PRINTRONIX®

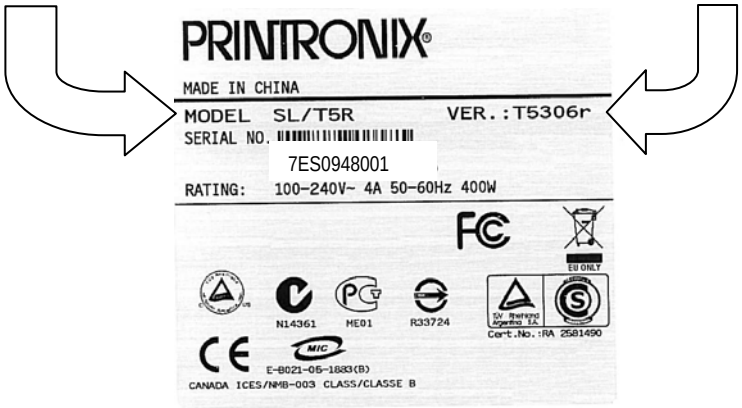
Printronix Technical Bulletin	Number T-0038	Revision A
	Product Type Thermal	Date 05/10
Subject INTRODUCING THE NEW SL/T5R ES HOW DO I KNOW IT'S AN ENERGY STAR?	Originator Don Elflein	Page 1 of 14

RECOGNIZING THE NEW SL/T5R ENERGY STAR PRINTER

Look for the *Energy Star*® logo on the lower left front of the printer:

The model number shown on the data plate on the rear of the machine is changed:

Model # – SL/T5R for all printers ***Version #*** – same as previous T5r model #



The serial number will include "ES" in the second and third position:

Column # of Digits		Description
1-1	1	Plant Code 4 = IRV 5 = SXN 6 = HOL 7 = CMP
2-3	**2**	**ES (RoHS+Energy Star)**
4-5	2	Last 2 digits of current year
6-7	2	Week number (01 – 52)
8-10	3	numeric sequence (001 – 999)

The New SL/T5R Energy Star printer has several New Key Features

A) Energy Star® support. After the timeout occurs (Default 5 minutes) Energy Star mode will shut down the ODV and RFID units to conserve energy. Upon waking from Energy Star, these units will be re-initialized which will take a few seconds longer than the printer re-initialization.

B) Built-in NIC: NIC hardware is integrated on board the new controller and is enabled or disabled by a Security element which can be set at the factory, or enabled in the field with an SPX dynamically. Two PCI slots are still available for other options.

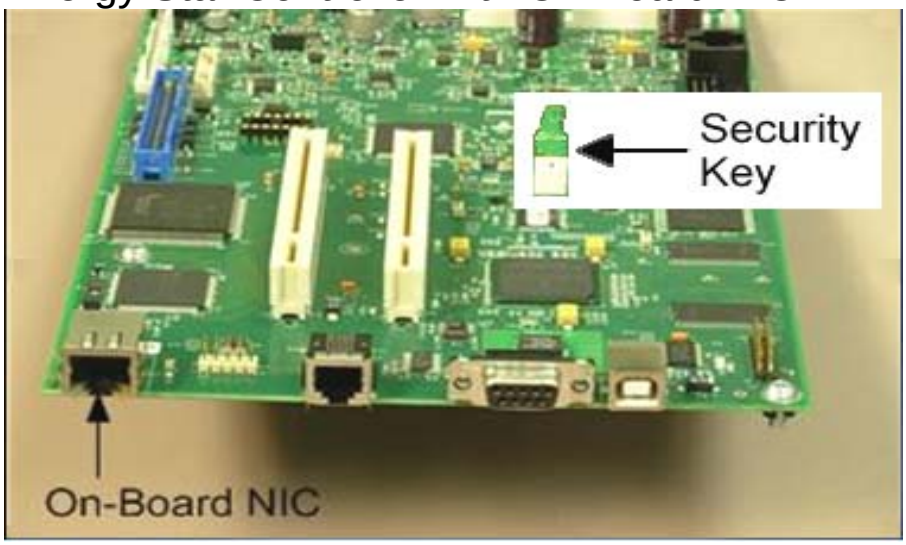
C) Improved engine functionality which includes new gap sensor design, and true micro-stepping capability. Micro-stepping menus (Vertical DPI Adj) in MEDIA CONTROL allow fine tuning of vertical DPI that applies to all emulations in a consistent fashion.

D) More Memory: 64MB of DRAM, 16 MB of flash. 64MB means more form, logo, and temporary storage space for fonts. 16 MB of flash means additional space for forms, logo, and font memory space.

HARDWARE DIFFERENCES:

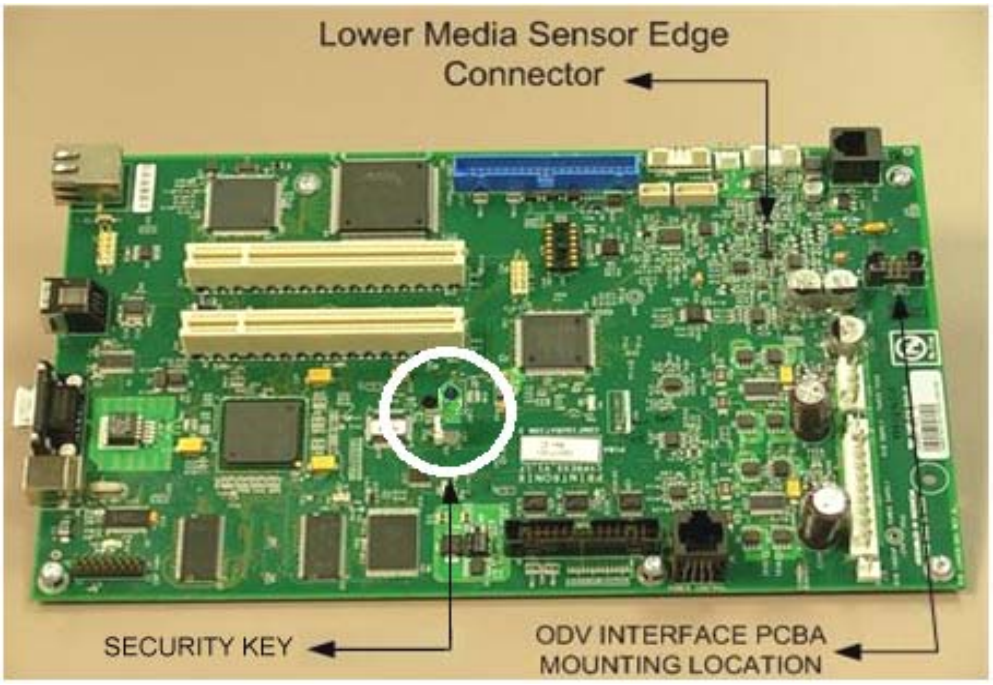
There are several hardware differences between the SL/T5r and the SL/T5R Energy Star.

Energy Star Controller with On-Board NIC



Picture 1

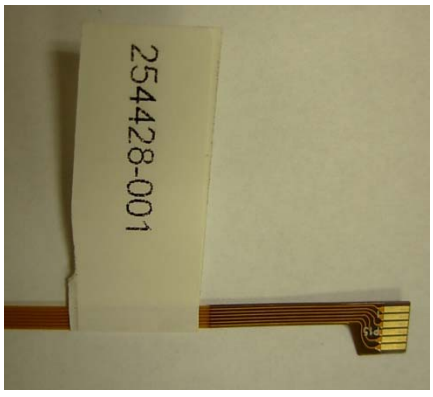
Energy Star Controller with On-Board NIC (Continued)



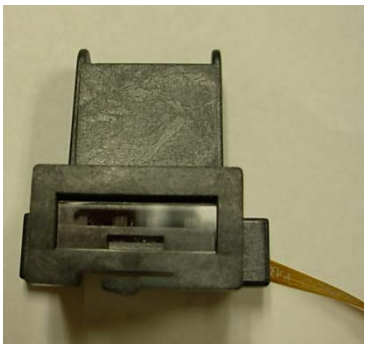
Picture 2

Lower Media Sensor

The Lower Media/Gap Sensor has been changed from a 4 Pin to a 6 Pin Edge connector. The Gap Sensor head is visually unchanged. (See Pictures 3 and 4)



Picture 3



Picture 4

Security Key

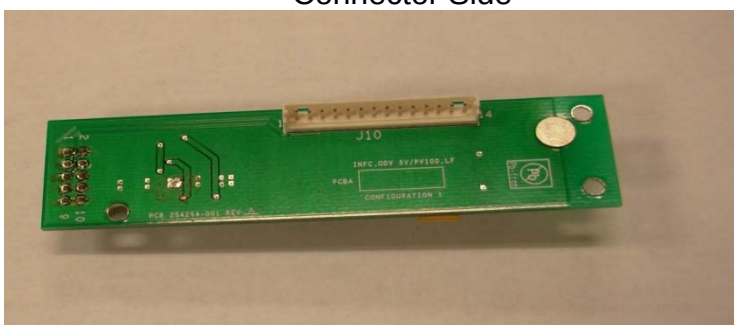
The T5R ES Security Key is similar in shape, but is labeled with a green shrink tube instead of a blue one. The new Security Key will always be GREEN to distinguish it from the older style. The GREEN key cannot be used on older printers without a software update. (See Picture 1)

Online Data Validator (ODV)

The ODV Option has been changed to include an ODV Interface PCBA, which is mounted onto the Controller. The ODV Power/Data Cable is then connected onto the ODV Interface PCBA. (See Pictures 5 and 6)

ODV INTERFACE PCBA

Connector Side



Component Side

Pictures 5 and 6

Note:
Since the T5R ES Power Supply does not have a separate 5V line, the ODV Interface PCBA is required to convert from 25V down to 5V for use by the Validator.

Energy Star Power Supply (4", 6"& 8")

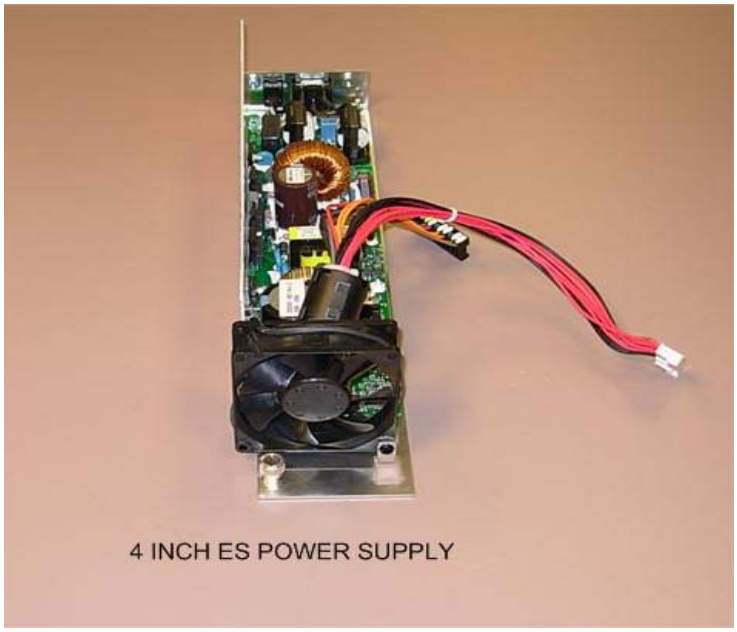
The New SL/T5R ES Power Supply comes in two versions. The first version (Heat Sink height 2 Inches Picture 8) is for the 4 Inch Wide printer and the second version (Heat Sink height 3 Inches Picture 9) is for the 6 and 8 Inch wide printer.
The Power Supplies for the 4, 6 & 8 inch versions all have only one thumbscrew, and the Cooling Fan is located at the front of the Power Supply assembly, similar to the current SL/T5r 4 inch Power Supply.

WARNING:

DO NOT USE THE T5r POWER SUPPLY IN A SL/T5R ES PRINTER

THE SL/T5r AND SL/T5R ES POWER SUPPLY ARE **NOT** COMPATIBLE.
THE CONNECTORS ARE THE SAME ON BOTH THE SL/T5r AND SL/T5R ES PRINTERS.
IF THE INCORRECT POWER SUPPLY IS CONNECTED TO THE PRINTER NO DAMAGE SHOULD OCCUR TO THE POWER SUPPLY OR THE CONTROLLER. THE PRINTER WILL NOT POWER UP.

Power Supply for the 4" Printer



Picture 7

Power Supply for the 4 Inch Printer (Continued)

Picture 8

Power Supply for the 6 and 8 Inch Printer

Picture 9

Power Supply for the 6 and 8 Inch Printer (Continued)

Picture 10

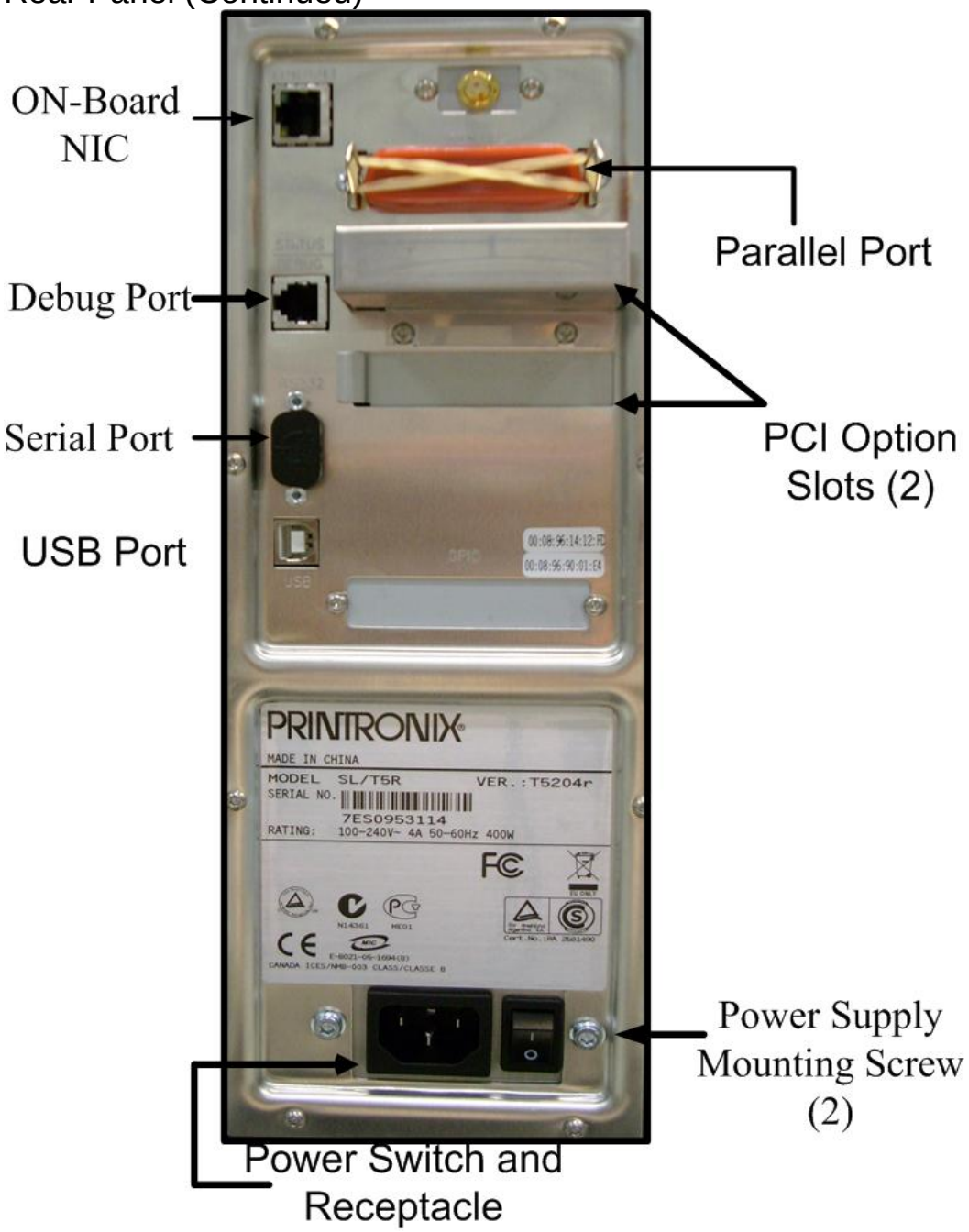
Note:

When a 4 inch Power Supply is used in a 6 or 8 inch printer, the printer will recognize that an incorrect Power Supply has been installed. The printer will then display the following error message "P/S MISMATCH-Replace Supply''

REAR PANEL

There are some slight differences between the Rear Panel for the SL/T5r and the SL/T5R ES printer. The most obvious is the additional On-Board NIC Port located on the upper left. More subtle is the slight offset in the position of the Power Supply mounting screws. The SL/T5R ES Power Supply mounting holes (2) in the rear panel are located 0.250" lower than on the current SL/T5r to prevent the accidental installation of a Non-ES Power Supply.
The rear panel from a SL/T5r and SL/T5R ES are not interchangeable.
(See Picture 11)

Rear Panel (Continued)



Picture 11

UNIQUE PARTS FOR SL/T5R ES

Part Number SL/T5R	Part Number SL/T5R ES	Description (New Printer)
250300-901	254117-901	CONTROLLER ASSY,PPC,SL/T5R ENERGY STAR
250300-991	254117-991	CONTROLLER ASSY,PPC,SL/T5R+ ENERGY STAR (AE)
250260-001	253261-901	POWER SUPPLY,SL/T5R ENERGY STAR (4")
250260-991	253261-991	POWER SUPPLY,SL/T5R ENERGY STAR (4") (AE)
250131-001	253262-901	POWER SUPPLY,SL/T5R ENERGY STAR (4"/6"/8")
N/A	253262-991	POWER SUPPLY,SL/T5R ENERGY STAR (4"/6"/8") (AE)
250916-001	254428-901	SENSOR ASSY,LOWER MEDIA,SL/T5R ENERGY STAR
250394-001	254577-001	SECURITY KEY,BLANK,V2
N/A	254263-001	PCBA,INTFC,ODV SV/PV100 (included in ODV Interface Kit)
251028-901	252235-001	OPTION KIT,REAL TIME CLOCK
250488-003	N/A	SIMM,FLASH MEM,16MB,120NS,72PIN

These parts are ***NOT*** backwards compatible!

- Energy Star® Controller
- Energy Star Power Supplies (4" and 6-8")
- Lower Gap Sensor Assembly
- New Security Key chip (green heat shrink)
- ODV Interface Board (part of ODV Interface Kit)
- Real Time Clock Option (same as T4M)
- Ethernet (NIC) on board

SOFTWARE DIFFERENCES:

PRINTER MENU OPTION DIFFERENCES:

RFID CONTROL
Tag Type

RFID Tag Changes:

Tags Added
Alien 9654 G
Avery AD230
Avery AD843
Invengo 8030A,
Raf 1273 Web
Raf 1572 Dogbn3
Raf 1600 Frog3

Tags Removed
Alien 9640F
Flex Wing Omron Wave G2
Omron Loop G2
Symbol 4T
Symbol Trident
TI Dallas

QUICK SETUP and CALIBRATE CONTROL

Gap/Mark Sensor [1]
Factory default setting changed to Advanced Gap

PRINTER CONTROL

Power Saver Time
Factory default setting has been changed to 5 minutes

Page MemAdjust[2]
Factory default setting is 24 Max Inches

Glob Mem Adjust
Option removed and replaced by Page Mem Adjust

CALIBRATE CONTROL

Pwr Up Action
Factory default setting changed to Auto-Cal

Dynamic Sensing
Option removed from the menu

Gap/Mark Sensor [1]
Factory default setting has been changed to Advanced Gap

Gap/Mark Thresh
Factory default is 689 and the range has been changed from 0 to 1023

Paper Out Thresh
Factory default is 1023 and the range is changed from 0 to 1023

Paper Out Sensor
Factory default is set to Transmissive

MEDIA CONTROL
Vertical DPI Adj[3]
203
Option added

Vertical DPI Adj[3]
300
Option added

PARALLEL PORT
Buffer Size in K[4]
Maximum size increased to 64K

Serial Port
Buffer Size in K[4]
Maximum size increased to 64K

Printer Firmware
The Initial SL/T5R ES Firmware release is:

Program file CT/IPDS/CMB-MGL	Ver 1.01N	370258
Program file TN/CMB-MGL	Ver 1.01N	370259

Due to the magnitude of the controller and engine differences between the legacy T5r and Energy Star products, this firmware is not backward compatible onto the legacy T5r. If a user downloads T5000r firmware to SL/T5R ES (or vice versa), the front panel displays:

Error occurred:
Flushing Queue

Once the program file is completely absorbed, it reboots and displays

Error: Program
Not Compatible

At this point, the user can reboot the printer to continue with the original program file intact, or put the printer in download mode again and load the valid program firmware.

WINDOWS DRIVER

Windows 2000/2003/XP/Vista 32& 64 bit
The Initial Release Version Number is 4.01B Part number is 370174

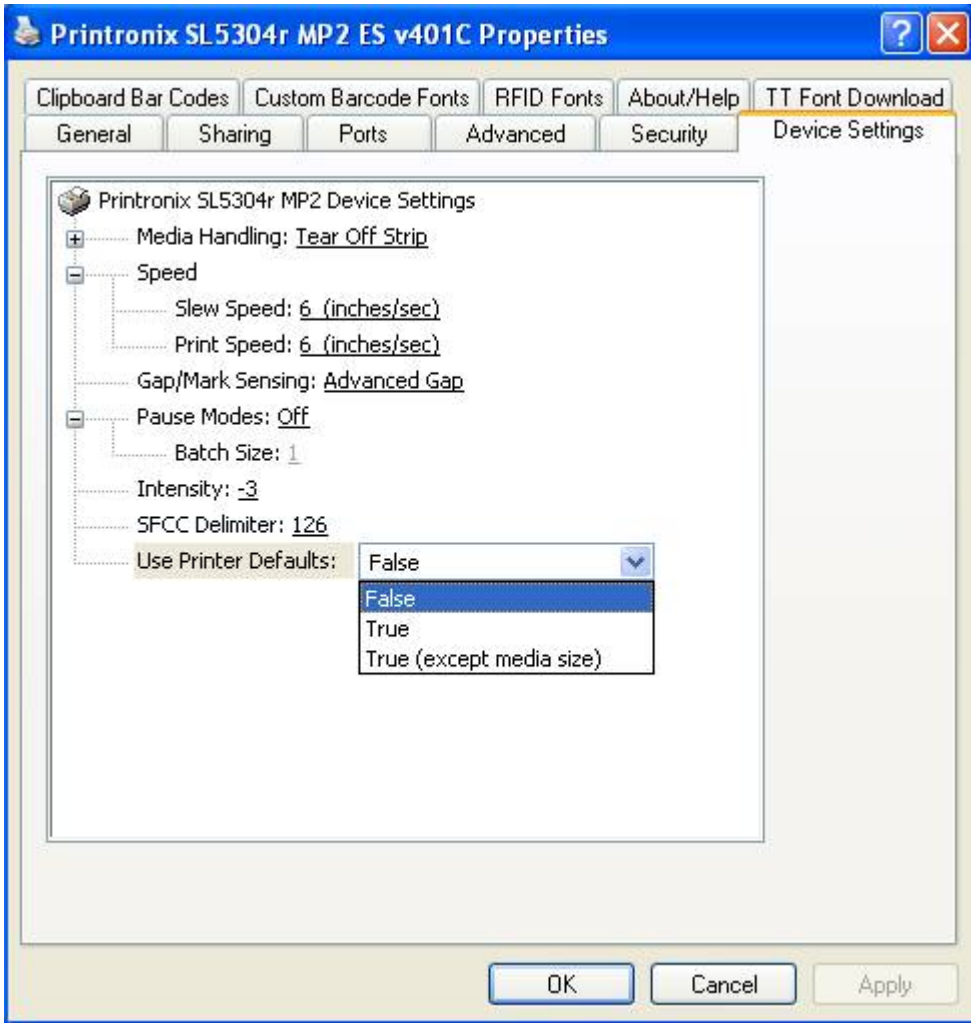
Windows Drivers were updated with support for the T5R Energy Star. It is recommended that customers install the new drivers but are NOT required. The updated Windows Driver will work with all SL/T5R ES and SL/T5r products.

Printronix Windows Driver supports:

A new option "Use Printer Configuration" is present and will work with both SL/T5R ES and SL/T5r products. This menu will be disabled by default (matching legacy (SL\T5r) driver behavior). Enabling it will prevent the Windows print job from overwriting settings in the printer.

The 'Use Printer Defaults' setting has three options:

1) False - When this option is selected the driver controls the printer, all of the printer configuration settings are overridden by the driver.
2) TRUE – The configuration settings in the printer are in control. The job prints with the current printer settings. The exception is the SFCC, which is overridden by the driver. (See Picture 12)
3) True (except media size) – The configuration settings in the printer are in control, except for the SFCC and the Media Size are overridden by the driver. (See Picture 12).



Picture 12

[1] Gap/Mark Sensor

The default sensor has been changed to ADVANCE-GAP MODE (the Transmissive sensor). For this reason, in order for the default calibration to succeed, the upper and lower sensors need to be lined up. If they are mis-aligned then the calibration will fail.

[2] *Page Mem Adjust*

The PRINTER CONTROL menu *Glob Mem Adjust* has been upgraded with *Page Mem Adjust*. When *Glob Mem Adjust* increased on the legacy

T5r, the page memory decreased, but its effect on throughput was not clear. The new menu represents the maximum page length needed by the user. The printer then calculates the appropriate page memory needed for full throughput. The default value is 24 inches. Lowering the value allows more memory for fonts, forms, and logos, while increasing it allocates more page memory. It must be set independently for different head DPI's, and like its predecessor, this menu is not saved on a per-config basis making a power cycle necessary to have it take effect.

3 *Vertical DPI Adjust*

Adjusts the vertical print resolution. This can be used to compress or expand all printed forms by small amounts. When a 203 DPI printhead is installed, the range is 195 to 210. When a 300 DPI printhead is installed the range is 290 to 310. The factory default for a 203 DPI printhead is 203. The factory default for a 300 DPI printhead is 300.

4 *Buffer Size in K*

For better windows driver performance with complex graphics, the parallel and serial buffer sizes now have the option of going from the default 16K up to 64K.