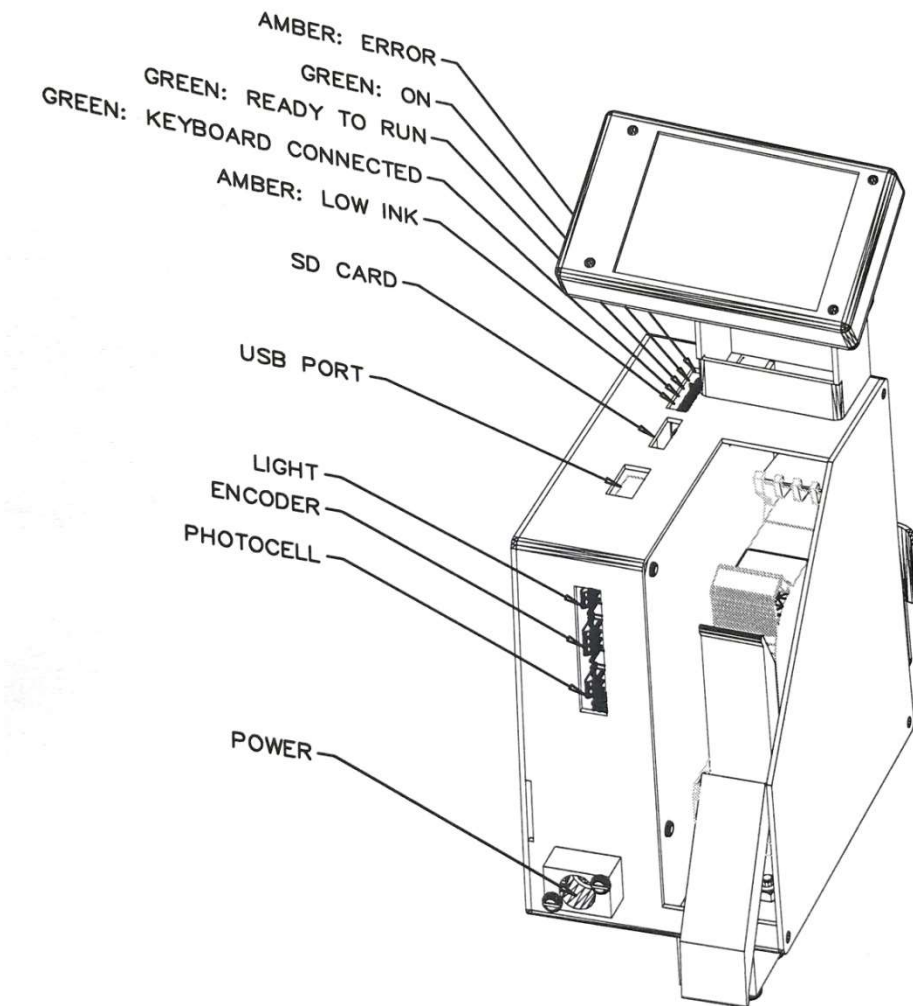


Kiwi Matrix HD Ink Jet System



A. Introduction and Power On

The *Kiwi Matrix HD Ink Jet System* allows the user to print messages that have been generated using the *MessageGen Application* on the PC. To edit or create messages, use the *MessageGen App* for the PC. Messages to be printed must be saved to the MicroSD Card and inserted.

Before powering on the *Kiwi Matrix HD Ink Jet System*, the user must ensure the following are connected:

- 1) Kiwi MicroSD Card
- 2) Encoder (for printing with external encoder)
- 3) Photocell (for external ToF trigger)

Powering on:

Connect the power cord to begin using the *Kiwi Matrix HD Ink Jet System*. When boot-up is complete, the user will be brought to the "Home" screen, where they will be able to select a message to print.



B. Guide to Quick-Start Printing

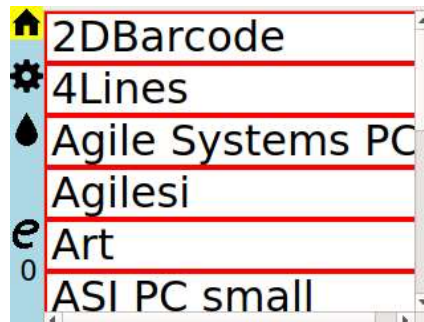
Quick-start printing:

- 1) Power on the *Kiwi Matrix HD Ink Jet System*
- 2) If purchased and required for application connect external encoder to the printer and set wheel on conveyor.
- 3) Select the desired "Message File" to print.
- 4) Select "Print."
- 5) "End Job" can be selected to quit the print job.

C. Kiwi Matrix HD Ink Jet System Menu Tree

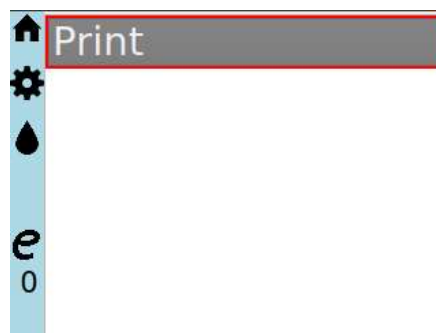
To traverse the **Kiwi Matrix Menu**, use the arrows on the keypad or the directional keys of a USB keyboard. For the keyboard to function, it must be plugged in prior to powering on the system. Note: Arrow keys may be used for traversing. To select an action or a setting, press the "Select" button on the keypad or press "Enter" using the keyboard.

Menu/Info Bar is the blue icon bar located at the left most portion of screen. It allows the user to navigate the menu tree from any page.



D.  Home is where all the saved Message Files can be found.


Selecting a Message File prompts the user to begin "Print."

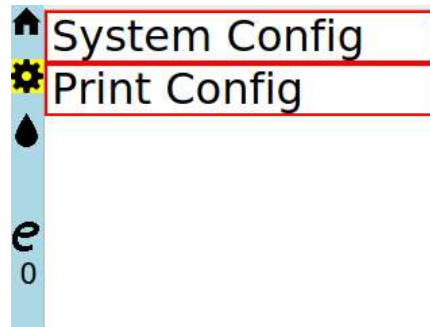


Print begins the print job. After starting a print, user is prompted with:

End Job will abort the current job

Edit allows the user to modify message text

E.  **Settings** represented by a gear wheel. Here, the user can modify Configurations for the System and for Printing.



F. **System Config** is where the user can access and change system settings.



Time Date is where the user can change the time and date on the printer which will be used for messages printing calendar and time objects.

Language is set to English.

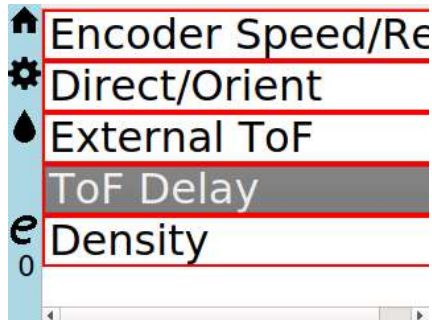
Units are set to Imperial.

About provides information on the *Version*, *Product Name*, *Serial Number*, and *Print Head Information*.

Print Head Info displays ink type and serial number.

System Restore will prompt the user for a factory reset. This will NOT erase messages but all settings and configurations will be restored.

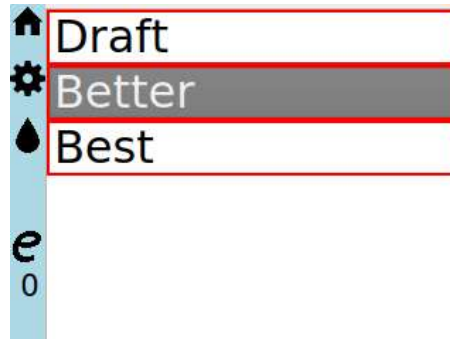
G. Print Configuration is where the user can change print related settings.



Direction/Orientation allows the user to change the direction and orientation of the image being printed. Please refer to the following table for the proper setting. If the sensor is on the wrong side or need to be changed. The sequence of the wiring from top to bottom is blue, black and brown.

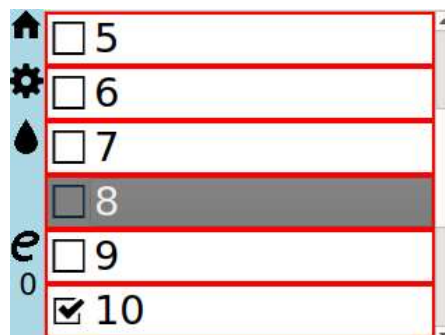
Paper Direction	Left-to-Right →	Right-to-Left ←
Forward	R	
Forward Upside-down	R	
Reverse		R
Reverse Upside-down		R

H. Encoder Speed/Res allows the user to select between using an Internal and External encoder. The external encoder requires an encoder wheel on the conveyor. It is the most accurate way to print



Internal encoder allows the user to print without using an encoder wheel. After selecting the print mode, user must then select the encoder speed.

Note: this mode is not recommended for barcodes. For printing with internal encoder, it is recommended that densities between 6.25-25% are used. This will remove any ghosting effect in the prints.



Internal Encoder Speed

Print Mode	Resolution	Max speed (inches/sec)	Max speed (feet/min)
Draft	300 dpi	36 inches/sec	180 ft/min
Better	600 dpi	18 inches/sec	90 ft/min
Best	1200 dpi	9 inches/sec	45 ft/min

I. Density allows the user to choose between 16 different densities ranging from 6.25-100%.

Note: for printing with internal encoder, it is recommended that densities between 6.25-25% are used. This will remove any ghosting effect in the prints.

J. Message Settings allows for editing Shift Codes and Rollover Hour

Shift Code is a message object that changes based on what time the system is set to. Up to 5 shift codes may be created and each one may hold up to 4 characters. Under this branch of the Message Settings menu, users may edit shift codes and their designated printing times.

Ex: If shift "AB" is set to print at "14:00" and shift "YZ" is set to print at "17:00," the message with a shift code object will print "AB" from 14:00 to 16:59. At 17:00, the shift code will switch to "XY" and this will be the message printed until 13:59 the next day.

Rollover Hour is a message object that dictates what time the any calendar object in printed messages roll into the current date. Rollover Hours are configurable to half-hour increments.

Ex: If today is January 1st and the rollover hour is set to 5:00 AM, the printer will print "December 31st" until 4:49 AM. At 5:00 AM, the printer will begin printing the date "January 1st."

K. Security allows for the user to lock or unlock message editing and changes to settings. The default passcode is "0000"

Note: if the passcode is lost, the passcode may be reset by entering "argus" into the Change Passcode window.



Purge may be used to service the print head.



Encoder Info is represented by a Letter and a Number.

I/E - "Internal" or "External"

- Encoder speed. Speed will read "0" prior to initiating the first print.



Print Head Status is displayed under the Encoder Info icon. If a valid print cartridge is sensed, the icon will display ink level. If no valid cartridge is detected, the icon displayed will be an "X" in a red circle.



L. Default Configurations

Encoder: External. Better.

Maximum speed using "Better Mode" in this version is about inches/sec. For printing at a higher speed, switch to "Draft Mode" in "Print Config"

ToF: Internal. 2.5 inch trigger delay.

Density: 50%

M. Notes

-Do not change any settings while in the middle of a print job. To change settings, ensure that a job is not running. Attempting to change settings during a job will result in no setting changes.

-USB keyboard must be connected prior to power-up.

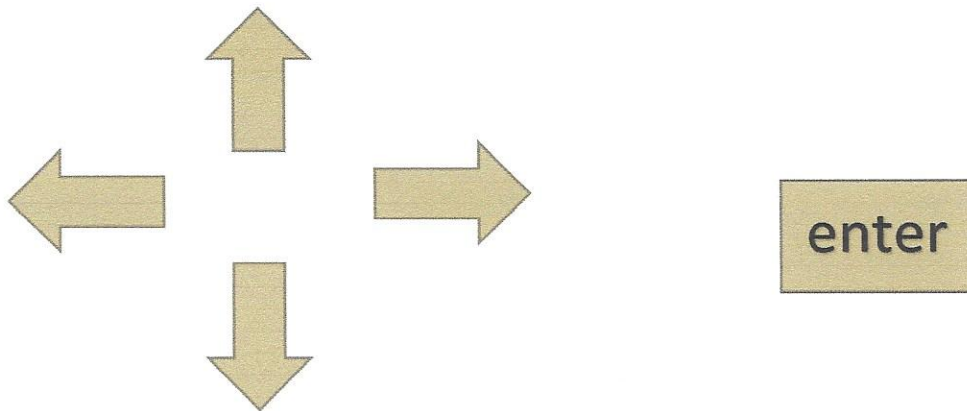
-MicroSD card must be inserted to boot up the *Kiwi Matrix HD Ink Jet System*.

-Internal Encoder is not recommended for barcode printing.

-To track speed, ensure that the encoder wheel is set on the conveyor.

-If settings are not showing any sign of change while outside of a print job, ensure that security has been turned off to allow for settings changes.

Using the arrows to traverse through the menu up, down, forward and reverse. Use the enter button to choose your selection.



Print configuration:

Encoder speed/Res

External – For mounted external encoders only. Will not print if on this setting and no encoders is connected

Internal – draft- select speed

Direct/Orient-

Which direction of travel is the product coming from? Sensor on **left** is **forward** versus sensor on **right** is **reverse**.

External ToF

Disabled – Sensor will not sense product and will keep printing automatically based off ToF Delay.

Enabled- Sensor is on and will sense product and print based off of ToF Delay setting.

ToF Delay

Will delay the start of the print from .50” to 36” depending on the need

Density

Ability to adjust ink usage from 6.25% to 100%.

Internal Encoders Speed

Speed setting to high will be long and double print. May also miss the product completely.

COODERS

Speed setting to low will be condensed and double print.

COODERS

Kiwi Matrix HD Ink Jet System

Kiwi Matrix MessageGen Application

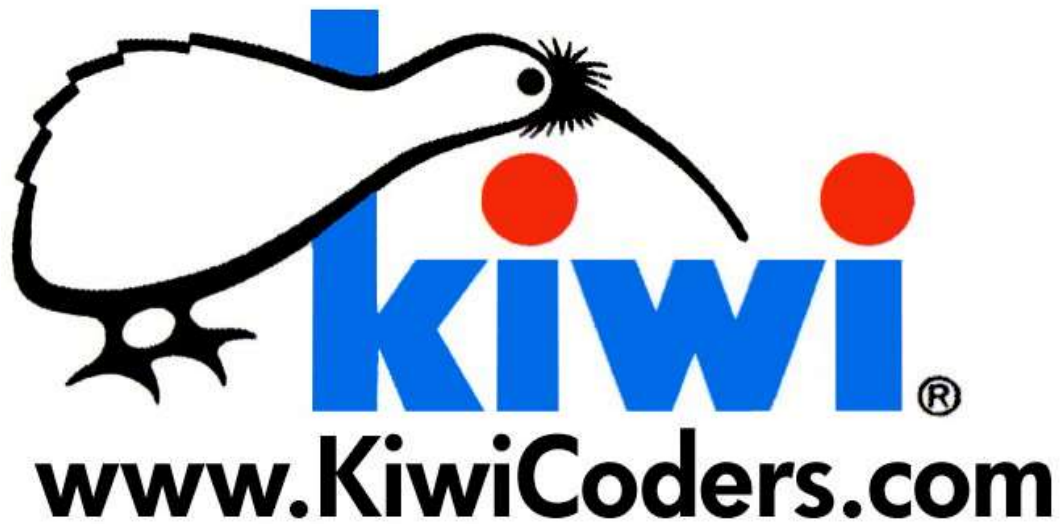


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A. Introduction

The *Kiwi Matrix MessageGen Application* is used to create and edit messages to be printed on the *Kiwi Matrix HD Ink Jet System*. The *MessageGen Application* is programmed onto the MicroSD card provided with the *Kiwi Matrix HD Ink Jet System* under "Run Matrix HD". Messages stored on the card may be moved between a PC and Ink Jet System for editing and printing.

The MessageGen Application allows the user to modify messages and print settings that may also be modified on the Ink Jet System.

B. Kiwi MessageGen Menu Bar

To open the Kiwi MessageGen Application, insert the SD card into a PC. If prompted to "format disk," click "No." Proceed to open the SD Card titled "Kiwi Coders" and double-click on "Run Matrix HD" to open the application.

Menu/Info Bar consists of the menu items located at the top of the application screen. They include:

File

Edit

Configuration

Shift Codes

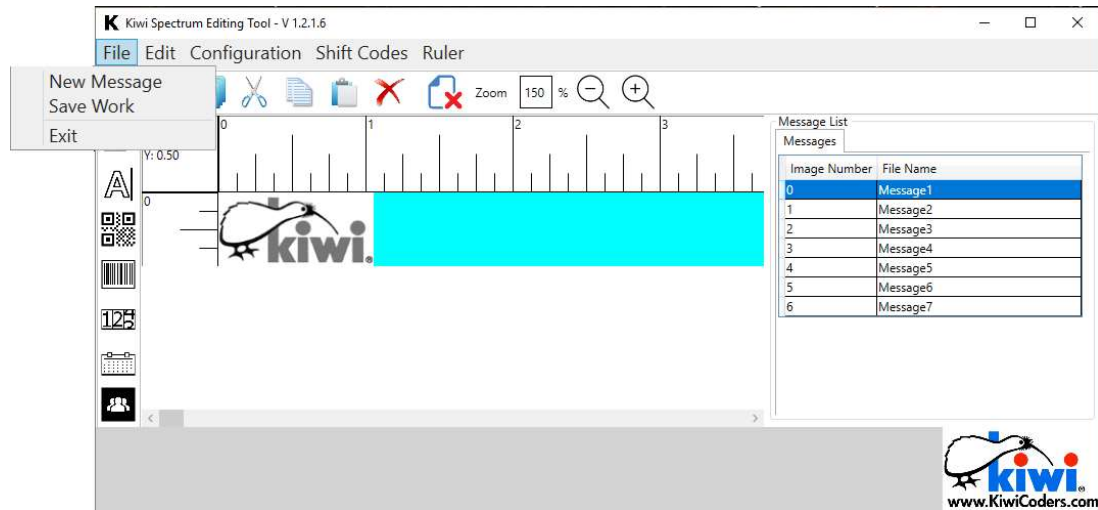
Ruler

Refer to the following pages for details on each of the Menu functions.

B.1 File

The "File" tab allows the user to:

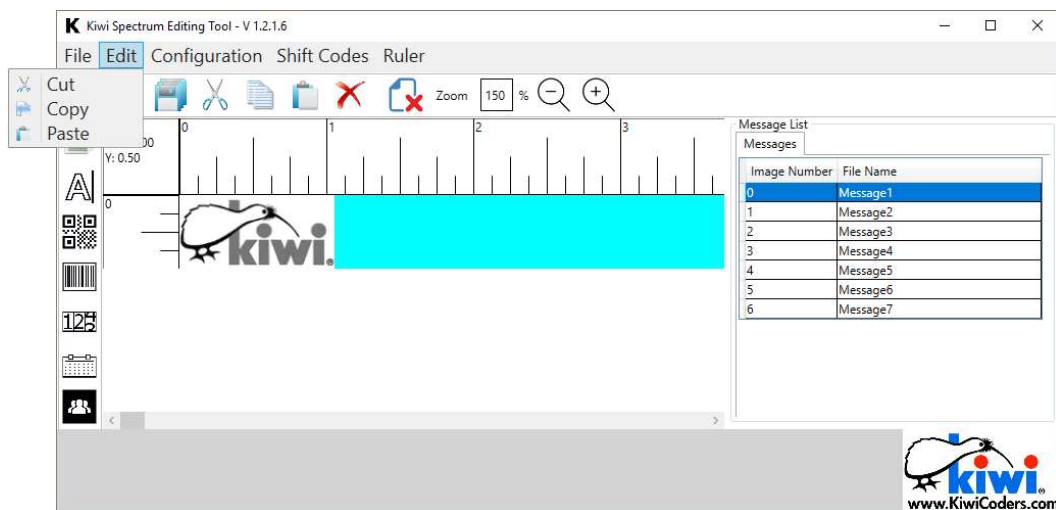
- 1) Create new messages
- 2) Save all messages
- 3) Close the Kiwi MessageGen application



B.2 Edit

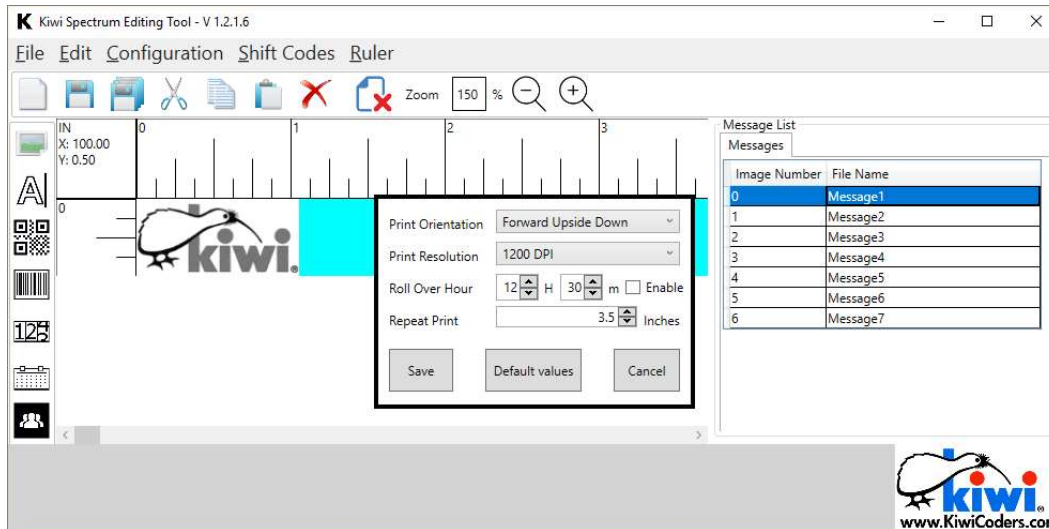
The "Edit" tab allows for basic object manipulation such as:

- 1) Cut
- 2) Copy
- 3) Paste



B.3 Configuration

The "Configuration" tab brings up a window that allows the user to



Direction/Orientation allows the user to change the direction and orientation of the image being printed. Please refer to the following table for the proper setting.

Paper Direction	Left-to-Right →	Right-to-Left ←
Forward	R	
Forward Upside-down	R	
Reverse		R
Reverse Upside-down		R

Print Mode	Resolution	Max speed (inches/sec)	Max speed (feet/min)
Draft	300 dpi	36 inches/sec	180 ft/min
Better	600 dpi	18 inches/sec	90 ft/min
Best	1200 dpi	9 inches/sec	45 ft/min

Print Resolution allows the user to define the resolution for messages to be printed at.

Rollover Hour is a message object that dictates what time the any calendar object in printed messages roll into the current date. Rollover Hours may be enable or disabled by using the check-box situated next to the time.

Repeat Print applies for when the user selects the Internal trigger. This setting may be selected on the Kiwi Matrix HD printer.

Configuration Defaults:

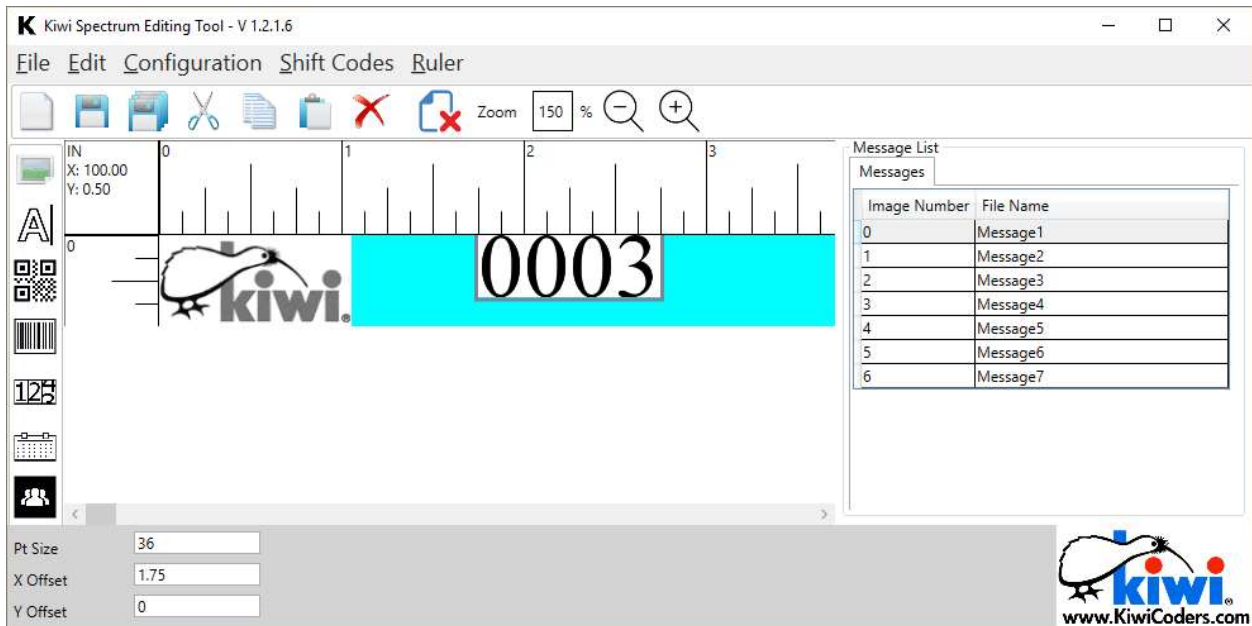
Configuration	Value
Print Orientation	Forward
Print Resolution	300 DPI
Rollover Hour	12:30 - disabled
Repeat Print	1 inch

B.4 Shift Codes

Shift Codes allow for messages to be printed that change based on the time of day a message object that changes based on what time the system is set to. Up to 5 shift codes may be created and each one may hold up to 4 characters.

Ex: If shift "AB" is set to print at "14:00" and shift "YZ" is set to print at "17:00," the message with a shift code object will print "AB" from 14:00 to 16:59. At 17:00, the shift code will switch to "YZ" and this will be the message printed until 13:59 the next day.

Shift codes may be enabled by populating the check boxes.



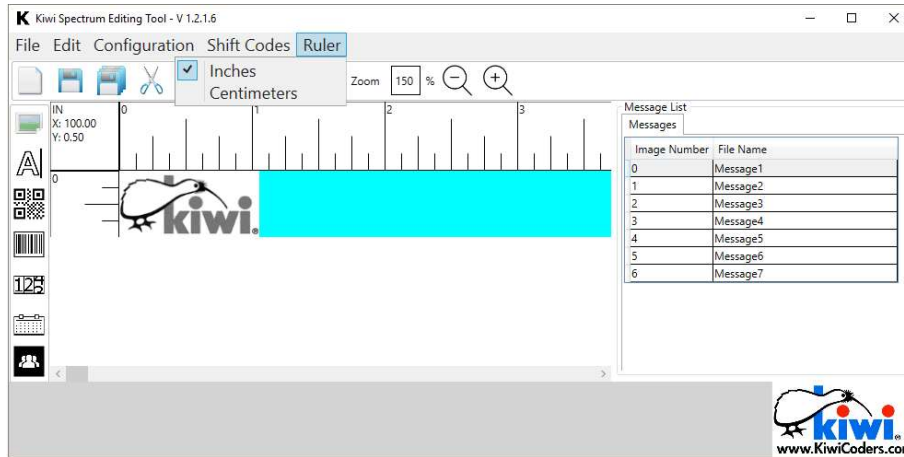
The screenshot displays the Kiwi Spectrum Editing Tool interface. The main window shows a spectrum plot with a cyan highlight over the number '0003'. The 'Message List' panel on the right contains the following table:

Image Number	File Name
0	Message1
1	Message2
2	Message3
3	Message4
4	Message5
5	Message6
6	Message7

At the bottom of the window, there are input fields for 'Pt Size' (36), 'X Offset' (1.75), and 'Y Offset' (0). The Kiwi logo and website URL 'www.KiwiCoders.com' are visible in the bottom right corner.

B.5 Ruler

The "Ruler" tab provides the option for users to select a ruler that uses inches or centimeters.



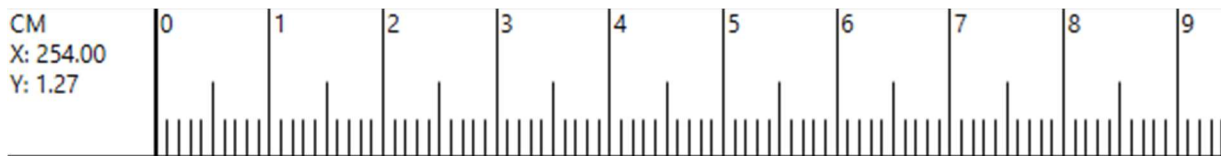
Default:

Configuration	Value
Units	Inches

Inches



Centimeters



C. Message Objects

The Kiwi MessageGen Application, Objects may be created by clicking on any of the seven icons on the "Message Object Toolbar"

Once the message objects are created, they can be positioned through coordinates that can be typed in the component editor at the bottom of the screen. Objects may also be dragged and dropped to desired positions.

The component editor at the bottom of the screen may be used to manipulate object components such as font size, date format, etc.

When a component is outside of the print zone, red will fill the preview window. With a red preview window, messages will still print but any objects outside of the print zone will be cropped.



C.1 Image

Image objects may be imported by clicking on the image icon. Clicking the icon will open a window for the desired image to be selected. Accepted file types for import include: *.jpg *.jpeg *.gif *.bmp

Once imported, images may be scaled according to their original size in the *component editor*.



C.2 Text

Text objects can be created by clicking on the text icon.

Fonts include:

- Bitstream Vera Sans Mono
- Times New Roman
- Dejavu Sans
- Ariel
- Bitstream Vera Serif
- Dejavu Serif
- Bitstream Vera Sans

Text can be edited in the "Message" box located in the *component editor*. To update the message, press the "Enter" key on the keyboard.

Components that may be edited include:

- Message
- Font Type
- Font Size
- Message position



C.3 2D Barcode

There are 9 different 2D barcodes that can be generated using the Kiwi MessageGen app. To create a 2D barcode, click on the 2D barcode icon on the "Message Object Toolbar" and click on the barcode generated in the preview screen.



C.4 Barcode

Various barcode types can be generated and edited. Barcode types include:

- INTER25
- Code 39
- EAN 8
- EAN 13
- SSCC 18
- Codabar
- Code 128
- UPC A
- UPC E
- SCC 14

To edit barcodes, enter a string in the "Barcode Value" box in the *component editor*. Certain barcodes contain character restrictions and/or require specific string lengths.



C.5 Counter

The counter object generates a number that changes based on each new print (i.e. each print trigger may increment the counter). The counts reset at the end of every print job.

Components that can be configured include:

- 1) The number of placeholders
- 2) Initial value
- 3) Repeat (how many times a count is printed)
- 4) Increment (number of integers that can be jumped)



C.6 Calendar

Calendar objects allow the user to print messages with dates and times. Dates may be offset to either add or remove days. For a negative offset, use a minus sign (-). Using the *component editor*, calendar objects may be repositioned and font size may be changed.

To change the date and time format, open the "Format" dropdown menu in the *component editor* and select the desired format.



C.7 Shift Codes


Shift code objects may be positioned and font size may be changed. To modify the shift codes and shift times, please refer to the "Menu Bar" located at the top of the MessageGen Application window.

D. Quick-Start Message Generation

Quick-start message generation and editing:

- 1) Insert the MicroSD Card provided by Kiwi Coders into a PC.
- 2) If requested to reformat drive, click "Cancel"



- 3) Open the SD Card using a File Menu
- 4) Double-click on the application titled "MessageGen"
- 5) Click on the "New Message" icon. 
- 6) Messages may now be created, edited, and saved.