



VB6 Software Development Kit

How to Use StarIO in Visual Basic 6.0 for Windows

Thermal Line Mode Printing

This SDK contains a Visual Basic 6.0 project that shows how to print to Star Micronics POS Printers.

<p>Compatible Star Micronics Printer Models:</p> <ul style="list-style-type: none"> • FVP10 (Ver.1.0 or later) • HSP7000 (Ver.1.0 or later) • TSP650 (Ver.2.0 or later) • TSP650II (Ver.1.0 or later) • TSP700II (Ver.2.0 or later) • TSP800II (Ver.1.0 or later) • TUP500 (Ver.1.0 or later) • TUP900 (Ver.1.2 or later) • SP700 (Ver.1.0 or later) <p>Works with these DK-AirCash Model Series:</p> <ul style="list-style-type: none"> • SAC10 (Ver.1.0 or later) 	<p>Supported Interfaces:</p> <ul style="list-style-type: none"> • Serial • Parallel • USB • Ethernet • Bluetooth <p>Functions Include:</p> <ul style="list-style-type: none"> • Sample Receipt • WritePort Usage • ReadPort Usage • Get Status Usage • Check Block Usage • Reset Device
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Requirements: Visual Basic 6.0 for Windows 32-bit environments.

NOTE:

- This sample project contains StarIO components from StarIO Version 2.0.0.0. Details of StarIO(Restrictions, Precautions) are found in the manuals located here:
 English : <..\StarIO_help\en\StarIO\index.htm>
 Japanese : <..\StarIO_help\ja\StarIO\index.htm>
- This sample project provides source code which tells how to use StarIO components. This project can build only 32-bit executable.
- VB6 is an old language when compared to its new VB.NET predecessor so it would be wise to only use this for legacy reasons only.




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About this Manual

This manual is designed to help you understand StarIO and how to build a VB6 application to interact with Star Micronics Thermal Line Mode Printers. It is important to understand the basics of the Visual Basic language. Although this SDK is for the programming language VB6, there are other SDKs available (Newer VB.NET) at our website in the Developers section. Check the Developers section of our site for the newest SDKs, technical documentation, FAQs, and many more resources.

Key Legend:

<i>Warning</i>		Explains potential issues
<i>Avoid Doing This</i>		Explains things not to do
<i>Note</i>		Provides important information and tips

CAUTION:

- The information in this manual is subject to change without notice.
- STAR MICRONICS CO., LTD. has taken every measure to provide accurate information, but assumes no liability for errors or omissions.
- STAR MICRONICS CO., LTD. is not liable for any damages resulting from the use of information contained in this manual.
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Star Printer Compatibility Chart

Star Printer	WritePort Usage	ReadPort Usage	GetOnlineStatus Usage *1	GetParsedStatusEX Usage	EndCheckdBlockEX Usage	ResetDevice Usage *2	Print Receipt	Open Cash Drawer	Check Status
FVP10	✓	✓	✓	✓	✓	✓	✓	✓	✓
TSP650	✓	✓	✓	✓	✓	✓	✓	✓	✓
TSP650II	✓	✓	✓	✓	✓	✓	✓	✓	✓
TSP700II	✓	✓	✓	✓	✓	✓	✓	✓	✓
TSP800II	✓	✓	✓	✓	✓	✓	✓	✓	✓
TUP500	✓	✓	✓	✓	✓	✓	✓	✓	✓
TUP900	✓	✓	✓	✓	✓	✓	✓	✓	✓
SP700	✓	✓	✓	✓	✓	✓	✓	✓	✓
HSP7000	✓	✓	✓	✓	✓	✓	✓	✓	✓
SAC10			✓	✓				✓	✓

*1 When using a Bluetooth interface, "GetOnlineStatus" Function is not supported.

*2 When using a serial interface, "ResetDevice" function always returns "True".

When using a Ethernet or Bluetooth interface, "ResetDevice" function is not supported.

How to compile and run the VB6 SDK

This section will explain:

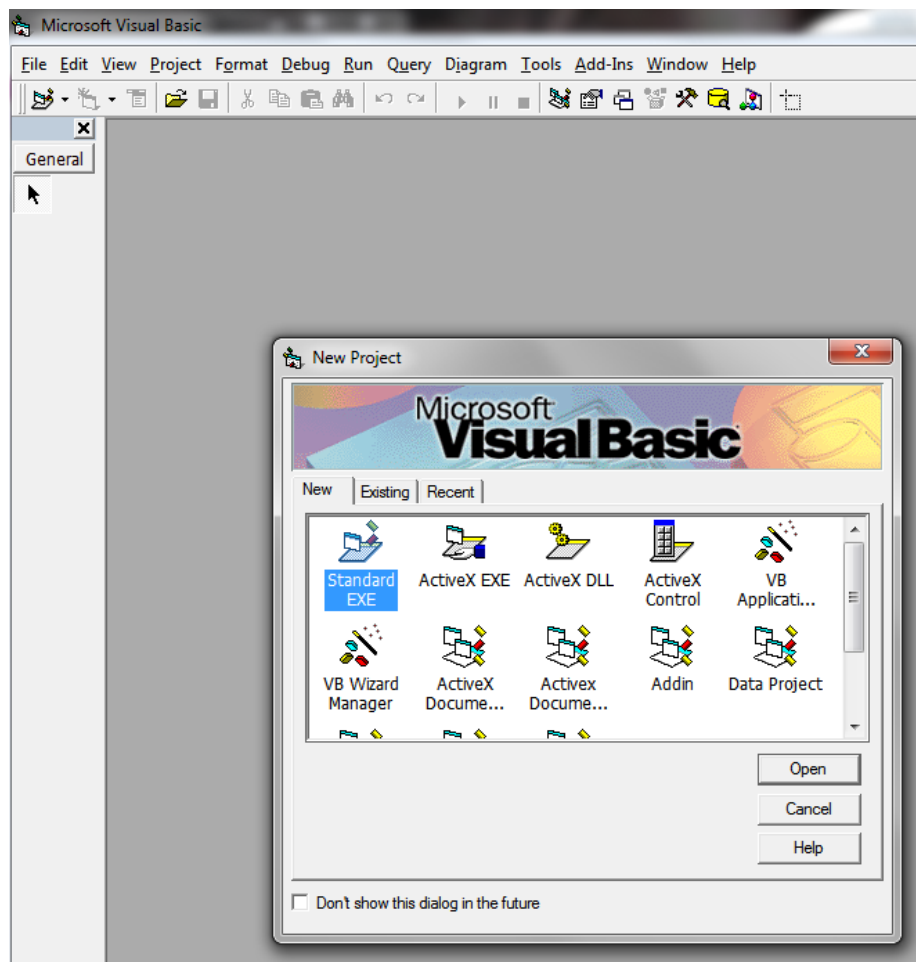
1. How to open the Visual Basic 6.0 SDK project.
2. Compiling the project.
3. Running the project.

How to open the Visual Basic 6.0 SDK project:

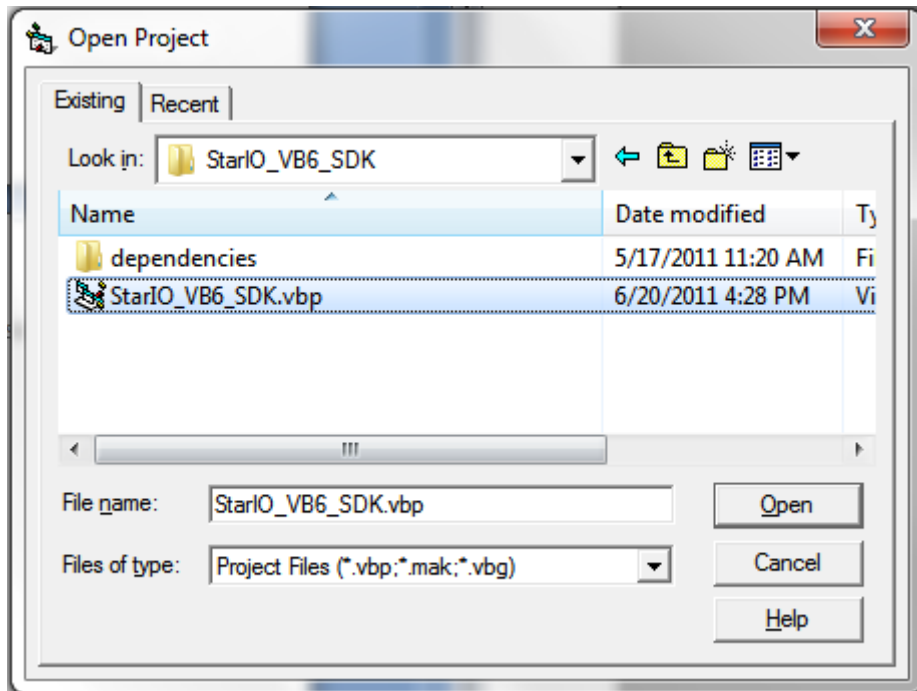
Go to your programs folder and open “Visual Basic 6.0”



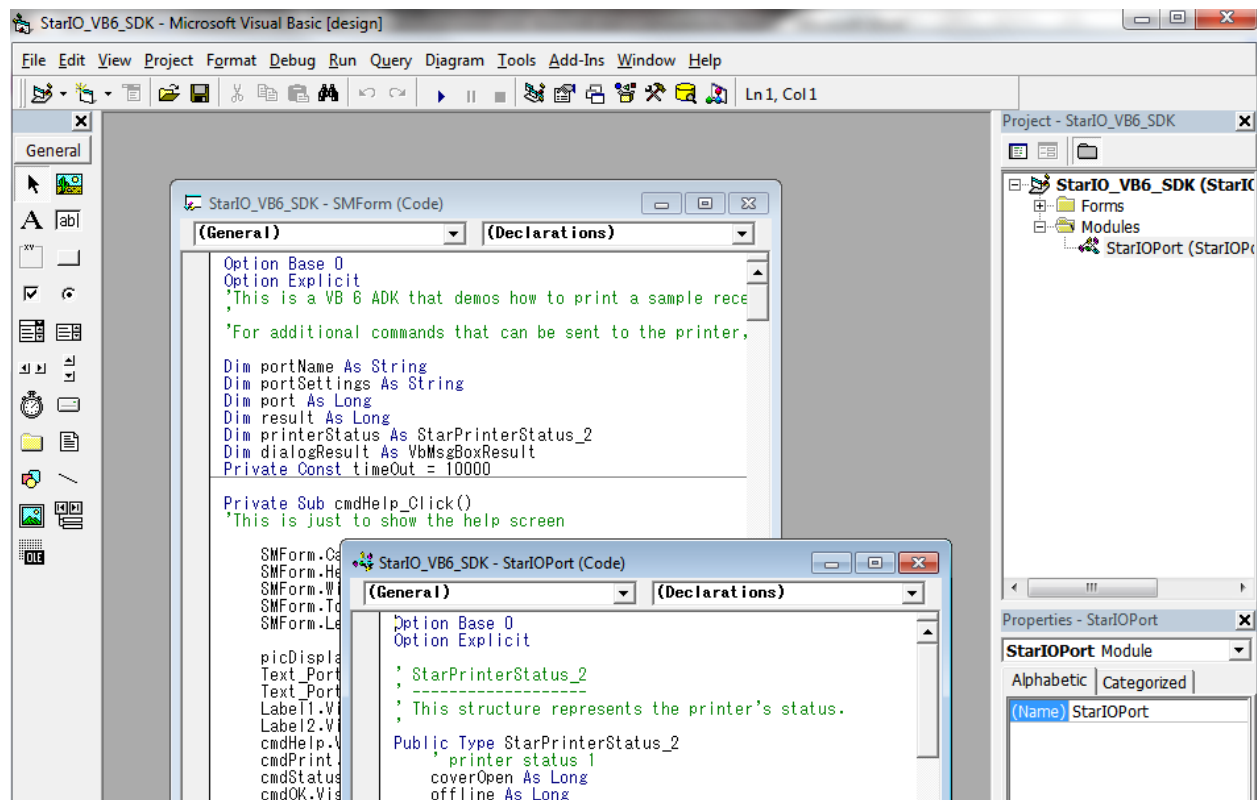
Icon for VB6



Once VB6 is open, click on the menu item File->Open or Ctrl+O



Navigate to the VB6 SDK folder titled “StarIO_VB6_SDK” and click on the “sln” file titled “StarIO_VB6_SDK.sln” to open the SDK project.



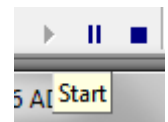
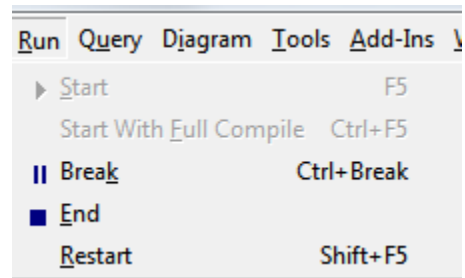
The VB6 SDK is now open; you can explore the code within Forms->SMForm to see the code that sends data to the printer. You can also notice the StarIOPort VB6 Module which is the library VB6 uses to communicate with Star Printers.

Compiling the project:

Click on the menu item “Run” and then click “Start” or hit F5

Running the project:

Click on the blue arrow to “Start Debugging” or hit F5



Using the SDK with Star Micronics Printers

Please make sure you have a compatible Star Micronics thermal line mode printer model.

Port Name and Interface Relation:

StarIO uses specific port names to identify what port will be used. These are very important to understand because not following the naming convention correctly will fail to communicate with the printer.

Interface	Port Name	Port Settings
Serial	COMn	9600,n,8,1,h
Parallel	LPTn	N/A
USB (Vendor Class)	usbven:	N/A
USB (Printer Class)	usbprn:"Queue Name"	N/A
Ethernet (TCP/IP)	tcp:"IP Address"	N/A
Bluetooth	BT: COMn	N/A



If using a **USB** interface and the printer is in **printer class mode**, once you install the printer driver, you will have a queue name for the printer.

If Printer Queue Name = Star TSP700II (TSP743II)

Then we would put **"usbprn:Star TSP700II (TSP743II)"** as the Port Name.

If using a **USB** interface and the printer is in **vendor class mode**, a port number is not required. Just put "usbven:" as the Port Name.

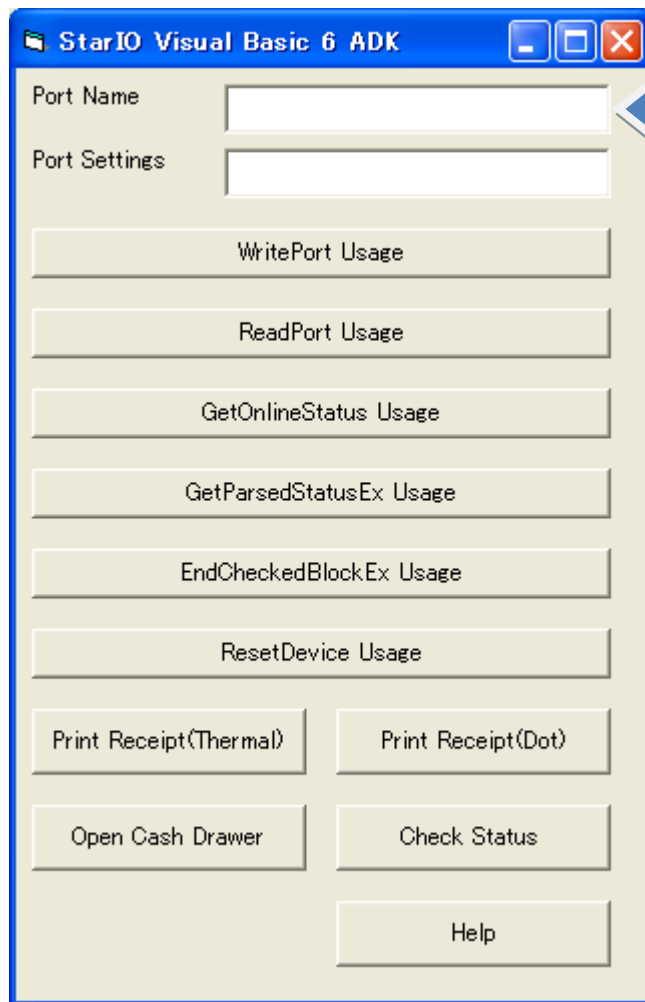
"LPTn" n = your port number (1, 2, 3, 4 etc)

"COMn" n = your port number (1, 2, 3, 4 etc)

"tcp:192.168.222.244" Enter TCP IP Address of the Ethernet printer.

"BT:COMn" n = your Bluetooth virtual serial port number (1, 2, 3, 4 etc)

Please review the above Port Name choices you can use that will connect to your Star printer. The box is empty when you first start the SDK and it will not "auto find" it.



The image shows a Windows-style application window titled "StarIO Visual Basic 6 ADK". It features a blue title bar with standard minimize, maximize, and close buttons. The main area is a light beige panel with several controls: two text input fields at the top labeled "Port Name" and "Port Settings"; a vertical stack of seven buttons labeled "WritePort Usage", "ReadPort Usage", "GetOnlineStatus Usage", "GetParsedStatusEx Usage", "EndCheckedBlockEx Usage", and "ResetDevice Usage"; a 2x2 grid of buttons at the bottom labeled "Print Receipt(Thermal)", "Print Receipt(Dot)", "Open Cash Drawer", and "Check Status"; and a single "Help" button centered at the very bottom. A blue arrow points from a text box on the right to the "Port Name" input field.

Use the port name associated with the interface of your POS Printer. If you are using USB Vendor Class then use the setting "usbven:". Printer Class would be "usbprn:" followed by the Windows Queue Name.

After you enter in connection details for your printer, you will be greeted with a menu to perform Star commands. Try different choices to fully exercise this SDK's functionality.

To see a block of code that is executed when the VB6 project button is clicked, open up the form in the GUI designer within the VB6 IDE and double click on the button to immediately move to the code block.

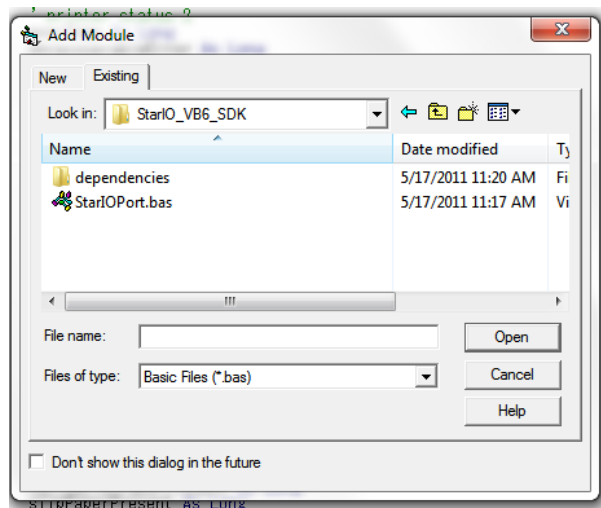
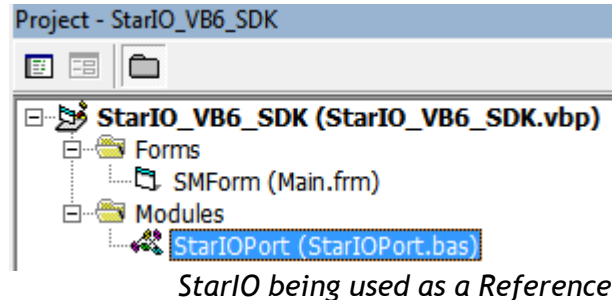
StarIO - (StarIOPort.bas & StarIOPort.dll)

How to include StarIO into your project:

The file StarIOPort.bas is a dynamically linking library that you can include into your VB6 projects to expose StarIO methods. The file StarIOPort.bas is a module in VB6 which exposes StarIOPort.dll functions.

To include this module & DLL into your project:

1. Open up your VB6 project code
2. Now open up this SDK and open the folder called "Dependencies". Copy both files to your project folder
3. Right click on your project name and select Add->Module
4. Once selected, a form window will pop up. Select the "Existing" tab and choose "StarIOPort.bas", then Open
5. The StarIO functions are now exposed to your project. Make sure the executable program resides with this bas module file and the StarIOPort.dll library otherwise your app won't work



Click "Existing" to find "StarIOPort.bas"



WARNING: Make sure StarIOPort.bas and StarIOPort.dll are in the same directory as each other. StarIOPort.dll gets called by your application once you include "StarIOPort.bas". These must reside along with your EXE.

Tips for S.A.D. when using StarIO

Star Micronics prides itself as the industry leader in great POS products and with great power comes great responsibility. Below is a tips section just to help you get on the fast track to software development with StarIO.

TIP #1: If you are going to be coding a large project, create a class to abstract all the printing methods into class(s) instead of having the code reside in the main code block. This will help with code reusability and will also save you time in the long run from having to find one line of code in the main code. By having StarIO only reside in the class(s), you will be fully taking advantage of object oriented programming.

TIP #2: Know what the differences and definitions of (ASCII & Unicode), (Hex & Decimal), and (Byte & Char) are. A byte is normally 8-bits long which would be 8 digits of binary (1s and 0s). These bytes are just 8 bits of binary data but bytes can also be int or char. The three different variable types basically hold the data in the same way but there are slight differences. Try to code with Bytes instead of Chars, ints, or strings when choosing a variable to contain your print job data. ASCII to Unicode and vice versa conversions are sometimes unsecure so make sure you know what and how the encoding class works with these. Big mistakes made in Unicode are culture-sensitive search and casing, surrogate pairs, combining characters, and normalization.

TIP #3: HEX DUMP MODE! If you are debugging and your application seems to have a bug in it use hex dump mode on the printer. This is the best way to verify what is being sent out of the computer is being received correctly. To put the printer in hex dump mode, turn the printer off, open the cover to the paper, hold the feed button down, turn the printer back on, close the cover, let go of the feed button. Hex dump mode is a sure fire way to verify hex data is sent correctly. When in hex dump mode, printer functions will not work.

TIP #4: Do not waste time trying to reverse engineer StarIO command codes. All the available StarIO commands are available in the Thermal Line Mode Spec Manual and that is the best resource to use when researching a specific StarIO command. This SDK & Manual was built to help you (The Developer) have a very easy job ahead of you to program for Star Printers.

TIP #5: If there is a command that is not covered in this SDK but you wish to see a code snippet of that command in use then visit our Developers' section for a possible code block that matches your needs.

TIP #6: StarIO, ESC/POS, UPOS: JavaPOS, POS for .NET, & OPOS are all different ways to communicate with the printer. Visit our Developers' section for more info on these. This SDK covers StarIO only.

Additional Resources

This section will share resources that will help you develop good software with StarIO.

[Star Micronics Developers Network](#)

Browse Star Micronics' FAQs, ask a question, look up information, etc.

The Developers Network gets you access to:

- Updated Versions of this Manual and Source Code
- Code Snippets
- Star Micronics Printer Drivers
- Technical Questions/Support

[Download the Star Thermal Line Mode Command Spec Manual](#)

[Download the Star Impact Printer Command Spec Manual](#)

Use it as your reference for all StarIO Line Mode commands.

[Unicode.org](#)

The Unicode Consortium - Good place to learn more about Unicode.

[1D Barcodes](#)

Barcode Island is a great resource for specs on 1D barcodes.

[2D Barcodes](#)

Great place for information on 2D Barcodes, [QR Codes](#), and [PDF417](#)

[Code Pages](#)

Learn about Code Pages here.

ASCII Table Resource

ASCII Hex Symbol	ASCII Hex Symbol	ASCII Hex Symbol	ASCII Hex Symbol
0 0 NUL	16 10 DLE	32 20 (space)	48 30 0
1 1 SOH	17 11 DC1	33 21 !	49 31 1
2 2 STX	18 12 DC2	34 22 "	50 32 2
3 3 ETX	19 13 DC3	35 23 #	51 33 3
4 4 EOT	20 14 DC4	36 24 \$	52 34 4
5 5 ENQ	21 15 NAK	37 25 %	53 35 5
6 6 ACK	22 16 SYN	38 26 &	54 36 6
7 7 BEL	23 17 ETB	39 27 '	55 37 7
8 8 BS	24 18 CAN	40 28 (56 38 8
9 9 TAB	25 19 EM	41 29)	57 39 9
10 A LF	26 1A SUB	42 2A *	58 3A :
11 B VT	27 1B ESC	43 2B +	59 3B ;
12 C FF	28 1C FS	44 2C ,	60 3C <
13 D CR	29 1D GS	45 2D -	61 3D =
14 E SO	30 1E RS	46 2E .	62 3E >
15 F SI	31 1F US	47 2F /	63 3F ?

ASCII Hex Symbol	ASCII Hex Symbol	ASCII Hex Symbol	ASCII Hex Symbol
64 40 @	80 50 P	96 60 `	112 70 p
65 41 A	81 51 Q	97 61 a	113 71 q
66 42 B	82 52 R	98 62 b	114 72 r
67 43 C	83 53 S	99 63 c	115 73 s
68 44 D	84 54 T	100 64 d	116 74 t
69 45 E	85 55 U	101 65 e	117 75 u
70 46 F	86 56 V	102 66 f	118 76 v
71 47 G	87 57 W	103 67 g	119 77 w
72 48 H	88 58 X	104 68 h	120 78 x
73 49 I	89 59 Y	105 69 i	121 79 y
74 4A J	90 5A Z	106 6A j	122 7A z
75 4B K	91 5B [107 6B k	123 7B {
76 4C L	92 5C \	108 6C l	124 7C
77 4D M	93 5D]	109 6D m	125 7D }
78 4E N	94 5E ^	110 6E n	126 7E ~
79 4F O	95 5F _	111 6F o	127 7F □



Star Micronics is a global leader in the manufacturing of small printers. We apply over 50 years of knowhow and innovation to provide elite printing solutions that are rich in stellar reliability and industry-respected features. Offering a diverse line of Thermal, Hybrid, Mobile, Kiosk and Impact Dot Matrix printers, we are obsessed with exceeding the demands of our valued customers every day.

We have a long history of implementations into Retail, Point of Sale, Hospitality, Restaurants and Kitchens, Kiosks and Digital Signage, Gaming and Lottery, ATMs, Ticketing, Labeling, Salons and Spas, Banking and Credit Unions, Medical, Law Enforcement, Payment Processing, and more!

High Quality POS Receipts, Interactive Coupons with Triggers, Logo Printing for Branding, Advanced Drivers for Windows, Mac and Linux, Complete SDK Packages, Android, iOS, Blackberry Printing Support, OPOS, JavaPOS, POS for .NET, Eco-Friendly Paper and Power Savings with Reporting Utility, ENERGY STAR, MSR Reading, *future*PRNT, StarPRNT... How can Star help you fulfill the needs of your application?

Don't just settle on hardware that won't work as hard as you do. Demand everything from your printer. Demand a Star!

Version	Release Date
1.0.0	July 2011
2.0.0	Mar. 2014
2.1.0	July 2014

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