

Toshiba TEC Bar Code Printer

**Toshiba TEC B-SX-4T,
Toshiba TEC B-SX-5T**

Loading ZPL Interpreter White Paper

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Century Systems, Inc.

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Loading the ZPL Interpreter to an SX-4T Printer

Explanation of uses for the ZPL Interpreter

The ZPL interpreter is used when an incoming data stream is difficult, or impossible, to change to accommodate a Toshiba TEC printer. The ZPL interpreter is useful for allowing the SX-4T to be a “drop in” replacement for an equivalent Zebra printer without having to change the data stream. This might be useful if an end user wants to replace a Zebra 105SL with a SX-4T printer or an SX-4T printer is purchased to be added to replace one of the existing Zebra printers. In both cases the ZPL data that is currently being used by the printer does not have to be changed because the data is changed in the ZPL interpreter. In the second case, the ZPL interpreter allows large installations to replace one printer at a time without having to change the code/printer driver globally for all printers. The ZPL Interpreter is a special case of the Basic interpreter.

NOTE:

- All of the basic functions in the printer need to be OFF for loading.
- All Basic programs need to have the “.bas” extension.
- DO NOT interrupt the Loader Program while it is loading the program to the printer.
- Program loader v2.0 or better is required.
- Flash the printer buffer before loading the basic program for at least as many blocks as are needed for the basic program.
- All programs go in Block 0.
- The label size for the label format is either determined beforehand or is sent in the ZPL command language
- The printer firmware for the SX-4T printer is at least v4.0
- Once the Basic Interpreter is turned on, the printer no longer accepts Toshiba TEC programming codes. The Interpreter needs to be turned off to allow normal Toshiba TEC programming codes to be accepted.
- Once the ZPL interpreter is loaded to the printer, it does not need to be reloaded when the Basic interpreter is turned on and off.

Changing of ZPL Interpreter Program for the Basic Interpreter

Edit the **ZebraSX4_V17-2005-09-29.BAS** file

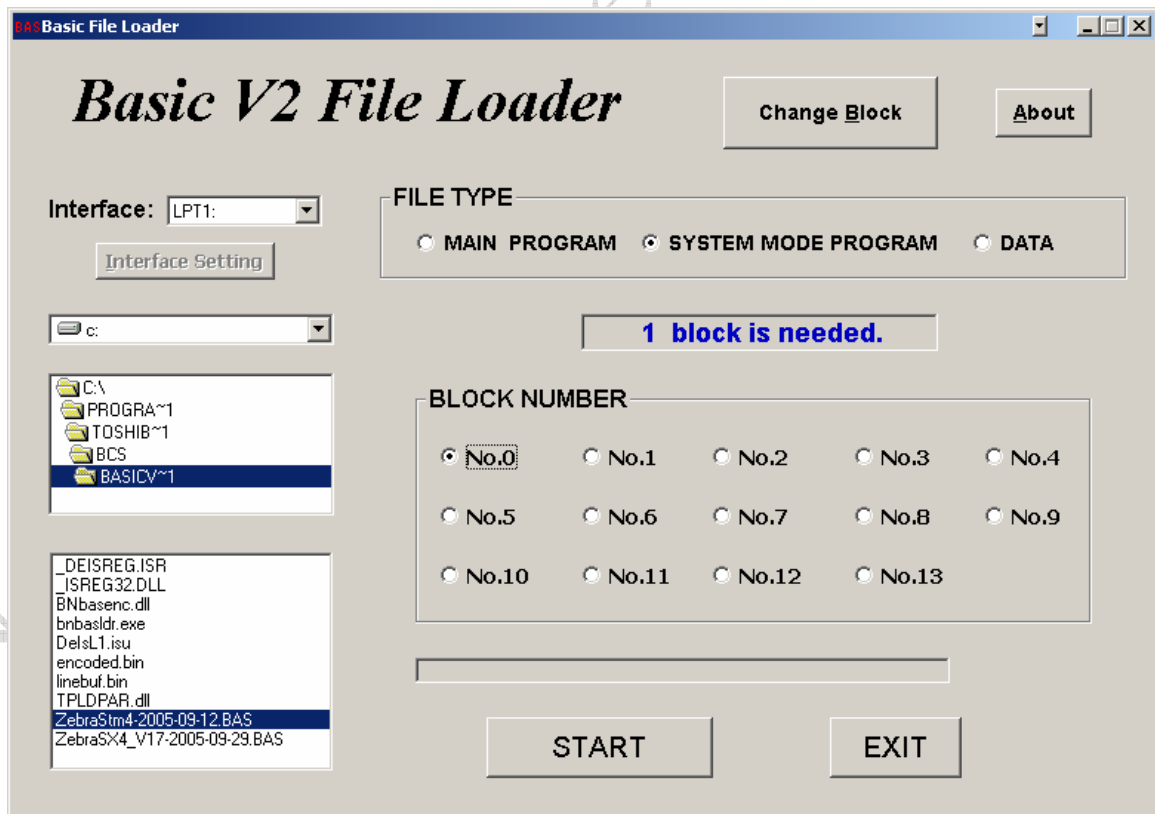
Go to the section that looks like this.

```
REM -----
LABELLENGTH% = 1556   ' inches * 254
LABELWIDTH% = 1040    ' inches * 254
PRINTMODE% = 2        - TBD
PRINTORIENT% = 0      ' 0=bottom first, 1=top first, 2=Mirror bottom first, 3=Mirror top first
PRINTRATE$ = "A"     ' 3, 6, or A=10ips
ISSUECNT% = 1        - TBD
SENSOR% = 2          ' 0=no sensor, 1=Reflective, 2=Trans, 3=Trans Preprint, 4=Reflective Preprint
RIBBON% = 1          ' 0=no ribbon, 1=with ribbonsave, 2=with ribbon, 3=With head up
CUTINTERVAL% = 0
BACKFEED% = 0        - TBD
ZEBRADPM% = 0        ' 0 = 8dots/mm , 1 = 4dots/mm
MODEUNITS% = 0       - TBD
```

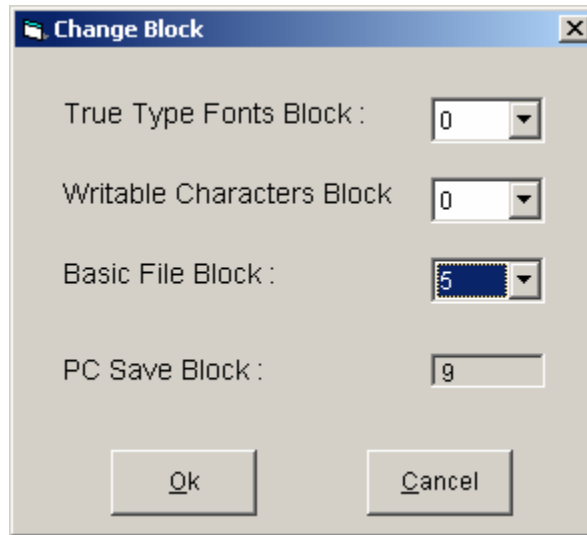
1. Set the label's pitch length by editing the LABELLENGTH% variable. The example above is for 6.125" that is 6" tall label with 1/8" gap –
 $6.125 * 254 = 1556$
2. Set the label width for the label to be interpreted by editing LABELWIDTH%. The example above shows a 4" wide label.
3. Set the XXXXX - TBD desired by editing the PRINTMODE% variable. Use XXXXX. - TBD
4. Set the label print orientation by editing PRINTORIENT%. Use 0=Printing bottom first, 1=Printing top first, 2=Mirror printing bottom first, 3=Mirror printing top first.
5. Set the printer speed by editing the PRINTRATE\$ variable. Please note that the data needs to be in the quotes. Use 3=3ips, 6=6ips, and A=10ips
6. Set the printer ISSUECNT% variable. This is the default print quantity. This variable does not normally need to be changed. The correct values would be 1 to 9999.
7. Set the sensor type for the type of label to be used by editing the SENSOR%. Use 0=no sensor, 1=Reflective, 2=Trans, 3=Trans Preprint, 4=Reflective Preprint. In the example above the transmissive, or gap sensor is used.
8. Set the ribbon type desired by editing the RIBBON% variable. Use 0=no ribbon, 1=with ribbonsave, 2=with ribbon, 3=With head up. In the example above, the ribbon with ribbon-save is selected.
9. Set the cut interval using the CUTINTERVAL% variable. The correct values should be from 0 to 100, where 0 is no cut and 100 is cut at the 100th.
10. BACKFEED% - TBD
11. Set the dot density of the zebra being replaced by editing the ZEBRADPM%. Use 0=8dots/mm, 1=4dots/mm.
12. MODEUNITS% - TBD

Loading Procedure for the Basic Interpreter

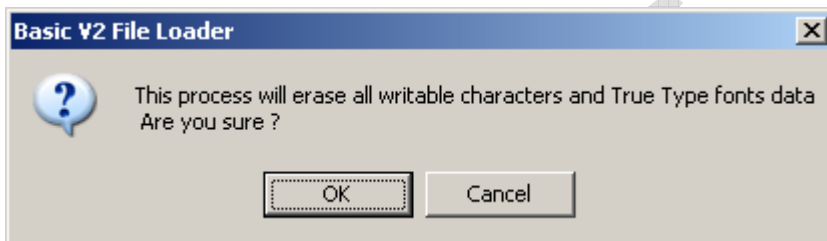
- 1 Turn the interpreter off, on the printer
 - a. Hold FEED and PAUSE keys while turning the printer on
 - i. Printer will display <1>DIAG. Vx.xx
 - b. Press the RESTART key three times
 - i. Printer will display <8>BASIC
 - c. Press PAUSE
 - i. Printer will display BASIC ENABLE
 - d. Press PAUSE
 - i. Printer will display BASIC ON
 - ii. If the Printer Says BASIC OFF skip to g
 - e. Press FEED
 - i. Printer will display BASIC OFF
 - f. Press PAUSE
 - i. Printer will display FILE MAINTENANCE
 - g. Turn the printer off and then on again
2. Launch basic file loader
3. Select the file to be loaded from the appropriate directory
4. Click the **SYSTEM MODE PROGRAM** radio button
5. Click **Block Number No.0** radio button



6. Click **Change Block**

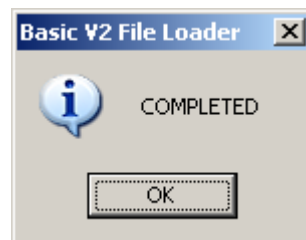


7. Make the **Basic File Block** at least 4 in this case 5 is selected. The number of blocks required is based on the size of the programs to be loaded. Both parts of the ZPL interpreter are 4 blocks all together.

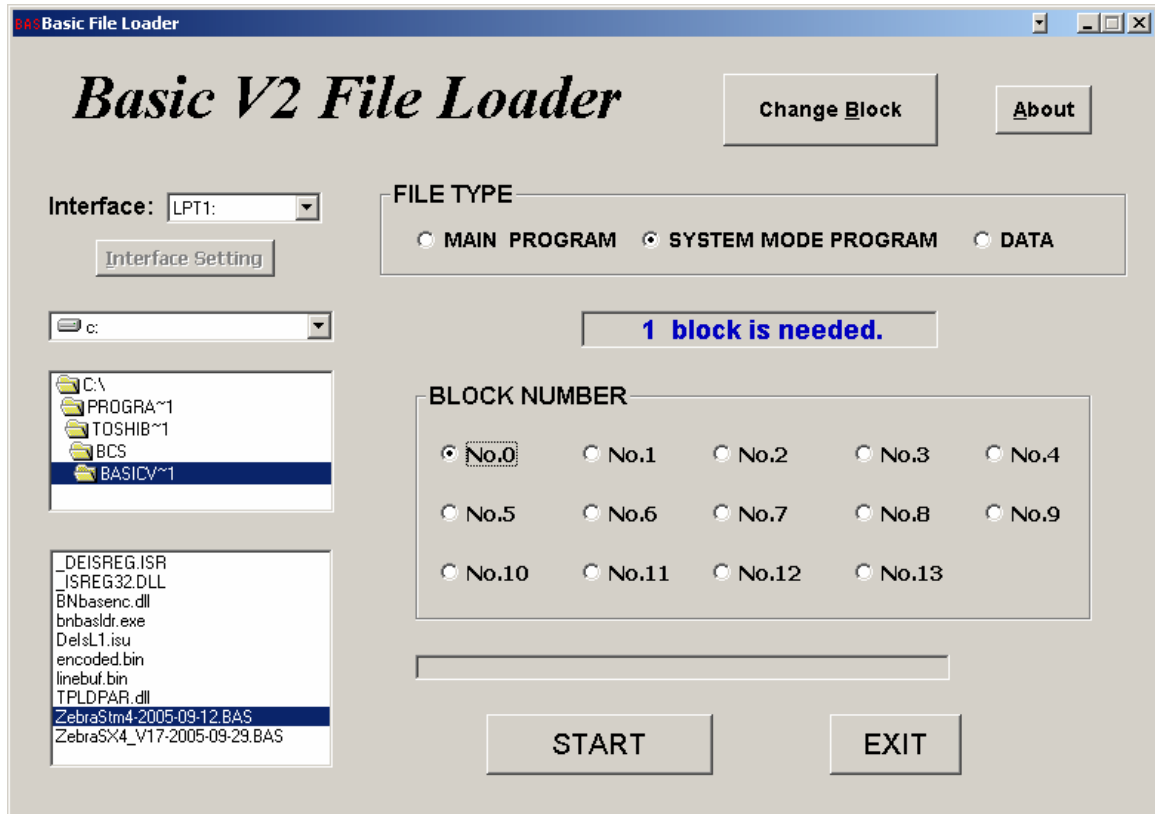


8. Click **OK**

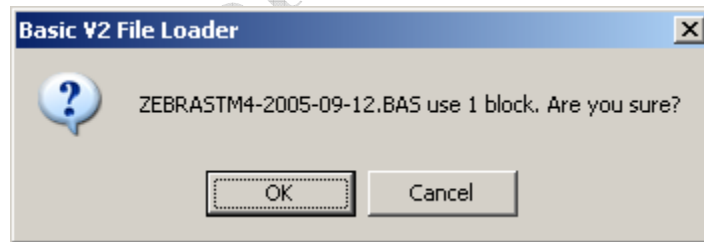
Printer will display SAVING 704 0



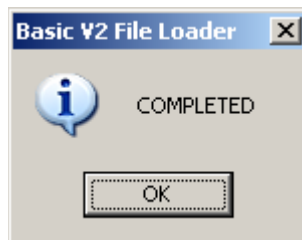
9. Click **OK**



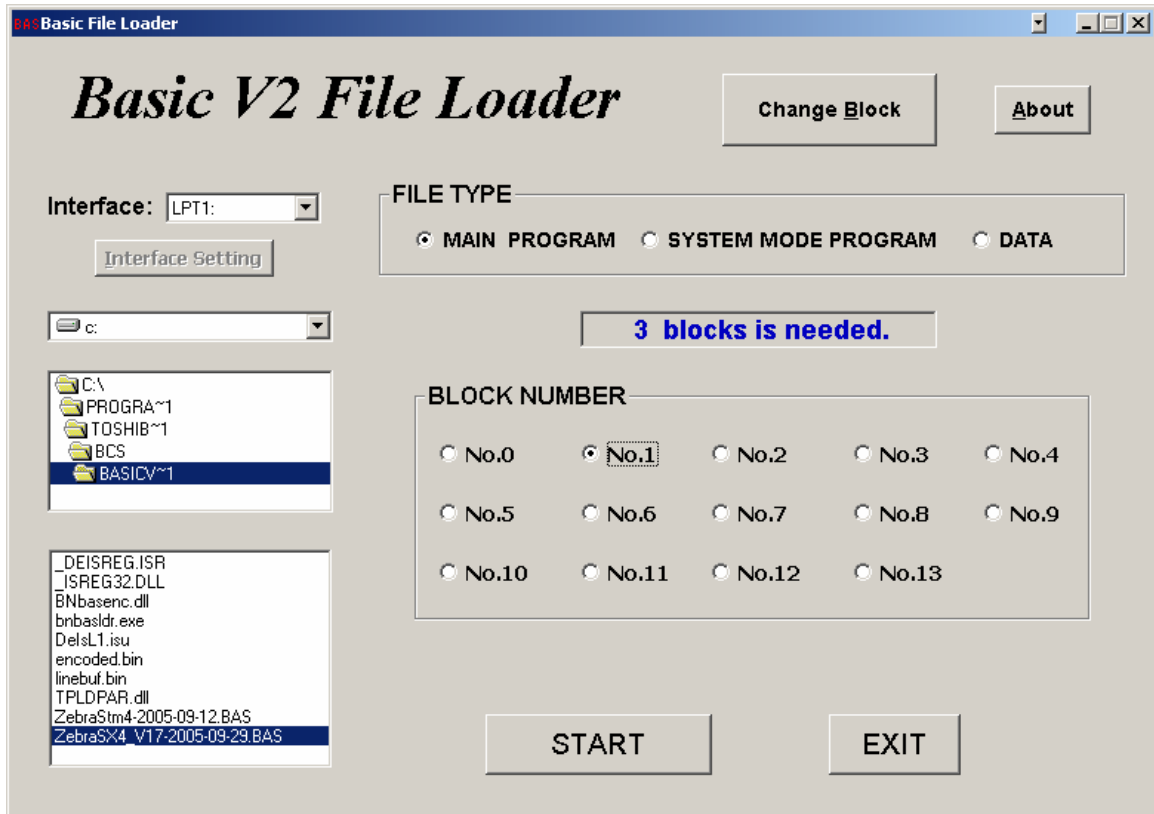
10. Select **SYSTEM MODE PROGRAM** radio button, **Block Number 0** radio button, and the file ZebraStm4-2005-09-12.bas
11. Click **START**



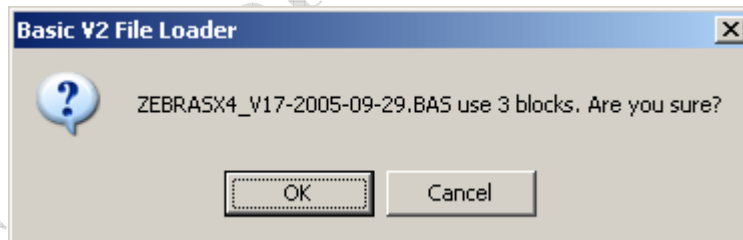
12. Click **OK**
13. Printer will display **NOW LOADING**



14. Click **OK**

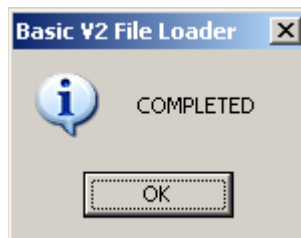


15. Select **MAIN PROGRAM** radio button, **Block Number 1** radio button, and the file `ZebraSX4_V17-2005-09-29.bas`
16. Click **START**



17. Click **OK**
Printer will display

NOW LOADING



18. Click **OK**

19. Turn the interpreter on, on the printer
 - a. Hold FEED and PAUSE keys while turning the printer on
 - i. Printer will display <1>DIAG. Vx.xx
 - b. Press the RESTART key three times
 - i. Printer will display <8>BASIC
 - c. Press PAUSE
 - i. Printer will display BASIC ENABLE
 - d. Press PAUSE
 - i. Printer will display BASIC OFF
 - e. Press FEED
 - i. Printer will display BASIC ON
 - f. Press PAUSE
 - i. Printer will display FILE MAINTENANCE
 - g. Turn the printer off and then on again
20. Send the ZPL data to be interpreted to the printer.

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