of the installation in which case you will need to insert the CD-Rom into the CD-Rom drive of the computer.

46. From the Start menu, choose Run. Next, type **X:\Setup** and click OK. Replace "X" with the name of the drive. For most floppy drives, the letter will be "A", whereas CD-Rom drives will most often be "D".

47. Follow the on-screen instructions and be sure to select the correct software application during the installation (Workstation, or Printer).

48. Once the software installation is complete, you will be prompted to restart your computer. Click OK.

49. After the system has rebooted, choose the network option and the application will try to connect to the host system. It should connect to the host. If it does not, please check you network connections and try again. This process may show a "please wait" box on the screen for up to 15-30 minutes. Please be patient. This is the longest portion of this section of the installation process.

50. Once the application is running, log in to the printer or workstation software using the following:

51. Username: MARKSMAN

52. Password: MARKSMAN

53. The software will contain all of the task information, but the configuration (heads and system information) will be blank. You must import the data from the previous version. To do this, choose Utilities, Import from File from the menu.

54. Choose the Config option and Click OK. In the same method as below select the MK6000 directory and select the configuration file applicable for this printer and Click OK. There should be only one configuration file because each printer was exported separately.

55. Exit out of the software and reenter by clicking on the appropriate icon on the desktop. Use the same security name as before to log in.

56. Again, you will need to recreate your security preferences if you have not already done so on the host or previously upgraded printer(s) or workstation(s).

57. Finally, test the system with a couple of tasks normally ran on this system and make sure that they print correctly.

58. This printer may be put back online and print while the rest of the printers and workstations are upgraded.

59. Repeat steps 37-54 until all printers have been upgraded to the 3.20 software.

60. This is the completion of the Installation Instructions. Refer to your user's manual for information on how to use your BoxWriter software.

Testing the Touch Screen

1. Exit any programs that are running.

2. Go to Windows task bar and click on **START**

3. Click on **Shut Down**.

4. Click on **Restart in MS-DOS mode**.

5. After the screen returns to the C:\Windows prompt, type "**CD..**" then hit **ENTER**.

6. After the screen returns to the C:\ prompt type "**CD ITI_DR˜1\TOUCHS˜1**" and then hit **ENTER**.

7. After the screen returns to the C:\iti_dr~1\touchs~1\ prompt type "**TBDIAG 2**" and then hit the **ENTER**. (There is a space character between tbdiag and 2.

8. Select the AHL/AR 5000 and Digitouch controllers and hit **ENTER**.

9. After the blue and red screen returns, touch the screen with fingertip.

10. If a series of numbers and musical notes appear after your touch, the screen is working correctly.

11. If this does not happen, it could be one of the following problems:

•   The Touch screen might be using COM 1. Try the TBDIAG program again without the 2 by typing simply typing "**TBDIAG**".

•   Connections to and from the touch screen could be bad.

•   Touch screen controller board could be bad.

•   Touch screen itself could be bad.

•   Touch screen controller board jumpers could be set wrong.

•   CPU board could be bad.

<u>Troubleshooting Printheads</u>

Priming and Purging

In order to keep printheads attached to the Marksman printer running in optimum operating order, it is necessary to prime the printhead at least once per shift. It may also be necessary to prime the head if the head print quality becomes poor throughout the course of the shift or after a significant shock to the head. Sometimes, if the print quality remains poor after priming, it becomes necessary to purge the printhead. Follow the second set of instructions for purging.

Priming the Printhead

1. Wait until heads reach operating temperature. (Low Temp Errors will no longer be displayed).

2. Fold two or three lent-free cloths over and place them beneath the orifices of the printhead. ***Use only FoxJet approved lint-free cloths!*** These cloths are extremely soft and lint free unlike other cloths or tissues which could damage the printhead.

3. Press and release the purge bulb on the back of the reservoir case.

4. Wipe the ink off the faceplate with an upward motion if the head is angled and horizontally if the head is vertically (90°) mounted.

5. Repeat steps 2-4 until you get an even flow of ink from all of the orifices on the printhead.

Purging the Printhead

1. Wait until heads reach operating temperature. (Low Temp Errors will no longer be displayed).

2. Fold two or three lent-free cloths over and place them beneath the orifices of the printhead. ***Use only FoxJet approved lint-free cloths!*** These cloths are extremely soft and lint free unlike other cloths or tissues which could damage the printhead.

3. Remove the inkbottle and screw the reservoir shipping cap into the reservoir. Make sure that the orange rubber O-ring remains in the reservoir.

4. Press the external purge bulb on the vent cap hole on top of the reservoir.

5. Squeeze the external purge bulb until ink flows from the faceplate. Remove the purge bulb from the vent cap hole before you take your thumb off it in order to prevent ink being sucked back through the orifices.

6. Wipe the ink off the faceplate with an upward motion if the head is angled and horizontally if the head is vertically (90°) mounted.

7. Repeat steps 2-6 until you get an even flow of ink from all of the orifices on the printhead.
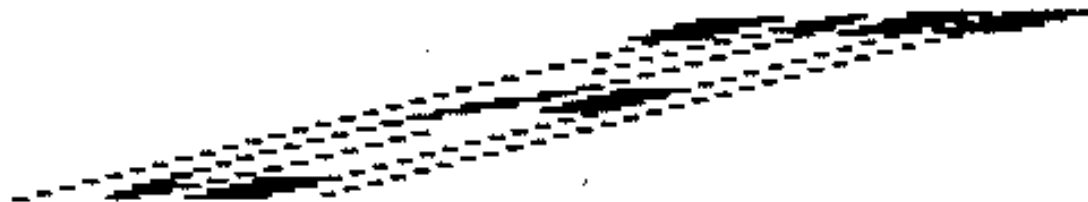
Correcting poor print quality

In many situations, poor print quality results not from the printhead, but from configuration issues on the controller. The following examples will give you an idea of common print problems as well as solutions to fix them.

Problem: Message upside-down, backwards, and slanted
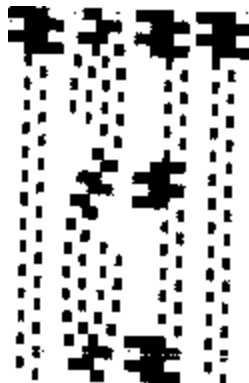**Solution:** Change invert head setting.

Problem: Message slanted and backwards
Solution: Change direction setting.

Problem: Channels missing.
Solution: Prime printhead using FoxJet approved lint-free wipes.

Problem: Using a UJII 352/32 or any other 90° angled head, the message prints backwards and checkered.
Solution: Change direction setting.

TEST

Problem: Channels missing.
Solution: Prime printhead with FoxJet approved lint-free cloths.

TEST

Problem: Message upside-down.
Solution: Change invert print settings.

TEST

Problem: Message fuzzy.
Solution: Printhead is too far away from printing surface.

TEST

Problem: Message slanted.
Solution: If using an internal encoder and message slanted to left (shown above), slow conveyor down or increase internal encoder speed. If message slanted to the right (shown below), speed conveyor up or decrease internal encoder speed.
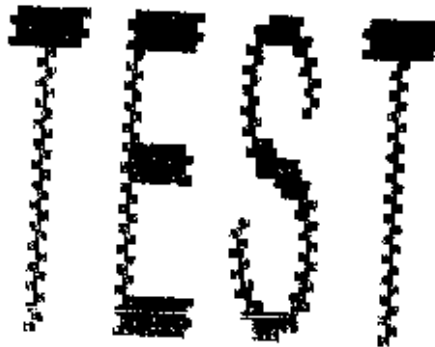
Problem: Message slanted
Solution: Make sure that the printhead is at the correct angle. The above samples were printed with a twenty-seven degree head at   1) 15^0 2) 34^0 3) 39^0

Problem: Small gaps in print with small trailing dots.
Solution: Prime printhead with FoxJet approved lint-free cloths. If problem can't be corrected, the printhead might have lint or debris lodged in an orifice. Send the printhead to FoxJet for cleaning.

Problem: Using a UJII 352/32 or any other 90° angled head, the message appears checkered when using internal encoder.
Solution: Change conveyor speed or internal encoder speed.

Problem: Text is not on Box
Solution: If this problem occurs with all tasks, measure the distance between the printheads and photocell again. A delay of 100 is equal to one inch. If this problem only occurs with a certain message, measure the distance the message should be moved.

Problem: System is not printing the correct information
Solution: Start the task again by selecting Operate then clicking Start. If the print information is still incorrect, edit and review the task. Then, exit the task editor and restart the task.

System starts but does not Print

High Voltage Error Displayed on the display panel for one or more heads

Turn the printer off immediately! High voltage errors can damage the printer. While the power is off, make sure all the cables are connected to the correct ports. Next, turn the power back on and see if the error is still on the display panel. If the error message is no longer there, the printer is fine. If the error is still displayed, turn off the power and disconnect the head indicated on the display panel. Next, turn the power on and see if the error is still displayed. If not, then the head needs to be repaired. If the error is still there, then the printer needs to be repaired. Contact your FoxJet distributor to have the system repaired.

Low Temp Error is displayed on the display panel

When a printer is turned on, the printheads are cold. The low temperature indicator will remain lit until they reach operating temperature. Each head has its own particular warm-up period. If the heads do not heat up in approximately 15 minutes, at room temperature, turn the printer off and check all the cables. After confirming the cables are connected, turn the power back on and see if the heads warm-up. If they don't, the thermal fuse may be blown. Contact your FoxJet distributor for a replacement fuse.

Low Ink Error is displayed on the display panel

Check the inkbottle and replace if necessary (do not squeeze the bottle). The inside of the bottle gets coated with ink and can look full even when empty. If the bottle is empty, turn it counter clockwise to remove it. Make sure the orange gasket remains in the reservoir. (The gasket will become coated with ink and can be difficult to see.)

Encoder Speed is shown as 0 ft/min in a yellow box on the display panel

If your using an external encoder, make sure the cable is plugged into the correct DB9 connector. If the cables are connected and the box is still yellow, the encoder needs to be repaired. If you are using the internal encoder, make sure you have it selected.

The Count does not increment as the box passes by the photocell

Make sure the photocell cable is plugged into the printhead. If it is, make sure the photocell is at the correct distance. Also, check that a task is imaging, information appears in the preview mode, the encoder box shows a valid speed, and that no errors appear on the display panel.

Preventative Maintenance

Proper Shutdown Procedures
Overnight and 1-3 days

Idle the system through the software to avoid any misprinting. It's ok to leave the system powered up during this time.

Use the priming and purging procedure after this period of inactivity to remove any dust/debris that might have collected on the printhead faceplate.

Periods of more than 3 days

1. Exit the software.
2. Power the system down.
3. Close the reservoir vent cap.
4. Replace the protective faceplate or the printhead shipping clip.

Upon restarting the system:

1. Remove protective faceplate or shipping clip.
2. Open reservoir vent cap.
3. Power system up.
4. Use one of the priming procedures to remove any air or debris that might have entered the printhead or faceplate.

> **There is a danger of the ink being "cooked" and breaking down if left in a printhead with the power turned on for extended periods of time. When the ink breaks down, it can clog up the printhead filter area causing the ink flow to be restricted.**

Periodic Maintenance

Daily - 8 hours

1. Dust touch screen and keyboard with lint free cloth.

2. Make sure the cabinet fan(s) are working.

3. Inspect printhead assemblies for leaks and wipe with lint free cloth as necessary.

> **Do not wipe the printhead faceplate!**

4. Inspect for broken or worn electrical connections.

5. If missing channels occur in printed message, purge printhead.

6. Inspect guide box rails and printhead bracket for wear.

3 Weeks - 120 hours

1. Wipe printhead cases and ink reservoir covers with lint free cloth.

2. Clean printer cabinet with cloth to remove dust.

3. Have qualified person open printer cabinet and inspect for dust. If necessary, blow out dust with low-pressure air that is moisture and oil free.

4. Inspect the fan filter and replace if necessary. See below for procedure.

5. Make sure the fan turns freely.

3 Months - 500 hours

1. Wipe printhead cases and ink reservoir covers with lint free cloth.

> **Do not wipe the printhead faceplate!**

2. Clean printer cabinet with cloth to remove dust.

3. Have qualified person open printer cabinet and inspect for dust. If necessary, blow out dust with low-pressure air that is moisture and oil free.

4. Replace fan filter and inspect for bearing wear. Replace if necessary. To replace fan filter, simply remove the louver plates on the outside side panels of the marksman. The filter is located under this plate. The fan filter can be cleaned the low-pressure air. For thorough cleaning, clean with soap and water and allow drying before reinstalling in the Marksman.

5. With the printer off, make sure tie wraps securely hold all cables. Replace any missing tie wraps or damaged cables.