

Bloomberg

Bloomberg Keyboard 3

Installation and Reference Guide

11 December 2007
Version: 1.0

Table of Contents

- Keyboard Technical Information 2**
 - Description 2
 - Keyboard Features 2
 - System Requirements..... 2
- Bloomberg Keyboard 3 Installation 3**
 - Download Software and Drivers 3
 - Bloomberg Terminal Configuration 4
- Keyboard Functions 5**
 - Keyboard Adjustments..... 6
 - Disclaimer 6
 - Tips for Safe and Effective Use of your Bloomberg Keyboard 3..... 6
- Keyboard Specifications 7**
- Bloomberg Secure Access Technology 8**
- BLOOMBERG BSAT ENROLLMENT 9**
 - Enrolling with Bloomberg Secure Access Technology..... 9
- Returning the Former Keyboard 10**
- Approvals 11**

Keyboard Technical Information

Description

The Bloomberg Keyboard 3 is a standard PC keyboard that has been specially designed for use with the BLOOMBERG PROFESSIONAL® service. The Bloomberg Keyboard 3 is easy to install, requiring only a USB connection to the host PC and the installation of the BSAT driver. It is powered by its connection to the host USB port.

Keyboard Features

- The keyboard can be used with all standard PC applications
- The keyboard is equipped with keys that have been specifically designed for use with the BLOOMBERG PROFESSIONAL service
- The keyboard is a USB audio device which has headphone and microphone jacks available as well as compact speakers for PC multimedia content ¹
- The keyboard features an integrated BSAT (Bloomberg Secure Access Technology) device based on the latest biometric technology to improve accuracy and quality of finger scans which ensure secure login to the BLOOMBERG PROFESSIONAL service

System Requirements

- Windows 2000
- Windows XP
- Windows Vista

Software Requirements

- BLOOMBERG PROFESSIONAL service, July 07 version or later

Power Requirements

- The Keyboard is powered via USB, and must be plugged directly to a PC USB port, a self-powered USB hub, or a self-powered compatible USB switchbox. Self-powered devices are powered by their own AC adaptors. The keyboard cannot be powered by a bus-powered USB hub or bus-powered USB switchbox.

¹ Speaker audio levels are internally limited to levels below what is available from the USB power source, which may cause clipping at momentary peak levels

Bloomberg Keyboard Installation

Download Software and Drivers

IMPORTANT! When installing the Bloomberg Keyboard 3, it is important that the steps of this procedure are carefully followed. The Bloomberg Keyboard 3 installation requires *Administrator* rights.

NOTE: Drivers must be properly installed before connecting the Bloomberg Keyboard 3 to your PC; therefore, do not disconnect your current keyboard or biometric device (if present) until you reach the proper step in the following instructions.

Choose one of the following options to install a new Bloomberg Keyboard 3:

Option A: For new Bloomberg installations download and install the full BLOOMBERG PROFESSIONAL service software, then go to step 5 of the Installation Procedure.

Option B: For existing Bloomberg installations that already have the necessary files go to step 5 of the following Installation Procedure. If you do not have the file noted in step 5, access the following URL: http://www.bloomberg.com/professional/software_support/ and begin with step 1 of the Installation Procedure.

Installation Procedure

1. Find the “Keyboard Driver” keyboard software package and click Download.
2. Choose “Save this program to disk” and select the location of your choice (we recommend your desktop for easy retrieval).
3. Exit all software applications currently open on your PC.
4. Locate and double-click the `bkbdmmy.exe` file on your PC to run and expand the file.
5. Run the setup file by double clicking the `tbkinst.exe` file (C:\Blp\Wintrv\Extras\Tbk\tbkinst.exe).
6. Shut down your PC.
7. Disconnect your current keyboard and biometric device (if present) from your PC.
8. Remove the Bloomberg Keyboard 3 from its box.
9. Identify the connections at the end of the Bloomberg Keyboard 3's cable (Figure 1).
10. Connect the keyboard USB cable to the PC.
11. (Optional) If a PS/2 switchbox is being used or PS/2 is required for any other reason, connect the PS/2 cable to the desired device.
12. Power on your PC. Windows will detect and identify the new hardware that has been installed. If Windows prompts you to locate the driver files, browse to `windows/system32/drivers` for any `.sys` files requested and `windows/system32` for any `.dll` files requested.
13. Launch the BLOOMBERG PROFESSIONAL service.

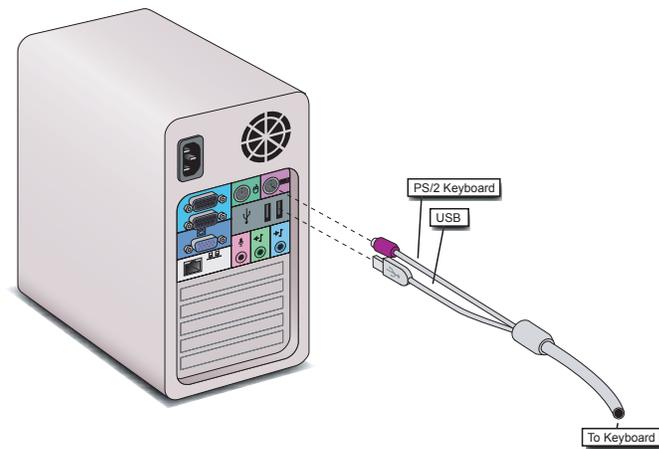
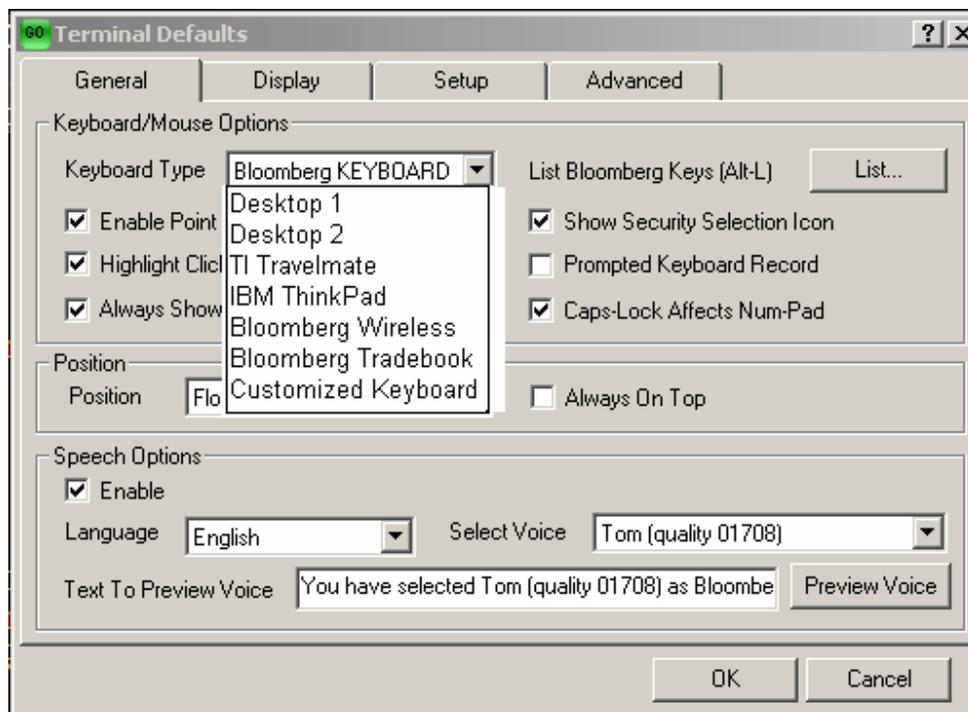


Figure 1 Cable Connections to the PC

Bloomberg Terminal Configuration

Bloomberg software has several different keyboard configurations. To setup the Bloomberg for use with the Keyboard, take the following steps:

1. Right-click the mouse over one of the Bloomberg screens on your PC. A contextual menu will appear.
2. Select the **Terminal Defaults** menu item.
3. Select the **General Tab**.
4. Select the **Bloomberg Keyboard** option under the Keyboard type drop down menu.



NOTE: You do not have to be logged into the Bloomberg to adjust this setting.

FRANKFURT +49 69 9204 1210 HONG KONG +852 2977 6000 LONDON +44 20 7330 7500 NEW YORK +1 212 318 2000 SAN FRANCISCO +1 415 912 2960 SÃO PAULO +55 11 3048 4500 SINGAPORE +65 6212 1000 SYDNEY +612 9777 8600 TOKYO +81 3 3201 8900  Press the <HELP> key twice for instant live assistance

BLOOMBERG, BLOOMBERG PROFESSIONAL, BLOOMBERG MARKETS, BLOOMBERG NEWS, BLOOMBERG ANYWHERE, BLOOMBERG TRADEBOOK, BLOOMBERG BONDTRADER, BLOOMBERG TELEVISION, BLOOMBERG RADIO, BLOOMBERG PRESS and BLOOMBERG.COM are trademarks and service marks of Bloomberg Finance L.P., a Delaware limited partnership, or its subsidiaries. The BLOOMBERG PROFESSIONAL service (the "BPS") is owned and distributed locally by Bloomberg Finance L.P. (BFLP) and its subsidiaries in all jurisdictions other than Argentina, Bermuda, China, India, Japan and Korea (the "BLP Countries"). BFLP is a wholly-owned subsidiary of Bloomberg L.P. ("BLP"). BLP provides BFLP with all global marketing and operational support and service for these products and distributes the BPS either directly or through a non-BFLP subsidiary in the BLP Countries.

Keyboard Functions



1. Code key activates user programmable functions.
2. Cancel key cancels the current Bloomberg function.
3. BLOOMBERG PROFESSIONAL service function keys.
4. Speakers for PC audio output.
5. Message key sets focus to a BLOOMBERG PROFESSIONAL service window and activate the message function.
6. CONN / DFLT key starts the BLOOMBERG PROFESSIONAL service login process.
7. Currency and Fractional keys.
8. Bloomberg navigation keys.
9. Volume up – Press repeatedly or press and hold to raise the keyboard volume.
10. Volume down – Press repeatedly or press and hold to lower the keyboard volume.
11. Volume mute – Press to mute the keyboard audio.
12. BSAT (Bloomberg Secure Access Technology) biometric device.
13. LED Indicators
14. Panel key switches between BLOOMBERG PROFESSIONAL service application windows.
15. 1/8" Stereo Headphone jack
16. 1/8" Microphone jack

NOTE: Special Bloomberg function keys are disabled when the BLOOMBERG PROFESSIONAL application is not running or in focus.

FRANKFURT HONG KONG LONDON NEW YORK SAN FRANCISCO SÃO PAULO SINGAPORE SYDNEY TOKYO  Press the <HELP> key twice for instant live assistance

BLOOMBERG, BLOOMBERG PROFESSIONAL, BLOOMBERG MARKETS, BLOOMBERG NEWS, BLOOMBERG ANYWHERE, BLOOMBERG TRADEBOOK, BLOOMBERG BONDTRADER, BLOOMBERG TELEVISION, BLOOMBERG RADIO, BLOOMBERG PRESS and BLOOMBERG.COM are trademarks and service marks of Bloomberg Finance L.P., a Delaware limited partnership, or its subsidiaries. The BLOOMBERG PROFESSIONAL service (the "BPS") is owned and distributed locally by Bloomberg Finance L.P. (BFLP) and its subsidiaries in all jurisdictions other than Argentina, Bermuda, China, India, Japan and Korea (the "BLP Countries"). BFLP is a wholly-owned subsidiary of Bloomberg L.P. ("BLP"). BLP provides BFLP with all global marketing and operational support and service for these products and distributes the BPS either directly or through a non-BFLP subsidiary in the BLP Countries.

Keyboard Adjustments

There are retractable legs on the bottom of the Bloomberg Keyboard 3 to adjust the angle of the keyboard.



Disclaimer

Bloomberg disclaims all responsibility for improper use of the keyboard and any injuries that may occur as a result of such improper use. The information provided herein is solely for educational purposes.

The BLOOMBERG PROFESSIONAL service (the “BPS”), BLOOMBERG Data and BLOOMBERG Order management systems (the “services”) are owned and distributed locally by Bloomberg Finance L.P. (“BFLP”) and its subsidiaries in all jurisdictions other than Argentina, Bermuda, China, India, Japan and Korea (the “BLP Countries”). BFLP is a wholly-owned subsidiary of Bloomberg L.P. (“BLP”). BLP provides BFLP with all global marketing and operational support and service for the services and distributes the BPS either directly or through a non-BFLP subsidiary in the BLP Countries.

BLOOMBERG, BLOOMBERG PROFESSIONAL, BLOOMBERG MARKETS, BLOOMBERG NEWS, BLOOMBERG ANYWHERE, BLOOMBERG TRADEBOOK, BLOOMBERG BONDTRADER, BLOOMBERG TELEVISION, BLOOMBERG RADIO, BLOOMBERG PRESS and BLOOMBERG.COM are trademarks and service marks of Bloomberg Finance L.P. (“BFLP”), a Delaware limited partnership, or its subsidiaries.

Tips for Safe and Effective Use of your Bloomberg Keyboard

Keyboard: Set up your keyboard so it is flat to your work surface. Utilizing a three-quarter inch support under the keyboard helps to accomplish a flat surface. The mouse should be placed directly to the side of the keyboard to prevent having to reach unnecessarily.

Chair: Adjust the height of your chair so that your feet are planted firmly on the floor and your knees are bent at right angles.

Monitor: Position your computer screen directly in front of you (about two feet away) so that the top of the screen is at or just below your line of vision.

Wrists: Wrists should be straight when typing, keeping forearms parallel to the desk and elbows at right angles. Wrists should not be rested upon the keyboard at any time during typing; instead, rest your wrists when you are not typing. Stretching before and after typing may also help.

Breaks: Take brief breaks from typing throughout the day to give your wrists a chance to “recharge.”

Keyboard Specifications

Properties		Dimension	
	Height: Stand retracted	1.5 In	3.81 Cm
	Height: Stand extended	2.0 In	5.08 Cm
	Width	16 In	40.64 Cm
	Depth	6.7 In	17.01 Cm
	Weight	3.4 Lbs	1.54 Kg
Keyboard			
	Dual Mode keyboard (USB HID or PS/2)		
	Key Travel	3mm	
	Key Pitch	19mm	
	Switch Life	10 Million actuation switch life	
	Keyboard Layouts	US, German, French, Swiss, Spanish, Italian, UK English, Latin American, Swedish, Norwegian, Portuguese, Danish, Belgian, Cyrillic, Korean, Chinese and Japanese	
Bloomberg Secure Access Technology (BSAT) Device			
	BSAT Device Properties	Height	Width
	Sensor Matrix	.26 in / 6.5mm	.26 in / 6.5mm
	Resolution	500 PPI resolution	
	Operating Temperature	0°C thru 70°C	
Keyboard I/O			
	USB Host connector (keyboard, BSAT, audio, power)		
	PS/2 host connector (optional for keyboard)		
	1/8in Microphone jack		
	1/8in Headphone jack		
Audio System			
	Speaker Properties	Frequency Response	200 - 15000Hz
		Power	3 Watts Max
		Impedance 8±1	5% Ohms
Power Supply			
	Power from host USB port	DC 5V, 500mA max	

Bloomberg Secure Access Technology (BSAT™)

Technical and Operational Details

In order to provide the most secure service possible and to safeguard the privacy of each user, Bloomberg has implemented a biometric authentication system as part of its login procedure. This enhanced security system is known as BSAT.

When a user initially enrolls his biometric data in the system, he will be prompted to place his finger onto a sensor on the Bloomberg keyboard. This sensor analyzes the general directional characteristics of the patterns of ridges and valleys on the finger of the user. The sensor analyzes these flows at a relatively coarse level. This process is a correlation-based process and not a minutiae-based process. At this level, the details of the minutiae are not captured or stored. The BSAT process generates a binary number based on general characteristics of the patterns of ridges and valleys on the user's finger.

The binary number contains 4 to 10 kilobytes of data. The vendor's software in the Bloomberg terminal encrypts this binary number using 256 bit AES encryption (the encrypted binary number is referred to herein as the "template"). Bloomberg does not have access to the key that would permit it to decrypt this template. The template is then transmitted to Bloomberg's secure servers in New York and New Jersey using 128-bit SSL and RC4 encryption technology, where it is stored for comparison at the user's desktop during future log-ins as further described below. The finger image, the general characteristics of the patterns of ridges of the user's finger, and the original binary number are **not** transmitted to New York and New Jersey. Only the template is transmitted.

Following initial enrollment, each time the user logs on to the Bloomberg system, he will be asked to enter his name and password. The system will confirm that the name and password match and, if they do, it will retrieve the corresponding stored template for this user. The template is transmitted down to the user's PC where it is decrypted. The user is then prompted to place his finger on the sensor where a new binary number is generated. An appropriate score, based on the stored data reference, is required for authentication. If the new data confirms the user's identity, he will be granted access to the Bloomberg network.

The data in Bloomberg's possession cannot be reverse engineered to generate an image of the user's fingerprint or the general characteristics of the patterns of the ridges and valleys of the finger that are enrolled to generate the original binary number. The data is worthless unless it is used in connection with a user's login and password. The template collected through the BSAT device will be destroyed when the user account is terminated.

FRANKFURT HONG KONG LONDON NEW YORK SAN FRANCISCO SÃO PAULO SINGAPORE SYDNEY TOKYO  Press the <HELP> key twice for instant live assistance

BLOOMBERG, BLOOMBERG PROFESSIONAL, BLOOMBERG MARKETS, BLOOMBERG NEWS, BLOOMBERG ANYWHERE, BLOOMBERG TRADEBOOK, BLOOMBERG BONDTRADER, BLOOMBERG TELEVISION, BLOOMBERG RADIO, BLOOMBERG PRESS and BLOOMBERG.COM are trademarks and service marks of Bloomberg Finance L.P., a Delaware limited partnership, or its subsidiaries. The BLOOMBERG PROFESSIONAL service (the "BPS") is owned and distributed locally by Bloomberg Finance L.P. (BFLP) and its subsidiaries in all jurisdictions other than Argentina, Bermuda, China, India, Japan and Korea (the "BLP Countries"). BFLP is a wholly-owned subsidiary of Bloomberg L.P. ("BLP"). BLP provides BFLP with all global marketing and operational support and service for these products and distributes the BPS either directly or through a non-BFLP subsidiary in the BLP Countries.

BLOOMBERG BSAT ENROLLMENT

Enrolling with Bloomberg Secure Access Technology

The Bloomberg Keyboard 3 BSAT device has been designed to be used with any finger on the right hand. If you would like to change your enrolled finger, contact Global Customer support to have your BSAT enrollment reset. At the next login, you will be prompted to go through the enrollment procedure.

On entering a username and password, the user will be prompted to enter a finger image.

To enroll using Bloomberg Secure Access Technology, take the following steps:

1. Press the **RED <DFLT>** key and enter your username and password.
2. Click "Accept" to accept the agreement.
3. Click the image of the finger you wish to enroll.
4. Follow the on screen instructions. It is advisable to practice the placement of your finger, as this will assist in registration.
5. Once satisfied with finger placement, click next to continue.
6. To continue registration, follow the on screen instructions. After completing the registration, you will be asked to verify your finger scan.
7. One of two screens will be displayed after verification. If the registration fails, press the **GREEN <PAGE FWD>** key to repeat registration process.
8. If you have successfully registered for secure access, press the **RED <DFLT>** key to log into the BLOOMBERG PROFESSIONAL service.

Returning the Former Keyboard

When the new Bloomberg Keyboard 3 has been installed, take the following steps:

1. Pack the former keyboard, **INCLUDING THE KEYBOARD POWER SUPPLY**, using the same container that the new keyboard was shipped in.
2. Call the RMA Office at one of the following locations that serves your local region:
 - US +212 647 6535 (New York)
 - US +877 830 6100 (Outside New York)
 - International +44 20 7330 7313

For 24-hour support, press the HELP key twice on your BLOOMBERG PROFESSIONAL service, or you may call the Global Customer Support Desk at any of the following locations:

- New York +1 212 318 2000
- London +44 20 7330 7500
- Hong Kong +852 2977 6000
- San Francisco +1 415 912 2960
- Frankfurt +49 69 92041 0
- Singapore +65 6212 1000
- Sao Paulo +55 11 3048 4500
- Tokyo +81 3 3201 8900
- Sydney + 61 2 9777 8600

Approvals

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment Off and On, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult Bloomberg or an experienced radio/TV technician for help.

This Class B digital apparatus meets all requirements of the Canadian interference-causing equipment regulations.



 **DISPOSAL OF WASTE EQUIPMENT BY USERS IN THE EUROPEAN UNION.** This symbol on the product or on its packaging indicates that this product must not be disposed of with your household waste.



Microsoft Windows, and the Windows logo are trademarks or registered trademarks of the Microsoft Corporation in the United States and/or other countries.



R3 1509

WAS



IS

