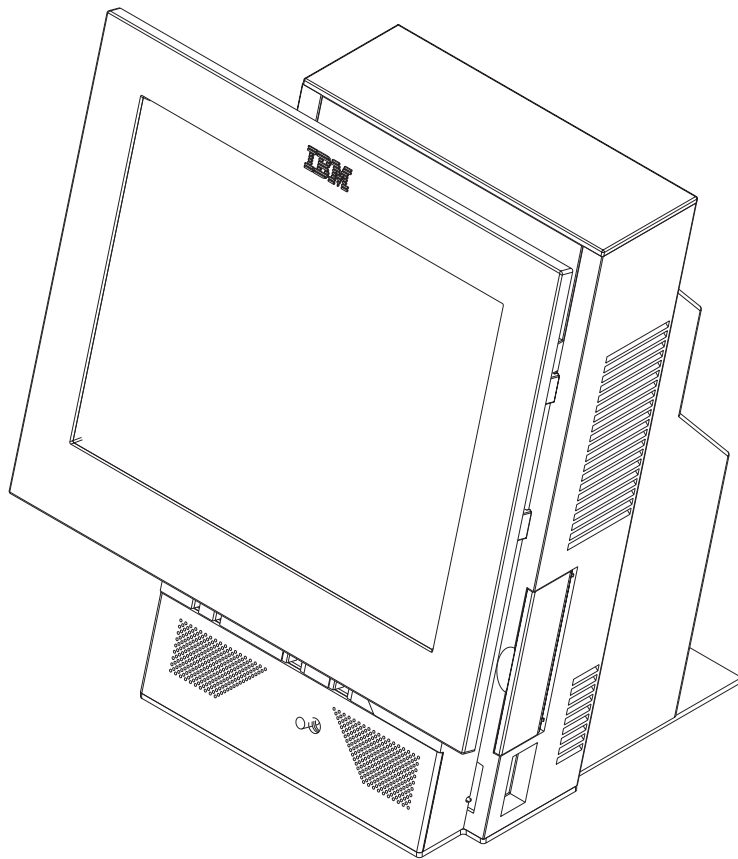


SurePOS 500 Series



Hardware Service Guide for Models 533, 543, 544, 553, 563, 564, 573, and 5A3



SurePOS 500 Series



Hardware Service Guide for Models 533, 543, 544, 553, 563, 564, 573, and 5A3

Note

Before using this information and the product it supports, be sure to read "Safety and environmental notices" on page xiii and the general information in Appendix E, "Notices," on page 191.

| **Third Edition (June 2006)**

| This edition applies to the IBM® SurePOS 500, machine type 4840, Models 533, 543, 544, 553, 563, 564, 573, 5A3, E43, E63, W33, W43, W53, W63, and W73.

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Safety and environmental notices

Safety notices are printed throughout this book.

A *danger* notice indicates the presence of a hazard that has the potential of causing death or serious personal injury.

A *caution* notice indicates the presence of a hazard that has the potential of causing moderate or minor personal injury.

An *attention* notice indicates the possibility of damage to a program, device, system, or data.

A *note* provides important tips, guidance, or advice.

Safety Information



Danger:

Before you begin to install this product, read the safety information in *IBM Safety Information - Read This First*, GA27-4004. This booklet describes safe procedures for cabling and plugging in electrical equipment.



Gevaar:

Voordat u begint met de installatie van dit produkt, moet u eerst de veiligheidsinstructies lezen in de brochure *Veiligheidsinstructies—Lees dit eerst*, GA27-4004. Hierin wordt beschreven hoe u elektrische apparatuur op een veilige manier moet bekabelen en aansluiten.



Perigo:

Antes de começar a instalar este produto, leia as informações de segurança contidas em *Informações Sobre Segurança—Leia Isto Primeiro*, GA27-4004. Esse folheto descreve procedimentos de segurança para a instalação de cabos e conexões em equipamentos elétricos.



Fare!

Før du installerer dette produkt, skal du læse sikkerhedsforskrifterne i *Sikkerhedsforskrifter—Læs dette først GA27-4004*. Vejledningen beskriver den fremgangsmåde, du skal bruge ved tilslutning af kabler og udstyr.



Gevaar

Voordat u begint met het installeren van dit produkt, dient u eerst de veiligheidsrichtlijnen te lezen die zijn vermeld in de publikatie *IBM Safety Information — Read This First, GA27-4004*. In dit boekje vindt u veilige procedures voor het aansluiten van elektrische apparatuur.



VAARA

Ennen kuin aloitat tämän tuotteen asennuksen, lue julkaisussa *Turvaohjeet—Luetämä ensin, GA27-4004*, olevat turvaohjeet. Tässä kirjassessa on ohjeet siitä, miten sähkölaitteet kaapeloidaan ja kytketään turvallisesti.



Danger

Avant d'installer le présent produit, consultez le livret *Informations pour la sécurité—Lisez-moi d'abord, GA27-4004*, qui décrit les procédures à respecter pour effectuer les opérations de câblage et brancher les équipements électriques en toute sécurité.



Vorsicht

Bevor mit der Installation des Produktes begonnen wird, die Sicherheitshinweise in *Sicherheitsinformationen—Bitte zuerst lesen*, IBM Form GA27–4004. Diese Veröffentlichung beschreibt die Sicherheitsvorkehrungen für das Verkabeln und Anschließen elektrischer Geräte.



Vigyázat

Mielőtt megkezdi a berendezés üzembe helyezését, olvassa el a *IBM Safety Information — Read This First*, GA27–4004 könyvecskében leírt biztonsági információkat. Ez a könyv leírja, milyen biztonsági intézkedéseket kell megtenni az elektromos berendezés huzalozásakor illetve csatlakoztatásakor.



Pericolo

prima di iniziare l'installazione di questo prodotto, leggere le informazioni relative alla sicurezza riportate nell'opuscolo *Informazioni di sicurezza—Prime informazioni da leggere* in cui sono descritte le procedure per il cablaggio ed il collegamento di apparecchiature elettriche.



Fare

Før du begynner å installere dette produktet, må du lese sikkerhetsinformasjonen i *Sikkerhetsinformasjon—Les dette først*, GA27–4004 som beskriver sikkerhetsrutinene for kabling og tilkobling av elektrisk utstyr.



Perigo

Antes de iniciar a instalação deste produto, leia as informações de segurança *Informações de Segurança—Leia Primeiro*, GA27-4004. Este documento descreve como efectuar, de um modo seguro, as ligações eléctricas dos equipamentos.



Peligro

Antes de empezar a instalar este producto, lea la información de seguridad en *Información de Seguridad—Lea Esto Primero*, GA27-4004. Este documento describe los procedimientos de seguridad para cablear y enchufar equipos eléctricos.



Varning—livsfara

Innan du börjar installera den här produkten bör du läsa säkerhetsinformationen i dokumentet *Säkerhetsföreskrifter—Läs detta först*, GA27-4004. Där beskrivs hur du på ett säkert sätt ansluter elektrisk utrustning.

危險：安裝本產品之前，請先閱讀
"IBM Safety Information--Read
This First" GA27-4004 手冊中所提
供的安全注意事項。這本手冊將會說明
使用電器設備的纜線及電源的安全程序。

Opasnost: Prije nego što počnete sa instalacijom produkta,
pročitajte naputak o pravilima o sigurnom rukovanju u
Upozorenje: Pravila o sigurnom rukovanju - Prvo pročitaj ovo,
GA27-4004. Ovaj privitak opisuje sigurnosne postupke za
priključivanje kabela i priključivanje na električno napajanje.

Upozornění: než zahájíte instalaci tohoto produktu, přečtěte si
nejprve bezpečnostní informace v pokynech „Bezpečnostní
informace“ č. GA27-4004. Tato brožurka popisuje bezpečnostní
opatření pro kabeláž a zapojení elektrického zařízení.

Κίνδυνος: Πριν ξεκινήσετε την εγκατάσταση αυτού του προϊόντος,
διαβάστε τις πληροφορίες ασφάλειας στο φυλλάδιο *IBM Safety
Information-Read this first, GA27-4004*. Στο φυλλάδιο αυτό
περιγράφονται οι ασφαλείς διαδικασίες για την καλωδίωση των
ηλεκτρικών συσκευών και τη σύνδεσή τους στην πρίζα.

危險：導入作業を開始する前に、安全に関する
小冊子 GA27-4004 の「最初にお読みください」
(Read This First) の項をお読みください。
この小冊子は、電気機器の安全な配線と接続の
手順について説明しています。

위험: 이 제품을 설치하기 전에 반드시
"주의: 안전 정보-시작하기 전에"
(GA27-4004) 에 있는 안전 정보를
읽으십시오.

סכנה : לפני שמתחילים בהתקנת מוצר זה, יש לקרוא את הוראות הבטיחות בחוברת
Caution: Safety Information - Read This First, GA27-4004
חוברת זו מתארת את הוראות הבטיחות לחיבור הכבלים ולחיבור לחשמל של ציוד חשמלי.

خطر: قبل عملية بدء تركيب هذا المنتج، قم بقراءة معلومات
الحمية الموجودة في التحذير: معلومات الحماية - Read This First
GA27-4004 . يقوم هذا الكتيب بوصف اجراءات الأمان
لتوصيل الأدوات الكهربائية بالكابلات والمقبس الكهربائي.

ОПАСНОСТ

Пред да почнете да го инсталирате овој продукт, прочитајте ја информацијата за безбедност:
"Предупредување: Информација за безбедност: Прочитајте го прво ова", GA27-4004.
Оваа брошура опишува безбедносни процедури за каблирање и вклучување на електрична опрема.

Uwaga:

Przed rozpoczęciem instalacji produktu należy zapoznać się z instrukcją: "IBM Safety Information - Read This First", GA27-4004.
Zawiera ona warunki bezpieczeństwa przy podłączaniu do sieci elektrycznej i eksploatacji.

ОСТОРОЖНО: Прежде чем устанавливать этот продукт, прочтите Инструкцию по технике безопасности в документе "Внимание: Инструкция по технике безопасности -- Прочсть в первую очередь", GA27-4004. В этой брошюре описаны безопасные способы каблирования и подключения электрического оборудования.

Nebezpečenstvo: Pred inštaláciou výrobku si prečítajte bezpečnosté predpisy v
Výstraha: Bezpečnosté predpisy - Prečítaj ako prvé, GA27-4004. V tejto brožúrke sú opísané bezpečnosté postupy pre pripojenie elektrických zariadení.

Pozor: Preden začnete z instalacijo tega produkta preberite poglavje: "Opozorilo: Informacije o varnem rokovanju-preberi pred uporabo," GA27-4004. To poglavje opisuje pravilne postopke za kabliranje,

危險：

開始安裝此產品之前，請先閱讀安全資訊。

注意：

請先閱讀 - 安全資訊 GA27-4004

此冊子說明插接電器設備之電纜線的安全程序。

危險：

在开始安装本产品之前，请阅读
IBM Safety Information - Read This First,
GA27-4004 中的安全信息。

此手册描述了如何安全地连接和插拔电气设备。

Environmental notices and statements

This section covers product recycling and product disposal.

End of life disposal

This unit must be recycled or discarded according to applicable local and national regulations. IBM encourages owners of information technology (IT) equipment to responsibly recycle their equipment when it is no longer needed. IBM offers a variety of product return programs and services in several countries to assist equipment owners in recycling their IT products. Information on IBM product recycling offerings can be found on IBM's Internet site at <http://www.ibm.com/ibm/environment/products/prp.shtml>.



Notice: This mark applies only to countries within the European Union (EU) and Norway.

Appliances are labeled in accordance with European Directive 2002/96/EC concerning waste electrical and electronic equipment (WEEE). The Directive determines the framework for the return and recycling of used appliances as applicable throughout the European Union. This label is applied to various products to indicate that the product is not to be thrown away, but rather reclaimed upon end of life per this Directive.

In accordance with the European WEEE Directive, electrical and electronic equipment (EEE) is to be collected separately and to be reused, recycled, or recovered at end of life. Users of EEE with the WEEE marking per Annex IV of the WEEE Directive, as shown above, must not dispose of end of life EEE as unsorted municipal waste, but use the collection framework available to customers for the return, recycling, and recovery of WEEE. Customer participation is important to minimize any potential effects of EEE on the environment and human health due to the potential presence of hazardous substances in EEE. For proper collection and treatment, contact your local IBM representative.

Disposal of IT products should be in accordance with local ordinances and regulations.

Battery disposal

This unit contains batteries. Remove and discard these batteries, or recycle them, according to local regulations. Return IBM units as determined by service procedures.

Taiwanese battery recycling statement

Waste batteries, please recycle.



廢電池請回收

Mercury-added statement

The fluorescent lamp in the liquid crystal display contains mercury. Dispose of it as required by local ordinances and regulations.

Magnetic stripe reader

The electronic article surveillance device (EAS) that deactivates security tags should not be closer than 18 in. (46 cm.) to the nearest edge of the magnetic stripe reader (MSR).

Handling static-sensitive devices

Attention: Static electricity can damage electronic devices and your system. To avoid damage, keep static-sensitive devices in their static protective bags until you are ready to install them.

To reduce the possibility of electrostatic discharge, observe the following precautions:

- Limit your movement. Movement can cause static electricity to build up around you.
- Handle the device carefully, holding it by its edges or its frame.
- Do not touch solder joints, pins, or exposed printed circuitry.
- Do not leave the device where others can handle and possibly damage the device.
- While the device is still in its anti-static bag, touch it to an unpainted metal part of the system unit for at least 2 seconds. (This action removes static electricity from the package and from your body.)
- Remove the device from its package and install it directly into your system, without putting it down. If it is necessary to put the device down, place it onto its static-protective bag. (If your device is an adapter, place it component side up.) Do not place the device onto the cover of the system or onto a metal table.
- Take additional care when handling devices during cold weather because heating reduces indoor humidity and increases static electricity.

About this guide

This guide provides information necessary to repair and maintain the IBM SurePOS® 500 Series Models 533, 543, 544, 553, 563, 564, 573, and 5A3.

Note: References in this guide to Model 533 also apply to Model W33; references to Model 543 also apply to Model W43; references to Model 544 also apply to Model E44; references to Model 553 also apply to Model W53; references to Model 563 also apply to Model W63; references to Model 564 also apply to Model E64; references to Model 573 also apply to Model W73; references to Model 5A3 also apply to Model WA3.

Who should read this guide

This guide is for the IBM service representative to assist in maintaining and repairing the IBM SurePOS 500 Series Models 533, 543, 544, 553, 563, 564, 573, and 5A3.

Related publications

The SurePOS 500 Series library consists of the following publications:

- *IBM SurePOS 500 Series Hardware Service Guide for Models 533, 543, 544, 553, 563, 564, 573, and 5A3*, SY27-0417 (this document)

This document provides information on repairing and maintaining the system unit, including parts listings, troubleshooting, and removal and replacement procedures.

- *IBM SurePOS 500 Series Planning, Installation, and Operation Guide for Models 533, 543, 544, 553, 563, 564, 573, and 5A3*, GA27-4330

This guide provides installation and setup information, including option installation procedures and problem determination information.

- *IBM Safety Information — Read This First*, GA27-4004

This document contains important safety information.

To access these publications

1. Go to: www.ibm.com/solutions/retail/store/.
2. Select **Support**, then select **Publications**.

Note: References in this guide to Model 533 also apply to Model W33; references to Model 543 also apply to Model W43; references to Model 544 also apply to Model E44; references to Model 553 also apply to Model W53; references to Model 563 also apply to Model W63; references to Model 564 also apply to Model E64; references to Model 573 also apply to Model W73; references to Model 5A3 also apply to Model WA3.

Publications accessibility

The soft-copy version of this guide and other related publications are accessibility-enabled.

Web sites

For the latest troubleshooting guidance and symptom-fix tip information, go to the IBM support Web site at: www.ibm.com/solutions/retail/store. Select **Knowledgebase**.

This site contains additional information, gathered from field experience, not available when this document was developed.

Tell us what you think

Your feedback is important in helping us provide accurate and high-quality information. Please take a few moments to tell us what you think about this document.

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- Visit our Web site at <http://www.ibm.com/solutions/retail/store>. Select **Support**, then **Publications**. Select the **publication comments** link within the introductory text. Fill in the requested information and your comments. Be sure to include the name and form number of the document in the Publication ID field.
- Print and fill out the form at the end of this document. Return the form to us by mail or by giving it to an IBM representative.

If applicable, include a reference to the specific location of the text (for example, the page or table number) on which you are commenting.

Between major revisions of this document, we might make minor technical updates. The latest version of this document is available on the Retail Store Solutions Web site at www.ibm.com/solutions/retail/store/support/publications.

Summary of Changes

August 2006 Web update to SY27-0417-02

This update:

- Changes information regarding Models 544 and 564
- Adds information about Diagnostic programs
- Changes a field replaceable unit (FRU) number
- Deletes reference to speaker connector for Models 543 and 553

Changed or new information is indicated by a revision bar (|) in the left margin.

June 2006 to SY27-0417-02

- This update adds:
 - Information regarding the new Models 544 and 564.
 - New part numbers for existing products that are manufactured using updated methods or materials required in certain jurisdictions, such as the European Union.
 - Macrovision copy protection technology notice.
- Moved cash drawer parts to the "Point of Sale Options and I/O Devices Service Guide," GC30-9737

November 2005 Web update

Inserted the latest End of life disposal statements.

August 3, 2006

March, 2005 Web update

This update adds new Models 573 and 5A3. It also provides an new remote mount for the display tablet.

Web update to SY27-0417-00 (June, 2004)

This update adds information about new Models W33, W43, W53, and W63.

March, 2004

First edition

Chapter 1. Introducing the IBM SurePOS 500 Series Models 533, 543, 544, 553, 563, 564, 573, and 5A3

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The IBM SurePOS 500 Series Models 533, 543, 544, 553, 563, 564, 573, and 5A3 enable you to provide fast, accurate customer service and to manage your restaurant or store efficiently. The machine type for these models is 4840. You can configure the SurePOS 500 Models 5x3 and 544/564 systems to support a wide variety of both IBM and non-IBM input/output (I/O) devices – everything from standard serial-attached devices, such as the IBM Kitchen Subsystem or IBM 4610 SureMark® printer, to Universal Serial Bus (USB)-attached devices.

Note: References in this guide to Model 533 also apply to Model W33; references to Model 543 also apply to Models E43 and W43; references to Model 544 also apply to Models E44; references to Model 553 also apply to Model W53; references to Model 563 also apply to Models E63 and W63; references to Model 564 also apply to Models E64; references to Model 573 also apply to Model W73.

System resources and the operating system may limit the use of ports. Figure 1 on page 2 shows a sample SurePOS 500 Models 5x3 and 544/564 configuration.

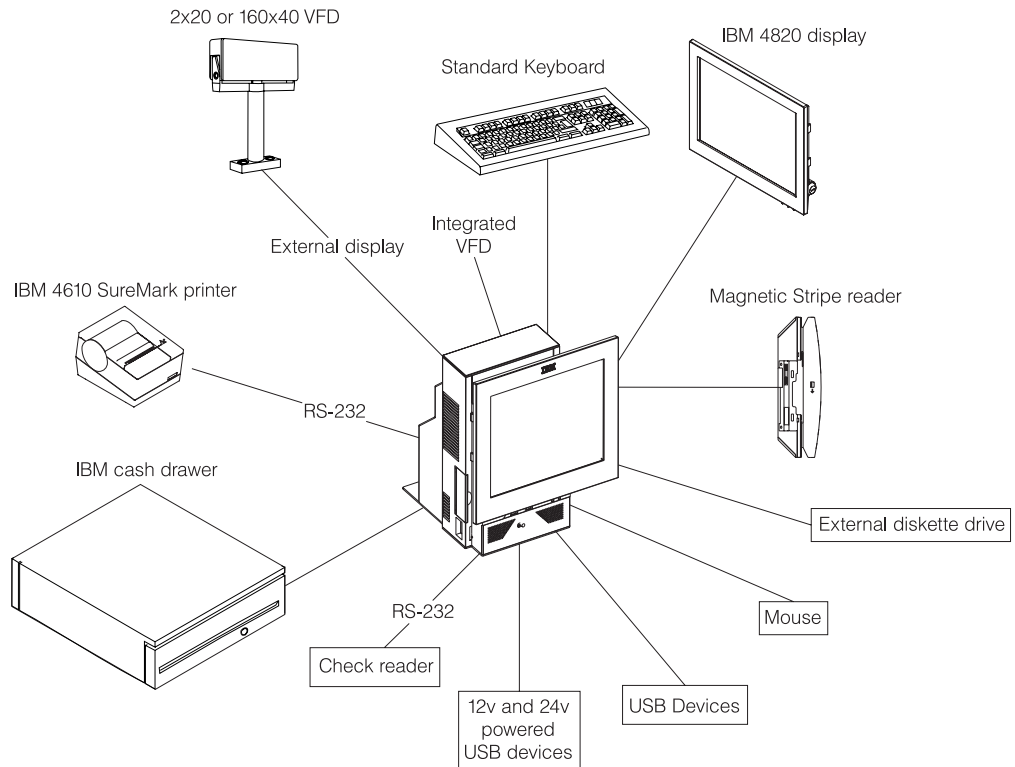


Figure 1. SurePOS 500 Models 5x3 and 544/564 configuration with optional features

SurePOS 500 Models 5x3 and 544/564

All SurePOS 500 Models 5x3 and 544/564 (except Model 5A3) use an Intel® Celeron®, 2.0-GHz processor. The Model 5A3 uses an Intel Pentium® 4, 2.8-GHz processor.

These models provide a touch screen, using infrared technology, an active matrix (TFT) color LCD, 10/100-Mbps networking, and all standard PC ports.

SurePOS 500 Models 5x3 and 544/564 Features

The SurePOS 500 Models 5x3 and 544/564 are designed for food service or hospitality retailers. (See Table 1 for features.)

Notes:

1. Ex3 and Ex4 models are preloaded with Microsoft® Windows® XP Embedded for Point of Service.
2. Wx3 models are preloaded with Microsoft Windows XP Professional.

Table 1. SurePOS 500 Models 5x3 and 544/564 Features

Model	Operator terminal	Audio	PC card	Presence sensor	Video adapter for second display	Speaker
533/W33	12.1-in. single-bulb	No	No	No	Option	No
543/E43/W43	12.1-in. dual-bulb	No	No	No	Option	No
553/W53	12.1-in. single-bulb	Yes	Yes	No	Option	Yes
563/5A3/E63/W63 Note: Model 5A3 uses the Intel Pentium 4, 2.8-GHz processor.	12.1-in. dual-bulb, standard	Yes	Yes	Yes	Option	Yes
	15-in. dual-bulb, optional					
544/E44	12.1-in. dual bulb, standard	No	No	No	No	No
	15-in. dual-bulb, optional	No	No	No	No	No
564/E64	12.1-in. dual bulb, standard	Yes	Yes	Yes	No	Yes
	15-in. dual-bulb, optional	Yes	Yes	Yes	No	Yes
573/W73	17-in.	Yes	Yes	Yes	Option	Yes

Standard features

The following features are standard on Models 5x3 and 544/564:

- Integrated power supply
- 40-GB, 3.5-in., IDE, hard disk drive (HDD) (or 256 MB CompactFlash, available in Model 533 only)
- Three RS-232 serial ports, unpowered
- One RS-232 serial port, powered
- One 12-V, powered USB port
- One 24-V, powered USB port
- Six standard USB ports; four USB 2.0 (2 side, 2 rear) plus two USB 1.1 (tablet)

- Magnetic stripe reader (MSR) port
- Two cash-drawer ports
- External CRT video port
- Parallel port
- External legacy diskette-drive
- Speaker kit, microphone jack, headphone jack (Models 553, 563, 564, 573, and 5A3 only)
- PC card slot (Models 553, 563, 564, 573, and 5A3 only)

Notes:

1. System resources and operating systems can limit the use of ports.
2. Only one printer that is powered by the system unit may be used at a time.

Optional features

The following options are available on all models unless otherwise specified:

- External CD-ROM (USB)
- Integrated and distributed character display connectors
- All points addressable (APA) character-graphic display
- Full-size cash drawer, locking till, till insert (fixed and adjustable), and lock
- Compact cash drawer, locking till, till insert (fixed and adjustable), and lock
- Full-size, non-keyboard-integration tray for cash drawer and countertop
- Full-size, keyboard-integration tray for cash drawer and countertop
- Compact keyboard-integration tray for cash drawer
- Supported memory: 128-MB, 256-MB, 512-MB, and 1-GB memory upgrades, allowing a maximum of 2 GB (two 1-GB DIMMs). Exactly two memory slots are present. Two supported DIMMs can be use in any combination.
- IBM 1.44-MB, external diskette drive
- Three-track MSR
- Dual-sided, single-track MSR (Japan and Korea only)
- Mouse and keyboard "Y" cable
- IBM SurePOS 500/600 Series Compact ANPOS Keyboard
- 4610 SureMark Printer (Models TF6, TF7, IF6, TG3, TG4, TG5, TI3, TI4, TI5, DG3, and DG4)
- IBM 4820 SurePoint® Solutions (Models 4FT, 4FD, 2GN, 5GN, and 2GB)
- 256-MB CompactFlash, available in Model 533 only, replaces HDD

Dual-display feature

The SurePOS 500 Models 5x3 and 544/564 provides simultaneous dual-display capability as a standard feature. Information displayed on the SurePOS 500 Models 5x3 and 544/564 operator display is presented simultaneously on an attached display. The 4820 SurePoint Solutions (Models 4FT, 4FD, 2GN, 5GN, and 2GB) can be integrated onto the optional mounting foot or integration tray of the SurePOS 500 Models 5x3 and 544/564 or attached as a distributed model. Other external VGA devices can be connected to the SurePOS 500 Models 5x3 and 544/564 15-pin video port.

In addition, an optional, independent display can be attached (Models 5x3 only). This display operates independently of the operator display and requires an optional display adapter feature card.

PC Card subsystem

Models 553, 563, 564, 573, and 5A3 provide a PC Card subsystem that accepts a single Type 2 PC Card. The subsystem allows you to use a wireless card on these models.

Note: Remote Program Load (RPL) and power up on LAN or Ring are not supported for PC Card cards.

System software features

The SurePOS 500 Models 5x3 and 544/564 supports the following operating systems:

- PC DOS 2000
- Microsoft® Windows® 2000
- Windows XP/XPe
- IBM Retail Environment for SUSE (IRES) Linux (Models 5x3 only)

System software includes:

- Basic input/output software (BIOS)
- Plug and Play BIOS
- Power-on self-test (POST)
- Configuration/Setup Utility program
- Advanced Power Management (APM) (DOS and Linux only)
- Advanced Configuration and Power Interface (ACPI)¹
- Flash-update utility program
- SurePOS 500 Models 5x3 and 544/564 Diagnostic programs
- Device drivers

1. ACPI is supported only on Windows-based systems

Mounting options

You can mount the SurePOS 500 Models 5x3 and 544/564 in the following ways:

- Free-standing on a counter top
- Secured to a counter top (with or without an integration tray)
- Secured to a full-size cash drawer (with an integration tray)
- Secured to a wall. The Wall Mount feature must be specified when ordering your SurePOS 500 Models 5x3 and 544/564.
- Using a mounting foot for the cash drawer or mounting a 4820 SurePoint Solution without integration tray.
- Using a stand and cable for remote mounting of the display tablet

Note: Use of the mounting foot with Model 573 on a narrow cash drawer is not recommended. You should use the integration tray instead.

Free-standing option

Figure 2 illustrates the free-standing mounting option.

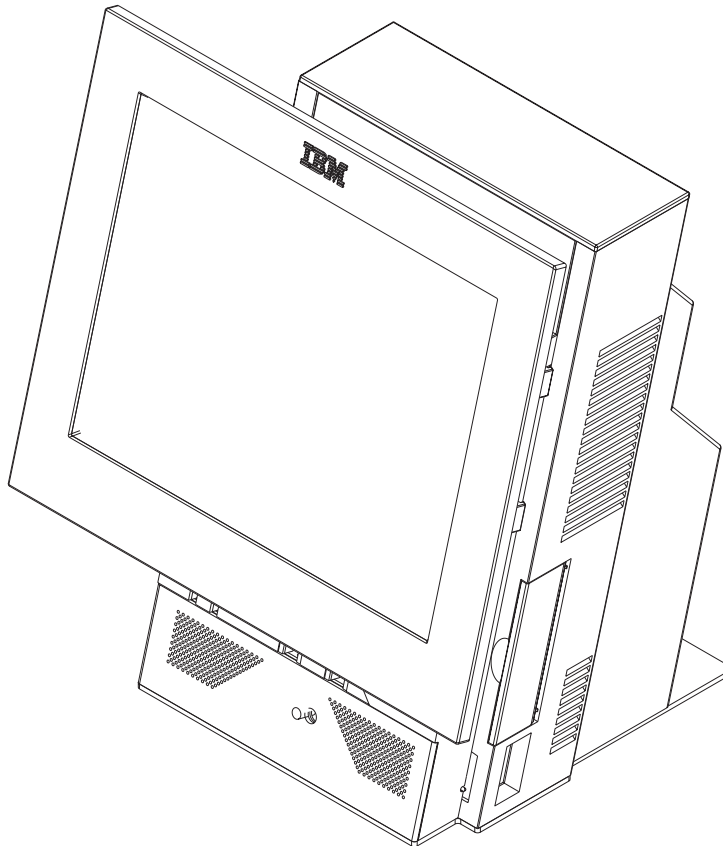


Figure 2. Free-standing option

Countertop mounting options

There are two variations of the countertop mounting option. You can mount the free-standing base foot to the counter or you can use the countertop integration tray. If you are using a countertop integration tray, the base foot on the SurePOS 500 Models 5x3 and 544/564 is replaced with a mounting bracket. The unit is then securely attached to the integration tray with two screws. Figure 3 shows a SurePOS 500 Models 5x3 and 544/564 and an IBM 4610 SureMark printer mounted to a countertop integration tray.

Note: With the countertop integration tray option, the printer is always mounted on the left side, when facing the unit.

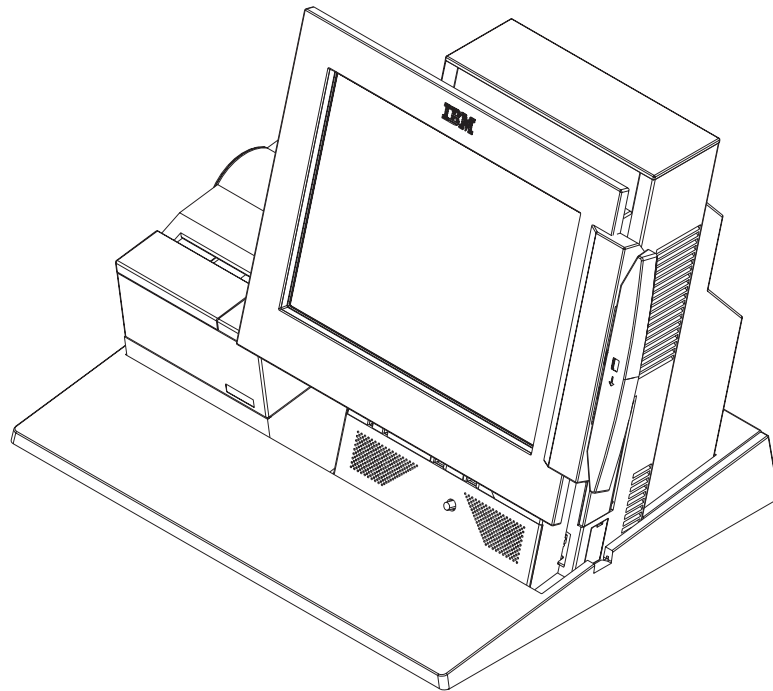


Figure 3. Countertop mounting option with integration tray

Figure 4 shows a SurePOS 500 Models 5x3 and 544/564, a keyboard and a IBM 4610 SureMark printer mounted to a countertop keyboard-integration tray.

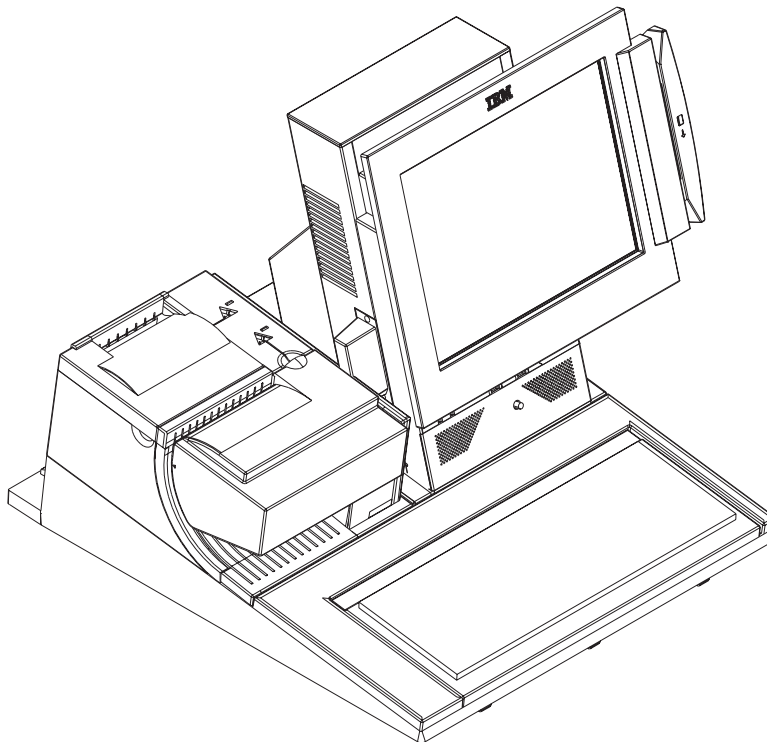


Figure 4. Countertop mounting option with keyboard-integration tray

Cash-drawer mounting option

The SurePOS 500 Models 5x3 and 544/564 cash-drawer mounting option is similar to the countertop option, except that the system attaches to the cash drawer by means of an integration tray and the cash drawer can be secured to a countertop.

Figure 5 shows the full-size cash-drawer mounting option with keyboard integration tray, distributed character display and IBM 4820 SurePoint® Solution display option.

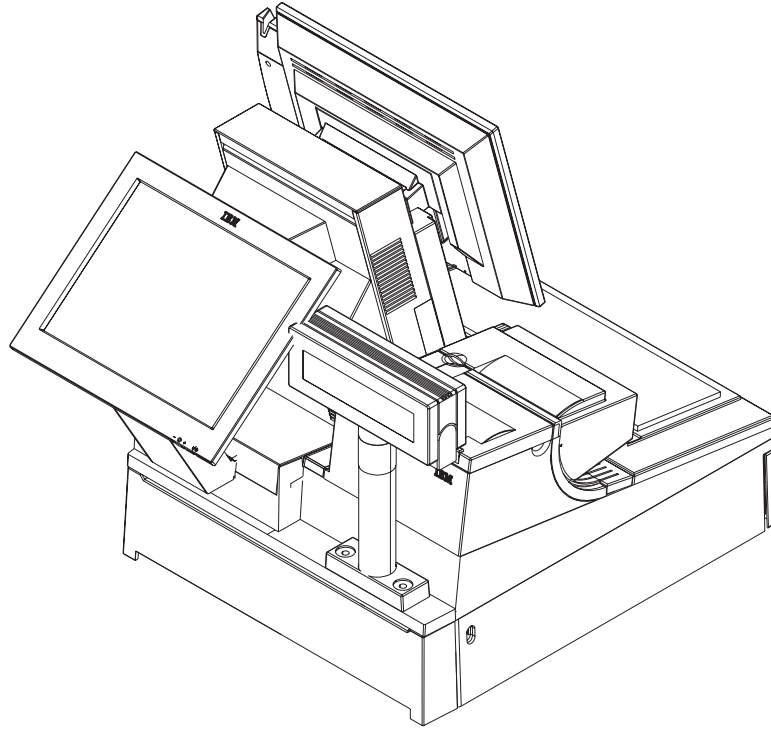


Figure 5. Cash-drawer mounting option with keyboard integration tray, integrated character display and 4820 SurePoint Solution options

Figure 6 shows the compact-size cash-drawer with the keyboard-integration tray mounting option.

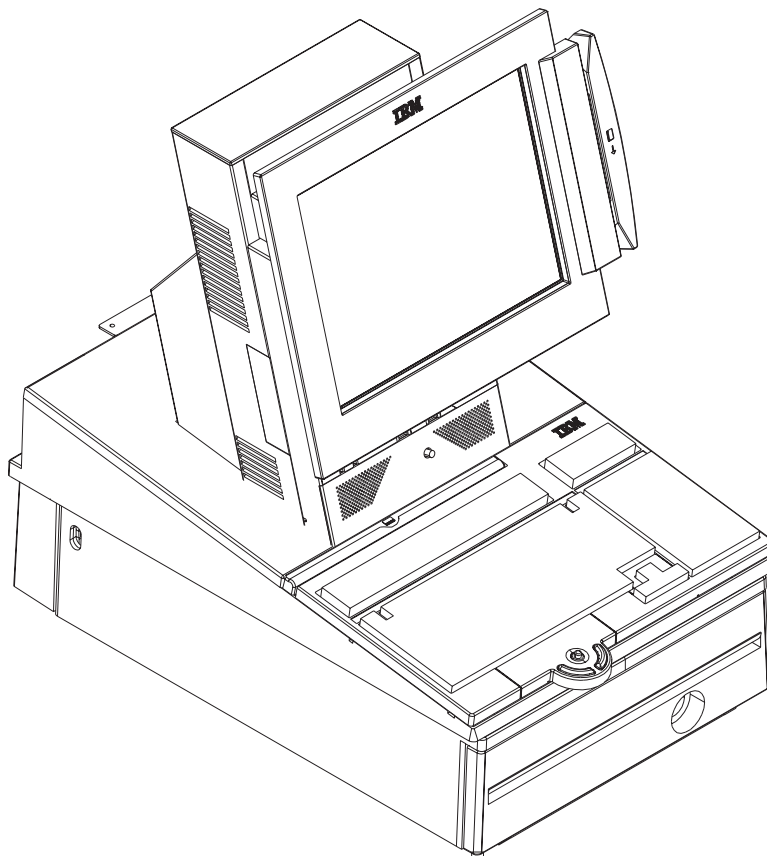


Figure 6. Compact-size cash-drawer with keyboard-integration tray mounting option

Wall-mounting option

Figure 7 illustrates the SurePOS 500 Models 5x3 and 544/564 with the Wall Mount option.

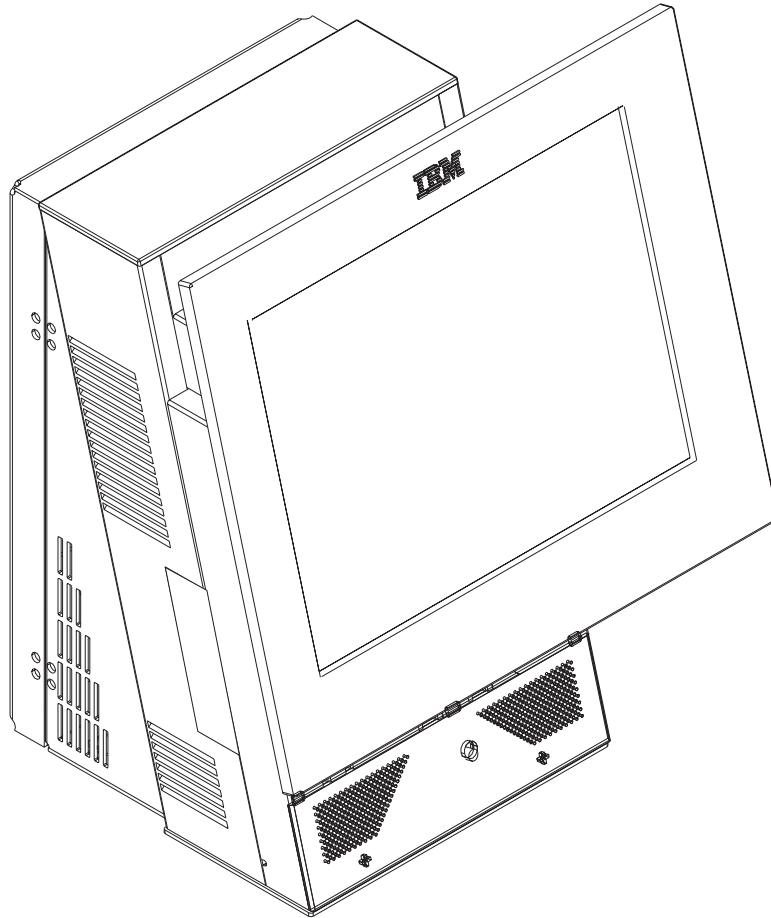


Figure 7. Wall mounting option

Mounting foot

Figure 8 illustrates the SurePOS 500 Models 5x3 and 544/564 with the optional mounting foot. You must specify this feature when ordering your SurePOS 500 Models 5x3 and 544/564. This option allows you to integrate a 4820 SurePoint Solution without a integration tray or to mount your 4840 on a cash drawer.

Note: Use of the mounting foot with Model 573 on a narrow cash drawer is not recommended. You should use the integration tray instead.

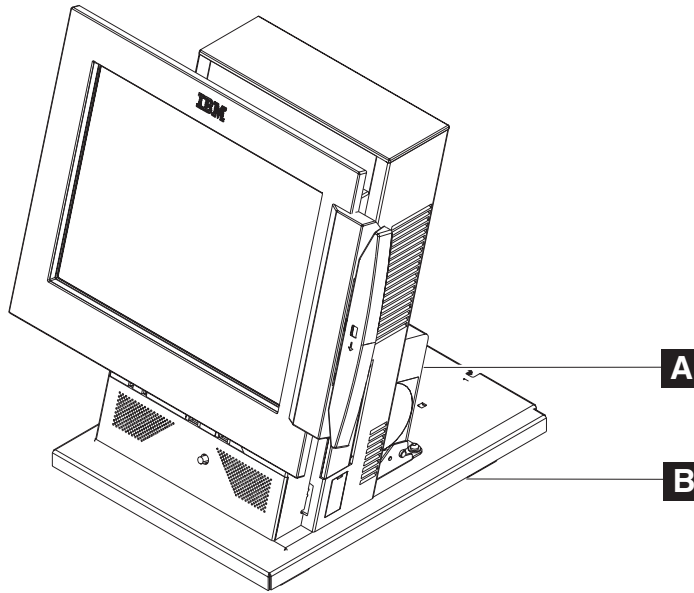


Figure 8. Mounting foot option

Remote display tablet mounting option

Figure 9 on page 13 illustrates the remote operator display mounting option. You can specify this feature when ordering your SurePOS 500 Models 5x3 and 544/564. Two features are required for remote mounting: the stand and the attachment feature.

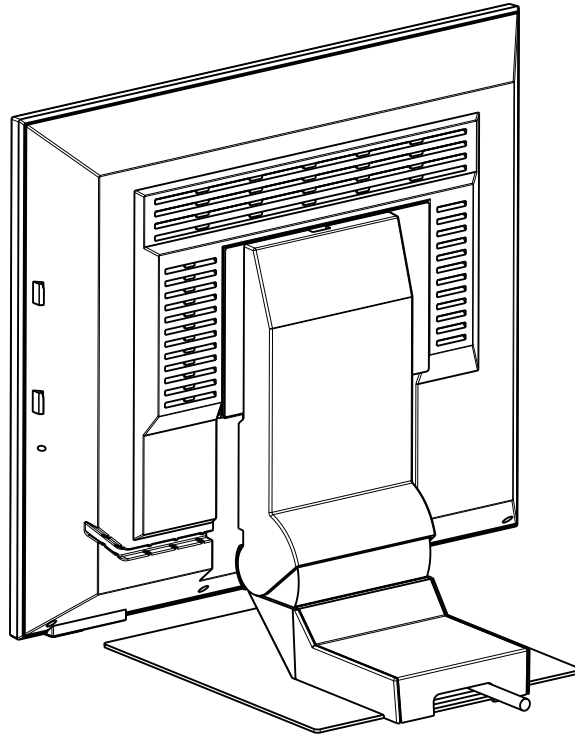


Figure 9. Remote display tablet mounting option

System management

This section describes the types of system management available with the SurePOS 500 Models 5x3 and 544/564.

System management programs

The SurePOS 500 Models 5x3 and 544/564 supports the following system and power management programs:

Desktop Management Interface

The SurePOS 500 Series supports System Management BIOS (SMBIOS) 2.3, supporting a DMI-compliant agent such as Tivoli®. This allows access to low-level information. Examples of information that can be accessed are the BIOS level, processor type, speed, manufacturer, system-board information, and detailed memory information.

RDM (Remote Deployment Manager) and IBM Director.

RDM can install an OS and update BIOS remotely and probe machines for low-level information. IBM Director can remotely configure applications and OSs, transfer files, and inventory workstations on a network.

APM APM consists of several layers of software that allow the operating system, applications, and BIOS to work together to reduce power consumption. APM is supported on DOS and Linux platforms.

Advanced Configuration and Power Interface

Advanced Configuration and Power Interface (ACPI) V1.0 defines a hardware and software interface and tables by which the operating system can alter the characteristics of the hardware-specific devices. ACPI is supported on Windows 2000 and Windows XP.

Power up on LAN

This feature enables the system to power on when it receives a specific frame over the local area network (LAN) through the 10/100-Mbps Ethernet feature. You can enable power up (wake) on LAN by enabling **Power up on LAN** in the Setup Utility program.

Power up (wake) on daily alarm

This feature enables the system to turn on at the same time every day. You can enable power up (wake) on daily alarm by enabling **Power up on Daily Alarm** in the Setup Utility program.

Remote management

The SurePOS 500 Models 5x3 and 544/564 supports remote system management over the network. The following functions are supported:

- Selectable startup sequence
- Update POST/BIOS from the network
- Ethernet setup
- Power up (wake) on LAN

Compatible products

IBM designed the SurePOS 500 Models 5x3 and 544/564 to operate with the many POS PC applications. These applications are available in the marketplace through retail, mail order, or independent dealers.

You can use the following products with the SurePOS 500 Models 5x3 and 544/564:

- 4610 SureMark Single Station Thermal Printer (RS-232 models)
- 4610 SureMark Printer
- 4820 SurePoint Solution Terminal
- IBM Kitchen System
- IBM point-of-sale USB devices
- Original equipment manufacturer (OEM) USB devices
- OEM RS-232 printers
- OEM parallel printers
- OEM USB printers
- CRT displays

System port specifications

Table 2 shows the default legacy serial-port assignments in the configuration.

Table 2. Default serial-port assignments

Port assignment	Address range (hex)	IRQ	Assignment
Serial A	03F8–03FF	4	User available
Serial B	02F8–02FF	3	User available
Serial C	Ports C, D, E, and F are PCI serial ports. The IRQ and I/O address ranges are dynamically assigned. For DOS users, there are setup options to set the IRQ and I/O address. For all other operating systems, these options must be set to "Auto". These ports have an IBM-supplied driver for Windows that must be installed in order to use them with Windows 2000 and Windows XP.		
Serial D			
Serial E			
Serial F			

Table 3 shows the default parallel-port assignment used in the configuration.

Table 3. Default parallel-port assignment

Port assignment	Address range (hex)	IRQ
Parallel	0378–037F	7

Table 4 shows the default port assignment used in the configurations for keyboard and mouse.

Table 4. PS/2 keyboard/mouse port assignment

Port assignment	Addresses	IRQ level
IBM PS/2 keyboard	60 and 64	1
Mouse	60 and 64	12

The SurePOS 500 Models 5x3 and 544/564 has an integrated Ethernet subsystem. The Ethernet connector on the rear connector panel has two LEDs, which indicate the following link status:

Left indicator	On: 100-Mbps line speed Off: 10-Mbps line speed
Right indicator	On: Link established Off: Link broken

Machine serial number location

The serial number and model number are located on the right front. See **A** in Figure 10. **B** points to the tablet size label.

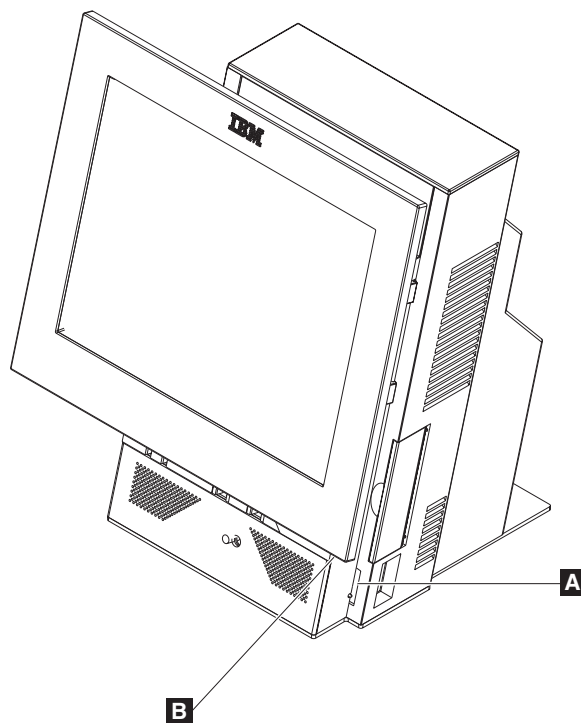


Figure 10. Serial number location: **A**

Chapter 2. Configuring the system

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This chapter contains information about using the Setup Utility and updating the flash BIOS.

How to use the touch screen

Before you use the touch screen, follow this tip:

- With your finger, lightly press the touch screen, only as hard as necessary for use.

Table 5. Using the touch screen

Touch mode	How to click	How to double-click	How to drag
Click on release (default)	Touch the object and lift your finger.	Touch twice in quick succession in the same place.	Not supported.
Click on touch	Touch the object.		Touch the object and slide your finger.
Mouse emulation	Touch the object. Provides a pause for you to receive visual feedback that a button was pressed and released.		

To change the mode, click **Start > Control Panel > ELO Touchscreen > Mode > select your preferences > click Apply.**

The Setup Utility

The Setup Utility is a ROM-based program that is used to define the system configuration.

Usage tips and navigation

Before you begin using the Setup Utility, you should become familiar with navigating and using the program. Setup Utility panels have four parts: selection area, variable information area, help information area, and the navigation keys. Figure 11 shows their locations.

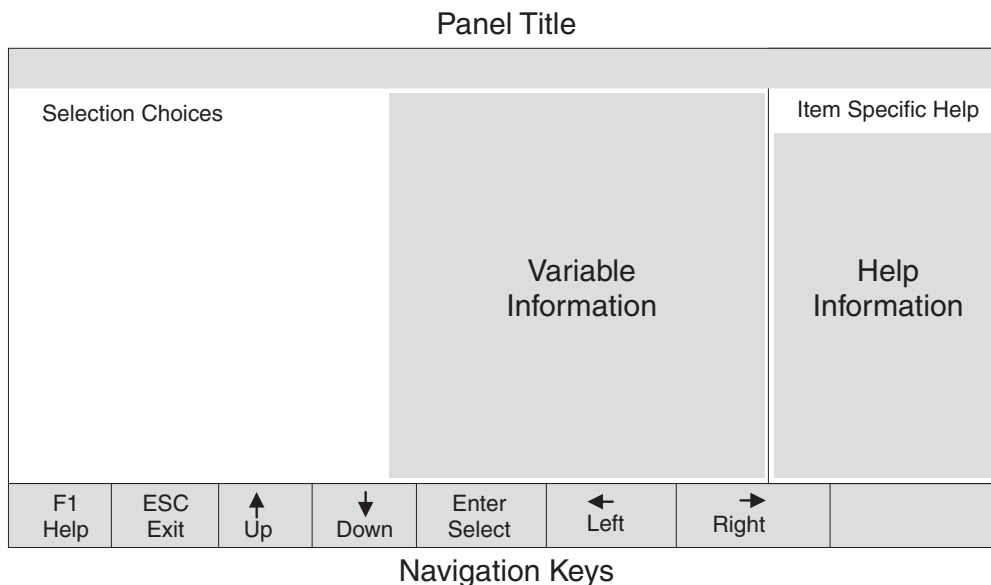


Figure 11. Setup Utility panels locations

Menu Items

The selectable windows provided by the Setup Utility. Touch or press Enter to open the window.

Variable Information

This section displays configuration settings applicable to your system

Item Specific Help

This section provides dynamic and extensive help for the program.

Navigation Keys

These keys allow you to move within the program.

Other features of the program are:

- Navigate the program and select items by using the keyboard or the touch screen.
- Change information that is located within the square brackets.
- Rebooting enables your new configuration settings.
- Record your configuration settings after completing the Setup Utility. This information is required during service.
- Save your settings before exiting.

Starting the Setup Utility

Follow these steps to start the Setup Utility:

1. Switch the power ON.
2. Press **Del** during POST when prompted, or tap the touch screen two times. Use the keys listed in the legend bar at the bottom of the screen to make your selections or exit from the current menu. The help window on the right side of each menu displays the online help information for the currently selected item..

You can use either a keyboard or the touch screen to make selections.

Figure 12 is an example of the initial panel that is displayed in the Setup Utility.

The Setup Utility allows you to observe information or make changes in following areas:

- Standard CMOS Features
- Advanced BIOS Features
- Integrated Peripherals
- Power Management
- PnP/PCI Configurations
- PC Health Status
- Load Optimized Defaults
- Password options

Using the Main window

Use the Main window (Figure 12) to set the system time and system date. The numbers displayed in the Item Specific Help-frame allow you to enter the numeric time and date.

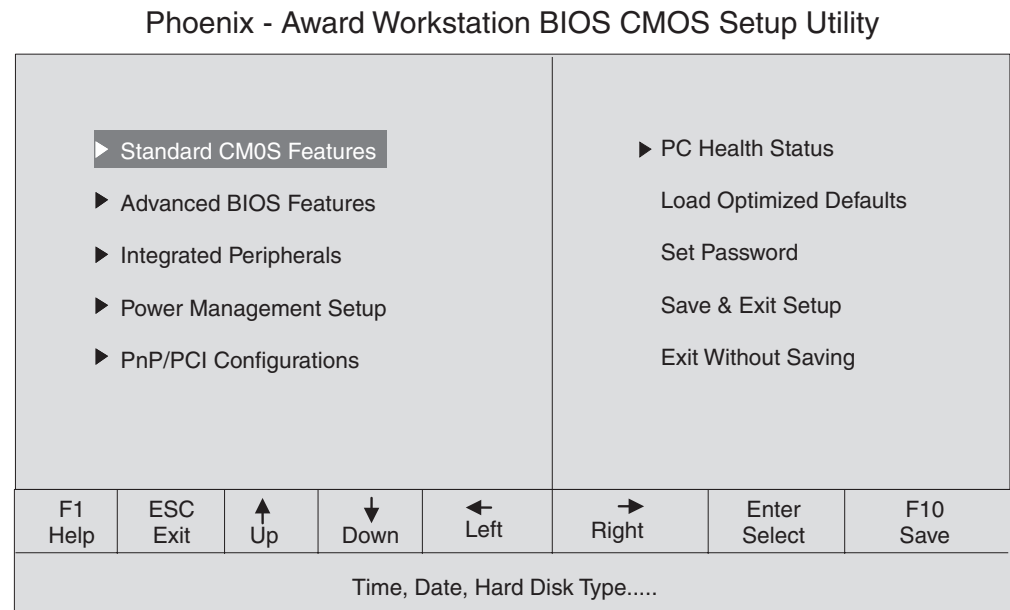


Figure 12. The Main window

Standard CMOS features

This menu provides basic functions, like setting the time and date. It also provides basic information, such as BIOS version, Ethernet MAC address, memory size, and machine serial number.

Advanced BIOS Features

The Advanced BIOS window (see Figure 13) allows you to modify the POST and boot device settings, and set the keyboard features.

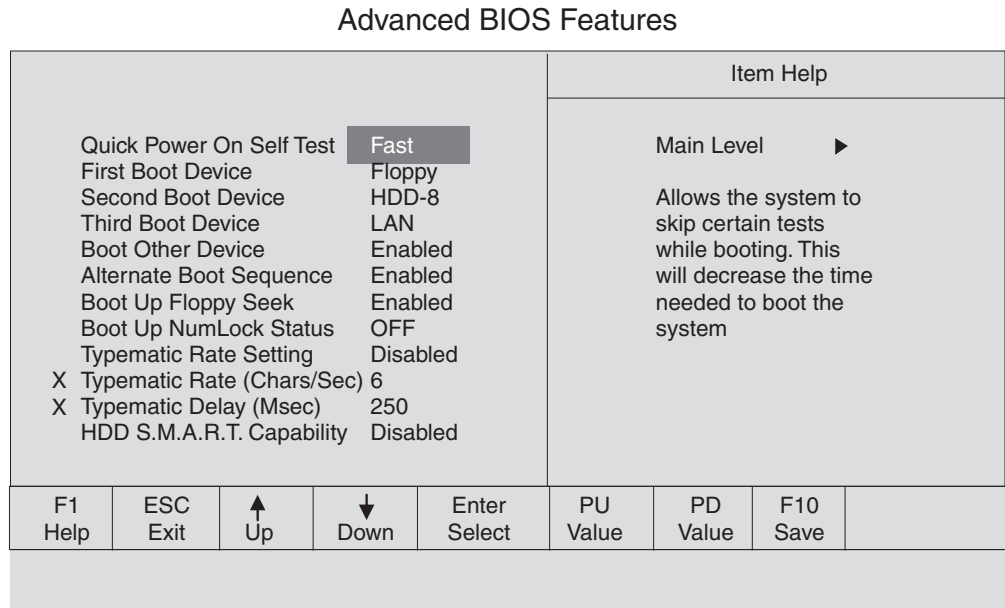


Figure 13. Example of the Advanced BIOS Features window

Integrated peripherals

Using this menu you can configure I/O devices, such as serial ports, Ethernet, parallel port, USB controller, and keyboard.

Power Management

Use the Power Management window to configure the power savings, hard disk time-out, video time-out, and other power settings. See Figure 14.

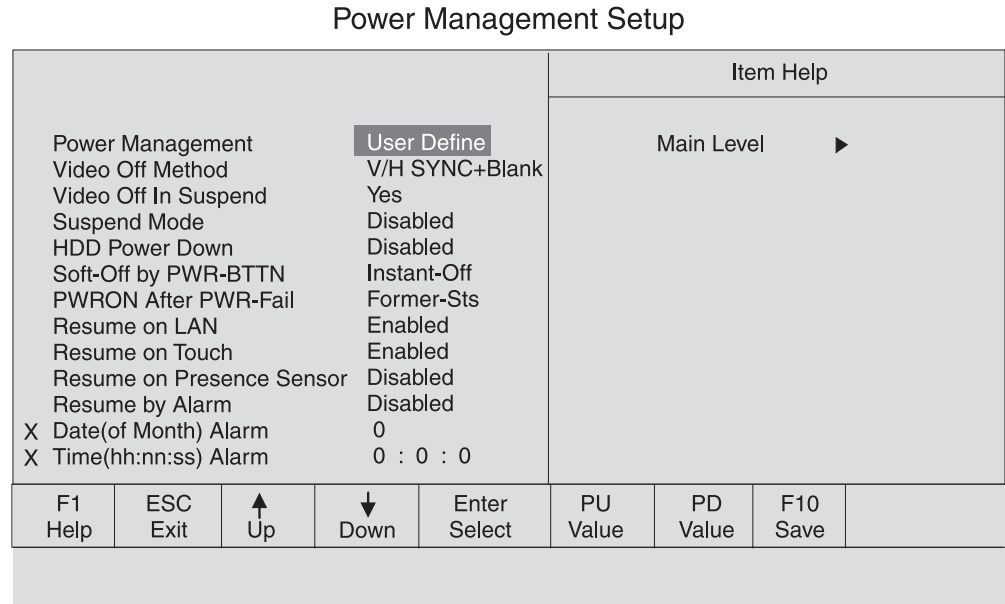


Figure 14. Example of the Power Management window

PnP/PCI configurations

This option allows advanced functions for PCI configuration data.

PC health status

This is an information window that tells you the CPU and system temperatures, voltages on the system board, and fan speed.

Load optimized defaults

This selection resets all options to their default configuration.

Password options

Use the password options menu to set, change, or clear the system password.

Updating the flash BIOS

To obtain the latest level of flash BIOS for the SurePOS 500 Models 5x3 and 544/564:

1. Insert a formatted diskette into the diskette drive of a PC *with Internet access*.
2. Access the IBM Retail Store Solutions Web site at: www.ibm.com/solutions/retail/store/.
3. Select **Support** on the left side of the panel, then select **IBM SurePOS 500/600 Series**.
4. Next, select **SurePOS 500-xx3 Downloads**.
5. Download the update program to a temporary location on the PC's hard-disk drive. Run the self-extracting program and respond to the messages that display. This program writes the updates to the diskette.
6. Go into Setup and ensure that the diskette drive is in the boot list. Save any changes and exit Setup.
7. Switch OFF the power on the SurePOS 500 Models 5x3 and 544/564 and insert the diskette into a drive attached to the system.
8. Switch the system ON again. The system boots from the diskette, the flash BIOS update occurs.
9. Remove the diskette. The new BIOS update is on the system.

Note: The flash utility saves and restores your CMOS setting.

Power interruption during flash BIOS update procedure

If power is interrupted during the flash BIOS update procedure, the BIOS could become corrupted. Should this event occur, the system boots automatically from a backup copy of BIOS. To repair the corrupt version of BIOS and return to using the normal BIOS, perform the steps to update the flash BIOS in "Updating the flash BIOS."

Repairing the flash BIOS

Two separate copies of Post/BIOS are maintained in separate flash modules. Should the primary copy become corrupt, the system automatically runs from the backup copy when rebooted. A POST message indicates when the backup copy is in use. When this happens, it is important to perform a Flash Update, in an attempt to repair the primary copy and preserve the backup functionality. If the primary is permanently damaged, the system runs normally, but without backup capability for the BIOS, and the POST message appears at each bootup.

Real-time clock and CMOS

The real-time clock is a low-power clock that provides a time-of-day clock and a calendar. The clock settings are maintained by the battery when the power cord is removed. See "System-board battery – removing and replacing" on page 67 for the location of the battery.

Restoring the default CMOS settings

To restore CMOS default settings, select Load Optimized Settings from the main menu.

Clearing the CMOS settings

The SurePOS 500 Models 5x3 and 544/564 uses battery-backed CMOS memory to store system settings. If the CMOS memory becomes corrupted and the system does not boot, you can restore the factory default values by following these steps:

1. Power Off the system and disconnect ac power.
2. Locate the CMOS reset jumper (JP7) on the system board.

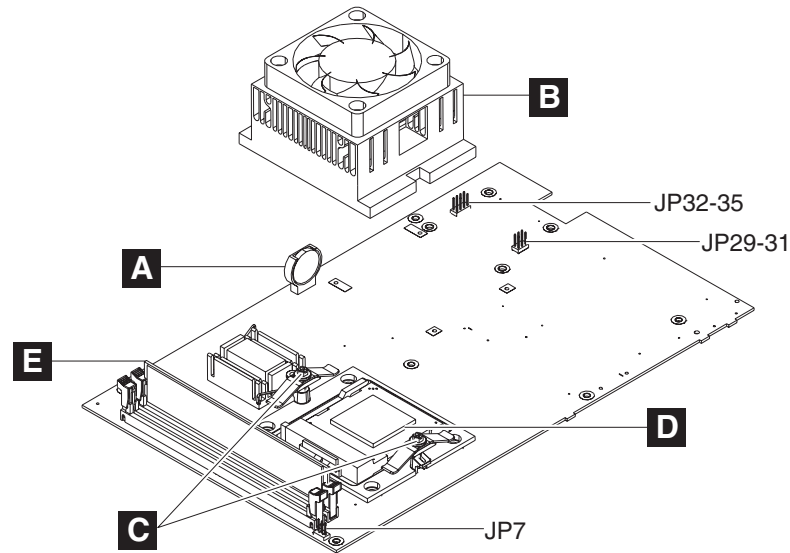


Figure 15. CMOS reset jumper JP7

3. Remove the jumper, which is normally located on pins 1 and 2. (Pin 1 is closest to the memory sockets.)
4. Place the jumper on pins 2 and 3 and wait for 5 seconds. This resets the CMOS.
5. Return the jumper to pins 1 and 2.
6. Power ON the system.
7. When you restart the system after resetting the CMOS, the following error message is displayed:

CMOS checksum error - defaults loaded

To correct these errors, run the Setup Utility and select **Load Optimized Defaults**. This restores the CMOS defaults. After the defaults are restored, reset the date, the time, and any other customer-specific settings that were changed before the CMOS was reset.

Chapter 3. Resolving problems

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This chapter contains the problem determination procedures for the SurePOS 500 Models 5x3 and 544/564 and peripheral I/O devices.

A software error or a hardware failure can cause a problem with the system. The following topics contain problem analysis instructions to help you determine the cause of a problem and resolve it.

Start problem diagnosis here

If you are experiencing a problem with the system, start each service call by performing the appropriate task listed in Table 6.

Table 6. SurePOS 500 Models 5x3 and 544/564 task information

Task	Go to
Start to diagnose a problem.	"Preliminary checklist" on page 26.
Update the flash BIOS.	"Updating the flash BIOS" on page 22.
Run the Setup Utility.	"The Setup Utility" on page 18.
Run diagnostics.	"Running Diagnostics" on page 30
Look up a part number.	Appendix A, "Parts catalog," on page 145.
Remove or replace a field-replaceable unit (FRU).	Chapter 4, "Removing and replacing FRUs for the SurePOS 500 Models 5x3 and 544/564," on page 33.
Review service tips.	Appendix D, "SurePOS 500 Models 5x3 and 544/564 tips," on page 189.

Preliminary checklist

When you power ON the SurePOS 500 Models 5x3 and 544/564, it performs a power-on self-test (POST). When the power LED stops blinking, POST is complete. If multiple beeps occur, perform the following steps to diagnose the problem.

1. Ensure that all AC power is connected and observe the power light to make sure that it is lit.
2. Ensure that all cables and I/O devices are connected correctly and securely.
3. Make sure that you correctly adjust the brightness setting, using the controls at the bottom right side of the display.
4. Record any error messages or symptoms for troubleshooting.

If you do not observe a specific error indication, continue problem resolution at “Troubleshooting” on page 27.

Notes:

1. For internal options and peripheral devices, you can use the diagnostic programs to help resolve problems. Refer to “Running Diagnostics” on page 30.
2. Some devices that attach to the system have test instructions. Refer to those instructions when testing those devices.
3. When using application software, you may receive error messages that pertain to the software. Refer to the software manual for a description of those messages.

Troubleshooting

If the SurePOS 500 Models 5x3 and 544/564 system fails and there is no error message or beep code, see Table 7 to find problem symptoms and take the related action.

Note: Corrupted CMOS may cause unpredictable problems. Before exchanging the system board in an attempt to fix a problem, go to “Clearing the CMOS settings” on page 23 and reset CMOS to see if corrupted CMOS is the source of the trouble.

Table 7. Symptoms and actions

If the problem is...	Here's what to do.
No power light on the tower unit.	<ol style="list-style-type: none"> 1. Ensure that the system unit is plugged into a working electrical outlet and replug the power cable at the power supply. 2. Verify the LED card cable is plugged in. 3. Verify the power cable is plugged into the system board connectors P1 and P2. 4. Replace the power supply. See “Power supply – removing and replacing” on page 57. 5. Replace the system board. See “System board – removing and replacing” on page 65.
Operator display exhibits: Blank screen No cursor displayed Screen is unreadable Other display problems.	<ol style="list-style-type: none"> 1. Adjust the brightness control at the bottom right side of the display. 2. Ensure that the operator display cable is securely connected. 3. Switch unit off and back on. 4. Run the operator display test. Refer to “Running Diagnostics” on page 30.. 5. Replace the display tablet. See “Display tablet – removing and replacing” on page 48. 6. Replace the system board.
Cash drawer does not open when cash drawer key is turned to the open position.	<ol style="list-style-type: none"> 1. Replace the keylock insert if the lock does not turn with the key. See “Removing and replacing the keylock insert” on page 116. 2. Gently pull the drawer open while holding the key turned to the open position to determine if the slide assembly is binding. Look for items that may cause binds, such as pens or paper clips. Replace the slide assembly if necessary. See “Removing and replacing a full-size slide assembly” on page 106 or “Removing and replacing the compact slide assembly” on page 109. 3. Replace the cam, pawl, and spring kit. See “Removing and replacing components of the latch and sensor assembly” on page 115. 4. Check for a bent actuator rod. Replace the actuator rod if necessary. See “Removing and replacing the keylock assembly” on page 113.

Table 7. Symptoms and actions (continued)

<p>Cash drawer does not stay closed.</p>	<ol style="list-style-type: none"> 1. Make sure that the keylock is not bound in the open position. Replace the keylock if necessary. See "Removing and replacing the keylock assembly" on page 113. 2. Replace the cam, pawl, and spring kit. See "Removing and replacing components of the latch and sensor assembly" on page 115. 3. Replace the latch and the sensor assembly card. See "Removing and replacing the latch and sensor assembly" on page 114. 4. Replace the cash drawer. See "Removing and replacing a full-size drawer" on page 105 or "Removing and replacing a compact cash drawer" on page 108. 5. Replace the system board. See "System board – removing and replacing" on page 65.
<p>Cash drawer does not open or close smoothly, or appears to be binding.</p>	<ol style="list-style-type: none"> 1. Look for items that could cause binding. Pens or paper clips trapped between the drawer and cover or the drawer and base could cause binding. 2. Compact drawer only: Remove the drawer and the rollers at the rear of the drawer and at the front of the base. Replace the rollers if necessary. See "Removing and replacing the rollers" on page 110. 3. Determine if the slide assembly in the base is binding. Replace the slide assembly if necessary. See "Removing and replacing a full-size slide assembly" on page 106 or "Removing and replacing the compact slide assembly" on page 109.
<p>Cash drawer not opening</p>	<ol style="list-style-type: none"> 1. Run the Setup Utility to make sure that IBM cash drawer setting is enabled. 2. Ensure that the cash drawer cable is securely connected. 3. Replace the cash drawer cable. 4. Replace the cash drawer latch assembly. See "Removing and replacing the latch and sensor assembly" on page 114. 5. Replace the system board.
<p>Cash drawer does not open when performing store transactions or running cash drawer tests, but it opens when the cash drawer key is turned to the open position.</p>	<ol style="list-style-type: none"> 1. Replace the latch and the sensor assembly card. See "Removing and replacing the latch and sensor assembly" on page 114. 2. Replace the cash drawer cable. 3. Replace the system board. See "System board – removing and replacing" on page 65.
<p>The status displayed by the cash drawer tests does not match the physical status of the cash drawer being tested. For example, the test indicates that cash drawer A is closed when cash drawer A is actually open.</p>	<ol style="list-style-type: none"> 1. Replace cable. 2. Replace the latch and the sensor assembly card. See "Removing and replacing the latch and sensor assembly" on page 114. 3. Replace the planar board. See "System board – removing and replacing" on page 65.

Table 7. Symptoms and actions (continued)

Magnetic stripe reader (MSR) not reading.	<ol style="list-style-type: none"> 1. Check the three-track MSR dip switch settings for either RS232 or keyboard interface. 2. Run Setup and check the setting in the MSR serial port. 3. Ensure that the MSR cable is securely connected. 4. Run the MSR test. Refer to “Running Diagnostics” on page 30. 5. Reset to factory defaults by pressing the Reset button with a paper clip. The MSR must be removed temporarily from the side of the tablet to access the reset button. Leave the MSR cable connected, and the unit powered ON when pressing the Reset button. 6. Replace the MSR. See “Magnetic stripe reader (MSR) – removing and replacing” on page 47.
Operator display backlight: dark, dim, or partially lit.	<ol style="list-style-type: none"> 1. Adjust the brightness using the button located on the front of the display. 2. Ensure operator display cable is securely attached under display tablet and at system board. 3. Replace operator display, see “Display tablet – removing and replacing” on page 48.
Touch screen not working.	<ol style="list-style-type: none"> 1. Ensure operator display cable is securely attached under display tablet and at system board. 2. Run the touch screen test. Refer to “Running Diagnostics” on page 30. 3. Reinstall touch driver. 4. Replace the operator display tablet. See “Display tablet – removing and replacing” on page 48. 5. Replace the system board. See “System board – removing and replacing” on page 65.
Presence sensor not working.	<ol style="list-style-type: none"> 1. Ensure that the LED card cable is securely connected to the system board. 2. Run the presence sensor test. Refer to “Running Diagnostics” on page 30. 3. Recalibrate the presence sensor. 4. Replace the LED board. See “LED card and cable – removing and replacing” on page 53. 5. Replace the system board.
PS/2 keyboard does not work or only some keys work.	<ol style="list-style-type: none"> 1. Ensure that only one keyboard is attached to either side or rear connectors. 2. Ensure that the keyboard cable is securely connected. 3. Move your fingers across the keys, making sure that no keys are stuck. 4. Ensure that you are on a screen that allows typing. Some screens do not allow you to type on them. 5. Run the keyboard test. Refer to “Running Diagnostics” on page 30. 6. Replace the keyboard.
Compact ANPOS keyboard problem solving.	<ol style="list-style-type: none"> 1. See Chapter 5, “Compact ANPOS Keyboard,” on page 135 for CANPOS Keyboard problem solving.

Table 7. Symptoms and actions (continued)

Diskette drive does not work.	<ol style="list-style-type: none"> 1. Check the diskette drive cable connections. 2. Run the Setup Utility to make sure the diskette drive controller is enabled. 3. Ensure that the correct boot device is selected in Setup: USB-FDD or -FDD 4. Verify the hardware by attempting to load a bootable diskette. 5. If the drive will not book with a bootable diskette, replace the drive and cable. 6. Replace the system board.
Audio is not working.	<ol style="list-style-type: none"> 1. Check the volume control. 2. Check the speaker cable connections. See “Speaker – removing and replacing” on page 55. 3. Run Setup Utility to make sure the audio is enabled. 4. Replace the speaker. 5. Replace the system board.
Fan continues running after system has been powered Off.	This is normal operation with new model power supplies.

Notes:

1. Some devices that attach to the system have test instructions. Refer to those instructions when testing those devices.
2. Record any error messages or symptoms for future reference.
3. When using application programs, you may receive error messages that pertain to the application software. See the application program manual for a description of those messages.

CMOS recovery

If the CMOS memory becomes corrupted and the system does not boot, restore the factory default values by following the procedure described in “Clearing the CMOS settings” on page 23.

Running Diagnostics

This section includes information about diagnostic programs available for the 5x3 and 5x4 models.

Using the Service Diskette (for the 5x3 models)

The Service Diskette is a DOS-bootable diskette. It provides menu-driven tests and utilities that enable trained service technicians to configure and test the system and I/O devices. The diskette is not shipped with the system. However, you can create one by downloading the Service Diskette code from the IBM Retail Store Solutions Web site using the following steps:

1. Go to www.ibm.com/solutions/retail/store/ and select **Support**.
2. Under SurePOS 500/600 Series select **SurePOS 500-xx3 Downloads**.
3. Select **SurePOS 500-xx3 Diagnostic/Service Diskette**.

To build diskettes from image files, download the EXE file, insert a diskette in drive A: and run the EXE file.

When you boot the system with the Service Diskette, detected devices are shown in a box. Choose **POS System test** or **Ethernet test**. Then you are given the option to use the keyboard if one is attached. Following the logo, a subsystem selection menu is displayed for POS Devices Test, Subsystem Unit Test, and Utilities (for VPD). Sub menus are dynamically tailored for your system and display only available tests.

Note: Using the Service Diskette requires a diskette drive. If the system has no diskette drive, the service technician will have to use a field replaceable unit (FRU) diskette drive.

Using the IBM Diagnostics for Peripherals (for the 5x3 models)

Diagnostics are installed on a memory key. The diagnostics require the use of a memory key that has a minimum of 256 MB on it. It requires the use of a USB port on the system that is to be diagnosed. There are additional details about selecting a memory key, setting up, and running the diagnostics on the web site from which you download the diagnostic package. Do the following to acquire the diagnostics:

1. Go to www.ibm.com/solutions/retail/store/ and select **Support**.
2. Under SurePOS 500/600 Series select **SurePOS 500-xx3 Downloads**.
3. Select **IBM Diagnostics for POS Systems and Peripherals**

Using the IBM Diagnostics for POS System Units and Peripherals (for the 5x4 models)

Diagnostics are installed on a memory key. The diagnostics require the use of a memory key that has a minimum of 256 MB on it. It requires the use of a USB port on the system that is to be diagnosed. There are additional details about selecting a memory key, setting up, and running the diagnostics on the web site from which you download the diagnostic package. Do the following to acquire the diagnostics:

1. Go to www.ibm.com/solutions/retail/store/ and select **Support**.
2. Under SurePOS 500/600 Series select **SurePOS 500-xx4 Downloads**.
3. Select **IBM Diagnostics for POS Systems and Peripherals**

Diagnostic wrap plugs

The following list provides the wrap plug pinouts for the serial loopback plug, the Ethernet loopback plug, and the parallel port plug.

serial loopback plug

- pins 1 to 2
- pins 3 to 4
- pins 6 to 7

Ethernet loopback plug

- pins 3 to 7
- pins 6 to 8

parallel port plug

- pins 1 to 13
- pin 2 diode 1N4149 —|<— to pin 15
- pin 3 diode 1N4149 —|<— to pin 15
- pin 4 diode 1N4149 —|<— to pin 15
- pin 5 diode 1N4149 —|<— to pin 15

- | • pin 6 diode 1N4149 -|<- to pin 15
- | • pin 7 diode 1N4149 -|<- to pin 15
- | • pin 8 diode 1N4149 -|<- to pin 15
- | • pin 9 diode 1N4149 -|<- to pin 15
- | • pins 10 to 16
- | • pins 11 to 17
- | • pins 12 to 14

Chapter 4. Removing and replacing FRUs for the SurePOS 500 Models 5x3 and 544/564

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This chapter contains the FRU removal and replacement procedures for all SurePOS 500 Models 5x3 and 544/564 models (4840), although some procedures are for features that are not available on all models.

Notes:

1. Before you perform any removal and replacement procedures, see the section titled “Safety Information” on page xiii.
2. The machine serial number for the 4840 is located on the lower right, front frame. See Figure 10 on page 16.

Handling static-sensitive devices

Attention: Static electricity can damage electronic devices and your system. To avoid damage, keep static-sensitive devices in their static protective bags until you are ready to install them.

To reduce the possibility of electrostatic discharge, observe the following precautions:

- Limit your movement. Movement can cause static electricity to build up around you.
- Handle the device carefully, holding it by its edges or its frame.

- Do not touch solder joints, pins, or exposed printed circuitry.
- Do not leave the device where others can handle and possibly damage the device.
- While the device is still in its anti-static bag, touch it and your finger to an unpainted metal part of the system unit for at least 2 seconds. (This action removes static electricity from the package and from your body.)
- Remove the device from its package and install it directly into your system, without putting it down. If it is necessary to put the device down, place it onto its static-protective bag. (If your device is an adapter, place it component side up.) Do not place the device onto the cover of the system or onto a metal table.
- Take additional care when handling devices during cold weather because heating reduces indoor humidity and increases static electricity.

Covers – removing and replacing

This section contains remove and replace procedures for the covers.

HDD cover and speaker panel – removing and replacing

1. Tilt the top of the display tablet back.
2. On one side, insert a paper clip to release the tab **A**, and pull the HDD cover slightly forward.

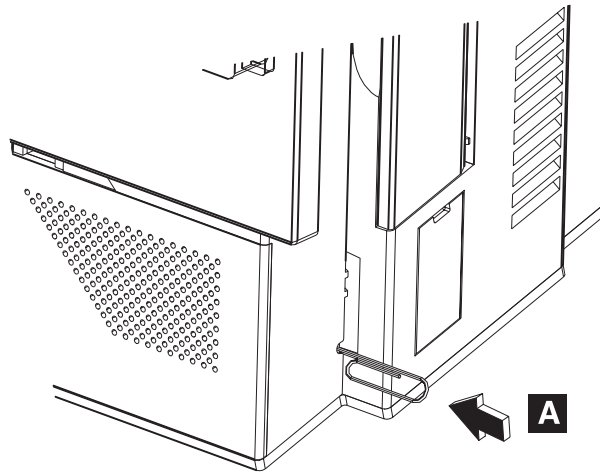


Figure 16. Unlatching front cover

3. Repeat step 2 on the other side.
4. Pull the cover forward and away from the HDD.

To replace, slide the cover into place over the HDD and snap in place.

HDD cover clips – removing and replacing

1. Switch OFF the power to the SurePOS 500 Models 5x3 and 544/564. Unplug the power cord from the external power source.
2. Remove the HDD cover. See “HDD cover and speaker panel – removing and replacing” on page 36.
3. For each clip, remove the two screws. See Figure 17

To replace the HDD cover clips, reverse this procedure.

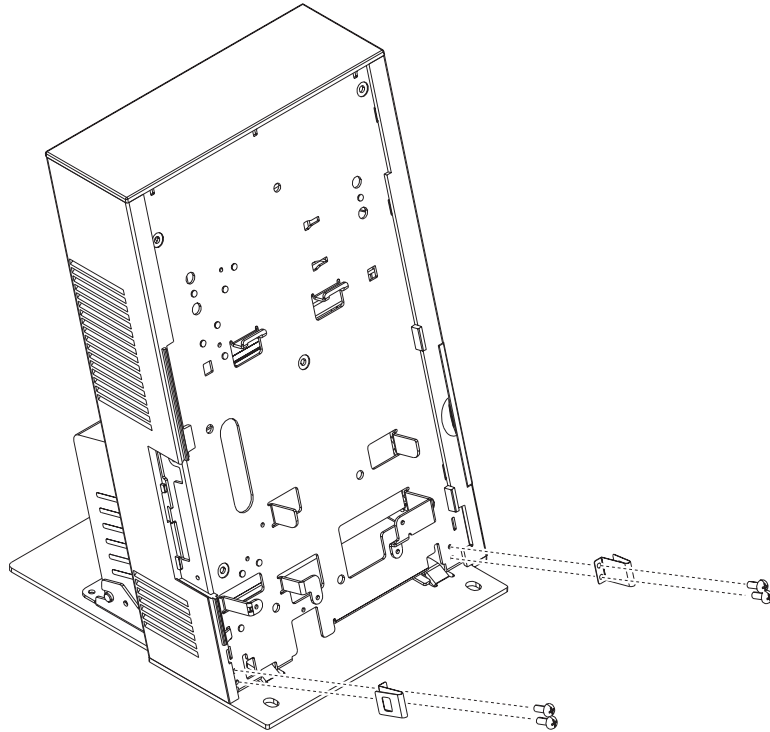


Figure 17. Removing HDD cover clips

Rear cover – removing and replacing

1. Switch OFF the power to the SurePOS 500 Models 5x3 and 544/564. Unplug the power cord from the external power source.
2. Facing the rear of the system, press in on both sides **A** , and lift upward **B** , as shown in Figure 18 and Figure 19 on page 39, rotating the bottom of the cover toward the back **C** .

To replace, reverse the removal procedure.

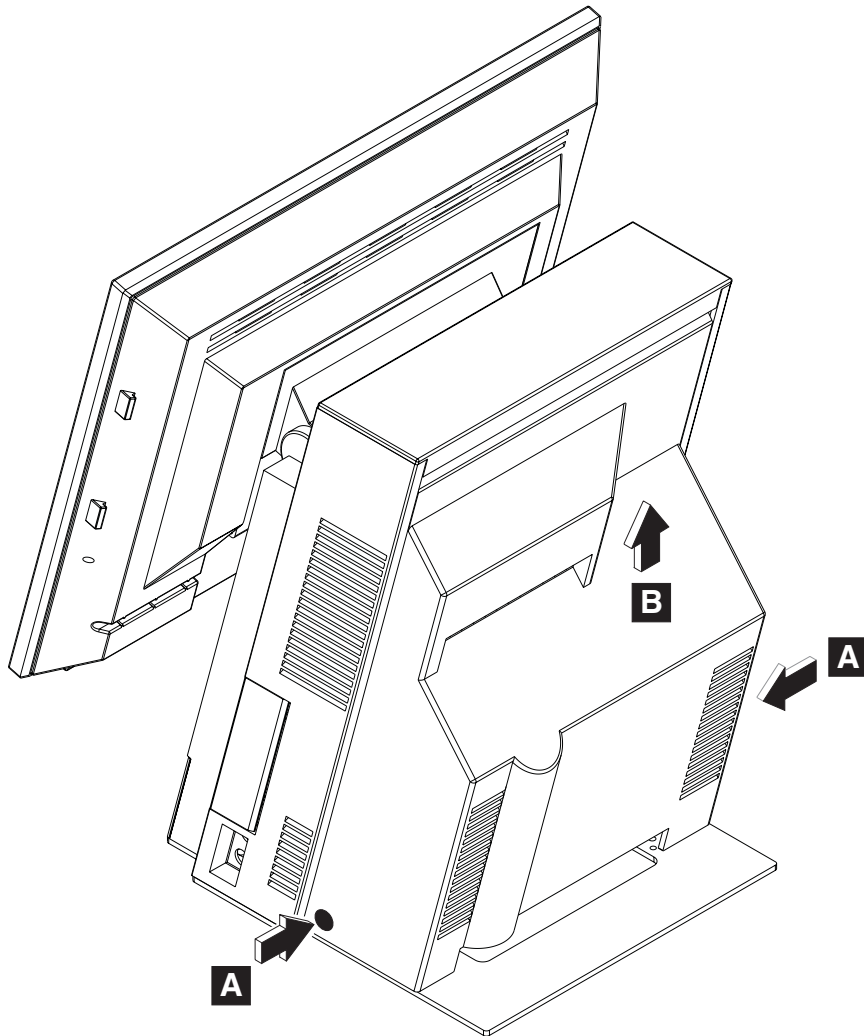


Figure 18. Unlatching rear cover

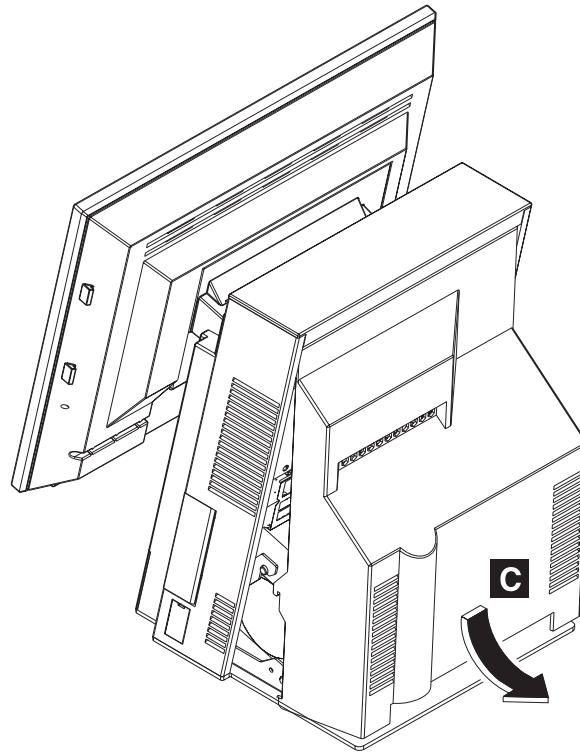


Figure 19. Removing rear cover

Top cover – removing and replacing

1. Remove the rear cover, following the procedure in “Rear cover – removing and replacing” on page 38.
2. Facing the rear of the system, use a screwdriver to lift the tab **A** while pulling the top cover toward the rear. See Figure 21 on page 41 and Figure 20.
3. Repeat for the tab on the other side.

To replace, slide the top cover on from the rear.

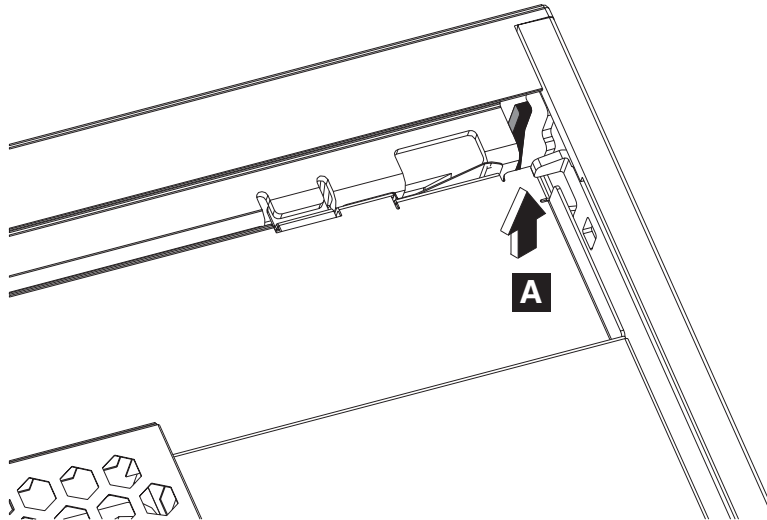


Figure 20. Removing top cover

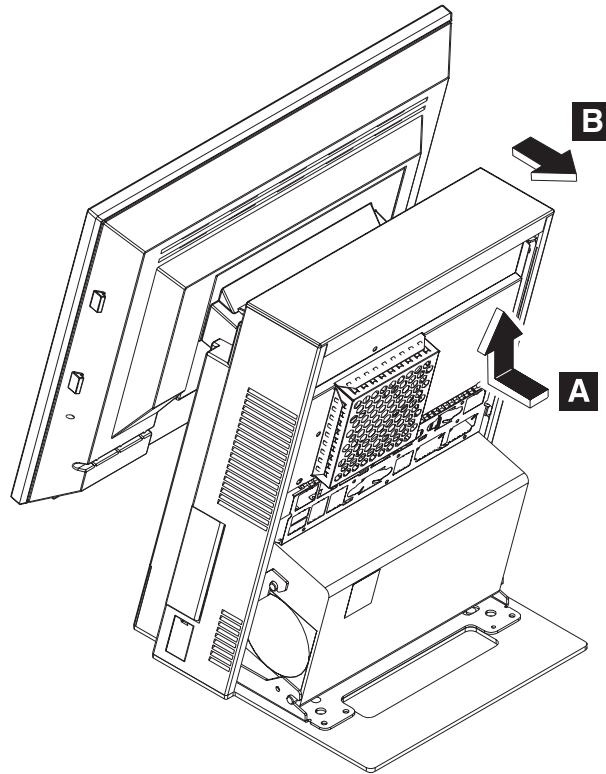


Figure 21. Releasing top cover

Side covers – removing and replacing

1. Remove the tablet. See “Display tablet – removing and replacing” on page 48.
2. Remove the front cover. See “HDD cover and speaker panel – removing and replacing” on page 36.
3. Remove the top cover. See “Top cover – removing and replacing” on page 40.
4. Remove the center cover “Tower center cover – removing and replacing” on page 45.
5. From the front of the system, use a flat-bladed screwdriver to pry open four latches on the front of each side cover **A**, as shown in Figure 22.
6. Pull the side cover toward the rear and remove.

To replace, reverse the removal procedure.

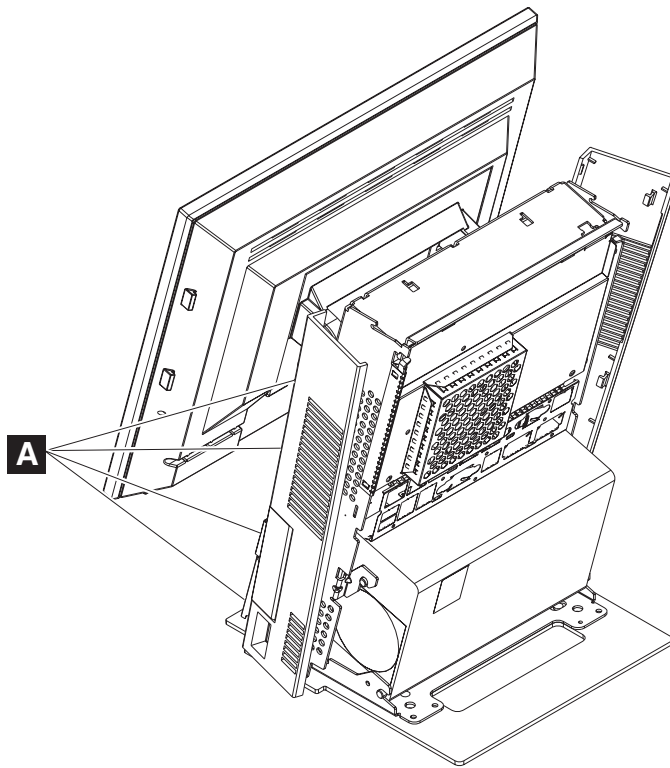


Figure 22. Removing side covers

Side I/O panel door – removing and replacing

The side panel door is located on the right side of the system unit. See **A** in Figure 23.

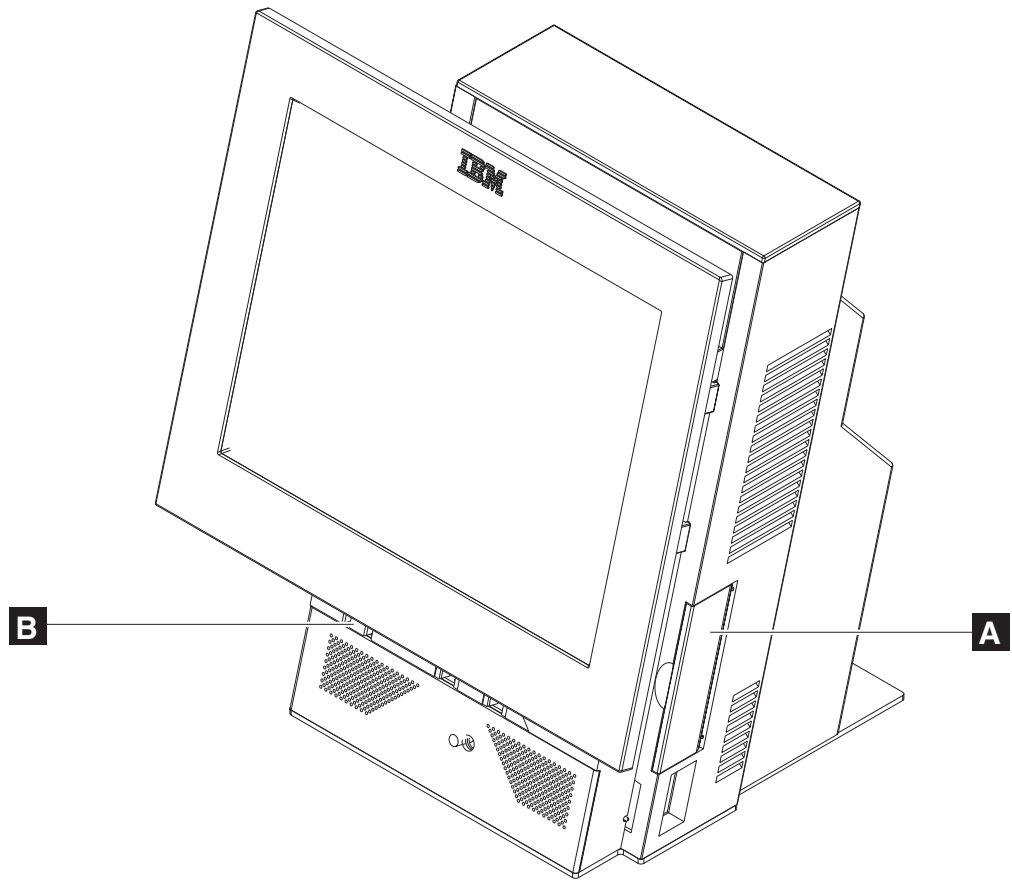


Figure 23. Side panel door location

The FRU includes both the door and the hinge. To remove the door only, unsnap the door from the hinge by pressing the two wire pieces as shown in Figure 24 on page 44.

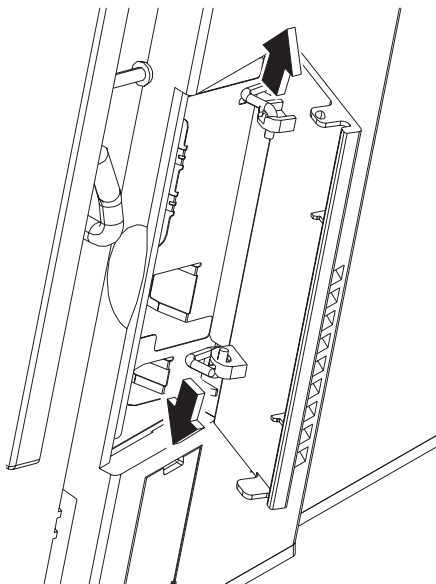


Figure 24. Removing side panel door only

To remove the hinge, remove the right side cover. See “Side covers – removing and replacing” on page 42.

To replace, reverse the removal procedure.

Tower center cover – removing and replacing

1. Remove the top cover. See “Top cover – removing and replacing” on page 40.
2. Lift the center cover straight up.
3. If you don't want to replace the spill flap, remove the hinge cover at the same time. See “Hinge cover – removing and replacing” on page 46.

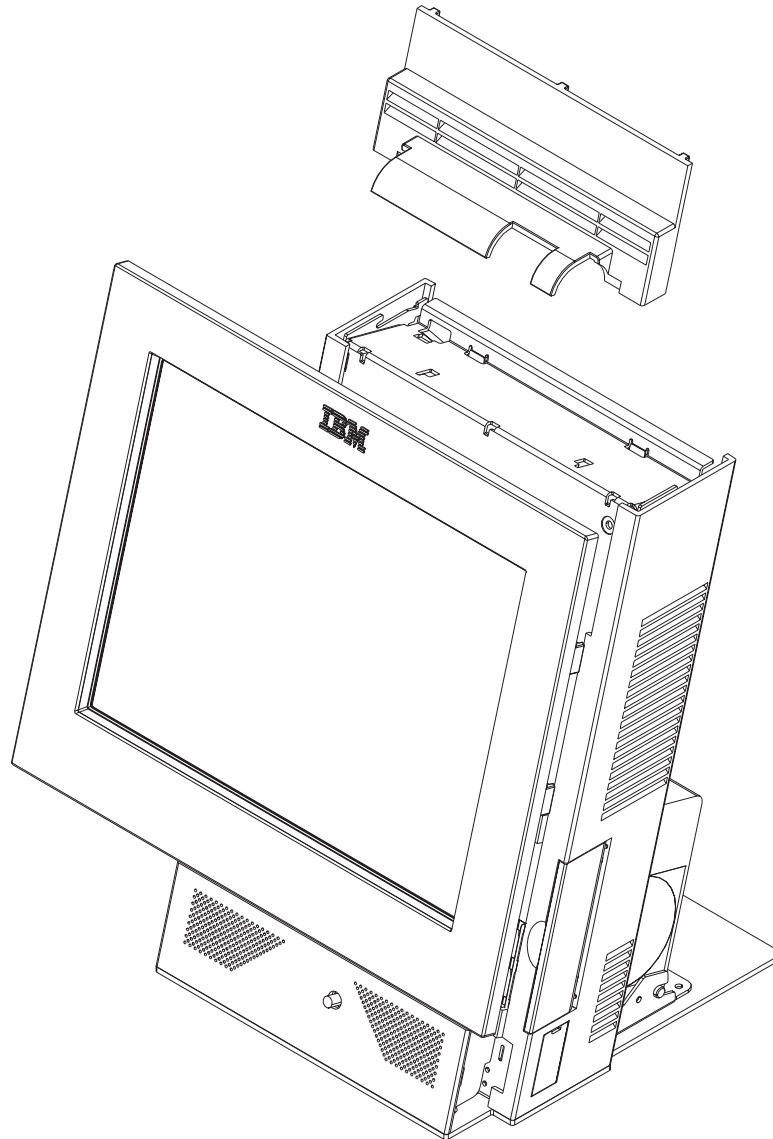


Figure 25. Removing tower center cover

To replace, reverse the removal procedure.

Hinge cover – removing and replacing

1. Remove the tablet. See “Display tablet – removing and replacing” on page 48.
2. Remove the HDD cover. See “HDD cover and speaker panel – removing and replacing” on page 36.
3. Pull out at the bottom of the hinge cover where the tabs lock over the hinge bracket.
4. Lift the hinge cover outward and up.
5. If you don't want to replace the spill flap, remove the tower center cover at the same time. See “Tower center cover – removing and replacing” on page 45.

To replace, reverse the removal procedure.

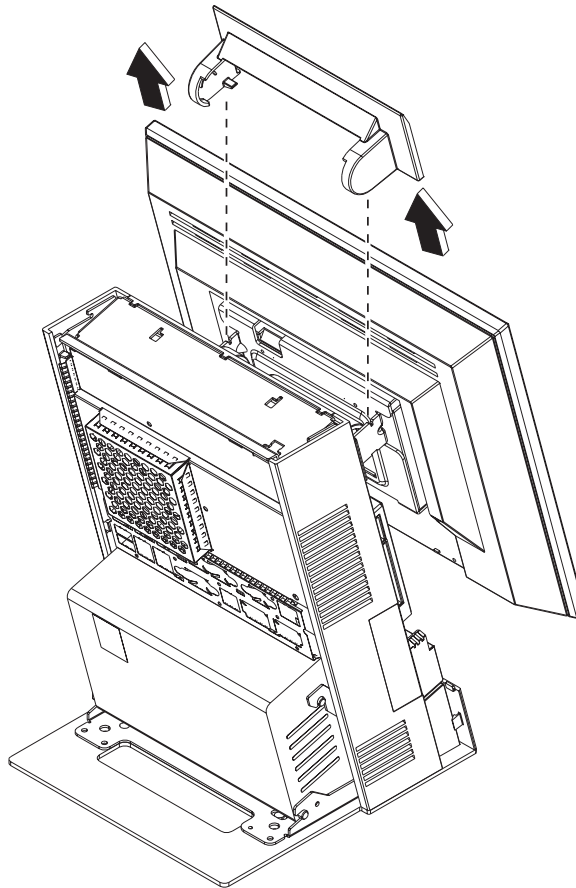


Figure 26. Removing hinge cover

Magnetic stripe reader (MSR) – removing and replacing

1. Switch OFF the power to the SurePOS 500 Models 5x3 and 544/564. Unplug the power cord from the external power source.
2. Unplug the MSR cable **A**, as shown in Figure 27 and remove the cable from the cable groove **C**.
3. Remove the screw **B** that secures the MSR.
4. Slide the MSR **D** up and off.

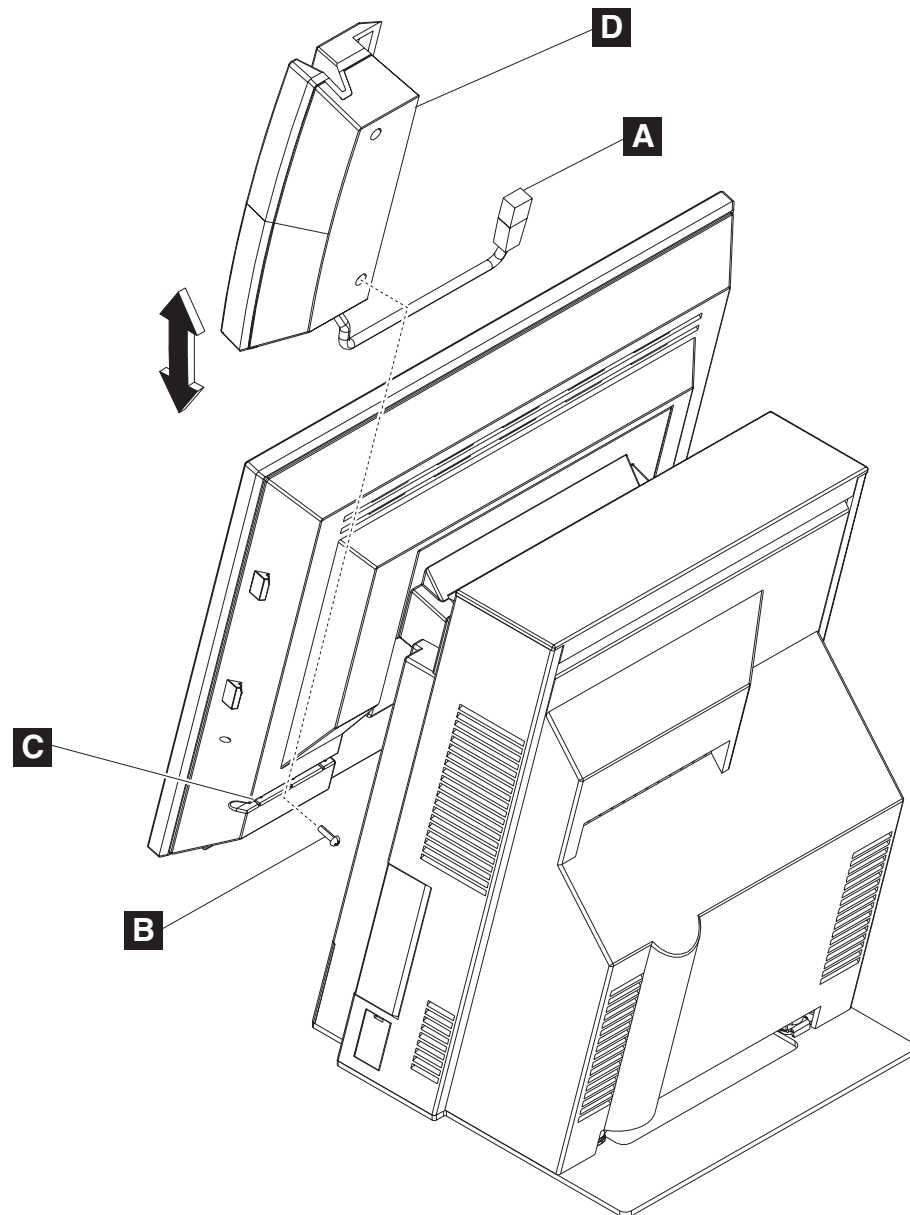


Figure 27. Removing the MSR

To replace the MSR, reverse this procedure.

Note: If you are replacing a dual-sided, single-track MSR, you must set the switch under the MSR cover next to the slot to either the RS-232 or keyboard position, depending on the configuration of the MSR removed.

Display tablet – removing and replacing

Refer to Figure 28 on this page and Figure 29 on page 49.

1. Switch OFF the power to the SurePOS 500 Models 5x3 and 544/564. Unplug the power cord from the external power source.
2. Tilt the tablet back and loosen the thumbscrew **A** under the tablet.
3. Disconnect the cable from the bottom rear of the tablet.
4. Pull the tab on the locking lever **B** away from the tablet to release.
5. Lift the tablet off the base.

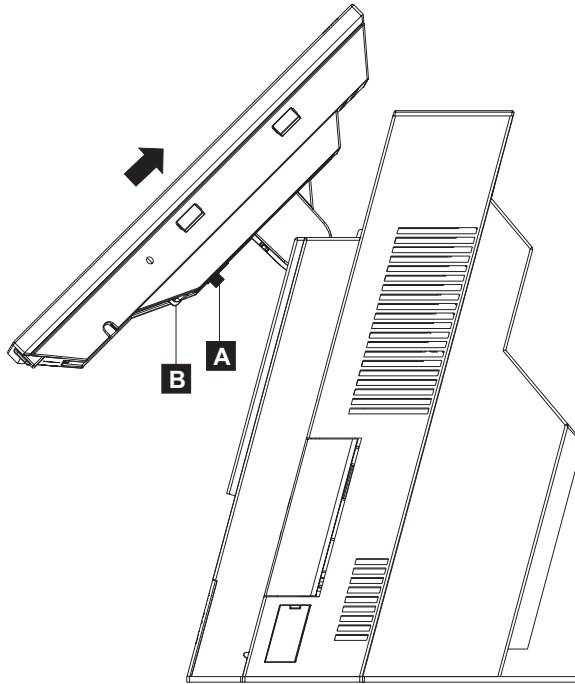


Figure 28. Display tablet, remove and replace

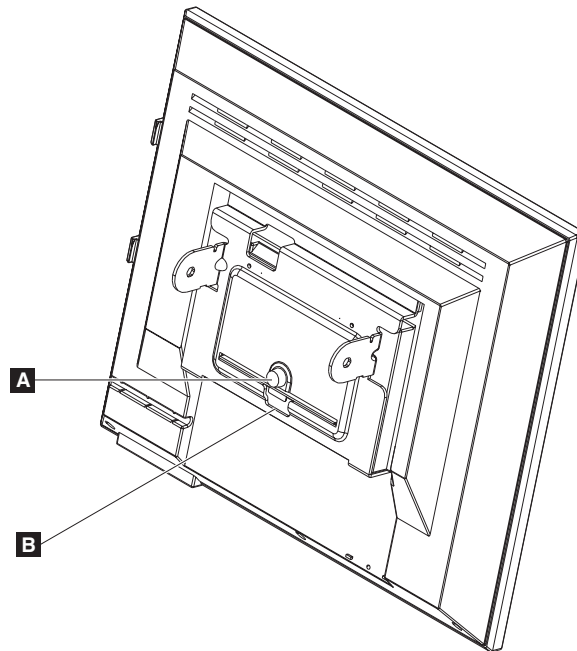


Figure 29. Latch

To replace, reverse this procedure.

Display tablet cable – removing and replacing

1. Switch OFF the power to the SurePOS 500 Models 5x3 and 544/564. Unplug the power cord from the external power source.
2. Remove the tablet. See “Display tablet – removing and replacing” on page 48.
3. Disconnect the cable from the bottom rear of the tablet.
4. Remove the front cover as described at “HDD cover and speaker panel – removing and replacing” on page 36.
5. Remove the speaker, if present. See “Speaker – removing and replacing” on page 55.
6. Remove the LED card. See “LED card and cable – removing and replacing” on page 53.
7. Disconnect the cable clamps behind the LED card and under the tablet.
8. Remove the rear cover as described at “Rear cover – removing and replacing” on page 38
9. Remove the power supply as described at “Power supply – removing and replacing” on page 57.
10. Disconnect the connector from the system board.
11. Remove the base plate. See “Base plate – removing and replacing” on page 80.
12. Pull the cable free from the plastic guide in the frame.

To replace, reverse this procedure.

Hinge assembly – removing and replacing

1. Switch OFF the power to the SurePOS 500 Models 5x3 and 544/564. Unplug the power cord from the external power source.
2. Remove the tablet. See “Display tablet – removing and replacing” on page 48.
3. Remove the HDD cover. See “HDD cover and speaker panel – removing and replacing” on page 36..
4. Remove the top cover. See “Top cover – removing and replacing” on page 40.
5. Remove the center cover. See “Tower center cover – removing and replacing” on page 45.
6. Remove the hinge cover. See “Hinge cover – removing and replacing” on page 46.
7. Remove the four screws shown in Figure 30.

Reverse the steps to replace.

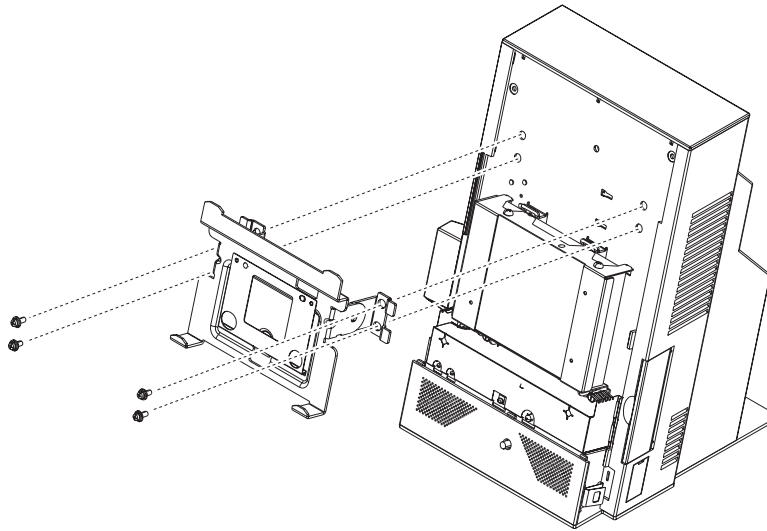


Figure 30. Hinge assembly

HDD CompactFlash assembly and HDD bracket – removing and replacing

Attention: The HDD is a static-sensitive device. See “Handling static-sensitive devices” on page 34.

1. Switch OFF the power to the SurePOS 500 Models 5x3 and 544/564. Unplug the power cord from the external power source.
2. Tilt back the tablet.
3. Remove the front cover as described at “HDD cover and speaker panel – removing and replacing” on page 36.
4. Remove the HDD power connector and data cable connector.
5. Remove the HDD and bracket assembly by loosening the two thumbscrews **A** in Figure 31 and rotate the bottom of the HDD away from the frame.

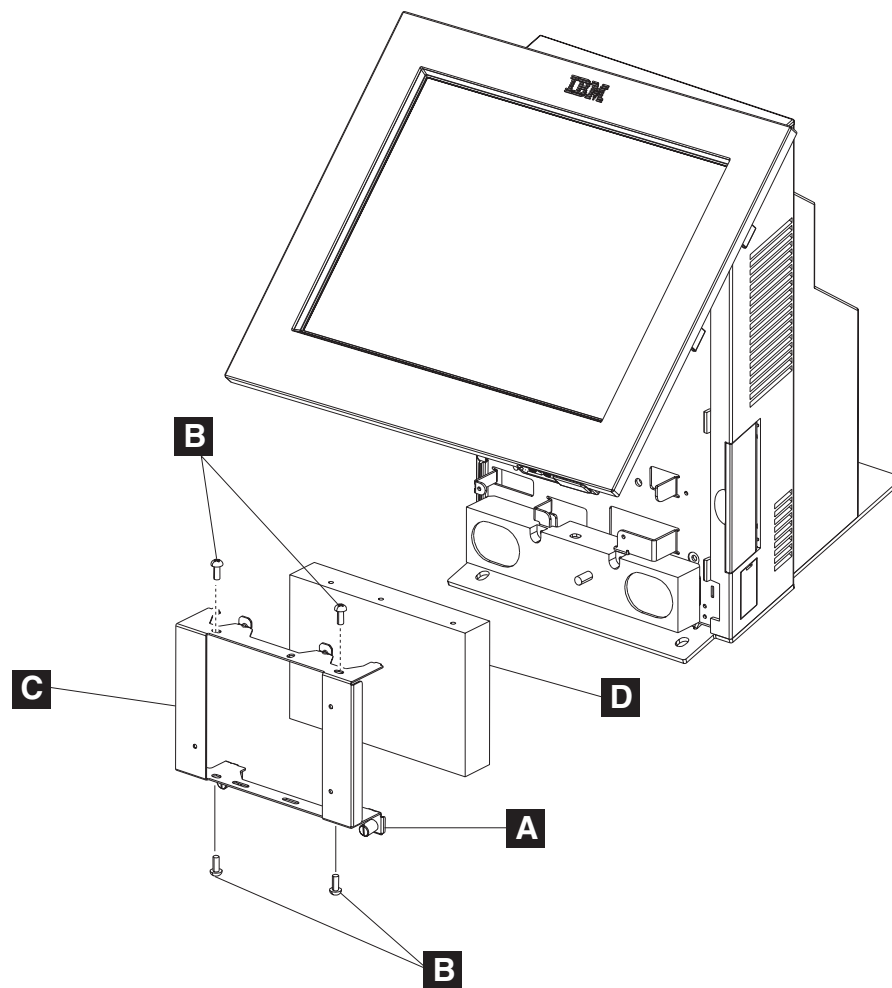


Figure 31. HDD replacement

6. Remove the HDD **D** from the bracket **C** by removing four screws **B**.

Attention: Avoid dropping or shocking the HDD.

7. To replace the HDD or CompactFlash, reverse this procedure. Be careful not to scrape the cable when replacing the back cover.

8. Power ON the system and use the Setup Utility to verify that the system recognizes the new HDD.

Note: If the system fails to recognize the new HDD, verify that all HDD cables are seated and then verify that the address jumper is correctly installed. If the HDD requires that a jumper is recognized as Drive 0, the correct position is indicated on a label on the top of the HDD.

HDD cables – removing and replacing

1. Switch OFF the power to the SurePOS 500 Models 5x3 and 544/564. Unplug the power cord from the external power source. See Figure 31 on page 51.
2. Remove the front cover as described at “HDD cover and speaker panel – removing and replacing” on page 36.
3. Remove the HDD power connector and data cable connector from the side of the HDD.
4. Remove the HDD and bracket. See “HDD CompactFlash assembly and HDD bracket – removing and replacing” on page 51.
5. Cut any cable ties on the cables.
6. To remove the data cable, you must remove the system board. See “System board – removing and replacing” on page 65.
7. Disconnect the power cable from the power supply and the data cable from the system board.
8. Remove the base plate. See “Base plate – removing and replacing” on page 80.
9. Pull the power cable free from the plastic guide in the frame.

To replace, reverse this procedure.

HDD fan – removing and replacing

Note: The HDD fan FRU kit might include the fan mounting bracket. It is not required that you replace the mounting bracket when replacing a defective fan.

1. Switch OFF the power to the SurePOS 500 Models 5x3 and 544/564. Unplug the power cord from the external power source. See Figure 31 on page 51.
2. Remove the following covers.
 - HDD cover (see “HDD cover and speaker panel – removing and replacing” on page 36)
 - top cover (see “Top cover – removing and replacing” on page 40)
 - tower center cover (see “Tower center cover – removing and replacing” on page 45)
 - hinge cover (see “Hinge cover – removing and replacing” on page 46)
3. Disconnect the HDD fan power connector.
4. Remove the two screws that hold the fan to the mounting bracket.

To replace, reverse this procedure.

LED card and cable – removing and replacing

Note: When replacing the LED card, make sure you replace with the correct part number. On some models, the LED card includes a presence sensor.

1. Switch OFF the power to the SurePOS 500 Models 5x3 and 544/564. Unplug the power cord from the external power source.
2. Remove the front cover as described at “HDD cover and speaker panel – removing and replacing” on page 36.
3. Disconnect the speaker cable and sensor cable from the LED card.
4. Remove the two screws from the LED card (see Figure 32) and remove it.
5. *This step is required only if the LED card cable is to be replaced* To remove the LED cable:
 - a. Remove the back cover as described at “Rear cover – removing and replacing” on page 38.
 - b. Remove the power supply as described at “Power supply – removing and replacing” on page 57.
 - c. Unplug the cable from the system board and pull it out from the front of the machine.

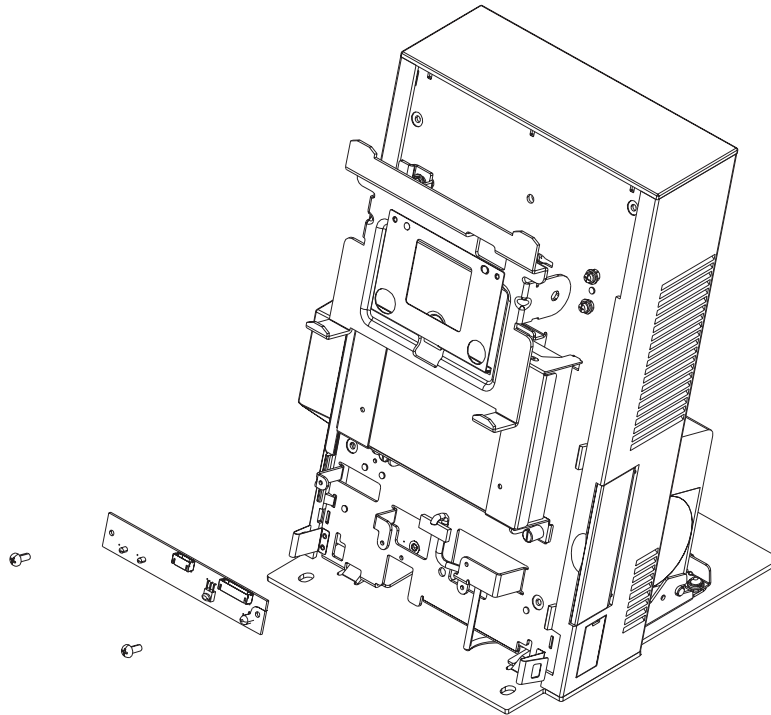


Figure 32. LED card and cable, presence sensor

To replace, reverse these procedures. If a presence sensor is present it must be calibrated. See “Calibrating the presence sensor (Models 563, 564, 573, and 5A3 only)” on page 54.

Calibrating the presence sensor (Models 563, 564, 573, and 5A3 only)

A presence sensor **A** Figure 33 causes the system to resume from standby, based upon the operator's proximity. The sensor can be calibrated to change the maximum detection range from approximately 600 mm (24 in.) to 1500 mm (60 in.), depending on the reflectivity of the object being sensed. The sensor detects objects as close as 300 mm (12 in.).

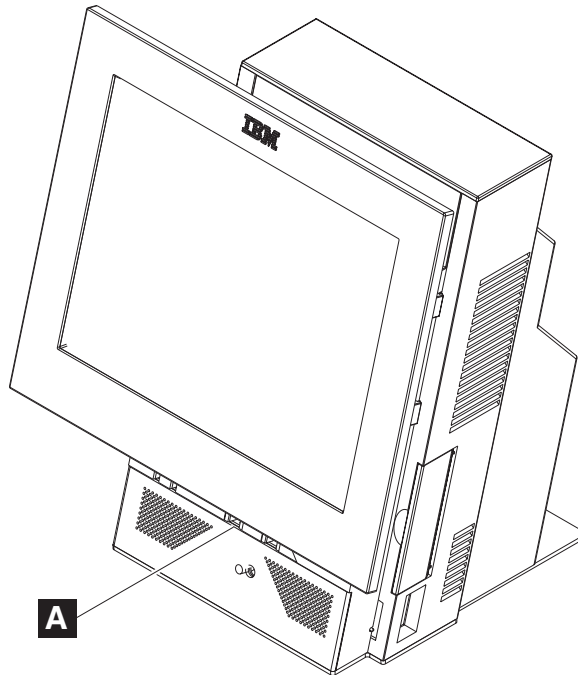


Figure 33. Location of presence sensor

To calibrate the presence sensor, follow these steps:

1. Hold an object (preferably a white object for best reflectivity) at the distance from the sensor at which you want the sensor to detect presence. See Figure 33 to locate the presence sensor.
2. Press the two brightness buttons simultaneously. When the power-on indicator blinks rapidly, the sensor is ready to begin calibration. Release the buttons and keep the object to be detected in place for at least for an additional 5 seconds.

Speaker – removing and replacing

Refer to Figure 34 on this page and Figure 35 on page 56.

1. Switch OFF the power to the SurePOS 500 Models 5x3 and 544/564. Unplug the power cord from the external power source.
2. Remove the front cover as described at “HDD cover and speaker panel – removing and replacing” on page 36.
3. Remove the two screws from the speaker as shown in Figure 34.
4. Disconnect the speaker cable **A** from the LED card.
5. Slide the speaker down and then remove the speaker.

To replace, reverse these steps.

Note: The speaker hooks (see Figure 35 on page 56 and Figure 36 on page 56) must fit into the keyholes in the frame **B** in Figure 34, or the HDD cover will not close properly.

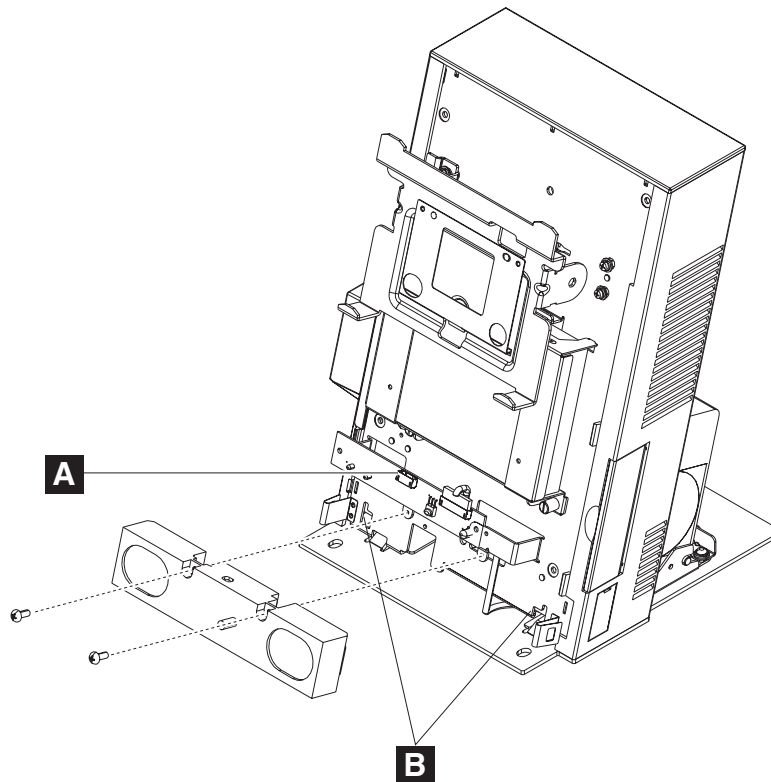


Figure 34. Speaker removal

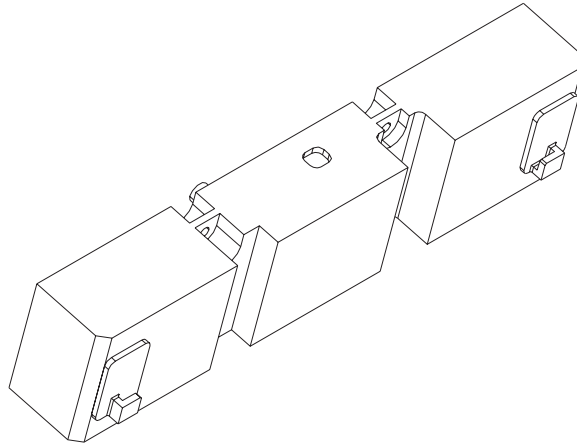


Figure 35. Speaker hooks

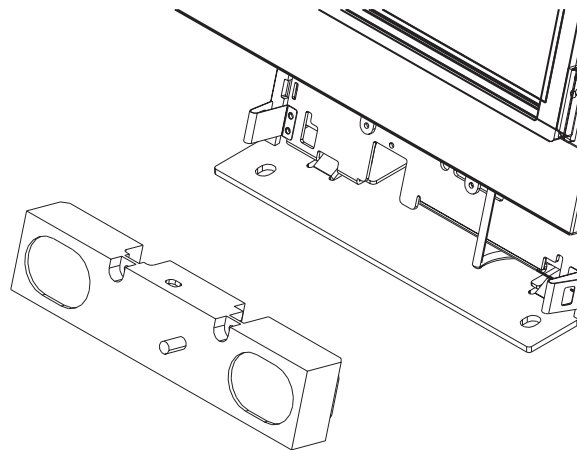


Figure 36. Keyhole slots for speaker hooks

Power supply – removing and replacing

Note: Later versions of power supply keep the fan running when the system is connected to power, but has been powered Off. This is normal operation.

1. Switch OFF the power to the SurePOS 500 Models 5x3 and 544/564. Unplug the power cord from the external power source.
2. Remove the back cover as described at “Rear cover – removing and replacing” on page 38.
3. Remove the cable tie bar as described at “Cable tie bar – removing and replacing” on page 58.
4. Unplug the AC power cord on the back of the power supply.
5. Remove the two screws at the base of the power supply, as shown in Figure 37.
6. Slide the bottom of the power supply back and down until the upper lugs **A** clear the hooks **B**, as shown.
7. Disconnect the four power supply cables from the system board, interface board, and power supply cable.

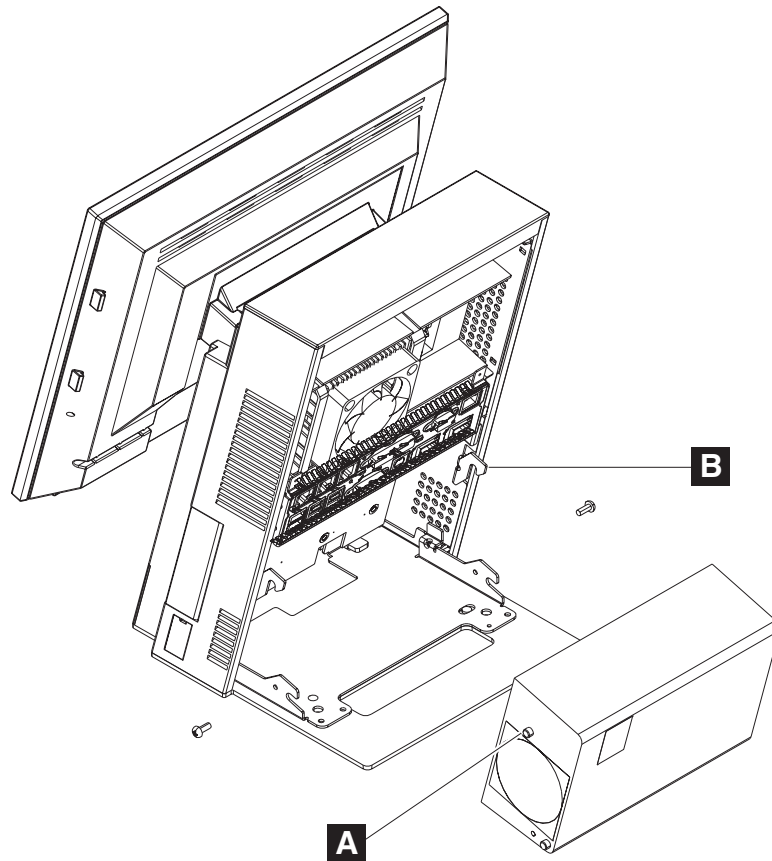


Figure 37. Power supply remove/replace

To replace the power supply, reverse this procedure.

Cable tie bar – removing and replacing

1. Switch OFF the power to the SurePOS 500 Models 5x3 and 544/564.
2. Unplug the power cord from the external power source.
3. Remove the rear cover as shown at “Rear cover – removing and replacing” on page 38.
4. Remove the screw **A** and thumbscrew **B**, as shown in Figure 38.
5. Disconnect all cables from the tie bar by cutting the cable ties.

To replace the cable tie bar, reverse this procedure.

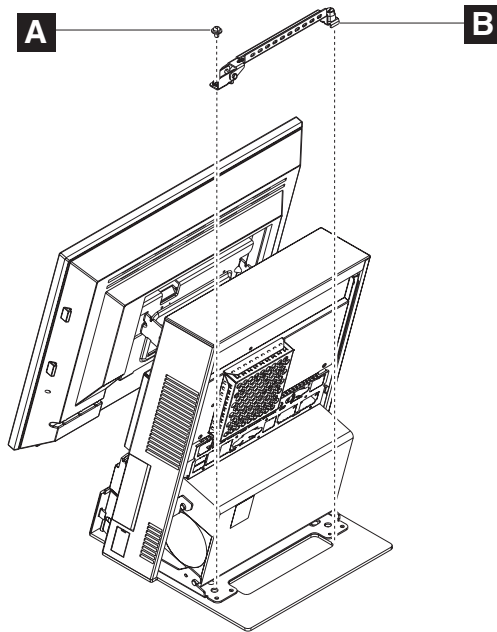


Figure 38. Power supply remove/replace

Connecting the cables and using cable-ties for counter mount systems

To access the side access panel, simply open the side door. To access the rear connector panel, remove the rear cover using the procedure at “Rear cover – removing and replacing” on page 38.

Connecting cables to the side access panel

This section explains how to connect cables to the side connector panel.

The following figures show the connector locations and description.

Ref.	Connector
A	Power switch
B	External diskette drive
C	USB connectors
D	Keyboard/mouse connector
E	Headphone connector (Models 553, 563, 564, 573 only)
F	Microphone connector (Models 553, 563, 564, 573 only)

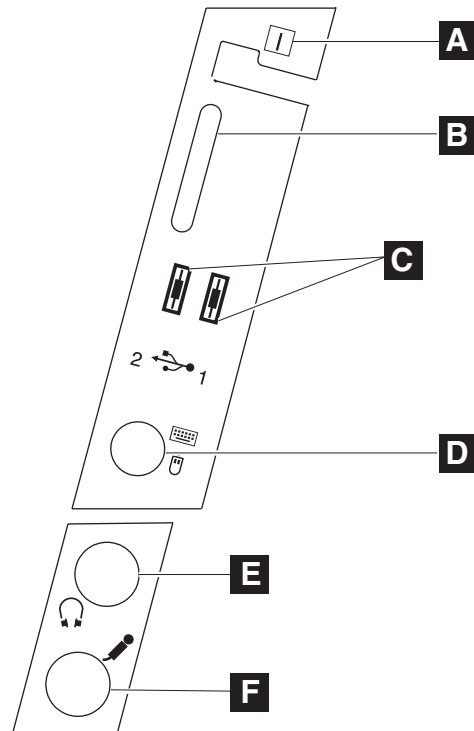


Figure 39. Side connector panel

1. Switch OFF the power to the SurePOS 500 Models 5x3 and 544/564.
2. Connect the cables for the keyboard/mouse (A "Y" cable is needed to connect a mouse), diskette drive, microphone, and headphone.

Connecting cables to the rear connector panel

This section explains how to connect cables to the rear connector panel (shown in Figure 40 on page 60). Use cable ties if desired. Connect the cables in the lowest row first, then work upwards connecting any additional cables.

Attention: All cables in the rear should be routed to the right of the AC power cable, when facing the rear of the machine, as shown in Figure 41 on page 61.

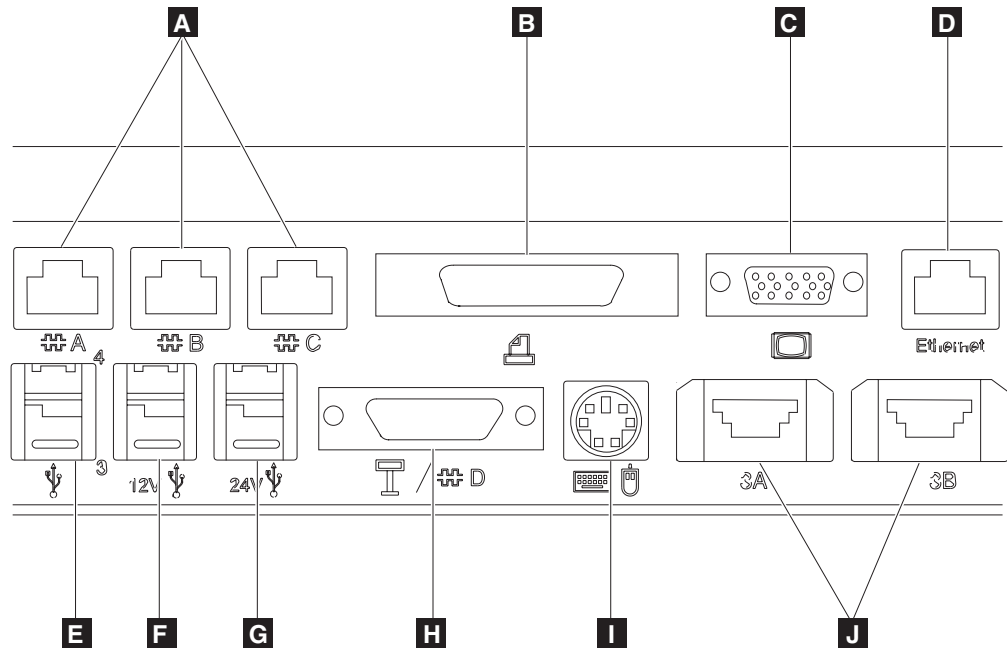


Figure 40. Rear connector panel

Ref.	Connector
A	Serial connectors (3)
B	Parallel connector
C	External video connector
D	Ethernet connector
E	USB connectors (2)
F	12-volt USB connector
G	24-volt USB connector
H	Distributed customer display connector
I	Keyboard/mouse cable
J	Cash drawer connectors (2)

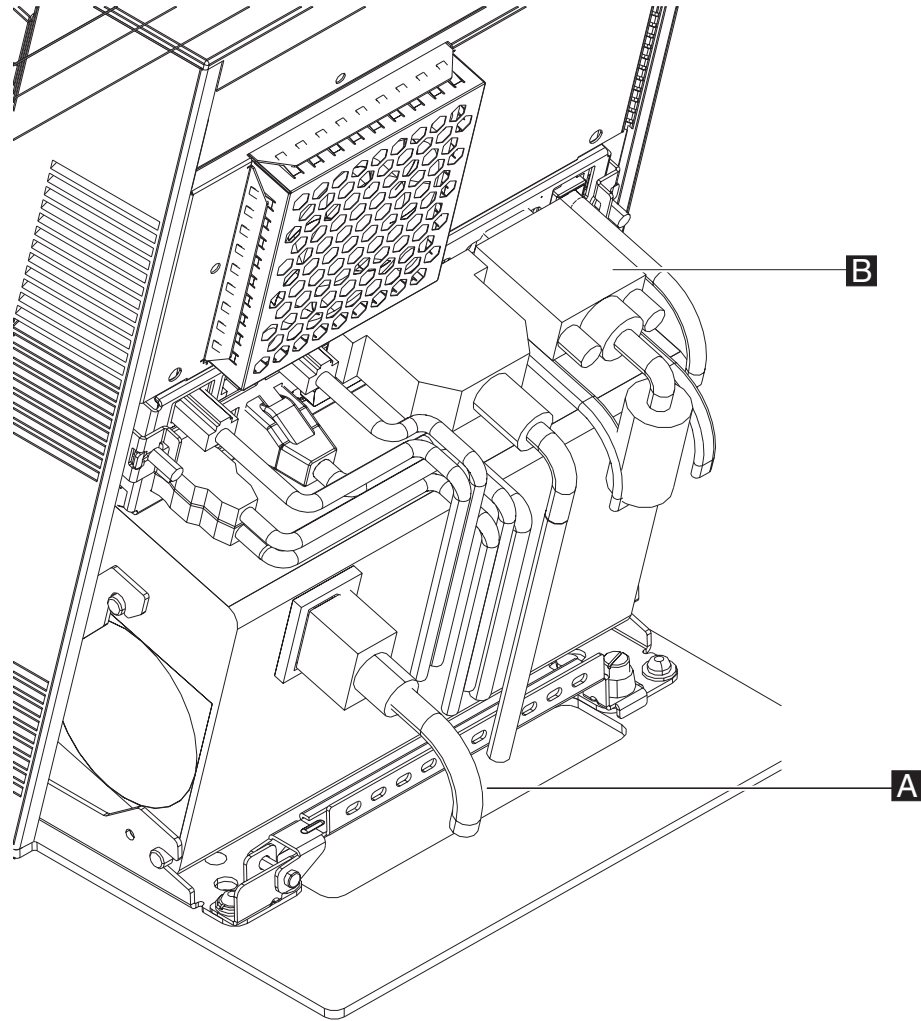


Figure 41. Cable routing

1. Switch OFF the power at the system. Unplug the power cord from both the system and the external power source.
2. Plug the AC power cord **A** to the power supply.
3. Connect the cables as shown in as shown in Figure 40 on page 60. Signal cables must be routed to the right of the AC power cable, as shown in Figure 41.
4. Secure the cables to the cable tie bar with tie-warps if desired. Cut the end of the tie-wraps flush so there are no jagged edges sticking out.
Attention: the rear cover will not close properly if signal cables are routed to the left of the AC power cable. See Figure 41 for routing.
5. For cables routed under the counter, install a cable-tie around all rear connector panel cables exiting through the hole. Allow sufficient length for cleaning and servicing.

Dual-video adapter – removing and replacing

The dual-video card is optional on all models of 4840.

Attention: The dual-video adapter is a static-sensitive device. See “Handling static-sensitive devices” on page 34.

1. Switch OFF the power to the SurePOS 500 Models 5x3 and 544/564. Unplug the power cord from the external power source.
2. Remove the back cover as described at “Rear cover – removing and replacing” on page 38.
3. Remove the power supply. See “Power supply – removing and replacing” on page 57
4. Remove the four screws shown in Figure 42 and remove the dual-video adapter.

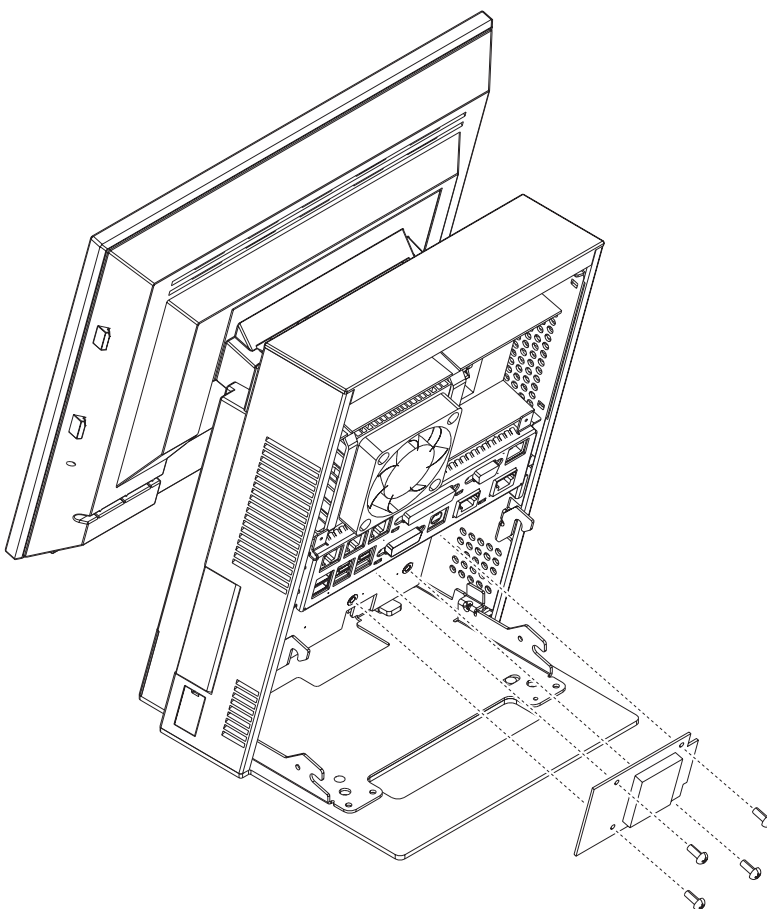


Figure 42. Video card removal

5. If no dual video adapter is installed, remove jumpers JP29 through JP35 to install a new adapter. See Figure 43 on page 63.

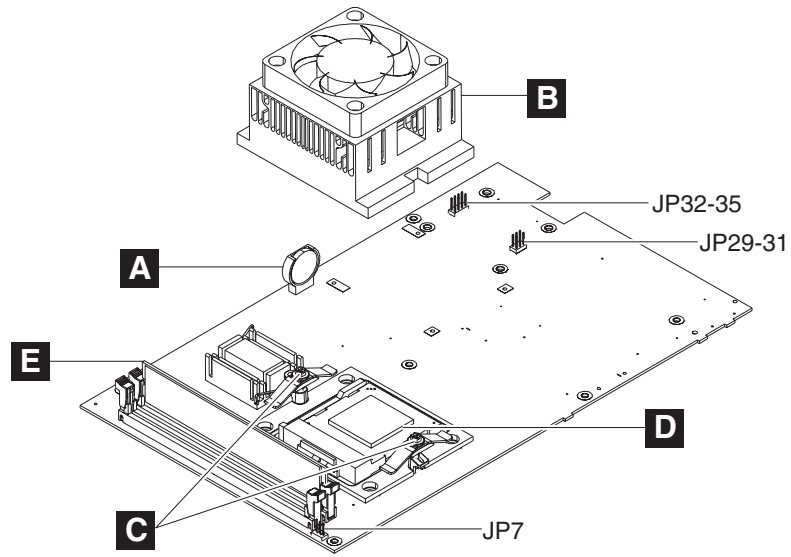


Figure 43. Dual video adapter jumper location

To replace the video card, reverse this procedure.

Cooling duct – removing and replacing

1. Switch OFF the power to the SurePOS 500 Models 5x3 and 544/564. Unplug the power cord from the external power source.
2. Remove the back cover as described at “Rear cover – removing and replacing” on page 38.
3. Remove rear inner metal cover. See “Rear inner metal cover – removing and replacing” on page 78.
4. Remove the power supply. See “Power supply – removing and replacing” on page 57.
5. Remove the rear (tailgate) connector panel. See “Rear connector panel (tailgate) – removing and replacing” on page 76.
6. Remove the cooling duct as shown in Figure 44..

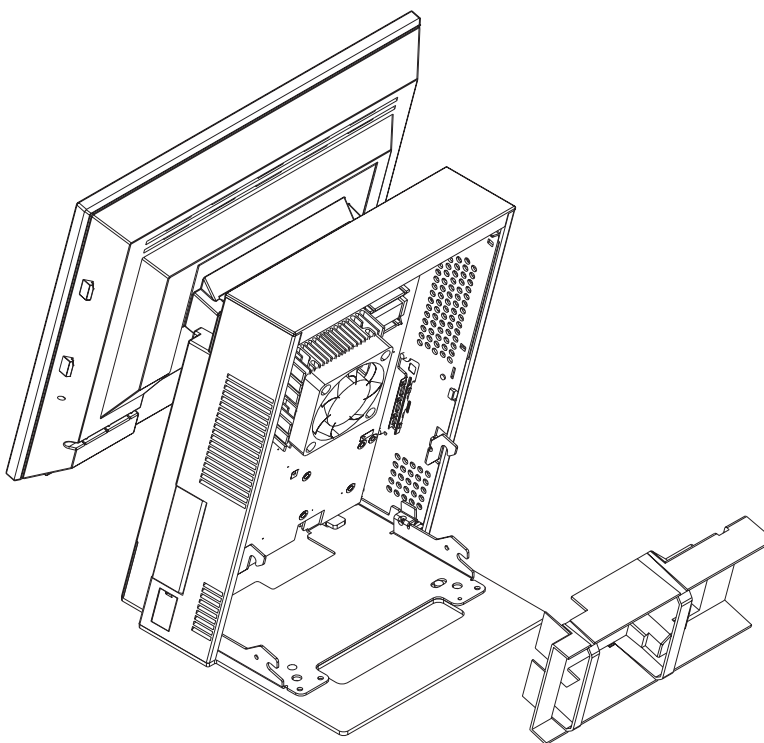


Figure 44. Cooling duct

To replace, reverse this procedure.

System board – removing and replacing

Attention: Establish personal grounding before touching this unit. See “Electrostatic discharge (ESD)” on page 197.

Notes:

1. The new system board comes with factory default CMOS settings. When replacing the system board, you can usually save the CMOS settings by running the SaveCMOS utility before replacing the old system board. Then, run LoadCMOS after the installation of the new system board.
2. Later versions of power supply keep the fan running when the system is connected to power, but has been powered Off. This is normal operation.

Remove the system board

1. Switch OFF the power to the SurePOS 500 Models 5x3 and 544/564. Unplug the power cord from the external power source.
2. Remove the back cover as described at “Rear cover – removing and replacing” on page 38.
3. Open the side panel door.
4. Remove the power supply. See “Power supply – removing and replacing” on page 57.
5. Remove the rear inner metal cover. See “Rear inner metal cover – removing and replacing” on page 78.
6. Disconnect all cables from the system board.
7. Remove the rear connector panel (tailgate). See “Rear connector panel (tailgate) – removing and replacing” on page 76.
8. Remove the cooling duct. See “Cooling duct – removing and replacing” on page 64.
9. Remove the five screws, as shown in Figure 45 on page 66.
10. Grasp the entire assembly by the fansink and slide it out toward the top.

Transfer modules to the new system board

Place the assembly on a table and remove the following parts:

- Memory modules – See “Memory modules – removing and replacing” on page 72.
- Fansink – See “Fansink – removing and replacing” on page 69.
- Processor – See “Processor module – removing and replacing” on page 71.
- Dual video adapter, if installed. See “Dual-video adapter – removing and replacing” on page 62. Remove jumpers JP29–JP35 from the system board for dual video adapter installation.

Install these parts on the new system board. The new system board comes with all required jumpers and with a new battery.

Install the new system board

Perform the system board removal steps, in reverse order.

Update system software

1. Ensure system BIOS is equal to or greater than that from the old system board. See “Updating the flash BIOS” on page 22.
2. Reprogram the Vital Product Data (VPD).
 - a. Boot the service diskette.

- b. Choose **POS System Test**.
- c. Choose **Utilities**.
- d. Choose **Vital Product Data Utility**.
- e. Choose **Update VPD**.
- f. Choose the model and press **Enter**.
- g. Choose **Update VPD** again.
- h. Enter the machine serial number and press **Enter**.
- i. Exit.

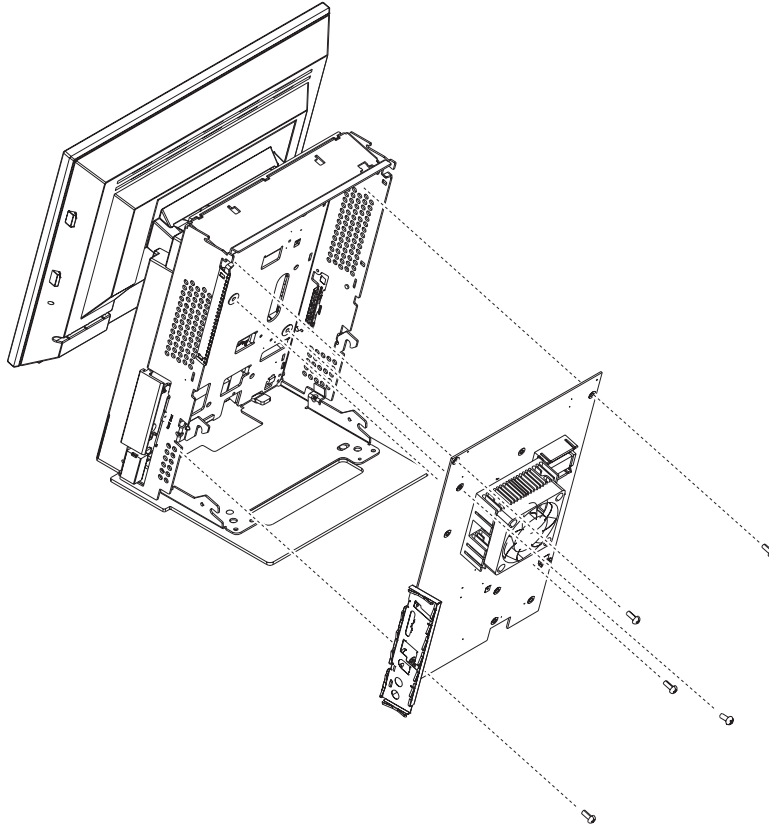


Figure 45. Removing the system board

System-board jumper locations and settings

Figure 46 on page 67 shows the system-board jumper locations. See the following topics for jumper descriptions and information about jumper settings.

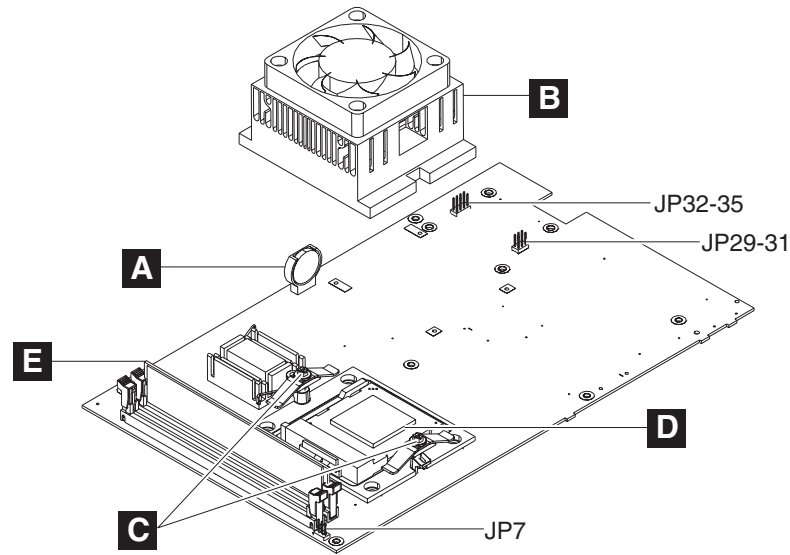


Figure 46. System board jumper locations

Table 8 lists the system board jumper settings. All jumper pins have the pin number printed on the system board for easy identification.

Table 8. System board jumper settings

Jumper	Default pin location:	Description
JP7	pins 1–2	CMOS Memory clear – to clear CMOS, momentarily place the jumper on pins 2–3
JP29–JP35	pins 1–2	Dual video adapter – to install the dual video adapter, remove all jumpers from these pins
JP6	pins 1–2	If JP6 header is populated on the system board, the jumper must remain on pins 1 and 2 at all times.

Note: Pin 1 is indicated on all jumpers by a small white circle.

Side I/O EMC shield – removing and replacing

This part is attached to the system board, and surrounds the inside of the side I/O panel door.

1. Remove the system board. See “System board – removing and replacing” on page 65.
2. Remove the two screws attaching the side I/O EMC shield to the system board.

System-board battery – removing and replacing

1. Switch OFF the power to the SurePOS 500 Models 5x3 and 544/564. Unplug the power cord from the external power source.
2. Remove the back cover as described at “Covers – removing and replacing” on page 36.
3. Remove the rear inner metal cover. See “Rear inner metal cover – removing and replacing” on page 78.
4. Remove the power supply. See “Power supply – removing and replacing” on page 57.

5. Remove the rear connector panel (tailgate) as described in “Rear connector panel (tailgate) – removing and replacing” on page 76.
6. Remove the old battery from the slot **A** as shown in Figure 47.

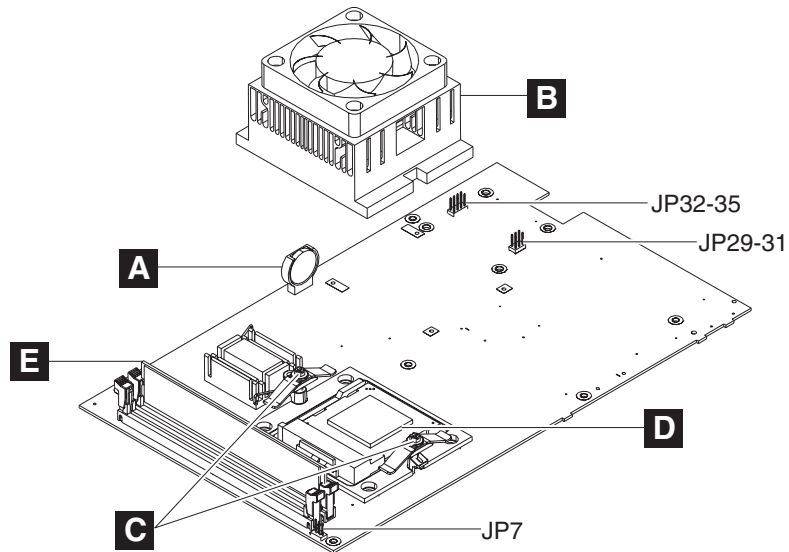


Figure 47. Dual video adapter or jumper location

7. Insert the new battery with the positive side to the left, as you face the back of the machine.

Reverse the steps to reassemble.

Fansink – removing and replacing

Attention: Establish personal grounding before touching this unit. See “Electrostatic discharge (ESD)” on page 197.

Notes:

1. The thermal interface material on the fansink is reusable. Do not discard.
2. The fansink should be removed from the processor only when warm. Allow the machine to run for 20 minutes to warm the thermal material before switching OFF power and removing the fansink.
3. If the processor pulls free from the system board while still attached to the fansink, you must carefully remove it.

Use the following steps to replace the fansink. Refer to Figure 48 on page 70.

1. Switch OFF the power to the SurePOS 500 Models 5x3 and 544/564. Unplug the power cord from the external power source.
2. Remove the back cover as described at “Covers – removing and replacing” on page 36.
3. Remove the cooling duct. See “Cooling duct – removing and replacing” on page 64.
4. Disconnect the fan cable from the system board.
5. See Figure 48 on page 70. Loosen the two screws **A** and pivot the clips to the side.
6. Remove the fansink from the processor by twisting slightly to break the thermal material bond. Pulling the heatsink up might pull the processor free from the system board. See Figure 48 on page 70.

To replace the fansink, reverse this procedure. The thermal interface material may be reused if:

- this is the first time it has been removed
- you are using the same processor that was previously mated to the fansink.

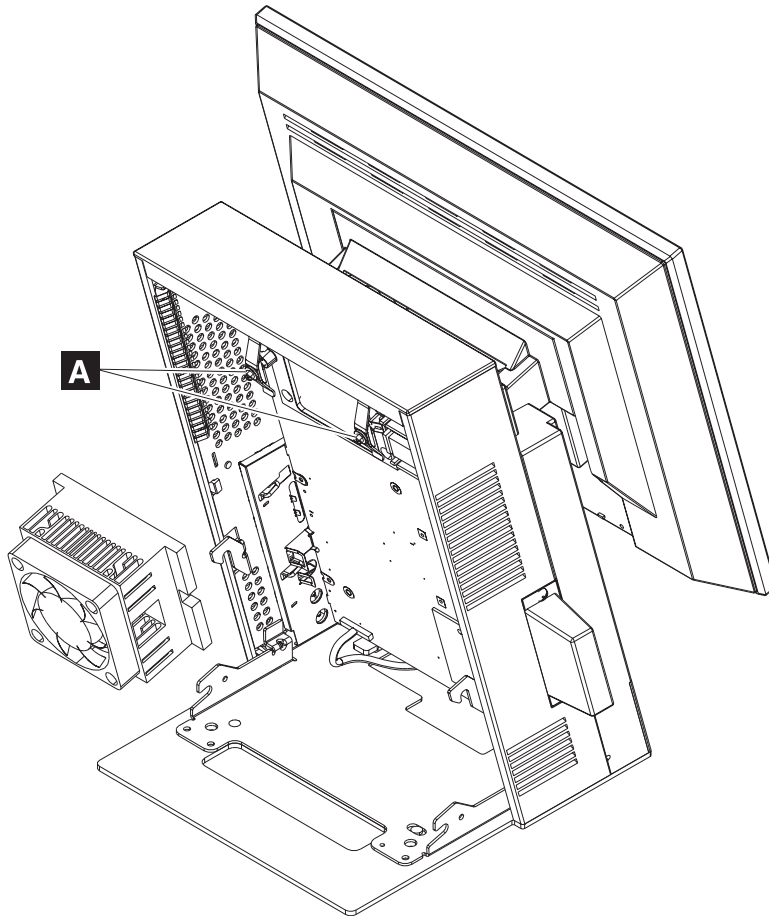


Figure 48. Removing the fansink

Processor module – removing and replacing

Note: The new processor and fansink come as one FRU. Do not use the old fansink when replacing the processor.

Attention: Establish personal grounding before touching this unit. See “Electrostatic discharge (ESD)” on page 197.

1. Power ON the system for at least 20 minutes to warm and loosen the heatsink thermal material.
2. Switch OFF the power to the SurePOS 500 Models 5x3 and 544/564. Unplug the power cord from the external power source.
3. Remove the back cover as described at “Covers – removing and replacing” on page 36.
4. Remove the cooling duct. See “Cooling duct – removing and replacing” on page 64.
5. Disconnect the fan cable from the system board.
6. See Figure 48 on page 70. Loosen the two screws **A** and remove the fansink from the processor.
7. Release the latch and carefully remove processor from the system board.
8. Install the new processor and fansink as a unit, carefully matching up the pins on the processor to the system board.

Reverse the remaining steps to reassemble the system.

Memory modules – removing and replacing

Attention: Establish personal grounding before touching this unit. For more information, see “Electrostatic discharge (ESD)” on page 197.

The system board provides two memory-module sockets. See Figure 49. You can install any combination of memory modules into either socket and in any combination of sizes.

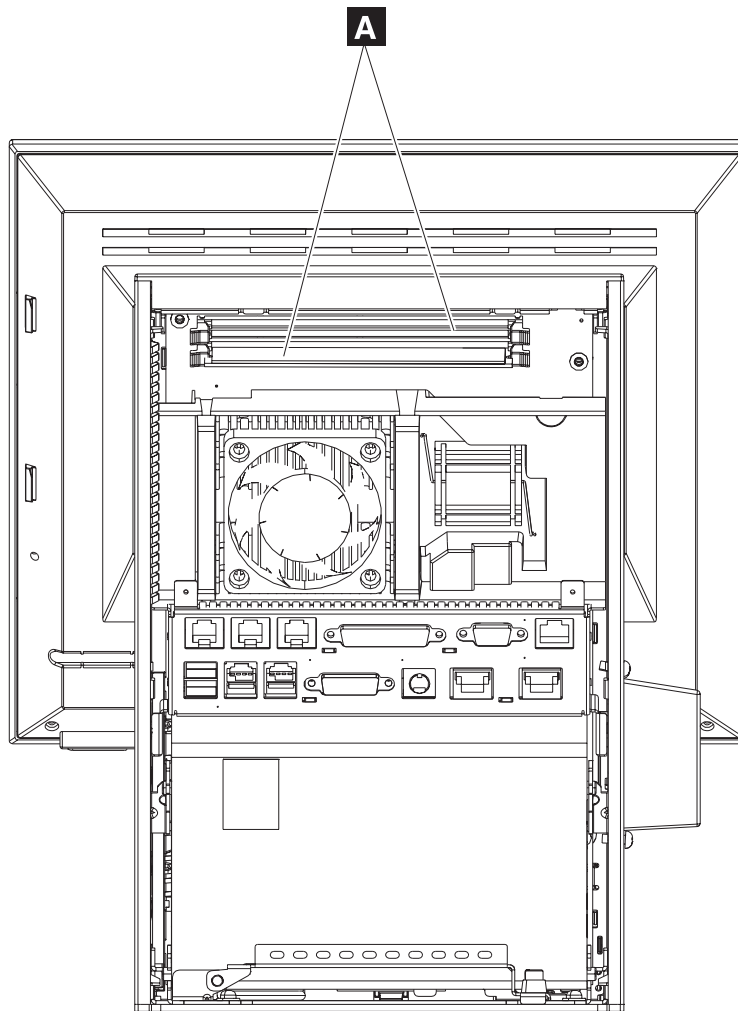


Figure 49. Memory socket location

1. Switch OFF the power to the SurePOS 500 Models 5x3 and 544/564. Unplug the power cord from the external power source.
2. Remove the back cover. See “Covers – removing and replacing” on page 36.
3. Remove the rear inner metal cover. See “Rear inner metal cover – removing and replacing” on page 78.
4. Press the latches away from the module. See Figure 50 on page 73.
5. Touching only the top corners of the module, pull it gently until it is free from the socket.

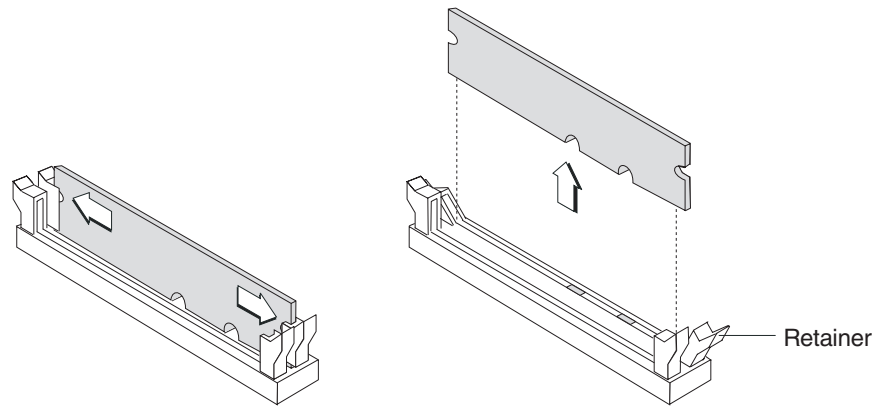


Figure 50. Memory module removal

6. Before inserting a replacement module, note the alignment notches along the bottom of the module and where the module plugs into the slot. One notch is located in the center of the gold connectors and the other notch is offset.
7. Carefully align the module in the slot and then press it into the slot until it is secured by the clip.

Note: Ensure the memory module is fully seated in the socket and the retainer tabs are fully upright and engaged in the memory module side notches.

8. Replace the components removed earlier in this procedure.

PC card blank – removing

1. Remove the HDD cover. See “HDD cover and speaker panel – removing and replacing” on page 36.
2. Remove the door in the direction shown in Figure 52 on page 75.
3. Remove the two screws securing the EMC shield.

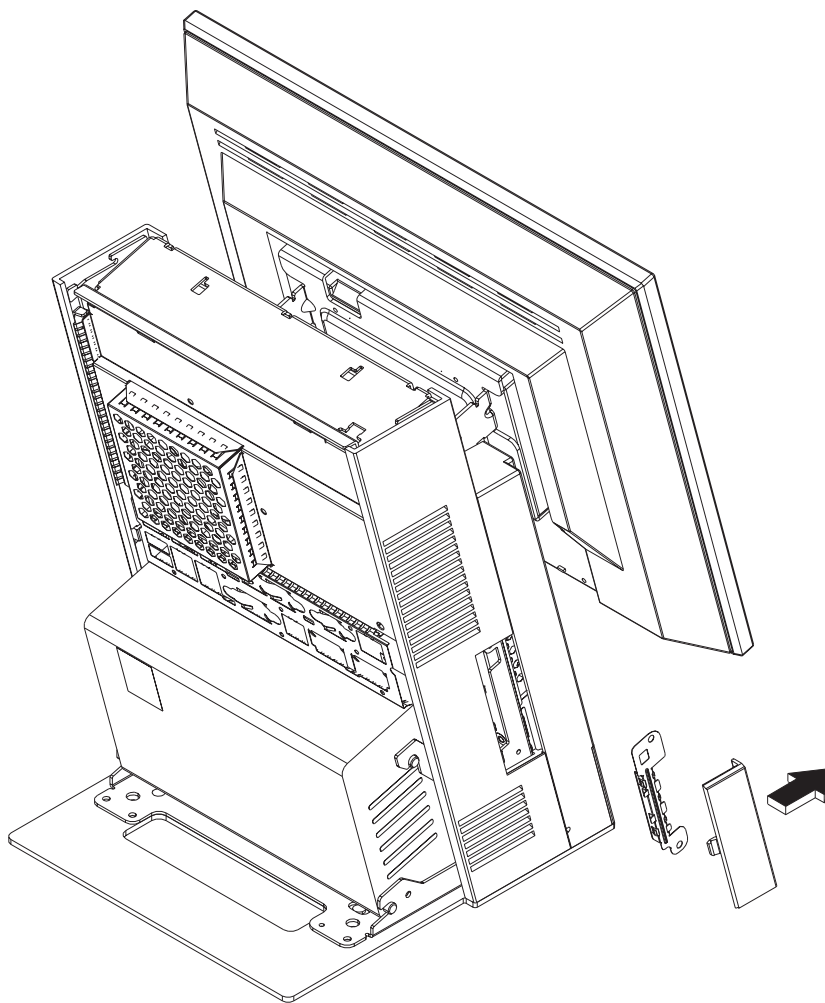


Figure 51. Removing the PC card adapter slot blank

PC card – removing and replacing

1. Switch OFF the power to the SurePOS 500 Models 5x3 and 544/564. Unplug the power cord from the external power source.
2. Remove the HDD cover. See “HDD cover and speaker panel – removing and replacing” on page 36.
3. Remove the PC card cover as shown in Figure 51.
4. If a wireless LAN antennae cover is present, remove the two screws, as shown in Figure 52 on page 75.
5. Press the PC card adapter eject button. Do not pull the interface cable to remove the adapter card and connector. Gently pull on the adapter card.

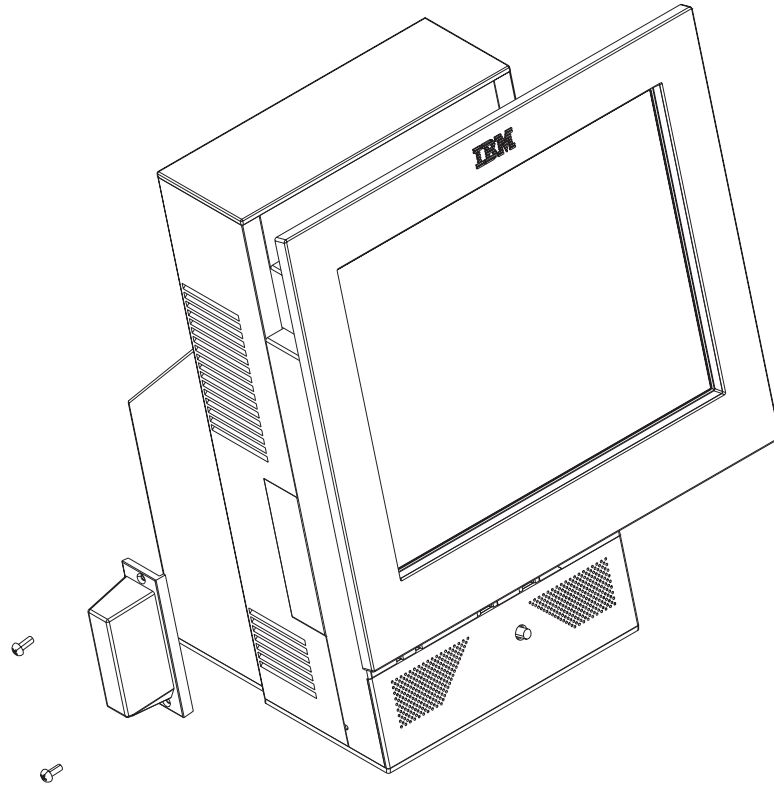


Figure 52. Removing a PC card adapter

To replace, reverse this procedure. For information about defining the PC card to the system, see the description of the Setup Utility main menu at “The Setup Utility” on page 18.

Note: Before removing a PC card with the system unit running Windows, IBM recommends that you stop the PC card in Windows before you physically remove it.

Rear connector panel (tailgate) – removing and replacing

1. Switch OFF the power to the SurePOS 500 Models 5x3 and 544/564. Unplug the power cord from the external power source.
2. Remove the rear cover as described at “Covers – removing and replacing” on page 36 and unplug the power cord from the system unit at the power supply.
3. Disconnect all cables from the tailgate connector.

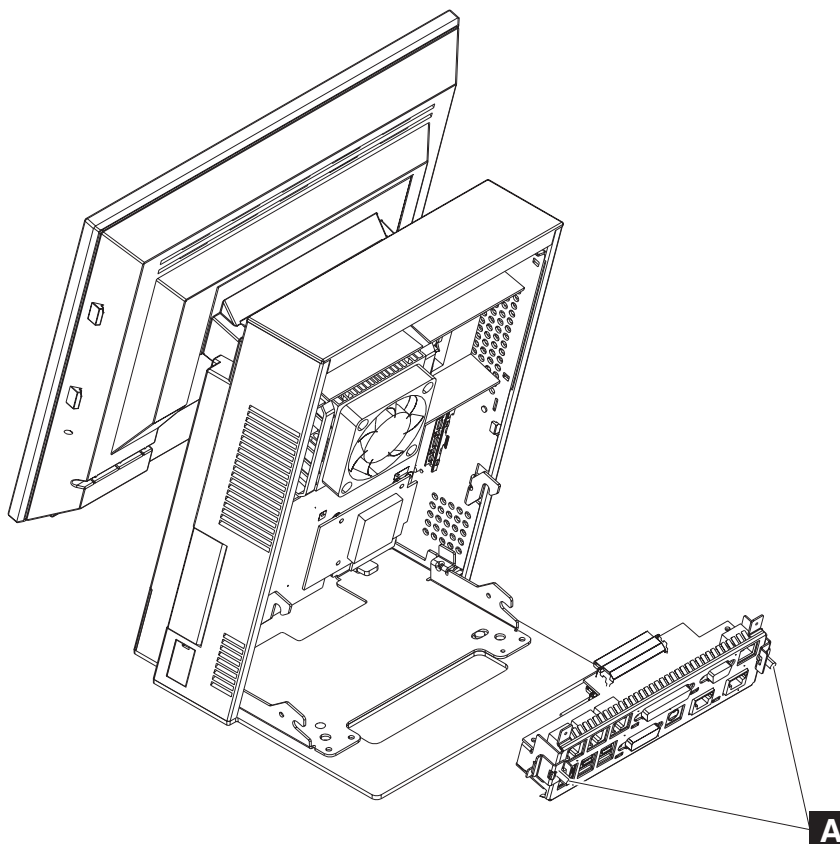


Figure 53. Tailgate remove and replace

4. Remove the rear inner metal cover. See “Rear inner metal cover – removing and replacing” on page 78.
5. Remove the power supply. See “Power supply – removing and replacing” on page 57.
6. Loosen the two thumbscrews **A** and slide the two tabs toward the center.
7. Pull the connector panel out and disconnect the power cable from the tailgate.

Reverse the steps to reassemble. Make sure the two connectors on the back of the tailgate line up with the connectors on the system board.

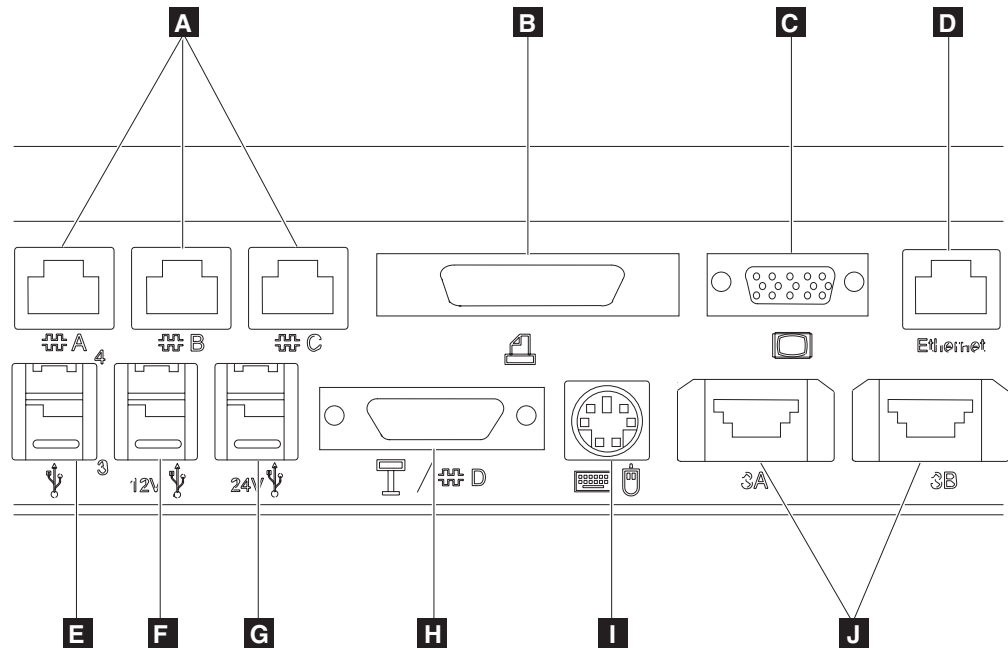


Figure 54. Tailgate connector locations

Ref.	Connector
A	Serial connectors (3)
B	Parallel connector
C	External video connector
D	Ethernet connector
E	12-volt USB connector
F	24-volt USB connector
G	USB connectors (2)
H	Integrated or distributed customer display connector
I	Keyboard/mouse cable
J	Cash drawer connectors (2)

Rear inner metal cover – removing and replacing

1. Switch OFF the power to the SurePOS 500 Models 5x3 and 544/564. Unplug the power cord from the external power source.
2. Remove the back cover as described at “Covers – removing and replacing” on page 36.
3. Loosen the two captive crews shown in Figure 55 and pull the cover out.

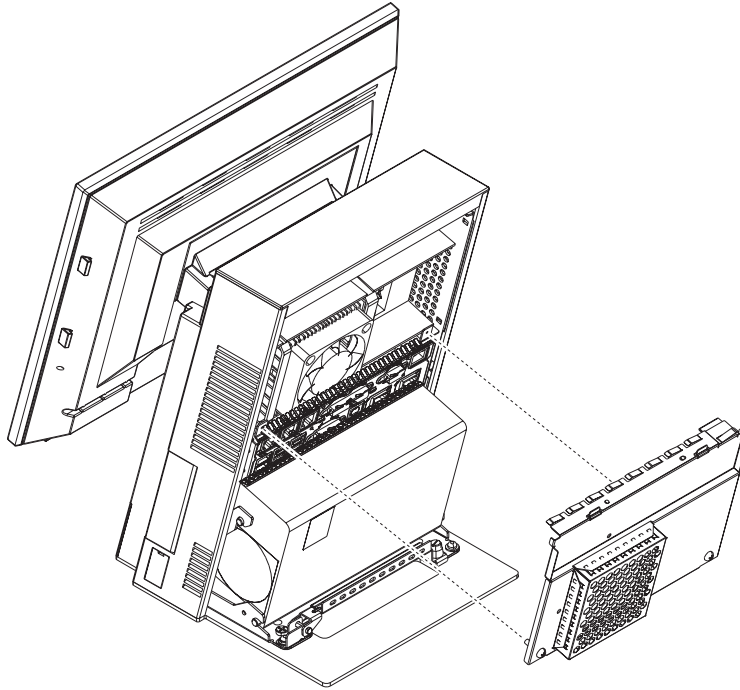


Figure 55. Rear inner metal cover

Integrated customer display – removing and replacing

1. Remove the rear cover. See “Rear cover – removing and replacing” on page 38.
2. Remove the rear inner metal cover. See “Rear inner metal cover – removing and replacing” on page 78.
3. Disconnect the integrated display cable from the rear of the system board.
4. Remove the existing integrated display or top cover. See “Top cover – removing and replacing” on page 40.
5. Snap the new integrated display in place, after routing the cable through the hole in the top of the unit.
6. Connect the cable to the rear upper-right corner of the system board.
7. Replace the rear inner metal cover and the rear cover.

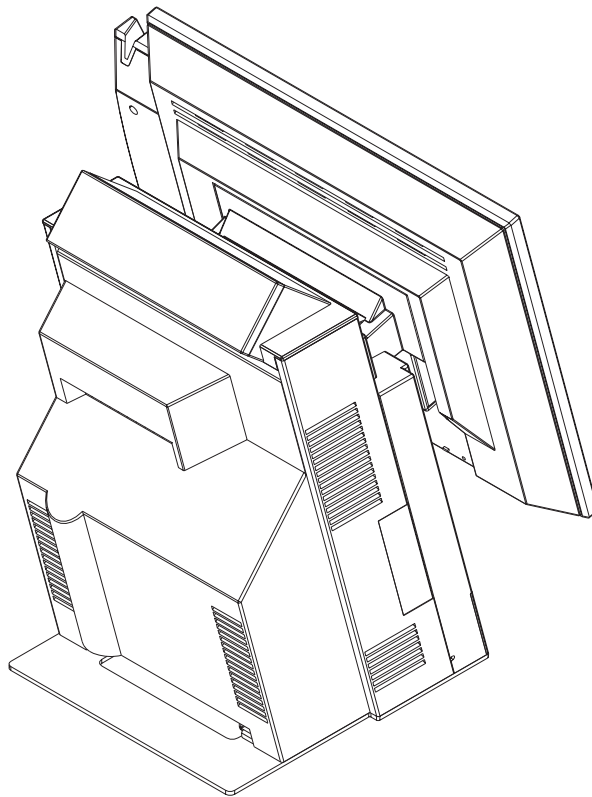


Figure 56. Integrated display

Base plate – removing and replacing

Note: The base plate is not present when a mounting foot is used.

1. Switch OFF the power to the SurePOS 500 Models 5x3 and 544/564. Unplug the power cord from the external power source.
2. Remove the back cover as described at “Covers – removing and replacing” on page 36.
3. Remove the cable tie bar. See “Cable tie bar – removing and replacing” on page 58.
4. Remove the two screws **A** attaching the base plate **B** to the frame.
5. Slide the tower toward the rear and lift it off the base.

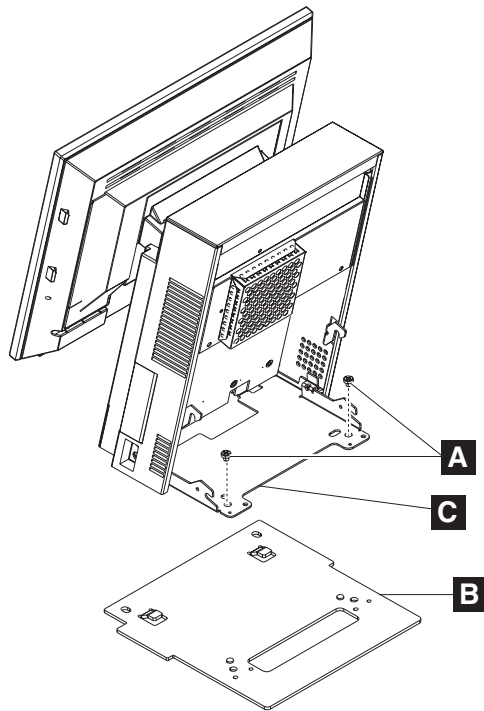


Figure 57. Base plate

Mounting foot – removing and replacing

Note: Refer to Figure 57 on page 80. The mounting foot is not present when a base plate is used.

The mounting foot allows use of a 4820 SurePoint Solution without an integration tray or to sit on a cash drawer. To remove and replace the SurePOS 500 Models 5x3 and 544/564 attached to a mounting foot:

1. Remove the rear cover. See “Rear cover – removing and replacing” on page 38.
2. Remove the two screws.
3. Slide the unit back and lift up.

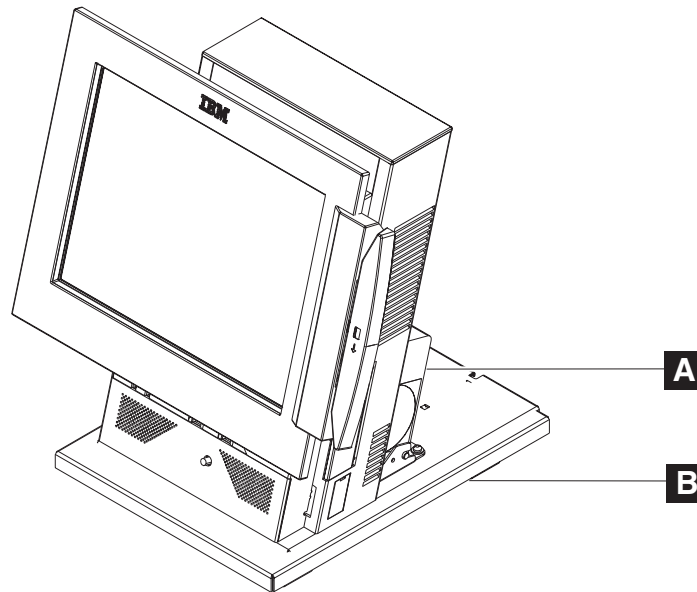


Figure 58. Mounting foot example

Mounting options – removing and replacing

The SurePOS 500 Models 5x3 and 544/564 can be mounted in a variety of configurations. See the appropriate mounting configuration for removal and replacement procedure of its components:

- For a **Free-standing** SurePOS 500 Models 5x3 and 544/564, the base foot that comes attached from the factory can be attached to a countertop with screws, see “Free-standing SurePOS 500 Models 5x3 and 544/564 – removing from the base.”
- A mounting foot is available as a kit. The kit includes a metal foot and a plastic cable cover. The cable cover is for use with an integrated 4820 SurePoint Solution or the mounting foot can be used to sit the unit on a cash drawer.
- Mounted to a **non-keyboard integration tray** that can be attached to a countertop or full-size cash drawer, see “Non-keyboard integration tray – removing and replacing” on page 84.
- Mounted to a **keyboard integration tray** that can be attached to a countertop, a full-size cash drawer or a compact cash drawer, see “Keyboard integration tray mounting for countertop and cash drawer” on page 91.

Free-standing SurePOS 500 Models 5x3 and 544/564 – removing from the base

Figure 59 is an example of a freestanding SurePOS 500 Models 5x3 and 544/564.

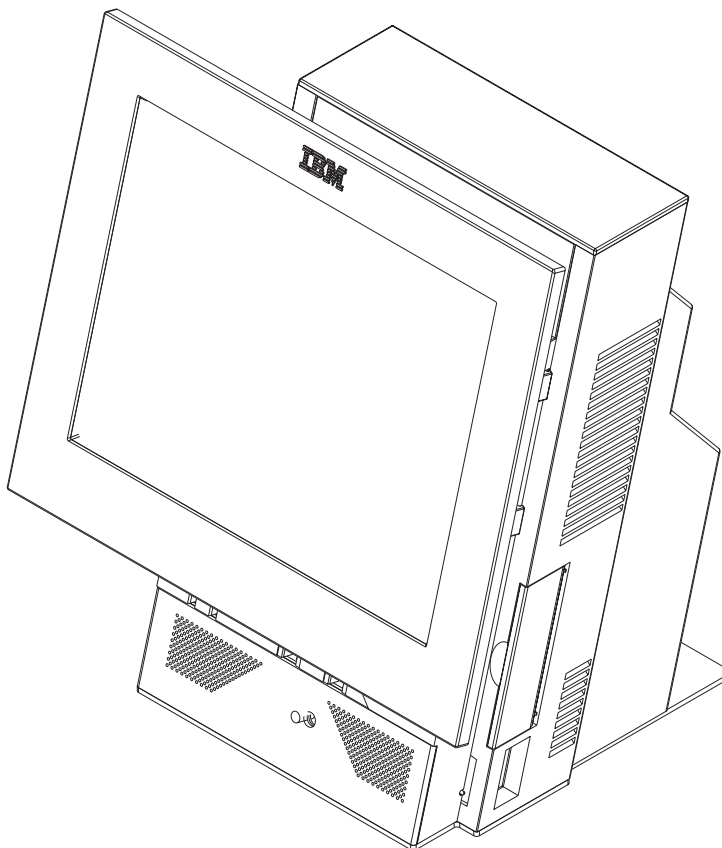


Figure 59. Free-standing SurePOS 500 Models 5x3 and 544/564

1. Switch OFF the power to the SurePOS 500 Models 5x3 and 544/564. Unplug the system power cord from the external power source.
2. Remove the rear cover as described at “Rear cover – removing and replacing” on page 38. Two screws are accessible under the rear cover.
3. Unplug the peripheral cables from the side and rear connector panels.
4. Cut the cable ties on external cables on the connector tie bar.
5. Remove the cable tie bar. See “Cable tie bar – removing and replacing” on page 58.
6. Remove the screws securing the unit to the base.
7. Lift the SurePOS 500 Models 5x3 and 544/564 off of the base.

To replace a free standing system, reverse this procedure.

Note: Secure the cables to the cable tie bar with tie-warps. Cut the end of the tie-wraps flush so there are no jagged edges sticking out.

Non-keyboard integration tray – removing and replacing

The removal and replacement procedures for removing components on a non-keyboard integration tray are different for the countertop and cash drawer. Go to the appropriate procedure for your non-keyboard integration tray configuration:

- For **countertop systems with a non-keyboard integration tray**, go to “Countertop non-keyboard integration tray systems – removing and replacing.”
- For **cash drawer systems with a non-keyboard integration tray**, go to “Non-keyboard integration tray cash drawer – removing and replacing” on page 88.

Countertop non-keyboard integration tray systems – removing and replacing

Figure 60 is an example of a SurePOS 500 Models 5x3 and 544/564 mounted on a countertop with a non-keyboard integration tray.

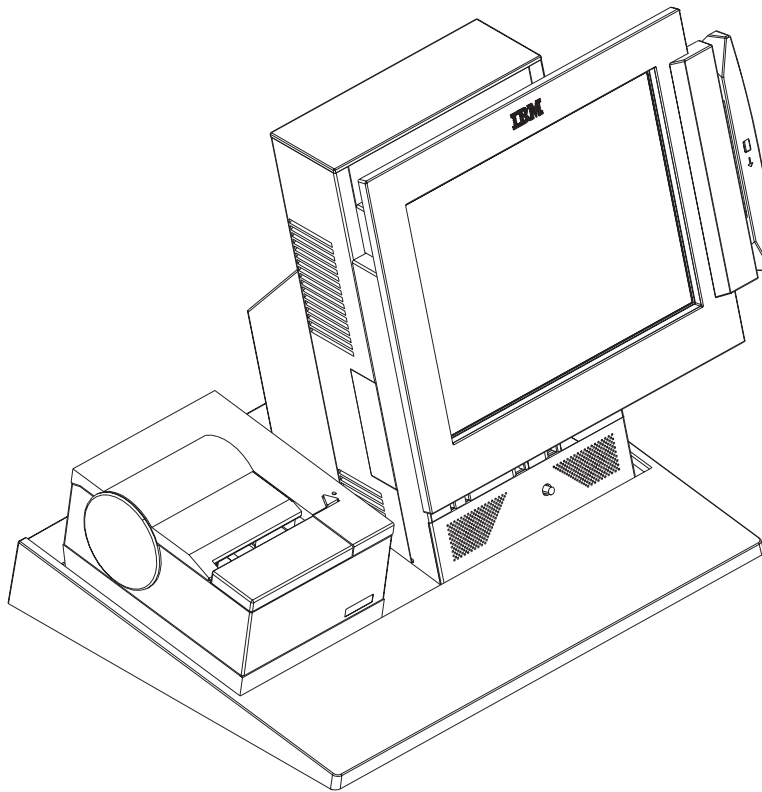


Figure 60. Countertop mount on a non-keyboard integration tray for the SurePOS 500 Models 5x3 and 544/564

1. Switch OFF the power to the SurePOS 500 Models 5x3 and 544/564. Unplug the system power cord from the external power source.
2. If the SurePOS 500 Models 5x3 and 544/564 is attached to a countertop by means of an integration tray, go to step 3. If the system is mounted directly on a countertop using the base foot of the system unit:
 - a. Remove the rear cover as described at “Rear cover – removing and replacing” on page 38.
 - b. Unplug the peripheral cables from the connector panels and reroute as required.

- c. If you are removing the system completely, remove the screws (2) **A** securing the base foot to the countertop and remove the cable tie bar (see “Cable tie bar – removing and replacing” on page 58).

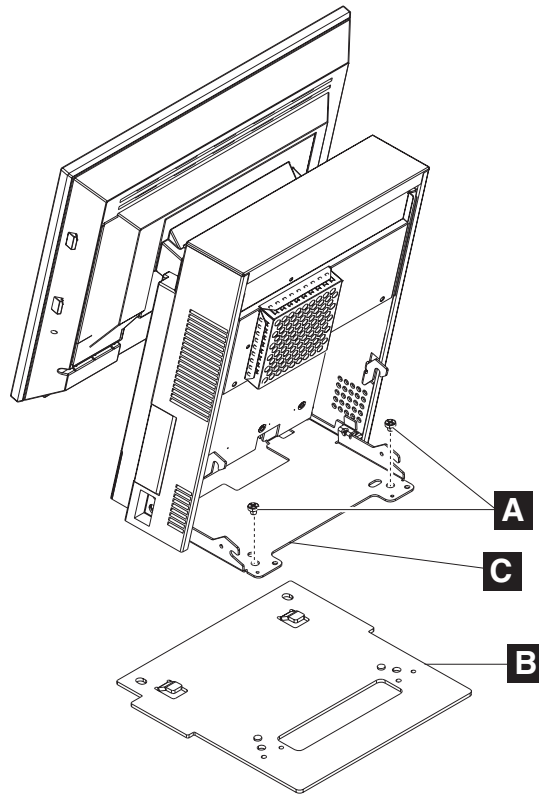


Figure 61. Removing the base foot from the SurePOS 500 Models 5x3 and 544/564

3. If the system is attached to a countertop by means of an integration tray:
- a. Remove the narrow filler panel **F** between the system and remove the printer vertical rear covers **G** behind the system and as shown in Figure 62 on page 86.

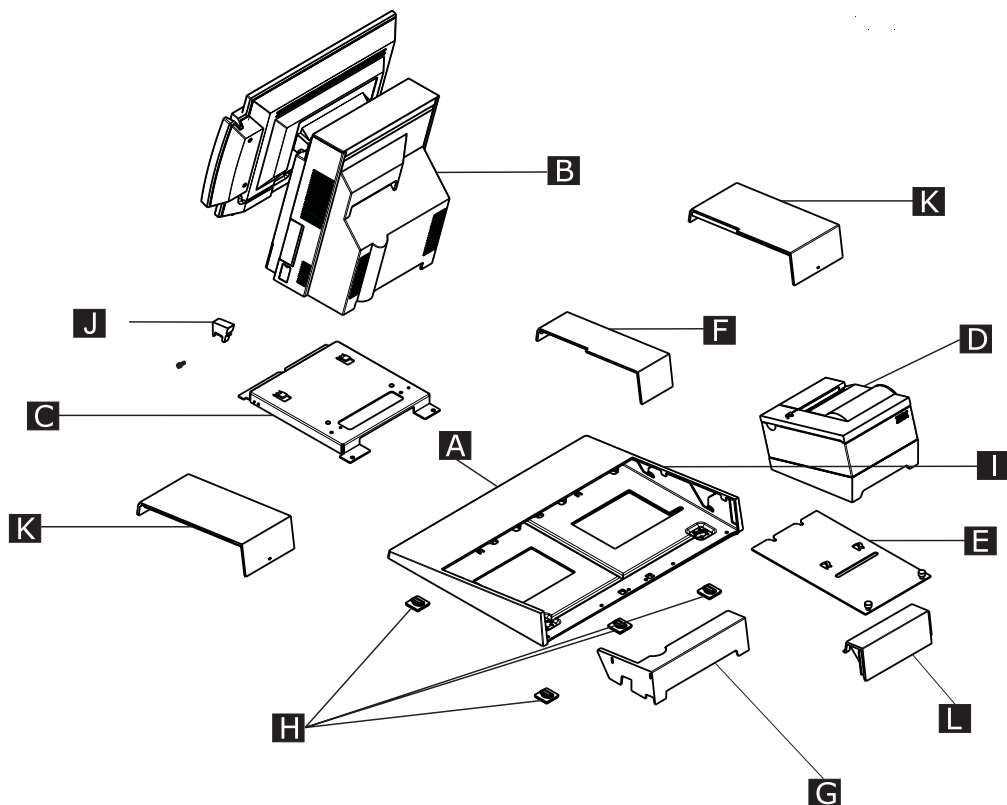


Figure 62. Countertop non-keyboard integration tray

- b. Remove the rear cover. See “Rear cover – removing and replacing” on page 38.
- c. Unplug the peripheral cables from the side and rear connector panels.
- d. Remove the thumbscrews (2) securing the system adapter plate **C** to the integration tray **I**, slide the system and adapter plate to the rear as a unit to free the plate from the mounting tabs, and lift off the system.
- e. Remove the system from the adapter plate (2 screws).

To replace a system on a countertop or integration tray, reverse this procedure.

Note: Secure the cables with tie-wraps if desired. Cut the end of the tie-wraps flush so there are no jagged edges sticking out.

4. The installation of the filler panels is done after all the cables have been routed to your system. To install the integration tray filler panels, see Figure 63 on page 87. Note that filler panel **A** locks filler panels **B** onto the tray. The installation of the filler panels is done after all the cables have been routed to your system.
 - a. Install the outer ends of the filler panels **B** onto the integration tray. Notice that the printer filler panel, shown on the right, is narrower than the system filler panel. Also, the system filler panel has a slot underneath to allow cables to be routed out the back.
 - b. After installing the outer ends of filler panels **B** into the integration tray, use the narrow filler panel **A** to lock the filler panels together between the system and the printer.

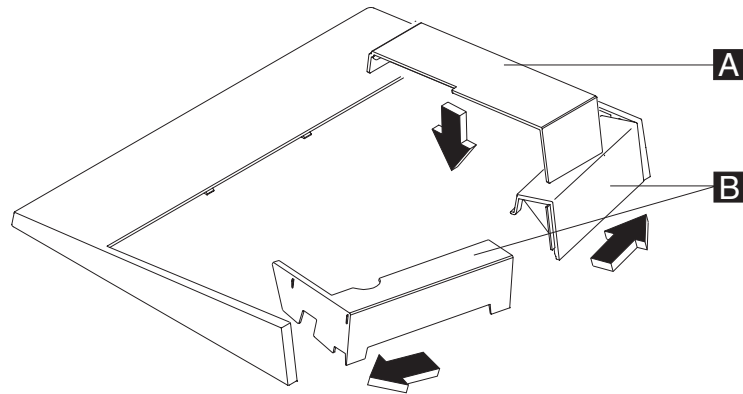


Figure 63. Connecting filler panels

Note: Depending on the configuration used, there may be unused filler panels.

5. Plug the system and printer AC power cords into an AC outlet.
6. After your installation is complete, press the printer power switch under the printer cover to power on the printer.

Non-keyboard integration tray cash drawer – removing and replacing

Figure 64 is an example of a SurePOS 500 Models 5x3 and 544/564 mounted on a cash drawer with a non-keyboard integration tray.

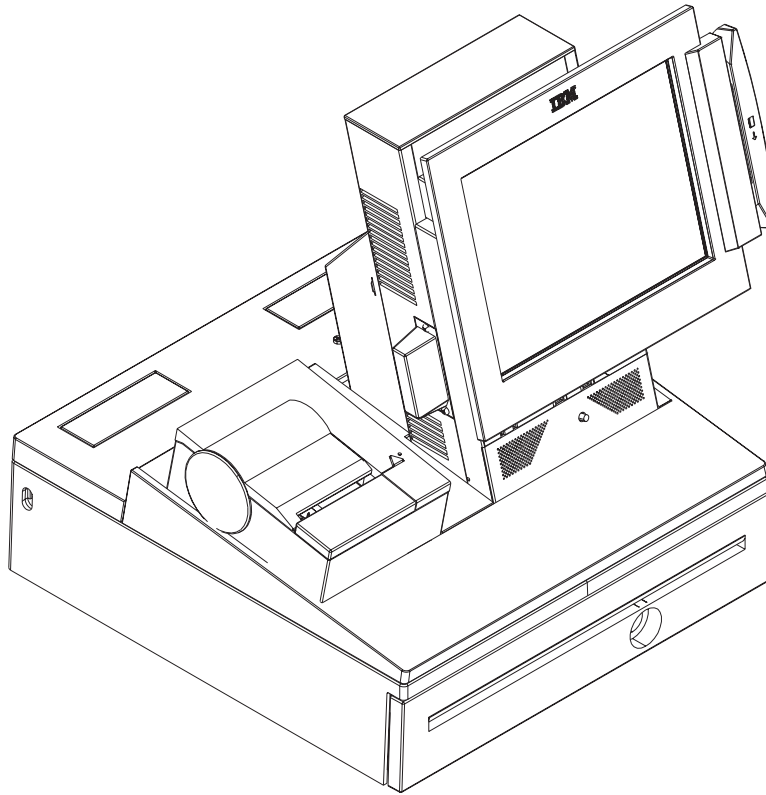


Figure 64. Cash drawer mounted with a non-keyboard integration tray for the SurePOS 500 Models 5x3 and 544/564

The SurePOS 500 Models 5x3 and 544/564 mounts to a cash drawer by means of an adapter plate, which attaches to an integration tray secured to the cash drawer.

1. Switch OFF the power to the SurePOS 500 Models 5x3 and 544/564. Unplug the system power cord from the external power source.
2. Open the cash-drawer rear cover by pushing in the two buttons located at the rear sides of the cash drawer.
3. Remove the rear cover **C** as shown in Figure 65 on page 89 (together with the distributed customer display **D**, if one is installed) and set it aside. It is not necessary to disconnect the cable from the display.

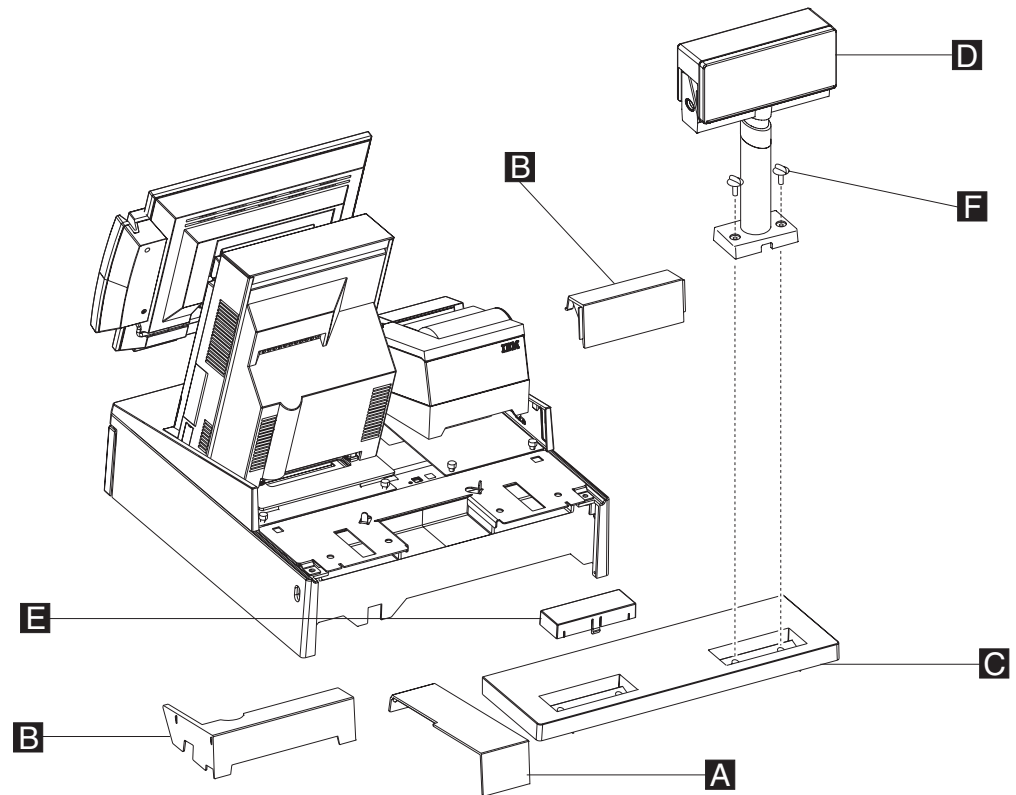


Figure 65. Removing rear modesty cover and distributed customer display

4. Remove the narrow filler panel **A** between the system and the printer, and remove the vertical covers **B** behind the system and printer (if installed).
5. Remove the rear cover as described at “Rear cover – removing and replacing” on page 38.
6. Unplug the peripheral cables from the front and rear connector panels and unplug the line cord from the power supply.
7. Remove the thumbscrews (2) securing the SurePOS 500 Models 5x3 and 544/564 adapter plate **A** to the integration tray, as shown in Figure 66 on page 90. Then slide the system and adapter plate to the rear as a unit to free the plate from the mounting tabs. Remove the SurePOS 500 Models 5x3 and 544/564.

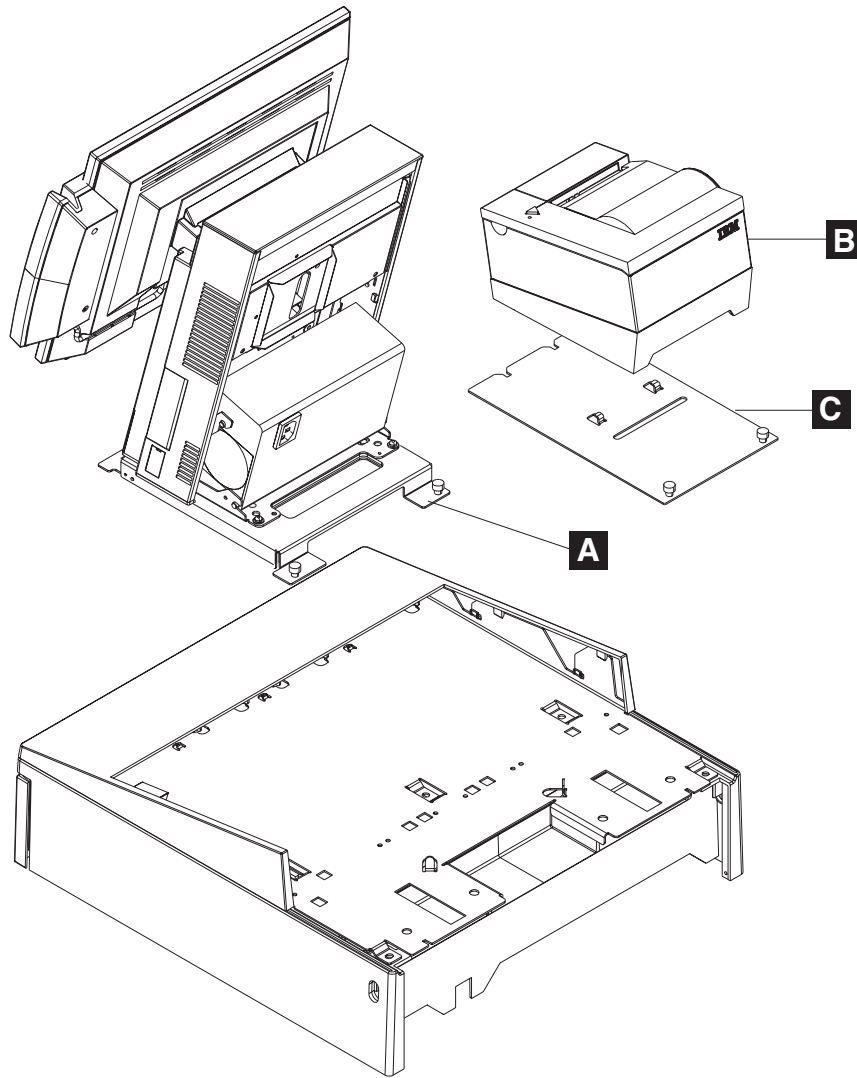


Figure 66. Detaching system from cash drawer integration tray

8. Remove printer **B** from the printer base mounting plate **C** by sliding it off the two mounting plate tabs.

To replace a system on a cash drawer non-keyboard integration tray, reverse this procedure.

Keyboard integration tray mounting for countertop and cash drawer

The removal and replacement procedures for removing components on a full-size keyboard integration tray are different than the compact-size keyboard integration tray. Go to the appropriate procedure for your configuration:

- For the **full-size keyboard integration tray for countertop and cash drawer**, go to “Full-size keyboard integration tray mounting for countertop and cash drawer.”
- For the **compact-size keyboard integration tray for the cash drawer**, go to “Compact-size keyboard integration tray mounting for the cash drawer” on page 98.

The full-size keyboard-integration tray can be used as a free-standing unit, secured to a countertop using mounting screws or mounted to a cash drawer. The SurePOS 500 Models 5x3 and 544/564 is mounted with the 4610 SureMark printer using the full-size keyboard-integration tray. The compact-size keyboard-integration tray can only be mounted on a compact-size cash drawer without a printer.

Full-size keyboard integration tray mounting for countertop and cash drawer

Figure 67 shows a full-size keyboard integration tray mounted on a cash drawer with optional devices, such as the 4610 SureMark printer, distributed character graphic display and the SurePoint Solution (Machine Type: 4820, Models 4FT, 4FD, 2GN, 5GN, and 2GB) installed.

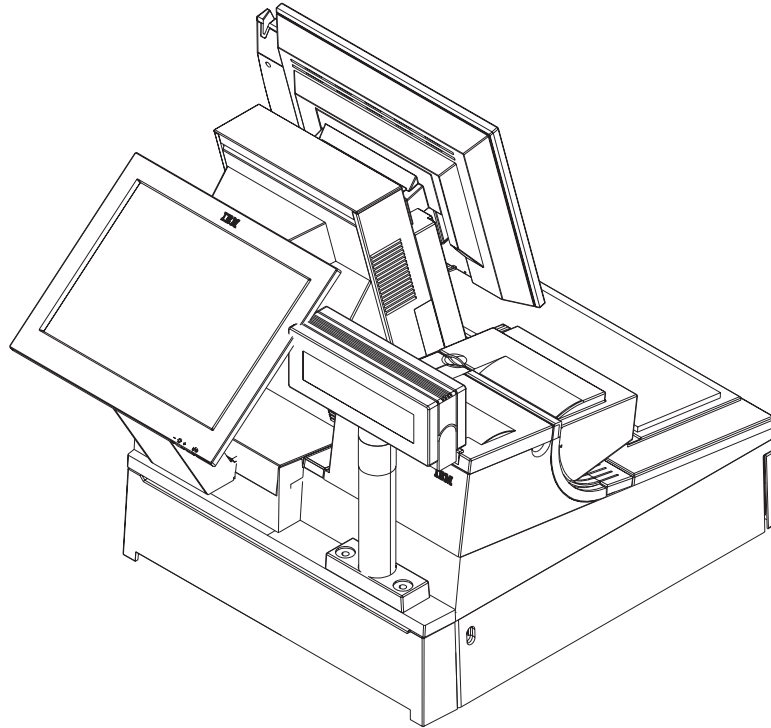


Figure 67. Full-size keyboard integration tray mounted on a cash drawer

Devices, such as the printer, distributed character display, SurePoint Solution (Machine type: 4820, Models 4FT, 4FD, 2GN, 5GN, and 2GB), and keyboard are removed and mounted the same way – when the full-size keyboard-integration tray is used for a countertop or cash drawer mount. Therefore, the instructions for the countertop and cash drawer mount have been combined.

The following procedures tell you how to remove the different devices on the full-size keyboard-integration tray:

1. Prepare the SurePOS 500 Models 5x3 and 544/564 for disassembly by performing the necessary steps for the devices that are being removed:
 - a. Switch OFF the power to the SurePOS 500 Models 5x3 and 544/564. Unplug the system power cord from the external power source.
 - b. Remove the filler panels necessary to gain access to the rear cover.
 - c. Remove the rear cover as described at “Rear cover – removing and replacing” on page 38 and unplug the power cord from the system unit at the power supply.
 - d. Remove the cash-drawer rear cover. Push in the two buttons located at the rear sides of the cash drawer and then pull the cash-drawer rear cover back and off.
2. To remove the distributed customer display, perform the following steps:
 - a. Unplug the distributed character display cable from the SurePOS 500 Models 5x3 and 544/564 rear connector panel, as shown in Figure 40 on page 60.
 - b. Unroute the distributed character display cable **F** to enable the distributed character display to be removed, as shown in Figure 68.

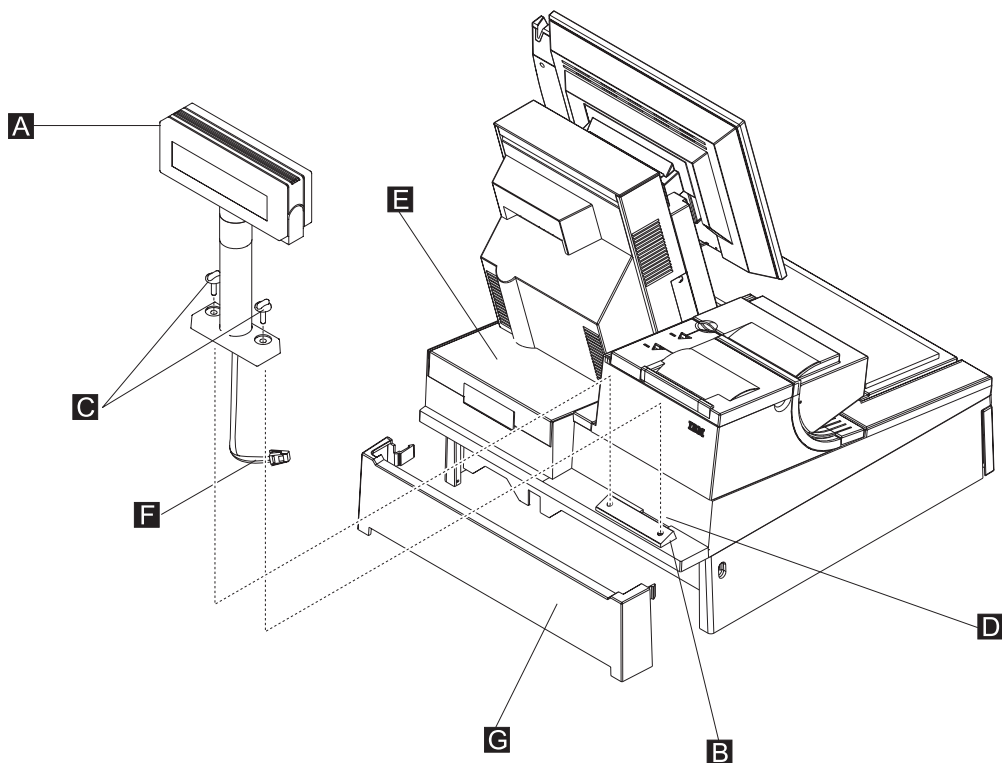


Figure 68. Remove the distributed character display from a full-size integration tray

- c. Remove the distributed character display **A** by removing the two thumbscrews **C** from mounting post **B**. Lift up on the display and pull cable **F** up through slot **D**.
 - d. For information on disassembling the distributed character display or APA, go to “Distributed customer display – disassembling” on page 118.
3. To remove the **keyboard**, perform the following steps:

- a. Remove the keyboard from the keyboard integration tray by lifting the keyboard up and off the keyboard integration tray.
 - b. Remove the keyboard filler panel.
 - c. Detach the keyboard cable from the Y-cable or from the back of the system unit.
4. To remove the **keyboard Y-cable**, perform the following steps:
- a. Remove filler panel by lifting the filler panel post up and off of slot, as shown in the exploded view in Figure 69.

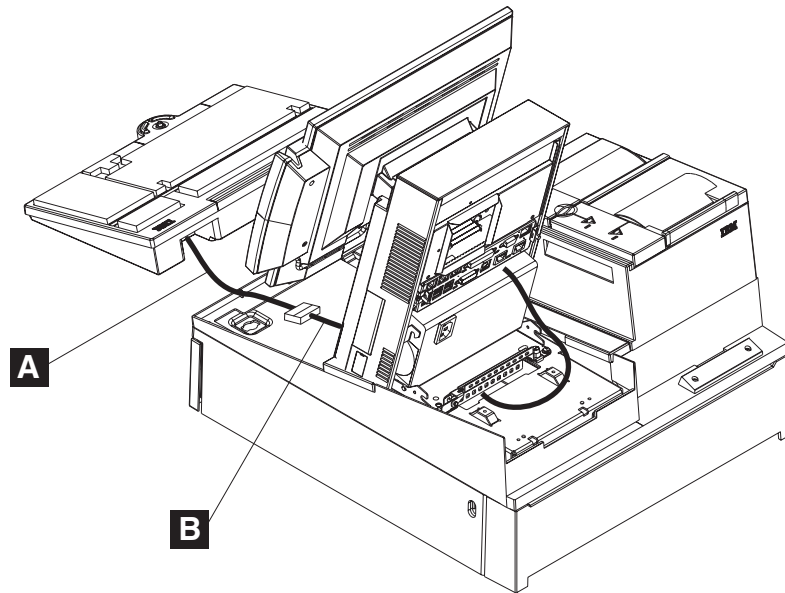


Figure 69. Removing the keyboard Y-cable

- b. Disconnect the Y-cable **A** from the keyboard/mouse connector located on the front-underside of the SurePOS 500 Models 5x3 and 544/564.

5. To remove the **4610 SureMark printer** when installed on a full-size keyboard integration tray, perform the following steps:

Note: See the *4610 SureMark Point-of-Sale Printers User's Guide* for detailed information about printer switch settings and cabling.

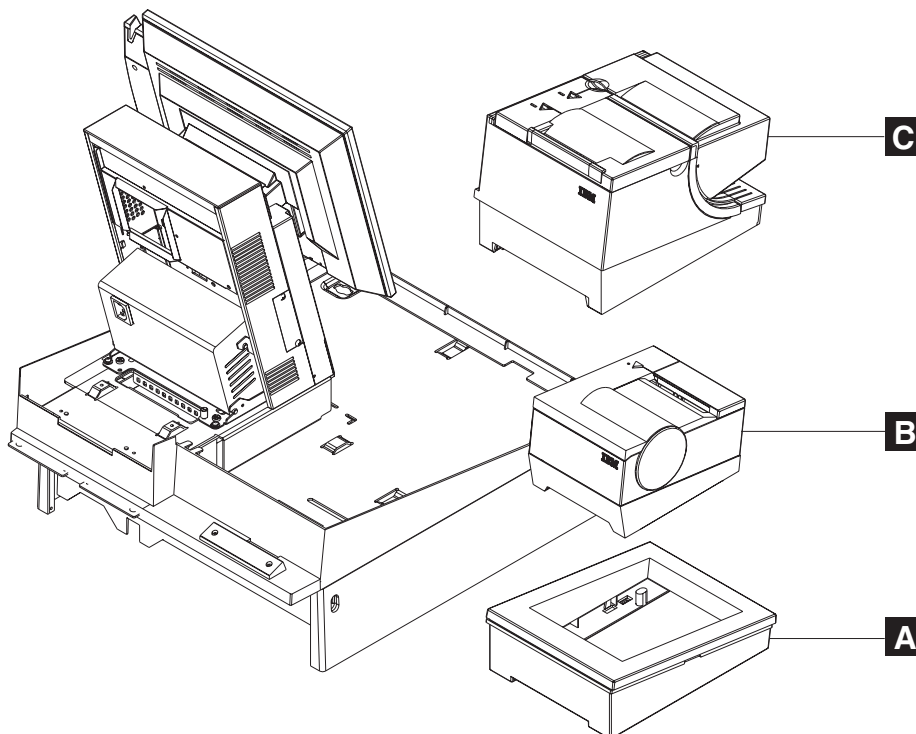


Figure 70. Removing the 4610 printer from the full-size keyboard integration tray

Table 9. 4610 SureMark printer on a full-size keyboard integration tray legend

A	Printer stand for the 4610 Models TF6 and TF7 printers
B	4610 Models TF6 and TF7 printers (small footprint)
C	4610 Models TG3, TG4 and TG5 printers

- a. Unplug the 4610 SureMark printer cable from the SurePOS 500 Models 5x3 and 544/564 rear connector panel, as show in Figure 40 on page 60.
 - b. For the **4610 SureMark Models TG3, TG4 and TG5 printers C**, lift the printer up and off the keyboard integration tray, as show in Figure 70.
 - c. For the **4610 SureMark TF6 and TF7 printers B**, lift the printer up and off plastic printer base **A** on the keyboard integration tray.
 - d. Remove the plastic printer base **A**.
 - e. To reinstall the 4610 printer, go to “4610 SureMark printer installation on a keyboard integration tray” on page 126.
6. To remove a SurePoint Solution (Machine Type: 4820, Models 4FT, 4FD, 2GN, 5GN, and 2GB) from a full-size keyboard integration tray (mounted on a countertop or a cash drawer) or on a compact keyboard integration tray mounted to a cash drawer perform the following steps. The following procedure shows the 4820 mounted to a full-size cash drawer:

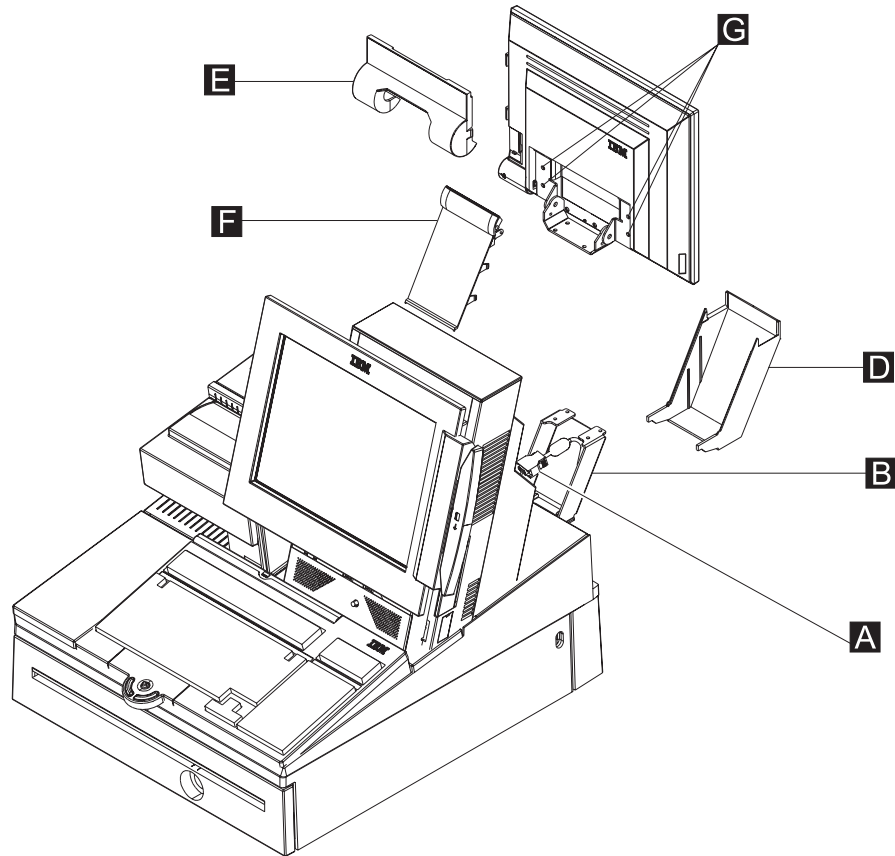


Figure 71. Removing the 4820 SurePoint Solution display cable and covers

- a. Refer to Figure 71. Remove the 4820 filler panels in the following order (**E** , **F** , **D**).

Note: When taking off filler panel **F** , notice that the tabs are located on the outside of the mounting bracket **B** . The tabs hold filler panel **D** in place.

- b. Disconnect the 4820 display cable **A** from the 4820 connector located on the back of the display, and from the rear connector panel on the SurePOS 500 Models 5x3 and 544/564. Remove cable.
- c. Remove the 4820 by removing the four screws **G** from the display mounting bracket **B** . Carefully place the 4820 display on a smooth, clean surface.

7. To remove the SurePOS 500 Models 5x3 and 544/564 from the keyboard integration tray, see Figure 72 for callout locations and perform the following steps:

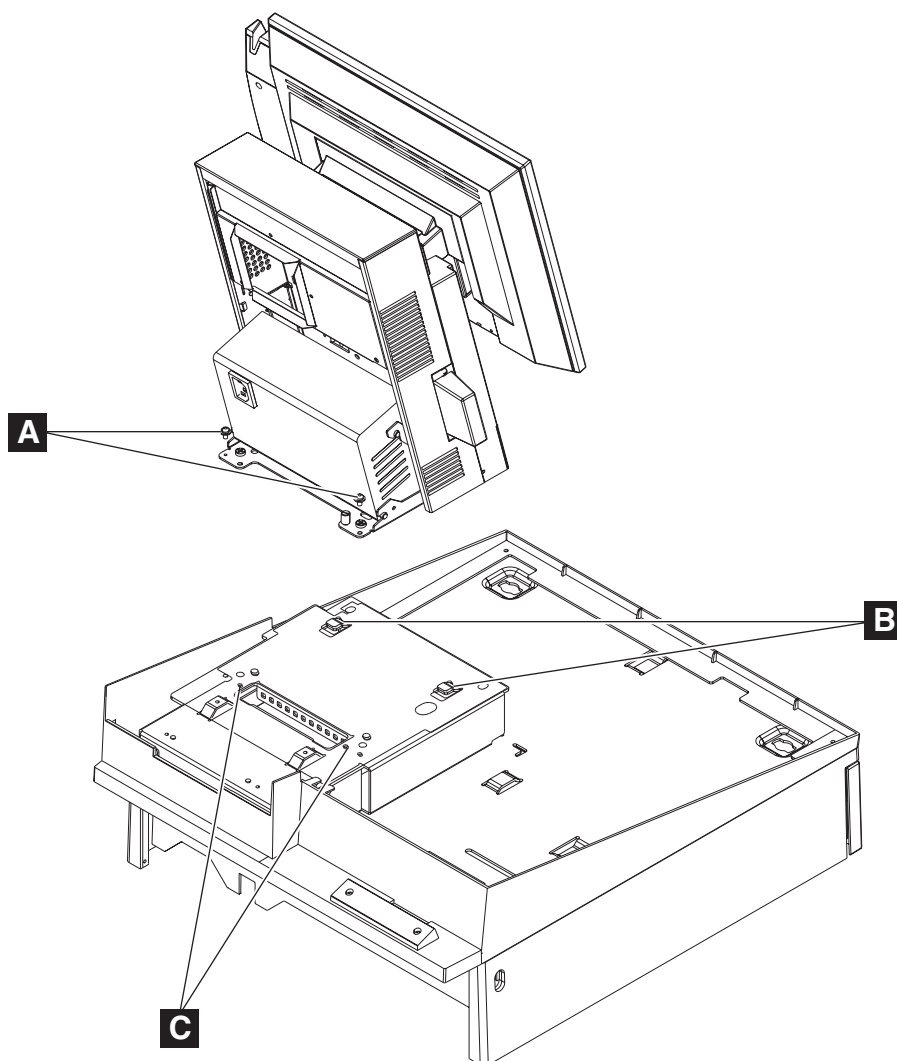


Figure 72. Removing the SurePOS 500 Models 5x3 and 544/564 from the integration tray

- a. Loosen the thumbscrew on the cable tie bar and swing the cable tie bar out of the way.
- b. Loosen the two screws **A**, as shown in Figure 72.

Note: When reattaching the SurePOS 500 Models 5x3 and 544/564 to the integration tray base plate, the interlocking keyholes enable you to set the SurePOS 500 Models 5x3 and 544/564 onto the two base bracket screws and lock it into a secured position until you can tighten the screws.

- c. Slide the SurePOS 500 Models 5x3 and 544/564 toward the rear to unlatch it from the base brackets interlocking keyholes and lift up to remove. Carefully place the SurePOS 500 Models 5x3 and 544/564 on a smooth, clean surface.

8. To remove the **keyboard integration tray** on a cash drawer, perform the following steps:

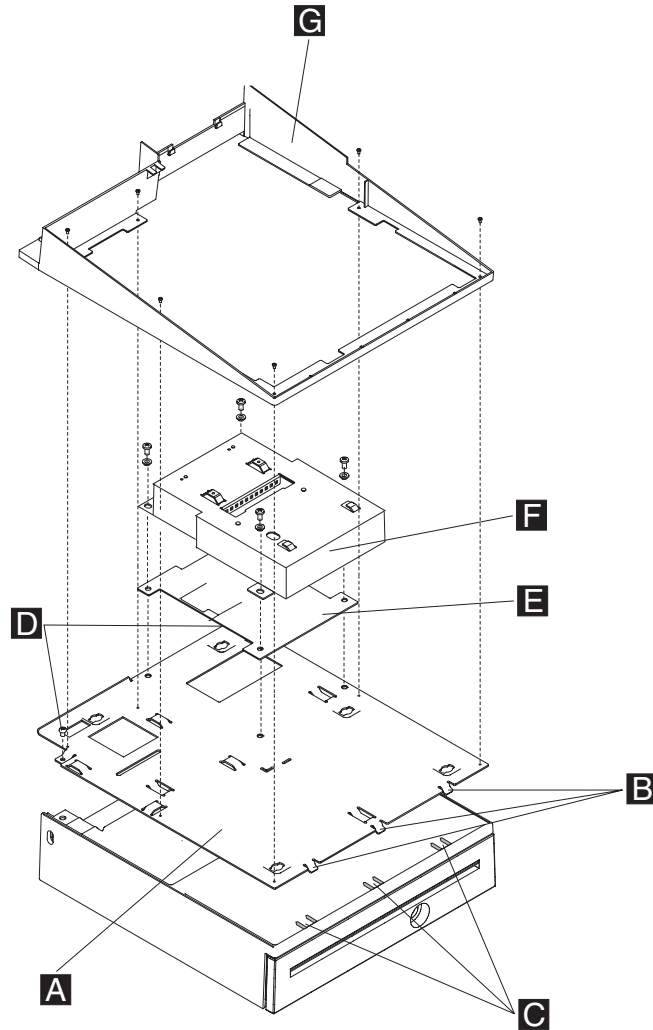


Figure 73. Removing the keyboard integration tray attached to a cash drawer

- a. Remove the fence **G** by removing the six small screws, as shown in Figure 73.
- b. Remove the mounting plate **F** by removing the four screws with plastic washers.
- c. Remove the plastic insulator plate **E** from the integration tray.
- d. Remove the two screws **D** that secures the keyboard integration tray to the cash drawer.
- e. Remove the keyboard integration tray **A** by lifting it up from the rear of the cash drawer and then back so the three tabs **B** are free from the three tab holes **C** on the cash drawer.

Compact-size keyboard integration tray mounting for the cash drawer

The compact-size keyboard-integration tray can only be mounted on a compact-size cash drawer without a printer. The compact cash drawer can accommodate a keyboard, a distributed customer display, or a SurePoint Solution (Machine Type: 4820, Models 4FT, 4FD, 2GN, 5GN, and 2GB). A printer can not be placed on the compact-size keyboard-integration tray.

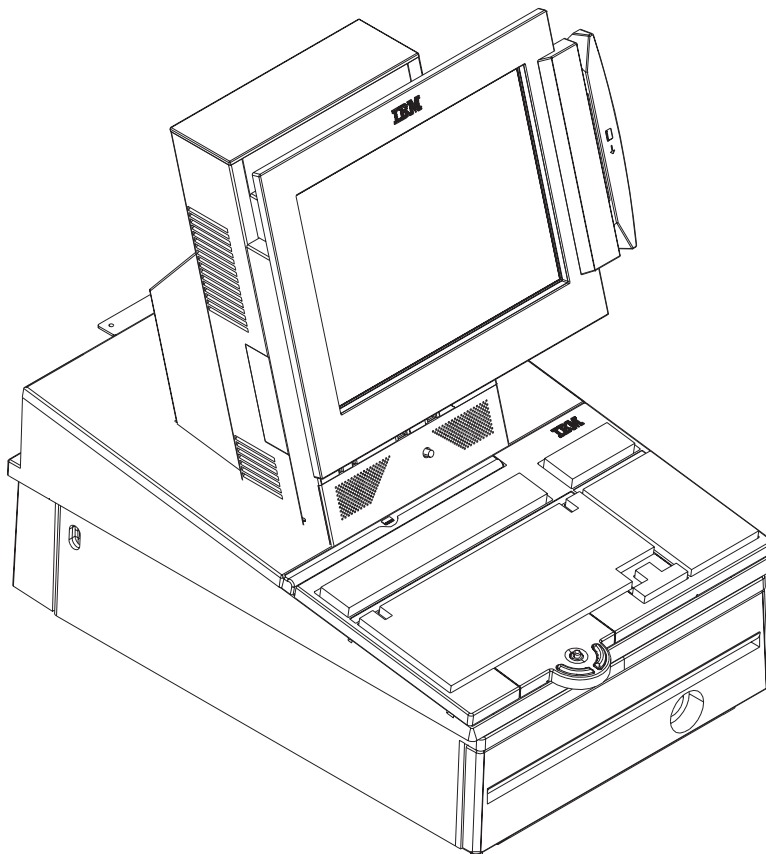


Figure 74. Compact cash drawer with keyboard-integration tray

1. Prepare the SurePOS 500 Models 5x3 and 544/564 for disassembly by performing the necessary steps for the devices that are being removed:
 - a. Switch OFF the power to the SurePOS 500 Models 5x3 and 544/564. Unplug the system power cord from the external power source.
 - b. Remove filler panel **E** Figure 75 on page 99.
 - c. Remove the rear cover as described at “Rear cover – removing and replacing” on page 38 and unplug the power cord from the system unit at the power supply.
 - d. Remove the cash-drawer rear cover **D** Figure 75 on page 99. Push in the two buttons located at the rear sides of the cash drawer and then pull the cash-drawer rear cover back and off.

2. To remove the **distributed customer display**, perform the following steps:
 - a. Unplug the distributed character display cable **F** from the SurePOS 500 Models 5x3 and 544/564 rear connector panel, as show in Figure 40 on page 60.
 - b. Unroute the distributed character display cable **F** to enable the distributed character display to be removed, as show in Figure 75.

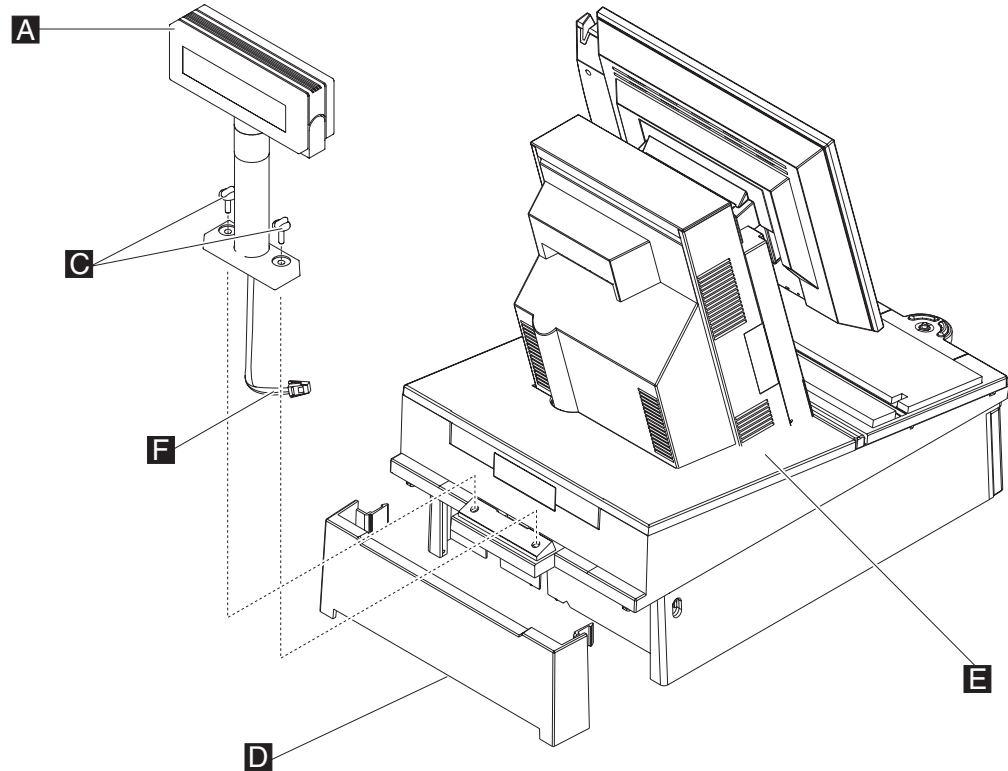


Figure 75. Remove the distributed customer display from integration tray

- c. Remove the distributed character display **A** by removing the two thumbscrews **C** from mounting post . Lift up on the display and pull cable **F** up through the mounting post slot.
- d. For information on disassembling the distributed character display or APA, go to “Distributed customer display – disassembling” on page 118.

3. To remove the **keyboard**, perform the following steps:

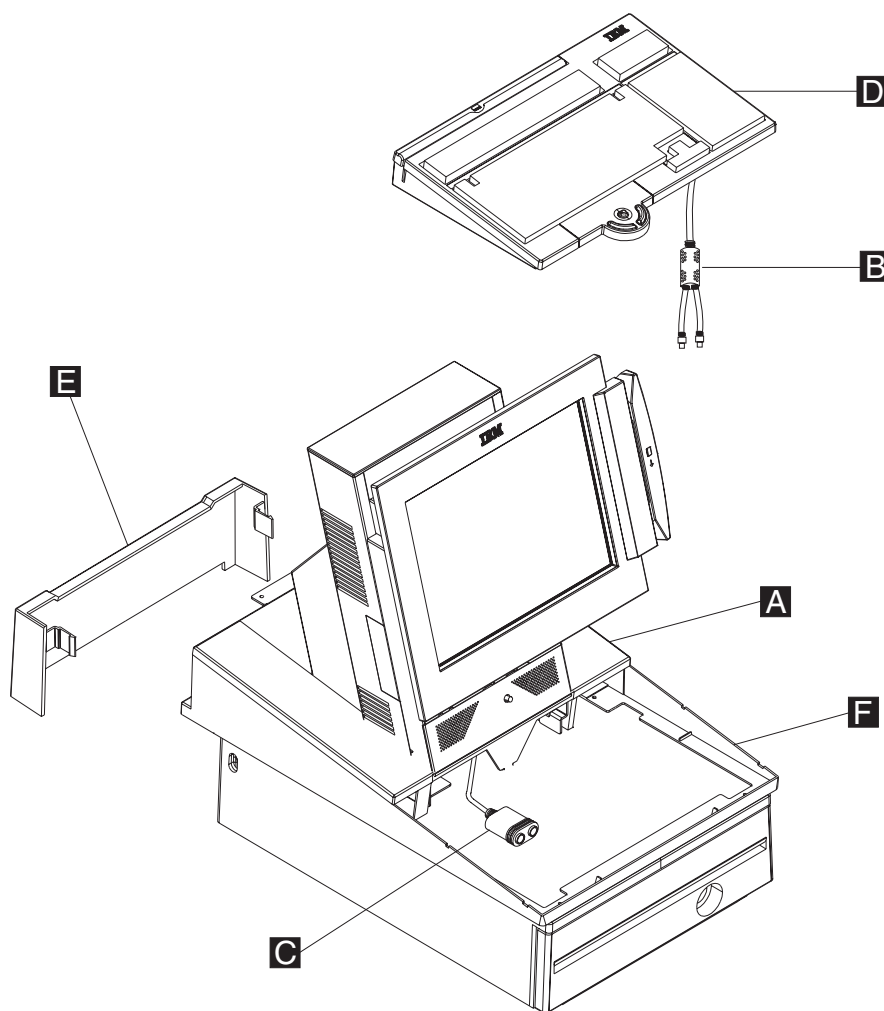


Figure 76. Removing the keyboard from the integration tray

- a. Remove the keyboard **D** by lifting the keyboard up and off the keyboard integration tray, as shown in Figure 76.
 - b. Remove the filler panel **A**.
 - c. Detach the keyboard cable **B** from the Y-cable **C**.
4. To remove the **keyboard Y-cable**, perform the following steps:
- a. Unplug the Y-cable **C** from the SurePOS 500 Models 5x3 and 544/564 front connector panel keyboard/mouse connector, as show in Figure 76. See “Connecting cables to the side access panel” on page 59 for keyboard/mouse connector location on the SurePOS 500 Models 5x3 and 544/564.

5. To remove a SurePoint Solution (Machine Type: 4820, Models 4FT, 4FD, 2GN, 5GN, and 2GB) from a compact-size keyboard integration tray mounted on a cash drawer, perform the following steps:

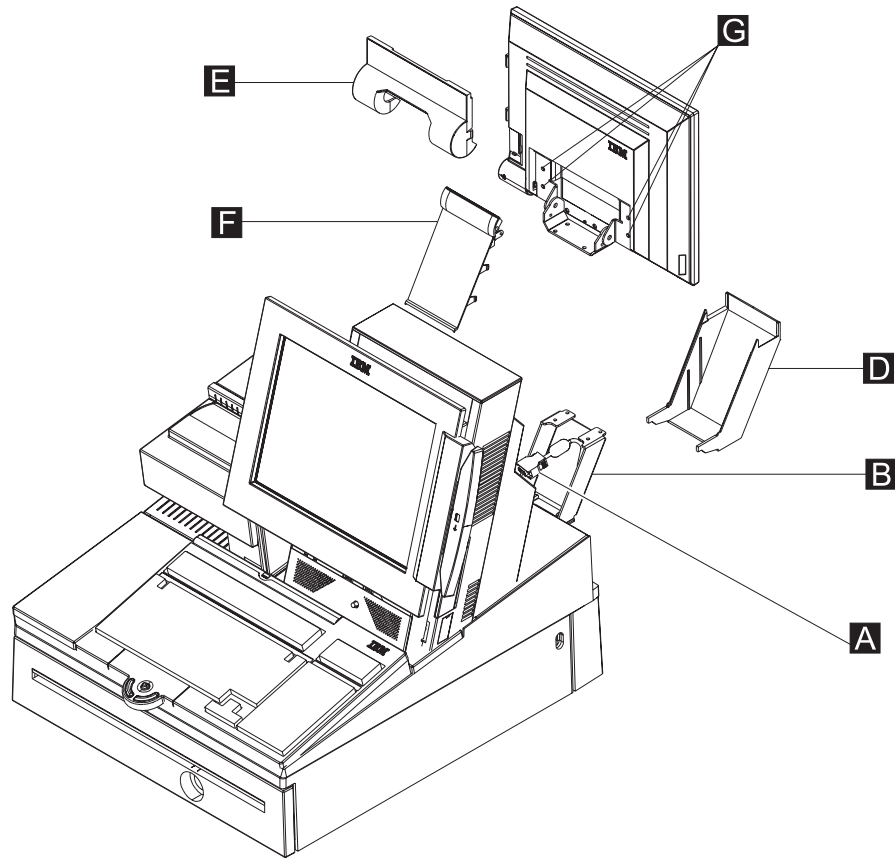


Figure 77. Removing the 4820 SurePoint Solution display cable and covers

- a. Remove the 4820 filler panels in the following order (**E** , **F** , and **D**), as show in Figure 77, and **D** in Figure 78 on page 102.

Note: When taking off filler panel **F** , notice that the tabs are located on the outside of the mounting bracket **B** . The tabs hold filler panel **D** in place.

- b. Disconnect the 4820 display cable **A** from the 4820 connector located on the back of the display, and from the rear connector panel on the SurePOS 500 Models 5x3 and 544/564. Remove the cable.

- c. Remove the 4820 display by removing the two screws **C** from the display mounting bracket **B**, as shown in Figure 77 on page 101. Carefully place the 4820 display on a smooth, clean surface.

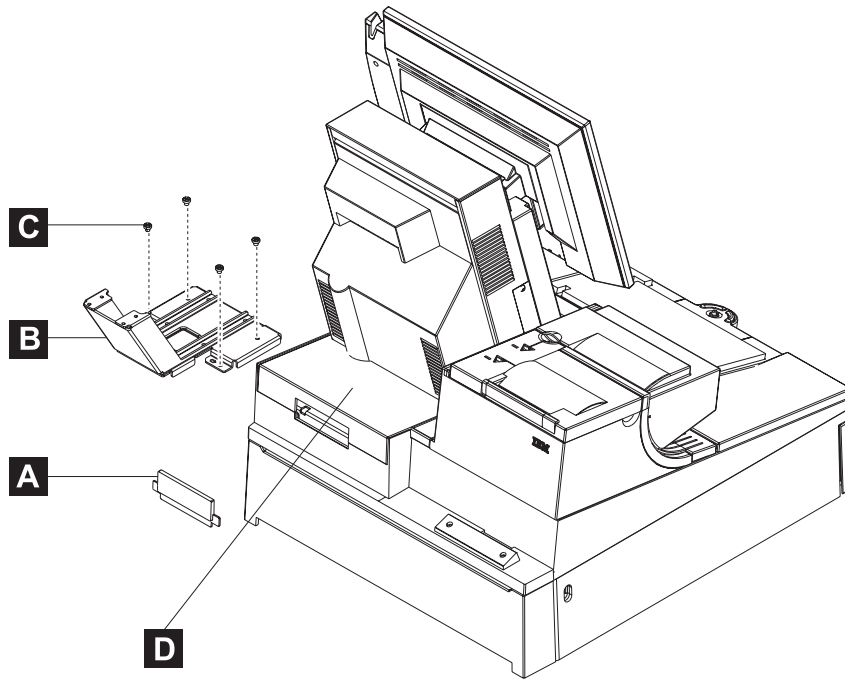


Figure 78. Removing the 4820 SurePoint Solution from a keyboard integration tray

6. To remove the **SurePOS 500 Models 5x3 and 544/564** from the keyboard integration tray, see Figure 79 for callout locations and perform the following steps:

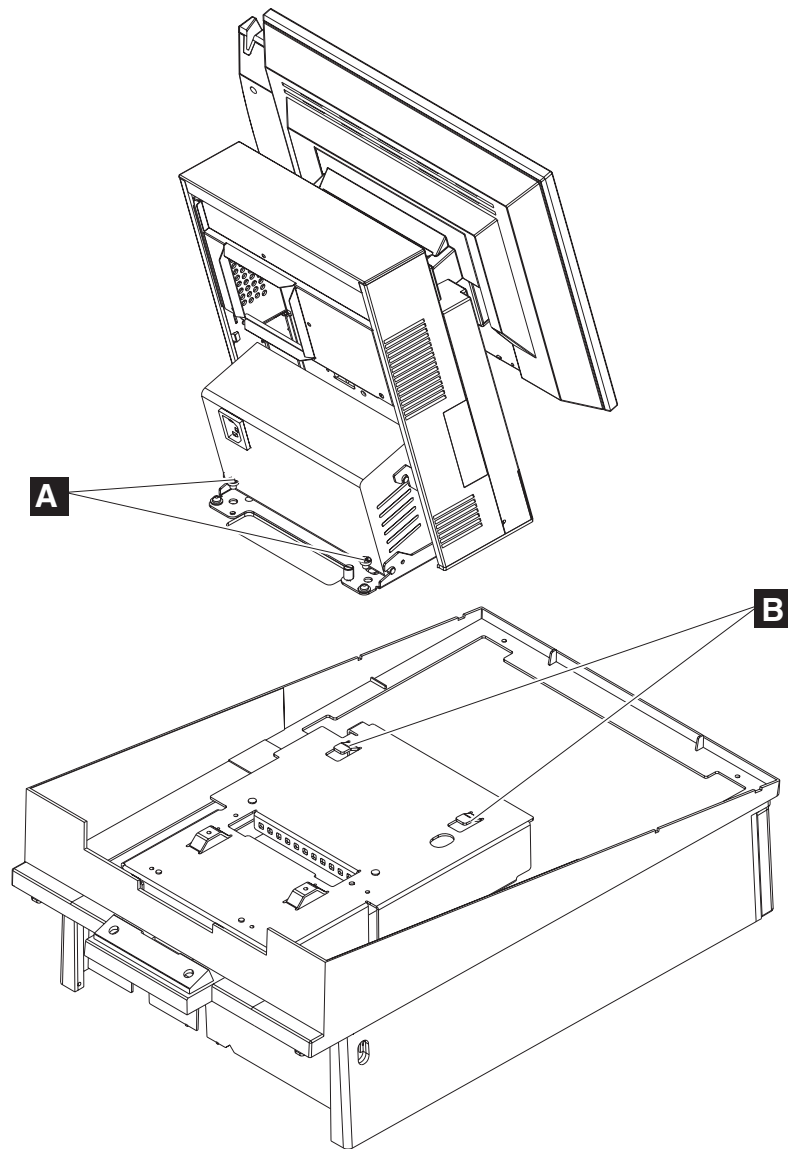


Figure 79. Removing the SurePOS 500 Models 5x3 and 544/564 from the integration tray

- a. Loosen the thumbscrew on the cable tie bar, if present, and rotate the cable tie bar out of the way.
- b. Remove filler panels.
- c. Loosen the two screws **A** that are located through the SurePOS 500 Models 5x3 and 544/564 base bracket interlocking keyholes **B**, as shown in Figure 79.

Note: When reattaching the SurePOS 500 Models 5x3 and 544/564 to the integration tray base plate, the interlocking keyholes enable you to set the SurePOS 500 Models 5x3 and 544/564 onto the two base bracket screws and lock it into a secured position until you can tighten the screws.

- d. Slide the SurePOS 500 Models 5x3 and 544/564 forward to unlatch it from the base brackets and lift up to remove. Carefully place the SurePOS 500 Models 5x3 and 544/564 on a smooth, clean surface.
- 7. To remove the **keyboard integration tray** on a cash drawer, perform the following steps:

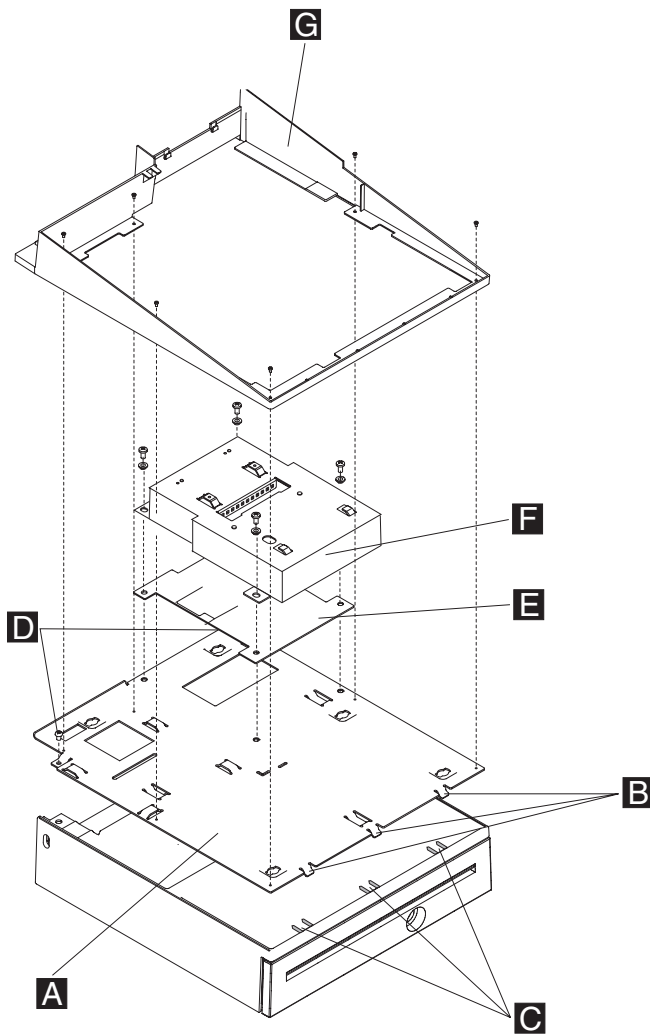


Figure 80. Removing the keyboard integration tray attached to a cash drawer

- a. Remove the fence **G** by removing the six small screws, as shown in Figure 80.
- b. Remove the mounting plate **F** by removing the four screws with plastic washers.
- c. Remove the plastic insulator plate **E** from the integration tray.
- d. Remove the two screws **D** that secures the keyboard integration tray to the cash drawer.
- e. Remove the keyboard integration tray **A** by lifting it off of the cash drawer.

Cash drawer FRUs – removing and replacing

This section describes how to remove and replace both full-size and compact cash drawer-related FRUs. It also contains removal and replacement procedures that are common to both cash drawers.

Full-size cash drawer FRUs – removing and replacing

This section describes how to remove and replace full-size cash drawer-related FRUs.

Removing and replacing a full-size drawer

To remove a full size cash drawer:

1. If the cash drawer is mounted to the underside of a counter, refer to the instructions that came with the mounting brackets.
2. Switch OFF the power to the SurePOS 500 Models 5x3 and 544/564. Unplug the system power cord from the external power source.
3. Open the cash-drawer rear cover.
4. Unplug the cable from the rear of the cash drawer.
5. Remove the integration tray:
 - a. To detach the **non-keyboard integration tray** from the top of the cash drawer, see “Non-keyboard integration tray – removing and replacing” on page 84.
 - b. To detach the **keyboard integration tray** from the top of the cash drawer, see “Keyboard integration tray mounting for countertop and cash drawer” on page 91
6. Open the cash drawer and pull it all the way out.
7. Remove the till.
8. Push in on the buttons in the rails, as shown in Figure 81 on page 106, and pull up on the front of the drawer until the drawer is free from the slides. Pull the drawer forward out of the base.

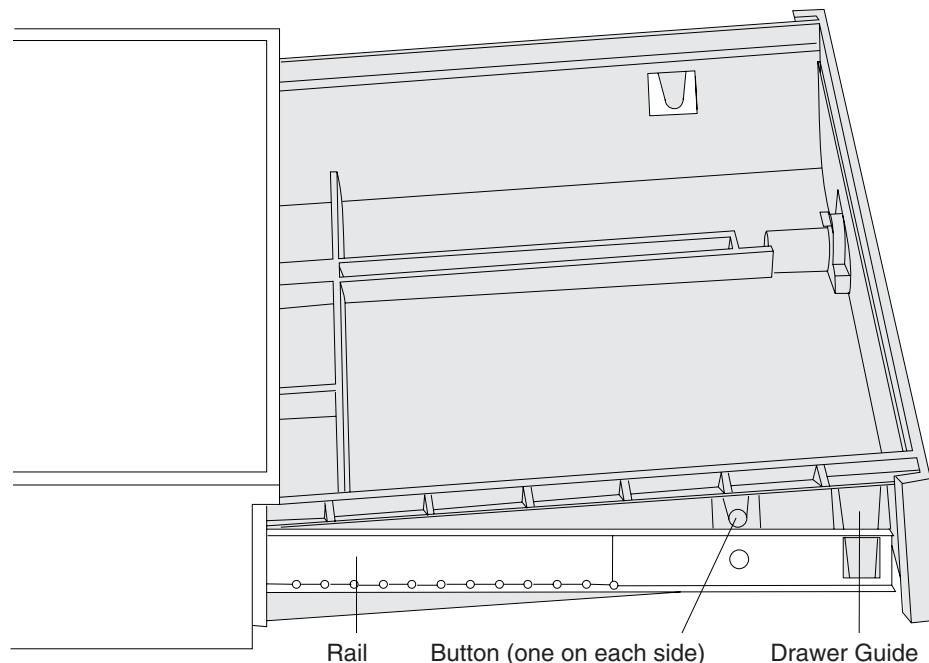


Figure 81. Removing and replacing a full size cash drawer

To replace a cash drawer:

1. Make sure that the latch assembly is unlatched; otherwise, the drawer will not close properly.
2. Pull both slides all the way out.
3. Position the rear of the drawer into the slides so that the drawer guide on each side of the drawer aligns with the corresponding opening on each side, as shown in Figure 81.
4. Pivot the front of the drawer downward until it is positioned fully into the slides.
5. Close the drawer to make sure it closes correctly and remains closed.

Removing and replacing a full-size slide assembly

To remove a cash-drawer slide assembly:

1. Disconnect the cash drawer cable.
2. Remove the drawer as described at “Removing and replacing a full-size drawer” on page 105).
3. Remove the latch assembly (see “Removing and replacing the latch and sensor assembly” on page 114).
4. Remove the three screws that secure the slide to the base and lift out the slide assembly, as shown in Figure 82 on page 107.
5. If necessary, remove the top cover from the base (see “Removing and replacing the top cover” on page 113).

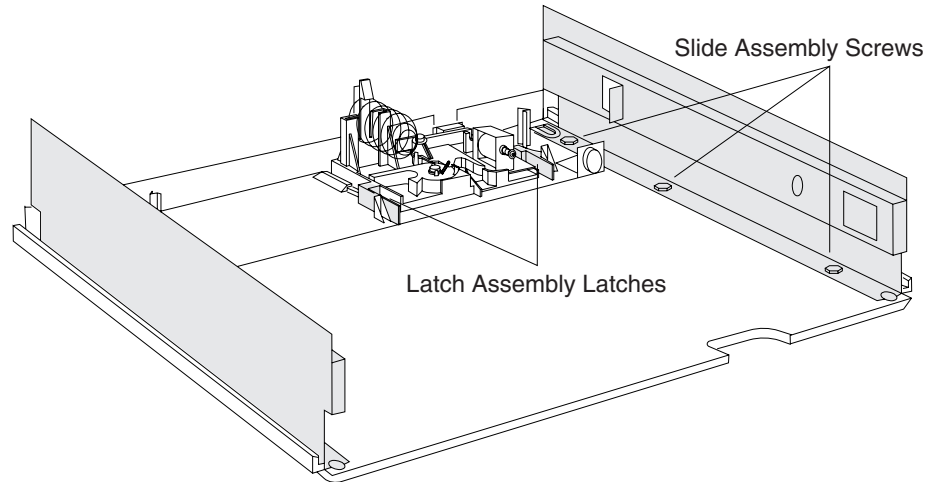


Figure 82. Removing cash-drawer slide assembly

To replace the cash-drawer slide assembly:

1. Place the slide assembly into the base so that the screw holes are aligned.
2. Insert the screws that secure the slides into the base.
3. Reinstall the latch assembly.
4. Reinstall the top cover if it was removed.
5. Reinstall the drawer.

Compact cash drawer FRUs – removing and replacing

This section describes how to remove and replace compact cash drawer-related FRUs.

Removing and replacing a compact cash drawer

To remove a compact cash drawer:

1. Disconnect the cash drawer cable.
2. Open the cash drawer and pull it all the way out.
3. Remove the till.
4. Facing the front of the drawer, use a coin or large screwdriver to move the drawer slide latches to the right until the drawer is released from the slide assembly (see Figure 83 and Figure 84). Lift the drawer out.
5. If you will be replacing the drawer, remove the lock assembly and install it in the new drawer (see “Removing and replacing the keylock assembly” on page 113).

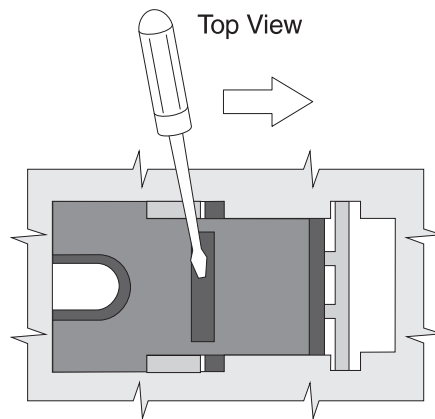


Figure 83. Releasing the drawer from the slide assembly

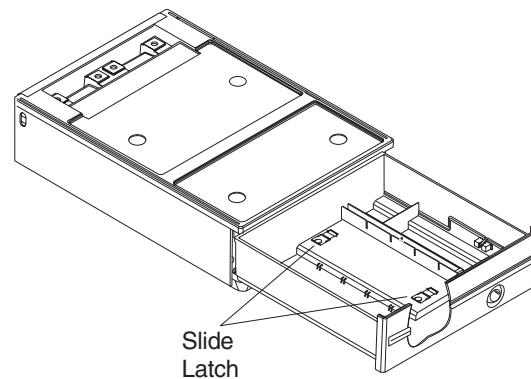


Figure 84. Removing and replacing the compact cash drawer

To replace the compact cash drawer, reverse this procedure.

Removing and replacing the slide latches

To remove the cash-drawer slide latches:

1. Disconnect the cash-drawer cable.
2. Remove the drawer (see “Removing and replacing a compact cash drawer”).
3. Remove the slide latch by sliding it all the way to the left (latched position).

4. Gently pry and press at the point shown in Figure 85.

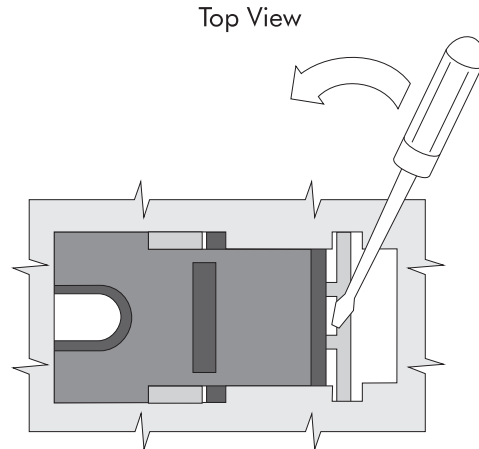


Figure 85. Removing and replacing the slide latches

To replace the latch, insert it through the opening in the bottom of the drawer and rotate it into position. Then push up from the bottom until it latches.

Removing and replacing the compact slide assembly

To remove the slide assembly:

1. Disconnect the cash-drawer cable.
2. Remove the cash drawer. See "Removing and replacing a compact cash drawer" on page 108.
3. Remove the three screws that secure the slide to the base and lift the slide assembly out. See Figure 86 on page 110.

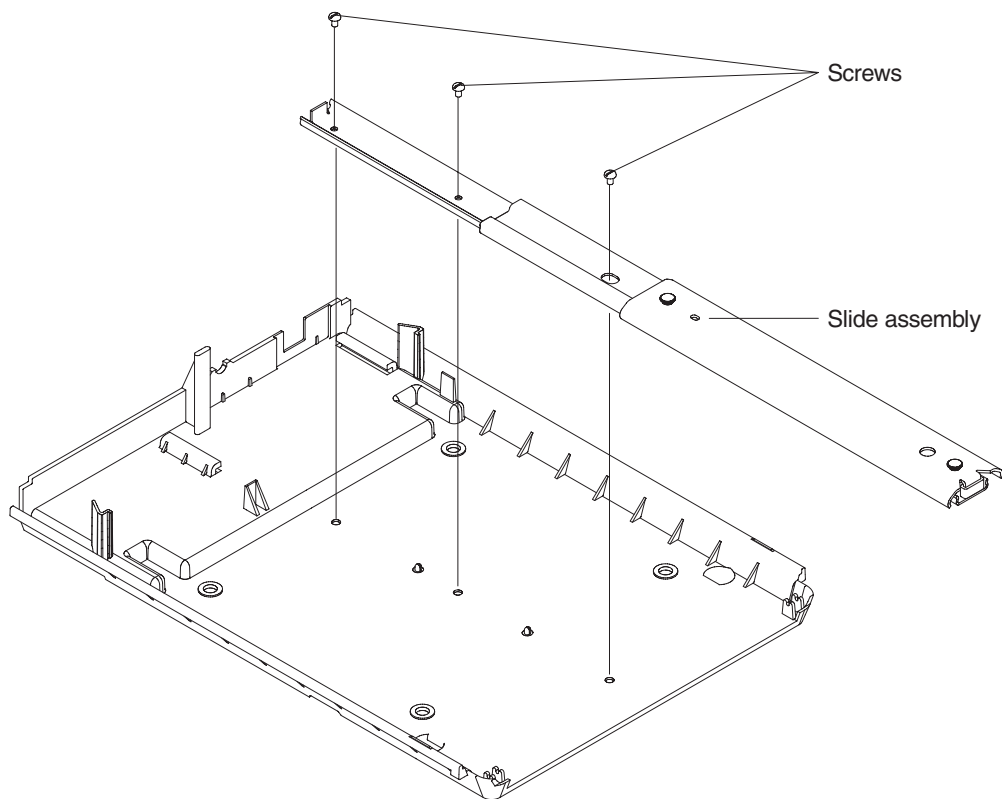


Figure 86. Compact cash drawer slide assembly

To replace the slide assembly:

1. To replace the slide assembly, place the slide assembly into the base so that the screw holes are aligned.
2. Insert and tighten the screws that secure the slide to the base.

Removing and replacing the rollers

To remove and replace the cash-drawer rollers:

1. Disconnect the cash-drawer cable.
2. Remove the cash drawer (see "Removing and replacing a compact cash drawer" on page 108).

Note: There are four rollers: two ball-bearing rollers at the front of the base and two plastic rollers at the rear of the drawer assembly (see Figure 87 on page 111). You should replace them all at the same time.

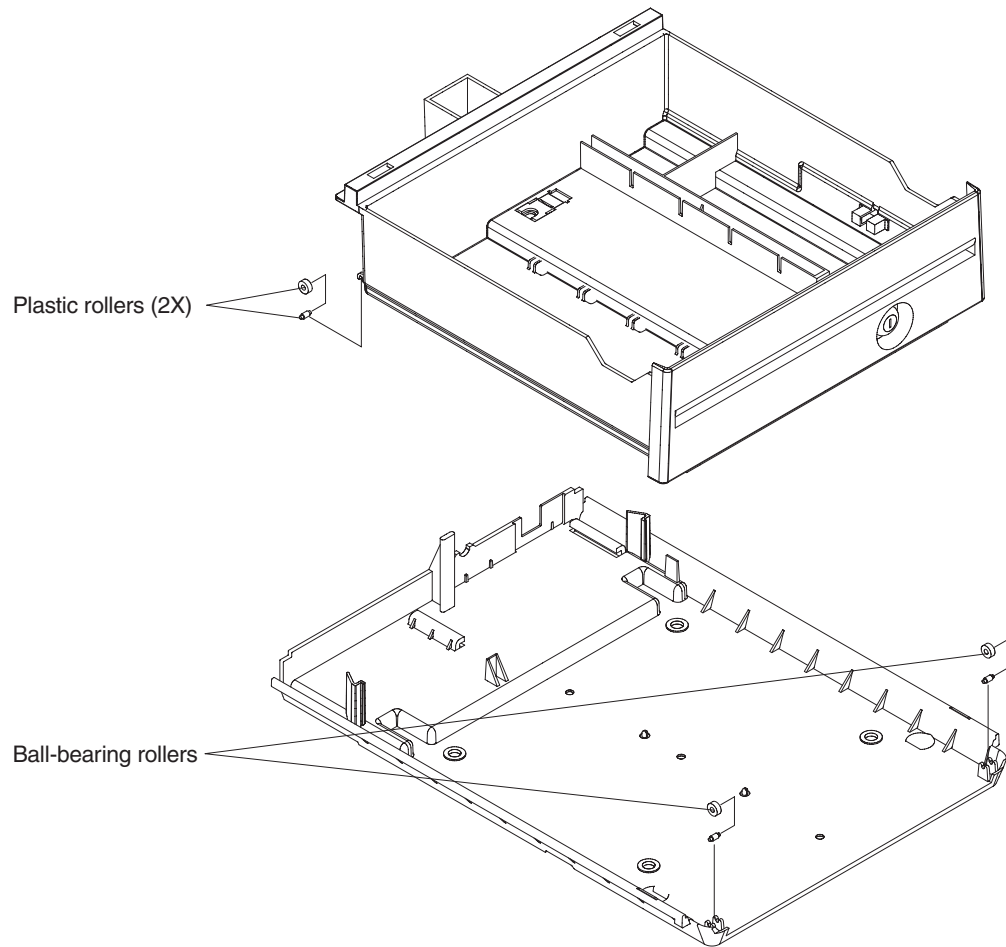


Figure 87. Compact cash drawer rollers

3. Each roller shaft snaps into two plastic posts. To replace the roller and shaft, gently pry the roller and shaft out. Snap the new set into position. Be sure to use the ball-bearing rollers on the base and the plastic rollers on the drawer.

Removing and replacing the coin-roll cutter

To remove the coin-roll cutter:

1. Open the cash drawer and pull it all the way out.
2. Remove the till.
3. From inside the drawer, squeeze the cutter latches together with your fingers and push the cutter outward until it can be removed from the outside (see Figure 88 on page 112).

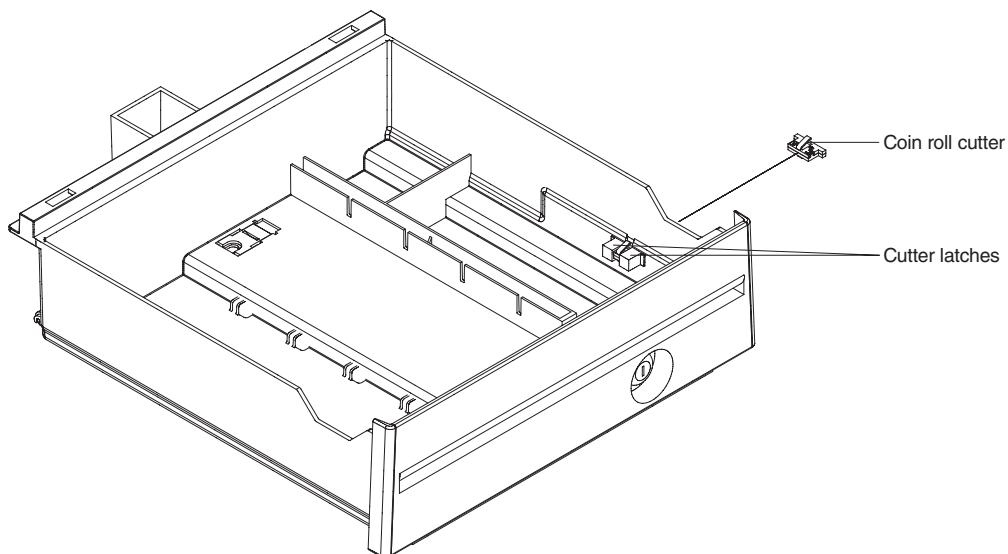


Figure 88. Removing the coin-roll cutter

4. To replace the cutter, snap the new cutter into position from the outside.
5. Reassemble.

Removing and replacing the security clip

To remove the security clip:

1. Disconnect the cash-drawer cable.
2. Open the rear cover of the cash drawer and remove the cash drawer (see "Removing and replacing a compact cash drawer" on page 108).
3. Remove the top cover (see "Removing and replacing the top cover" on page 113).
4. Remove the security clip (see Figure 89).

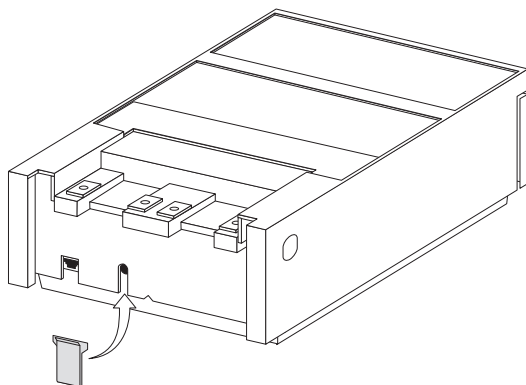


Figure 89. Removing the security clip (compact cash drawer)

To replace the security clip, reverse this procedure.

Common cash-drawer FRUs – removing and replacing

This section describes how to remove and replace compact cash-drawer-related FRUs that are common to both the full-size and compact cash drawers.

Removing and replacing the top cover

To remove the top cover of a cash drawer:

1. Disconnect the cash drawer cable from the rear of the cash drawer. (There may be other cables routed through the rear of the top cover.) Remove the rear panel by releasing it at the pivots. Separate the top cover and base without disturbing these cables. Disconnect cables from the terminal unit when necessary.
2. Open the rear panel by pushing the buttons at the upper rear corners of the cover.
3. Set the devices mounted on the top cover to the side.
4. Remove the drawer (see “Removing and replacing a full-size drawer” on page 105 or “Removing and replacing a compact cash drawer” on page 108).
5. To separate the top cover from the base, reach in from the front and push the cover latches outward while pushing them to the rear. The cover slides off toward the rear (see Figure 90).

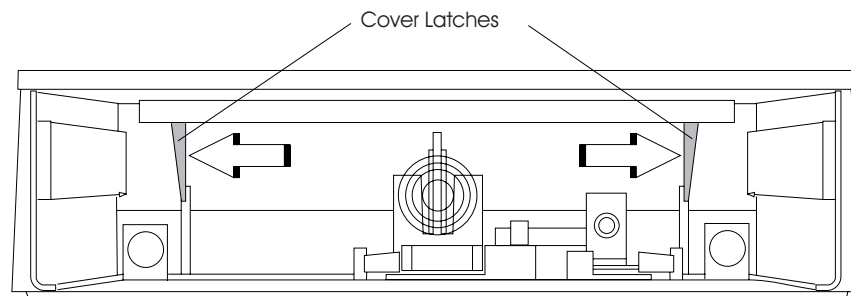


Figure 90. Removing and replacing the top cover

Removing and replacing the keylock assembly

To remove the keylock assembly:

1. Remove the cash drawer (see “Removing and replacing a compact cash drawer” on page 108 or “Removing and replacing a full-size drawer” on page 105).
2. Remove the lock retainer clip holding the keylock assembly on the inside of the drawer (see Figure 91 on page 114).
3. Slide the keylock assembly out of the front of the drawer.

Note: It might require some force to free the keylock assembly.

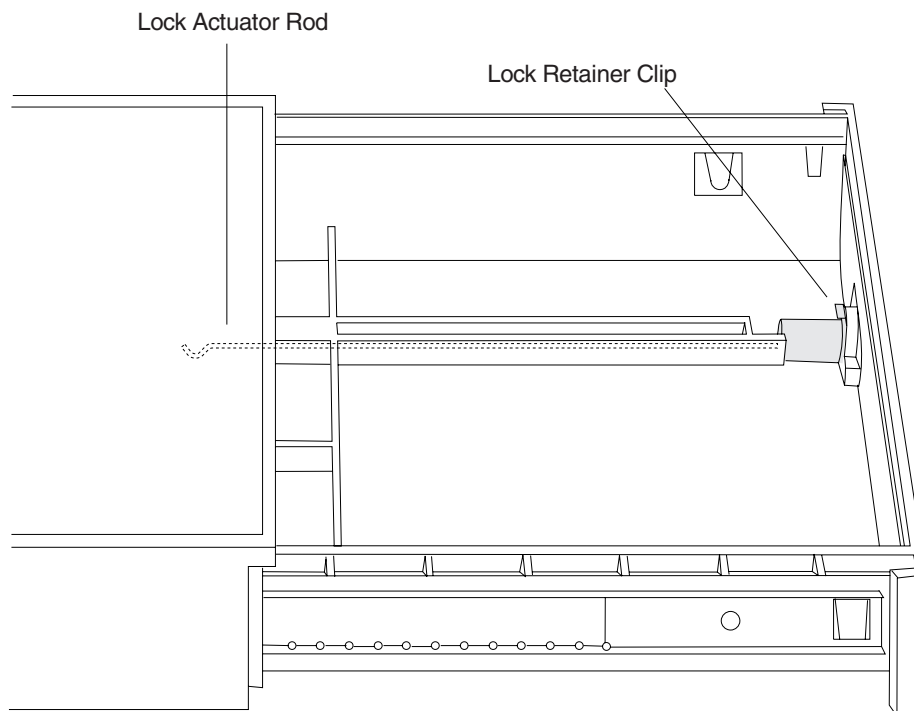


Figure 91. Keylock assembly

To replace the keylock assembly:

1. Ensure that the lock actuator rod is in the position shown in Figure 91.
2. Slide the lock assembly all the way into the opening in the front of the drawer, making sure that the end of the lock actuator rod is interlocked with the rear of the lock.
3. Reinstall the lock retainer clip.
4. Reinstall the drawer.

Removing and replacing the latch and sensor assembly

To remove the latch and sensor assembly:

1. Disconnect the cash-drawer cable from the connector at the rear of the cash drawer.
2. Remove the cash drawer (see “Removing and replacing a full-size drawer” on page 105 or “Removing and replacing a compact cash drawer” on page 108).
3. Reach in from the front and push the latch on each side of the latch assembly inward while pulling the assembly toward the front (see Figure 82 on page 107).
4. Slide the assembly out of the base.

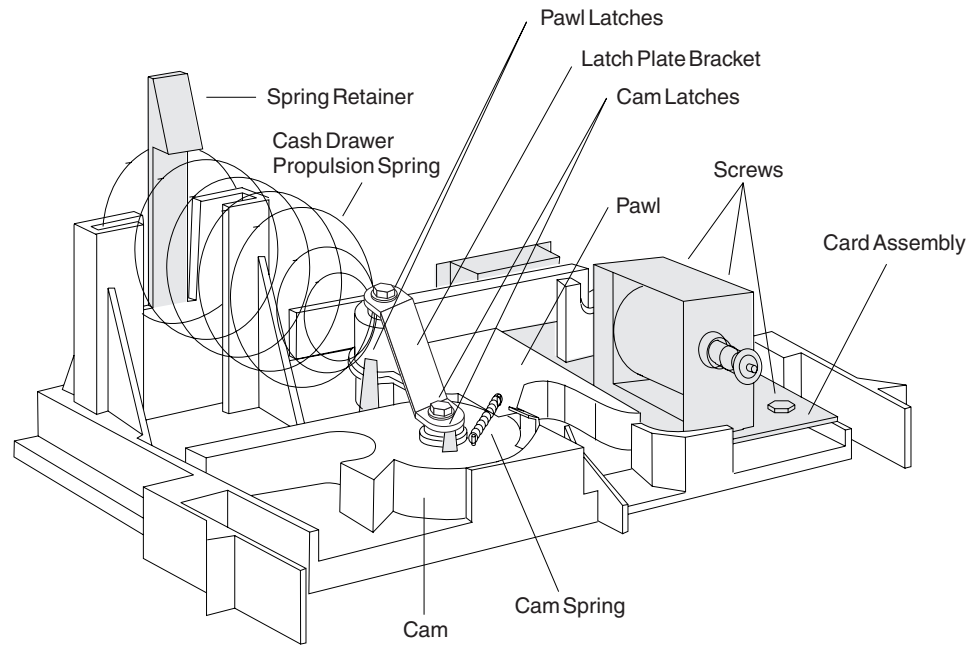


Figure 92. Cash-drawer latch and sensor assembly

To replace the latch and sensor assembly:

1. Slide the assembly into the base from the front and align it with the slots in the base. Push the assembly to the rear until it locks into place.
2. Make sure that the latching mechanism is unlatched.
3. Reinstall the drawer.
4. Reconnect the cash-drawer cable.

Removing and replacing components of the latch and sensor assembly

To remove the individual components of the latch and sensor assembly:

1. Disconnect the cash-drawer cable.
2. Remove the cash drawer (see “Removing and replacing a full-size drawer” on page 105 or “Removing and replacing a compact cash drawer” on page 108).
3. Remove the latch assembly (see “Removing and replacing the latch and sensor assembly” on page 114).
4. Remove the cash-drawer propulsion spring by pushing the spring retainer back, and then slide the spring up and out of its mounting slots (see Figure 92).
5. Remove the latch plate bracket by removing the screw in the cam pivot post and the screw in the pawl pivot post (see Figure 92).
6. Remove the cam spring by lifting the ends of the small posts on the cam and the pawl (see Figure 92).
7. Spread apart the two pawl latches that hold the pawl on the pivot post, while lifting the pawl off the post (see Figure 92).
8. Spread apart the two cam latches that hold the cam on the pivot post, while lifting the cam off the post (see Figure 92).
9. Remove the three screws that retain the card assembly and remove the card assembly (see Figure 92).

To replace the components of the latch and sensor assembly, reverse this procedure.

Removing and replacing the keylock insert

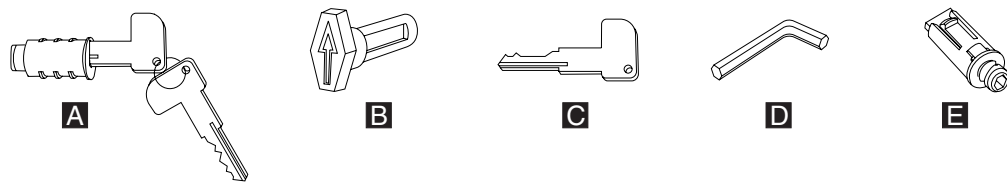


Figure 93. Lock accessories

- A** Lock insert and keys.
- B** Aligner. This tool is used to ensure that the slot at the bottom of the lock cylinder aligns with the lock insert being installed. For the cash drawer, the arrow on the aligner should point up. (The arrow points in different directions for other types of devices.)
- C** Brass installation-removal key.
- D** Blank lock installation handle.
- E** Blank lock insert.

To remove the keylock insert:

1. The lock must be in the unlocked position.
2. Insert the brass installation-removal key fully into the lock until it clicks into place.
3. Pivot the brass key slightly downward while pulling the lock insert out of the cylinder until the insert is disengaged from the cylinder.

Note: The brass key and the lock insert come out of the lock cylinder together. Pressing downward or sideways on the brass key as you pull makes it easier for the lock insert to come out along with the brass key.

4. Remove the brass key.

To replace the keylock insert:

1. The lock insert fits all the way into the lock cylinder only when the slot in the bottom of the cylinder and the lug on the end of the insert are aligned. If necessary, insert the aligner tool (see Figure 93) into the lock cylinder and rotate it until you feel it engage the slot at the bottom of the cylinder; then turn the aligner tool until the arrow points up.
2. Remove the key that came with the new lock insert.
3. Push the brass installation-removal key into the lock insert. Be sure the key is fully inserted.
4. With the brass installation-removal key still in the lock insert, push the lock insert fully into the lock cylinder.
5. While holding the lock insert in place with your finger, remove the installation-removal key.
6. Test the lock using the keys that came with the insert to be sure that the lock operates correctly.

Removing and replacing the blank lock insert

To remove the blank lock insert:

1. Insert the blank lock-insert handle into the blank keylock cylinder (see Figure 93 on page 116).
2. Using the blank insert handle, turn the locking screw counterclockwise until the insert can be removed from the cylinder.
3. When replacing the blank lock insert, the lug on one end of the insert must be aligned with the slot in the bottom of the lock cylinder. Hold the blank lock insert so that the lug is aligned with the slot.
4. Push the blank lock insert into the empty lock cylinder until it is flush with the top of the lock cylinder.
5. Use the blank lock-insert handle to turn the locking screw clockwise until it reaches the bottom of the hole. Do not overtighten.

To replace the blank lock insert, reverse this procedure.

Distributed customer display – disassembling

To disassemble a distributed customer display:

1. Gently spread the arms of the yoke open slightly and slide the display out of the yoke. You can use a small screwdriver if necessary.

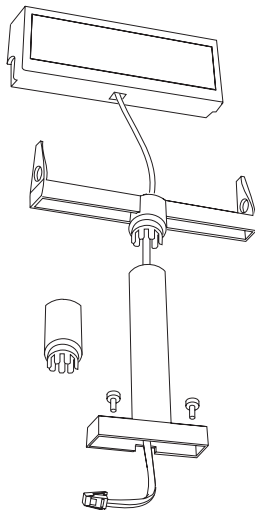


Figure 94. Distributed customer display

2. Unplug the display cable from the display.
3. Go to the appropriate non-keyboard integration tray or keyboard integration tray procedure to complete the installation of the distributed customer display:
 - For a **non-keyboard integration tray** installation of a distributed customer display, go to Step 4 on page 119.
 - For a **keyboard integration tray** installation of a distributed customer display, go to Step 5 on page 120.

4. To install a distributed customer display **D** on a **non-keyboard integration tray**, perform the following steps:
 - a. Remove the filler panels **A** and **B** and the rear modesty panel **C** from the integration tray, as shown in Figure 95.

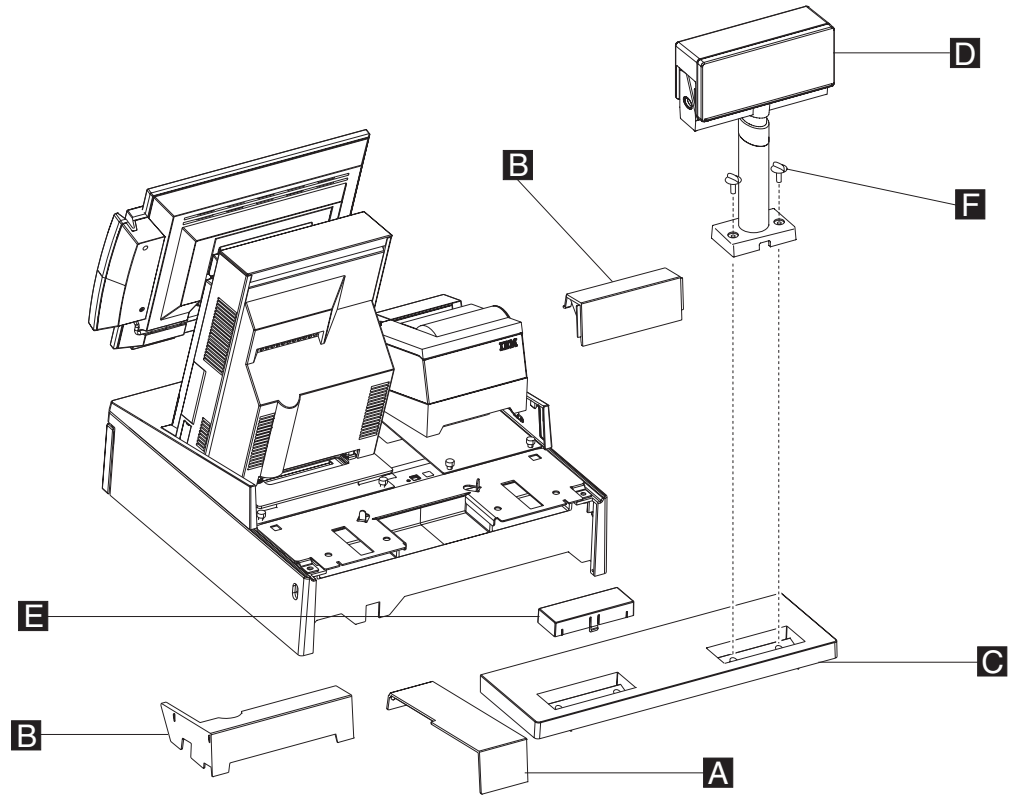


Figure 95. Attaching the distributed customer display to the system unit

- b. Remove one of the two plugs **E** in the rear modesty panel.
- c. Route the character display cable through the hole in the modesty panel. You may need to lay the display on its side to connect the display cable to the system unit rear connector panel.
- d. Remove the rear cover and loosen the cable tie bar.
- e. Route the character display cable to the rear connector panel and plug it into the 15-pin serial connector, as shown in Figure 40 on page 60.
- f. Tighten the cable tie bar and reinstall the rear cover.
- g. Reinstall filler panels **B** first then install **A** in Figure 95.
- h. Then attach the post, through the modesty cover **C** to the cash drawer, with 2 thumbscrews **F** and snap the entire unit into place at the rear of the tray.

5. To install a distributed customer display on a **keyboard integration tray**, perform the following steps:
 - a. Remove filler panel **E** and rear modesty panel **G** Figure 96.
 - b. Route the character display cable through the hole behind mounting post **B** as show in Figure 96. You may need to lay the display on its side to connect the display cable to the system unit rear connector panel.

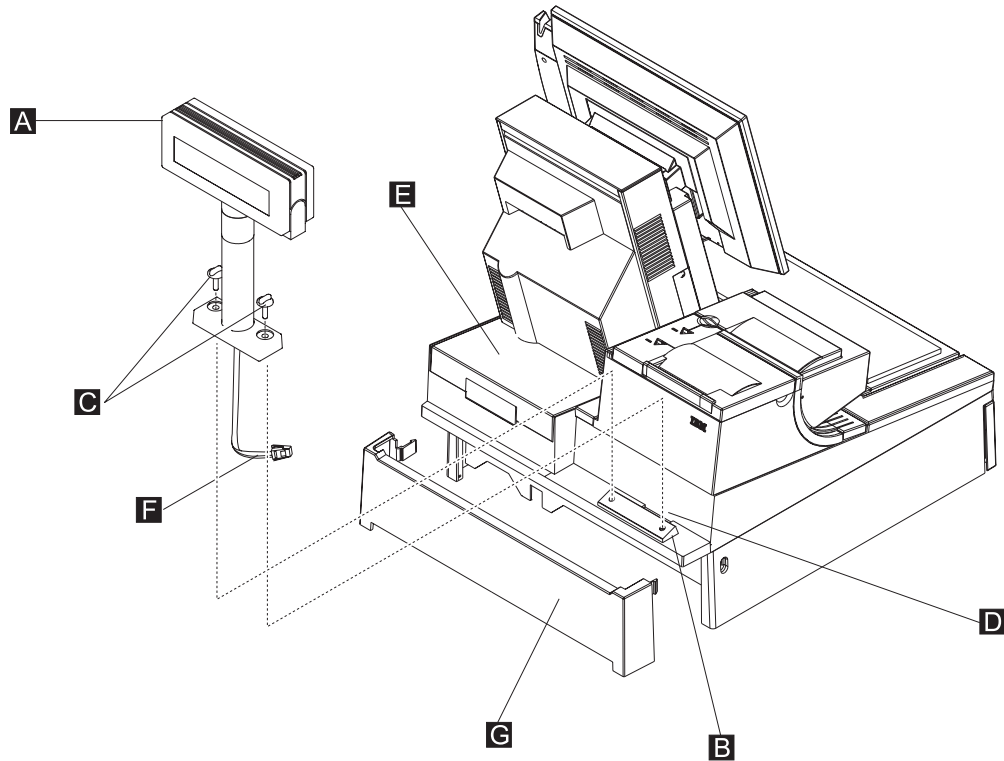


Figure 96. Installing the distributed customer display onto the keyboard integration tray

- c. Remove the rear cover from the system unit and loosen the cable tie bar.
- d. Route the distributed customer display cable **F** to the rear connector panel and plug it into the 15-pin serial connector, as shown in Figure 40 on page 60.
- e. Attach the distributed customer display **A** to the cash drawer mounting post **B** with two thumbscrews **C** and snap the entire unit into place at the rear of the tray, as show in Figure 96.

Note: The character display default baud rate is 9600 bps, 8 data bits, no parity bit, and 1 stop bit (9600–8–N–1).

IBM 4610 SureMark printers – removing and replacing

The IBM 4610 SureMark Single-Station Model TF6 or TF7 (4610 TF6 or TF7) are smaller in size than the 4610 SureMark TG3, TG4 and TG5 printers. For detailed information about these printers, see the *IBM 4610 SureMark Point-of-Sale Printers User's Guide*.

The 4610 TF6 or TF7 can be installed as a freestanding unit, attached to a countertop integration tray, attached to a wall-mounting plate, or attached to a full-size cash drawer integration tray. Attaching the 4610 TF6 or TF7 to a non-keyboard integration tray is different than attaching it to a keyboard integration tray:

- For the **non-keyboard integration tray**, the 4610 SureMark TF6 or TF7 is attached to a *mounting plate* and then attached to the non-keyboard integration tray.
- For the **keyboard integration tray**, the 4610 SureMark TF6 or TF7 is placed into a plastic printer base and then set on the keyboard integration tray.

Figure 97 shows the 4610 SureMark Single-Station TF6 or TF7 printer connectors.

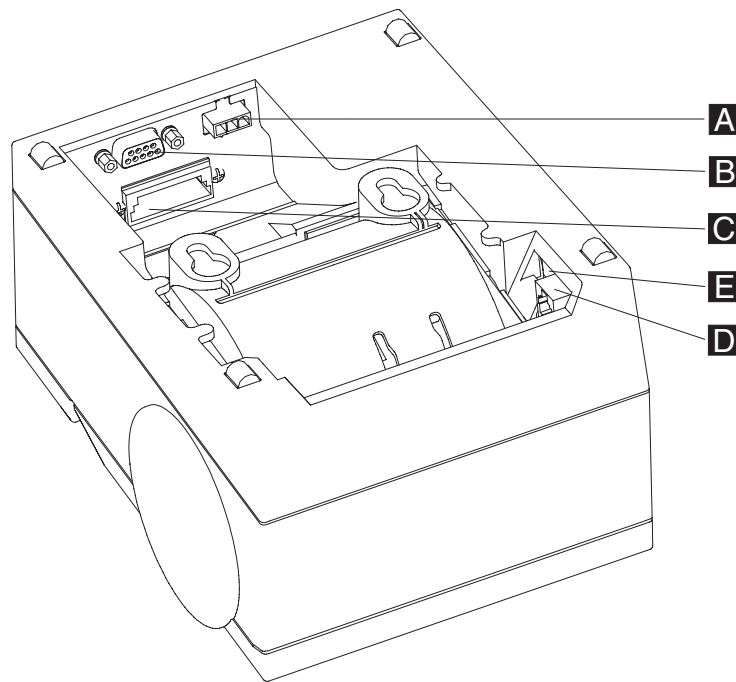


Figure 97. 4610 SureMark Single-Station TF6 or TF7 printer connector locations

- | | | | |
|----------|---------------------------------|----------|-----------------------|
| A | Power supply port (RS-232 only) | D | Cash drawer connector |
| B | RS-232 port or Powered USB port | E | RS-232 mode switch |
| C | Not used on Models 5x3 | | |

An RS-232 printer may be used with a power brick or a special cable may be used to draw power from the 24-V powered USB port.

4610 SureMark – removal

1. Switch OFF the power at the SurePOS 500 Models 5x3 and 544/564.
2. Remove the SurePOS 500 Models 5x3 and 544/564 rear cover and filler panels (see “Rear cover – removing and replacing” on page 38).
3. Remove the power supply (see “Power supply – removing and replacing” on page 57) to get access to the system unit rear connector panel. See Figure 40 on page 60 for rear connector port assignment.
4. If the printer is mounted on a cash-drawer integration tray or a countertop integration tray, remove the filler panels to get access to the printer mounting plate. Untighten the two thumb screw on the mounting plate to the tray.
5. Remove the 4610 SureMark printer from the integration tray:
 - a. For the 4610 SureMark TG3, TG4 or TG5, lift the printer up and off the integration tray.
 - b. For the 4610 SureMark TF6 or TF7 printer on a **non-keyboard integration tray**, remove the mounting plate from the printer. See Figure 98 for details.

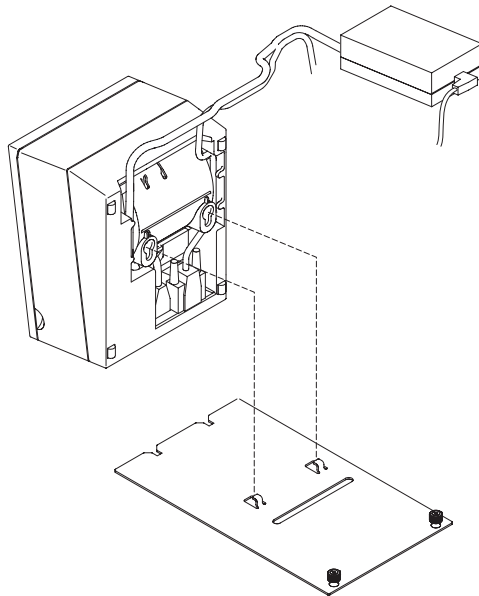


Figure 98. Detaching the 4610 SureMark TF6 printer mounting plate for the non-keyboard integration tray

- c. For the 4610 SureMark TF6 or TF7 printer on a **keyboard integration tray**, lift the printer up and off the printer base. See Figure 102 on page 126 for details.
6. Disconnect the printer cable.
7. See “4610 SureMark printer – replacing” on page 123 for information on replacing the printer.

4610 SureMark printer – replacing

Use the following instructions for replacing the 4610 SureMark printer:

1. Check the printer RS-232 mode switch settings, which is near the rear cable connections. See **E** in Figure 97 on page 121 for switch location. For switch settings, see the *IBM 4610 SureMark Point-of-Sale Printers User's Guide*.
2. Connect and route the RS-232 communication cable or Powered USB cable **B** and the power supply cable **A** as shown in Figure 99.

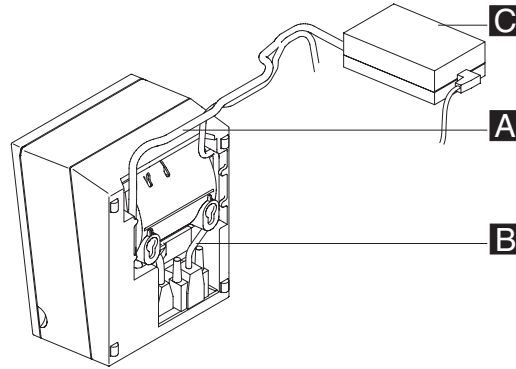


Figure 99. Attaching and routing the signal and power supply cables to the printer.

3. Connect any other signal cables for I/O devices to the correct ports.
4. Go to the appropriate 4610 SureMark printer installation procedure for your SurePOS 500 Models 5x3 and 544/564 configuration:
 - a. To install a **free standing** 4610 SureMark printer, route the cables to the rear connector panel on the SurePOS 500 Models 5x3 and 544/564 system unit, passing it through the hole in the base, and plug it into one of the three standard serial ports, as shown in Figure 40 on page 60.
 - b. To install the printer on a **non-keyboard integration tray**, go to “4610 SureMark printer installation on a non-keyboard integration tray” on page 124.
 - c. To install the printer on a **keyboard integration tray**, go to “4610 SureMark printer installation on a keyboard integration tray” on page 126.

4610 SureMark printer installation on a non-keyboard integration tray

Install the 4610 SureMark printer on the **non-keyboard integration tray**, by performing the following steps:

1. Attach the printer cables to the printer.
2. Attach the printer mounting plate to the bottom of the printer. The mounting plate slides into the two bottom slots of the printer, as shown in Figure 100.

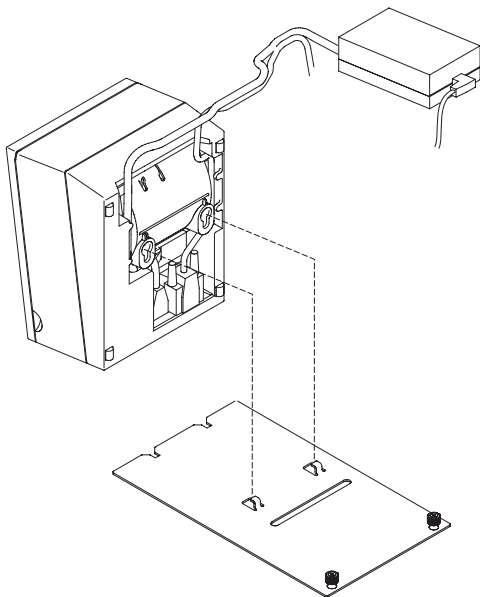


Figure 100. Attaching the 4610 SureMark printer mounting plate for a non-keyboard integration tray

3. Mounting the printer to an non-keyboard integration tray is the same for countertop or cash drawer installations. With the mounting plate attached to the printer, slide the front of the printer mounting plate into the slots located toward the front of the integration tray. Secure the printer by tightening the two thumb screws on the mounting plate to the tray.
4. Route the RS-232 cable **A** to the rear connector panel of the system unit as show in Figure 101 on page 125 and plug it into one of the three standard serial ports on the system unit.
5. Route the AC power cord **B** toward the system and out through the hole in the integration tray, as shown in Figure 101 on page 125.

Note: When routing the printer and power cables, make sure that the cables are routed inside the mounting plate screws to enable correct installation of the filler panels.

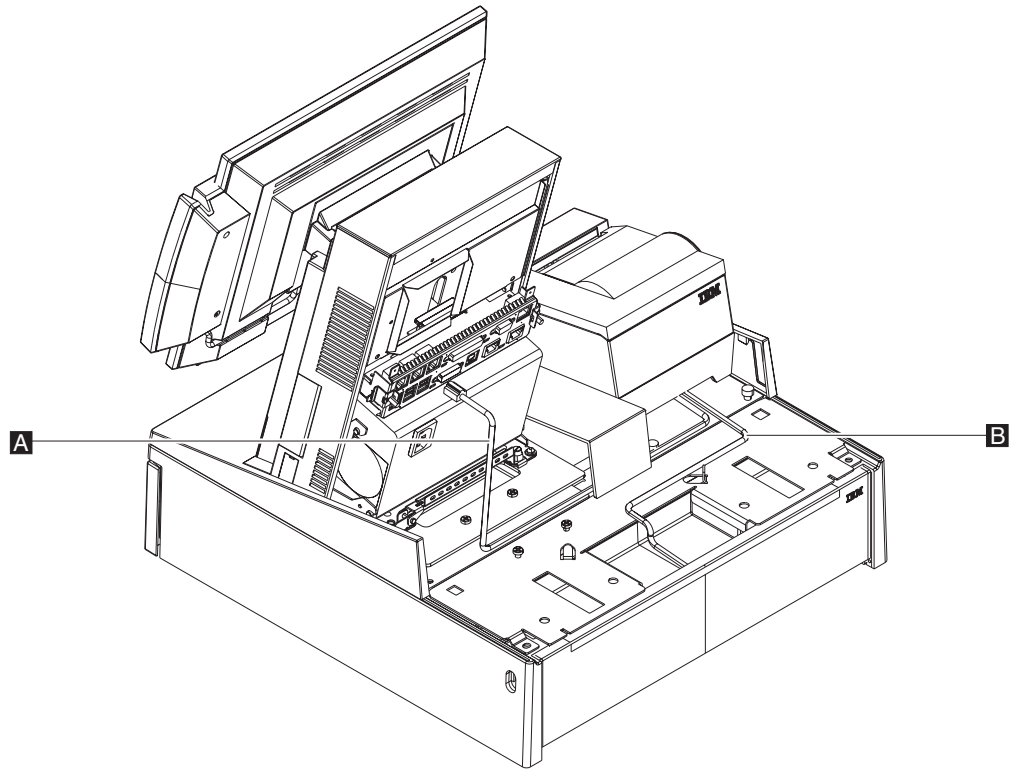


Figure 101. 4610 SureMark printer cable routing on a non-keyboard integration tray

4610 SureMark printer installation on a keyboard integration tray

Install the 4610 SureMark printer on the **keyboard integration tray**, by performing the following steps:

Note: See the *4610 SureMark Point-of-Sale Printers User's Guide* for detailed information about printer switch settings and cabling.

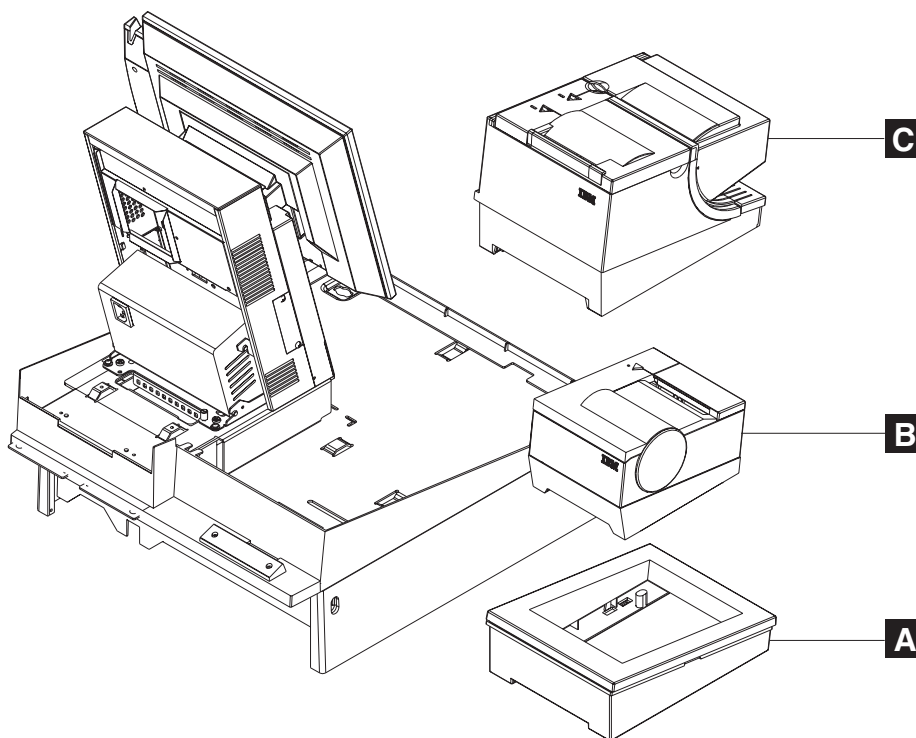


Figure 102. Installing the 4610 SureMark printer onto the keyboard integration tray

Table 10. 4610 SureMark printer on a full-size keyboard integration tray legend

A	Printer stand for the 4610 Models TF6 and TF7 printers
B	4610 Models TF6 and TF7 printers (small footprint)
C	4610 Models TG3, TG4 and TG5 printers

1. Install the printer cables and route the cables as shown in Figure 99 on page 123.
2. For the **small-footprint 4610 SureMark Models TF7 or TF7 printers B**, first insert the plastic printer base **A** onto the integration tray and then place the printer into the printer base.
3. For the **4610 SureMark Model TG3 and TG4 printers**, place the printer directly onto the keyboard integration tray.

4820 SurePoint Solution

The SurePoint Solution (Machine Type: 4820, Models 4FT, 4FD, 2GN, 2GB, and 5GN) can be integrated onto the SurePOS 500 Models 5x3 and 544/564 using the optional mounting foot, integrated on an integration tray of a SurePOS 500 Models 5x3 and 544/564, or attached as a standalone distributed model. Other external devices can be connected to the SurePOS 500 Models 5x3 and 544/564 15-pin port.

Distributed 4820 SurePoint Solution

To remove a distributed 4820, follow the instructions provided in the *IBM 4820 SurePoint Solution Installation and Service Guide* and install the 4820 SurePoint Solution display.

Integrated 4820 SurePoint Solution

The integrated 4820 can be mounted to a free-standing SurePOS 500 Models 5x3 and 544/564 or on a full-size or compact keyboard integration tray. Go to the removal procedure for your configuration:

- For a 4820 mounted to a **mounting foot**, go to “4820 removal on a free-standing SurePOS 500 Models 5x3 and 544/564.”
- For a 4820 mounted to a **full-size keyboard integration tray on a (cash drawer or countertop) or a compact-size keyboard integration tray** on a compact cash drawer, go to “4820 SurePoint Solution Model 4FT, 4FD, 2GN, 5GN, or 2GB removal on keyboard integration tray” on page 130.

4820 removal on a free-standing SurePOS 500 Models 5x3 and 544/564

The 4820 can be mounted to a free-standing SurePOS 500 Models 5x3 and 544/564 that is attached to its base foot.

1. Switch OFF the power at the SurePOS 500 Models 5x3 and 544/564.
2. Remove the rear cover (see “Rear cover – removing and replacing” on page 38) and remove the power supply (see “Power supply – removing and replacing” on page 57) to access the SurePOS 500 Models 5x3 and 544/564 rear connector panel.
3. Remove the 4820 filler panels **E**, **G**, **F**, and **D** as shown in Figure 103 on page 128.

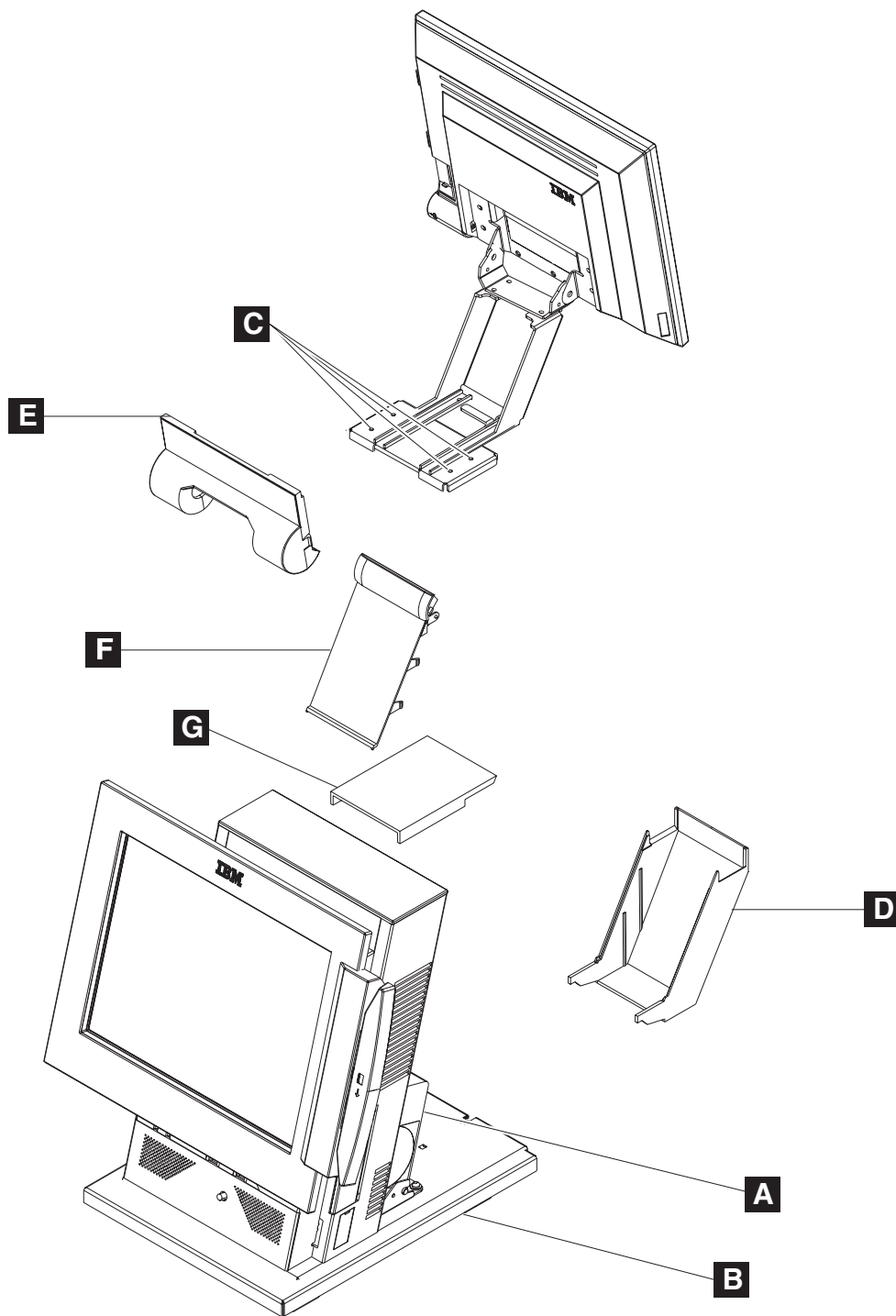


Figure 103. 4820 SurePoint Solution installation

4. Disconnect the 4820 display cable from the external video connector on the 4820 and from the rear connector panel **A** of the SurePOS 500 Models 5x3 and 544/564, as shown in Figure 103.
5. See Figure 104 on page 129. Remove the 4820 base plate **C** from the SurePOS 500 Models 5x3 and 544/564 mounting foot **D** by removing the screws **A**, as shown in Figure 104 on page 129.

6. Reassemble in reverse order.

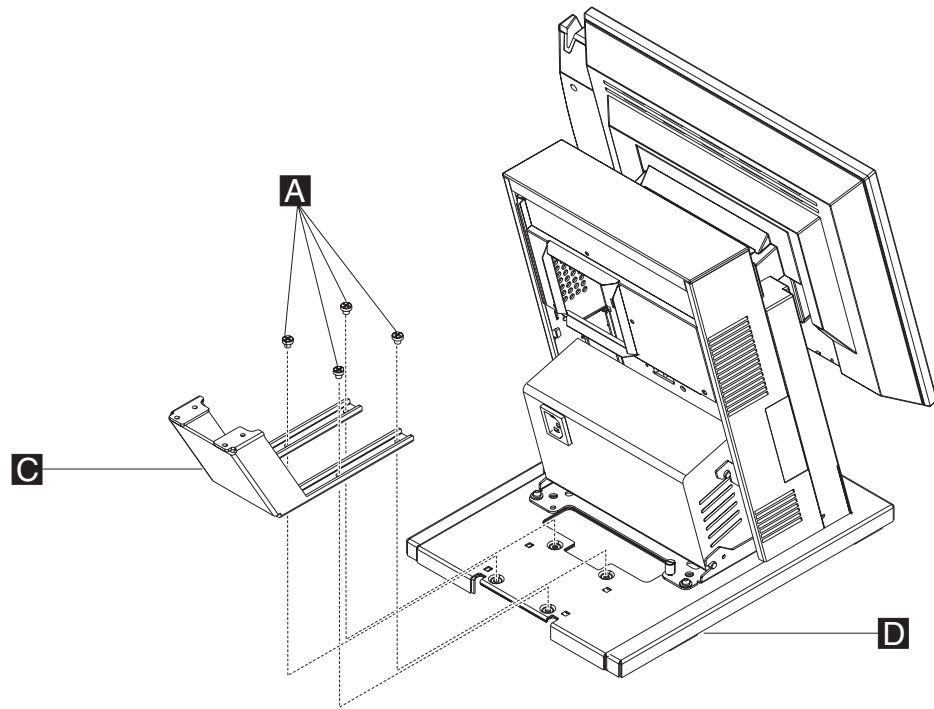


Figure 104. Removing the 4820 SurePoint Solution display from the base plate.

4820 SurePoint Solution Model 4FT, 4FD, 2GN, 5GN, or 2GB removal on keyboard integration tray

Perform the following step to remove the 4820 SurePoint Solution to a full-size integration tray mounted on a countertop or a cash drawer or to a compact integration tray mounted to a cash drawer. The following procedure shows the 4820 being mounted to a full-size cash drawer. The other mounting configurations are similar.

1. Switch OFF the power at the SurePOS 500 Models 5x3 and 544/564.
2. Remove the filler panels and SurePOS 500 Models 5x3 and 544/564 base cover (see “Covers – removing and replacing” on page 36) to access the SurePOS 500 Models 5x3 and 544/564 rear connector panel.
3. Remove 4820 filler panels **D**, **E**, and **F** as show in Figure 105.

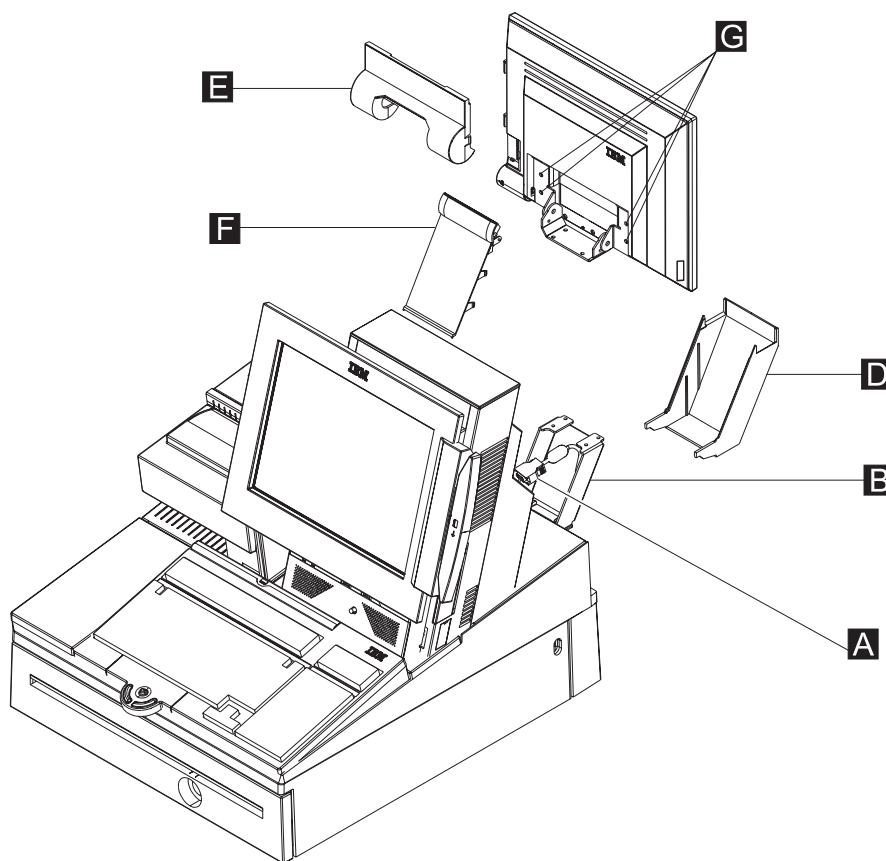


Figure 105. Removing the 4820 SurePoint Solution cable and covers

4. Disconnect the 4820 display cable **A** from the external video connector on the 4820 and from the rear connector panel of the SurePOS 500 Models 5x3 and 544/564, as show in Figure 105.
5. Remove the 4820 display from the mounting bracket **B** by removing four screws **G**.
6. Remove filler panel **D**.

- Remove the 4820 base plate **B** from the SurePOS 500 Models 5x3 and 544/564 base plate by removing the four screws **C**, as shown in Figure 106.

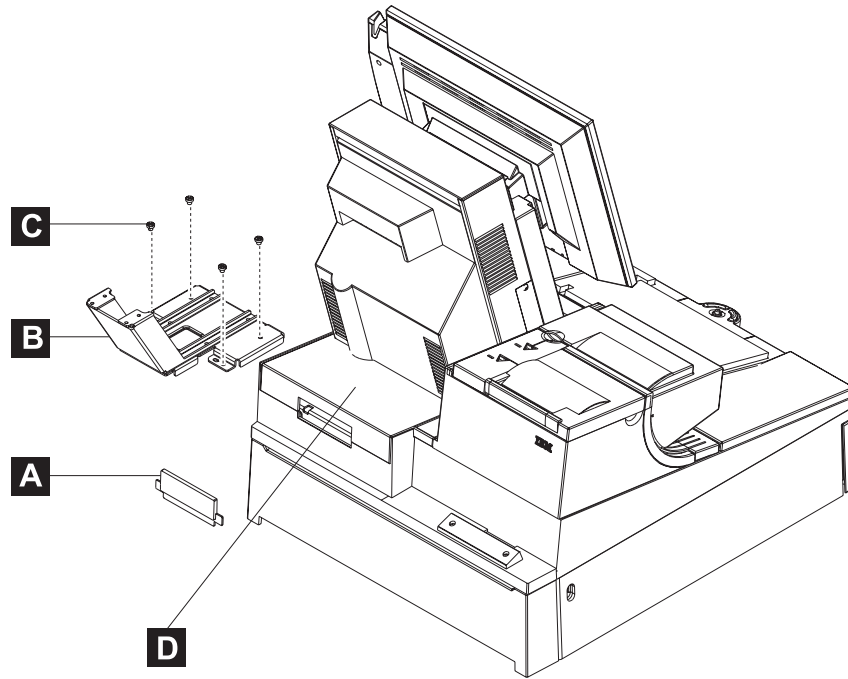


Figure 106. 4820 SurePoint Solution base plate removal from the keyboard integration tray

- Reassemble in reverse order.

Note: If you are permanently removing the 4820, you must install the small filler panel **A** located at the rear of the keyboard integration tray, as shown in Figure 106.

Mounting the display tablet on a remote display stand

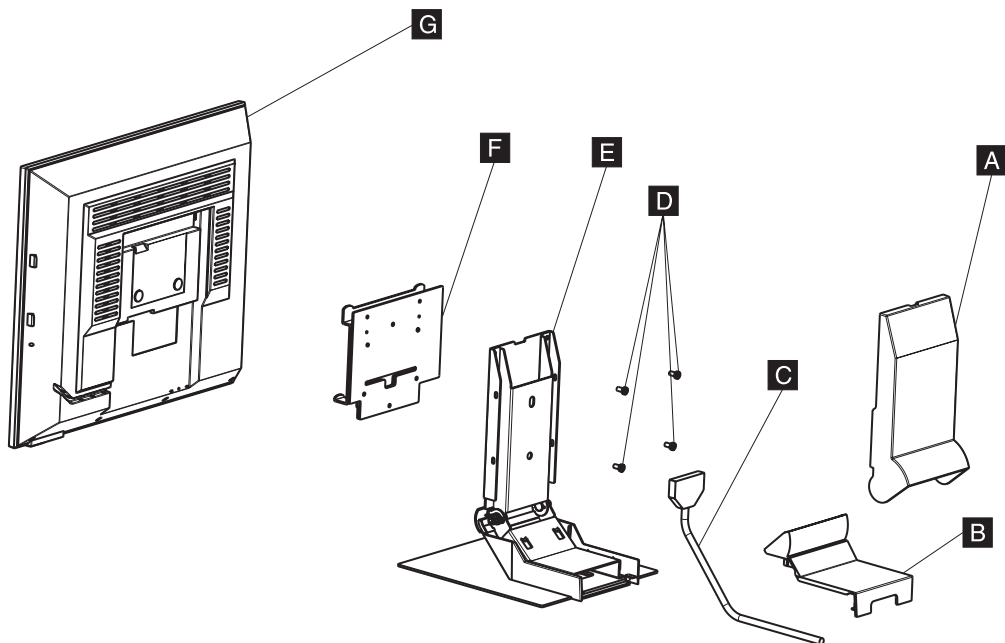


Figure 107. Remote display mounting

1. Remove the tablet from the tower as shown in "Display tablet – removing and replacing" on page 48.
2. Set the remote display base **E** on the table.
3. Remove covers **A** and **B** from the base.
4. Run the end of the extension cable up the back, from the lower rear, exiting in the top front center of the base.
5. Snap plate **F** onto the back of the tablet.
6. Attach the tablet and plate assembly to the base **E**, using 4 screws **D**.
7. Reattach covers **A** and **B**.
8. See Figure 108 on page 133. Connect the tower end of the extension cable **A**, and the adapter **B** as shown.
9. Attach the cover plate to the tower unit.

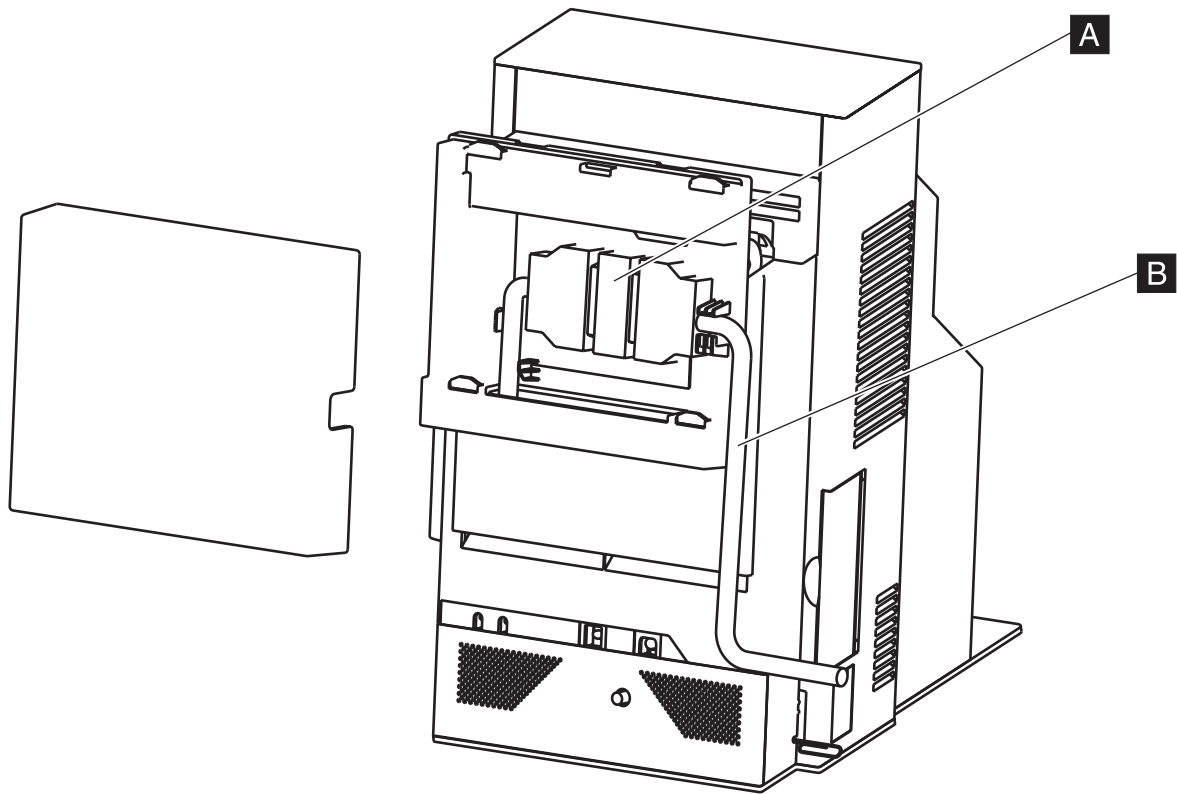


Figure 108. Tower end of remote display cable

Chapter 5. Compact ANPOS Keyboard

Keyboard/pointer symptoms.	135
CANPOS Keyboard components - removing and replacing	137
CANPOS keypad assembly	138
CANPOS keyboard logic card	141
CANPOS keyboard with MSR	142

This chapter contains repair and usage information for the CANPOS Keyboard.

The CANPOS Keyboard provides a QWERTY layout, an integrated pointing device, a numeric keypad, and 32 programmable keys. Key caps can be inserted onto the programmable keys to show a new key definition. The 32 programmable keys are programmed by the customer using the CANPOS Keyboard Utility program. See the *SurePOS 500/600 Installation and Operations Guide* for more information on the CANPOS Keyboard Utility program.

Keyboard/pointer symptoms

Notes:

1. Two PS/2-style keyboard ports are provided, but only one may be used at a time. Attaching two keyboards at the same time will cause keyboard failure.
2. The redesigned cap (with the textured surface) for the keyboard pointing device (joystick) is a consumable item: the customer is responsible for cap replacement. If you have this style cap, replacement caps can be purchased by calling 1-800-IBM-CALL (1-800-426-2255) in the U.S. and Canada. Customers outside the U.S. and Canada should contact their IBM representative. The part number for the caps is: 30R0037.

Use Table 11 to determine the failing CANPOS keyboard FRU.

Table 11. Repair actions for CANPOS keyboard problems

Symptom	Repair actions
One or several keyboard keys is failing (keyboard is operational).	<ol style="list-style-type: none"> 1. Replace the keypad assembly. See "CANPOS keypad assembly" on page 138. 2. Replace the keyboard logic board. See "CANPOS keyboard logic card" on page 141.
All keyboard lights are on (keyboard is not operational).	Replace the keyboard logic board. See "CANPOS keyboard logic card" on page 141.
All keyboard lights are failing (keyboard is not operational)	<ol style="list-style-type: none"> 1. Ensure that the keyboard cable is attached securely at the keyboard and the system unit. 2. Try a known operational I/O device and cable in the port where the keyboard is attached. If the device is operational, then continue checking the keyboard. If the device is not operational, then the port is not operational. 3. Replace the keyboard cable. 4. Replace the keyboard logic board.

Table 11. Repair actions for CANPOS keyboard problems (continued)

Symptom	Repair actions
The cursor responds sluggishly or does not move when using the CANPOS keyboard with integrated pointing device.	<p>When the computer initially boots up, the cursor may respond sluggishly. The cursor calibrates itself as it is being used. If the problem persists, follow these steps:</p> <ol style="list-style-type: none"> 1. Push the joystick to its maximum deflection in each direction – up, down, left, and right – for 2–3 seconds in each direction. 2. If the problem is not resolved, then replace the keypad assembly.
MSR not reading.	<ol style="list-style-type: none"> 1. Run the Setup Utility and check the setting in the MSR serial port. 2. Ensure that the keyboard cable is attached securely at the keyboard and the system unit. 3. Go into Microsoft WordPad or another word processor and swipe the MSR test card. Make sure data appears. 4. Ensure that the MSR cable are securely connected inside the keyboard. 5. Replace the MSR. See “CANPOS keyboard with MSR” on page 142.

CANPOS Keyboard components - removing and replacing

Figure 109 shows the CANPOS keyboard and its components:

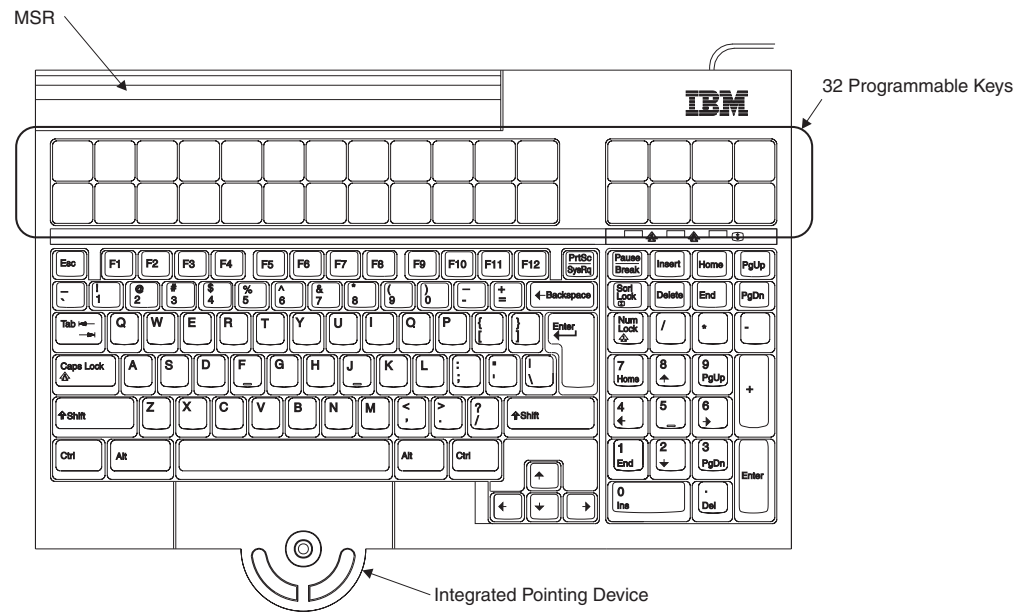


Figure 109. CANPOS Keyboard

Notes:

1. The redesigned cap (with the textured surface) for the keyboard pointing device (joystick) is a consumable item; the customer is responsible for cap replacement. If you have this style cap, replacement caps (part number 30R0037) can be purchased by calling 1-800-IBM-CALL (1-800-426-2255) in the U.S. and Canada. Customers outside the U.S. and Canada should contact their IBM representative.
2. FRUs for the keyboards listed in the following table are no longer available; the entire keyboard should be replaced. If you have one of these keyboards, you do not need to remove any keyboard components. See “Assembly 4: Optional features” on page 152 for new keyboard FRU part numbers.

Table 12. Keyboard part numbers

Keyboard P/N	Description	MSR
54P8779	U.S. English	No
54P8780	U.K. English	No
54P8781	French	No
54P8782	Canadian French	No
54P8783	Spanish	No
54P8784	Brazilian Portuguese	No
54P8785	German	No
54P8786	U.S. English	Yes
54P8787	U.K. English	Yes
54P8788	French	Yes
54P8789	Canadian French	Yes

Table 12. Keyboard part numbers (continued)

Keyboard P/N	Description	MSR
54P8790	Spanish	Yes
54P8791	Brazilian Portuguese	Yes
54P8792	German	Yes

CANPOS keypad assembly

You must remove the keyboard from the keyboard integration tray to service the keyboard.

1. To remove the keyboard from the keyboard integration tray, perform the following steps:
 - a. Remove the keyboard **D** from the keyboard integration tray by lifting the keyboard up and off the keyboard integration tray, as show in Figure 110.

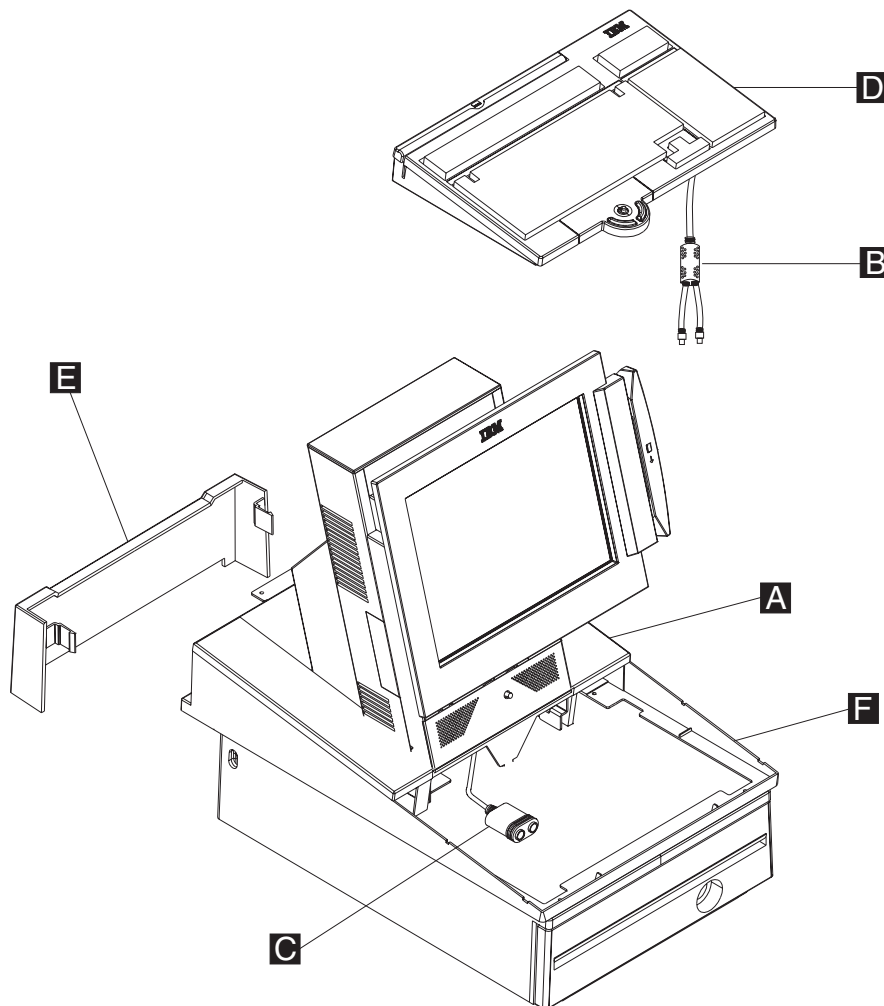


Figure 110. Removing the keyboard from the integration tray

- b. Remove the keyboard filler panel. For reassembling, observe that the keyboard filler panel is inserted into the slot on integration tray.
 - c. Detach the keyboard cable **B** from the Y-cable **C** , if the Y-cable is used.
 2. Replace the internal FRUs in the CANPOS keyboard keypad assembly:

- a. Disconnect the cable from the rear of the keyboard.
- b. Remove the three screws from the underside of the front edge of the keyboard.
- c. Lift the front edge of the keyboard enough to access the cables inside the keyboard.

- d. Disconnect all cables between the keypad assembly and the keyboard logic card. See Figure 111 for cable callouts and locations.

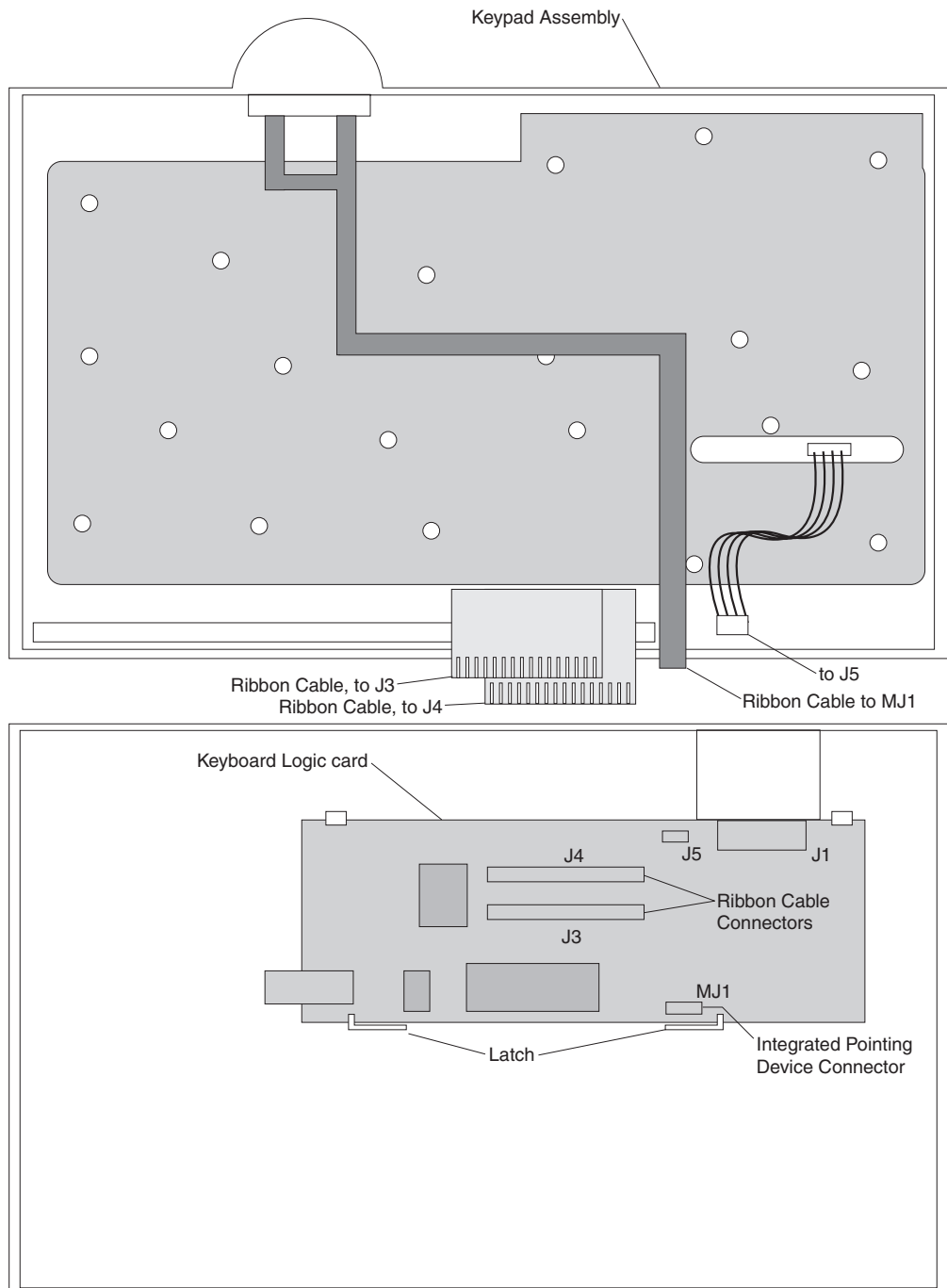


Figure 111. CANPOS keypad assembly without MSR

3. Lift and remove the keypad assembly.

To reinstall the keypad assembly, reverse these steps.

CANPOS keyboard logic card

To remove the keyboard logic card:

1. Remove the keypad assembly. See “CANPOS keypad assembly” on page 138.
2. Pull the two card-retention latches away from the card and lift the logic card out of the keyboard base. See Figure 111 on page 140 for card and latch locations.

To replace the logic card, reverse these steps. The CANPOS Keyboard Utility program can be used to download the information about the 32 programmable keys to the CANPOS keyboard.

CANPOS keyboard with MSR

To remove the MSR:

1. Remove the keypad assembly. See "CANPOS keypad assembly" on page 138.
2. Remove the two screws holding the MSR to the keypad assembly as shown in Figure 112. Lift the MSR up and off the the two plastic guides on the keypad assembly.

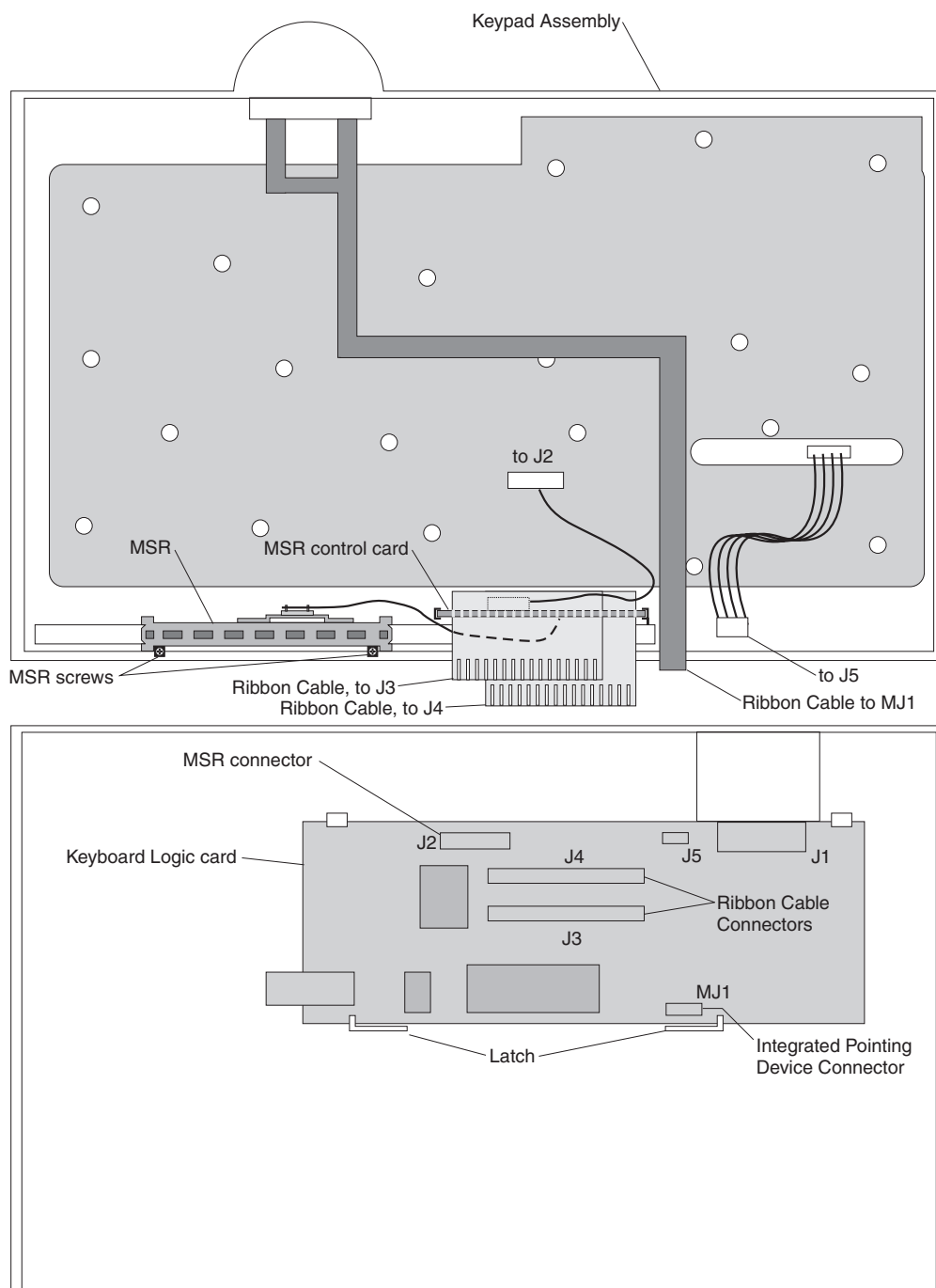


Figure 112. CANPOS keypad assembly with MSR

3. Remove the MSR control card by placing a small slotted screwdriver between the metal keypad assembly and the bottom of the MSR control card **A**; and

pry the control card up and off the two plastic guides as shown in Figure 113.

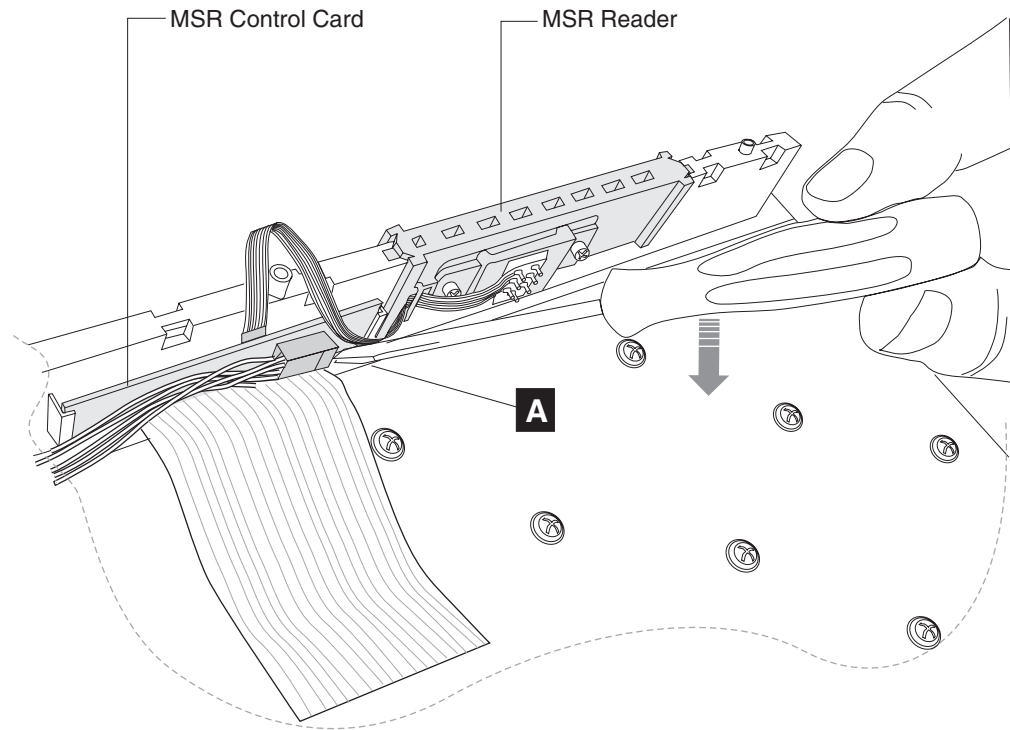


Figure 113. Removing the MSR control card

To replace the MSR:

1. Install the MSR control card onto the keypad assembly by inserting the control card into the two plastic guide, as shown in Figure 113.
2. Before installing the MSR onto the keypad assembly, route the thin ribbon cable from the MSR control card to the MSR under the plastic clip on the MSR.
3. Align the MSR's two screw-holes tabs with the screw holes on the keypad assembly and slide the MSR into the two plastic guides. Install and tighten the two screws, as shown in Figure 112 on page 142.
4. Install the keypad assembly. See "CANPOS keypad assembly" on page 138.

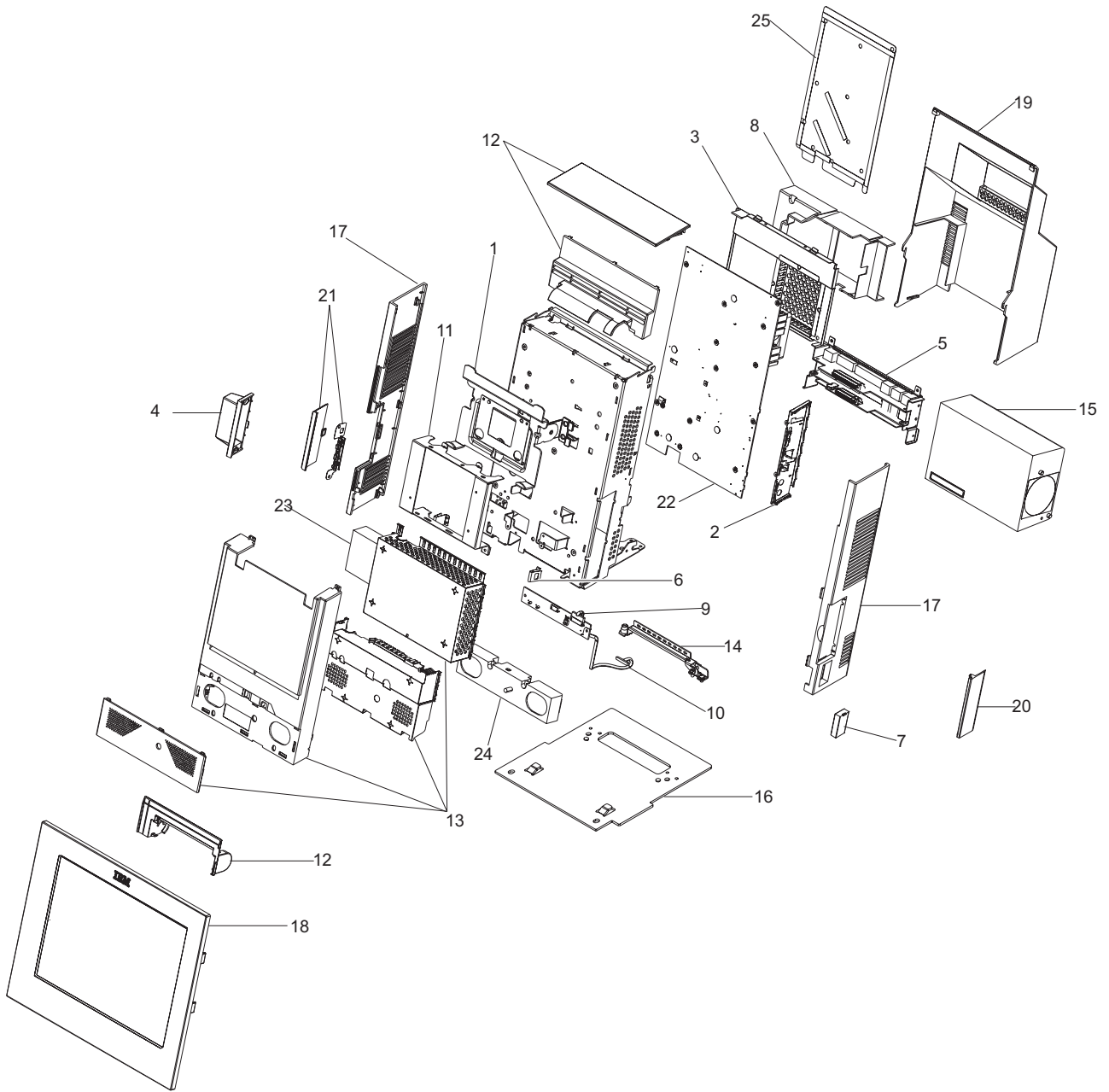
The CANPOS Keyboard Utility program can be used to download the programmable MSR information to the CANPOS keyboard.

Appendix A. Parts catalog

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Assembly 8: 4820 mounting hardware and covers	160
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Assembly 10: Tools (not shown)	164

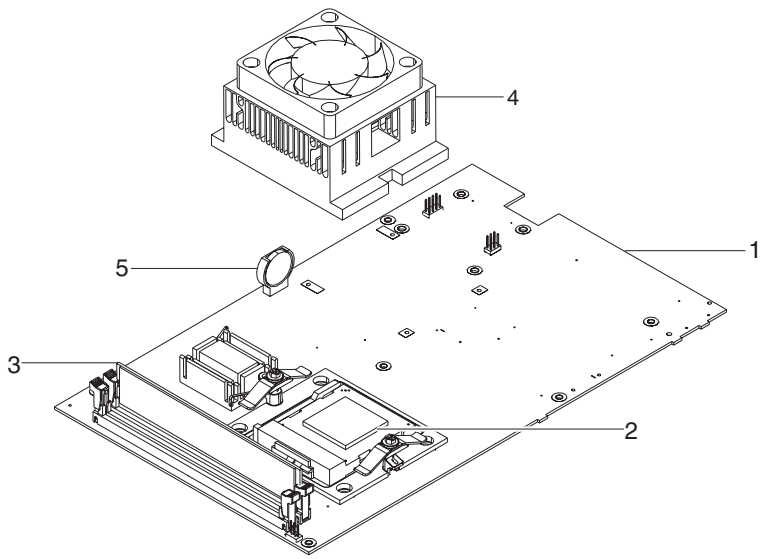
This chapter contains part number information for the FRUs that are part of the SurePOS 500 Models 5x3 and 544/564.

Assembly 1: System parts



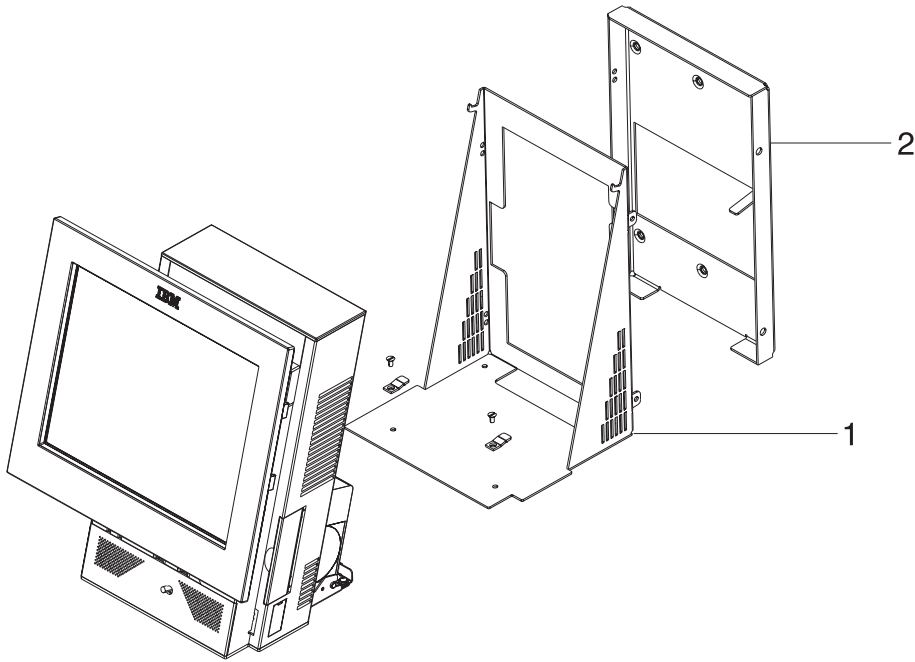
Asm- Index	Part Number	Units	Description
1-			System part numbers
-1	99P9839	1	Hinge assembly (all models except 573)
-	39V5018	1	Hinge assembly (Model 573 only)
-2	14R1999	1	Shield, EMC, side I/O
-	39V5099	1	Cover, rear, inner, metal (All Model)
-4	40N5653	1	Cover, card, RF
-5	40N5812	1	Tailgate assembly
-6	41D0136	2	Clip, HDD cover
-7	47P6415	1	Plug, audio
-8	14R0013	1	Duct, cooling
-9	40N5693	1	LED Card with presence sensor
-	40N5692	1	LED Card, no presence sensor
-10	14R0009	1	Cable, LED card
-11	14R0015	1	Bracket, HDD, with screws
-12	14R1989	1	Cover kit, top, center, hinge (all models except 573)
-12	39V5019	1	Cover kit, top, center, hinge (Model 573 only)
-13	99P9842	1	Cover, front, hard disk drive – no presence sensor, no speaker
-	99P9843	1	Cover, front, hard disk drive – with presence sensor, with speaker
-	39V5098	1	Cover, front, hard disk drive, 17-inch tablet, (Model 573 only)
-14	41D0148	1	Bar assembly, cable tie
-15	41D0146	1	Power supply
-	14R0007	1	Shield, EMC, power supply (not shown)
-16	40N5700	1	Plate, base (all models except 573)
-	39V5085	1	Plate, base (Model 573 only)
-17	14R1996	1	Cover kit, side
-18	14R1955	1	Tablet – touch screen assembly, 12-inch, single-bulb (Models 533, 553)
-	40N5760	1	Tablet – touch screen assembly, 12-inch, dual-bulb (Models 543, 544, 563, 564)
-	40N5761	1	Tablet – touch screen assembly, 15-inch (Model 563, 564 only)
-	39V5016	1	Tablet – touch screen assembly, 17-inch (Model 573 only)
-	40N5762	1	Cable, tablet (all models except 573) (not shown)
-	39V5017	1	Cable, tablet 17-inch tablet (Model 573 only,) (not shown)
-	40N5840	1	Extension cable, tablet (all models except 573) (not shown)
-	39V5090	1	Extension cable, 17-inch tablet (Model 573 only, includes gender adapter) (not shown)
-19	41D0128	1	Cover, tower, rear
-20	99P9865	1	Cover, side I/O
-21	40N5768	1	Blank kit, PC card
-22			System board see Assembly 2
I -23	40N6091	1	HDD, 40 GB
-	40N5852		Fan, HDD with mounting bracket (all models except Model 573) (not shown)
-	39V5097		Fan, variable speed, HDD with mounting bracket (Model 573 only) (not shown)
-24	40N5755	1	Speaker kit
-25	13R9903	1	ESD shield
-	14R1995	1	CompactFlash, 512 MB (not shown)
-	40N5813	1	Cable kit, HDD (not shown)
-	40N5697	1	Kit, screw (not shown)
-	39V5091	1	Kit, tablet stand adapter (Model 573 only) (not shown)

Assembly 2: System board



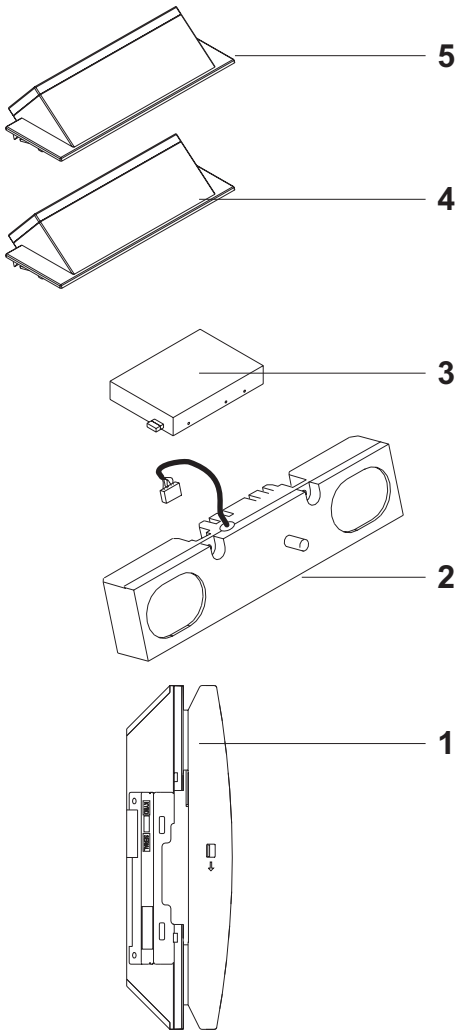
Asm- Index	Part Number	Units	Description
2-			System board part numbers
-1	40N5682	1	Board, system, no audio, no PC card (544 only)
-	40N5683	1	Board, system, with audio, PC card (564 only)
-	14R0003	1	Board, system, no audio, no PC card (5x3)
-	14R0004	1	Board, system, with audio, PC card (5x3)
-	39V5094	1	Board, system, 17-inch tablet (Model 573 only)
-2	47P6413	1	Processor, 2.0 Ghz
-	99P9877	1	Processor, 2.8 Ghz (Model 5A3 only)
-3	40N5684	1	Memory, 128 MB
-	40N6066	1	Memory, 256 MB
-	40N6067	1	Memory, 512 MB
-	40N6068	1	Memory, 1 GB
-4	40N5688	1	Fansink (with grease)
-	40N5689	1	Retention kit, (not shown)
-5	30L6297	1	Battery
-	40N5567	1	Card, Video (not shown)

Assembly 3: Wall Mount feature parts



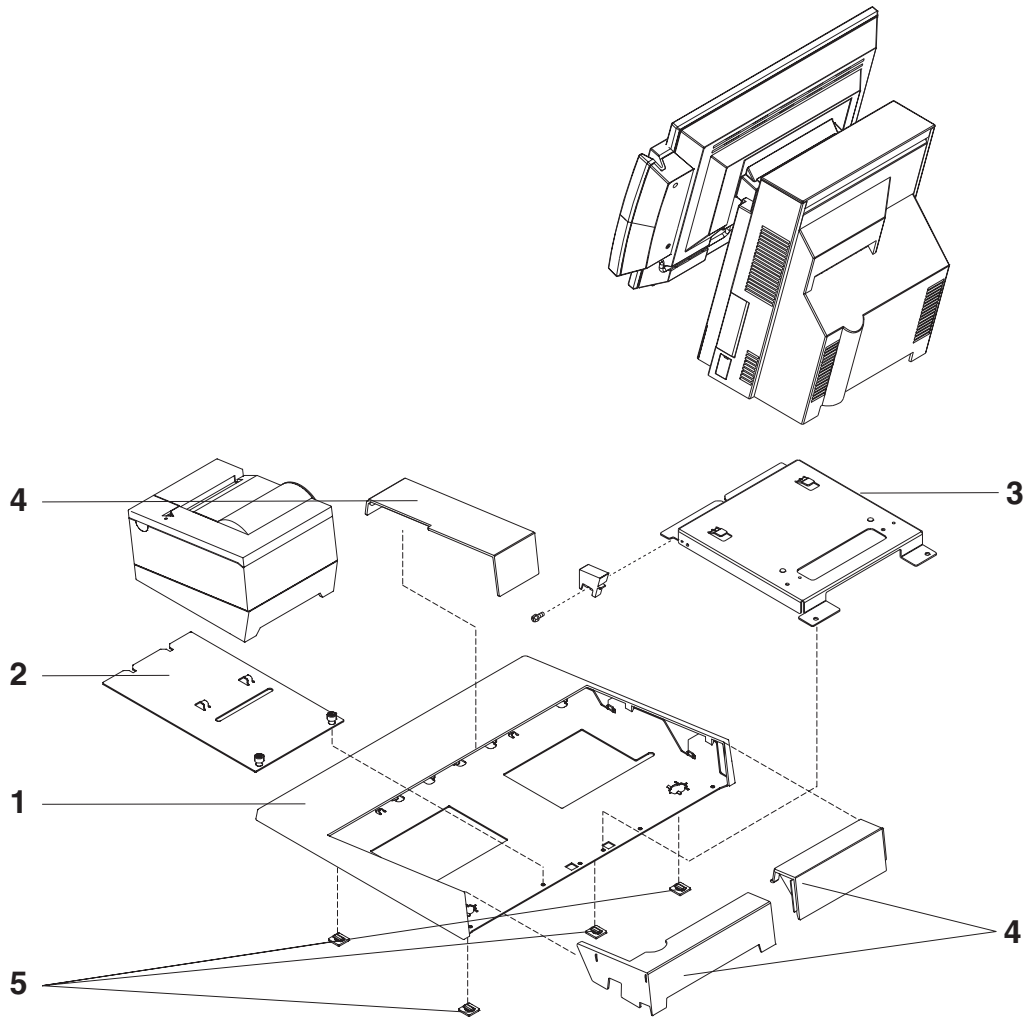
Asm- Index	Part Number	Units	Description
3-			Wall mount part numbers
-1	14R0096	1	Plate, wall mount (Note: Wall mount plate is the customer's responsibility to install)
-2	14R0094	1	Frame, wall mount

Assembly 4: Optional features



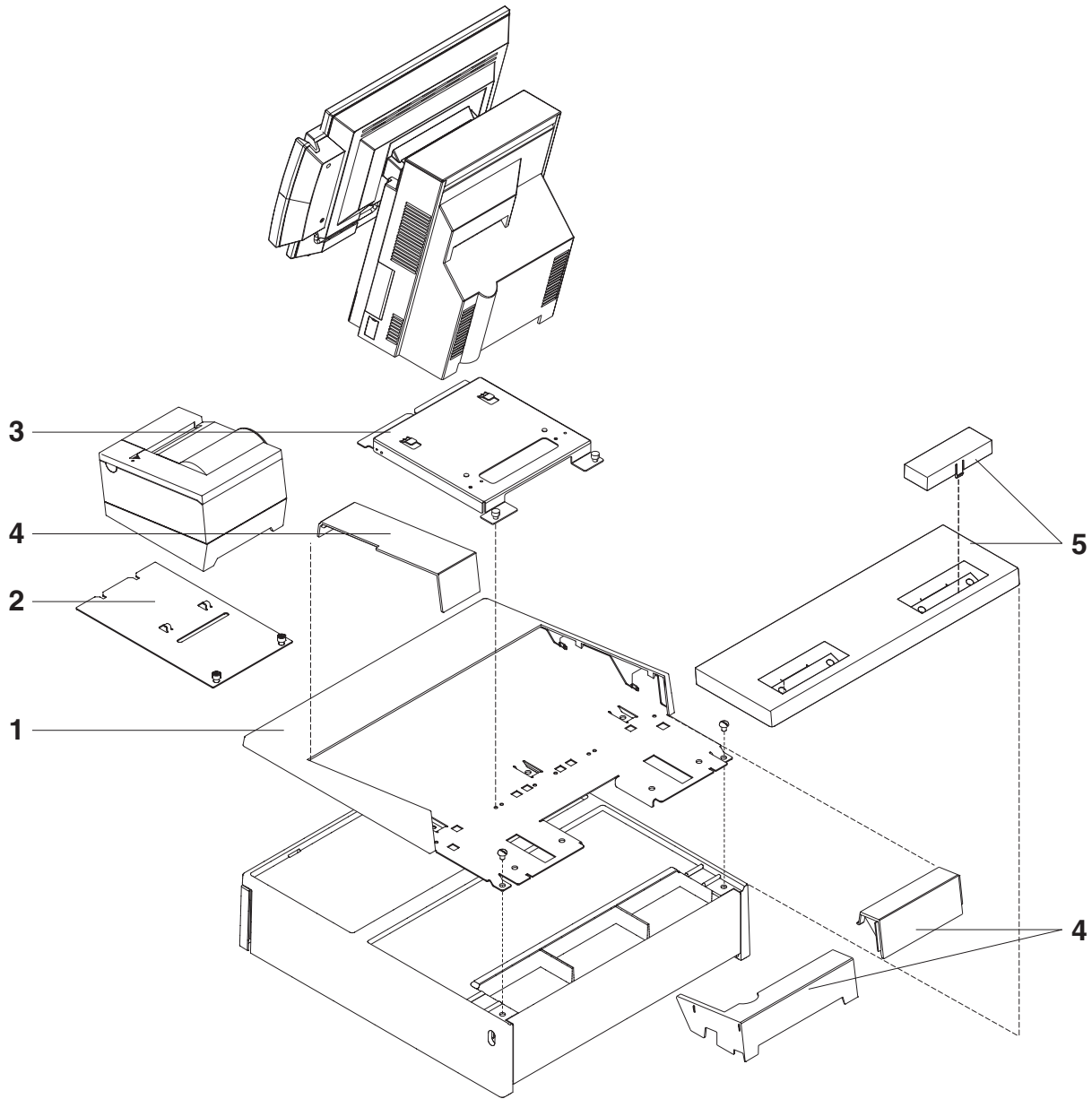
Asm- Index	Part Number	Units	Description
4-			Optional features
-1	41D0151	1	MSR, three-track, (Models 5x3 and 544/564 except 573)
-1	39V5068	1	MSR, three-track, (Model 573 only)
-1	41D0152	1	MSR, dual sided single track, (Models 5x3 and 544/564 except 573)
-1	39V5069	1	MSR, dual sided single track, (Model 573 only)
-2	40N5755	1	Speaker kit (Models 553, 563, 564, 573 only)
-3	06P5223	1	Diskette drive, external, USB
-	42M5864	1	CD ROM, external, USB
-4	14R0029	1	Cover kit, integrated (2x20) (cover only, does not include display)
-5	41D0149	1	Display assembly, integrated customer (2x20) (includes cover kit, item 5)

Assembly 5: Countertop non-keyboard integration tray and filler panels



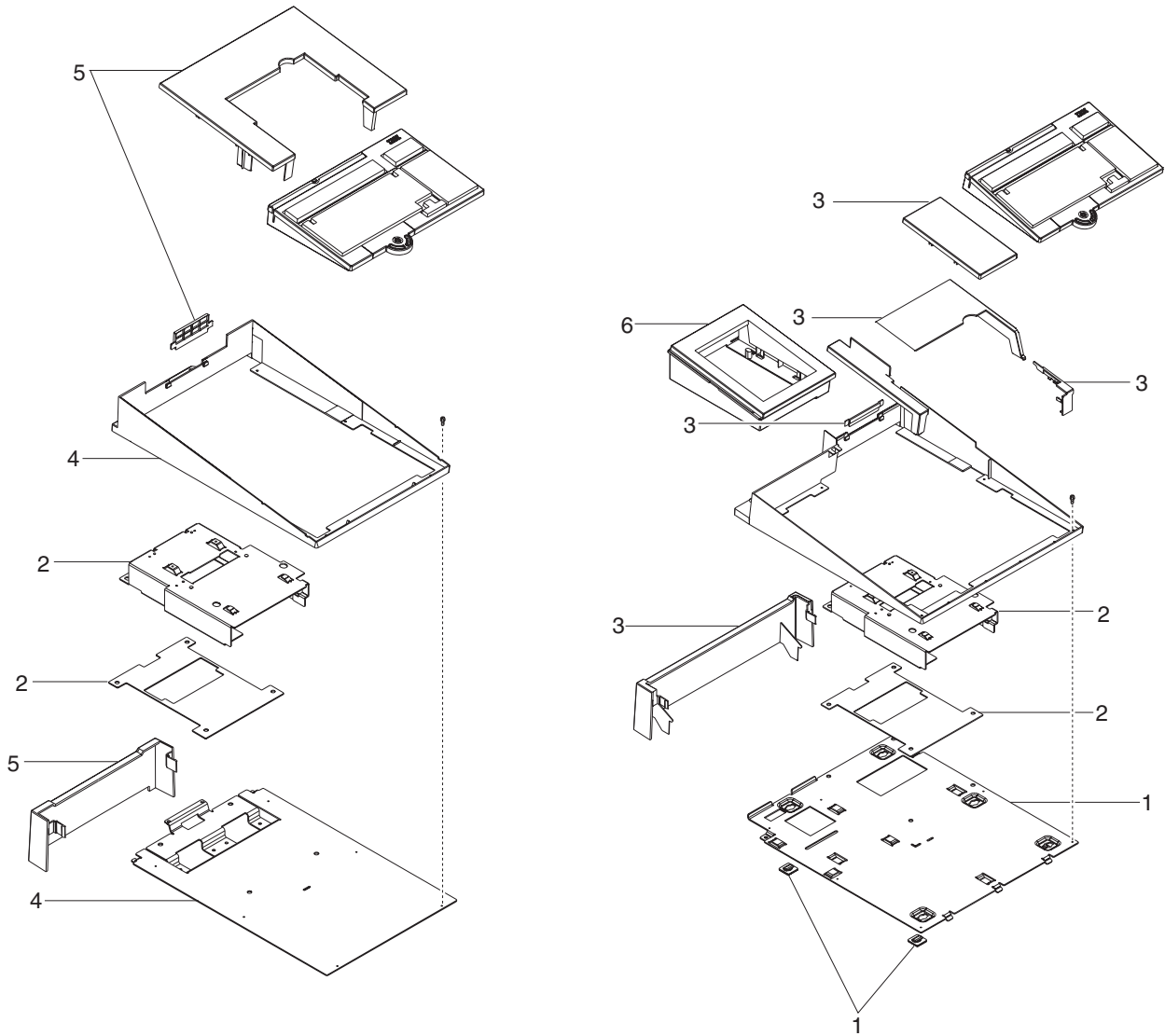
Asm- Index	Part Number	Units	Description
5-			Countertop non-keyboard integration tray and filler panels
-1	41D0261	1	Plate and fence, countertop mount
-1	41D0213	1	Plate and fence, countertop mount, fits filler panel for non-printer use
-2	41D0211	1	Plate, printer mounting
-3	41D0207	1	Plate, terminal mounting (includes screws)
-4	14R1998	1	Panels, filler
-	41D0212	1	Hardware, non-keyboard integration tray (kit - includes feet and screws, not illustrated)
-	41D0209	1	FRU, printer filler panel kit, non-keyboard (not shown)
-5	93F0663	1	Feet, rubber (5)

Assembly 6: Cash drawer non-keyboard integration tray and filler panels



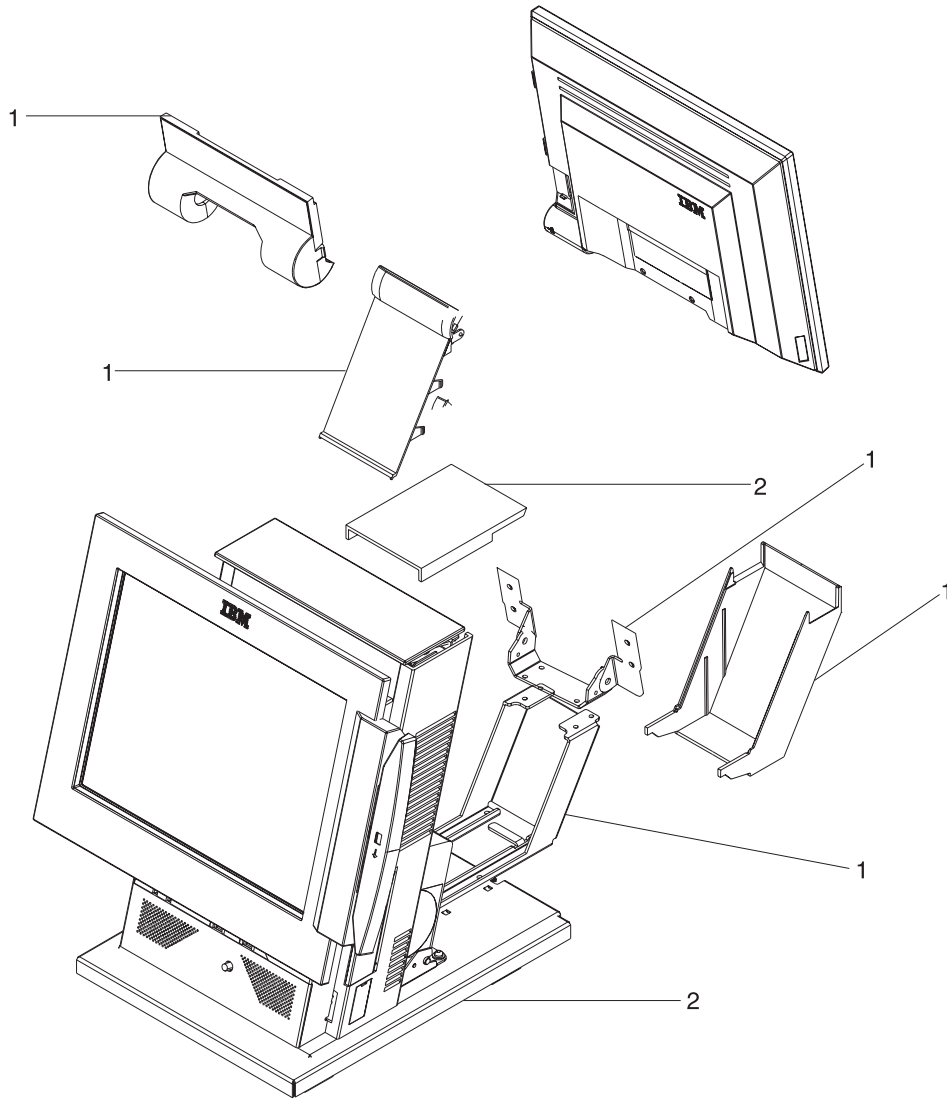
Asm- Index	Part Number	Units	Description
6-			Cash drawer non-keyboard integration tray and filler panels
-1	41D0210	1	Plate and fence, cash drawer mount
-2	41D0211	1	Plate, printer mounting
-3	41D0207	1	Plate, terminal mounting
-4	14R1998	1	Panels, filler
-5	20P0308	1	Cover, modesty
-	41D0212	1	Hardware, non-keyboard integration tray (kit - includes screws, not illustrated)
-	41D0209	1	FRU, printer filler panel kit, non-keyboard (not shown)

Assembly 7: Countertop and cash drawer keyboard integration tray and filler panels



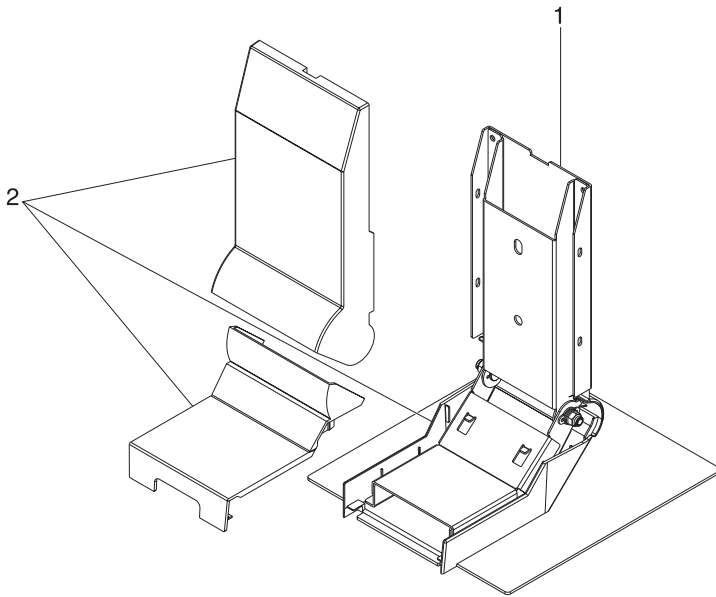
Asm-Index	Part Number	Units	Description
7-			Countertop and cash drawer keyboard integration tray and filler panels
-1	41D0214	1	FRU, plate/fence ASM, wide cash drawer or countertop (includes hardware)
-		1	• ASM, wide cash drawer plate (includes hardware)
-		1	• - M6X8 screws, cash drawer mount
-		1	• - Fence, wide
-		1	• - M3X5 screws, fence mounting
-		1	• - Feet, rubber
-2	41D0208	1	FRU, plate ASM, terminal mounting
-		1	• ASM, terminal mount
-		1	• - Plate, terminal mount insulator
-		1	• - Washer, insulating
-		1	• - M6X12 screws, terminal mount
-3	14R0024	1	FRU, filler panels, wide and countertop
-		1	• Cover, keyboard filler, retail keyboard
-		1	• Cover, terminal filler, wide tray and countertop
-		1	• Cover, wide CD rear curtain
-		1	• Fence, plug
-4	41D0215	1	FRU, plate/fence ASM, narrow cash drawer or countertop (includes hardware)
-		1	• ASM, narrow cash drawer plate
-		1	• - M6X8 screws, cash drawer mount
-		1	• - Fence, narrow
-		1	• - M3X5 screws, fence mounting
-5	14R0023	1	FRU, filler panel, narrow
-		1	• Cover, keyboard filler, retail keyboard
-		1	• Cover, narrow CD rear curtain
-		1	• Fence, plug
-6	47P9273	1	FRU, Iron gray printer footprint adapter – SST to 4610
-		1	• ASM, iron gray printer footprint adapter
-		1	• - Base, SST to 4610 footprint, iron gray
-		1	• - Panel, SST to 4610 footprint, iron gray
-		1	• - Feet, printer base
-	41D0216	1	FRU, Retail integration, installation hardware kit (not shown)
-		1	• Hardware kit, retail integration
-		1	• - M3X5 screws, fence mounting (6)
-		1	• - M5X10 screws, system unit mounting (4)
-		1	• - M6X12 screws, terminal mounting (4)
-		1	• - Washer, insulation (for terminal mount screws) (4)
-		1	• - M6X8 screws, CD plate mounting (4)
-		1	• - Feet, CD plate countertop mounting (5)

Assembly 8: 4820 mounting hardware and covers



Asm- Index	Part Number	Units	Description
8-			4820 mounting hardware and covers
-1	40N6212	1	Assembly, 4820 to terminal mounting kit includes mount and all covers
-		1	• Hinge
-		1	• Cover, hinge
-		1	• Plate, 4820 to terminal (not shown)
-		1	• Bracket, 4820 to plate
-		1	• Cover, outside 4820 mount
-		1	• Cover, inside 4820 mount
-		1	• M4x8 screws (not shown) (12)
-		1	• M4x10 screws (not shown) (4)
-2	41D0217	1	Cash drawer mounting foot assembly (Models 5x3 and 544/564)
-		1	• Base
-		1	• Cover

Assembly 9: Distributed mounting stand



Asm- Index	Part Number	Units	Description
9-1	42J2692		Table top stand with covers
-2	57P4210		Stand cover kit
-		1	Extension cable, tablet, with gender adapter (see Assembly 1, System parts)

Assembly 10: Tools (not shown)

Asm- Index	Part Number	Units	Description
10-			Tools
-	00G2380	1	Wrap plug, Ethernet (not illustrated)
-	72X8546	1	Wrap plug, RS-232 and parallel port (not illustrated)
-	06P5223	1	Diskette drive, external, USB

For power cords see Appendix B, "Power Cords," on page 167.

Appendix B. Power Cords

Power cords

Table 13. Power cords

Part number	Length	Country
39M5100	4.3 m	Argentina, Australia, New Zealand
39M5121	4.3 m	Europe, Korea
39M5128	4.3 m	Denmark
39M5142	4.3 m	South Africa
39M5149	4.3 m	United Kingdom, Hong Kong
39M5156	4.3 m	Switzerland
39M5163	4.3 m	Chile, Italy
39M5170	4.3 m	Israel
39M5191	4.3 m	Japan
39M5079	4.3 m (non-locking)	United States
39M5077	1.8 m	United States, Chicago
39M5107	4.3 m (locking)	United States
39M5231	4.3 m	Brazil

Appendix C. System specifications and planning information

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This appendix provides information on physical specifications, power subsystems, and environmental requirements.

Physical specifications and dimensions

The SurePOS 500 Series physical specifications are described in Table 14 and Table 15.

Table 14. SurePOS 500 Series dimensions

Height (mm)	Counter with 12 in. Tablet	Counter with 15 in. Tablet	Counter with 17 in. Tablet	Wall Mount with 12 in. Tablet	Wall Mount with 15 in. Tablet	Wall Mount with 17 in. Tablet
Tablet at 15°	14.92 in. (379 mm)	16.06 in. (408 mm)	16.38 in. (416 mm)	14.80 in. (376 mm)	15.94 in. (405 mm)	16.26 in. (413 mm)
Tablet max.	15.12 in. (384 mm)	16.14 in. (410 mm)	16.61 in. (422 mm)	15 in. (381 mm)	16 in. (407 mm)	16.5 in. (419 mm)
Narrow cash drawer plate	Add 0.67 in. (17 mm)	Add 0.67 in. (17 mm)	Add 0.67 in. (17 mm)	N/A	N/A	N/A
Width (mm)						
Tablet	12.64 in. (321 mm)	15.08 in. (383 mm)	16.46 in. (418 mm)	12.64 (321 mm)	15.08 in. (383 mm)	16.46 in. (418 mm)
Tablet with MSR	14.33 in. (364 mm)	16.77 in. (426 mm)	18.15 in. (461 mm)	14.33 in. (364 mm)	16.77 in. (426 mm)	18.15 in. (461 mm)
Base	8.35 in. (212 mm)	8.35 in. (212 mm)	8.35 in. (212 mm)	8.54 in. (217 mm)	8.54 in. (217 mm)	8.54 in. (217 mm)
Depth (mm)						
Base	8.70 in. (221 mm)	8.70 in. (221 mm)	9.92 in. (252 mm)	N/A	N/A	N/A
Narrow cash drawer plate	21.56 in. (548 mm)	21.56 in. (548 mm)	21.56 in. (548 mm)	N/A	N/A	N/A
Total front to rear tablet at 15°	10.39 in. (264 mm)	10.55 in. (268 mm)	11.6 in. (294 mm)	9.84 in. (250 mm)	9.92 in. (252 mm)	11.26 in. (286 mm)
Total front to rear tablet at 60°	12.80 in. (325 mm)	13.31 in. (338 mm)	14.96 in. (380 mm)	12.24 in. (311 mm)	12.60 in. (320 mm)	14.76 in. (375 mm)

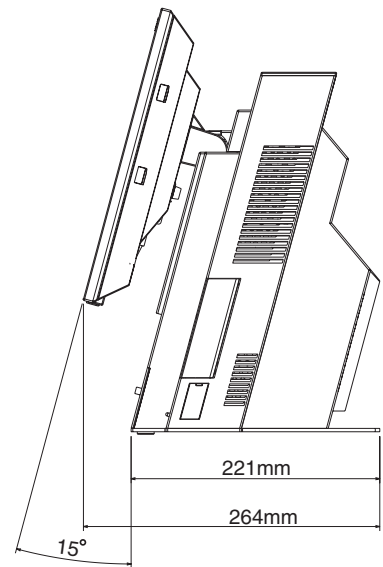
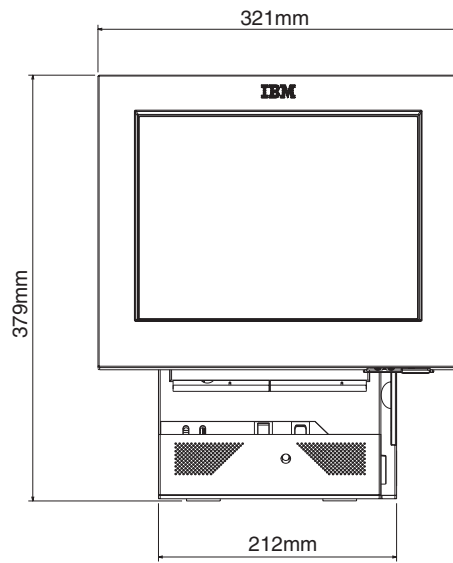
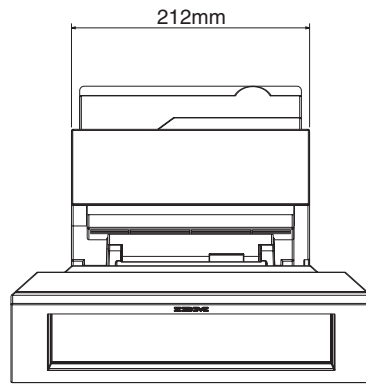
Table 15. SurePOS 500 Series weights

Component	Weight
Tower and 12-in. tablet	10.5 kg (23 lbs)
Tower and 15-in. tablet	10.9 kg (24 lbs)
Tower and 17-in. tablet	13.48 kg (29.7 lbs)
17-in. tablet	5.67 kg (12.5 lbs)
Integrated 2x20 display	0.21 kg (0.38 lbs)
Distributed 2x20 display	0.55 kg (1.2 lbs)

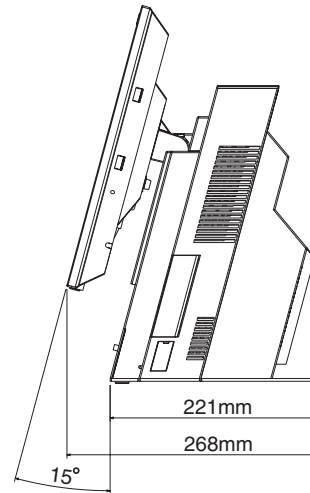
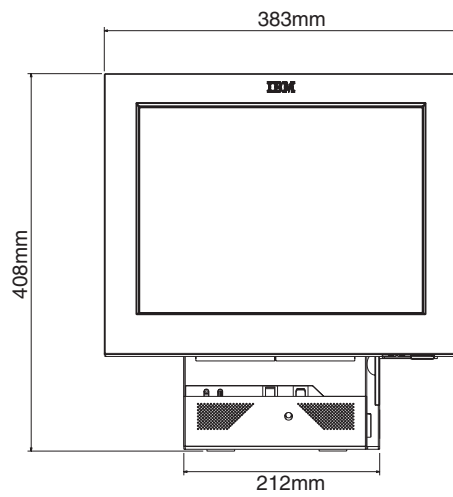
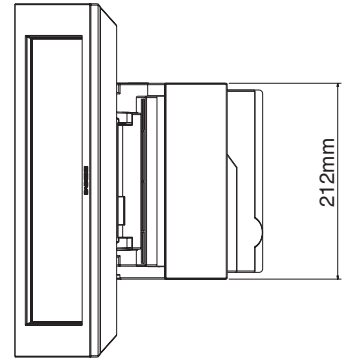
Table 15. SurePOS 500 Series weights (continued)

Component	Weight
Distributed APA display	0.73 kg (1.6 lbs)
MSR (three-track or JUCC)	0.16 kg (0.41 lbs)

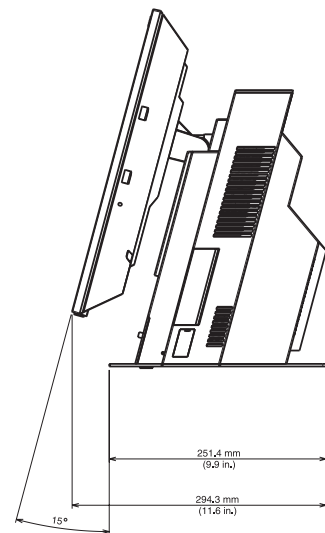
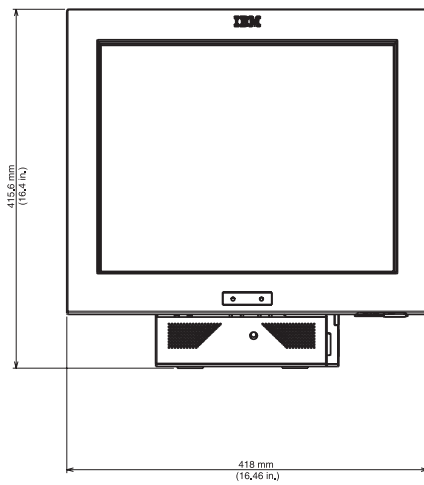
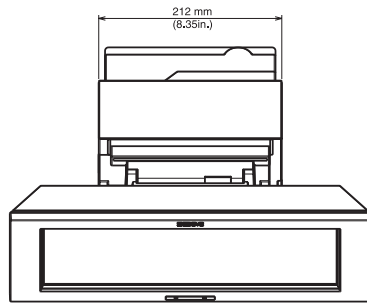
Dimensions of unit with 12-inch display



Dimensions of unit with 15-inch display



Dimensions of unit with 17-inch display



Wall mount dimensions

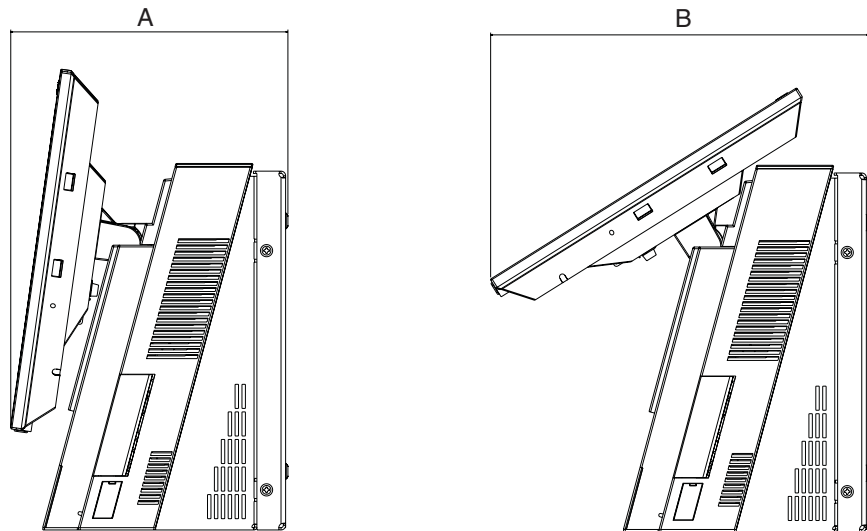


Table 16. Unit dimensions

Tablet Size	A	B
12 in.	9.11 in. (231.4 mm)	12.50 in. (316.6 mm)
15 in.	9.50 in. (241.3 mm)	12.95 in. (329 mm)
17 in.	9.60 in. (253 mm)	14.76 in. (375 mm)

Dimensions of unit with integrated 4820 SurePoint Solution

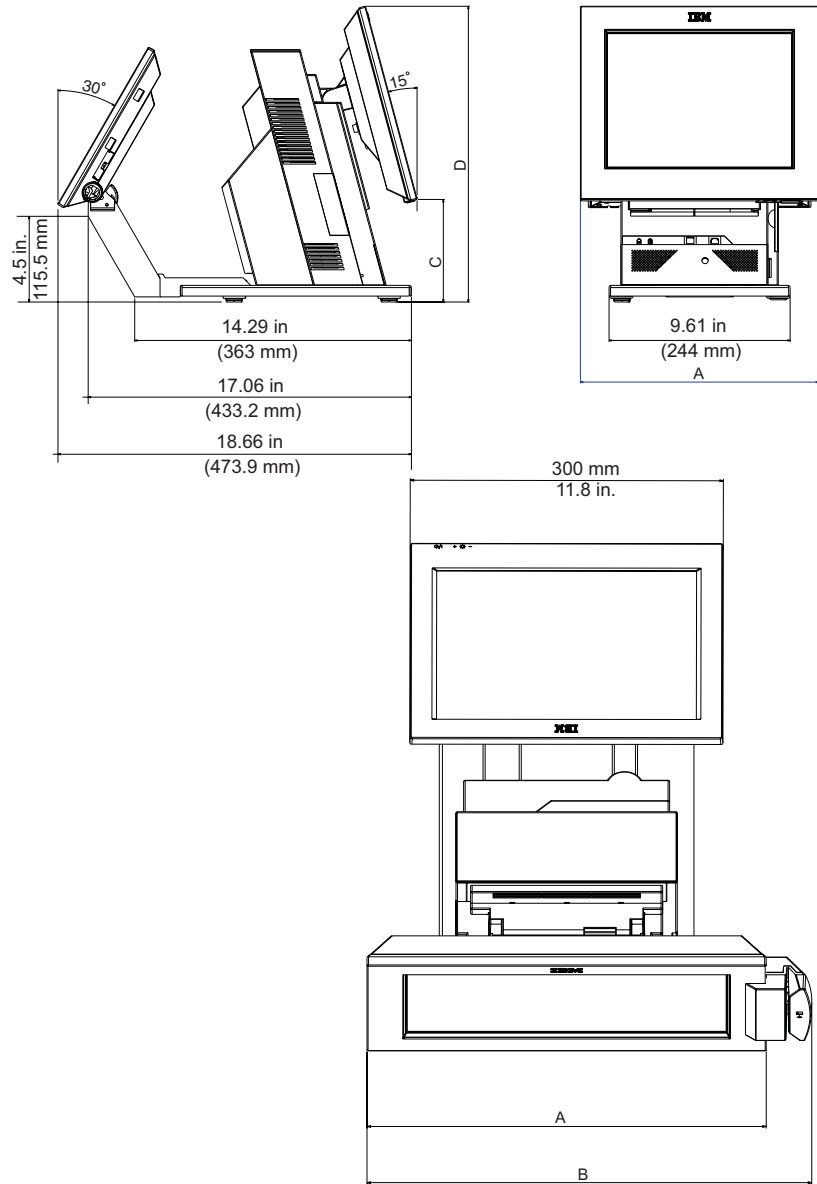


Table 17. Unit dimensions with 4820 SurePoint Solution

Tablet Size	A	B	C	D
12 in.	12.64 (321 mm)	14.35 in. (364.5 mm)	5.44 in. (138.2 mm)	15.69 in. (398.5 mm)
15 in.	15.06 in. (382.5 mm)	16.77 in. (426 mm)	4.80 in. (122 mm)	16.80 in. (426.7 mm)
17 in.	16.46 in. (418 mm)	18.17 in. (461.5 mm)	3.27 in. (83 mm)	17.11 in. (434.5 mm)

August 3, 2006

Power requirements and consumption

This section describes the power requirements and power consumption of the SurePOS 500 Series.

Power

Table 18. Input voltage, frequency

Input	Frequency
100 – 127 V AC	50 or 60 Hz
200 – 240 V AC	50 or 60 Hz

Table 19. SurePOS 500 Series power supply

Nominal output voltage	Tolerance	Continuous current (indefinite)	Maximum current
+5.0 V AUX	±5%	1.0 A	2.0 A
+5.0 V MAIN	±5%	7.0 A	12.0 A
+12.0 V	±5%	5.0 A	9.0 A
+3.3 V	±5%	4.0 A	9.0 A
-12.0 V	±10%	0.3 A	0.3 A
+25.3 V	±4%	0.5 A	3.0 A

Table 20. Power consumption

State:	Usage:
Off	3.5 W
Standby	50 W
On (idle, no I/O)	90 W
On (maximum)	120 W

Output connectors

To meet the 8-A current limit on outputs per IEC 950, Clause 2.11 regarding Limited Power circuits requirements, there are dedicated PTCs on the following output ports:

- +5 V keyboard/mouse
- +5 V/+12 V internal and external customer display
- 5 V USB
- 12 V powered USB
- +12 V external speaker
- +5 V MSR

Notes:

1. The 24 V cash drawer and printer output is limited to 8 A by the main switching power supply.
2. Two printers cannot be attached to the system simultaneously.

Connector-pin assignments

The following sections list the connector-pin assignments for the external and internal connectors.

External connectors

The following sections show the connector-pin assignments for external connectors.

Speaker connector

This connector is functional for Models 563, 564, and 573 only. For access, you must remove the HDD cover.

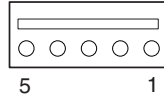


Table 21. Speaker connector-pin assignments

Pin	Connect
1	+12 V dc
2	Ground
3	Line Left
4	Line Right
5	Ground

MSR connector

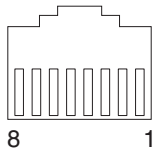


Table 22. MSR connector-pin assignments

Pin	Connector
1	+5 V dc
2	Serial data out
3	Serial data in
4	Ground
5	KBD enable
6	Keyboard data
7	Keyboard clock
8	Ground

USB port connectors

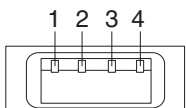


Table 23. USB port connector-pin assignments

Unpowered USB	
Pin	Connector
1	5 V bus
2	-Data
3	+Data
4	Ground

Note: Tablet USB ports are USB 1.1 compliant; side and back USB ports are USB 2.0 compliant.

Table 24. USB port connector-pin assignments

Powered USB	
Pin	Connector
Shell	Shield
1	5 V Vbus
2	-Data
3	+Data
4	Ground
5	Ground
6	Vplus (12 V or 24 V)
7	Vplus (12 V or 24 V)
8	Ground

Keyboard and mouse connector

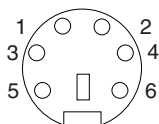


Table 25. Keyboard and mouse connector-pin assignments

Pin	Signal	I/O	Pin	Signal	I/O
1	Keyboard data	I/O	4	+5 V dc	
2	Mouse data	I/O	5	Keyboard clock	I/O
3	Ground		6	Mouse clock	

Microphone connector

The microphone connector is on the tower, at the lower left, below the side connector panel.

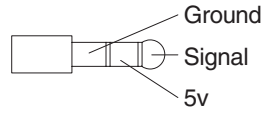


Table 26. Microphone connector-pin assignments

Pin	Signal
Tip	Signal
Ring	+5 V dc
Base	Ground

Headphone connector

The headphone connector is on the tower, at the lower left, below the side connector panel, with the microphone connector.

Table 27. Headphone connector-pin assignments

Pin	Signal
Tip	Left channel audio
Ring	Right channel audio
Base	Ground

Serial connectors

9-pin serial connector (3): The 9-pin serial connector is a male connector.

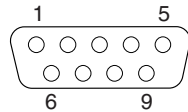


Table 28. Assignment for 9-pin serial connector

Pin	Signal	I/O	Pin	Signal	I/O
1	Carrier detect	I	6	Data set ready	I
2	Receive data	I	7	Request to send	O
3	Transmit data	O	8	Clear to send	I
4	Data terminal ready	O	9	Ring indicator	I
5	Signal ground				

RJ-45 Connectors:

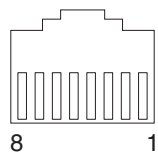


Table 29. RJ-45 connector-pin assignments

Pin	Signal	Pin	Signal
1	DSR	5	RXD

Table 29. RJ-45 connector-pin assignments (continued)

Pin	Signal	Pin	Signal
2	CD	6	TXD
3	DTR	7	CTS
4	Ground	8	RTS

15-pin serial connector: The 15-pin serial connector is a female connector.

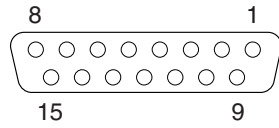


Table 30. Assignments for 15-pin serial connector

Pin	Connector	Pin	Connector
1	Carrier detect	8, 9	+12 V dc at 0.5 A maximum
2	Receive data	11	Distributed display present
3	Transmit data	12	Data set ready
4	Data terminal ready	13	Request to send
5	Ground	14	Clear to send
6	Ground	15	Ring indicate
7, 10	+5 V dc at 0.5 A maximum		

Parallel connector

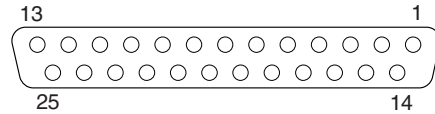


Table 31. Assignment of parallel-connector pins

Pin	Signal	I/O	Pin	Signal	I/O
1	Strobe#	I/O	14	Auto Fd XT#	O
2	Data bit 0	I/O	15	Error#	I
3	Data bit 1	I/O	16	Init#	O
4	Data bit 2	I/O	17	Slct In#	O
5	Data bit 3	I/O	18	Ground	
6	Data bit 4	I/O	19	Ground	
7	Data bit 5	I/O	20	Ground	
8	Data bit 6	I/O	21	Ground	
9	Data bit 7	I/O	22	Ground	
10	Ack#	I	23	Ground	
11	Busy	I	24	Ground	
12	Pe	I	25	Ground	
13	Slct	I			

Diskette-drive connector

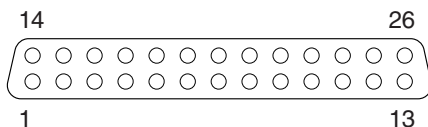


Table 32. Assignment of diskette-drive connector pins

Pin	Signal	I/O	Pin	Signal	I/O
1	Ground		14	No connection	
2	+5 V dc		15	No connection	
3	Ground		16	No connection	
4	Ground		17	Index sensing	I
5	No connection		18	No connection	
6	Drive select 0	O	19	No connection	
7	Motor control 0	O	20	Ground	
8	Direction (0=inward, 1=outward)	O	21	Track step pulse	O
9	Write data	O	22	Write gate	O
10	Ground		23	Track 0 sensing	I
11	Drive density select 0	O	24	Write protect	I
12	Read data	I	25	Head select (0=side 1, 1=side 0)	O
13	No connection		26	Diskette change	I

Ethernet connector

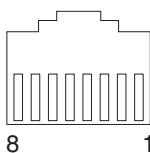


Table 33. Ethernet connector-pin assignments

Pin	Signal	I/O	Pin	Signal	I/O
1	TxD+	O	5	Ground	
2	TxD-	O	6	RxD-	I
3	RxD+	I	7	Ground	
4	Ground		8	Ground	

External video connector

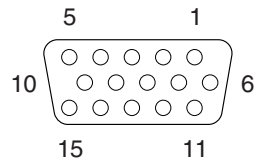


Table 34. Assignment of external-video connector pins

Pin	Connector	Pin	Connector
1	Red	9	No connection
2	Green	10	Ground
3	Blue	11	No connection
4	No connection	12	Monitor ID1
5	Ground	13	Horizontal sync
6	Red ground	14	Vertical sync
7	Green ground	15	Monitor ID3
8	Blue ground		

Cash drawer connector (2)

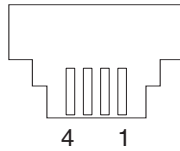


Table 35. Assignment of cash drawer connector pins

Pin	Connector
1	Ground
2	Sensor
3	Open signal
4	+24 V dc

Integrated customer display connector

To access this connector, you must remove the rear cover.

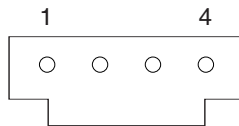


Table 36. Assignment of integrated customer-display connector pins

Pin	Connector
1	+5 V dc at 0.5 A maximum
2	Transmit data
3	Integrated customer display present
4	Ground

Temperature, humidity, and altitude limits

Table 37. Temperature, humidity, altitude limits

Condition	Temperature limits (dry bulb)	Relative Humidity	Maximum wet bulb temperature
Operating	5 to 40° C.	8 to 80 %	27° C.
Power Off	0 to 52° C.	5 to 95 %	27° C.
Storage	0 to 60°	5 to 100%	29° C.

This product is designed to operate up to 3050 m (10,000 ft.).

Appendix D. SurePOS 500 Models 5x3 and 544/564 tips

This section contains tips for service personnel when servicing the SurePOS 500 Models 5x3 and 544/564.

- You can determine whether a problem that you are experiencing has already been resolved. Just review the symptoms and fixes in the knowledgebase at the IBM Retail Stores Solutions Web site.
 1. Go to www.ibm.com/solutions/retail/store/
 2. Select **Support**.
 3. Select IBM SurePOS 500/600 Series
 4. Select **Knowledgebase Tips and FAQs**.
- Always reset CMOS (as described at “Restoring the default CMOS settings” on page 22) before replacing a system board to resolve a problem. This practice allows you to see if corrupted CMOS is the source of the trouble. Corrupted CMOS can cause unpredictable problems.
- After replacing a system board, verify that the CMOS settings correspond with any customer-specific settings. See “System board – removing and replacing” on page 65.
- After replacing a system board or processor, verify that the jumper settings on the system board correspond with the processor that is installed.

For more information see:

- “System board – removing and replacing” on page 65
- “Processor module – removing and replacing” on page 71
- “System-board jumper locations and settings” on page 66

Tools

Table 38 lists the tools that are required by service personnel to service the SurePOS 500 Models 5x3 and 544/564.

Table 38. Service personnel tools

Description	Part Number	Units
External Diskette Drive Tool Kit (includes diskette drive cable and case)	25H2722	1
Wrap plug, Ethernet	00G2380	1
Wrap plug, RS-232 and parallel port	72X8546	1
Adapter cable, RJ-45 to 9-pin conversion	03R7892	1

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Electronic emission notices

Federal Communications Commission (FCC) statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. IBM is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Industry Canada Class A emission compliance statement

This Class A digital apparatus complies with Canadian ICES-003.

Avis de conformité aux normes d'Industrie Canada

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

European Union (EU) Mark of Conformity Statement

This product has been tested and found to comply with the limits for Class A Information Technology Equipment according to European Standard EN 55022. The limits for Class A equipment were derived for commercial and industrial environments to provide reasonable protection against interference with licensed communication equipment.

Attention: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Properly shielded and grounded cables and connectors must be used in order to reduce the potential for causing interference to radio and TV communications and to other electrical or electronic equipment. Such cables and connectors are available from IBM authorized dealers. IBM cannot accept responsibility for any interference caused by using other than recommended cables and connectors.

Germany

Zulassungsbescheinigung laut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG) vom 30. August 1995 (bzw. der EMC EG Richtlinie 89/336).

Dieses Gerät ist berechtigt in Übereinstimmung mit dem Deutschen EMVG das EG-Konformitätszeichen - CE - zu führen.

Verantwortlich für die Konformitätserklärung nach Paragraph 5 des EMVG ist die IBM Deutschland Informationssysteme GmbH, 70548 Stuttgart.

Informationen in Hinsicht EMVG Paragraph 3 Abs. (2) 2:

Das Gerät erfüllt die Schutzanforderungen nach EN 50082-1 und EN 55022 Klasse A.
--

EN 55022 Klasse A Geräte müssen mit folgendem Warnhinweis versehen werden:

"Warnung: dies ist eine Einrichtung der Klasse A. Diese Einrichtung kann im Wohnbereich Funkstörungen verursachen; in diesem Fall kann vom Betreiber verlangt werden, angemessene Maßnahmen durchzuführen und dafür aufzukommen."

EN 50082-1 Hinweis:

"Wird dieses Gerät in einer industriellen Umgebung betrieben (wie in EN 50082-2 festgelegt), dann kann es dabei eventuell gestört werden. In solch einem Fall ist der Abstand bzw. die Abschirmung zu der industriellen Störquelle zu vergrößern."

Anmerkung:

Um die Einhaltung des EMVG sicherzustellen sind die Geräte, wie in den IBM Handbüchern angegeben, zu installieren und zu betreiben.

Australia / New Zealand

Attention: This is a Class A product. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures.

Japanese Voluntary Control Council for Interference (VCCI) statement

This product is a Class A Information Technology Equipment and conforms to the standards set by the Voluntary Control Council for Interference by Technology Equipment (VCCI). In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

Chinese Class A warning statement

Attention: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

中华人民共和国“A类”警告声明

声 明

此为 A 级产品，在生活环境中，该产品可能会造成无线电干扰。在这种情况下，可能需要用户对其干扰采取切实可行的措施。

Taiwanese Class A warning statement

警告使用者：
這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

Taiwanese battery recycling statement

Waste batteries, please recycle.



廢電池請回收

Korea

이 기기는 업무용으로 전자파적합등록을 한 기기이오니 판매자 또는 사용자는 이점을 주의하시기 바라며, 만약 잘못 판매 또는 구입하였을 때에는 가정용으로 교환하시기 바랍니다.

As this equipment has undergone EMC registration for business purpose, the seller and/or buyer is asked to be aware of this point and in case an incorrect sale or purchase has been made, it is asked that a change to household use be made.

Electrostatic discharge (ESD)

Attention: ESD damage can occur when there is a difference in charge between the part, the product, and the service person. No damage will occur if the service person and the part being installed are at the same charge level.

ESD Damage Prevention

Anytime a service action involves physical contact with logic cards, modules, back-panel pins, or other ESD sensitive (ESDS) parts, the service person must be connected to an ESD common ground point on the product through the ESD wrist strap and cord.

The ESD ground clip can be attached to any frame ground, ground braid, green wire ground, or the round ground prong on the AC power plug. Coax or connector outside shells can also be used.

Handling Removed Cards

Logic cards removed from a product should be placed in ESD protective containers. No other object should be allowed inside the ESD container with the logic card. Attach tags or reports that must accompany the card to the outside of the container.

Macrovision copy protection technology

This product incorporates copy protection technology that is protected by U.S. and foreign patents, including patent numbers 5,315,448 and 6,836,549, and other intellectual property rights. The use of Macrovision's copy protection technology in the product must be authorized by Macrovision. Reverse engineering or disassembly is prohibited.

Trademarks

The following are trademarks of the IBM Corporation in the United States or other countries, or both.

Table 39. Trademarks

IBM	PS/2	SureOne	SurePOS
the IBM logo	SureMark	SurePoint	Tivoli

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

Intel and Pentium are trademarks or registered trademarks of Intel Corporation in the U.S. and other countries.

Java and all Java-based trademarks and logos are trademarks or registered trademarks of Sun Microsystems, Inc. in the United States, other countries, or both

Other company, product, and service names may be trademarks or service marks of others.

Accessibility

Accessibility features help a user who has a physical disability, such as restricted mobility or limited vision, to use the SurePOS 500 Series successfully. The following is a high-level list of the accessibility features of the SurePOS 500 Series:

- Touch screen functions can be performed using a keyboard or a mouse.
- All controls are located on the front of the machine, in easy reach.
- Industry-standard serial and USB ports allow alternative I/O devices.
- A volume control dial is present on all models that have the speaker option.
- Manuals are available in .PDF format and can be downloaded from the Web. See “Related publications” on page xxi for the URL.

Appendix F. Safety information

Before you begin to install or service this product, read the following safety information.

Safety Information-English



To avoid a shock hazard, do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.



To avoid shock hazard:

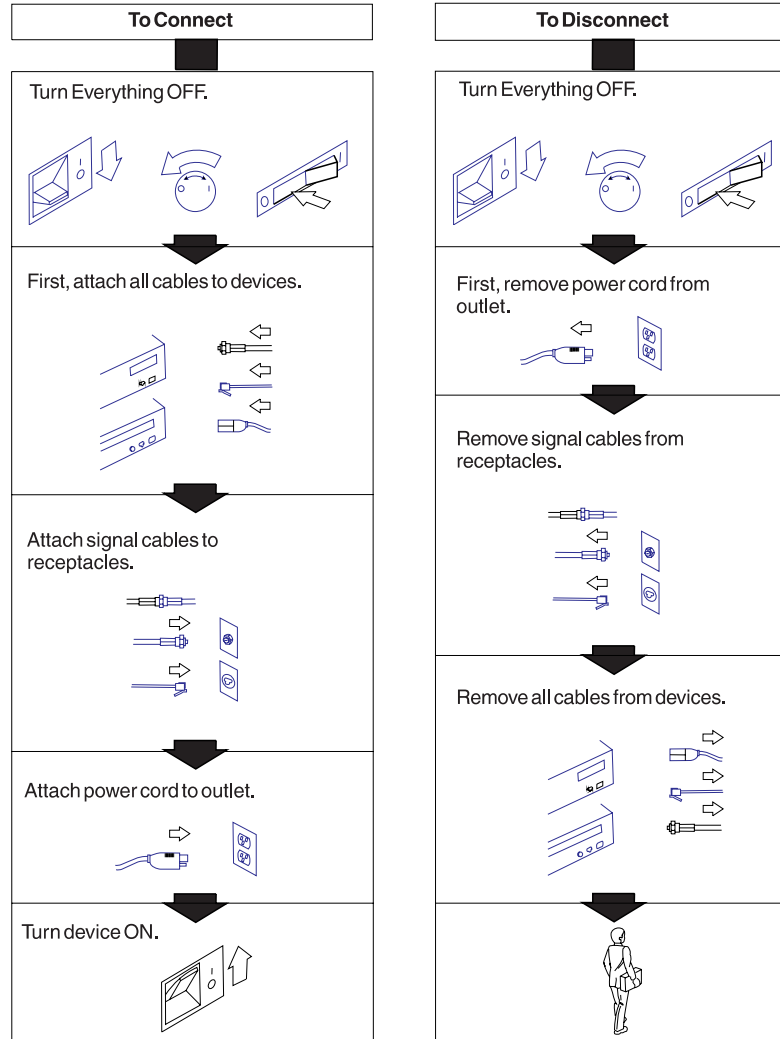
- The power cord must be connected to a properly wired and earthed receptacle.
- Any equipment to which this product will be attached must also be connected to properly wired receptacles.



When possible, use one hand to connect or disconnect signal cables to prevent a possible shock from touching two surfaces with different electrical potentials.



DANGER: Electrical current from power, telephone, and communications cables is hazardous. To avoid shock hazard, connect and disconnect cables as shown below when installing, moving, or opening the covers of this product or attached devices.



Note: In the UK, by law, the telephone cable must be connected after the power cord.

Note: In the UK, by law, the power cord must be disconnected after the telephone line cable.

Caution:

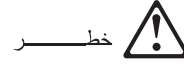
A lithium battery can cause a fire, an explosion, or a severe burn. Do not recharge, disassemble, heat above 100 degree C (212 degree F), solder directly to the cell, incinerate, or expose the cell contents to water.

Keep away from children.

Replace only with the part number specified for this IBM product. Use of a different battery may present a risk of fire or explosion. The battery connector is polarized; do not attempt to reverse the polarity.

Dispose of the battery according to local regulations.

Safety Information-Arabic



لتجنب خطورة الصدمات الكهربائية، لا يجب فصل أو توصيل أي كابلات أو القيام بأعمال تركيبات أو صيانة أو إعادة تنظيم أي من الأجهزة الكهربائية أثناء سريان التيار الكهربائي.

لتجنب خطورة الصدمات الكهربائية:

♦ لا بد من توصيل السلك الكهربائي لمصدر جيد التوصيل بالأرض ومجهز بطريقة صحيحة .

♦ وأي جهاز مصاحب لهذا المنتج يجب توصيله بمصدر مجهز بطريقة صحيحة .

وان أمكن يجب استخدام يد واحدة في توصيل أو فصل كابلات الاشارات (التحكم) لتفادي أي صدمة محتملة نتيجة تلامس سطحين بجهد كهربائي مختلف .

التيار الكهربائي النابع من كابلات الكهرباء أو التليفون تمثل خطورة ولتجنب مخاطر الصدمات الكهربائية، يجب اتباع التعليمات الخاصة بتوصيل الأسلاك كما هو موضح أدناه عند تركيب أو نقل أو فتح أغشية هذا المنتج أو الأجهزة المصاحبة له .

للتوصيل	للفصل
♦ يجب إيقاف الأجهزة (ظهور علامات سخونة للمقيس) يجب قراءة دليل الاستخدام للحصول على أي معلومات إضافية.	♦ يجب إيقاف الأجهزة . (يجب قراءة دليل الاستخدام للحصول على أي معلومات إضافية).
♦ أو لا يجب توصيل كل الأسلاك للأجهزة .	♦ قم برفع أسلاك الكهرباء من الخارج .
♦ يجب توصيل أسلاك الاشارة للمصادر الكهربائية	♦ قم برفع أسلاك الاشارة من المصادر الكهربائية.
♦ قم بتوصيل سلك الكهرباء للمخرج الخاص بالجهاز .	♦ قم برفع كافة الأسلاك من الأجهزة .
♦ قم بتشغيل الجهاز .	

تحذير:

يمكن أن تتسبب البطارية الليثيم في حريق أو انفجار أو حريق شديد

لا تقم بإعادة شحن البطارية أو تفكيكها أو تسخينها أعلى من 100 درجة مئوية (212 درجة فهرنهايت)، أو لحامها مباشرة بخلية البطارية أو تعريض محتويات خلية البطارية للمياه

تحفظ بعيدا عن متناول الاطفال

تستبدل فقط برقم الجزء المحدد لهذا المنتج من شركة IBM

قد ينتج عن استعمال نوع مختلف من البطارية المخاطرة بحدوث حريق أو انفجار

Safety Information-Brazilian Portuguese



Para evitar choque elétrico, não conecte ou desconecte qualquer cabo ou faça instalação, manutenção, ou reconfiguração deste produto quando houver relâmpagos.



Para evitar risco de choque:

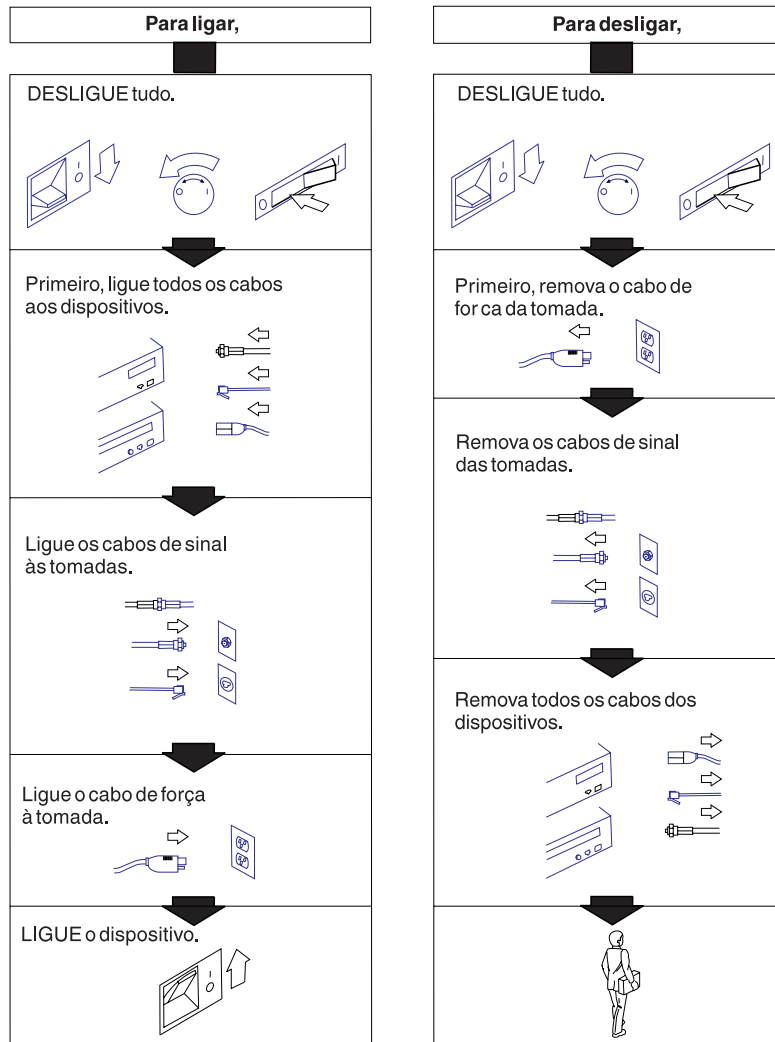
- O cabo de força tem que estar conectado a uma tomada com fios adequados e corretamente aterrada.
- Qualquer equipamento, ao qual este produto será acoplado, também deverá estar conectado a tomadas com fios adequados.



Sempre que possível, utilize apenas uma das mãos para ligar ou desligar os cabos de sinal, a fim de evitar possíveis choques elétricos por tocar em duas superfícies com potenciais diferentes.

**PERIGO:**

A corrente elétrica dos cabos de força, telefônicos, e de comunicação é perigosa. Para evitar risco de choque elétrico, ligue e desligue os cabos, como mostrado abaixo ao instalar, mover, ou abrir as tampas deste produto ou dos dispositivos acoplados.

**Cuidado:**

Uma bateria de lítio pode causar incêndio, explosão ou queimaduras graves. Não recarregue, desmonte ou aqueça acima de 100°C (212°F), não utilize solda diretamente na célula, nem incinere ou exponha o conteúdo da célula à água.

Mantenha longe do alcance de crianças.

Substitua apenas pelo número de peça especificado para este produto IBM. A utilização de uma bateria diferente representa risco de incêndio ou explosão. O conector da bateria é polarizado; não tente reverter a polaridade.

Descarte a bateria de acordo com as regulamentações locais.

Safety Information-French



DANGER

Pour éviter tout risque de choc électrique, ne manipulez aucun câble et n'effectuez aucune opération d'installation, d'entretien ou de reconfiguration de ce produit au cours d'un orage.



DANGER

Pour éviter tout risque de choc électrique:

- Le cordon d'alimentation doit être branché sur une prise d'alimentation correctement câblée et mise à la terre.
- D'autre part, tout le matériel connecté à ce produit doit également être branché sur des prises d'alimentation correctement câblées et mises à la terre.

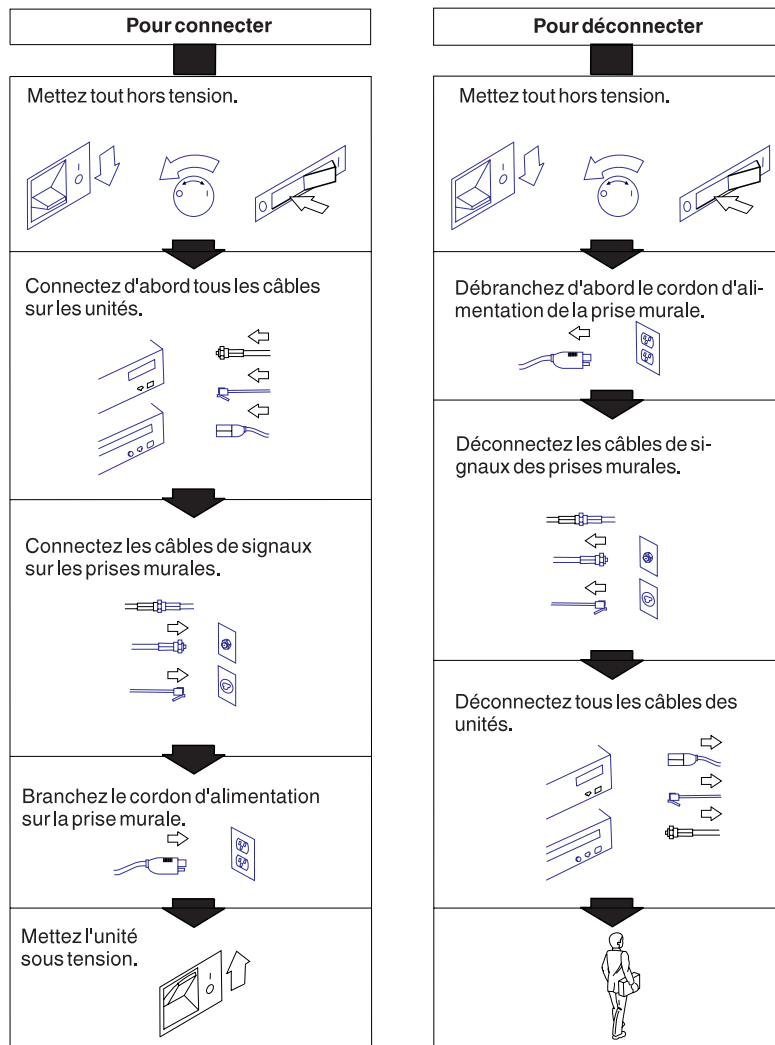


DANGER

Afin d'éviter tout risque de choc électrique provenant d'une différence de potentiel de terre, n'utilisez qu'une main, lorsque cela est possible, pour connecter ou déconnecter les cordons d'interface.

**DANGER:**

Le courant électrique provenant des câbles d'alimentation, téléphoniques et de transmission peut présenter un danger. Pour éviter tout risque de choc électrique, connectez et déconnectez ces câbles comme indiqué ci-dessous lorsque vous installez ou déplacez ce matériel ou les unités connectées, ou que vous soulevez un carter.

**Attention:**

Prenez garde aux risques d'incendie, d'explosion ou de brûlures graves liés à l'utilisation d'une pile au lithium. Ne la rechargez pas et ne la démontez pas. Ne l'exposez pas à une température supérieure à 100 °C, ne la soudez pas, ne la faites pas brûler et n'en exposez pas le contenu à l'eau.

Gardez la pile hors de portée des enfants.

Si vous la remplacez, commandez une pile de rechange de e. même référence. Toute autre pile risquerait de prendre feu ou d'exploser. Le connecteur de la pile est polarisé. N'essayez pas d'inverser la polarité.

August 3, 2006

Pour le recyclage ou la mise au rebut, reportez-vous à la réglementation en vigueur.

Safety Information-Hebrew



כדי להימנע ממכת חשמל, אסור לחבר או לנתק כל כבל או לבצע התקנה, תחזוקה או הגדרה מחדש של מוצר זה במהלך סופת ברקים.



כדי להימנע מסכנת מכת חשמל:

- כבל המתח חייב להיות מחובר לשקע מחוטט ומוארק כראוי.
- כל ציוד שאליו מוצר זה יחובר, חייב גם הוא להיות מחובר לשקעים מחוטטים כראוי.



כאשר ניתן, השתמשו ביד אחת על מנת לחבר או לנתק את כבלי האותות, כדי למנוע מכת חשמל אפשרית כתוצאה מוניהה בשני משטחים בעלי פוטנציאל חשמלי שונה.

סכנה: זרם חשמלי ממקור מתח, מלפון וכבלי תקשורת הוא מסוכן. כדי להימנע מסכנת מכת חשמל, יש לחבר ולנתק את הכבלים כפי שמודגם להלן, כאשר מתקינים, מעבירים או פותחים את המכסה של מוצר זה או של מכשירים מצורפים.



זהירות:

סוללת ליתיום עלולה לגרום לשריפה, לפיצוץ או לכוויה קשה.

אין לטעון אותה מחדש, לחממה מעל 100 מעלות צלזיוס (212 מעלות פרנהייט), להלחים ישירות לתא הסוללה, לשרוף אותה או לחשוף את תוכן התא למים.

יש להרחיק מילדים.

יש להחליף רק עם מספר החלק שצויין עבור מוצר יבמ זה.

השימוש בסוללה אחרת עלול לגרום לסכנת אש או פיצוץ.

המחבר של הסוללה הוא מקוטב; אין לנסות ולשנות את הקיטוב. יש לסלק את הסוללה על פי הנוהלים המקומיים.

Safety Information-Korean



위험

감전 쇼크의 위험을 피하기 위하여 천동번개가 치는 동안에는 전원을 연결하거나 또는 끊지 마시고 또한 본 제품의 설치, 수리 및 시스템 재구성을 하지 마시오.



위험

감전 쇼크의 위험을 피하기 위하여:


- 전원은 반드시 적정 규격의 전선을 사용하고 접지선이 연결된 접속기와 연결 하십시오.
- 본 제품과 연결되는 모든 기기는 반드시 적정 규격의 전선으로 접지선이 연결된 접속기와 연결되어 있어야 합니다.

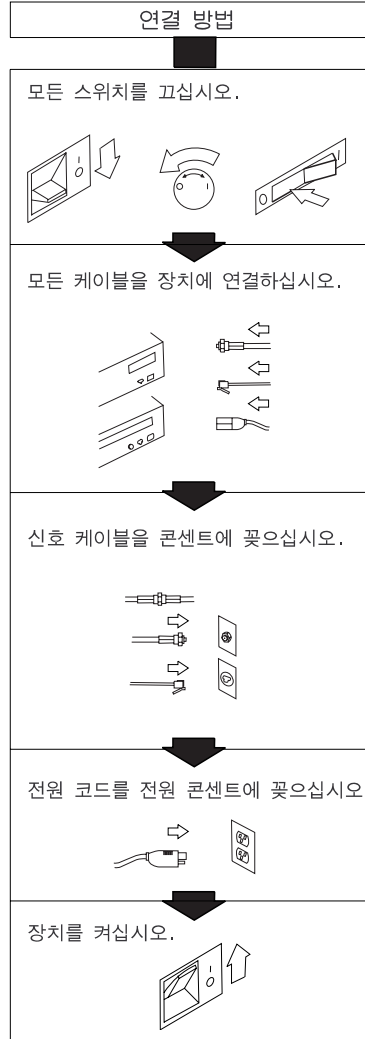


위험 통지 사항

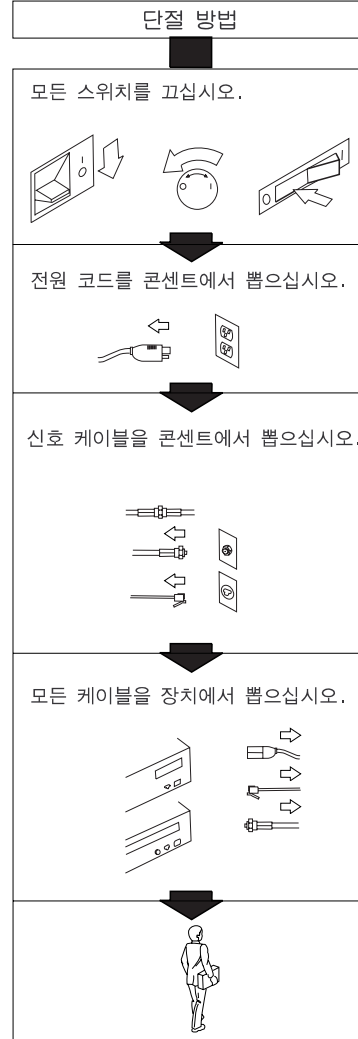
위험

신호케이블을 연결하거나 단절할 때는 가능하면 한 손만을 사용하십시오. 전위나 다른 두 표면을 동시에 만지면 전기적 충격을 받을 수 있기 때문입니다.

 위험: 전원, 전화 및 통신 케이블에 흐르는 전류는 위험합니다. 전기 쇼크를 방지하려면 이 제품이나 부속장치를 설치, 이동하거나 덮개를 열때 아래에 표시된 대로 케이블을 연결하거나 단절하십시오.



Note: In the UK, by law, the telephone cable must be connected after the power cord.



Note: In the UK, by law, the power cord must be disconnected after the telephone line cable.

주의:

리튬 배터리는 화재, 폭발 또는 심각한 화상을 유발할 수 있습니다.

재충전, 분해, 섭씨 100도(화씨 212도) 이상으로 과열하거나 셀에 직접 납땜하거나 태우거나 셀 내용물을 물에 노출시키지 마십시오.

아이들의 손이 닿지 않게 하십시오.

이 IBM 제품에 대해 지정된 부품 번호로만 교체하십시오.

다른 배터리를 사용할 경우 화재나 폭발의 위험이 있습니다.

이 배터리에는 극성이 있습니다. 극성을 바꾸지 마십시오. 현지 법에 의거하여 배터리를 폐기하십시오.

Safety Information-Italian



PERICOLO

Per evitare scosse elettriche, non collegare o scollegare cavi o effettuare installazioni, riconfigurazioni o manutenzione di questo prodotto durante un temporale.



PERICOLO

Per evitare scosse elettriche:

- Il cavo di alimentazione deve essere collegato a una presa munita di terra di sicurezza e propriamente cablata.
- Tutte le unita' esterne di questo prodotto, devono essere collegate a prese munite di terra di sicurezza e propriamente cablate.



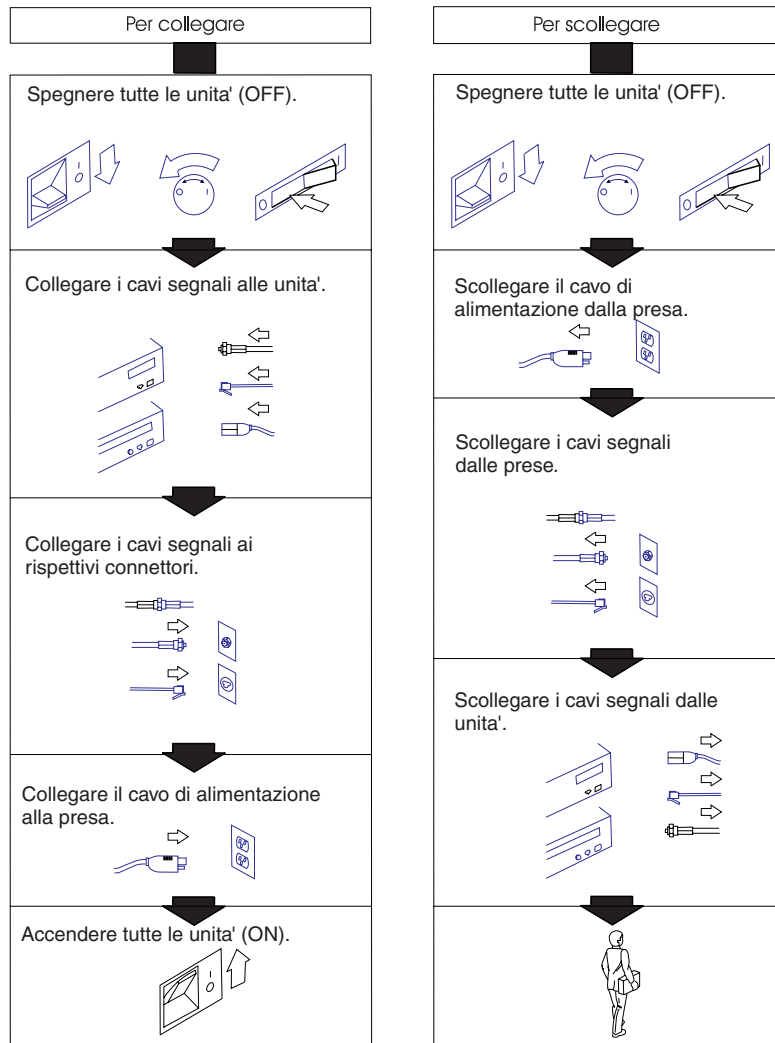
PERICOLO

Quando possibile, collegare o scollegare i cavi di segnale con una mano così da evitare il rischio di scosse, derivante dal contatto con due superfici a diverso potenziale elettrico.



PERICOLO:

La corrente elettrica di alimentazione del telefono e dei cavi di comunicazione e' pericolosa. Per evitare scosse elettriche collegare e scollegare i cavi, nella sequenza mostrata in figura, quando si installa, si trasporta o si tolgono i coperchi di questo prodotto o delle unita' ad esso collegate. Non maneggiare i cavi di interconnessione durante temporali.



Attenzione:

Una batteria al litio può incendiarsi, esplodere o causare ustioni. Non ricaricarla, non smontarla, non riscaldarla ad una temperatura superiore a 100° C, non saldarla, non incenerirla, non gettarla in acqua.

Tenere la batteria lontano dalla portata dei bambini.

Sostituirla soltanto con una batteria contrassegnata dal numero parte specifico per questo prodotto IBM. L'utilizzo di un altro tipo di batteria può determinare rischi di incendio o di esplosione. Il connettore della batteria è polarizzata; non tentare di invertire la polarità.

August 3, 2006

Smaltire la batteria secondo la normativa in vigore (D.Lgs. 22 del 5/2/97) e successive disposizioni nazionali e disposizioni locali.

Safety Information-Spanish



Para evitar peligro de descargas, no conecte o desconecte ningún cable, ni realice ninguna instalación, mantenimiento o reconfiguración de este producto durante una tormenta eléctrica.



Para evitar peligro de descargas:

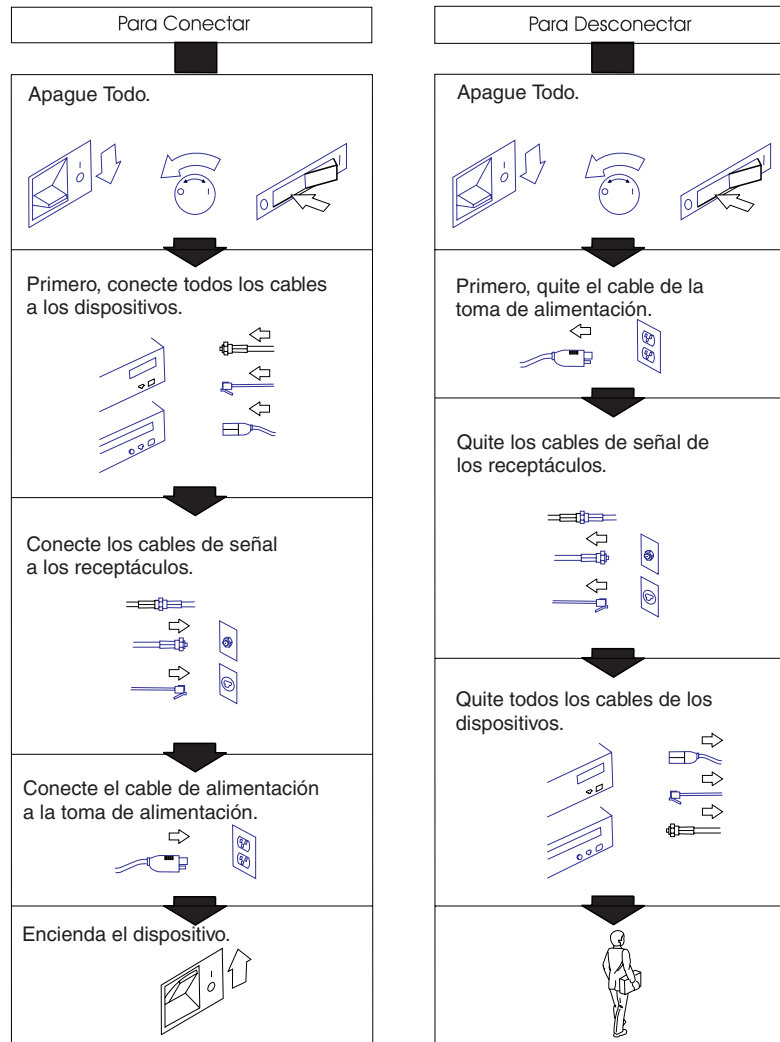
- El cable de alimentación debe estar conectado a una toma de alimentación adecuadamente cableada y con toma de tierra.
- Cualquier equipo al cual se conecte este producto debe estar también conectado a tomas de alimentación adecuadamente cableadas.



Cuando sea posible, utilice una mano para conectar o desconectar los cables de señal para impedir que se produzcan posibles descargas eléctricas al tocar dos superficies con potencial eléctrico distinto.



PELIGRO: La corriente eléctrica de la alimentación, teléfono y cables de comunicación es peligrosa. Para evitar peligro de descargas cuando instale, mueva o abra las cubiertas de este producto o de un disp. conectado, conecte y desconecte los cables tal como se muestra a continuación.



Precaución:

Una batería de litio puede causar un incendio, una explosión o quemaduras graves. No recargar, desmontar, calentar por encima de los 100 grados C (212 grados F), soldar directamente a la pila, incinerar o mojar el contenido de la pila.

Manténgala alejada de los niños.

Sustitúyala sólo con el número de pieza que se especifica para este producto IBM. El uso de una batería distinta puede causar riesgos de incendio o explosión. El conector de batería está polarizado; no intente invertir la polaridad.

Deseche la batería se acuerdo con la normativa local.

Safety Information-German



VORSICHT

Um gefährliche Spannungen zu vermeiden, dürfen während eines Gewitters an diesem Gerät keine Kabel angeschlossen oder gelöst werden, ferner keine Installation, Wartung oder Rekonfiguration durchgeführt werden.



VORSICHT

Aus Sicherheitsgründen

- darf das Netzkabel nur an eine Schutzkontaktsteckdose angeschlossen werden.
- dürfen für den Anschluß anderer Geräte an den Drucker auch nur Schutzkontaktsteckdosen verwendet werden.



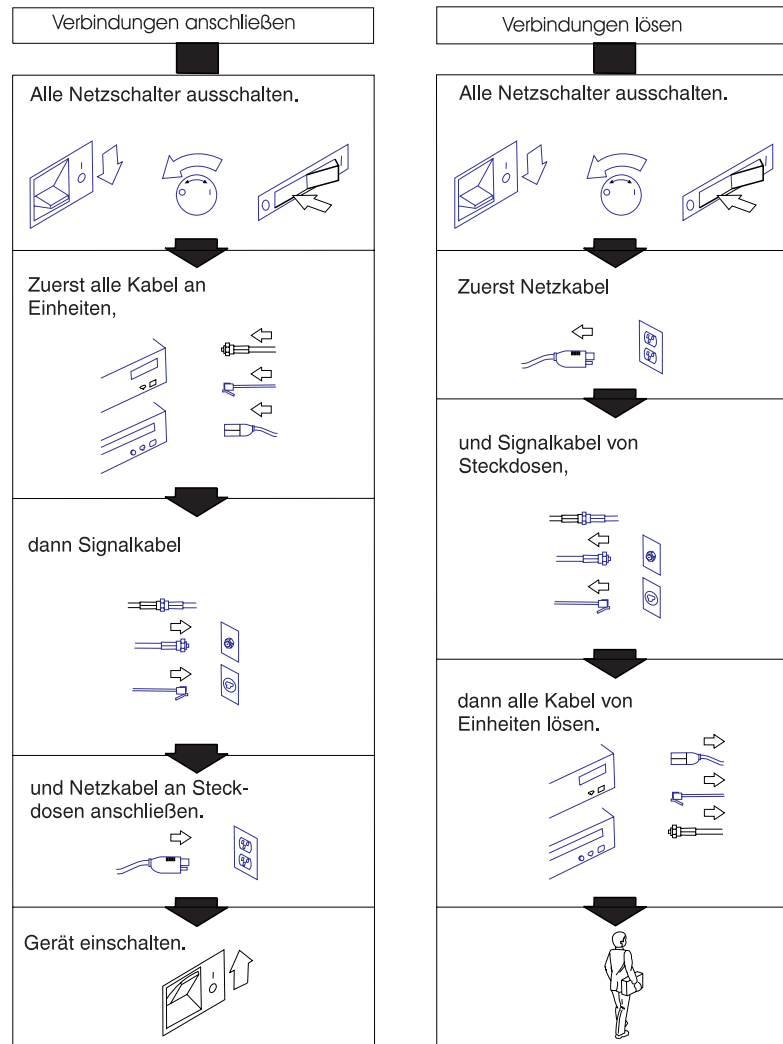
VORSICHT

Die Signalkabel nach Möglichkeit mit einer Hand anschließen oder lösen, um gefährliche Körperströme zu vermeiden, die bei Berühren zweier Flächen mit möglicherweise unterschiedlichen elektrischen Potentialen auftreten können.



Elektrische Sicherheit:

Gefährliche Spannungen an Netz-, Telefon- und Übertragungskabeln. Bei Installation, Transport oder Öffnen des Gerätegehäuses oder angeschlossenen Einheiten die Kabel wie abgebildet anschließen bzw. lösen. Bei Gewittern dürfen keine Kabel angeschlossen bzw. gelöst werden.



Achtung:

Lithiumbatterien sind feuergefährlich, explosiv und können schwere Verbrennungen verursachen. Batterie nicht wiederaufladen, öffnen oder über 100 Grad Celsius erhitzen; die Zelle nicht direkt anlöten, verbrennen oder den Inhalt der Zelle mit Wasser in Berührung bringen.

Batterie nicht in Reichweite von Kindern aufbewahren.

Eine verbrauchte Batterie nur durch eine Batterie mit der für dieses IBM Produkt spezifizierten Teilenummer ersetzen. Andere Batterien können sich entzünden oder explodieren. Der Batterieanschluß hat zwei verschiedene Pole; beim Anschließen die Pole nicht vertauschen.

Batterie gemäß den örtlichen Richtlinien für Sondermüll entsorgen.

Safety Information-Traditional Chinese



為了避免雷擊，在閃電期間，請勿連接或拔掉本裝置上的任何電纜線，或請勿安裝、維修或重新架構本產品。



為了避免雷擊：

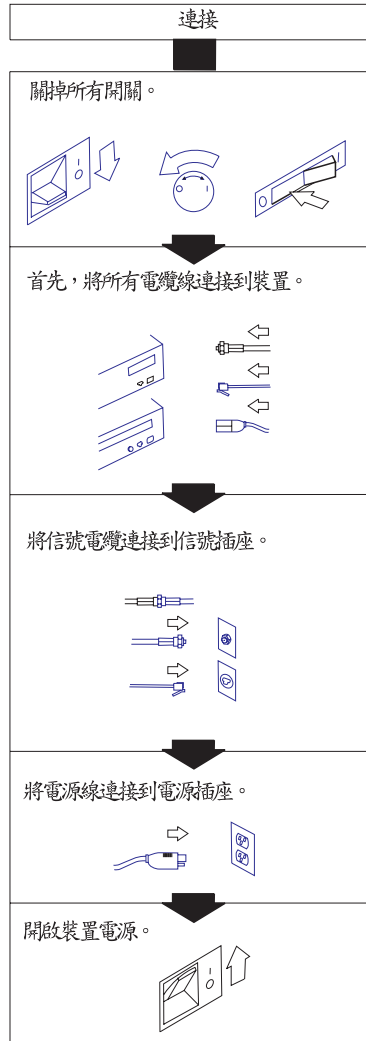
- 電源線必須連接到接線及接地正確的插座。
- 本產品所連接的設備也必須連接到接線正確的插座。



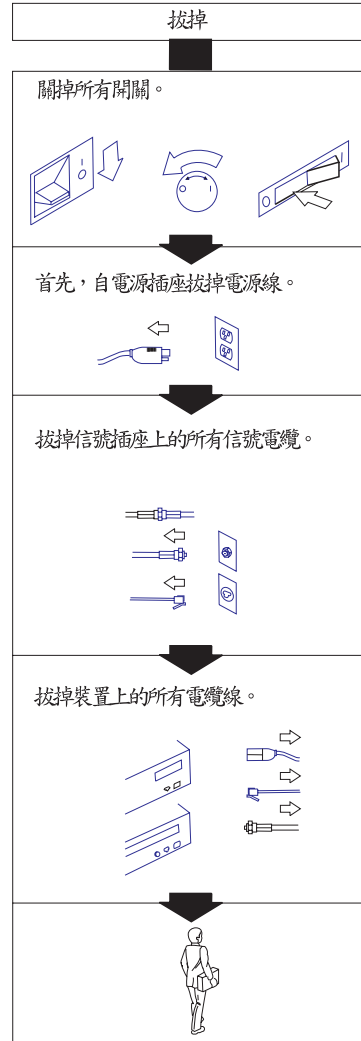
儘可能使用單手來連接或拔掉信號電纜，以避免因接觸兩不同電位的平面，而受到電擊。



危險： 電源、電話及通信電纜上均有電流通過，為了避免電擊，在安裝、移動本產品，或開啟本產品的蓋子或與本產品連接之裝置的蓋子時，請依照下列「連接」及「拔掉」電纜的步驟操作。



註：英國法律規定，需在電源線接妥後，才可連接電話線。



註：英國法律規定，需在電話線拔掉後，才可拔掉電源線。

注意：

锂电池可能会引起火灾、爆炸或严重烧伤。

请勿对锂电池进行充电、分解、加热超过 100 摄氏度（212 华氏度）、直接焊接、焚烧或置于水中。

请将电池放在孩童够不到的地方。

更换电池时只能使用指定产品。

使用其它电池可能有引起火灾或爆炸的危险。

电池接头带有极性，请勿掉换极性。
请按照当地法规处理电池。

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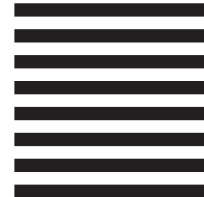
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