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Introduction to Vanguard Create

Vanguard Create is message-designing software for Hx Nitro printer that can be installed in any window-based operating devices.

The software provides easy and user-friendly ability for Hx Nitro users or operators to design and create messages.

Vanguard Create have four main tabs: (1) Home, (2) Insert Message Tab, (3) Print Parameters and (4) Directional Parameters Tab

(1) **HOME** - you will find basic functions such as:

- New - to create a new canvas
- Open icon - to open saved messages in your device
- Save icon
- Save as
- Preview function - to show the designed message, ink volume and approximate number of prints based on you message and print parameters

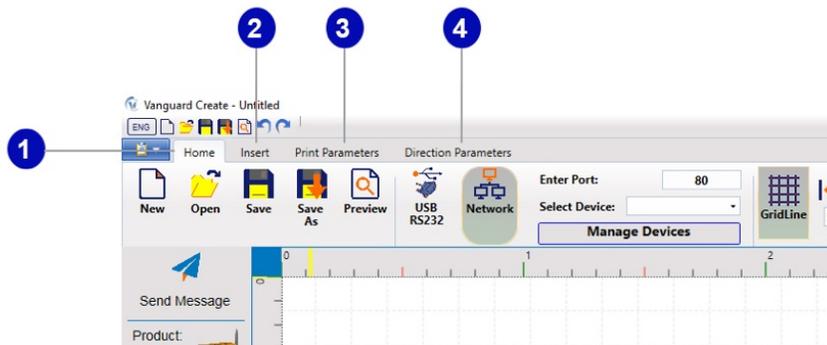


Figure 1. Vanguard Create Main Tabs

- Communication channel setting in the home tab.

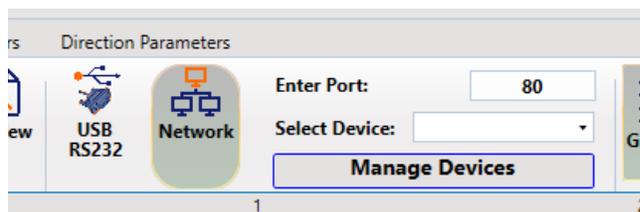


Figure 2. Vanguard Create Communication Channels

These channels are used when you are going to send the designed message to the printer. The three channels include; **USB port**, **RS323 connection**, and **Direct Network or Wi Fi** communication

Other settings found in the home tab are:

- Grid Line View, size adjustment and format
- Hx Setting, where you can access Hx Manager directly

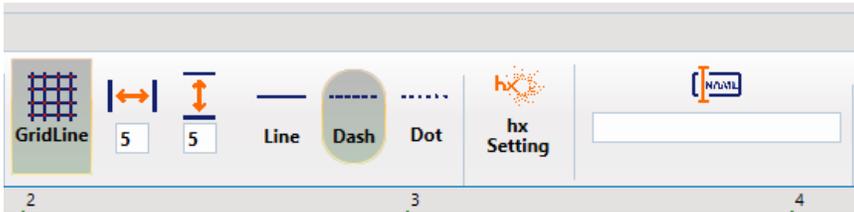


Figure 3. Other Home Tab Settings

- (2) **Insert Tab** are the messages designing icons. Click the kind of message you require and design it on the canvas.

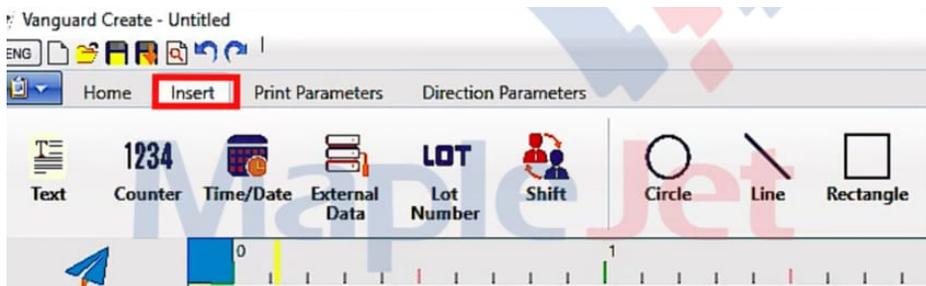


Figure 4. Insert Tab icons for designing messages

- This includes creating simple text, counter - both in batch or online, time and date, external data, Lot number - you can create up to 9 sources, shift, Image - you can import vector image or logo, and the barcodes.
- (3) **Print parameter** - This provides functionalities that allow operators to adjust print parameter based on their production line requirement.

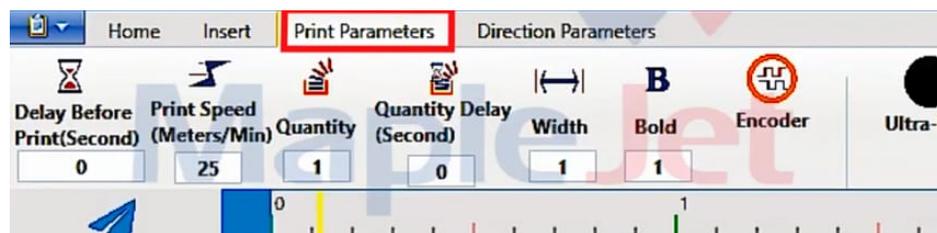


Figure 5. Print Parameter icons

This includes:

- Delay before print - the delay time in seconds after the sensor detects the product before printing.
- Print Speed - adjusting the speed based on the production line requirement
- Quantity - the number of prints per sensor signal
- Quantity Delay - delay in seconds per print per sensor signal
- Width & Bold adjustment
- Encoder - activating and deactivating shaft encoder. This is by default inactive. When activating encoder, a new display will appear to insert the encoder value.
- And lastly to adjust Print Resolution

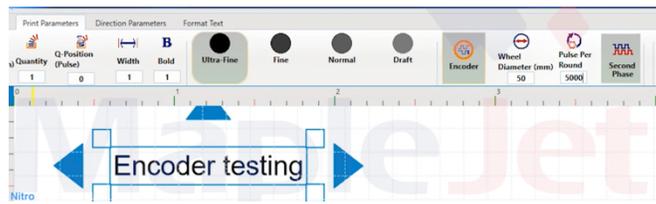


Figure 6. Insert Encoder Value

(4) **The Direction Parameters-** This provides other essential parameters for the message such as; Mirror, Invert, Rotate, auto repeat, and adjustment on the vertical ratio.

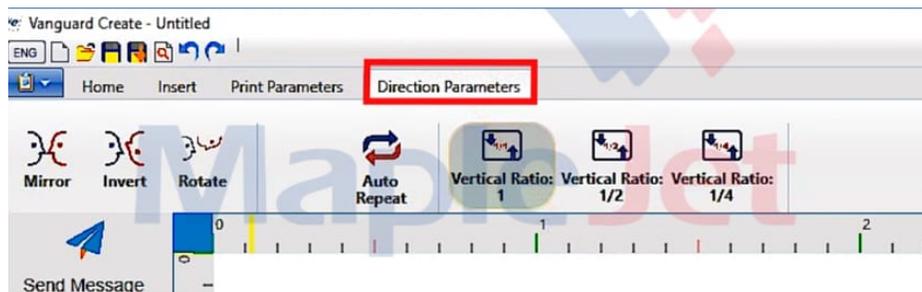


Figure 7. Directional Parameter icons

Vanguard create also has default panel on the side of the canvas that provides certain functions: sending message, printer information, canvas width, synchronize button and other basic functions such as delete, copy, cut and paste message.

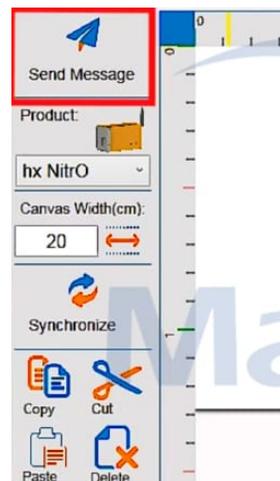


Figure 8. Vanguard Create default side panel

Vanguard Create Basic Tools & Operations

Launch Vanguard create

- Design basic message,
- Delete message from the canvas,
- Save a message,
- Create blank canvas, and open saved and send message

Launching Vanguard create

- Open and launch vanguard create
- Once this display appears, click on the 'please click here' to start

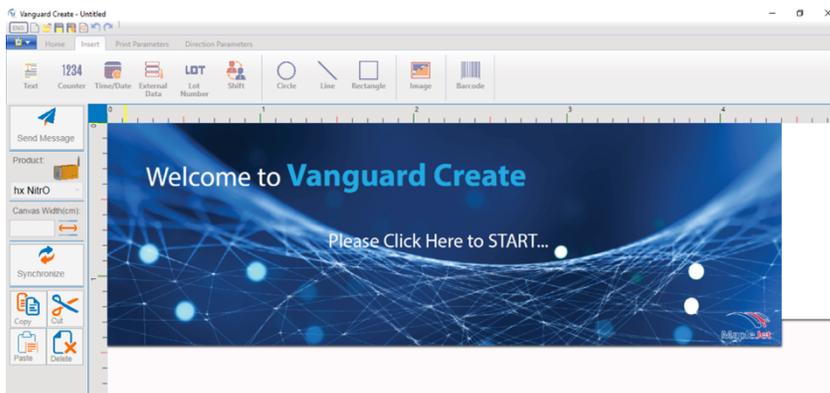


Figure 9. Vanguard Create welcome display

- A blank canvas will open

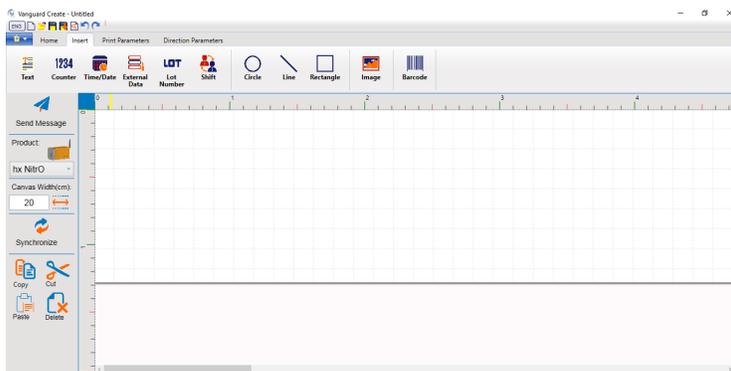


Figure 10. Vanguard Create Blank Canvas

To start creating the message, identify what kind of information you need to print such as:

- Text, counter, date & time, external date, lot number, shift, basic shapes, image or a logo, and barcodes

Designing basic message: Production and expiration date

- Click the text icon and then click on the canvas to display the textbox
- Notice that the above icon panel will change the display option such as text message preview, font type, font size, and rotation
- Start typing in the production and expiration date using the keyboard
- After selecting the font, adjust the size and the position by dragging text box

To create a production date

- Select the date and time icon and click on the canvas
- Default format of time will appear in real time
- Select the format, Font type and size that you require

To create the expiration date

- Select the time and date icon and click on the canvas.
- Select the format, font type and size that you require
- Adjust the value in year, month or day under the expiration duration panel

Deleting message from the canvas

- To delete, select the message and then click the delete icon on the left side
- Once done, save it on computer's folder
- Click the small save message icon above the icon panel, name the file and select the folder to save the message

Creating a blank canvas and opening saved message

- Click new icon to create new canvas, current message will disappear

To open a saved message

- Click on the open folder icon and the saved message will appear back on the canvas

Sending message to the printer

- Once message is ready for printing, send it to Hx Nitro.

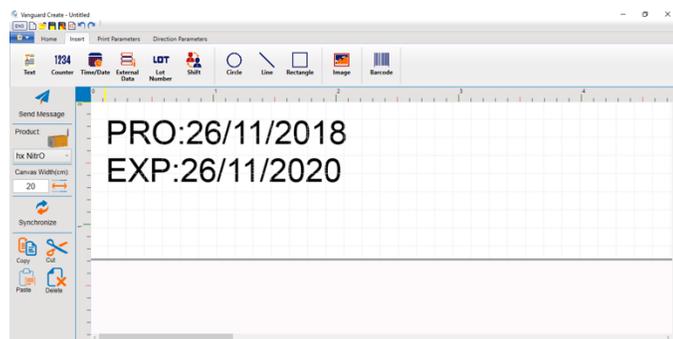


Figure 11. Production & Expiration Date Message in Vanguard Create

- To send the message, proceed to the home panel
- Under home panel there are three communication channels:
 - USB
 - RS 232
 - Wi Fi network
- You can now click the send message icon
- You will be notified when the message has been successfully transmitted to the printer

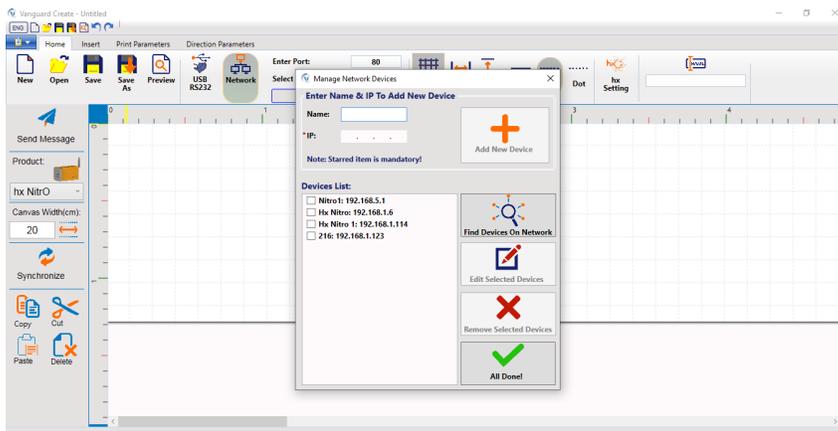
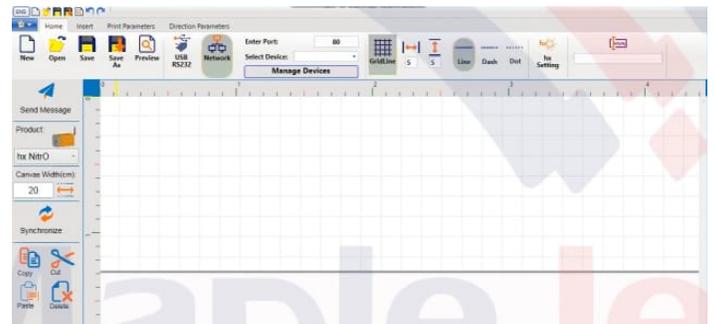


Figure 12. Sending Message to the printer

Sending Message with Multi-port communication in Vanguard Create

After designing the message in Vanguard Create, operators can send it to several Hx Nitro printer installed in the production line all at the same time

- This is possible using the Multi-port communication.
- Proceed to 'Home' and select 'Network'



- To add several devices, click 'Manage Devices'

Figure 13. Sending Message via Network or Wi Fi

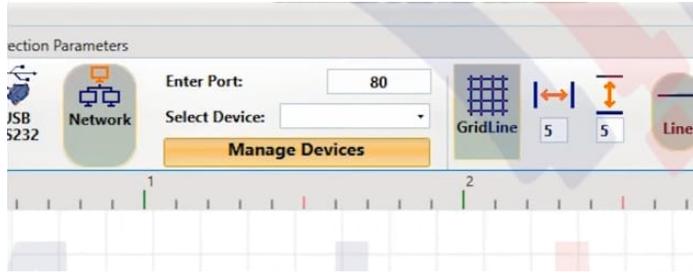


Figure 14. Manage Device Button

- A sub-window will open

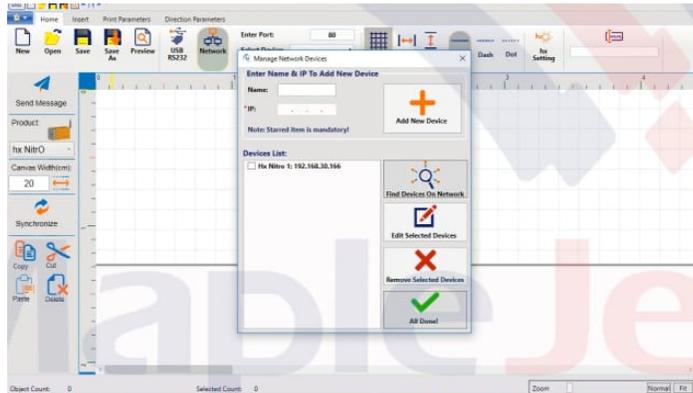


Figure 15. Network Multi-communication display

- Create a name for each Hx Nitro printer
- Add the IP Address and click 'add new device'
- Follow the same process to add another printer
- Submit by clicking 'All Done'

After adding, you can activate or deactivate each printer by simply ticking the box next them

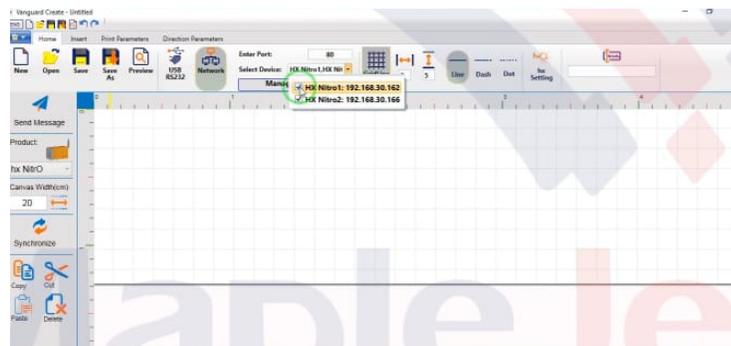


Figure 16. Activating or Deactivating Printer Communication Port

- Click the 'Send Message'

A notification will appear when the message is sent successfully

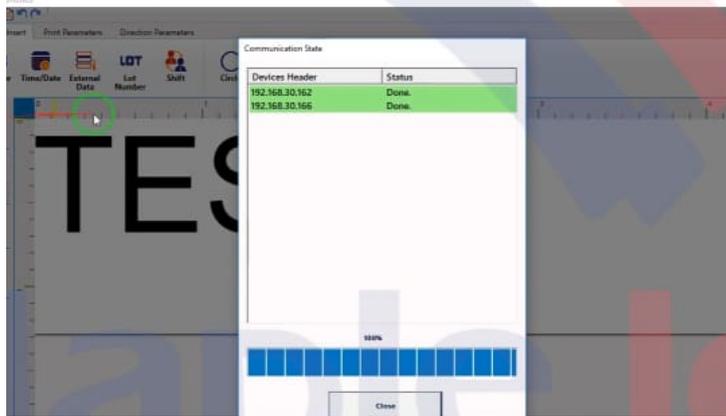


Figure 17. Successful Message Notification Display

If you need to send the message to a particular printer

Tick on or tick off to activate.

Designing Counter

There are three types of counter that you can design using Vanguard Create

- (1) User Defined Counter
- (2) Print Counter
- (3) Message counter

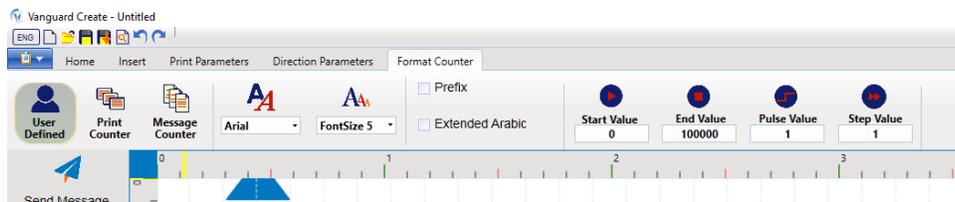


Figure 18. User Defined Counter

1. User Defined Counter
 - Operators can define the start & end value and Pulse & step value.
2. Print counter
 - Provides number of print that the printer has printed and this cannot be manually defined by the operator.

Note: This counter can only be reset through Hx Manager

3. Message Counter

- Provides the number of prints of a certain message that was sent to the printer.

Note: This counter will reset once you send a new message to the printer

To start designing the counter, create the counter name using the text.

- In creating user defined counter, make sure that the user define icon is highlighted or selected and click on the canvas
- Adjust the size and the fonts, Select the font size and type
- Choose to add or remove prefix on the values
- Add the start and end value for the counter
- Add the pulse and step value
- Pulse value - is the number of pulses before adding the step value
- Step value - is the number that will be added in the start counter value

Creating print counter

- Make sure to click the print counter icon and click on the canvas to display the textbox
- Adjust the font type and size
- choose to add or remove prefix
- Creating message counter
- Select the message counter icon and adjust font type and size

Note: you will not be able to change the values for Pulse and Step for Print & Message Counter

Once done creating the counter, send the message to the printer for printing.

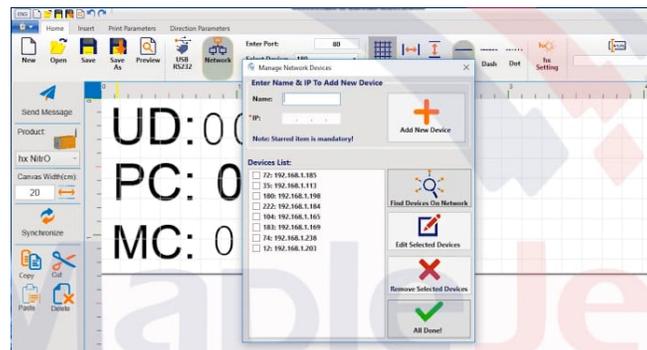


Figure 19. Sending Message to Hx Nitro via Wi Fi

Result:



Figure 20. Counter print result

Designing External Data Online

In online mode, Data is sent to Hx Printer directly from a device such as PLC or Barcode reader.

These data are usually real-time information of each product such as weight or time of production

To start creating external data online;

- Click the external data icon and click on the canvas. The above panel will automatically display different options

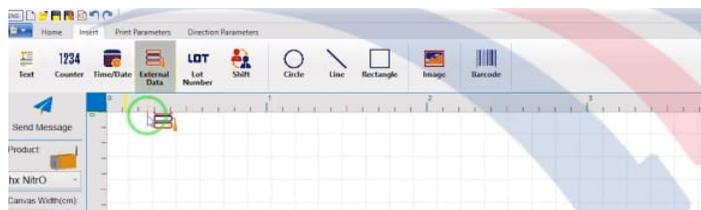


Figure 21. External Data icon

- Click on the 'online' icon to activate all data format highlighted below in red box.
- Select the format that you require:

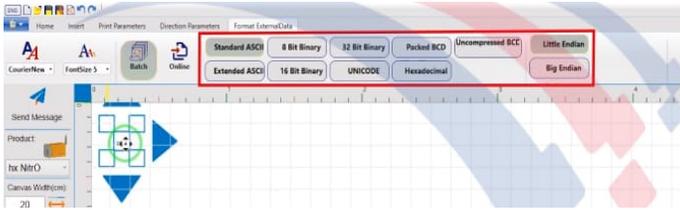


Figure 22. External Data Format

- After creating the external data, adjust print parameters based on your production line requirements
- Proceed to the home tab and select communication channel to send the data.
- After sending the message with online external data, the device such as weighing scale needs to send to the printer enable print on the product.

Designing Batch External Data

In batch mode, data is imported to Hx Printer all at once in a readable format such as '.xls' or Excel format.

The data is first uploaded in the remote manager and is sent to Hx Nitro for printing

To start:

- Write the description of your data using the 'Text'
- Adjust the font and size as per your requirement

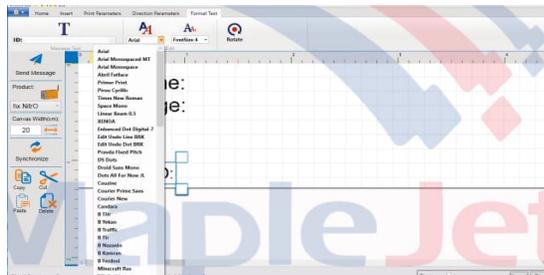


Figure 23. Designing Batch External Data

- Write the description of other external data that you need to print in batch
- Once done writing the description, you can design the external data
- Position the external data with the correct description

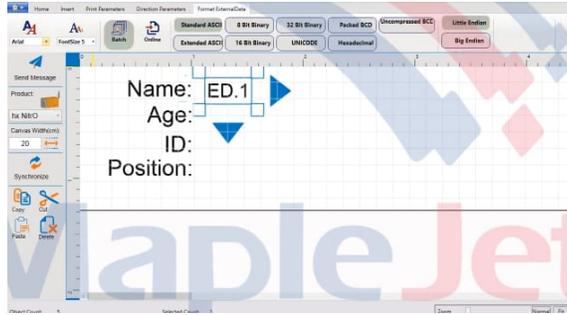


Figure 24. Designing Value for each external data

- Match the data using the remote manager
- Adjust the size, font and the position
- Once done, proceed to the communication channel under home tab
- Choose Wi Fi Network Communication and select the Hx Nitro printer you want to print the message
- Click send and you will be notified once successful
- After sending the data, launch the remote manager

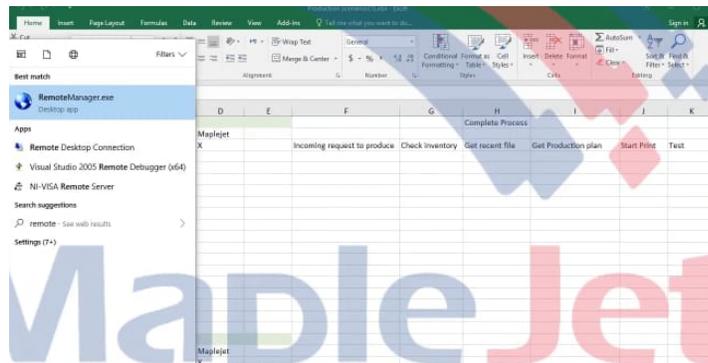


Figure 25. Launching Remote Manager

- Click the add controller icon and select communication channel
- Click 'PD1' icon to proceed



Figure 26. Selecting Communication Channel

- In the new display, click 'external data' and then 'select source'
- A new window will appear, select your data in excel format add fields to match your external data, click the upload icon.



Figure 27. Adding and matching external data

- Your batch external data is now ready for printing

Designing LOT number

LOT number is an identification number assigned to a particular quantity of a batch or a lot of material

You can create up to nine (9) sources of Lot number in Vanguard Create and input the data in Hx Manager.

- To start, launch Vanguard Create and start designing the message
- Create the type of Lot you need to print such as batch number and price

- Resize and adjust the position

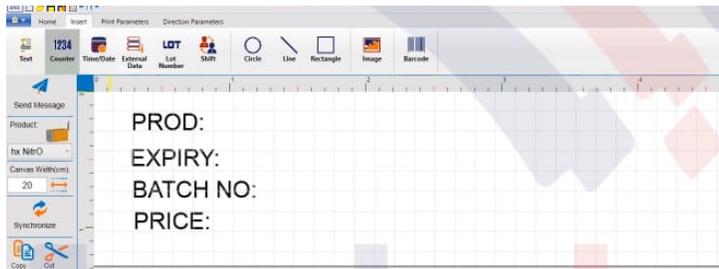


Figure 28. Typing Counter Description

- Select Lot Number icon and click on the canvas, choose up to 9 different Lot Number sources
- Save the message for future use and send it to Hx Nitro
- Choose 'Network' but make sure you are connected to Direct IP Address or Access Point

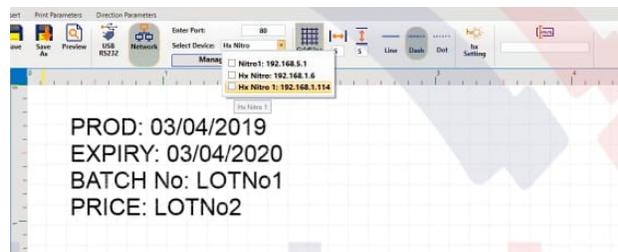


Figure 29. Sending Message to Hx Nitro

- Launch Hx manager
- Type the information corresponding to the Lot Number container created in Vanguard Create

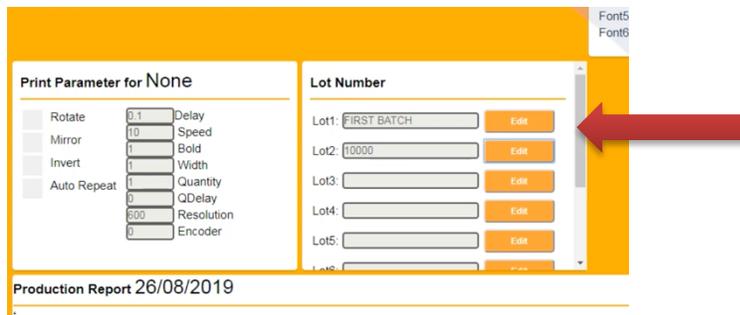


Figure 30. Typing Lot Number value in Hx Manager

- Click 'submit' on both
- Once completed, proceed to Hx Nitro and print the information.

Designing Shift

Shift is a variable data that automatically updates in real-time based on the defined 'shift' time period or range of a production line.

- To create a shift, click the 'Shift' icon and click on the canvas

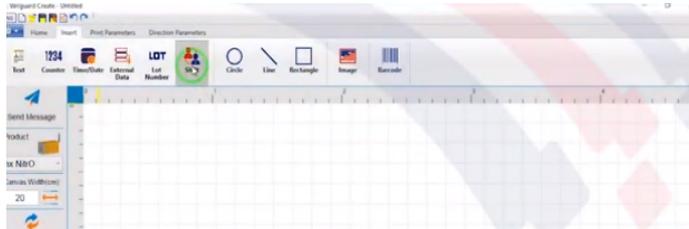


Figure 31. Selecting Shift icon

- Define the shift name by typing under the name icon
- Set the shift's time range and then click 'Add'



Figure 32. Adding Shift after defining value

- After doing that you can select Font Type & Font Size
- Position the object on the canvas
- Follow the same process to add a different shift
- You can add as many shift that you need in Vanguard create

Note: that the shift's time range designed in Vanguard Create will depend on Hx printer time. Make sure to set the time of the printer correctly.

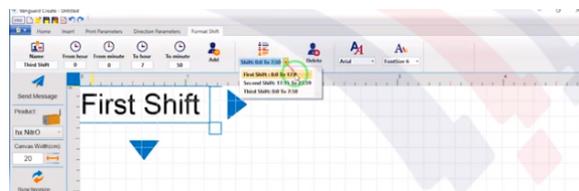


Figure 33. Selecting Shift Range

Designing 2D GS1 DataMatrix Barcode with External Data

- First, launch Vanguard Create and proceed to the insert tab
- Click on the barcode icon and click on the canvas

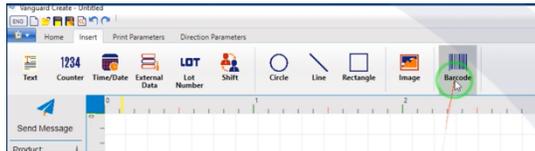


Figure 34. Clicking barcode icon

- Select GS1 data matrix.

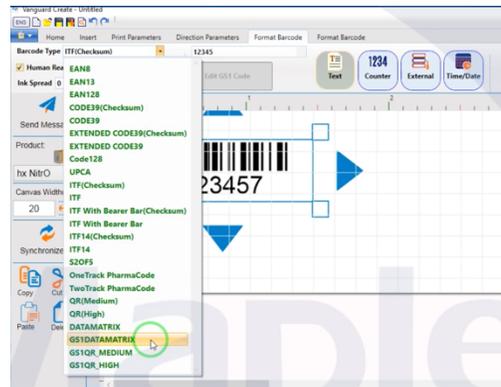


Figure 35. Selecting type of barcode

- The GS1 barcode will automatically display on the canvas
- To design the barcode click 'Edit GS1 code'

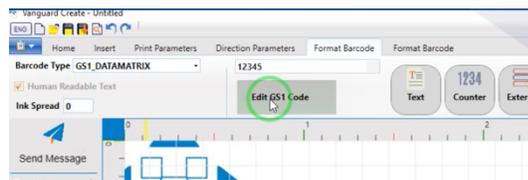


Figure 36. Clicking the 'Edit barcode' button

- And a different display will open



Figure 37. GS1 Barcode Management display

- Input up to 5 sources into the barcode such as G T I N, Expiry Date, Lot Number, Additional ID & Serial Number

Each type of external data has specific AI Code

- Type the AI code and click 'External Data' on the input source
- Follow the same process for all external data
- Once done, select the barcode format and alignment
- Click 'Data Title: GTN' and 'Multi Line'
- Resize the barcode and the message
- Proceed to 'Home tab' and send the message to the printer

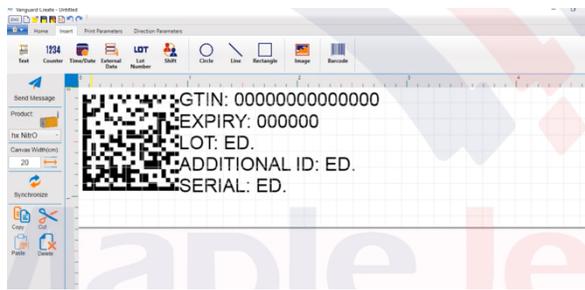


Figure 38. Barcode preview before sending

- Launch 'Remote Manager'

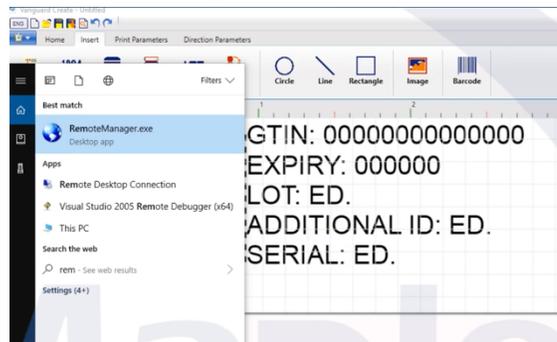


Figure 39. Launching Remote Manager

- configure the 'Port Setting'



Figure 40. Configuring Port Setting

- To do that select 'Network and enter the IP Address
- Once done, click on the controller icon and a new display will appear
- Proceed to 'External Data' tab and select source
- Select the sources that you need to print and click 'Add'

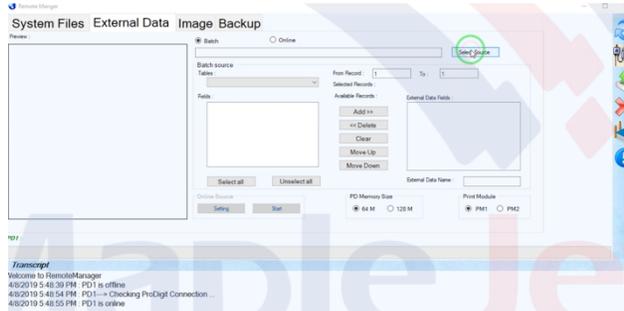


Figure 41. Selecting & Importing Source

- The selected sources will be added to the 'External Data Fields'

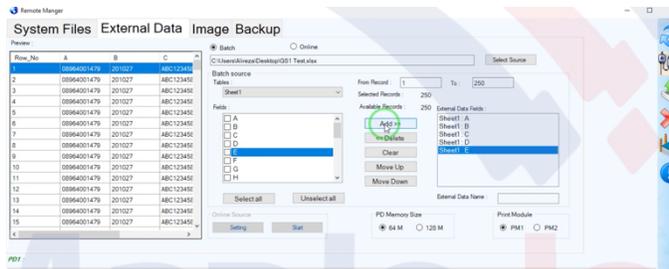


Figure 42. Adding Source to External Data Fields

- Click the upload or send icon to send the external data
- If you need to decrease the message update time and increase the print quantity per minute
- Change the 'vertical ratio' in Vanguard Create.

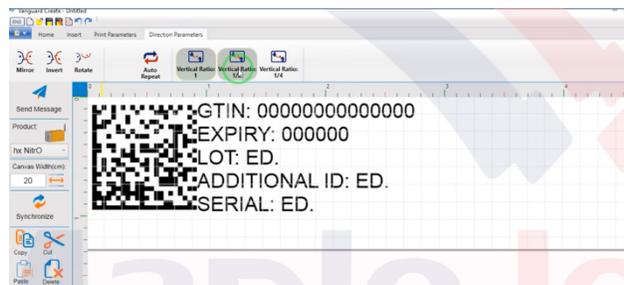


Figure 43. Changing Vertical Ratio in Vanguard Create

- Align the barcode according to canvas size and resend the message to the printer.

Designing QR Barcode with External Data

- Launch Vanguard Create and proceed to 'Insert Tab'
- Click on 'Barcode' and click on the canvas

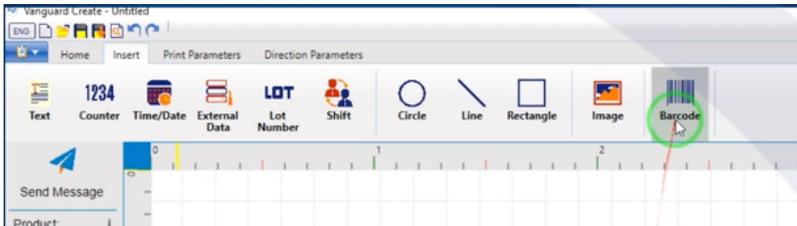


Figure 44. Selecting Barcode

- Select the QR in the 'Barcode type' drop down menu

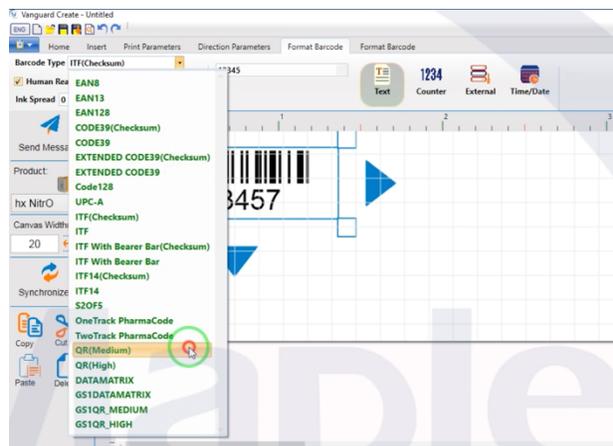


Figure 45. Selecting QR Code

- Select the external data - batch type, as source.
- Adjust barcode size
- And send the message
- Launch remote manager and Set port setting
- Insert the printer IP Address found in the OLED display of the printer when connected to Access Point or use the default IP address -190.168.5.1 when using direct wifi connection

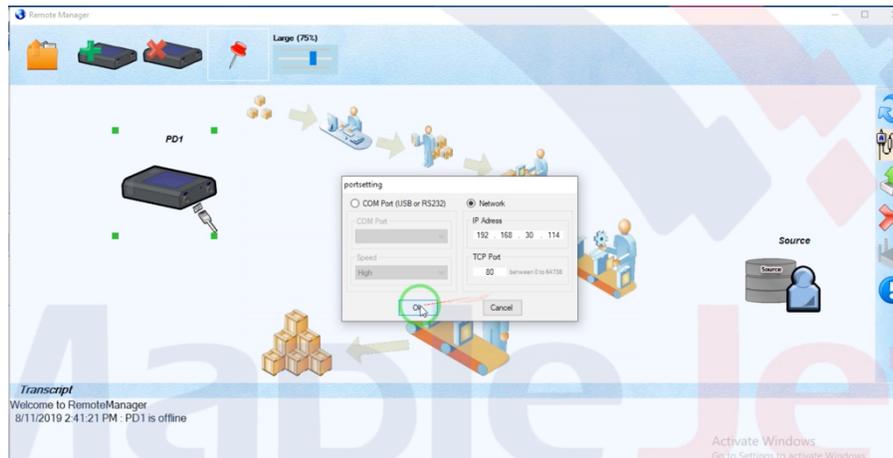


Figure 46. Port Configuration

- Set port to 80 and click 'OK'
- Double click the printer icon and proceed to External data

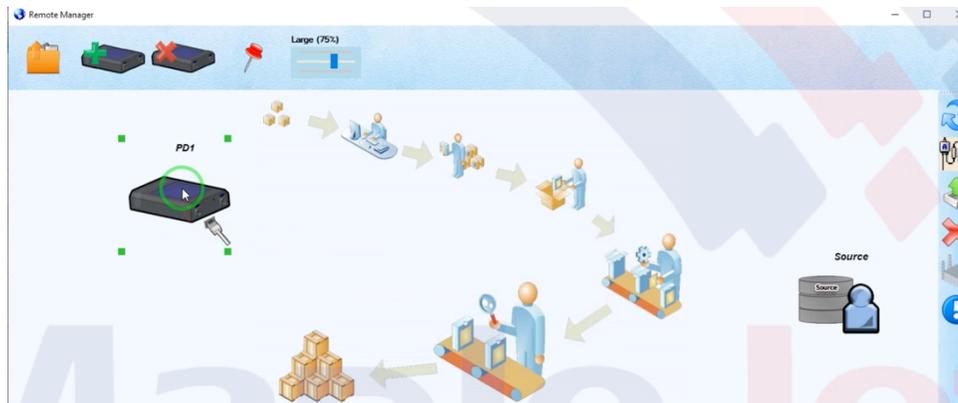


Figure 47. Selecting Printer icon

- Select the source file and add the data column

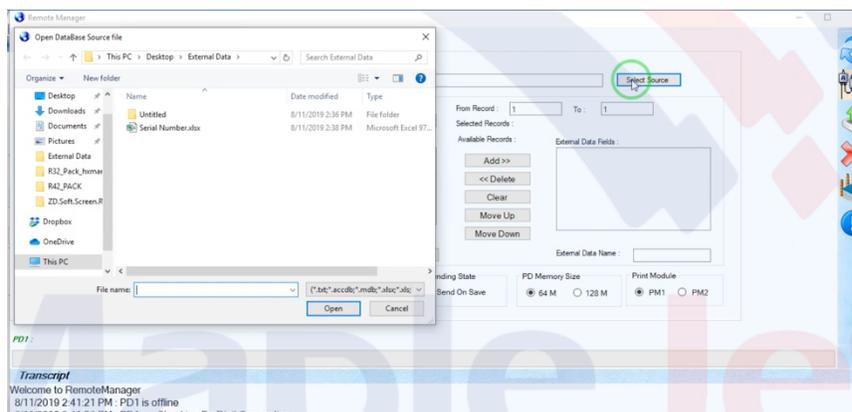


Figure 48. Importing External Data from Source

- Send the data to the printer and start printing

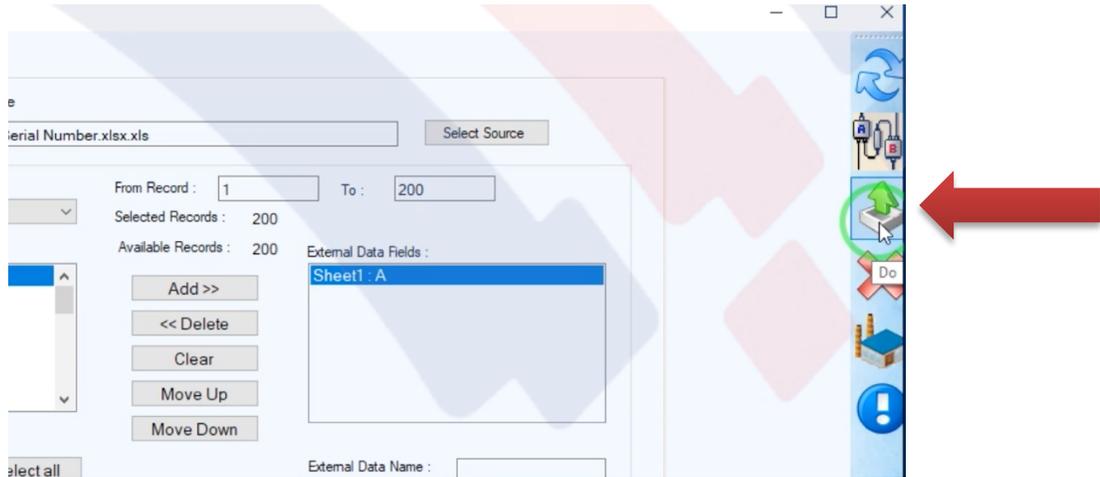


Figure 49. Sending Imported Data to Hx Nitro

Understanding Vertical Ratio

Vertical ratio allows to increase the print quantity per minute, especially for 2D barcodes with variable source such as Time & Date or External data by stretching the designed message.

It means that if the designed message is 6mm the actual print size would be 12mm.

To adjust vertical ratio:

- Launch Vanguard Create and proceed to 'Direction Parameters'

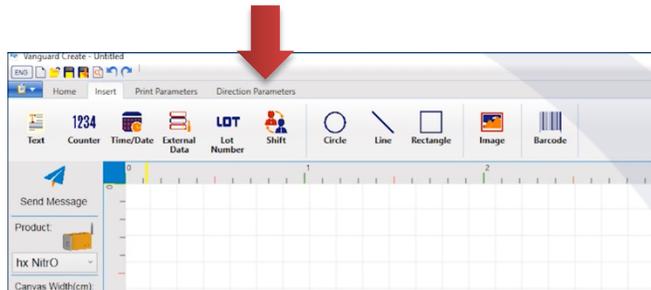


Figure 50. Clicking Direction Parameters Tab

- Select Vertical Ratio by 1/2

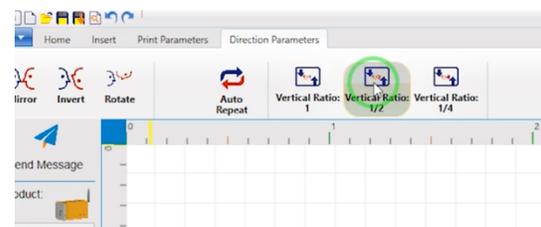


Figure 51. Selection 1/2 vertical ratio

- Create the barcode and Select the type of barcode

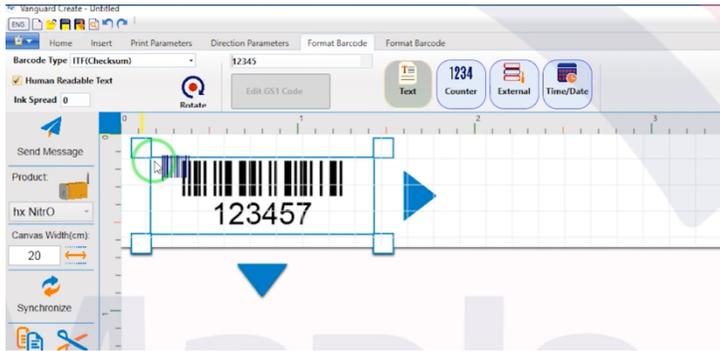


Figure 52. Designing Barcode

- Edit the information

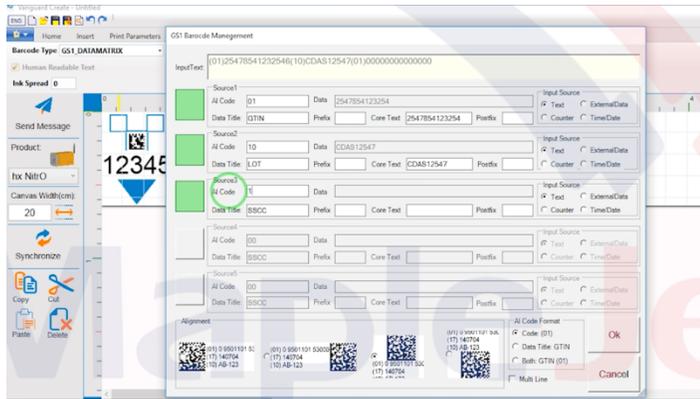


Figure 53. Adding Barcode Information

- Click 'Data Title: GTIN' and 'Multi Line'
- Adjust the size based on the canvas and send the message to the printer

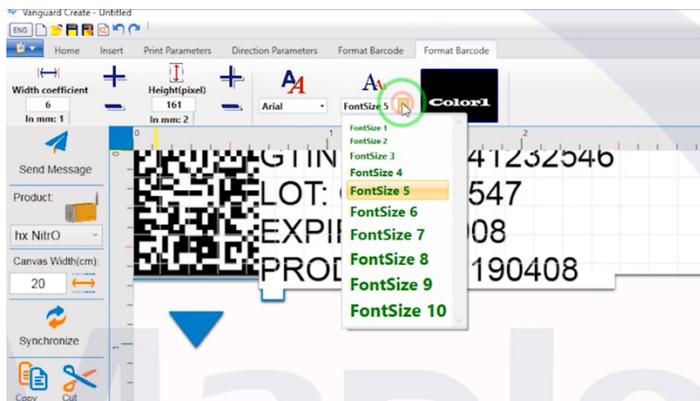


Figure 54. Adjusting Font Size Based on Canvas

- Select Vertical Ratio by $\frac{1}{4}$

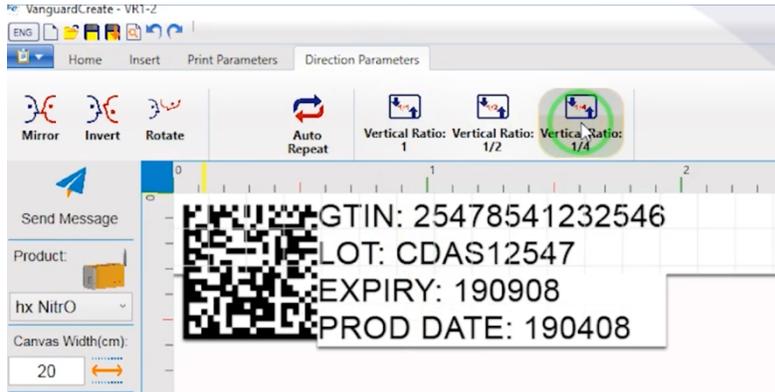


Figure 55. Selecting 1/4 Vertical Ration

- Adjust the size based on the canvas

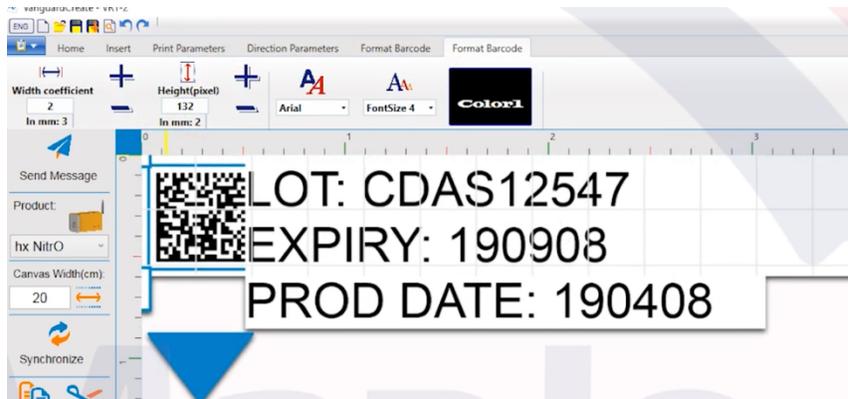


Figure 56. Adjusting Size Based on 1/4 Vertical Ratio

- Send the message to the printer

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