

IBM Kiosk
4835-120, 150, 152

**Operating Environment
Installation Manual**

**For Installations Based on
Microsoft® Windows® 2000 Professional
or Microsoft® Windows® XP Professional**

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About this manual

This manual is designed to provide you with step by step instructions on creating a basic operating environment on the IBM Kiosk (4835). This basic environment should include Microsoft® Windows® 2000/XP Professional and all or some of the following:

- Drivers and patches required by standard system configuration and IBM installed peripherals including:
 - Micro-Solutions Backpack External CD-ROM Drive
 - IBM 10x USB External CD-ROM Drive (Part Number - 33L5151)
 - 10/100 Ethernet
 - Video
 - Touch Panel
 - Audio Subsystem
 - Kiosk Printer (80mm / 112mm)
 - Barcode Scanner
 - Magnetic Stripe Reader (MSR)
 - Uninterruptible Power Supply (UPS)
 - Presence Sensor
- IBM provided utilities and applications required by the IBM Kiosk for certain configurations including:
 - IBM OPOS Suite
 - IBM CDS/NetCDS/KM

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Before You Begin

Please ensure that you have the required items on hand before proceeding with the installation. Most required items are available with the IBM Kiosk at the time of ordering or available from local/online retailers. When available, we have provided links to online resources for the required hardware / software items.

This procedure is the "DOS" method for installing Microsoft Windows 2000/XP onto a FAT16 or FAT32 formatted hard drive.

Hardware Required:

- IBM Kiosk (4835) Model 120, 150 or 152 with a minimum configuration of
 - 128mb RAM
 - 10.1G or larger hard drive
- USB or PS/2 Keyboard
- Micro-Solutions (or equivalent) external parallel port or USB CD-ROM drive
- Kiosk specific 1.44mb floppy drive
- Three (3) blank formatted 1.44mb floppy disks

Software Required:

- Backpack CD-ROM DOS drivers (BPCD_DOS.EXE, version 10.18.00 or later)
 - Available online at:
ftp://www.micro-solutions.com/software/backpack/cd_rom/bpcd_dos.exe
- Ethernet Network drivers (AMD PCNet PCI)
 - These drivers are only necessary if you plan to use the Ethernet for network connectivity, and/or for download of additional required installation files via Ethernet.
 - Available online on our IBM Kiosk support site
<http://www2.clearlake.ibm.com/store/support/html/kiosk.html>
- Microsoft® Windows 98 boot diskette with FAT32 support.
(NOTE: Must contain basic utilities including SMARTDRV, FORMAT, FDISK, etc.)
- Microsoft® Windows 2000/XP Professional CD-ROM

Recommended Items:

- USB or PS/2 Mouse. (NOTE: PS/2 mouse requires a PS/2 keyboard/Mouse Y-adapter)

Additional Information:

- For more information refer to the "Installation and Operation" and "System Reference" manuals available online at:
http://www2.clearlake.ibm.com/store/support/html/body_pubs.html#kiosk

Preparing the System for installation

- 1) Ensure the system BIOS is at the latest version
 - To check the current system BIOS level, press <F2> or by touching the screen two (2) times when prompted during system power on.
 - The latest version of BIOS is available online on our IBM Kiosk support site (<http://www2.clearlake.ibm.com/store/support/html/kiosk.html>)
- 2) Configure system BIOS for proper default values.
 - Access the system Setup Utility by pressing <F2> or by touching the screen two (2) times when prompted during system power on.
 - Press the "F9" key (or "F9 Default" button on screen) to set all BIOS values to factory default.
 - Press the "F10" key (or "F10 Save&Exit" button on screen) to save the changes and reboot.
 - Upon reboot, press <F2> or touch screen to re-enter the Setup Utility.
 - Once in the Setup Utility again, press the "MAIN" button, then select "Other I/O Device Config"
 - Ensure that "Parallel Port:" is set to "[Auto]"
 - Select "Mode:" and change value to "[EPP]"
 - You may also wish to adjust the Video Memory setting now.
 - Press the "F10" key (or "F10 Save&Exit" button on screen) to save the changes and reboot.
- 3) Create a Windows 98 Boot Disk using another computer at your site. IBM cannot provide this boot diskette due to Microsoft® Windows licensing restrictions. Label this diskette "Windows98 Boot Disk" for later use.
 - (**NOTE:** Must contain basic utilities including SMARTDRV, FORMAT, FDISK, etc.)
- 4) Extract the Ethernet Network drivers to the root directory of a blank, formatted 1.44 MB floppy disk. Label this diskette "Ethernet Drivers" for later use.
- 5) Extract the Backpack DOS CD-ROM driver (BPCD_DOS.exe) and copy files to the root directory of a blank, formatted 1.44 MB floppy disk. Label this diskette "**Backpack disk**" for later use.
- 6) Connect the floppy diskette drive to the system.
- 7) Connect the CD-ROM drive to the system's Parallel port using the exact steps shown below:
 - Connect power cable to Backpack.
 - Connect Power cable to power source.
 - Connect Backpack data cable to Backpack "COMPUTER" port.
 - Connect Backpack data cable to the system's Parallel port.
- 8) Boot from the Windows 98 Boot Disk and select "Start Computer without CD-ROM support" if prompted.
- 9) If your hard drive is not partitioned:
 - Type **FDISK** <Enter>
 - Enable large Disk Support **Y**
 - Select **1** - Create Partitions, **1** - Primary Partition, Use Maximum Size **Y**
 - Press <ESC> to exit FDISK
- 10) If your hard drive is already partitioned, you may wish to delete the existing partition(s) and create a new Primary Partition (per previous step) to ensure a clean installation.
- 11) Leave the Win98 Boot disk in the diskette drive
- 12) REBOOT (Ctrl+Atl+Del) and select "Start Computer without CD-ROM support" if prompted.
- 13) Type **FORMAT C:** <Enter>
NOTE: Formatting erases all data on the partition!

Once the Format has completed, you are ready to proceed with installing the operating system.

Installing Windows 2000/XP Professional

- 1) Ensure the Windows 2000/XP CD-ROM is in the CD ROM Drive.
- 2) Insert the Backpack Disk into the floppy drive and type the following:
 - **LOADCD** <Enter>
 - Note: If using the Micro-Solutions supplied driver diskette, the LOADCD application will be found in the `A:\MSDOS\` directory.
 - This runs the Backpack DOS CD-ROM driver loader. You should now be able to access the Windows 2000/XP CD-ROM now using the drive letter indicated as the driver loads.
 - These instructions will assume the default "E:" as the CD-ROM drive letter.
- 3) Insert the Windows 98 boot disk again and type:
 - **smartdrv c+ e** <Enter>
 - where "e" is the CD-ROM drive letter. This loads the SMARTDRV disk caching program.
- 4) Type: **E:** <Enter>
- 5) Type: **CD \i386** <Enter>
- 6) Type: **winnt** <Enter> or **setup** <Enter> as appropriate.
- 7) Accept the file location and install directory defaults.
- 8) Remove the Boot Disk from the floppy drive.
- 9) Reboot the system when prompted. Installation will now proceed from the hard drive.
- 10) **NOTE:** There may be a long delay when the message "Setup is starting Windows 2000/XP" appears at the bottom of the screen. If this occurs, the system is not locked up. The delay lasts approximately 7 minutes while Setup checks the system.
- 11) Press <Enter> at the Setup Welcome screen.
- 12) Press <F8> to accept the license agreement as displayed.
- 13) Unless special customization is required, leave the partition selection as shown. Also, do not convert the partition to NTFS as the standard configuration is based on FAT32.
- 14) Proceed to install Windows 2000/XP following Microsoft's documentation.

Installing Updates & Patches

After Microsoft Windows 2000/XP professional setup has completed, you must next install required updates or patches as described below:

Install Microsoft Service Pack:

The IBM Kiosk supports Windows 2000 Professional with Service Pack 1 or Service Pack 2.

Either Service Pack can be downloaded, or ordered on CD directly from Microsoft. Visit their online Windows 2000/XP Service Pack home page at:

<http://www.microsoft.com/windows2000/downloads/servicepacks/default.asp>

To Install this Patch:

Please follow the default installation instructions provided with the Service Pack installation.

Microsoft IDE Controller Patch for Windows 2000/XP:

When installing Windows 2000/XP Professional, the hardware setup will assign resources (COM5) to the Secondary IDE Controller which is not used or available on the IBM Kiosk. Additionally, the touch panel display requires COM5 for proper operation.

Installing this patch will disable the Secondary IDE Controller, which frees COM5 for use by the touch panel.

This patch is available on our support website at:

<http://www2.clearlake.ibm.com/store/support/html/kiosk.html>

To Install this Patch:

1. Download and extract the file from our support website. This is a single file, "IBMIDE.inf".
2. Right-click on this file and then select "Install" from the drop down menu.
3. Installation will only take a moment. Nothing will be displayed on the screen.
4. Open Device Manager (Control Panel, System, Hardware, Device Manager).
5. Under the "Ports" section, highlight the Printer Port (i.e. LPT1) and select "Action, Properties" from the menu bar.
6. Select the "Port Settings" tab.
7. Ensure that "Use any interrupt assigned to this port" is selected.
8. Click "OK"
9. To apply these changes, reboot the computer before continuing.
10. Done

Additional Updates:

You may also wish to check for any Windows 2000/XP updates available from Microsoft. Updates can be found on the following websites:

Microsoft Windows Update:

<http://windowsupdate.microsoft.com>

Microsoft TechNet Home:

<http://www.microsoft.com/Technet>

Installing System Drivers

You are now ready to install the drivers required for proper operation of installed peripherals.

Backpack CD-ROM (for use in Windows®)

Hardware Specs: Micro-Solutions Bantam Backpack
Parallel Port CD-ROM Drive (24x Model-181100)
Tested Driver Level: Windows driver version 3.02
DOS driver version 10.18.00

Installing this Device:

NOTE: If installing a different model of external CD-ROM drive, skip these steps and follow the instructions supplied with that drive.

1. Download the latest drivers or use the supplied drivers diskette (version 3.02 or higher)
Drivers are available from:
http://www.micro-solutions.com/software_library/index.html
2. Run the setup program (SETUP.EXE) to install the driver.
3. When prompted, ensure that the selection for "Install or Update Backpack CDROM" is selected.
4. You will be prompted with "Yes, I want to restart my computer now.". Ensure that this option is selected, and click "FINISH" to restart the computer.
5. For more information refer to the "Installation and Operation" and "System Reference" manuals available online at:
http://www2.clearlake.ibm.com/store/support/html/body_pubs.html#kiosk

IBM 10x USB CD-ROM:

Hardware Specs: IBM 10x USB External CD-ROM Drive (33L5151)
Tested Driver Level: Coming Soon...

Installing this Device:

1. This section to be completed soon....
2. For more information refer to the "Installation and Operation" and "System Reference" manuals available online at:
http://www2.clearlake.ibm.com/store/support/html/body_pubs.html#kiosk

10/100 Ethernet Port:

Hardware Specs: AMD PCNet Family PCI Ethernet Adapter (10/100)
Tested Driver Level: Version 4.29

Installing this Device:

3. Download the latest drivers from our online support page and extract the files to a diskette.
4. Open "Device Manager" and locate the "AMD PCNET Family PCI Ethernet Adapter" in the list.
5. Double-click this entry to open the properties for this device and then select the "Driver" tab.
6. Click the "Update Driver..." button and then click "Next>".
7. Select "Search for a suitable driver for my device (recommended)" and then click "Next>".
8. Place a check in the box for "Floppy Drive" ONLY – remove all other checks.
9. You will see a message stating that "Windows has found a driver..."
10. Click "YES"
11. When the file copy completes, press the FINISH button.
12. Click on "CLOSE"
13. For more information refer to the "Installation and Operation" and "System Reference" manuals available online at:
http://www2.clearlake.ibm.com/store/support/html/body_pubs.html#kiosk

3D Graphics Video Driver:

Hardware Specs: Trident Cyberblade-i7
Tested Driver Level: Version 5.11

Installing this Device:

1. Download the latest drivers from our online support page. Due to the file size of this driver package (approximately 11mb) installation must be performed via direct download via network connection or by placing the extracted files onto a CD for use in the Backpack CD-ROM drive.
2. Run "Setup.exe" from the installation files.
3. Follow the installation instructions and prompts.
4. You will be prompted with "Yes, I want to restart my computer now.". Ensure that this option is selected, and click "FINISH" to restart the computer.
5. Once system has restarted, open "Display Properties" and click the "Settings" tab.
6. Ensure that the "Screen Size" setting (resolution) is set to 800x600 and the "Color" is set to 16bit or 32bit.
7. Click on the "Advanced" button – Refresh Frequency should be at 60 Hz and monitor type should be shown as either "Default Monitor" or "Plug and Play Monitor".
8. Click on "Apply"
9. Click "OK"
10. Click "YES"
11. Done
12. For more information refer to the "Installation and Operation" and "System Reference" manuals available online at:
http://www2.clearlake.ibm.com/store/support/html/body_pubs.html#kiosk

Touchpanel Driver:

Hardware Specs: Microtouch Resistive Touch Panel
Tested Driver Level: Version 5.60

Installing this Device:

1. Download and extract the latest drivers from our online support page.
2. Run "Setup.exe" from the "Disk 1" folder.
3. Click "Next..."
4. Select "Yes" to accept the license agreement.
5. Ensure that "Serial (Default)" is selected and press "Next..."
6. Ensure that "2 point calibration" is selected and press "Next..."
 - a. Note that this touchpanel is a 5-Wire Resistive Touch panel
7. Choose "Express Install" and then press "Next..."
8. Select Yes or No to view the Readme for more information.
9. You will be prompted with "Yes, I want to restart my computer now.". Ensure that this option is selected, and click "FINISH" to restart the computer.
10. Once the system has rebooted, you will see "Welcome to Microtouch" which will recommend that you calibrate the touchpanel now. We recommend that this be done to ensure proper operation.
11. Click the "Calibrate" button
12. Press and hold each calibration point, starting with the lower left spot (highlighted). Hold each spot until you see the message "Touch Enabled".
13. Click "Done".
14. For more information refer to the "Installation and Operation" and "System Reference" manuals available online at:
http://www2.clearlake.ibm.com/store/support/html/body_pubs.html#kiosk

Audio Driver:

Hardware Specs: SoundMax Integrated Audio
Tested Driver Level: Version 5.12

Installing this Device:

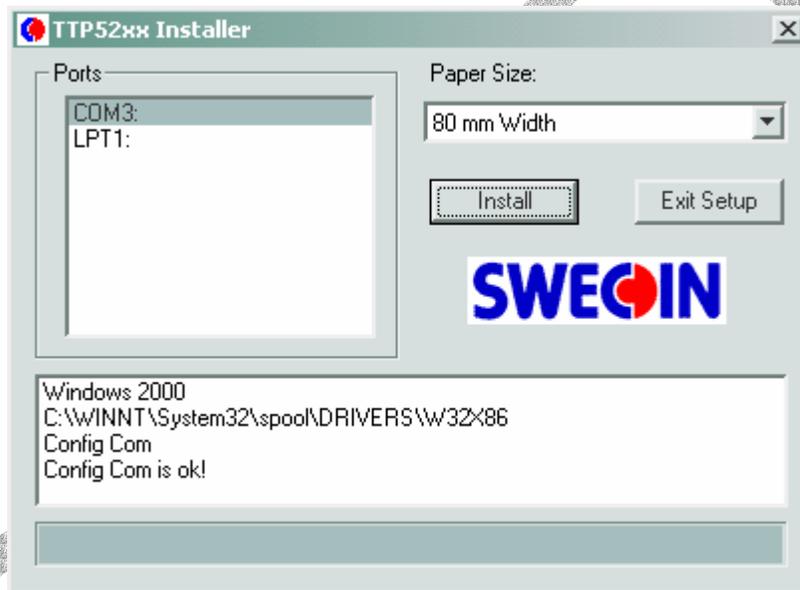
1. Download and extract the latest drivers from our online support page.
2. Run "Setup.exe" from the installation files (Default = c:\audio\setup.exe)
3. Click "Next..."
4. You will be prompted with a message stating "Digital Signature Not Found... Do you wish to continue?"
5. Click "YES" to continue with the install.
6. You will be prompted with "Yes, I want to restart my computer now.". Ensure that this option is selected, and click "FINISH" to restart the computer.
7. Done
8. For more information refer to the "Installation and Operation" and "System Reference" manuals available online at:
http://www2.clearlake.ibm.com/store/support/html/body_pubs.html#kiosk

Kiosk Printer Driver:

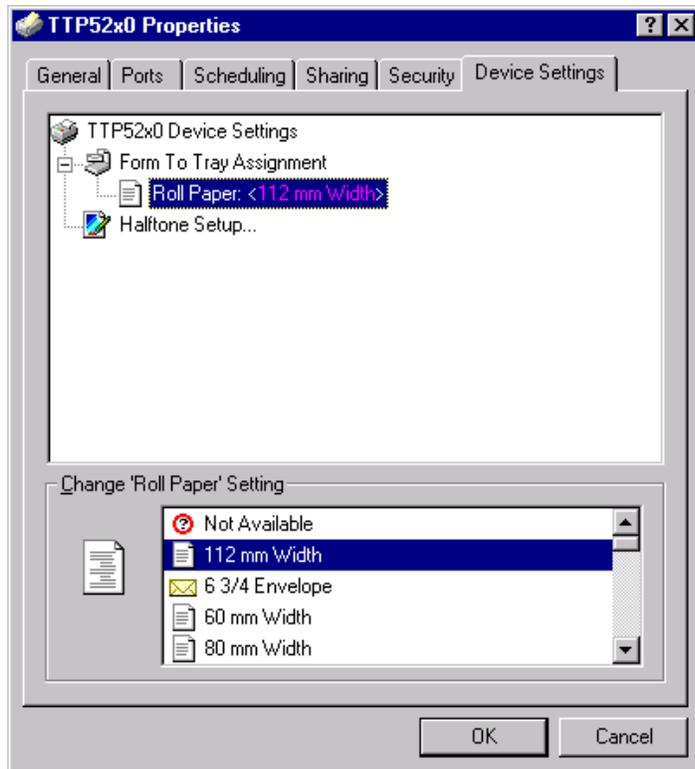
Hardware Specs: Integrated Kiosk Printer (80mm or 112mm)
Tested Driver Level: Version 1.04

Installing this Device:

1. Download and extract the latest drivers from our online support page.
2. For detailed instructions and tips for Printer installation please download the Printer Setup Guide from our online Knowledge Base.
3. Run "TTP52Installer.exe" to begin the installation.
4. Select the port on which your printer is currently installed (Default = COM2)
5. Select the appropriate paper size for the size printer installed.
6. Click the "Install" button to install.
7. Installation is successful when you receive the "Config Com is ok!" message as seen below. If you do not receive this message you most likely have a conflict with another printer or device on the same port – or you have selected the wrong port setting during install. Recheck your connections and retry the install.



8. Press the "Exit Setup" button.
9. Open the Printers Folder (Start -> Settings -> Printers) and select the newly installed printer ('TTP52x0').
10. Open the Printer Properties (File -> Properties) and then click the "Device Settings" tab.
11. Ensure that the Paper Size setting is correctly set for the printer installed in the Kiosk (80mm or 112mm).



12. For more information refer to the “Printer Setup & Configuration”, “Installation and Operation” and “System Reference” manuals available online at:

<http://www2.clearlake.ibm.com/store/support/html/kiosk.html>

13. Done

Barcode Scanner Driver:

Hardware Specs: Omni directional barcode scanner
Tested Driver Level: OPOS v2.06

Operation as a Serial Device:

The barcode scanner integrated into the Kiosk enclosure is a standard serial device. This device may be accessed via standard application calls to monitor events on the installed port. No specific drivers or installation is required for normal operation.

Additional information is available to assist with direct serial configuration and usage. To obtain a copy of our “Scanner Integration Manual” please contact us to request a copy or visit our online support Knowledge Base.

NOTE: This scanner will not operate as a ‘keyboard wedge’ device.

Operation with OPOS Support:

Although this scanner does support OPOS, the drivers and instructions are not included as part of the normal IBM POS Suite package(s). To install OPOS support for the Barcode Scanner download the latest Scanner OPOS drivers from our Kiosk support website and install per the included instructions.

For more information refer to the “Installation and Operation” and “System Reference” manuals available online at:

http://www2.clearlake.ibm.com/store/support/html/body_pubs.html#kiosk

Magnetic Stripe Reader Driver:

Hardware Specs: Magnetic Stripe Reader (MSR)
Tested Driver Level: IBM Point of Sale Suite v1.45

Operation as a Keyboard Wedge

The MSR integrated into the Kiosk is a standard device which is switch-selectable as either “Keyboard Wedge” or “Serial” communications. As a Keyboard Wedge, the MSR will send data to the system as standard keyboard input. In some cases, when used as a Keyboard Wedge, a physical keyboard and/or mouse must be attached to the system during each boot sequence.

Operation as a Serial Device (Default):

As a Serial device, you will need to monitor events/data on the installed port. We recommend using the [IBM POS Suite](#) for accessing the MSR via Serial Communications.

For more information refer to the “Installation and Operation” and “System Reference” manuals available online at:

http://www2.clearlake.ibm.com/store/support/html/body_pubs.html#kiosk

Uninterruptible Power Supply (UPS) Driver:

Hardware Specs: Advanced Power Conversion (APC) Backup UPS
APC Back-UPS, 500VA/300W

Tested Driver Level: n/a

Installing this Device:

1. This device does not require installation for basic operation. However, this UPS is compatible with Microsoft Windows and allows for limited monitoring of status for power management. This function enables the operating system to automatically detect a loss in power, as well as the status of the UPS batteries. When necessary, the operating system will automatically, and safely shutdown to avoid the loss of data or system files.
2. To obtain additional software utilities or information, visit the APC website at: <http://www.apc.com>
3. For more information refer to the "Installation and Operation" and "System Reference" manuals available online at: http://www2.clearlake.ibm.com/store/support/html/body_pubs.html#kiosk

Infra-red Presence Sensor Driver:

Hardware Specs: Infra-red transmitter and receiver for presence detection

Tested Driver Level: n/a

Installing this Device:

1. The IR sensor integrated into the Kiosk is designed for use with the power management features of the Kiosk and the operating system.
2. In addition, you can monitor the IR sensor via the assigned address for events. Under Windows NT 4.0 and Windows 2000/XP this address is within the operating system's protected range. Therefore, special port access applications are needed. One such application from "Zeal Softstudio" called "NT Port Library" available online at: <http://member.netease.com/~zealsoft/ntport/>
NOTE: This is a third party shareware application and is NOT supported by IBM. Please contact the vendor for further information.
3. For more information refer to the "Installation and Operation" and "System Reference" manuals available online at: http://www2.clearlake.ibm.com/store/support/html/body_pubs.html#kiosk

Installing IBM Utilities and Applications

To assist with certain implementations, the following utilities and application may be useful. These are not required for normal system operation.

IBM POS Suite:

IBM POS Suite provides you with OPOS and JavaPOS functionality for supported peripherals such as the integrated MSR. In many cases using the POS Suite to communicate with these peripherals makes customizing your application much easier.

To obtain the latest IBM POS Suite and detailed documentation visit our online driver support website at the following URL:

<http://www2.clearlake.ibm.com/store/support/html/windowsdrivers.html>

IBM CDS/NetCDS/KM:

An integral part of any Kiosk solution is in managing the operating environment as well as remote kiosk management. IBM's Consumer Device Services (CDS), combined with the NetCDS and Kiosk Manager (KM) components function as a middleware layer to provide critical kiosk management functionality.

For more information on the CDS, NetCDS and Kiosk Manager product(s) please see your IBM Account Representative or Authorized IBM Business Partner.

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