micros®

res4.0

Restaurant Enterprise Solution
Version 4.12
Installation Guide

General Information

About This Document

This document provides upgrade and setup instructions for the MICROS Restaurant Enterprise Solution (RES) Version 4.12 software. The process ensures the proper transfer and configuration of the files, programs, and databases required for the smooth operation of the applications.

The procedures described in this document are applicable to upgraded systems.

****************************IMPORTANT*****************************

Please read all instructions in this document before installing RES v4.12. A new Prerequisites Patch is required.

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****************************REMINDER*****************************

It is recommended that custom applications be re-installed and tested after applying any upgrade to a RES system. This includes, SQL scripts that add or alter custom stored procedures.

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Declarations

Warranties

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Who Should be Reading this Document

This document is intended for the following audiences:

◆ MICROS Installers/Programmers

◆ MICROS Dealers

◆ MICROS Customer Service

◆ MICROS Training Personnel

◆ MIS Personnel

What the Reader Should Already Know

This document assumes that you have the following knowledge or expertise:

◆ Operational understanding of PCs

◆ Understanding of POS terminology and concepts

◆ Working knowledge of the Microsoft Windows interface

RES Setup Procedures

Before You Begin: Tips, Traps, and Precautions

Before running the RES Setup procedure, the following should be noted:

- The individual installing the software must be logged on as "Administrator" before running RES Setup on a Microsoft® Windows XP or Windows 2003 system.

- Make sure that all programs/applications are closed on the PC. If the system detects an active program/process during the installation routine, a notification to close may display.

- When upgrading on a RES system where the MICROS Portal is installed, be sure to manually shut down the Micros Agent and Micros Watchdog services. Failure to shut down these Portal-related services can result in a system lockup during database conversion.

- MICROS recommends using NTFS partitions for both the Operating System and the MICROS drive. This is because the NTFS file system provides greater security than FAT partitions.

- Before installing Win 2003 or XP on the server, make sure that any OPOS devices and related software that need to be installed are compliant with the operating systems. Failure to do so may prevent KDS Controller from loading after setup.

- All references to RES 3.x have been removed from this document. Please refer to the *RES32_Install_rmf.pdf* for more information.

- All RES 4.0 General Release setup instructions, to install from CD-ROM, have been removed from this document. If you need this information to bring your system up to 4.0 GR and/or to the released version of RES 4.11, please refer to RES411_Install_rmf.pdf.

- During RES 4.x installation, both the Backup Server Service (**ResBSM.exe**) and the KDS Controller are installed to all clients running the XP or 2003 operating systems. Though installed, please note that the Backup Server Service and KDS Controller are not supported on Microsoft XPE and WePOS.

- RES 4.12 is a point release (Service Pack); therefore, this document only covers installing the RES 4.12 Prerequisite and 4.12 Service Pack. To install RES 4.12, your system must be loaded with the RES 4.11 or any RES 4.11 maintenance release.

> *Note: Ensure that you have an upgradeable version of RES v. 4.11, and have run the RES 4.12 Prerequisite before attempting to apply this RES 4.12 patch.*

- MICROS recommends assigning no more than 8 print devices to a client. More than that may cause the print service to fail.

- WS4's will need at least 128 MB of RAM installed. Users can verify the amount of RAM by checking *My Computer | Control Panel | System | Memory.* If the amount of Program Memory Allocated is approximately 50000 KB, then the PC has 128 MB of RAM. If the value is only 17000 KB, then it only has 64 MB of RAM and may experience low memory errors.

- Powering off either the WS4 or the Server during an upgrade to a version of RES can cause the WS4's compact flash to become corrupt. This can also occur if you pull the power cord out of the WS4 while it is writing to the compact flash. To correct the problem, the compact flash must be reformatted using a compact flash reader.

- When using an Eclipse PCWS in a RES 4.x system, be sure to set the O/S field to what the actual operating system is. If installing a new Operating System, set the **O/S** field to the new Operating System prior to installing the new OS. Failure to do so can cause some COM Port issues.

  To view and/or modify the setting:

  1. Reboot the workstation.

  2. Press **F2** to enter the BIOS setup program.

  3. Go to the **Advanced** tab.

4. Verify that the **O/S** field is set to the workstation's Operating System.

    Since Windows XP is not available as a selection, the WinNT2K selection should be made for XP installations.

◆   When updating the system's Time Zone setting, users must stop/start RES services before attempting to run POS Operations. This will resynchronize the RES application time zones (which are set on startup) with those on the updated POS clients.

    Failure to do so, or to reboot the system, will cause errors when using the Future Order feature and may affect other timer-related functionality.

◆   When running a RES Service Pack with Microsoft Anti-Spyware installed, the system displays a series of warning messages when the MICROS Secure Desktop or other RES applications are started. Should this occur, users are advised to simply press the **Allow** button to continue. Do **not** press the **Block** key, as this will cause problems with the system.

◆   The firewall on a RES 4.0 server must have the following ports open before it can accept requests from a Win 32 client:

    ◆   TCP: 7300
    ◆   UDP: 7301

◆   Firewalls should be enabled prior to installing RES 4.x on a Win 2003 Server. If the firewall is enabled after installation, the clients will not be able to communicate with the server and will continuously display prompts for Backup Server Mode (BSM) and Stand-alone Resiliency (SAR).

    To fix the problem post installation, users should:

    1. Start the firewall from *Control Panel | Windows Firewall*.

    2. Run **Micros\common\Bin\ConfigureICF.bat**. This will update the exceptions list that RES needs to successfully run with the firewall enabled.

For more on firewall setup, see Appendix D, page 58.

◆ Certain Micros applications (e.g., KDS Controller, Backup Server, ILDS, IFS) can be configured to run on both the server or a client (XP or 2003). When switching the configuration to run a service on a PC, users should do the following to ensure that the system updates properly:

1. Make the necessary changes in POS Configurator to run the service on the PC.

2. Open Micros Control Panel.

3. Highlight *Restaurant* and click **Reload**. This will propagate all changes out to all clients.

4. Reboot the Server.

5. Reopen MICROS Control Panel. Highlight *Restaurant* and click **Reboot All** to reboot all of the clients.

◆ When using the HP 100 USB printer, the correct procedure is to set the device as the Windows default printer, while leaving the **Default Printer Name** blank in POS Configurator (*System | Restaurant | Description*). Otherwise, selecting this printer as the 3700 default will result in type size and formatting errors.

◆ RES Versions 4.x do not support Fast User Switching on the Windows XP platform. This option allows 2 users to log onto the computer simultaneously, and to switch between active users without having the current user log off first. If enabled, it may cause some applications and/or processes to fail.

◆ If running a RES patch, the system will reference the wrong RES prerequisite version number in *Add/Remove Programs.* This is because RES patches are unable to update version information in Add/Remove Programs.

◆ When a RES 4.0 Server is patched, all clients except for the Symbol 8800 will be updated automatically. The Symbol 8800 will need to be rebooted or re-cradled after the server has been patched in order to receive the update.

◆ RES must be removed prior to upgrading the Operating System to either Microsoft XP or 2003. RES cannot be completely removed from an XP or 2003 system. Even manually removing the MICROS tree and registry will not result in a clean removal of RES.

◆ There are conversion issues due to custom tables, triggers, stored procedures, etc. that Sybase 11 cannot handle. Therefore, every customer must upgrade their existing database on a lab system prior to installing at a live site. This serves to verify that the upgrade will be successful.

◆ The LX Display Controller needs to be configured to use the correct touch screen driver when installed. If this is not done, the touch screen will still work, but the tool bar buttons may become depressed and will not come back up.

Follow these steps to configure the correct touch screen driver:

1. Go to *Start | Programs | Windows Explorer | Control Panel | Touch Display.*

2. Select the correct driver for your monitor.
   Ex: Elo Touch

3. Select the correct connection type.
   Ex: USB

4. Reboot the Display Controller.

◆ To avoid a possible disruption in network communications, set the following option on the server and any clients that are allowed to go into Standby mode.

1. Open *Device Manager* and right-click on your Network Card.

2. Select *Properties | Power Management* and then *Disable* the **Allow the computer to turn off this device to save power** option.

◆ The Setname Utility (setname.cfg) is no longer supported on clients running RES versions 4.3 or higher. Setname of the servers is still supported. This will have no impact on functionality because when RES is installed on a Win32 client, CAL automatically changes the client's name and IP Address to match what is configured in the database.

Database Conversion

◆ **MICROS no longer supports database Version 3.0 or below. The conversion process will only work with database Version 3.1 or higher**.

◆ An existing Version 3.1/3.2 database with multiple languages created through the **Translate.exe** application may not convert properly. The first language in the database, which is the English US language, will convert correctly.

◆ When upgrading an existing database, Sybase 11 may have trouble converting custom elements such as tables, triggers, and stored procedures that are not supported in this version. To avoid this problem, customers should upgrade their existing database on a lab system prior to installing at a live site. This will ensure that the database is viable, or allow the customer to make needed corrections if it is not.

Licensing

◆ This version of the software requires a MICROS 4.x activation code for each RES module, with the exception of the Guest Services Solution Module.

Documentation

◆ Documentation is available from the MICROS website, on the RES Product page.

Site Requirements

In order to successfully install and enable a RES Setup system, the following requirements must be met:

	Servers		Clients			
	Win 2003	**XP**	**Win 2003**	**Win 2000**[1]	**XP Pro**	**NT**[1]
Win XP Pro sp2		X			X	
Win 2003	X		X			
Win 2000 Pro sp3				X		
NT 4.1 sp 6a or greater						
IE 6.0 sp1 or higher	X	X	X	X	X	
.NET Framework 1.1 sp1[2]			X	X[3]	X	
.NET Framework 2.0 sp1	X	X	X		X	
IIS[4]	X	X				
MSI 3.0	X	X				
MDAC 2.6 sp 1						
ASP.Net 2.0	X	X				

[1] Windows NT is not supported.

[2] Manager Procedures and Report Viewer will only work with .NET version 2.0 SP1 installed.

[3] Must be loaded on Win 2000 and NT clients that want to run the KDS display application.

[4] Requires IIS 5.0 for WinXP Pro and 6.0 for Win 2003. IIS is NOT required on clients.

Additional Software Requirements

The following third-party applications are used with RES Setup. These application versions must not be changed by the installation of other third-party software. Any changes to the software application will make the RES System unsupportable.

Application	Version
Microsoft DCOM	1.3 or higher
ODBC	3.52 or higher
Sybase SQL Anywhere	11.0.1.2596
Crystal Reports Professional*	9.2.3.1336
Borland Delphi Engine	5.2.0.2
Sentinel Software Key Driver	7.0
Adobe Acrobat Reader	6.0 or higher
ADO	2.6 sp1 or higher

*Crystal Reports viewer is installed with RES. If report development is required, the installer must load a full version of Crystal Report Professional. If done, RES Setup must be reloaded afterwards.

Reports developed in later versions of Crystal must be saved using Version 9 format.

Hard-Drive Space Requirements

The space requirements listed below assume that the full range of options are to be installed:

RES Environment	2003/XP Server	Windows Client
Clean, no prior RES installation	1.2 GB + size of DB	600 MB
Over existing RES	1.3 GB + size of DB	600 MB

Prior to setup, the system calculates how much space is required for installation of the selected features. If the available disk space is inadequate, an error message is displayed.

> *Note: RES 4.0 and higher requires a minimum of 200 MB free space on the root drive, (usually C:). This is true even if choosing to install RES to a different drive.*
>
> *For optimum system performance, 30% of the root drive should be free space.*

Server Requirements

Overview

This section provides guidelines for configuring a RES store system. Please refer to the Enterprise Management site survey and consult with MICROS Research & Development, Product Management when configuring the EM corporate server.

There are four computer resources that affect system performance:

   ◆ Memory (RAM)
   ◆ Hard-Disk Size
   ◆ Controller Type/Number
   ◆ Processor Speed

The demands placed on these resources by RES and Enterprise Office applications are a function of the database and the number of transactions posted in the system. Transactions may be posted from any one of the RES applications. These guidelines are predicated on the RES server being dedicated to RES applications only. If the RES server is to be used for other third-party applications, additional resources may be required. Please refer to third-party software source requirements when determining the configuration needs of your system.

The recommendations provided in this section are designed to yield an acceptable performance under average conditions and based on the current version of software. Every effort is made by the development group to prevent significant increases in server resource requirements as RES moves forward. However, because of our reliance on third-party components such as the Microsoft Operating System, Sybase ASA DBMS, and other tools, we cannot guarantee that the suggested minimum requirements will be suitable for future versions of RES, Sybase, and the Windows OS.

For increased performance, or if the customer is planning future upgrades, MICROS recommends increasing the hardware to the next level of server configuration. These recommendations are based on the current Personal Computer offerings.

Disclaimer

The MICROS Research & Development team has neither tested nor certified PCs from other manufacturers, nor does it keep current on their offerings.

As a rule, the MICROS Customer Service and Research & Development groups do not support PCs from other manufacturers. Non-MICROS PCs should be evaluated in terms of their equivalence to the Hewlett-Packard model. For example, a Dell Optiplex is an equivalent model for an HP Vectra, but NOT for an E60 or E800 Net Server.

MICROS neither recommends nor supports loading an operating system on a hardware platform that is not officially supported by the manufacturer. For example, the E60 and E800 do not support Windows XP Pro, while the Vectra line does not support Windows 2003.

Service and support for customers not using a MICROS-approved product will be the total responsibility of the end user. (Note: Performance testing and initial configuration of a third-party PC is available at prevailing rates.)

Further System Recommendations

Performance can be enhanced significantly by increasing RAM and by storing the database on a second hard drive, or moving to a RAID configuration with a caching RAID Controller.

- **Clients** — Windows XP Pro Hard Drive clients provide better performance for larger configurations.

- **Network** — A 10-MB flat network provides adequate performance for a 25-workstation configuration. Integrating into existing, non-MICROS networks requires special considerations.

- When determining system size, the total number of clients refers to all units, including POS Clients, KDS Clients, Hand-Held Terminals, and Backoffice Clients.

- **Resiliency** – Raid 5 is a resilient hard-drive configuration that will protect a site in the event of a single hard drive failure. Any sites that require additional operational and data resiliency should consider using a Raid 5 configuration on an appropriate server. It is always recommended to utilize raid configurations through the hardware controller and not recommended to use the raid features of the Operating System.

- **Dual Processors** – RES 3.x does not support servers with Dual Processors. RES 4.0 and higher do support Dual Processors and Dual Core Servers, however RES applications will not take advantage of the dual-processor/core technology. This means that the user will not see a major performance improvement over a computer utilizing a single processor.

- RES does not currently support servers with hyper-threading enabled; that configuration is not recommended at this time.

- For system purchases, RAM should be purchased in 1 GB increments. Not only is this the most cost effective option, it is the most efficient. Larger RAM means less slot are used and space is preserved for future expansion.

◆ A mass storage device is recommended when configuring your system. Make sure that this backup storage device has sufficient capacity to hold the MICROS database and all other critical files.

MICROS recommends backing up to the server's physical hard-drive or to another PC on the network (i.e., an Eclipse workstation). Tape drives may still be used, but are no longer common. ZIP, Jazz, and CD Read/Write drives are not recommended as they do not have adequate capacity to backup a RES database.

RES 4.0 and higher installs an encrypted database. Sybase recommends that no compression be used when storing an encrypted database. This should be taken into consideration when selecting a backup storage device.

◆ Hard drives can be an important factor in selecting a PC. For maximum system performance, at least 33% of the hard-drive should be free during operations. This is true for each hard drive and each drive partition.

Disk defragmentation tools such as Diskeeper are recommended to maintain hard drives at their most optimum performance. Note that when upgrading to RES 4.0 or higher, the size of the database will grow a minimum of 40%.

System Configuration Types

System configuration is based on three factors: 1) number of clients, 2) volume of transactions, and 3) POS Only versus full RES (POS and Enterprise Office) installation.

For clarity, transaction levels are defined as follows:

◆ **Low Transaction volume** — Refers to a site where the volume of transactions rarely engages all workstations simultaneously. Hotels and some fine dining table-service restaurants (TSRs) are typically low-volume sites.

    ◆   **Medium Transaction volume** — Refers to a site where all workstations are often (but not always) engaged simultaneously. Family-style TSRs and moderately busy quick-service restaurants (QSRs) are examples of medium-volume sites.

    ◆   **High Transaction volume** — Refers to a site where all workstations are continually and simultaneously engaged. High transaction rates, during extended, peak meal periods are typical of QSRs. Also included in this category are TSRs and hotels with a busy bar, and stadiums and arenas where the transaction volume is concentrated during an event timeframe.

Recommended Configurations

System Purchases

This section provides a matrix of possible server configurations. To determine your optimum setup, match the letter in the Client/Volume table (top) with the corresponding column in the Server Configuration details table (below).

# of Clients	Low Volume		Medium Volume		High Volume	
	POS	POS & EO	POS	POS & EO	POS	POS & EO
4	A	A	A	A	A	A
8	A	A	A	B	B	B
12	B	B	B	B	B	B
16	B	B	B	B	B	B
20	B	B	B	B	B	B

Note   *Any system with more than 9 clients must automatically use Configuration B. This is due to the Operating System.*

Server Configuration	A (Less than 10 clients)	B (More than 10 clients)
Base	DC5100 - Tower	ML350 G4 - Tower
Processor Speed	3.2 GHz Pentium 4	3.2 GHz Pentium 4
RAM	1-2 GB	2-4 GB
HD Size	Two 80-GB Hard Drives	Two 80-GB Hard Drives
Network Card	10/100 Network Card	Two 10/100/100 Network Cards
CD Drive	DVD\CDRW Combo	DVD\CDRW Combo
Modem	56K Intel	56K Intel
Floppy Drive	Optional	Optional
OS[1]	Windows XP Pro SP2	Windows 2003 Server
KDS Controller OS requirements	Windows XP Pro SP2	Windows Server 2003

[1]POS Backup Server must be the same operating system as the RES Server.

Client Requirements

RES UWS Client Requirements

The following table provides the minimum hardware requirements for RES user workstation clients:

Network	10/100 Interface Network
Processor	166 MMX MHz
Random Access Memory (RAM)	128 MB
Hard Drive	4 GB

Operating System	Windows NT/W2K/XP Pro/ Win2003[1]
Virtual Registry Size	20 MB

[1]RAM requirements for a specific operating system should be used when the minimum is higher than 128 MB.

RES Mobile MICROS Client Requirements

The following table provides the minimum hardware/software requirements for RES Mobile MICROS clients:

Network	802.11b Wireless Ethernet
Processor	ARM SA 1110
Random Access Memory (RAM)	64 MB
Operating System	Pocket PC 2002[1]
Monitor	Monochrome or Color
Software	Microsoft Active Sync[2]

[1]PPC 2000, if not using Manager Procedures.

[2]Download available on the Microsoft® website (www.microsoft.com).

RES 4.12 Prerequisites and RES Patch Installation Instructions

Please read all of these instructions before beginning.

It is important that all of these steps be followed in order.

> *Note: Once the 4.12 Prerequisites have been installed, the database will not start again until the RES 4.12 patch has also been run. Therefore, any steps that need to be done prior to running the RES patch must also be done prior to running the 4.12 Prerequisites. It is expected that the RES 4.12 patch will be run immediately after installing the 4.12 Prerequisites.*

Preparation to be Done Before Installing RES 4.12 Prerequisites

1. The RES server and database must be at RES 4.11 or any 4.11 Maintenance Release to be upgraded to RES 4.12.

   Any 4.11 Maintenance Release greater than MR5 may have database changes that are not included in the initial release of RES 4.12.

2. You must have .Net Framework 2.0 sp1 or higher installed on the RES Server.

   Look in C:\Windows\Microsoft.NET\Framework and verify that you have a folder named "v2.0.50727" or higher.

3. If this is an Enterprise Management database, you must run the pre-convert script while still at RES 4.11 and before the 4.12 prereq is applied.

   a) Open Database Manager to the Rebuild\Update tab, and click the "Database Script file" folder icon to browse to "PreConvertRes4xTo50.mcs".

   b) Select **PreConvertRes4xTo50.mcs**, click **Open**, and then click **Apply script**.

   The window will show: "Successfully applied Micros Compressed Script to Database".

4. Back up your 4.11 database.

5. Rename the backedup.mbz to micros.mbz.

6. Copy micros.mbz into Micros\Database\Data.

Note: Any existing micros.DB and micros.log files will be deleted when the RES 4.12 patch is run.

7. In the Micros Control Panel, turn Restaurant to OFF.

8. Close the Micros Control Panel. Do not simply minimize it.

9. Log into Windows as a user with administrative privileges.

Installing RES 4.12 Prerequisites and RES 4.12 Patch

1. Double-click **RES412_Prerequisite.exe**.

   a) Click **Next** on the first dialog.

   b) Accept the license agreement and click **Next**.

   c) Click **Install**.

   It will take approximately 5 minutes for the prerequisites to complete.

   d) On the *InstallShield Wizard Completed* dialog, click **Finish**.

   The system will not reboot when done. It is ready for the RES 4.12 patch to be run.

2. Double-click **RES412.exe**.

3. The server will reboot when the patch has completed and clients will automatically update.

> ***Important Note****: Do not remove the old 4.0 Prerequisite in Windows | Settings | Control Panel | Add or Remove Programs. This must remain installed on the Server.*

> ***Note***: *The existing C:\Program Files\Common Files\Borland Shared\BDE\idapi32.cfg file will be re-named to idapi32_ORIGINAL.cfg. Micros uses the default settings and that is used in the absence of a idapi32.cfg file. If any special BDE configuration is needed, those changes will need to be made in the BDE Administrator.*

RES 4.12 Database Manager Rules

The RES 4.12 rules are basically the same as in RES 5.x.

1. In a RES 4.12 system the Database Manager GUI can only Restore a database that is already at 4.12 and backed up so that it ends in an extension of .mbz4g2.

2. To restore a 4.11.mbz to an existing 4.12 RES server, do the following:

   a) The DB must be at 4.11 or any 4.11 Maintenance Release.

   b) If it is an Enterprise Management Database, then it must be "Pre-Converted" first.

   - Open Database Manager to the Rebuild\Update tab, and click the "Database Script file" folder icon to browse to "PreConvertRes4xTo50.mcs".

   - Select **PreConvertRes4xTo50.mcs**, click **Open**, and click **Apply script**.

   - The window will show: "Successfully applied Micros Compressed Script to Database."

   c) It must be backed up into the .MBZ format.

   d) Copy your micros_preconverted_411.mbz into C:\Temp on your RES 4.12 server.

   e) In Micros Control panel take Restaurant to OFF.

> *Note: Any existing micros.DB and micros.log files will be deleted when the RES 4.12 patch is run, so back it up in advance.*

f) Open a CMD prompt window and type: DM -U
C:\Temp\micros_preconverted_411.mbz.

g) Press Enter.

The micros_preconverted_411.mbz will be restored and upgraded to
RES 4.12.

MICROS RES Patch Log File

RES creates a log file for both clients and servers. This file documents all
events during a patch in case some part of the installation is in question
and the log is needed for reference. The following table specifies the
name and location of this log by device type.

Type	Filename	Location
Server	MicrosRes4Gen2Prerequisite Setup.log MicrosResPatch.log MicrosMainPatch.log	\Windows
Win32 Client	Setup_log.txt	\CALTemp\Packages\ Win32RES
WS4 Client	Setup_log.txt	\CF\CALTemp\Packag es\WS4RES
WS4 LX Client	Setup_log.txt	\CF\CALTemp\Packag es\WS4LXRES
WS5 Client	Setup_log.txt	\CF\CALTemp\Packag es\WS5RES
RDC Client	Setup_log.txt	\FS2\CALTemp\Packag es\DCRES
HHT Client (Symbol MC50)	Setup_log.txt	\Application\CALTemp\ Packages\PPCRES
HHT Client (Symbol MC70)	Setup_log.txt	\Application\CALTemp\ Packages\PPC70RES

Perl Runtime for Quickbooks

Beginning with Version 3.1, RES Setup will no longer automatically install the Perl Runtime program required for use with the Quickbooks interface. The Perl program will still be available on the RES CD. If necessary, it can be added to the appropriate directory as follows:

1. In the MICROS directory, create a *Support* folder and *Utils* sub-folder.

2. Copy the **Perl.exe** from the RES CD Disk *\Micros\Support\Utils* to the same path on the hard drive.

Remove MICROS Software

From RES 4.0 Hotfix 1 or Higher

1. Save the database to a safe location outside of the MICROS tree.

2. From the Windows Start Menu, select *Control Panel | Add/Remove Programs* or insert the RES CD in the CD-ROM drive to launch setup.

3. When the maintenance screen displays, choose *Remove* and click **Next**.

4. After the *Remove* process is complete, click **Yes** at the prompt to reboot the system.

5. Open the Windows Explorer and save any custom files, reports, etc. from the *\Micros* tree to another location. Delete the *\Micros* tree.

6. Go to the *Control Panel | System |Advanced | Environmental Variables*. Delete the Micros_Current_Installation variable.

7. Open Regedit and go to *HKLM\Software*. Delete the MICROS hive.

> ***Note***: *Be sure to save the license codes first. Then use regedit to delete HKLM\Software\Micros.*
>
> *Although all path information created by RES 4.0 is removed, some parameters left over from previous versions can be missed. Be sure to check and manually delete any MICROS path information, especially if you intend to reinstall RES to a (letter) drive location.*

8. Reboot the PC.

From RES 4.x Clients (XP and Higher)

1. From the Windows Start Menu, select *Control Panel | Add/Remove Programs*. Highlight and remove Win32 CAL client.

2. Select *Services* and stop all MICROS services.

3. Open the Windows Explorer and save any custom files, reports, etc. from the *\Micros* tree to another location. Delete the *\Micros* tree.

4. In the Registry, go to *My Computer\HKey_Local_Machine\Software* and delete the entire MICROS hive.

5. In the Registry, go to *My Computer\HKey_Local_Machine\System\ CurrentControlSet\Services* and delete the following:

   ◆ *dbUpdateServer*

   ◆ *MICROS Backup Server*

   ◆ *MICROS CAL Client*

   ◆ *MICROS Credit Card Server*

   ◆ *MICROS ILDS Server*

   ◆ *MICROS Interface Server*

   ◆ *MICROS KDSController*

   ◆ *MICROS Print Controller*

   ◆ *MICROSDesk*

   ◆ *srvConnAdvisor*

   ◆ *srvMDSHTTPService*

6. Reboot the client.

Mobile MICROS (MMH) Client Installation

RES supports the following handheld devices:

◆ **Symbol 2800**, supported in RES v. 4.0 General Release and greater

◆ **Symbol 8800**, supported in RES v. 4.0 General Release and greater

◆ **Symbol MC50**, supported in RES v. 4.0 General Release and greater

◆ **Motorola MC55**, supported in RES v. 4.4 and greater

◆ **Motorola MC55A**, supported in RES v. 4.11 and greater

◆ **Symbol MC70**, supported in RES v. 4.4 and greater

◆ **Fujitsu BPAD**, supported in RES v. 4.0 General Release and greater

For general setup information, see "Mobile MICROS General Information" on page 28.

Mobile MICROS General Information

Note that in some cases it may be necessary to enter the Server's IP address as the client's Default Gateway.

Using a Static IP Address

Special consideration is required when using a Static IP address.

It has been determined that when using Windows Mobile 5.0 and higher, CAL has trouble setting a static IP address from within the "Choose a Client" window on a re-configuration. DHCP has no known CAL-related issues.

As a workaround, MICROS Systems, Inc. has developed a separate utility, StaticProfile.exe, to be used when implementing Static IP addresses with the Symbol MC55 and MC70. This utility is not necessary if you never plan to reconfigure the device once it is setup.

The StaticProfile.exe utility is located on the \Application folder of the Symbol MC55 and MC70. If StaticProfile.exe does not exist in the \Application folder of the MC55 or MC70, use an SD card or active Sync to copy it there. You may contact the MICROS Systems, Inc. help desk and request copy of the "StaticProfile.exe" utility via email.

Follow the instructions below:

1. Once StaticProfile.exe is in the \Application folder, tap it to launch.

2. Tap the StaticProfile.exe. A message will display "This process will Reboot the Device." Click OK.

3. The Application opens.

4. In the "Profile Name" box, enter the SSID of your Wireless Infrastructure. *Note: The profile name is case sensitive.*

5. In the "IP Address Box," enter the static IP address of your MC55 or MC70.

6. In the "Subnet Mask" box, enter the subnet address of your network.

7. In the "Encryption" box, select the encryption method appropriate to your Wireless security.

8. If using a passphrase, enter the passphrase into the "Pass key" box.

9. If using a Hex Key, enter the hex key into the "Pass Key" box.

10. In the "Key Index" box, enter the key number.

11. If using the 802.11d internationalization standard, choose your "Country Code."

12. Click [**Create**] and the StaticProfile utility will reboot the MC55 or MC70.

13. Once the new static Profile is created, proceed to use CAL, even when changing an IP address.

When the Access Point Becomes Out of Range

To ensure the Mobile MICROS device does not connect to unwanted access points when it is out of range of the access point, follow the steps below:

1. After configuring the wireless network, navigate to the MMH desktop and tap the network icon in the bottom right corner of the screen.

2. Select WAN Profiles.

3. Move your main profile to the top of the list.

4. Move any secondary profiles you may wish to use just below the Main profile.

5. Delete all WAN profiles that you do NOT wish to use.
    As a secondary option, you could just Disable the other profiles, if you want to use them in the future.

> *Note: When reconfiguring CAL on hand held devices, in some cases it may be necessary to enter the Server's IP address as the client's Default Gateway.*

Workstation 4 CAL Client Installation

Support for WS4 clients was added in the RES 3.2 release. WS4 devices use the Client Application Loader (CAL) technology to locate, install, and maintain the most up-to-date software programs implemented on the server.

> *Note: For more information on the WS4, please refer to the Workstation 4 Setup Guide, available on the MICROS website under Products | Hardware Solutions | Documentation.*

Follow these steps to install a workstation:

1. Unpack the device and connect to the system LAN.

2. When the device is powered up for the first time, the CAL looks for and displays a list of CAL Servers on the network.

3. Select a CAL Server and click OK. A list of the Server's available workstations is displayed. Workstations configured but not assigned are placed at the top of the list.

4. Select an available workstation and click OK. The system will automatically load the workstation ID and network configuration fields. This may be changed manually, if desired.

5. Save the configuration. The system will automatically transfer the required application software.

6. Once all software has been downloaded, the 3700 POS and/or KDS applications will start.

RDC Client Installation

Support for Restaurant Display Controller (RDC) clients was added in the RES 3.2 release. RDC devices use the Client Application Loader (CAL) technology to locate, install, and maintain the most up-to-date software programs implemented on the server

Follow these steps to install an RDC Client:

1. Unpack the device, attach a keyboard or bump bar, and connect to the system LAN.

2. When the device is powered up for the first time, the CAL looks for and displays a list of CAL Servers on the network.

3. Use the **Up/Down Arrows** on the bump bar or keyboard to scroll the list and highlight the required server. Click **OK** to accept the entry.

   Once a server is identified, a list of the RDC workstations is displayed, along with their current status. To be included on the list, the device must have been added to the system through POS Configurator.

4. Use the **Up/Down Arrows** on the keyboard or bump bar to highlight a selection and press Save/OK to accept. The system will automatically load the workstation ID and network configuration fields. This may be changed manually, if desired.

5. Save the configuration. The system will automatically transfer the required application software.

6. Once all software has been downloaded, KDS applications will start.

Installing Point Releases and Hotfixes

This section describes the requirements and procedures for installing an upgrade to the RES Version 4.0 or higher software.

Site Requirements Review

With RES Version 4.0 or higher, the installation process comprises two parts: a **Prerequisite** file and a **RES** setup file. Updates to these files are made independently of each other. Therefore, running the Prerequisites installation may not be necessary for every RES patch release.

Important	*POS Operations will no longer start if the site is not PCI-compliant. Make sure that the proper steps are taken to achieve compliance. For detailed information regarding PCI-compliance, see the PCI Compliance Verified as the Site section beginning on page 162.*

Before You Begin

*   Make sure that *Script Locking* is turned off when using Norton Anti-Virus software, and that all anti-virus software is disabled when running the service pack.

*   If using McAfee VirusScan 8.0, disable the Script Stopper software located in the directory under *McAfee Security Center | Virus Scan | Configure virus scan options | Advanced*.

*   When upgrading on a RES system where the MICROS Portal is installed, be sure to manually shut down the Micros Agent and Micros Watchdog services. Failure to shut down these Portal-related services may result in a system lockup during database conversion.

- RES Setup creates 2 log files, **MicrosResPatch.log**, and **MicrosMainPatch.log**, that are both located on the RES Server in the Windows folder. The MicrosResPatch.log documents the pre and post installation procedures and the microsmainpatch.log covers the installation of the files. The client setup log is located in the CALTemp folder on each client and is called Setup_log.txt.

- Users who have modified the **Global.css** file (allowing Manager Procedures to support double-byte characters) will need to restore the original version of this file (located in the *Micros\common\ ManagerProcAsp* folder) before installing the Service Pack. Failure to do so will prevent the Service Pack from running. Once the installation is complete, the modified file can be copied back to the directory.

- When installing a Service Pack, the user must log in with Administrator rights both before running the patch and after the server reboots.

- Sites using Product Management (PM) software should reconcile and approve all packing slips and invoices prior to applying the service pack upgrade. Otherwise, the system may not prevent a user from selecting and modifying receipts in a closed period.

- Verify that the prerequisites and versions of RES meet the requirements for patch installation. Prior to installation, the patch will check the prerequisites and RES version in the registry. The patch will not run if the version string does not match. If the patch is run a second time the error message, "Patch terminated by custom action," will display. To determine the specific action that stopped the patch, users can scroll to the bottom of WinDir\MicrosRESPatch.log.

- Keep in mind that after installing a patch, attempts to perform an incremental database backup (e.g., calling DM -T) will be unsuccessful. This is because a full database backup must be performed before incremental backups can occur.

Installation and Setup

Follow these steps to install the patch:

Stop the System

1. In the MICROS Control Panel, set the Restaurant to **OFF**.

2. Make sure all hard-drive clients are at system closed.

> *Note: If you are running the MICROS Secure Desktop on Win32 clients, you must manually shut down and disable the service before running the hot fix.*
>
> *Reset the service to "automatic" after successfully completing client installation and then reboot the clients.*

3. Close all applications prior to running the Service Pack, including the MICROS Control Panel.

4. If you have altered any RES core files, you must replace them with the original versions before proceeding. Failure to do so will not stop the patch, but some files may not get updated.

> *Note: Prior to installation the system is scanned for escalation files (files with the extension .prepatchrestore). If one is found (e.g. Ops.exe.prepatchrestore), the .prepatchrestore extension will be deleted, and the patch will be able to update the escalated file.*

Apply the Service Pack

1. Create a temporary working folder on your server's hard drive. Make sure that you have 1 GB of available space on the hard drive where the application is stored and the drive where Windows resides.

2. Copy the file to the temporary folder on the RES Server. Double-click to decompress the files from this self-extracting executable. A DOS window will display during the Service Pack installation. The

Service Pack will install automatically, copying the files to the appropriate directories.

3. The server will automatically reboot.

Update the Clients

Hard-Drive Clients

In RES 4.x hard drive clients use CAL to update just like WS4's do. After the server reboots, all clients will automatically upgrade. They will reboot several times during the upgrade process.

WS4, WS4 LX, WS5, and RDC Clients

Clients will use CAL to automatically update to the current version of RES. Once the server has rebooted, CAL will start the upgrade process. This should occur within 5 minutes of the Server rebooting.

Mobile MICROS Clients

The PPC clients (e.g., MC50) use CAL to get updated. All other Mobile MICROS clients will use the POS Loader to automatically update to the current version of RES.

Once the server has rebooted, the POS Loader will start the upgrade process. This should occur within 5 minutes of the server rebooting. If the upgrade process does not start, cold boot the unit.

Once the upgrade is complete, cold boot the unit.

When a RES 4.0 Server is patched, all clients except for the Symbol 8800 will be updated automatically. The Symbol 8800 will need to be rebooted or re-cradled after the server has been patched in order to receive the update.

> *Note: If during device setup the user accidentally taps outside of the active window, the window will disappear. If this occurs the user must perform a warm reboot of the system by pressing the OFF key, and restart the setup process.*

PCI Compliance Verified at System Startup

The system will now verify that the site is compliant with the PCI Credit Card Data Security Standard upon starting POS Operations. This will occur if the following conditions are met:

◆ The site is not in demo mode, and

◆ At least 1 tender is linked to a non-demo driver.

If the site is not compliant, POS Operations will not start and an error message will appear. The text in the log will indicate the reason why the site was deemed to be non-PCI compliant. All error messages and steps to correct them are listed in the *Error Messages* section on page 38.

The system uses the following criteria to determine a site's PCI-compliance:

◆ DBA database password is not set to the default.

◆ MICROS database password is not set to the default.

◆ Database file encryption passphrase is not set to the default.

◆ Sensitive data passphrase is not set to the default.

◆ Complex Security enabled at the site.

◆ Security is configured as specified in the *RES Version 4.3 Hotfix 1 or Higher Payment Application Data Security Standard (PA-DSS) Implementation Guide, MD0003-117*. These settings include:

    ◆ **Days Until Expiration** (*POS Configurator | System | Restaurant | Security*). This field specifies the number of days that a password may remain active before it must be changed. This value cannot be greater than 90 days.

    ◆ **Minimum Password Length** (*POS Configurator | System | Restaurant | Security*). Enter the minimum number of characters required for the password length. This field must be set to a minimum of 7.

 ◆ **Password Repeat Interval** (*POS Configurator | System | Restaurant | Security*). Enter the number of different passwords that must be used before an old password can be repeated. This option must be set to a minimum of 4.

 ◆ **Require Alphanumeric Passwords** (*POS Configurator | System | Restaurant | Security*). Select this option to require passwords to contain letters and numbers. This option must be enabled.

 ◆ **Maximum Allowed Failed Logins** (*POS Configurator | System | Restaurant | Security*). Enter the number of failed logins that may occur before locking the user out of his/her account. This value cannot be greater than 6.

 ◆ **Maximum Idle Time** (*POS Configurator | System | Restaurant | Security*). Enter the number of minutes an administrative application will remain idle before the application will undo any saved changes and exit, requiring the user to login again. This setting cannot be more than 15 minutes.

◆ **Mask Credit Card Number** (*POS Configurator | Sales | Tender/ Media | CC Tender*). This option must be enabled to mask all credit card numbers in the database.

◆ **Mask Expiration Date** (*POS Configurator | Sales | Tender/Media | CC Tender*). This option must be enabled to mask all credit card expiration dates in the database.

◆ **Mask Cardholder Name** (*POS Configurator | Sales | Tender/Media | CC Tender*). When enabled, the cardholder name is masked in all displays, logs, reports, journals, and printouts. This option must be enabled.

Error Messages

In the event that a site is not PCI-compliant, POS Operations will fail to start, and the user will be prompted with an error message indicating that the site is not PCI-compliant.

To determine the specific reason why the system is not PCI-compliant, the user should reference the **3700d.log** file or the MICROS Security Event Log. A list of potential messages can be found in the *Error Messages Logged in the 3700d.log File* section on page 164.

Appendix A: SEI KDS Client Hardware Setup

Support for the Select Electronics, Inc. (SEI) hardware platform is available for sites running RES 3.2 or higher. SEI offers an economical alternative to the traditional PC-based KDS system.

SEI KDS runs on the 32-bit OASys processor, which can host up to 4 independent video monitors and 4 2x9 bump bars. An EV1000 video card is required for each monitor connected to the base unit. With multiple units, up to 16 KDS displays can be linked to a single POS server.

> *Note: The OASys KDS includes a duplicate video port with each video card. The duplicate can be connected to a second monitor, allowing 2 monitors to display identical information. Some restrictions may apply. Refer to the vendor's documentation for more information.*

Within the RES kitchen, a mix of both SEI KDS and traditional units is allowed.

This section provides information for setup of the **SEI KDS hardware only**. For additional information on configuring the RES KDS clients, refer to SEI KDS Client Support topic in the KDS Online Feature Reference Manual.

Server Connections

OASys units can be connected to the POS server in two ways:

1. **RS232 (com port)** — This method allows the OASys unit to use all four slots for SE video cards (i.e., four KDS clients supported per OASys unit.)

2. **TCP/IP (Ethernet)** — This method uses one of the unit's four slots for a network card. The other three can be used for SE video cards (i.e., three KDS clients supported per OASys unit.)

Hardware Setup

SEI OASys offers "out-of-the-box," plug-n-play hardware that can be set up and ready to go in minutes. This section describes the basic steps needed to assemble and connect the base units, bump bars, video displays, and related cables in preparation for configuring the system.

Before You Begin

Before attempting to assemble each SEI OASys unit, assemble the following equipment:

- 1 OASys Processor Base Unit

- 1-4 EV1000 or AV1000 Video Cards (one for each KDS display to be linked to the base unit)

- 1 Ethernet Card (Optional; for connecting to the server via a network)

- 1-4 Bump Bars (one for each KDS display to be linked to the base unit)

- Phillips-head Screwdriver

- Flat-head Screwdriver

- Copy of the Select Electronics OASys KDS Hardware Installation Manual (Available from their website, http://www.selectelectronics.com/). Refer to this document for background information and clarification of terms.

Warning   *For your safety and the integrity of the equipment, do not disconnect ANYTHING to the OASys base unit without first disconnecting the power.*

For Ethernet Communication

Follow these steps to set up the hardware for connection to the network server:

1. Using the screwdrivers, remove the cover from the OASys unit.

2. Locate the OASys video cards required for this unit. Cards may be loose or pre-loaded.

3. Set the ID dip switches for each of the video cards. Dip switches indicate the slot where the card resides in the base unit.

> *Tip*   *Each video card must be assigned a unique ID # (location) in the base unit. To avoid confusion, MICROS recommends labeling the cards sequentially; where CN2=ID1, CN3=ID2, and CN4=ID3. (CN1 is reserved for the Serial Card.*

4. Load the video cards in their assigned slots.

5. Insert the network card into CN5.

6. Plug in the bump bar. Bump bar IDs should be set to **1** (factory default) for all bump bars.

7. Attach and turn on all monitors.

8. Attach power cable and turn on system. The system starts initializing the monitors, writing first to Monitor 1 and then confirming setup on the rest of the monitors. When complete, confirm that each monitor displays the appropriate video assignment.

9. Disconnect the power and attach a PC Keyboard to the OASys base unit.

> *Note: A keyboard must be attached to activate the setup utility.*

10. Plug in power again.

11. When the OASys Setup Utility displays, select 1 to enter the base unit configuration.

12. On the Vendors screen, select 9 to go to the next page.

13. Select 5 for MICROS Ethernet. When the prompt "You have selected MICROS Ethernet" displays, select Y to confirm.

14. At the prompt, enter the full IP Address of the base unit.

*Note: To move to the next IP octet, press the **Enter** key.*

15. When the full IP address has been typed in, press **Enter** one more time. At the prompt, select **Y** to confirm the address.

16. At the prompt, enter the RES System Subnet Mask, using the **Enter** key to move between IP octets.

17. Press **Enter** one more and, at the prompt, select **Y** to confirm the address.

18. The system will ask you to program your ethernet card with specific IRQ (10), I/O Address (0x300) and Half Duplex. Be sure to confirm in later steps that your ethernet card is set up this way.

19. Select **Y** to continue to the ethernet card setup utility. At this point the system will automatically take you to the Ethernet Adapter Setup and Diagnostic Utility.

20. From the main menu, select View Configuration to review settings. If a change is necessary, select Setup to return to the configuration screens.

21. When all changes are complete, power off the base unit and unplug the keyboard.

22. Plug the ethernet cable into the base unit and power the base unit back on. The base unit will automatically display video assignments on each monitor and be ready for RES KDS client configuration.

For RS232 Communication

Follow these steps to set up the hardware for com port communication:

1. Using the screwdrivers, remove the cover from the OASys unit.

2. Locate the OASys video cards required for this unit. Cards may be loose or pre-loaded.

3. Set the ID dip switches for each of the video cards. Dip switches indicate the slot where the card resides in the base unit.

Tip   *Each video card must be assigned a unique ID # (location) in the base unit. To avoid confusion, MICROS recommends labeling the cards sequentially; where CN2=ID1, CN3=ID2, CN4=ID3, and CN5=ID4. (CN1 is reserved for the Serial Card.*

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4. Load the video cards in their assigned slots.

5. Plug in the bump bar. Bump bar IDs should be set to **1** (factory default) for all bump bars.

6. Attach and turn on all monitors.

7. Attach power cable and turn on system. The system starts initializing the monitors, writing first to Monitor 1 and then confirming setup on the rest of the monitors. When complete, confirm that each monitor displays the appropriate video assignment.

8. Disconnect the power and attach a PC Keyboard to the OASys base unit.

Note: A keyboard must be attached to activate the setup utility.

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9. Plug in power again.

10. When the OASys Setup Utility displays, select **1** to enter the base unit configuration.

11. On the **Vendors** screen, select **9** to go to the next page.

12. Select 4 for MICROS RS232. When the prompt "You have selected MICROS RS232" displays, select **Y t**o confirm.

13. When all changes are complete, power off the base unit and unplug the keyboard.

14. Plug the serial cable into the base unit and power the base unit back on. On boot up, the system will display "MICROS RS232 Version." It will then automatically display video assignments on each monitor and be ready for RES KDS client configuration.

# Appendix B: Silent Installation Procedures (Server)

This appendix provides instructions for setting the system properties required to perform a silent (non-interactive) installation on a system Server.

On a Windows 2003 Server system, attempts to shut down the system will cause a dialog box to display prompting the user to enter a reason for the shutdown. Since user interaction defeats the purpose of a remote install, users will need to turn off the prompting mechanisms before proceeding. To do this:

1. From the Windows menu, select *Start | Run*.

2. When the dialog box displays, type **gpedit.msc** and click the **OK** button. The Group Policy Object Editor is shown.

3. Select *Computer Configuration | Administrative Templates | System*.
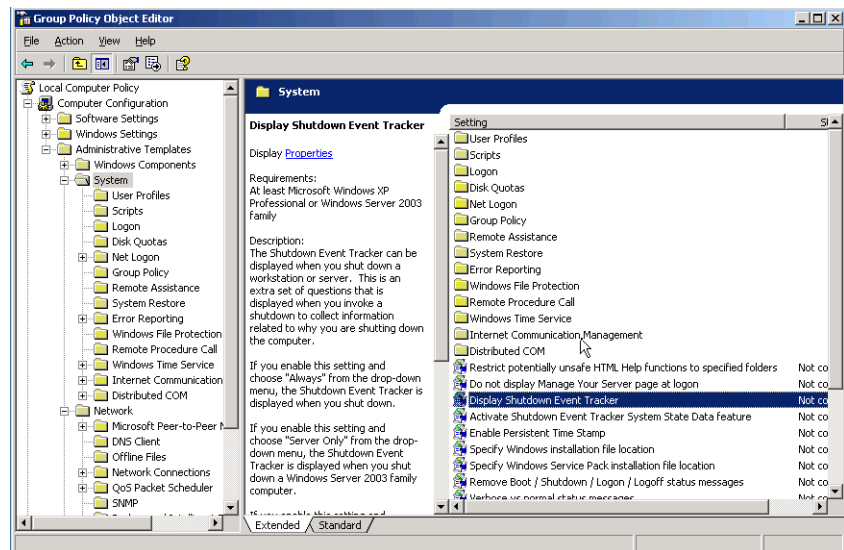
4. Double-click on **Display Shutdown Event Track** to open the form.

5. Select the **Disabled** radio button.

6. Click **OK** to save and close the form.
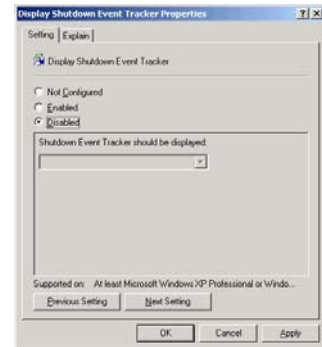
Procedures

The process for running a silent installation is divided into three phases:

1. Generate the response file by running Setup on the master system.

2. Create a CD set that includes the generated response file.

3. Run Setup from the user-generated CD, using the correct switches to run silently and access the response file.

    For example: If you create a CD with response file off the root of Disk 1, then the path to run setup would be:

    \ Setup.exe /s /f1 \ServerSetup.iss /verbose C:\Winnt\Micros|ResSetup.log

    Detailed instructions for creating a response file, running silent setup, and generating a log file are included in the following pages.

Record Mode

To run a Standard-project installation in silent mode, you must first generate a response file by running:

Setup.exe /r

from a command-line prompt. The response file stores information about the data entered and options selected by the user at run time. In addition, the command displays all the run-time dialog boxes and stores the data in the **Setup.iss** file, which is saved to the system's Windows folder.

Sample Response File

[{7B11AC4C-7465-4353-AB5B-962AE5BC0AD6}-DlgOrder]

Dlg0={7B11AC4C-7465-4353-AB5B-962AE5BC0AD6}-SdWelcome-0

Count=7

Dlg1={7B11AC4C-7465-4353-AB5B-962AE5BC0AD6}-SdLicense-0

Dlg2={7B11AC4C-7465-4353-AB5B-962AE5BC0AD6}-ApplicationSelection4-0

Dlg3={7B11AC4C-7465-4353-AB5B-962AE5BC0AD6}-DatabaseSelection-0

Dlg4={7B11AC4C-7465-4353-AB5B-962AE5BC0AD6}-DocumentationDialog-0

Dlg5={7B11AC4C-7465-4353-AB5B-962AE5BC0AD6}-SdStartCopy-0

Dlg6={7B11AC4C-7465-4353-AB5B-962AE5BC0AD6}-SdFinishReboot-0

[{7B11AC4C-7465-4353-AB5B-962AE5BC0AD6}-SdWelcome-0]

Result=1

{7B11AC4C-7465-4353-AB5B-962AE5BC0AD6}-SdLicense-0]

Result-1

{7B11AC4C-7465-4353-AB5B-962AE5BC0AD6}-ApplicationSelection4-0]

ApplicationDrive=C:\

Install RES3700=TRUE

InstallBackOffice=TRUE

{7B11AC4C-7465-4353-AB5B-962AE5BC0AD6}-DatabaseSelection-0]

DatabaseDrive=C:\

DatabaseToInstall=SAMPLE

nResult=1

{7B11AC4C-7465-4353-AB5B-962AE5BC0AD6}-DocumentationDialog-0]

DocumentationDrive=C:\

InstallDocumentation-TRUE

{7B11AC4C-7465-4353-AB5B-962AE5BC0AD6}-SdStartCopy-0]

Result=1

{7B11AC4C-7465-4353-AB5B-962AE5BC0AD6}-SdFinishReboot-0]

Result=6

BootOption=3

> *Note*: *If you are installing silently over an existing installation, the database will automatically be updated and the DatabaseSelection Dialog will be bypassed.*

Alternate Response Files

An alternative response file name and location can be defined using the **/f1** switch. This switch is available when creating a response file (with the **/r** option) and when using the response file (with the **/s** option). An example of the command is as follows:

> **Setup.exe /s /f1"C:\Temp\Setup.iss"**

Silent Mode

Once the response file has been generated, silent installation can be invoked by running:

> **Setup.exe /s**

from a command line prompt. By default, the system will use the information contained in the previously generated response file (**Setup.iss**).

This command will also suppress the **setup.exe** initialization window for a Basic MSI installation program; it does not read a response file. To run a Basic MSI product silently, enter the command:

> **Setup.exe /s /v/qn**

To specify the values of public properties for a silent Basic MSI installation, you can use a command such as **Setup.exe /s /v" /qn INSTALLDIR=D: \Destination"**.

Log Files

Silent Setup automatically generates a log file called **MicrosResSetup.log**. When running a Standard-project installation program in silent mode (i.e., using the **/s** argument), the log file is, by default, created in the same directory as the response file. (Typically, this location is on **Disk1**, in the same folder as **Setup.ins**).

An alternative name and location can be specified using the **/f2** argument as follows:

Setup.exe /s /f2"C:\MicrosResSetup.log"

File Structure

The Setup.log file contains three sections. The first section, **[InstallShieldSilent]**, identifies the version of InstallShield Silent used in the silent installation. It also identifies the file as a log file.

The section, **[Application]**, identifies the installed application's name and version, and the company name.

The third section, **[ResponseResult]**, contains the result code indicating whether or not the silent installation succeeded. An integer value is assigned to the **ResultCode** keyname in the **[ResponseResult]** section. InstallShield places one of the following return values after the **ResultCode** keyname:

0	Success.
-1	General error.
-2	Invalid mode.
-3	Required data not found in the Setup.iss file.
-4	Not enough memory available.
-5	File does not exist.
-6	Cannot write to the response file.
-7	Unable to write to the log file.
-8	Invalid path to the InstallShield Silent response file.
-9	Not a valid list type (string or number).
-10	Data type is invalid.
-11	Unknown error during setup.
-12	Dialogs are out of order.
-51	Cannot create the specified folder.
-52	Cannot access the specified file or folder.
-53	Invalid option selected.

Appendix C: GSS Setup

Guest Services Solution (GSS) is the latest addition to the RES suite of software applications. Previously distributed on a separate CD, the application has been fully integrated into the core of RES products. Beginning with RES Version 3.1 Service Pack 1, GSS is included as part of the RES installation.

This appendix provides instructions for installing the Rochelle Caller ID device.

Installing Caller ID with Rochelle Box

Use the following steps to install Caller ID with the Rochelle Box.

> *Note: Before installing Caller ID with the Rochelle box, contact the phone company to have the phone line split so that one part goes to the phone and the other part goes to the Rochelle box.*

Rochelle Model 2045

1. Add the following registry entry to the server:

Key Location	[HKEY_LOCAL_MACHINE\SOFTWARE\MICROS\ GSS\CALLERID\ROCHELLE\PARAMETERS]
Name	ComPort
Data	COM1*

*COM1 is the default setting. If using Caller ID on a COM port other than COM1, be sure to set the value accordingly.

2. Attach the Rochelle Caller ID box to the correct COM port on the Server.

3. Start the MICROS Caller ID Service from the Windows Control Panel Services.

> *Note*: Visit www.rochelle.com for more information about installing your Caller ID device.

Rochelle Model 2050

1. Add the following registry entry to the server:

Key Location	[HKEY_LOCAL_MACHINE\SOFTWARE\MICROS\ GSS\CALLERID\ROCHELLE]
Name	NumDevices
Data	1

The device registry settings for the first device are added at the key location shown below. Default parameters are provide:

Key Location	[HKEY_LOCAL_MACHINE\SOFTWARE\MICROS\ GSS\CALLERID\ROCHELLE\PARAMETERS]
Name	ComPort
Data	COM1*
Name	ComParameters
Data	Baud = 2400 Parity = N Data = 8 Stop = 1
Name	InitString
Data	AT_F0\r\nAT_R0=0\r\n
Name	DeviceLines
Data	4

*COM1 is the default setting. If using Caller ID on a COM port other than COM1, be sure to set the value accordingly.

The device registry settings for each additional device are added at \SOFTWARE\MICROS\GSS\CALLERID\ROCHELLE\PARAMETERS[#], where [#] refers to the device number. The table below provides the default parameters for sample Device 2:

Key Location	[HKEY_LOCAL_MACHINE\SOFTWARE\MICROS\ GSS\CALLERID\ROCHELLE\PARAMETERS2]
Name	ComPort
Data	COM3
Name	ComParameters
Data	Baud = 2400 Parity = N Data = 8 Stop = 1
Name	InitString
Data	AT_F0\r\nAT_R0=0\r\n
Name	DeviceLines
Data	4

2. Attach the Rochelle Caller ID box to the correct COM port on the Server.

3. Start the MICROS Caller ID Service from the Windows Control Panel Services.

> *Note: Visit www.rochelle.com for more information about installing your Caller ID device.*

Running Caller ID in Demo Mode

Use the following steps to run Caller ID in Demo Mode:

1. Add the following registry entry to the server:

Key Location	[HKEY_LOCAL_MACHINE\SOFTWARE\MICROS \GSS\CALLERID\ROCHELLE\PARAMETERS]
Name	ComPort
Data	COM1*

*COM1 is the default setting. If using Caller ID on a COM port other than COM!, be sure to set the value accordingly.

2. Attach a null model cable from COM1 to COM2 on the server.

3. Start the Rochelle Emulator.

4. Start the MICROS Caller ID Service from the Windows Control Panel Services.

Note: The Rochelle emulator can be found on the Guest Services Solution product page at www.micros.com.

Appendix D: System Security Setup

Internet Information Services (IIS) Security

Prior to RES Setup, Internet Information Services (IIS) security is configured to maximize security without affecting the functionality required by RES software. The IIS security is configured using Microsoft's IIS Lockdown tool.

If either the operating system drive or the Micros drive are FAT partitions, the IIS Lockdown procedure will not complete. Therefore, Micros recommends using an NTFS file system on both the operating system drive and the Micros drive. If your system is currently using a FAT partition, you can convert to an NTFS partition using the Convert command.

> *Note: Prior to running RES Setup, you should convert any FAT drives to NTFS so the IIS lockdown procedure will be able to complete.*

The next two sections list the IIS security changes that are made by RES Setup.

IIS Lockdown

The following changes are made to lockdown IIS:

Component	Action
HTTP	Enabled
FTP	Disabled
SMTP	Disabled
NNTP	Disabled
ASP	Disabled
Index Server Web Interface	Disabled

Component	Action
Server Side Includes	Disabled
Internet Data Connector	Disabled
Internet Printing	Disabled
HTR Scripting	Disabled
WebDAV	Disabled
Anonymous User Execute Rights	Disabled
Anonymous User Write Rights	Disabled
issamples virtual directory	Removed
MSADC virtual directory	Removed
iisadmin virtual directory	Removed
iishelp virtual directory	Removed

URL Security   The following changes are made for URL security scanning:

◆ Only allow the following HTTP verbs: GET, HEAD, POST, DEBUG

◆ Deny the following extensions: .asp, .cer, .cdx, .asa, .exe, .bat, .cmd, .com, .htw, .ida, .idq, .htr, .idc, .shtm, .shtml, .stm, .printer, .ini, .log, .pol, .dat

◆ Disallow high bit characters in URL

◆ Disallow dots that are not file extensions

◆ Log URL activity

◆ Deny the following request headers: Translate:, If:, Lock-Token:

◆ Deny the following URL Sequences: .., ./, \, :, %, &

Modifying IIS Security Settings

The security settings made to Internet Information Services (IIS) during RES Setup may be modified if alternate settings are required by third-party software. To change the IIS security settings, perform the steps in the following sections after RES Setup has been run:

Restore Security Settings

1. Run **iislockd.exe** from the **\MICROS\NetSetup\System32\inetsrv** directory.

2. Click Next.

3. Select Yes.

4. Click Next.

5. Click Finish.

The security settings are restored to their most recent previous state, which is either prior to running RES Setup or the last time **iislockd.exe** was run.

Modify the IIS Files

1. Edit the [MICROSALT] section of the **iislockd.ini** file located in the **\MICROS\NetSetup\System32\inetsrv** directory as required..

Warning   *Do not modify the [MICROS] section of the iislockd.ini file.*

Note: Refer to the Iislockd.chm file located in the \MICROS\NetSetup\System32\inetsrv directory for information on modifying this file.

---

2. Edit the **urlscan_micros_customer.ini** files located in the
    \MICROS\NetSetup\System32\inetsrv directory as required..

Warning   *Do not modify the urlscan_micros_default.ini file.*

Note: *Refer to the UrlScan.doc file located in the*
\MICROS\NetSetup\System32\inetsrv directory for
information on modifying this file.

Loading the Security Settings

1. Run **iislockd.exe** from the **\MICROS\NetSetup\System32\inetsrv**
    directory.

2. Select Agree on the Microsoft license agreement screen.

3. Select Customer Configurable Settings.

Note: *To return to the default MICROS settings, select*
MICROS Default Settings.

---

4. Click Next three times for processing to begin.

5. Click Next.

6. Click Finish.

Starting the Default Web Site

It may be necessary to start the default web site once the security settings
are loaded. To start the default web site:

1. Select *Start Menu | Settings | Control Panel | Administrative Tools | Internet Services Manager.*

2. If the default web site is stopped, right-click on the site and select Start.

> *Note: If you are running a Windows Server product with more than one web site, use these steps to start the appropriate web sites. If there are multiple web sites, there may not be a "default web site".*

Firewall Setup

Firewalls should be enabled prior to installing RES 4.x on a Windows XP or 2003 Server. Setup will vary depending on the operating system used.

Windows XP with SP2 or higher

On the Win XP platform, firewalls are supported beginning with Service Pack 2. Follow these steps to enable the firewall:

1. From the Windows Start menu, select *Settings | Control Panel | Windows Firewall* to open the properties form.

2. On the *General* tab, select the **On** radio button and press **OK** to save. Exit the form.

3. Install RES.

Windows 2003 Server with SP1 or higher

On the Win 2003 platform, firewalls are supported beginning with Service Pack 1. Follow these steps to enable the firewall:

1. From the Windows Start menu, select *Settings | Control Panel | Administrative Tools | Services.*

2. Double-click the Windows Firewall/ICS service to open the properties form. The *General* tab will be displayed.

3. From the **Startup-type** drop-down list, set the service to *Automatic*.

4. Press the **Start** button to start the service and **OK** to save. Exit the

form.

5. Install RES.

If the firewall is enabled after installation, the clients will not be able to communicate with the server and will continuously display prompts for Backup Server Mode (BSM) and Stand-alone Resiliency (SAR).

Once RES is installed, the problem can be corrected by running the batchfile %**MicrosDrive%\Micros\common\Bin\ConfigureICF.bat**. This will update the exceptions list that RES needs to successfully run with the firewall enabled.

Exceptions   RES 4.0 or higher allows the following exceptions to the Windows firewall:

- ◆ **MDSHttpService.exe** (MICROS MDS Http Service)

- ◆ **DBEng11.exe** (MICROS Database Engine

- ◆ **Cmbo.exe** (MICROS Cash Management Back Office)

- ◆ **CM.exe** (MICROS Cash Management Server)

- ◆ **Procedures.exe** (MICROS Manager Procedures

- ◆ **OPS.exe** (MICROS POS Operations)

- ◆ **MicrosDsk.exe** (MICROS Desktop)

- ◆ **CALSrv.exe** (MICROS CAL Service)

- ◆ **McrsCAL.exe** (MICROS CAL Client)

- ◆ **DBSrv11.exe** (Sybase Database Server)

- ◆ **ILDS.exe** (International Liquor Dispensing Server)

- ◆ **KDSDisplay.exe** (KDS Display Client)

- ◆ **KDSController.exe** (Kitchen Display Server)

- ◆ **CIService.exe** (Caller ID Server)

- ◆ File and Print Sharing

Appendix E: Frequently Asked Questions (FAQs)

This section provides answers to the most frequently asked questions about RES.

RES 4.x Issues

1. ### Why won't the image display after I replace the res3700.bmp file in \micros\res\pos\etc folder?

The **res3700.bmp** has been moved to the **\Bitmaps** folder under MICROS. RES Setup automatically moves this file from its old location to the folder. If you wish to place your own **res3700.bmp** on the system, you must copy it to the appropriate folder location on each client, as indicated below:

> **Note**: *A single .bmp file may be used on all three platforms. However, you may want to create a separate file for the Mobile MICROS due to its smaller screen size.*

- ◆ **Win32 Clients** — **\MICROS\RES\POS\Bitmaps**.

- ◆ **WS4 Clients** — **\MICROS\Bitmaps**:

   To replace the file on the WS4:

   1. Copy the **res3700.bmp** to the following folder on the RES Server: **\MICROS\RES\CAL\WS4\Files\CF\MICROS\Bitmaps**

   2. Wait up to 30 seconds for the file to transfer to the WS4 Client.

   3. Reboot the WS4 Client to load the image for POS Operations.

◆ **WS4 LX Clients — \MICROS\Bitmaps**:

To replace the file on the WS4 LX:

1. Copy the **res3700.bmp** to the following folder on the RES Server: **\MICROS\RES\CAL\WS4LX\Files\CF\MICROS\ Bitmaps**

2. Wait up to 30 seconds for the file to transfer to the WS4 LX Client.

3. Reboot the WS4 LX Client to load the image for POS Operations.

◆ **WS5 Clients — \MICROS\Bitmaps**:

To replace the file on the WS5:

1. Copy the **res3700.bmp** to the following folder on the RES Server: **\MICROS\RES\CAL\WS5\Files\CF\MICROS\ Bitmaps**

2. Wait up to 30 seconds for the file to transfer to the WS5 Client.

3. Reboot the WS5 Client to load the image for POS Operations.

◆ **Mobile MICROS — \MICROS\Bitmaps**.

To replace the file on the Mobile MICROS client:

1. Copy the **res3700.bmp** to the following folder on the RES Server: **\MICROS\RES\CAL\HHT\MICROS\Bitmaps**

2. Wait up to 30 seconds for the file to transfer to the Mobile MICROS Client.

3. Reboot the Mobile MICROS Client to load the image for POS Operations.

◆ **PPC Clients — \MICROS\Bitmaps**:

To replace the file on the PPC:

1. Copy the **res3700.bmp** to the following folder on the RES Server: **\MICROS\CAL\PPC\Files\MICROS\ Bitmaps**

2. Wait up to 30 seconds for the file to transfer to the PPC Client.

3. Reboot the PPC Client to load the image for POS Operations.

◆ **PPC70 Clients — \MICROS\Bitmaps**:

To replace the file on the PPC70:

1. Copy the **res3700.bmp** to the following folder on the RES Server: **\MICROS\CAL\PPC70\Files\MICROS\ Bitmaps**

2. Wait up to 30 seconds for the file to transfer to the PPC70 Client.

3. Reboot the PPC70 Client to load the image for POS Operations.

> *Note: Bitmaps used for POS touchscreen keys should also be placed in the \Bitmaps folder.*

2. **Why are all client nodes listed in the POS Configurator (Devices | Network Nodes) displayed in the MICROS Control Panel even when they are not currently connected to the system?**

With this release, MICROS Control Panel allows the user to specify whether all client nodes or just connected client nodes will be displayed. Previously (Version 3.1 and lower), only connected client nodes were shown. This remains the default behavior.

To display all clients:

1. From the Windows Start Menu, select **Programs | MICROS Applications | MICROS Control Panel**.

2. Go to the menu bar and select **View | Show All Clients**. The system tree is modified to display all clients. After changing the computer name or IP address of the Server, why can't I start POS Operations on any of my clients?

Changes made to the Server identity are not automatically propagated out to the clients. To send these changes to the clients:

1. From the Windows Start Menu, select **Programs | MICROS Applications | MICROS Control Panel**.

2. Highlight the SQL Database Server node.

3. Go to the Status tab and click the **Reload** button.

Within a few minutes, the clients should be operational.

3. **Is the host file still important to the system?**

Yes, the host file is still used by the RES System and must be accurate. The RES System also uses a file called **MDSHosts.xml**. This file is automatically generated by the system and should not be manually copied or edited by the user. The location of the file depends on the platform, as indicated below:

- **Server — \MICROS\Common\etc**

- **Win32 Clients — \MICROS\Common\etc**

- **WS4, WS4 LX, WS5 Clients — \CF\MICROS\etc**

- **Mobile MICROS — \MICROS\etc**

◆ **RDC Clients — \FS2\MICROS\etc**

> *Note: For troubleshooting purposes, this file may be read only. Do not edit this file in any way.*

This file is generated by the system and is based on information from the MICROS database. The following POS Configurator forms need to have accurate client information in order for the file to be correct:

◆ *Devices | Network Node*

◆ *Devices | Devices*

◆ *Devices | User Workstations*

◆ *System | Restaurant*

Client Issues

1. **Can I save the Compact Flash on a malfunctioning MICROS 3700 WS4?**

Yes. If you have a WS4 Client that has gone bad, you simply remove the Compact Flash from that unit and install it into a good WS4.

> *Note: For information and instructions on removing/ installing the Compact Flash, please refer to the Workstation 4 Setup Guide, available on the MICROS website under Products | Hardware Solutions | Documentation.*

2. **Can I move a WS4 from one system to another?**

Yes. To do this, follow these steps to remove the MICROS folder from the Compact Flash of the WS4 before installing a unit into a RES System:

1. On the WS4, open the Windows Explorer and navigate to **\CF**.

2. Delete the **\MICROS** subfolder at this location.

3. Power up the WS4 Client and establish a network connection to the system.

4. Reconfigure CAL as follows:
   - Select Start | Programs | CAL | Reconfigure CAL.

   - Select the RES Server to which this WS4 will be connected. (Do not select the DHCP option.)

   - Select a name for this WS4 Client from the list of available nodes.

   - Save the configuration. CAL will update the unit with the system application software.

3. **How do I map a drive to a WS4 client?**

You don't. The WS4 does not allow files to be transferred to it using traditional Windows methods. Instead, files are transferred to the unit via the Client Application Loader (CAL). For information on setting up CAL packages and files, refer to *Client Application Loader (CAL) File Specification (MD0003.061)*, available as **CAL.pdf** in the *\Support\sdk* folder on the RES 4.x CD.

On the other hand, the system Server and its hard-drive (Win32) clients may be accessed *from* the WS4 using a method similar to Windows mapping. To do this:

1. From the WS4, open Windows Explorer.

2. In the location box, type the UNC path of the PC to be accessed.

For example, to access the **c:\micros\res\pos** share on a server with a computer name of "RESServer 5," enter **\\RESServer5\micros\res\pos**.

Once the appropriate share has been accessed, you may perform the required Windows operation.

4. **How do I set up my custom icons to work on a Mobile MICROS and WS4 client?**

The **customicons.dll** created for previous versions of RES will work only on hard-drive clients. Additional **customicons.dll** files were created for Mobile MICROS and WS4 devices. As before, you will need to load your own icons into these files using an Icon Editor.

All **customicons.dll** files are available in the **Support\CustomIcons** folder on the RES 4.x CD and must be manually copied to the folder location for each client type:

- **Win32 Clients** — **\MICROS\RES\POS\Bin**

- **WS4 Clients** — **\MICROS\Bin**

   To copy the file to the WS4:

   1. Create a **\MICROS\RES\CAL\WS4\Files\CF\MICROS\Bin** folder on the RES Server:

   2. Copy the WS4 **customicons.dll** to this folder.

   3. Wait up to 30 seconds for the file to transfer to the WS4 Client.

- **Mobile MICROS** — **\MICROS\Bin**

   To copy the file to the Mobile MICROS client:

   1. Create a **\MICROS\RES\CAL\HHT\MICROS\Bin** folder on the RES Server:

   2. Copy the Mobile MICROS **customicons.dll** to this folder.

3. Wait up to 30 seconds for the file to transfer to the Mobile MICROS Client.

> *Note: You will need to reboot the clients in order for the images to take effect.*

5. **How do I copy my OPSDisplayUser.cfg to all clients?**

A single **OPSDisplayUser.cfg** file may be used on all three platforms. However, because it is not included in RES Setup, the file will not automatically copy during the installation. Instead, it must be manually copied to the following folder location for each client type:

- **Win32 Clients — \MICROS\RES\POS\etc**

- **WS4 Clients — \MICROS\etc**

  To transfer the file to the WS4:

  1. Copy the **OPSDisplayuser.cfg** file to the **\MICROS\RES\CAL\ WS4\Files\CF\MICROS\etc** folder on the RES Server.

  2. Wait up to 30 seconds for the file to transfer to the WS4 Client.

  3. Reboot the WS4 Client to load the settings for POS Operations.

- **WS4 LX Clients — \MICROS\etc**

  To transfer the file to the WS4 LX:

  1. Copy the **OPSDisplayuser.cfg** file to the **\MICROS\RES\CAL\ WS4LX\Files\CF\MICROS\etc** folder on the RES Server.

  2. Wait up to 30 seconds for the file to transfer to the WS4 LX Client.

  3. Reboot the WS4 LX Client to load the settings for POS Operations.

 ◆ **WS5 Clients — \MICROS\etc**

To transfer the file to the WS5:

1. Copy the **OPSDisplayuser.cfg** file to the **\MICROS\RES\CAL\
   WS5\Files\CF\MICROS\etc** folder on the RES Server.

2. Wait up to 30 seconds for the file to transfer to the WS5 Client.

3. Reboot the WS5 Client to load the settings for POS Operations.

 ◆ **Mobile MICROS — \MICROS\etc**

To transfer the file to the Mobile MICROS:

1. Copy the **OPSDisplayuser.cfg** file to the **\MICROS\RES\CAL\
   HHT\MICROS\etc** folder on the RES Server.

2. Wait up to 30 seconds for the file to transfer to the Mobile
   MICROS Client.

3. Reboot the Mobile MICROS Client to load the settings for POS
   Operations.

6. **How do I copy custom scripts to all clients?**

Scripts are custom files, created by the installer to do a variety of tasks.
They are not included during installation, but must be manually copied to
the appropriate directory.

> *Note: Because the WS4 and Mobile MICROS platforms
> are based on Windows CE, existing Win32 scripts may
> not work on those platforms. Be aware that compiled files
> may need to be recompiled in a development environment
> that supports this type of Operating System.*

Although scripts can reside anywhere on the system, MICROS recommends storing them together in the **Scripts** folder. The location of this folder will vary, depending on the client type:

◆ **Win32 Clients — \MICROS\RES\POS\Scripts**

◆ **WS4 Clients — \MICROS\Scripts**

To add scripts to the WS4:

1. Copy file(s) to the **\MICROS\RES\CAL\WS4\Files\CF\ MICROS\Scripts** folder on the RES Server.

2. Wait up to 30 seconds for the file(s) to transfer to the WS4 Client.

◆ **WS4 LX Clients — \MICROS\Scripts**

To add scripts to the WS4 LX:

1. Copy file(s) to the **\MICROS\RES\CAL\WS4LX\Files\CF\ MICROS\Scripts** folder on the RES Server.

2. Wait up to 30 seconds for the file(s) to transfer to the WS4 LX Client.

◆ **WS5 Clients — \MICROS\Scripts**

To add scripts to the WS5:

1. Copy file(s) to the **\MICROS\RES\CAL\WS5\Files\CF\ MICROS\Scripts** folder on the RES Server.

2. Wait up to 30 seconds for the file(s) to transfer to the WS5 Client.

♦ **Mobile MICROS — \MICROS\Scripts**

To add scripts to the Mobile MICROS:

1. Copy file(s) to the **\MICROS\RES\CAL\
   HHT\MICROS\Scripts** folder on the RES Server.

2. Wait up to 30 seconds for the file(s) to transfer to the Mobile
   MICROS Client.

7. How do I copy SIM scripts to all clients?

A single SIM script (**pmsxxx.isl**) may be used on all three platforms.
This file is not included during installation, but must be manually copied
to the appropriate client directory.

> *Note: Because the WS4 and Mobile MICROS platforms*
> *are based on Windows CE, existing Win32 scripts may*
> *not work on those platforms. For more information, refer*
> *to the RES 3.2 Read Me First (MD0003-057).*

♦ **Win32 Clients — \MICROS\RES\POS\etc**

♦ **WS4 Clients — \MICROS\etc**

To add SIM scripts to the WS4:

1. Copy the **pmsxxx.isl** file to the **\MICROS\RES\CAL\WS4\
   Files\CF\MICROS\etc** folder on the RES Server.

2. Wait up to 30 seconds for the file to transfer to the WS4 Client.

◆ **WS4 LX Clients — \MICROS\etc**

To add SIM scripts to the WS4 LX:

1. Copy the **pmsxxx.isl** file to the **\MICROS\RES\CAL\WS4LX\ Files\CF\MICROS\etc** folder on the RES Server.

2. Wait up to 30 seconds for the file to transfer to the WS4 LX Client.

◆ **WS5 Clients — \MICROS\etc**

To add SIM scripts to the WS5:

1. Copy the **pmsxxx.isl** file to the **\MICROS\RES\CAL\WS5\ Files\CF\MICROS\etc** folder on the RES Server.

2. Wait up to 30 seconds for the file to transfer to the WS5 Client.

◆ **Mobile MICROS — \MICROS\etc**

To add SIM scripts to the Mobile MICROS:

1. Copy the **pmsxxx.isl** file to the **\MICROS\RES\CAL\ HHT\MICROS\etc** folder on the RES Server.

2. Wait up to 30 seconds for the file to transfer to the Mobile MICROS Client.

8. **How do I open a file on a WS4, WS4 LX, WS5, or RDC Client?**

Files can be opened on a WS4, WS4 LX, WS5, or RDC Client as follows:

◆ Using WordPad:

 ◆ From the Windows Start Menu, select *Programs | Microsoft WordPad* to start the application.

 ◆ From the menu bar, select *File | Open* to launch the dialog box.

- ◆ Browse to the appropriate file and select. (You may need to change the **File Type** to *All Documents* to locate the desired file.)

- ◆ Double-click to open the file.

◆ Opening a file directly:

- ◆ Locate the required file in the Window Explorer.

- ◆ Rename the file, giving it a .txt or .doc extension.

- ◆ Double-click to open the file.

9. **Where can I find MICROS Confidence Test on a WS4, WS4 LX, or WS5 Client?**

This application can be launched from the Windows Start Menu by selecting *Programs | MICROS Applications | Confidence Test*.

> *Note: The WS4 comes with a built-in diagnostic utility for all hardware components. This utility may also be used. To access it:*
>
> - ◆ *From the Desktop, touch the My Computer icon twice.*
> - ◆ *Touch the DOC icon twice.*
> - ◆ *Touch the Utilities folder twice.*
> - ◆ *Touch the DiagUtility icon twice to start the WS4 diagnostic utility.*

If a shortcut for the MICROS Confidence test is not available, you can always access the program via Explorer using the following steps:

◆ From the Windows Start Menu, select *Programs | Windows Explorer.*

◆ Open **\CF\MICROS\bin**.

◆ Touch **microscfdtest.exe** twice.

10. ## How do I open the Windows Registry on a WS4, WS4 LX, or WS5 Client?

The registry on a WS4, WS4 LX, and WS5 is similar to a Win32 client registry. MICROS does not recommend editing the registry directly. However, should it be necessary, the following steps should be taken:

◆ From the Windows Start menu, select *Programs | Windows Explorer.*

◆ Open \DOC\Utilities.

◆ Touch the regeditWS4.exe twice to start the WS4 registry editor.

> *Note: Mobile MICROS Clients do not permit direct access to the registry.*

11. ## How do I open the Windows Registry on a RDC Client?

The registry on a RDC is similar to a Win32 client registry. MICROS does not recommend editing the registry directly. However, should it be necessary, the following steps should be taken:

◆ From the Windows Start menu, select *Programs | Windows Explorer.*

◆ Open \FS\Utilities.

◆ Touch the regeditCE.exe twice to start the RDC registry editor.

12. ## How do I start POS Operations on a WS4, WS4 LX, or WS5 Client?

If the Client is up, POS Operations should be running already. That is the default start position for this workstation. If it is not, you may start POS Operations by going to the Windows Start Menu and selecting *Programs | MICROS Applications | Start RES.*

If a shortcut is not available, you can always access the program via Explorer using the following steps:

- From the Windows Start Menu, select *Programs | Windows Explorer.*

- Open **\CF\MICROS\bin**.

- Touch **AppStarter.exe** twice.

13. Why does POS Operations say "System Closed" on a Client?

Although POS Operations should always be running on the clients, that does not guarantee the units will be operational (i.e., able to ring transactions).

In RES 4.0 or higher, clients are not individually controlled by the MICROS Control Panel. You cannot start and stop POS Operations on these devices.

All clients are considered unmanaged clients — they take on the state of the RES Server. Therefore, if the Server is set to Back of House in the MICROS Control Panel, then all unmanaged clients will display a "System Closed" screen.

To ring transactions on unmanaged clients, the MICROS Control Panel must set the entire RES System (i.e., the Restaurant) to Front of House.

14. How do I bring up the CE Task Manager on a WS4, WS4 LX, WS5, or RDC Client?

To start Task Manager on a WS4 Client, hold down the [Alt] key and press the [Tab] key on the keyboard.

15. **How do I access other applications while POS Operations is running on a WS4, WS4 LX, or WS5 Client?**

The CE Operating System does not provide a mechanism for minimizing POS Operations. You can still program a Minimize function key on a touchscreen, but be aware that when the key is pressed, it will bring up the Windows CE Start Bar. From here, you can access other applications, as necessary.

If a keyboard is attached to the Client, the Windows CE Start Bar may be accessed by holding down [Ctrl] and pressing the [Esc] key.

16. **How do I shut down POS Operations on a WS4, WS4 LX, or WS5 Client?**

Although MICROS does not recommend shutting down POS Operations, we recognize that sometimes this is necessary for troubleshooting purposes.

To shut down POS Operations, attach a keyboard to the Client and do the following:

◆   Bring up the Windows CE Start Bar by pressing the [Ctrl]-[Esc] key combination simultaneously.

◆   Hold down the [Alt] key and touch the POS Operations application that appears in the Task Bar. A **Close** option will display at the bottom of the screen.

◆   Press **Close** to shut down POS Operations.

17. How do I turn off my WS4, WS4 LX, or WS5 Client?

The power switch is located on the front right of the unit, on the underside of the display screen. It is a small circular switch that protrudes very little and can be easily missed.

To turn off the unit, you must hold the power switch for at least five seconds. Make sure that the Operator LED changes from a solid green or blue to OFF. **This is critical**. Failure to properly turn off the power will place the unit in Suspend Mode, not OFF. For more information about the power switch and it's different states, refer to the Workstation 4 Setup Guide, available from the MICROS Website under *Products | Hardware | Documentation*.

18. How do I create a screen capture on a Mobile MICROS HHT or a WS4, WS4 LX, or WS5 Client?

Microsoft provides a utility called "Remote Display Control" which may be used through ActiveSync® to capture HHT screens and save them as bitmap files.

Currently, there are no tools available to capture screens on a WS4, WS4 LX, or WS5.

19. Can I load other applications on a WS4, WS4 LX, or WS5 Client?

The WS4, WS4 LX, and WS5 are capable of running any CE-compatible application. However, the WS4, WS4 LX, and WS5 are each intended to be a POS appliance that allows the RES user to run POS Operations and Manager Procedures. By running other applications on the WS4, WS4 LX, or WS5, you assume the responsibility for installation and testing on this platform.

The WS4, WS4 LX, and WS5 have a built-in Client Application Loader (CAL). Additional information can be found in the *Workstation 4 Setup Guide* and in the *Client Application Loader (CAL) File Specification (MD0003-061)*, available as **CAL.pdf** in the *\Support\CAL* folder available on the RES 4.x CD.

20. Do I need to translate POS Operations text for each client platform?

No. You can create one set of POS Operations' translation files and copy them to all three platforms.

21. Why are my fonts different sizes since I upgraded?

Please refer to the document "Editing OPSDisplayUserConfig File," located on the RES 4.x CD under **\Support\OPSDisplayUser\ OPSDisplayUserCfg.pdf**.

22. Is there a way to set the number of lines displayed in the database tables?

Yes. By default, when viewing any of the database tables through the Interactive SQL (DBISQL), there is a MICROS-imposed limit of 500 records. To change this:

1. Open ISQL by selecting *Start | MICROS Applications | Utilities | Database | Sybase Adaptive Server Anywhere | Interactive SQL*.

2. From the menu bar, select *Tools | Options* and click on the **Results** icon.

3. Change the **Maximum number of rows to display** to the desired value.

Appendix F: Wireless Workstation 4

This section describes procedures for setting up the Wireless Workstation 4 (WS4).

Before You Begin

Before installing the Cisco Wireless Card in the WS4, follow these steps to confirm that the system has been upgraded to RC5.1 or higher. To do this:

1. From the WS4, click *Start | Programs | Windows Explorer | Doc | Utilities | DiagUtility* to open the utility program.
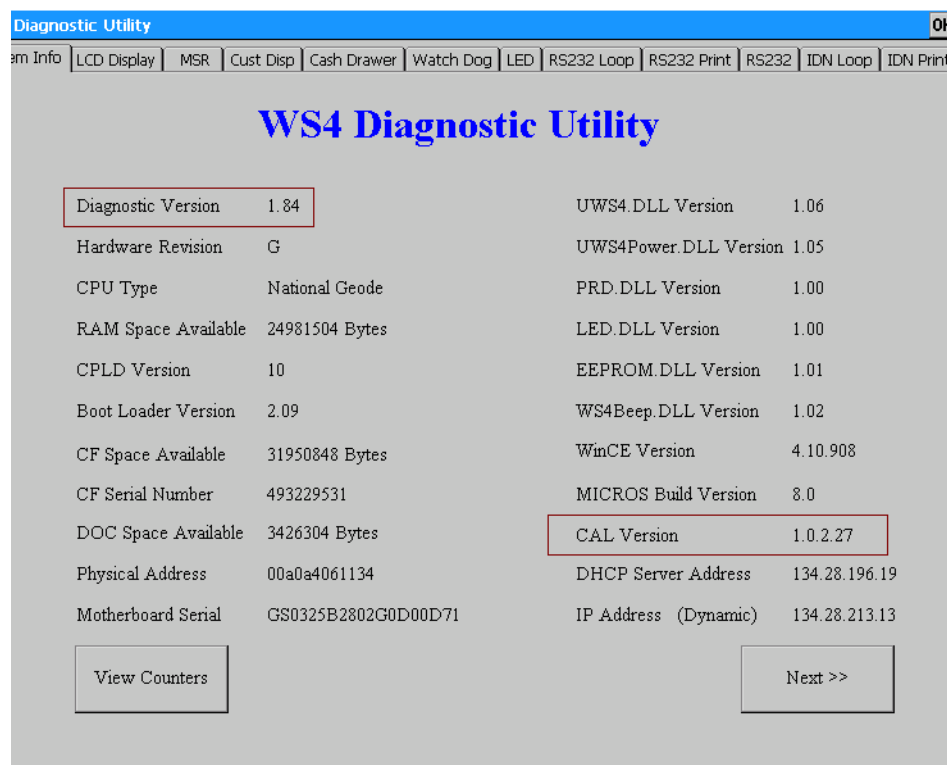
2. Check to make sure that the following versions of the software are running:

    ◆   Diagnostic Version 1.84

    ◆   CAL Version 1.0.2.26 or higher

If these versions are not installed on the workstation(s), you will need to upgrade the system through the Client Application Loader (CAL), using a hard-wired network cable. This must be done before configuring the wireless network card.

Encryption

The wireless Cisco card does not support 128-bit encryption. If you are using 128-bit encryption on your wireless access point, you will need to downgrade it to 40-bit encryption.

Configuring the Workstation

Once the workstation is running the correct versions of the software, follow these steps to configure for wireless communication:

1. In the MICROS Control Panel, set the Restaurant level to **Off** or **Database**.

2. Power off the WS4.

3. Disconnect any LAN cables.

4. Insert the Cisco wireless card into the card slot on the bottom of the WS4.

5. Power on the WS4.

6. After the system restarts (the first 1-2 seconds), press **[Ctrl]-[Shift]-[End]** to exit CAL.

7. Configure the wireless card:

    ◆   From the Windows Start menu, click *Settings | Control Panel | Network and Dial-up Connections*.

    ◆   Select CISCO1. A dialog window is displayed.

    ◆   On the *IP Address* tab, select one of the radio buttons to either manually enter an IP Address or use DHCP to assign one automatically.

◆ Skip the *Name Servers* tab.

◆ Go to the *Wireless Networks* tab).

◆ Select an access point from the list of **Available Networks** and click the **Configure** button to define encryption that will allow the workstation and access point to communicate.

An example of 40-bit encryption would be:

1. Enable only the **Data encryption (WEP enabled)** option.

2. Disable all other options.

3. Click **Modify WEB KEY**.

4. Input the network key (e.g., 1011121314). The access key should be the same value/number you selected when you configured your wireless access point for encryption. If you are using a Symbol device, you have the ability to insert your own values or select one of four predefined values.

5. In the **Key Format** box, choose *Hexadecimal* digits.

6. Select a **Key Length** of *40-bit* (10 digits).

7. The **Key Index** can remain at *0*.

8. Click **OK** to exit.

9. Click **OK** again.

10. Verify that your selected network is in the **Preferred networks** list. If not, highlight it and click the **Add** button.

Other Security Considerations

While configuring the CISCO card, users may define the **Network to Access**. This is done through the Windows Start Menu by selecting *Settings | Control Panel | Cisco1 | Wireless Networks* and clicking the **Advanced** button.

The following options are presented:

1. Any available Network (access point preferred).

2. Access point (Infrastructure) networks only.

3. Computer-to-Computer (Ad hoc) networks only.

For greater security, MICROS recommends using option 2, allowing communications with the defined access point only.

8. Exit all forms.

9. From the ICON tray (bottom right corner of the task bar), double-click on the Cisco1 network icon. The icon looks like 2 computer screens.

10. Go to the *IP Information* tab and confirm the information.

11. Go to the *Wireless Information* tab. Confirm the connection to the access point and signal strength.

12. Reboot the WS4.

Once the unit comes back up, the error message "Network Cable is not connected. Please reconnect." may be displayed. Click **OK** to continue. This message is triggered by a timeout condition and does not affect operation. It will be addressed in the next version of CAL.

Be advised that the message may display every time the workstation is rebooted. In addition, the system may ask if you want to disable CAL. If this occurs, select **No**.

At this point, the system should be on the network and CAL should be looking for updates. If not, retrace your steps and try again.

> *Note: If you are changing the IP Address or the Name of either the Client or Server, you will need to configure the POS Configurator accordingly.*
>
> *In addition, you will need to point the workstation to the Server by going to the Windows Start Menu and selecting Programs | Reconfigure CAL.*

Known Issues

The following issues have been noted while configuring the Wireless Workstation 4:

1. Location and antenna positions are very fragile. Moving the antenna six inches can cause the WS4 to lose its connection and create a system-closed message until the signal is reacquired. When this happens, the WS4 should go to SAR Mode, provided that the feature is enabled.

2. Side-by-side WS4 units displayed different characteristics in their ability to get a signal, and in the degree of signal strength going to the same access point.

Appendix G: SwitchTo.exe

Description

SwitchTo.exe is a Windows application that allows users to change the system's focus (i.e., the active, foreground window) from one application to another using a command-line prompt.

Platforms

Win32, CE-WS4

File Location:

%RESROOTDIR%\Bin

Usage

SwitchTo.exe is a command line application with 4 possible arguments:

> *Note: Using the Switchto.exe command without a command line parameter will display a short message box describing the available switches.*

-w WindowTitle

The -w switch tells the application to bring the window with the specified windows title to the foreground.

Example

C:\MICROS\res\pos\bin>SwitchTo.exe -w 3700 POS Operations

(Brings POS Operations to the foreground)

-c Class Name

The -c switch tells the application to bring the window with the specified windows class to the foreground.

Example

C:\MICROS\res\pos\bin>SwitchTo.exe -c 3700OPSAPP

-s StartCommand

The -s command is to start an application if the window with the windows title or class name cannot be found.

Example

C:\MICROS\res\pos\bin>SwitchTo.exe -w 3700 POS Operations -s Ops.exe

(Starts OPS.exe if the Windows title cannot be found.)

Common Name

The common name allows windows that have different class names and Windows titles across platforms to be unified under a single, logical name. At this time, the only common name supported by the application is KDS.

Example

C:\MICROS\res\pos\bin>SwitchTo.exe KDS

**Configuring a
Logical Name**

Optional logical names can be added using the Windows registry. The optional logical names only operate on the windows title.

To add another logical name to the registry:

1. Make sure that following Key has been added:

   HKEY_LOCAL_MACHINE\SOFTWARE\MICROS\Common\
   SwitchTo

2. Add a String Value to this registry key and enter the logical name as the string value identifier. Add the desired window title as the actual string value.

Example

String Name: OPS

String Value: 3700 POS Operations

Sample Command: C:\MICROS\res\pos\bin>SwitchTo.exe OPS (changes focus to POS Operations)

Appendix H: Order Confirmation Board (OCB)

This section contains instructions for installing, configuring, and using the 3700 POS Interface to the Texas Digital AccuView Order Confirmation Board (OCB), the Texas Digital Wenview OCB, and the MICROS OCB.

The OCB Interface supports output from the following POS Clients to the OCB device:

- RES Server

- Win32 Client

- WS4 Client

- WS4 LX Client

- WS5 Client

- WS5A Client

****************************IMPORTANT****************************

Installing RES could overwrite the existing Scripts\OCBserver.ini file. This new file will not have any default settings. Therefore, it is crucial that you Save a copy of your existing Scripts\OCBServer.ini Prior to running a RES patch.

****

Introduction

As of RES 4.11 MR3, RES supports the new MICROS Drive-Thru Display Controller. The MICROS Drive-Thru Display Controller can run on any supported MICROS platform. POS Operations can also run on a workstation that is running the MICROS Drive-Thru Display Controller.

In the following installation instructions, the new files that are only associated with the MICROS Drive-Thru Display Controller have been added. The steps will be marked with a note and applicable instructions.

Installation

In RES 4.x, OCB files are installed with RES Setup. Some editing, renaming and copying of the appropriate files is necessary to configure the system for use.

Procedures

Follow these steps to configure the OCB Interface software:

1. Configure the files on the RES Server. After RES Setup has been run, all files are located in the *micros\res\pos\scripts* folder.

    Confirm that the folders listed below exist on your server. If not, create them.

    *   **OCBClient.isl**   Rename and copy to the following folders:

        *   \micros\res\cal\win32\files\micros\res\pos\etc

        *   \micros\res\cal\ws4\files\cf\micros\etc

        *   \micros\res\cal\ws4LX\files\cf\micros\etc

        *   \micros\res\cal\ws5\files\cf\micros\etc

        *   \micros\res\cal\ws5A\files\cf\micros\etc

    *   **OCBClient.ini**   Copy to the following folders:

        *   \micros\res\cal\win32\files\micros\res\pos\scripts

        *   \micros\res\cal\ws4\files\cf\micros\scripts

        *   \micros\res\cal\ws4LX\files\cf\micros\scripts

        *   \micros\res\cal\ws5\files\cf\micros\scripts

        *   \micros\res\cal\ws5A\files\cf\micros\scripts

> *Note*   *The OCBClient.isl file must be renamed to match the Interface Configuration.*

Note   *The installation of the client files to the CAL folder structure is all that is needed to install the OCB Interface software on a client. Once the files have been downloaded to the client, they may be deleted from the server and edited at the client level. This optional procedure allows you to create a unique configuration at any of the clients.*

Note   *The OCBClient.isl and OCBClient.ini files are required for the workstation hosting the Drive-Thru Display. These files need to be copied into the folder locations listed above.*

2. Register the OCB Service on the Server. To do this select **Run** from the Windows Start menu. When the dialog box opens, enter the following text:

    "%microsdrive%\micros\res\pos\scripts\OCBServer.exe" /service

    Press **OK**.

    This will install the service and configure it to automatically start when the Server is booted up.

3. Confirm that the Service has been properly installed. To do this:

    ◆ From the Windows Start menu, select *Settings | Control Panel | Administrative Tools | Services*.

    ◆ Confirm that there is an entry in the Service list for *MICROS OCB Server* and that its **Startup Type** is set to *Automatic*.

    ◆ Highlight the entry and click the **Start Service** button. (This will be done automatically on subsequent reboots of the Server.)

    ◆ Confirm that the service starts up without error. If an error is displayed, the cause is most likely a problem with the **OCBServer.ini** file. Among the likely errors messages are:

        ◆ *The data is Invalid —* The **OCBServer.ini file** contains an invalid configuration.

◆ *The system cannot find the file specified* — The **OCBServer.ini** file is missing or in the wrong location.

4. Add OCB Server to the Firewall Exception List. The **ConfigureICF.bat** file will be run automatically as part of installing the patch.

Note   *After running RES Setup, the ConfigureICF.bat file can be found in the \micros\common\bin folder.*

Configuration

Configuring the OCBServer.ini File

Most configuration is done at the Server in the **OCBServer.ini** file. This file defines the OCB devices attached to the system and the device-specific settings for each.

With the release of RES v. 4.10, a new MICROS OCB has been introduced that uses a new file (**OCB.ini**) located on the OCB. With this additional file, only some of the settings in the OCBServer.ini file are used, including [OCB1 Device], [OCB2 Device], [OCB1 Display Options], and [OCB2 Display Options]. For more information on the OCB.ini file, see "Configuring the MICROS OCB and Drive-Thru Display Controller Devices" on page 97.

With the release of RES 4.11 MR3, the OCB.ini is still used for the standard MICROS Order Confirmation Board (OCB). If using the new Drive-Thru Display Controller, a new OCB32.ini is required, see "Configuring the MICROS OCB and Drive-Thru Display Controller Devices" on page 97. The Drive-Thru Display Controller also uses the existing OCBServer.ini file. This file will allow for the configuration on a Drive-Thru Display as [OCB1 Device] and a standard MICROS Order Confirmation Board as [OCB2 Device], since these are both configured in the OCBServer.ini file as Device Type 5 (Micros OCB).

Server Setup for the OCBServer.ini File

Each OCB device entry contains the following set of configuration items:

[Device] — Defines the device type and communication parameters.	
DeviceType	0 = None 1 = Texas Digital AccuVIEW 2 = Texas Digital WenVIEW 3 = Texas Digital AccuVIEW CE 4 = Everbrite SNS OCS 5 = MICROS OCB and Drive-Thru Display Controller
ConnectType	1 = COM Port 2 = TCP/IP [Currently supported for MICROS OCB only]
ComPort	1 = COM1 2 = COM2 ...etc.
BaudRate	1 = 1200 2 = 9600 3 = 19200 (Suggested Baud Rate for AccuVIEW OCB devices) 4 = 38400 5 = 57600 6 = 115200 NOTE: If the site encounters display issues set the baud rate to 19200 (3 in the OCBServer.ini file).
IpAddress	IP Address [ipaddr:port] of the OCB device [MICROS OCB only] NOTE: The IP address is the IP address of the OCB device and the port value is found in the OCB.ini file, listed as the Listen Port value.

[Labels] — Defines the labels for various display elements.	
TotalLabel	Label displayed at the bottom of the OCB display immediately before the total due value.
TaxLabel	Label displayed at the bottom of the OCB display immediately before the tax value.
TotalScreenLine1	Line 1 of the text displayed on the total screen. The total screen is displayed after an order has been completed and the associated check on the POS has been service totaled or final tendered.
TotalScreenLine2	Line 2 of the text displayed on the total screen.

[Default Message] — Defines the default message displayed on WenVIEW OCB devices. This text is displayed whenever the OCB is idle and not taking an order.	
Line1, Line2, ...	Defines each line of the default Message. Can add or delete lines as necessary (Line3, Line4, etc.).

[Scroll Text] — Defines the set of messages scrolled at the bottom of the OCB display. AccuVIEW devices can display an unlimited number of scroll messages. WenVIEW devices can display only 1 scroll message.	
ScrollText1, ScrollText2, ...	Defines the text of each scrolling message. Can add/delete scroll messages as necessary (ScrollText3, ScrollText4, etc.).

[Display Options] — Contains the display options available for the device.	
DisplayMenuItems, DisplayDiscounts, DisplayTenders, DisplayServiceCharges	Determines whether or not the specified detail type will be displayed on the OCB. 0 = Do not display 1 = Display
DisplayVoids	This configuration option bit is no longer supported in OCBServer. If this option is set to '1', within the OCBSERVER.INI file, a message will be logged (at verbosity 4 or higher) to indicate that the option is no longer supported. NOTE: Direct voids always display.
DisplayMenuLevelPrefix	Determines whether or not menu level prefixes will be displayed. This option has no effect if the menu item is not configured to display the menu level prefix using the **Menu level name** menu item class option. The main or sub level prefix is selected based on the **Use sub menu level for pricing** menu level class option.
DisplayMenuItemDefaults	Determines whether or not default condiments will be displayed. this option only applies in Conversational Ordering Mode where default condiments are used. 0 = Do not display 1 = Display
DisplayTaxAndTotalLine	Determines whether or not a running tax and total line will be shown at the bottom of the OCB display when an order is taken. 0 = Do not display 1 = Display

[Display Options] — Contains the display options available for the device.	
DisplayTotalScreen	Determines whether or not the total screen will be displayed. The total screen is displayed after an order has been completed and the associated check on the POS has been service totaled or final tendered. If set to 0, the total screen will be skipped and the display will go directly to the default message screen (WenVIEW) or slide show (AccuVIEW). 0 = Do not display 1 = Display
DisplayAllCondiment Qty	Determines whether or not the condiment quantity will display even if it is a single item. This can be added but it not included in the installed version. 0 = Do not display 1 = Display

In addition to the device-specific options, the following set of global options are system-wide and are available in the **OCBServer.ini**.

[Global Options].	
CurrencySymb ol	Defines the currency symbol displayed with the total due on the total screen. If blank, defaults to '$'.

Example OCBServer.ini

```
[Global Options]
CurrencySymbol = "$"


;
; OCB Device Configuration
;
; DeviceType   : 0 = None
;           1 = Texas Digital AccuVIEW
;           2 = Texas Digital WenVIEW
;           3 = Texas Digital AccuVIEWCE
;           4 = Everbrite SNS OCS
;           5 = Micros OCB
```

```
;
; ConnectType  : 1 = COMPort
;               2 = TCP/IP (Currently supported for Micros OCB only)
;
; IpAddress    : IP address [ipaddr:port] of OCB  (Micros OCB only)
; ComPort      : 1 = COM1, 2 = COM2, etc..
; BaudRate     : 1 = 1200, 2 = 9600, 3 = 19200, 4 = 38400, 5 = 57600, 6 = 115200

[OCB1 Device]
DeviceType  = 0
ConnectType = 0
ComPort     = 0
BaudRate    = 0
IpAddress   = ""

[OCB2 Device]
DeviceType  = 0
ConnectType = 0
ComPort     = 0
BaudRate    = 0
IpAddress   = ""


;
; Label Defintions
;

[OCB1 Labels]
TotalLabel       = "Total: "
TaxLabel         = "Tax: "
TotalScreenLine1 = "YOUR"
TotalScreenLine2 = "TOTAL IS"

[OCB2 Labels]
TotalLabel       = "TTL: "
TaxLabel         = "TX: "
TotalScreenLine1 = "YOUR TOTAL"
TotalScreenLine2 = "IS"


;
; Display Options
;

[OCB1 Display Options]
DisplayMenuItems      = 1
DisplayDiscounts      = 1
DisplayServiceCharges = 1
DisplayTenders        = 1
DisplayVoids          = 0
```

```
                              DisplayMenuLevelPrefix  = 0
                              DisplayMenuItemDefaults = 0
                              DisplayTaxAndTotalLine  = 1
                              DisplayTotalScreen      = 1

                              [OCB2 Display Options]
                              DisplayMenuItems        = 1
                              DisplayDiscounts        = 1
                              DisplayServiceCharges   = 1
                              DisplayTenders          = 1
                              DisplayVoids            = 0
                              DisplayMenuLevelPrefix  = 0
                              DisplayMenuItemDefaults = 0
                              DisplayTaxAndTotalLine  = 1
                              DisplayTotalScreen      = 1


                              ;
                              ; Default Message Defintions
                              ;
                              ; Currently only applies for a WenView device
                              ; Can add/delete lines as neccessary (Line3, Line4, ...)

                              [OCB1 Default Message]
                              ; N/A

                              [OCB2 Default Message]
                              Line1 = ""
                              Line2 = "    Welcome To"
                              Line3 = "      the OCB"


                              ;
                              ; Scroll Text Defintions
                              ;
                              ; AccuView supports unlimited scroll lines, WenView supports only one.
                              ; Can add/delete lines as neccessary (ScrollText5, ScrollText6, ...)

                              [OCB1 Scroll Text]
                              ScrollText1 = "Todays Specials : "
                              ScrollText2 = "Hamburger Combo only $2.00"
                              ScrollText3 = "Chicken Nuggets only $1.00"
                              ScrollText4 = "Chicken Filet Sandwich only $2.00"

                              [OCB2 Scroll Text]
                              ScrollText1 = "Try our Famous Bacon Cheezeburger Combo for only $2.00!!"
```

**Configuring the MICROS OCB and Drive-Thru Display Controller Devices**

Use the information below to configure the MICROS OCB Device and the MICROS Drive-Thru Display Controller.

Server Setup (MICROS OCB)

The files needed for the MICROS OCB device are installed with RES 4.10. They are located on the server in the *\micros\res\CAL\OrderConfirmation*.

A network node will need to be added by following the instructions below.

1. Open *POS Configurator | Devices | Network Node*.

2. Select the blue plus icon to add a record.

3. Complete the form by entering the Name, Computer Name, IP Address, Subnet Mask, and by selecting 'Order Confirmation' as the Workstation Type.
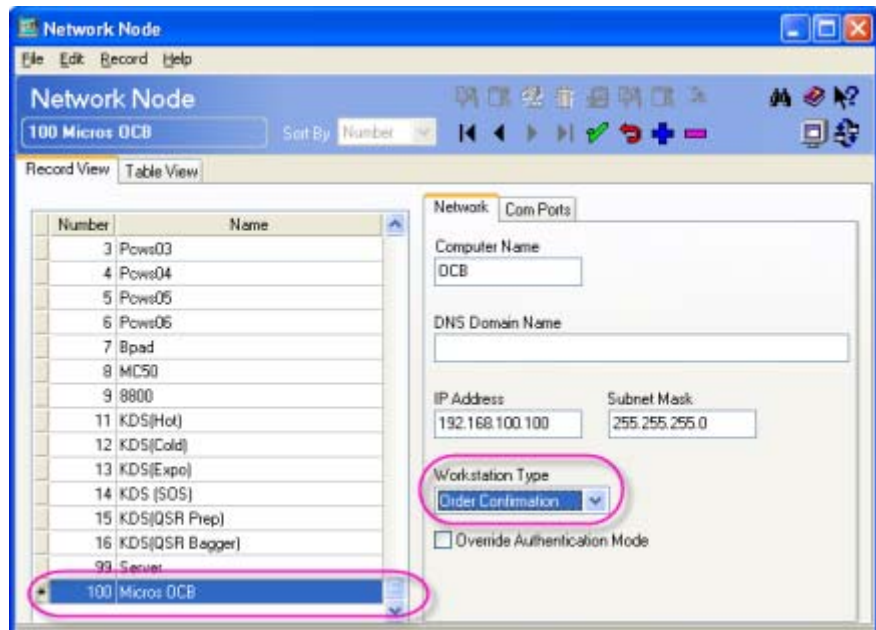
4. Save the changes.

Server Setup (MICROS Drive-Thru Display Controller)

RES Setup, 4.11 MR3, will install all software for the Drive-Thru Display. The following files will be placed in the *MICROS\Res\CAL\Win32\Packages\Win32RES\Micros\Common\Bin* folder:

◆ OCB32.exe

◆ OCBStop.exe

The following file will be placed in the *MICROS\Res\Pos\Scripts* folder:

◆ OCB32.ini

CAL setup will create the appropriate icons on the Windows desktop for the OCB32 and OCBStop applications.

The existing AppStarter (Start RES) will start the Drive-Thru Display Controller.

On the Start menu under *MICROS Applications | Utilities | POS*, **Stop Drive-Thru Display Controller** has been added.

Note	*Attempting to run these applications on a workstation that does not support them will result in an error.*

A network node will need to be added by following the instructions below.

1. Open *POS Configurator | Devices | Network Node.*

2. Select the blue plus icon to add a record.

3. Complete the form by entering the Name (i.e. POSReady2015), Computer Name, IP Address, Subnet Mask and selecting Workstation as the Workstation Type.
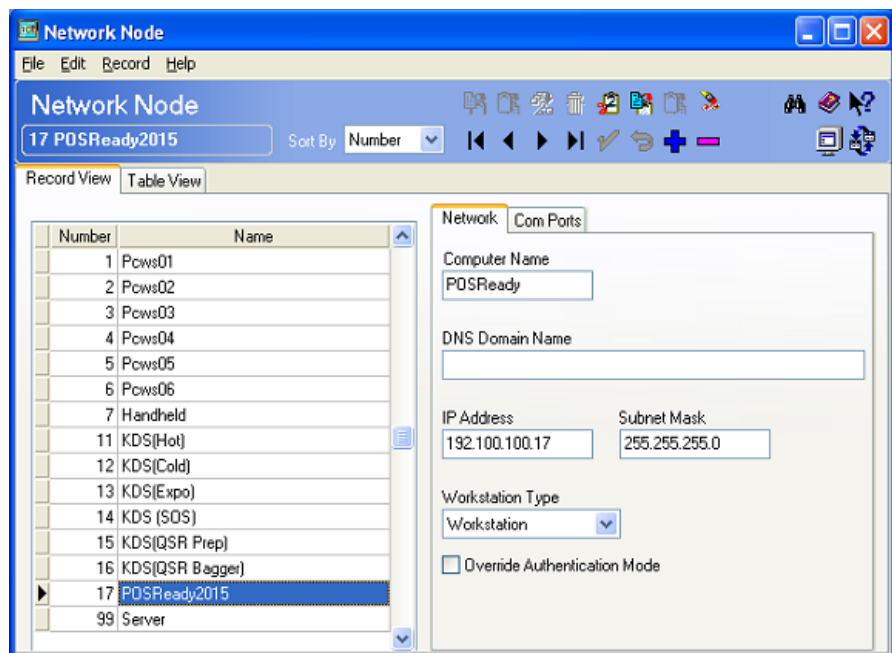
4. Configure Com Ports if needed.

5. Save the changes and close the form.

6. Open *Devices | Devices.*

7. Select the blue plus icon to add a record.

8. Select Drive-Thru Display Controller for the Device Type and the record added in step 3 (POSReady2015) for the Network Node.
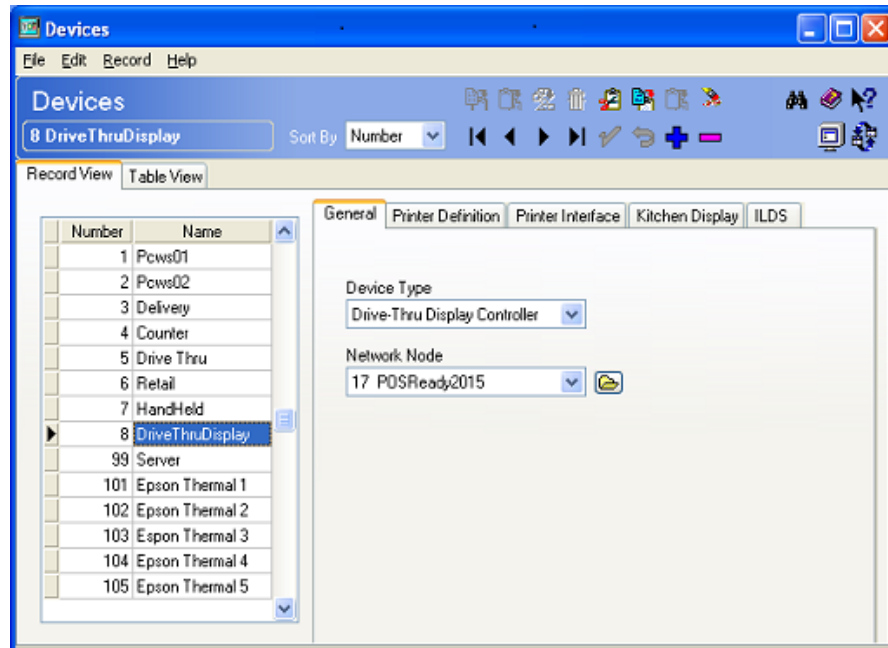
9. Save the changes and close the form.

> *Note*   *If the site will be using a Workstation as the Drive-Thru Display Controller and will be running POS Operations, a second record needs to be added in Devices with the Device Type of User Workstation and a record added to User Workstations.*

> *Note*   *The Screen Saver on the workstation hosting the Drive-Thru Display Controller must be set to **None.** In addition, any Power Options related to the workstation monitor must be set to **Never turn off the monitor.***

MICROS OCB Device Setup

MICROS OCB devices use the Client Application Loader (CAL) technology to locate, install, and maintain the most up-to-date software programs implemented on the server.

Many settings can be configured in the OCB.ini file. It is installed to *\micros\res\CAL\OrderConfirmation\Packages\OrderConf\Micros\ETC.*

To change a setting, simply uncomment it by removing the semicolon ';' and change the data. After saving the file, copy it to the *\micros\res\CAL\OrderConfirmation\Files\CF\Micros\ETC folder.*

```
;; OCB.ini
;;
;; Standard Colors (HTML Standard)
;; #000000 black      #C0C0C0 silver   #808080 gray   #FFFFFF white
;; #800000 maroon     #FF0000 red      #800080 purple #FF00FF fuchsia
;; #008000 green      #00FF00 lime     #808000 olive  #FFFF00 yellow
;; #000080 navy       #0000FF blue     #008080 teal   #00FFFF aqua
;;
;; Font Names
;; Arial, Arial Black, Comic Sans MS, Courier New, Tahoma, Times New Roman,
Verdana
;;
;; Font Styles
;; Regular, Bold, Italic, Underline, Strikeout
;;

[General]
; Listen Port = 13001
; Display Update = 500

[Logging]
; Verbosity = 0

[Total Screen]
;; Number of seconds to display the Total screen before going to the Idle screen
; Timeout = 5

;; The information to display with the total price
; Line 1 = Your total
; Line 2 = is $
; Line 3 = Please drive through
```

;; The color of the total text and background color of the Total screen
; Line 1 Color = #FFFFFF
; Line 2 Color = #FFFFFF
; Line 3 Color = #FFFF00
; Background Color = #000080
; Font Name = Verdana
; Font Size = 68

[Detail Screen]
;; Text colors for items on the Detail screen
; Quantity Text Color = #FFFFFF
; Description Text Color = #FFFFFF
; Price Text Color = #FFFFFF

; Tax Text Color = #FFFF00
; Total Text Color = #FFFF00
; Background Color = #000080

;; The text to display on the Detail screen
; Tax Prompt = Tax $
; Total Prompt = Total $

;; Details about how the detail list is displayed, affects quantity, description, and price
; Font Name = Verdana
; Font Size = 32
; Font Style = Bold

;; Font style for descriptions only, does not affect quantity or price font style
; Combo Font Style = Regular
; Condiment Font Style = Italic

;; Controls degree of indentation for condiments and combo items
;; Set to 0 for no indentation, higher for more indentation
; Indent Level = 2;

; Total Font Name = Verdana
; Total Font Size = 42
; Total Font Style = Bold

[Idle Screen]
;; A web page to display during the Idle screen
; url = \cf\micros\ocb\index.htm
url = about:blank

; Background Color = #FFFFFF

Drive-Thru Display Setup

The MICROS Drive-Thru Display is based on the current MICROS Order Confirmation Board (OCB) and also uses the Client Application Loader (CAL). Since the new Drive-Thru Display is hosted by the Win32 client, the clients CAL folder is used to get updates to this new display.

Like the MICROS OCB, the Drive-thru Display presents two screens to the customer during a transaction. First the customer is presented with the 'Detail Screen', which shows each item on the check and the total amount of the check, as the order is entered by the cashier. After the order is complete, the customer is shown the 'Total Screen', which displays the amount due along with configurable prompts. Between transactions, the 'Idle Screen' is shown, which typically features a slide show of product information. Each of these three screens has configurable components to alter the appearance of the screen.

RES Setup will install all software for the Drive-thru Display. The following files are required to support this feature: OCB32.exe, OCBStop.exe, and OCB32.ini. On the RES server, these files will be placed into the Win32 CAL folder. The two executables will typically be found in
\MICROS\Res\CAL\Win32\Packages\Win32RES\Micros\Common\Bin
and OCB32.ini will be in
\MICROS\Res\CAL\Win32\Packages\Win32RES\Micros\Common\Etc.
CAL Setup will create the appropriate icons on the Windows desktop for the OCB32 and OCBStop applications.

The attributes of the OCB are configured through the OCB32.ini configuration file. A default OCB32.ini file is included with the installation. The file may be altered on-site to change attributes of the Drive-Thru Display. The file is a text file and may be altered with any Windows text editor.

Note	*In most configurations, the installer/user should place the altered OCB32.ini file into the MICROS\RES\CAL\Win32\Files\Micros\Common\Etc folder, so that it is updated on the workstation that is hosting the Drive-Thru Display Controller.*

Below is the OCB32.ini file. To change a setting, simply uncomment it by removing the semicolon ';' and change the data. After saving the file, copy it to the MICROS\RES\CAL\Win32\Files\Micros\Common\Etc folder.

```
;; OCB32.ini
;; This is the configuration used for the OCB32/drive thru display
;; application. This file should be placed in the \Micros\Common\Etc folder
;; of the workstation hosting the Drive-Thru Display Controller.
;; This sample OCB32.ini file contains the description of each configuration
;; option as well as its default value. Each option is "commented out" below
;; with a ';' character at the start of the line. To change an option, remove
;; the semi-colon and alter the option's value by changing the value that
;; appears after the equals sign.
;; Section names and option names are all case-sensitive.
;;
;; Standard Colors (HTML Standard)
;; #000000 black     #C0C0C0 silver   #808080 gray    #FFFFFF white
;; #800000 maroon    #FF0000 red      #800080 purple  #FF00FF fuchsia
;; #008000 green     #00FF00 lime     #808000 olive   #FFFF00 yellow
;; #000080 navy      #0000FF blue     #008080 teal    #00FFFF aqua
;;
;; Font Names
;; Arial, Arial Black, Comic Sans MS, Courier New, Tahoma, Times New Roman,
Verdana
;;
;; Font Styles
;; Regular, Bold, Italic, Underline, Strikeout
;;

[General]
;; The following should never be changed
; Listen Port = 13001
; Display Update Interval = 250
; Configuration Update Interval = 60

;; The day parts list is deliminated by | with each name
;;  corresponding to a section in this ini. See below for
;;  configuration of each day part. If 'Day Parts' is omitted
;;  than the screens will have the same configuration
;;  throughout the whole day.
; Day Parts = Morning|Evening

[Logging]
; Verbosity = 0
```

```
;; Day parts include five fields, all are required.
;;  'Start Time' and 'End Time' define the period that this
;;  day part is valid. Value can be formatted as '1:00 AM'
;;  or '01:00'. The start and end times of day parts should
;;  not overlap.
;;  Each screen may have its own configuration during a
;;  day part. The desciption should reference a label
;;  within this ini file that describes the screen.
;;  If day parts are not defined, the default sections
;;  for screen ('Idle Screen', 'Detail Screen', and 'Total
;;  Screen') will be used.
;;

; [Morning]
; Start Time = 12:00 AM
; End Time = 11:30 AM
; Total Screen Description = Total Screen
; Idle Screen Description = Idle Screen
; Detail Screen Description = Detail Screen

; [Evening]
; Start Time = 11:30 AM
; End Time = 11:59 PM
; Total Screen Description = Total Screen
; Idle Screen Description = Idle Screen
; Detail Screen Description = Detail Screen


[Idle Screen]
;; A web page to display during the Idle screen
; url = about:blank
; Background Color = #FFFFFF


[Detail Screen]
;; Text colors for items on the Detail screen
; Quantity Text Color = #FFFFFF
; Description Text Color = #FFFFFF
; Price Text Color = #FFFFFF

; Tax Text Color = #FFFF00
; Total Text Color = #FFFF00
; Background Color = #000080

;; The text to display on the bottom of the Detail screen
; Tax Prompt = Tax $
; Total Prompt = Total $
```

```
;; How the detail list is displayed, affects quantity, description, and price
; Font Name = Verdana
; Font Size = 32
; Font Style = Regular

;; Font style for descriptions only, does not affect quantity or price font style
; Combo Font Style = Regular
; Condiment Font Style = Italic

;; Controls degree of indentation for condiments and combo items
;; Set to 0 for no indentation, higher for more indentation
; Indent Level = 2;

;; Font for the Tax/Total line of the display
; Total Font Name = Verdana
; Total Font Size = 46
; Total Font Style = Bold

;; Positions of the columns of information on the detail screen
; Quantity Column Offset X = 0;
; Quantity Column Width = 100;
; Item Column Offset X = 110;
; Item Column Width = 700;
; Price Column Offset X = 820;
; Price Column Width = 204;
; Column Offset Y = 0;
; Column Height = 640;

;; Position of the Web window on the detail screen
; Web Offset X = 3;
; Web Offset Y = 3;
; Web Width = 0;
; Web Height = 0;

;; A web page to display during the order detail screen
; url = about:blank

[Total Screen]
;; Number of seconds to display the Total screen before going to the Idle screen
; Timeout = 5

;; The information to display with the total price
; Line 1 = Your total
; Line 2 = is $
; Line 3 = Please drive through
```

;; The color of the total text and background color of the Total screen
; Line 1 Color = #FFFFFF
; Line 2 Color = #FFFFFF
; Line 3 Color = #FFFF00
; Background Color = #000080
; Font Name = Verdana
; Font Size = 68

;; Location of each line of the Total screen
; Line 1 Offset X = 0
; Line 1 Offset Y = 100
; Line 2 Offset X = 0
; Line 2 Offset Y = 250
; Line 3 Offset X = 0
; Line 3 Offset Y = 650

;; Position of the Web window on the total screen
; Web Offset X = 3;
; Web Offset Y = 3;
; Web Width = 0;
; Web Height = 0;

;; A web page to display during the total screen
; url = about:blank

Editing Day Parts:

A new feature for the Drive-Thru Display is the notion of 'Day Parts'. A 'Day Part' is a period of time that has a specific display configuration. The display configuration controls all aspects of how information is shown on the Drive-Thru Display, including text style, background color and graphics used on each of the three display screens.

The three display screens are Total Screen, Detail Screen and Idle Screen.

The Day Part configuration is optional. If Day Parts are not configured in the OCB32.ini file, the default configuration will be used.

Sample Day Part configuration:

[General]
Day Parts = Morning|Evening

[Morning]
Start Time = 00:00
End Time = 11:30
Total Screen Description = Total Screen Morning

Idle Screen Description = Idle Screen Morning
Detail Screen Description = Detail Screen Morning

[Evening]
Start Time = 11:30
End Time = 23:59
Total Screen Description = Total Screen Evening
Idle Screen Description = Idle Screen Evening
Detail Screen Description = Detail Screen Evening

The above configuration indicates that there are two day parts, Morning and Evening. The number and names of the day parts is first established by including the 'Day Parts=' configuration item followed by each day part separated by '|'.

For each of the day parts, the OCB32.ini file will have a section named for that day part. The format of these items may be expressed in '24-hour' (00:00 - 23:59) or '12-hour' (12:00 AM - 11:59 PM).

Below the time period are configuration items to indicate the section names for each of the screens. In the above example, the 'Evening' period has screens named 'Total Screen Evening', 'Idle Screen Evening' and 'Detail Screen Evening', which means that elsewhere in the OCB32.ini file there should be sections [Total Screen Evening], [Idle Screen Evening] and [Detail Screen Evening]. Within each of these screen sections there will be configuration items for aspects of these screens.

Graphic Elements:

There is also the ability to display content alongside of the order screen while in a transaction. The content will be displayed within a web element that is positioned on the Detail Screen. The position, size and content of the web element is configurable within the OCB32.ini file. The graphic elements are positioned using screen coordinates.
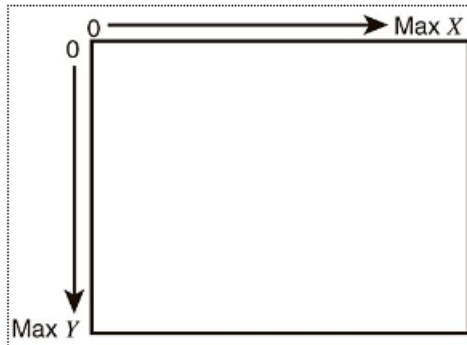
Screen coordinates originate at the top left corner of the screen and extend to the lower right corner. At the top left corner, the coordinates is X = 0 and Y = 0. The bottom right has coordinates X = 1024 and Y = 768. Width and height dimensions are also based on the screen coordinates values.

Sample configuration:

[Detail Screen Evening]
Quantity Column Offset X = 540;
Quantity Column Width = 45;
Item Column Offset X = 590;
Item Column Width = 320;
Price Column Offset X = 915;
Price Column Width = 100;

Column Offset Y = 0;
Column Height = 640;

Total Font Size = 48
Total Font Style = Regular

Web Offset X = 0;
Web Offset Y = 0;
Web Width = 540;
Web Height = 640;
url = \micros\OCB\BkOcbDetail\evening.html

The last five lines above describe the web element for the Detail Screen. The element is defined as a region that roughly fills the top left corner of the detail screen. The other attributes above position the order columns of the detail screen beside the web element. The web element references an HTML file that controls the content that is displayed. The web content is always written in standard HTML, it may point to a file on a disk (as above) or a URL on the network.

A similar web element may be added to the Total Screen. This web element is configured in the OCB32.ini file, similar to configuring the element for the Detail Screen. If the web element width and height are set to '0', then the element will not appear on the Detail Screen or the Total Screen. The URL may be set as 'about:blank' to display a blank page in the web element.

Client Setup

The Client-side configuration is done in the **OCBClient.ini** located on the POS Operations client. All Clients that are going to output to the OCB need the following configuration setup:

[Options]	
ServerIP	Defines the IP address of the server hosting the OCB Service. In most cases, this will be the IP address of the 3700 RES Server. Change the default ServerIP from 127.0.0.1 to the server's IP address.
OCBToClaimOnStartup	Defines the OCB device to claim on Startup. This can one of the following values: 0 = Do not claim any device on startup. 1 = Claim OCB device 1 on startup. 2 = Claim OCB device 2 on startup. NOTE: When using the new MICROS OCB, we recommend a setting of '0' for this option.

Example of OCBClient.ini
[Options]
ServerIP = "127.0.0.1" ---> Change to the server's IP address
OCBToClaimOnStartup = 0   ; 0 = NONE, 1 = OCB1, 2 = OCB2

Touchscreens and Macros

To control the functionality of the OCB Interface, most installations will need to have touchscreen buttons and/or macros configured. This section provides a reference list of common configurations. Information provided his is for reference only. Actual selections will vary (and may be modified) based on a site's requirements.

Touchscreens

>User Touchscreen Buttons

1. **"Start Lane 1" / "Start Lane 2"** — Linked to the Macros defined below or linked directly to the PMS/SIM inquiry.

2. **"Claim Lane 1" / "Claim Lane 2"** — Linked to the SIM Inquiry Event "Perm. Claim OCB1" (3) or "Perm. Claim OCB2" (4).

3. **"Temp Claim Lane 1" / "Temp Claim Lane 2"**

   Linked to the SIM Inquiry Event Temp Claim OCB1 (5) or Temp Claim OCB2 (6)

Manager Touchscreen Buttons

1. **"Stop OCB"** — Linked to the SIM Inquiry Event "OCB Stop" (2).

2. **"Start OCB"** — Linked to the SIM Inquiry Event "OCB Start" (1).

3. **"Release Lane 1" / "Release Lane 2"** — Linked to the SIM Inquiry Event "Release OCB1" (7) or "Release OCB2" (8).

   POS Configuration
   1. In *POS Configurator | Devices | Interfaces*

      ◆ Name OCB

      ◆ Check box SIM Interface

Macros

1. **"Start Lane 1" / "Start Lane 2"** — Sends one order to a particular OCB device.

   - Call SIM Inquiry Event "Temp Claim OCB1" (5) or "Temp Claim OCB2" (6).

   - Begin Check (by Table, ID, etc.) — Not required for fast transaction environments.

2. **"Send Order"** — Replaces the standard SEND key.

   - Call SIM Inquiry Event "Set SEND flag" (9).

   - Tender/Media Number of the 'Send' tender.

SIM Inquiry List

Inquiry Number	Summary	Details
1	OCB Start	Loads the **OCBClient.dll**, establishes a connection to the OCB Server, and claims the startup OCB device, if configured. This operation is automatically performed by the SIM script when POS starts up. This event can be used to restart the OCB Interface if it has been previously stopped using the **OCB Stop Inquiry** event.
2	OCB Stop	Releases the currently claimed OCB device, shuts down the connection to the Server, and unloads the OCBClient.dll. This operation is automatically performed by the SIM script when POS is shut down. If the OCB Server is currently down or unreachable, this operation can be used to completely bypass all OCB functionality preventing any delays associated with trying to reconnect to the OCB Server.
3	Perm. Claim OCB1	Will Permanently Claim OCB device #1. An informational message box will be displayed to the user indicating the result of the claim request (except when claiming a device on Startup).
4	Perm.Claim OCB2	Same as above, except for OCB device #2.

Inquiry Number	Summary	Details
5	Temp. Claim OCB1	Will Temporarily Claim OCB device #1. If successful, no message box will be displayed. If unsuccessful, the name of the owning workstation will be displayed in a formatted message box. The Temporary claim will be automatically released when one of the following operations is performed in POS Operations: Transaction Cancel Cancel Order Service Total Suspend Check Final Tender
6	Temp. Claim OCB2	Same as above, except for OCB device #2.
7	Release OCB1	Will Release OCB device #1, even if the current workstation does not currently have the device claimed. This operation must be used with caution as it may disrupt another user's operation of the OCB device.

Inquiry Number	Summary	Details
8	Release OCB2	Same as above, except for OCB device #2.
9	Set SEND flag	This flag is used to indicate that a SEND ORDER tender/media key is about to be used. Currently, SIM has no way to distinguish between a SEND ORDER key and a regular service total key. This flag is a work around and should be used to indicate that the next service total event is a SEND ORDER. It is intended to be used in a macro that calls this Inquiry event and then performs the actual SEND ORDER. When the SIM receives the next service total event, the processing of the END ORDER request is skipped and the flag is reset. For proper SEND ORDER functionality, all touchscreen keys linked to the SEND ORDER tender/media should be replaced with keys that call this macro.

SIM Inquiry 1 (OCB Start) and SIM Inquiry 2 (OCB Stop) are not needed for the new Drive-Thru Display Controller. There is a new shortcut key installed on the Win32 client that can be used to stop the OCB Display. The shortcut is called **Stop Drive-Thru Display Controller** and is located on the Start menu under *MICROS Applications | Utilities | POS*. To restart the OCB Display on the WIN32 client hosting the Drive-Thru Display, simply run the AppStarter (Start RES). This will restart the Drive-Thru Display.

Appendix I: Table Management System (TMS)

About This Document

This document describes setup procedures required to run the MICROS Guest Connection table management system (TMS) software on a RES 3700 POS System. A brief description of the relationship between the TMS and POS features is also provided.

Guest Connection is an independently licensed and installed software application. For more information about this product, refer to the *Guest Connection Online Installation Guide* and the *Guest Connection User's Manual*, both of which are installed with the software.

Product Description

Guest Connection is a browser-based application that manages restaurant reservations and seating, captures guest history, and provides a communication link to the MICROS POS System. Guest Connection is designed for the multi-revenue center location, allowing a central reservation office to take reservations for all of the restaurants at a site.

Among the features supported by 3700 POS interface, Guest Connection:

◆ Sends a *Table Open* message to the 3700 POS when a guest is seated. This will begin a check at that table in the POS.

◆ Supports the following order statuses from the 3700 POS:

　◆ Check Open
　◆ Food Ordered
　◆ Check Paid

◆ Supports the following table statuses from the 3700 POS:

　◆ Table is bussed
　◆ Table is cleared
　◆ Table is closed

◆ Supports updates to a guest's order history from the 3700 POS. This includes menu item detail and summary totals.

Limitations   The following limitations should be noted between the Guest Connection and 3700 POS:

- 3700 POS does not send the following order statuses:

    - Check Printed
    - Course Ordered
    - Course fired

- 3700 POS does not accept the cancel or unseat message from Guest Connection. If a guest is unseated from a table in Guest Connection, the 3700 POS open check must be closed from within that application.

- Add/transfer messages are not accepted between 3700 POS and Guest Connection. When an add/transfer is done in one of the applications, the same procedure will need to be done on the other side. These functions are not supported from the 3700 POS:

    SIM Inquire 4 — Transfer

    SIM Inquire 5 — Add Check/Extend a Table

- Guest Connection supports only one check at a table. However, once a check is opened in Guest Connection, the POS user can split it or even add more checks to the open table. This can cause the following problems when a check is closed at that table:

    - On the Guest Connection side, the system accepts updates from the 3700 POS based on table number. Once the first check is paid, Guest Connection shows the table as paid, alerting the hostess to have the table cleared. This can cause confusion.

        Example:

        1. In Guest Connection, start a check at Table 10. The 3700 POS will automatically begin Check 10/1.

        2. On the 3700 POS side, start another check at table 10. The check will be labeled, 10/2.

        3. Close Check 10/2. The POS will send a check paid message to

Guest Connection, which then updates the table to a status of *Check Paid*.

◆ On the POS side, the system will display the error "Reservation not found" whenever the user attempts to close any of the remaining checks from that table. (From Guest Connection's point of view, there are no guests currently assigned to that table.)

System Requirements

Running the 3700 POS Guest Connection interface on a RES System requires the following:

◆ PMS/SIM must be licensed

◆ Guest Connection Version 1.50 or higher

◆ RES 3000 Version 3.2 Service Pack 3 HF1 or higher

◆ Guest Connection uses Microsoft SQL Server 2000 as its database. When installing on a RES site, be sure that the SQL Server edition is compatible with the site's operating system.

Configuration Models

Three different system configuration models are supported in this release.

Configuration #1

◆ RES Server running Windows 2003 or Windows XP Professional

◆ Guest Connection installed on the RES Server using GC part number 100124-148 Guest Connection CD — RES only

Configuration #2

◆ RES Server running Windows 2003 Server or Windows XP Professional

◆ Guest Connection installed on a separate PC, running Windows 2000 Server, and using GC part number 100124-147 Guest Connection CD

Configuration #3

◆ RES Server running Windows 2003 Server or Windows XP
Professional

◆ Guest Connection installed on a separate PC, running Windows 2000
Professional, and using GC part number 100124-148 Guest
Connection CD — RES only

TMS Installation

The 3700 Guest Connection interface is dependent on the version of RES
3.2 software. The interface is installed with the RES 4.x software. When
installing RES 4.x be certain to select the **TMS Interface** option.

The interface is only installed on the RES Server. Once the software is
installed, refer to the next section, **System Setup**, for instructions on
configuring the 3700 interface.

Configuring the 3700 POS

To use Guest Connection on a RES 3700 POS System, users must
establish a SIM interface to Guest Connection and set up an appropriate
number of touch keys in POS Operations. The procedures for doing so
are as follows:

Create the Interface

1. Open the POS Configurator and go to *Devices | Interfaces | General*.

2. Add a Guest Connection record with the following properties:

◆ **Outgoing Message Name** — TMS 3700

◆ **Timeout** — 20

◆ **Network Node** — Server

◆ **Number ID Digits** — 9

◆ **Backup Interface** — (n/a)

◆ **Log Transactions** — (not necessary)

◆ **SIM Interface** — (must be checked)

◆ **Interface Type** — TCP

3. Go to the *Interfaces* tab and enter the following:

   - ◆ **TCP Server Name** — Enter the IP address of the RES Server.
   - ◆ **TCP Port Number** — 5012

4. Save the record. Go to *Devices | Touchscreen Designer.*

5. Select the appropriate screen(s) on which to add the three SIM Inquire keys required for Guest Connection. Configure each key as follows:

   - ◆ **Legend** — Enter the button name
   - ◆ **Category** — SIM/PMS Inquire
   - ◆ **Interface** — Guest Connection
   - ◆ **Inquire Number** — Enter the number that corresponds to the selected SIM function:

     1 — Bus/Clear Table

     2 — Clean

     3 — Close

Note	*Touchscreen locations for SIM keys is subject to the needs and preferences of the user. MICROS recommends placing Inquires 1-3 on the Table Layout Screen, as they may be used without opening a check.*
	The SIM Functions Bus/Clear, Clean, and Close are revenue center-based. A user must be sign into the correct revenue center at the POS when performing one of these functions.

6. Save and go to *Revenue Center | RVC Table Seating* and confirm that tables have been set up for each revenue center. If corresponding table numbers are not programmed, Guest Connection will be unable to initiate a guest check on the 3700 POS when a guest is seated.

7. Save and close POS Configurator.

8. On the RES Server, open the Window's Explorer and navigate to the **\Micros\RES\POS\etc** folder.

9. Rename the **TMSInterface.isl** to **pms#.isl**, where **#** is the number of the TMS 3700 interface created for Guest Connection in *POS Configurator | Devices | Interfaces*.

    For example: If the TMS 3700 interface was number 2 on the Interface form, then the **TMSInterface.isl** script should be renamed **pms2.isl**.

10. Copy the **pms#.isl file** to the \MICROS\res\pos\etc folder onto the RES server. This file will need to be loaded onto all POS clients as well. Use the CAL file structure to copy the file to the etc folder on each client platform installed.

Editing the Interface File

1. Open the **TMSInterface.ini** file and change the following settings to match the user's system:

    ◆ [SETTINGS]

        UWSSEQ —The uws_seq from micros.uws_def of the 3700 Server.

```
[SETTINGS]
LOG=TMSIntfc.log
UWSSEQ=24

[TMS-CONNECTION]
port=5200
ip=172.28.255.255

[3700-CONNECTION]
port=5012

[MICROS]
;VER=3.1
VER=3.2
```

SAMPLE FILE

◆ [TMS-CONNECTION]

port — This is the port that allows Guest Connection to send/ receive messages from the 3700 POS. This entry must match the MICROSPORT value in Guest Connection (*Maintenance | Look Ups | System | PARAM*).

> *Note*   *Guest Connection is installed with port 5100 as the default setup value, which is already assigned in RES 3000 to the Cash Management application.*
>
> *To avoid a conflict, Guest Connection users must change the port setting to 5200 or another unassigned value.*

ip — The IP address of the server where the Guest Connection interface service (**GC2MICROS.exe**) is installed.

◆ [3700-CONNECTION]

port — This is the port that allows each 3700 POS client to send/ receive messages from the RES Interface Server. This value must match the **TCP Port Number** defined in *POS Configurator | Devices | Interfaces* for the Guest Connection interface.

2. Copy the tmsinterface.ini file to the \MICROS\res\pos\etc folder on the server.

3. From the Windows Start menu, go to *Settings | Control Panel | Administrative Tools | Services*.

4. Right-click on *Micros TMS Interface* and select **Properties**.

5. Change the Startup Type to **Automatic**. The next time the system is rebooted, the interface will startup automatically. To activate immediately, right-click on *MICROS TMS Interface* and select Start.

    The service will write messages to the **3700d.log** file. This file can be viewed using logviewer. To view every message sent between the 3700 and Guest Connection, set Verbosity to 10 in the Control Panel.

6. Perform a warm boot (restart) of the system.

Recommended Options

In the 3700 POS Configurator

◆ Open POS Configurator and enable the option **One check per table** (*Revenue Center | RVC Transactions*).

In Guest Connection

◆ Change the **MICROSPORT** value to **5200** (*Maintenance | Look Ups | System | PARAM | Page 2*).

◆ Change the **MICROS GUID** to **N** (no) (*Maintenance | Look Ups | System | PARAM*). The default value is **Y**.

◆ Change the CODE 1 value to "Food Ordered" (Maintenance | Look Ups | General | TABLESTAT.

Shared Procedures

Guest checks can be initiated by either Guest Connection or POS Operations. MICROS recommends starting it in Guest Connection, unless the table will be splitting the check. This allows the hostess to control the table seating.

When entered through Guest Connection, the interface also begins a check in 3700 POS, passing the employee number, table number, and guest count assigned in Guest Connection. Once the POS has started the check, it passes back a message to Guest Connection updating the table status to *Check Begun*.

Similarly, when a check is started from the 3700 POS, the information is sent to the Guest Connection and the table is assigned a status of *Check Begun*.

Once started, the updated check information is available from either application.

Changing the Status

Once menu items are ordered and the check is service totaled for the first time, the system updates Guest Connection with a table status of *Appetizers Ordered*. Since the 3700 POS cannot send multiple courses, MICROS recommends changing the descriptor to *Items Ordered*.

When a check is final tendered through 3700 POS, the interface updates the table status in Guest Connection to *Check Paid* and, if configured to do so, sends Guest Connection the check's menu item detail.

At that point, the table should be cleaned, either through the 3700 POS or Guest Connection. The busser should then update the table status to *Table Bussed* through the 3700 POS.

When a table is no longer required, it's status can be set to *Table Closed*. This applies to single tables or sections. The function may be performed from either the 3700 POS or Guest Connection.

Table Status Indicators

During operations, POS Operations provides Guest Connection with updates on table status. The messages are reflected in Guest Connection as changes to the color of the table icon, shown in the table below:

Table Status	Color
No Server Assigned	Rust
Table Open and Cleaned	Green
Guests Seated	Peach
Check Begun	White
Items Sent	Purple
Check Paid	Red
Guest Left/Table Dirty	Grey
Table Closed	Black

Order History

Guest Connection maintains its own guest database to capture guest preferences, order history, and other personal data. POS Operations supports this functionality by providing check totals and order detail to Guest Connection whenever a check is final tendered.

Appendix J: Customized Installation Procedures

Introduction

This section provides information for sites with complicated Client/Server setups that require customized installation.

Registry Settings

There are two registry settings that affect the RES patch. They are:

- HKLM\Software\Micros\Patch\BypassDBUpdate (True)   :STRING

- HKLM\Software\Micros\Patch\BypassReboot (True)   :STRING

These values must be set to True in order for them to work.

BypassDBUpdate

The existence of this registry value will cause the RES patch to bypass the database update portion of the patch.

BypassReboot

The existence of this value will cause the RES patch to bypass the execution of **Shutdown.exe**. The patch will simply stop. The Server will not reboot.

If running MICROS Desktop, the BypassReboot setting should NOT be used as this will leave the system on but disabled. The only recourse at that point is to reboot the server using the power button.

Appendix K: Pre and Post Custom Installation Procedures

A custom pre and post update hook has been added to allow an integrator to add their own install processes to the patch installation process.

When running a patch upgrade on the RES Server, the system can be setup to execute a batch file before the patch is started or before the patch is finished. These batch files cannot be used to reboot the system. They can be used to stop third party services that affect the RES system.

Follow these steps to create a custom file that can be called while a MICROS patch is running:

1. In the server's registry, go to *HKLM\Software\Micros* and add a key called **Patch**.

2. Create a string value for this key and name it either **CustomPreUpdate** or **CustomPostUpdate**, depending on when it will be executed.

   CustomPreUpdate will occur at the beginning of the patch. Use this key to shut down non-Micros services at this time (see Step 3).

   CustomPostUpdate will run after all files have been updated, but before the database is updated.

3. Set the value of CustomPreUpdate to the location of the file you want to call (e.g., *C:\Temp\StopService.bat*).

4. Set the value of CustomPostUpdate to the location of the file you want to call (e.g., *C:\temp\InstallCustomReports.bat*).

Appendix L: Removing RES 3.x Software

Introduction

This section provides instructions on removing RES 3.2 from the server and clients.

This is a required step if you are upgrading from RES Version 3.x to RES 4.x. Attempting installation before removing RES 3.x will cause setup to stop.

From RES 3.2 Server

Follow these steps to remove MICROS software from a server running Version 3.2 or lower:

1. From the Windows Start Menu, select *Programs | MICROS Applications | MICROS Control Panel* to launch the interface.

2. Click the button to set the Restaurant to OFF.

3. From the Windows Start Menu, select *Settings | Control Panel | Administrative Tools | Services*. Stop all MICROS services, including those not installed by RES GR. Specifically:

   ◆ MICROS 3700 System

   ◆ MICROS Caller ID Service

   ◆ MICROS Distributed Service Manager

   ◆ MICROS Secure Desktop

   ◆ MICROS LM Com Scheduler

   and the non-RES services:

   ◆ ValueLink, Watchdog, Agent, etc.

4. Select **Add/Remove Programs**. Highlight and remove all MICROS programs (e.g., EM, ValueLink) **except for RES.** (RES will be removed in Step 11.)

5. *(Optional)* If ValueLink is installed, open Windows Explorer and navigate to the *WinNT\system32* folder. Save the **vlink.cfg** file to a safe location.

6. Open a DOS window. From the command line, navigate to the *\MICROS\res\pos\bin* directory. Enter the following commands to remove the Connection Advisor service:

    ```
    connadvisor –uninstall
    connadvisor –unregister
    ```

7. Select *Start | Run | Regedit* to open the Registry.

8. Go to *My Computer\HKey_Local_Machine\System\Current ControlSet\Services* and delete those MICROS services that were not installed by RES GR.

9. Go to *HKey_Local_Machine\Software\MICROS\Common* and highlight *LicenseManager*. From the menu bar, select *Registry | Export Registry File...* to save the license codes to a safe location, outside the MICROS tree.

10. Open the Windows Explorer and navigate to the ***MICROS\ Database\Data*** folder. Save the **micros.db** and **micros.log** to safe location.

11. Return to *Settings | Control Panel | Add/Remove Programs* to remove the MICROS RES 3.2 software.

12. Go back to Windows Explorer and manually delete the MICROS tree.

13. In the Registry, go to *My Computer\HKey_Local_Machine* and delete the following*:*

    ◆ *Software\MICROS*
    ◆ *Software\Borland*
    ◆ *Software\ODBC\odbc.ini\micros*
    ◆ *Software\ODBC\odbc.ini\microsOld*

- *Software\ODBC\odbc.ini\microsSetup*

- *Software\ODBC\odbc.ini\ODBC Data Sources*

- *Software\ODBC\odbcInst.ini\Adaptive Server Anywhere 6.0*

- *Software\ODBC\odbcInst.ini\Adaptive Server Anywhere 6.0 Translator*

- *Software\ODBC\odbcInst.ini\ODBC Drivers\Adaptive Server Anywhere 6.0*

- *Software\ODBC\odbcInst.ini\ODBC Translators\Adaptive Server Anywhere 6.0 Translator*

- *System\CurrentControlSet\Services\3700d*

- *System\CurrentControlSet\Services\Micros Backup Server*

- *System\CurrentControlSet\Services\Micros CAL Service*

- *System\CurrentControlSet\Services\CISERVICE*

- *System\CurrentControlSet\Services\svcCashManager*

- *System\CurrentControlSet\Services\MicrosCashManagementComServer*

- *System\CurrentControlSet\Services\srvConnAdvisor*

- *System\CurrentControlSet\Services\Micros Database Service*

- *System\CurrentControlSet\Services\DbUpdateServer*

- *System\CurrentControlSet\Services\MICROS Distributed Service Manager*

- *System\CurrentControlSet\Services\svcCOMScheduler*

- *System\CurrentControlSet\Services\srvMDSHTTPService*

- *System\CurrentControlSet\Services\MicrosDesk*

- *System\CurrentControlSet\Services\SQLANYs_sql (Server Name)*

14. Reopen the Control Panel and select *System | Advanced | Environment variables*. Delete the *Micros_Current_Installation* entry.

    (**Note**: If the system was at GR, this would already be removed. This step is only necessary if a patch had been installed.)

15. Reboot the PC.

From RES 3.2 Clients

Follow these steps to remove MICROS software from a client running Version 3.2 or lower:

1. From the Windows Start Menu, select *Settings | Control Panel | Administrative Tools | Services*. Stop the following MICROS services:

    ◆ MICROS 3700 System

    ◆ MICROS Backup Server

    ◆ MICROS Connection Advisor (only present after SP1)

    ◆ MICROS DB Update Service

    ◆ MICROS MDS HTTP Service

    ◆ MICROS Secure Desktop

2. Select **Add/Remove Programs**. Highlight and remove MICROS res3000 v3.2. (**Note**: There may be multiple instances of this program listed; if so, remove them all.)

3. Open a DOS window. From the command line, navigate to the *\MICROS\res\pos\bin* directory. Enter the following commands to remove the Connection Advisor service:

    ```
    connadvisor -uninstall
    connadvisor -unregister
    ```

4. Open Windows Explorer and manually delete the MICROS tree.

5. Select *Start | Run | Regedit* to open the Registry.

6. Go to *My Computer\HKey_Local_Machine* and delete the following*:*

   ◆ *Software\MICROS*

   ◆ *Software\Borland*

   ◆ *Software\ODBC\odbc.ini\micros*

   ◆ *Software\ODBC\odbc.ini\microsOld*

   ◆ *Software\ODBC\odbc.ini\microsSetup*

   ◆ *Software\ODBC\odbc.ini\ODBC Data Sources*

   ◆ *Software\ODBC\odbcInst.ini\Adaptive Server Anywhere 6.0*

   ◆ *Software\ODBC\odbcInst.ini\Adaptive Server Anywhere 6.0 Translator*

   ◆ *Software\ODBC\odbcInst.ini\ODBC Drivers\Adaptive Server Anywhere 6.0*

   ◆ *Software\ODBC\odbcInst.ini\ODBC Translators\Adaptive Server Anywhere 6.0 Translator*

   ◆ *System\CurrentControlSet\Services\3700d*

   ◆ *System\CurrentControlSet\Services\Micros Backup Server*

   ◆ *System\CurrentControlSet\Services\srvConnAdvisor*

   ◆ *System\CurrentControlSet\Services\DbUpdateServer*

   ◆ *System\CurrentControlSet\Services\srvMDSHTTPService*

   ◆ *System\CurrentControlSet\Services\MicrosDesk*

   ◆ *System\CurrentControlSet\Services\SQLANYs_sql (Client Name)*

7. Reopen the Control Panel and select *System | Advanced | Environment variables*. Delete all MICROS environment variables (e.g., ASANY, SqlAny, Micros_current version, etc.).

8. Reboot the PC.

Appendix M: RES Security Standard

RES versions 4.0 and higher contain a comprehensive data security package. The RES security features described in this section address vulnerability concerns in an increasingly complex and rapidly changing technical environment.

The MICROS security standard implements strong data encryption at the application level to protect sensitive data wherever it resides on, or is transmitted within, the RES System. By targeting the application level, the MICROS solution eliminates problems associated with hardware- or transmission-specific processes and protocols. This allows sites to retain their existing hardware or network infrastructure as long as it meets MICROS RES minimum system requirements. In many cases, hardware- or protocol-level security can be enabled as an added means to secure sensitive data.

Note   *Product design alone does not ensure system security. MICROS customers also bear responsibility for implementing their own security policies and procedures with regard to hiring practices, system access, and network firewalls.*

This section provides an overview of the RES Security Standard and discusses the areas that are affected by the changes. Topics covered include:

- Employee Security

- System Security

- Electronic Payments

Additionally, beginning with RES Version 4.3 Hotfix 1, a site must be PCI-compliant in order for POS Operations to start successfully. A detailed description of this feature is provided in the PCI Compliance Verified at System Startup section on page 162.

Employee Security

For security, the 3700 POS System includes options that limit employee access to forms and records in the configuration tools and to certain keys and functions during system operations. Access is restricted by assigning privileges to each employee class.

Usage

Access privileges are used to limit what an employee can see and do in the POS system. The primary mechanism for restricting access is through privilege levels, which are assigned by employee class. Privilege levels control access to menu items, discounts, tender/media, service charges, Manager Procedures, the POS Configurator, system clock-in, and autosequences.

Example

Jeff's Café is located on a street corner with busy pedestrian traffic on two sides. With so much activity, it's hard to keep tabs on all the tables and the restaurant is occasionally troubled by walk-out customers. The manager needed a method for closing these checks, but didn't want the wait staff to have access to this function. The solution was to program a [Tender/Media] key for walk-outs and to assign it a higher privilege level than the one granted to wait staff.

Because employees at the same privilege level could have access to each other's records, a secondary security mechanism was added to the system. This mechanism allows you to specify whether members of an employee class will have unrestricted access to each other's records, access to employees at the same level or below, or access to employees at a lower level only. Both POS Configurator and Manager Procedures are affected by the selection.

Configuration

The configuration section is divided as follows:

◆ Establishing Privilege Levels

◆ Setting Configurator Access

◆ Restricting Access to Employee Data

◆ **Establishing Privilege Levels**

Follow these steps to establish privilege levels for employees:

1. Open POS Configurator and go to the *Employees | Employee Classes* form.

2. Select the **Name** of an employee class from the table.

3. Go to the *Privileges | Privilege Level* tab.

4. From each of the drop-down lists, specify a privilege level for this employee class.

   Privilege Levels are ranked on a scale from 0-3, where 0 is the lowest and 3 is the highest level assigned. In general, assigning a privilege level means that employees of this class will have access to all records, keys, and operations associated with that level and lower.

5. Save all changes.

◆ **Setting Configurator Access**

Follow these steps to set the configurator access for an employee level:

1. Open POS Configurator and select *Employees | Configurator Access*.

2. Add a new record in the table.

3. In the **Employee Class** column, double-click to open the drop-down list and select one of the available employee classes.

4. In the **POScfg Form** column, double-click to open the drop-down list and select the form that members of the employee class may access.

5. Under **Access Privileges**, indicate the actions that may be performed on this form(s). Options include:

   ◆ Allow read

   ◆ Allow update

> ◆ Allow insert
>
> ◆ Allow delete

6. Save all changes.

◆ **Restricting Access to Employee Data**

Follow these steps to restrict all employee classes' access to employee data:

1. Open POS Configurator and go to *System | Restaurant | Options.*

2. Under Restrict Access To Employee Data, select one of the following options:

> ◆ No access limitation
>
> ◆ Same level or lower
>
> ◆ Lower level only

> To set this option, an employee must have been assigned a level 3 on the *Employee Class | Privilege Levels* form in the Mgr Procedures/ POS Config drop-down list. Otherwise, these options will not be displayed.

3. Save all changes.

System Security

Managing the system in a way that minimizes risk is critical to ensuring database security. The System Security section is divided into two sections, Overview and Configuration.

◆ Overview

> ◆ Encryption
>
> ◆ Password Management
>
> ◆ Security Log
>
> ◆ Risk Management

♦   Configuration

Overview   **Encryption**

Securing the system involves protecting two types of data:

♦   **Data at Rest** — Refers to data stored on persistent media, such as the system database or in the operating system's file system.

♦   **Data in Transit** — Refers to data transmitted from one computer process to another, where the process resides on different computers and the data must be transmitted across a network.

To secure data in these states, RES employs strong data encryption using industry-standard algorithms such as 3DES and AES. These algorithms are based on a complex system of mathematics that are used to scramble the original data, rendering it unreadable to anyone outside the secure system. The encryption mechanism includes the creation and storage of one or more software 'keys' that are used to encrypt and decrypt the data.

Current encryption algorithms are divided into two classes:

♦   **Symmetric** — Uses a single key to both encrypt and decrypt the data. This is the faster, though less secure method.

♦   **Asymmetric** — Uses separate but related keys (also referred to as a key pair), one to encrypt and one to decrypt the data. Functions are not assigned. That is, either key may be used to encrypt, but its opposite MUST be used to decrypt the results. This is the slower, more secure method.

Encrypted Areas

The RES 4.x systems include a number of data storage and relay components where data are accessible. For this reason, data encryption is applied in multiple layers across the following areas:

- ◆ **Data at Rest**

RES stores information (data at rest) in three areas: 1) the in-store database, 2) the backup server database, and 3) the SAR client (stand-alone resilience) database. Each of these areas contains both *sensitive* and *non-sensitive* information. The server retains a copy of all three, but only the last two are kept locally on each client.

The in-store database is a long-term storage component for the site's data. The majority of information stored by RES is considered *non-sensitive*. That is, it includes all the options necessary to configure and run the program (touchscreen layouts, number of devices, business settings, etc.), as well as the historical transaction data (items, quantities, prices) gathered in the course of business.

Sensitive data refers to personal credit card information (customer names, account numbers, expiration dates) that are protected by law and must be guarded against accidental or improper disclosure.

For the in-store database, RES 4.x encrypts the entire database using standard AES encryption. This process is transparent to applications that are working within the RES system and are authorized to access the database via standard SQL tools. The encryption of the database file prevents unauthorized access through binary editors and/or hex dump utilities.

In addition to the primary database encryption, a second level of encryption is applied to sensitive data before it is stored in the database. This is done at the application level, by the program that writes the data to the database. When required, only those applications that need to will decrypt the data. For all other users, this data will appear encrypted when accessed via SQL tools.

The following chart lists by table and field, the information that is encrypted before it is posted to the database:

Table	Field
cc_auth_dtl	cc_acct_num customer_name expiration_date track_2_data
cc_batch_item_dtl	cc_acct_num customer_name expiration_date track_2_data
cc_batch_item_xfer_status	cc_acct_num expiration_date
cc_batch_item_dtl_temp	cc_acct_num expiration_date track_2_data
cc_vchr_dtl	cc_acct_num
tmed_dtl	cc_acct_num expiration_date
gss_customer_def	cc_card_number cc_expire_date
ref_dtl	ref (only if reference entry is a credit card number)
emp_password_def	emp_pwd

RES versions 4.0 and higher, address the problem of data temporarily stored on a workstation, including devices configured for Standalone Resiliency (SAR) or Backup Server Mode (BSM), by applying RSA encryption to the sensitive data before storing it in temporary files on the RES client. These temporary files are only retained for a short period of time before being deleted from the system.

◆ **Data In Transit**

During operations, data passes from the encrypted in-store database to a RES workstation and back. Typically, data is transported across a closed system such as a private LAN. This does not guarantee that the network is secure — particularly if the LAN includes wireless devices.

To address this issue, a separate transport key is used to encrypt all sensitive data before it is passed along the network. This is done at the application level and prevents unauthorized users from deciphering the files, regardless of how they are transported (LAN, WAN, WiFi). For added security, hardware- and transport-level protocols such as IPSEC, WEP, and WPA can be used to further encrypt transmissions.

Key Generation and Storage

The RES security paradigm requires the use of encryption keys in three areas:

- ◆ Encryption of the database.

- ◆ Encryption of the sensitive fields in the database.

- ◆ Encryption of sensitive data transmitted over the network.

Encryption keys are generated by inputting a pass-phrase and a series (typically 12 or more) of random bits known as a *Salt* value into a key derivation function or algorithm. This algorithm produces a key that is stored encrypted in an access-controlled section of the *Registry*, referred to as the **Key Store**.

During the initial installation or conversion to RES 4.x, a default key is provided. The default key allows sites to start-up the encrypted database.

◆   **Changing the Key**

RES allows users to change the default key by modifying the pass-phrase. This is referred to as *key rotation*. During key rotation, the entire database must be unloaded and reloaded, and all historical information is re-encrypted. This may require up to several hours to complete. Throughout the process, the POS must be down and the entire system will need to be rebooted once the rotation is finished.

WARNING!!!

Encryption Keys should NOT be changed unless required by the site and with permission from the customer's security expert.

Be advised that the loss of the pass-phrase will render the encrypted data unrecoverable. MICROS will be unable to help the site restore a database if the encryption key is changed and the pass-phrase is not available.

The mechanism for handling a key rotation is the **Database Manager** utility.

Password Management

For added security, several significant changes were made to the way passwords are managed in the RES 4.x System. Among the changes was the addition of greater control over the use of password IDs to log onto RES applications. The changes are consistent with industry standards for data security, which includes establishing guidelines for password length and format, rotation periods, and monitoring activity while logged into the system.

Password management occurs on three distinct levels:

<u>Database User</u>

When RES 4.x is first installed, the system creates two active users with a default password and administrative privileges. One is the database administrator (DBA), which may not be deleted from the system. The other is the MICROS user. At the system level, all MICROS applications are run as the MICROS user. Passwords for these accounts can be changed in accordance with established security guidelines and are stored in encrypted format in the Key Store.

If necessary, sites can create additional database users for their own purposes through the Database Manager utility. Typically, these are designed to allow third-party access to the database (e.g., for vendors or support functions).

Users added in RES 4.x are limited to the following database functions:

   ◆   Read-only access to all MICROS tables.

   ◆   Create custom objects (tables, stored procedures, views, etc.).

   ◆   Run all MICROS stored procedures and views.

◆   **Activating Existing Users**

When upgrading from a RES 3.x database, the system retains all of the existing users, but disables their passwords. Users can be activated in the RES 4.x system by entering a password through the Database Manager utility. For security reasons, MICROS recommends entering a password, rather than reentering the existing, inactive value.

Caution!	*Database passwords for "dba" and 'micros' users MUST be changed through Database Manager, not Sybase Central.*
	Once a password has been changed through Sybase, that user will no longer be able to run any of the MICROS applications.

Users who have been ported over and reactivated from a RES 3.x database will retain all the rights and privileges assigned to them in the previous release, including the ability to modify the definition tables. MICROS recommends evaluating these user privileges and then adjusting them according to the needs of the customer.

Administrative Services User

At the operating system level, Microsoft® Windows creates a default administrative user with the necessary rights to manage Services on the local device. However, to communicate between devices and across the network, the system requires an administrative-level user with broader access privileges.

In previous RES versions, the **microssvc** user was created during setup as a MICROS auto logon with the required administrative permissions. This allowed the system to run autosequences, to copy files from one PC to another, and to manage network printing.

In RES 4.x, the MICROS services user (i.e., the **microssvc** user) was discontinued as part of the security upgrade. As a result, some changes had to be made to ensure that requisite stored procedures, autosequences, and print operations would continue to execute across the network.

The primary change was to the Autosequence Server, which was retooled and added as a system Service (*Control Panel | Administrative Tools | Services*). Like all Services, it is set by default to execute as a Local System Account, with local permissions. This will work most of the time, but there are some tasks that will fail because of a permissions issue. Usually, this occurs when attempting to copy files across the network.

If an autosequence fails to execute because of a permissions issue, the Autosequence Server Service must be manually configured to run as a user with administrative privileges on both the local and network PCs. The options for setting the account permissions has always been available by navigating through the Windows Control Panel and right-clicking on a Service to open the *Properties* form.

To simplify setup in RES 4.x, these options were also added to the *System | Restaurant | Security* form in POS Configurator. The Windows functionality is the same. Setting them in either form (POS Configurator or Windows Control Panel) will update the other.

One of the side effects of these changes is that, in the absence of the **microssvc** user, the system does not automatically allow the Windows user administrative rights to log on to the autosequence service. These must be assigned manually, as follows:

1. From the Windows Start Menu, select *Control Panel |
   Administrative Tools | Local Security Policy.*

2. When the form opens, navigate to *Local Policies | User Rights
   Assignment* and double-click the **Log on as a service** option. The
   Local Security Setting form will display.
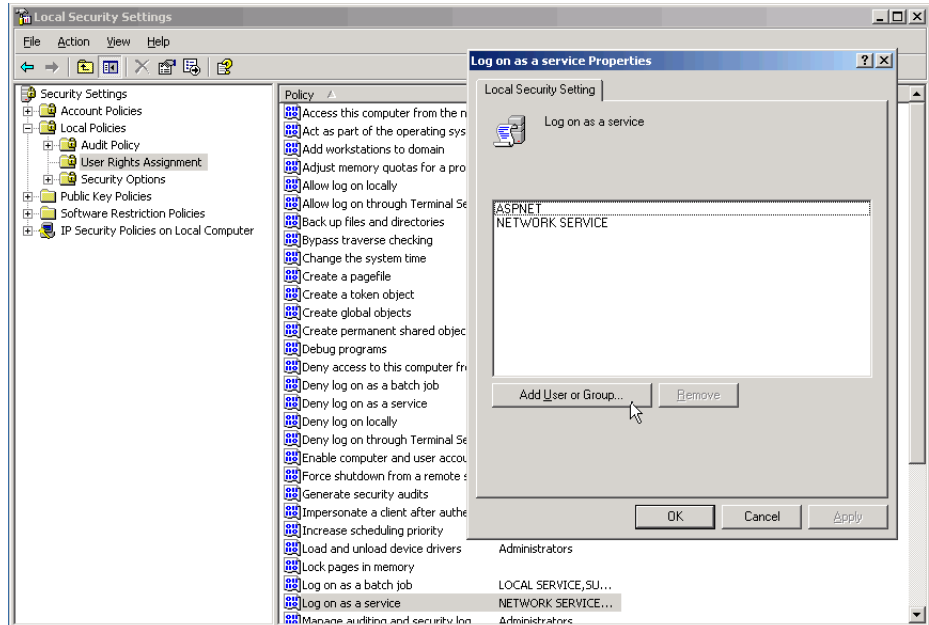
3. Click the **Add User or Group** button. A dialog box will display.
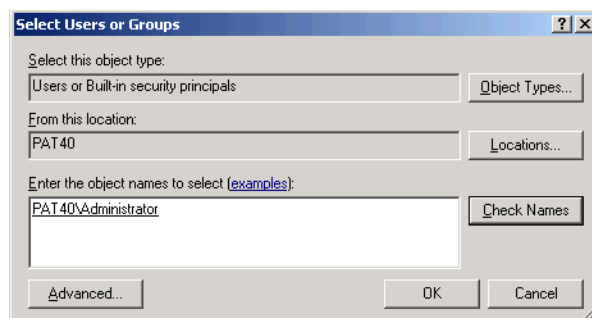
4. Enter the name of a privileged user and click the **Check Names**
   button. If the user is accepted, the entry will be underlined.
   Otherwise, a dialog box will display indicating that the system
   could not locate a Windows user with that name.

5. Click **OK** to continue. The form will close and the user will be added to the list of approved users and groups.

6. Click **OK** to accept the entry.

Note   *After modifying an account link or user passwords, you must stop and restart the Service before the changes will be implemented.*

RES Application User

At the application level, MICROS requires employees to log in using an employee ID and password. In previous RES releases (Version 3.2 or earlier), employees were assigned their user ID when hired, and generally kept it for the duration of their employment.

During POS operations, or when launching any of the RES applications or utilities, a MICROS Security form would display. The user would be prompted to enter a valid **Password ID** in order to open the application. This is referred to as *MICROS Classic Security.*

◆ **Enhanced Passwords**

In RES 4.x, users have the option of keeping the Classic Security model or implementing stricter control over password assignments. Classic Security is the default setting.
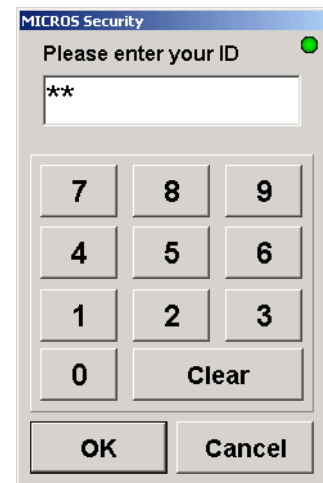
The enhanced security model does not apply to the following RES applications:

- ◆ POS Operations
- ◆ Cash Management
- ◆ Manager Procedures

Sites that opt for the enhanced security model will need to make the following changes in POS Configurator:

◆ Disable the **Use Micros Classic security** option *(System | Restaurant | Security).*

◆ Complete the *Enhanced Password Security* section to control the way passwords are created, validated, and maintained in the alternate system.

◆ Assign valid **User IDs** and **Passwords** (*Employee Setup | Security*) to all active employees.

To differentiate from Classic Security, a second set of options was added for this purpose (see following image). Only one set is valid at a time. Rules for creating and maintaining passwords (length, duration, etc.) is only applicable in the Enhanced Security model.

Classic User Security Passwords

Enhanced Security Passwords
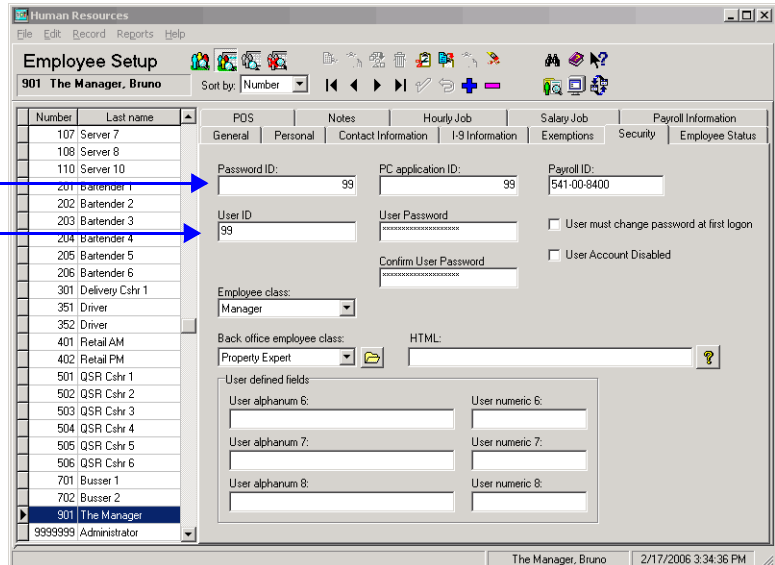
Caution!   *Before closing POS Configurator, be sure to set the passwords for at least one administrative-level employee. Once this application is closed, users will not be able to sign onto any application without a valid User ID **and** Password.*

With Enhanced Security enabled, users who attempt to log on to RES applications will be presented with a different MICROS Security window. The window prompts for both a valid **User ID** and a corresponding **Password** before launching the application. To support alphanumeric passwords, an attached keyboard is required.

User IDs must be unique for the system. However, different users may have the same password.

Options

To support this feature, the following options are available to POS Configurator:

◆ *System | Restaurant | Security*

  ◆ **Use Micros Classic Security** — When checked, allows sites to retain basic password security without implementing the more stringent criteria concerning password lengths, usage, rotation periods, etc.

  ◆ **Days Until Password Expires** — Specifies the number of days that a password will be active. As the expiration time nears, the system will automatically notify the user and prompt for a password.

  ◆ **Minimum Password Length** — Establishes the smallest value allowed for a valid password.

  ◆ **Maximum Idle Time in Minutes** — Specifies how long the current open application may remain idle before the system terminates the secure session.

  ◆ **Maximum Failed Logins** — Limits the number of times a user may unsuccessfully attempt to login before being blocked by the system.

- **Require AlphaNumeric Passwords** — When checked, requires valid passwords to include a combination of letters and numbers. This option is disabled if the site is using Micros classic security.

- **Password Repeat Interval** — Specifies how many times the password entry must be changed before the current one can be repeated.

- *AutoSeqServ Logon* Options

  The following options only need to be changed if additional system access is required to run certain autosequences, such as network report printing and external programs that access network shares.

  - **Local System account** — Directs the current service to log on using the local account and local permissions. This is the default option. Clear this option to have the service log on using a separate account, as defined under the **This account** option.

  - **Allow service to interact with desktop** — When checked, provides a user interface on the desktop that can be accessed by whomever is logged on when the service is started. This option is only enabled when the service is running as a Local System account.

  - **This account** — Directs the service to log on using a specifically defined user account. This allows the user to have access to resources such as files and folders protected by the Windows operating system. This option must be enabled when using enhanced security access.

    In addition to selecting the radio button, programmers must provide a **User Name** for the account and enter the **Password** (and **Confirm Password**). Refer to the *Administrative Services User* section (beginning or page 142) for instructions on configuring this user.

Note	*Enabling this option requires a reboot of the server.*

◆ *Employees | Employees | Security* — These options are only relevant if Micros Classic Security is disabled.

◆ **User ID** — Specifies an identifier for the employee log-on. Up to 20 characters may be entered.

◆ **User Password** — Specifies the entry needed to authenticate the **User ID** and permit access to the system. Password length and composition (text, numbers, or alphanumeric combination) are defined under Enhanced Password security on the *System | Restaurant | Security* form.

◆ **Confirm User Password** — Duplicates the **User Password** for confirmation of entry.

◆ **User must change password at first logon** — When checked, requires the user to immediately change his/her password at the next logon. Although intended for employees, this option can also be used to reset an employee password after the account was disabled.

◆ **User Account Disabled** — When checked, prevents a user from logging onto the system, even with a valid **User ID** and **Password**. This option may be triggered automatically if the employee exceeded the **Minimum Failed Logins** (*System | Restaurant | Security*) required to access the system.

MICROS Security Log

In order to comply with financial agencies (e.g., VISA, CISP, AIS, PCI) that require an audit trail (or log) of all activities that involve access to sensitive data, MICROS maintains a Security Log. The entries posted to the log must be reviewed on a regular basis for irregularities and an audit trail history must be maintained. Should a problem arise with an account, the audit trail would allow investigators to assess whether or not security has been breached, and if so, determine how to prevent such actions in the future.

The Security Log is installed as a custom plug-in to the Microsoft® Event Viewer along with the rest of the RES 4.x software. The default setting is enabled.

<u>Audited Activities</u>

The Security Log was designed to record when potentially sensitive or security-related data is accessed, edited, or deleted on any RES 4.x application. Auditable activities are determined by the system and are posted automatically to the Log.

The following table lists the MICROS applications, options, and activities that are tracked in the Security Log.

Application	Activity
Autosequences & Reports (AutoSeqExec.exe)	◆ All successful and unsuccessful login attempts ◆ Report preview or Report print (including the name of the specific report)
Autosequence Server (AutoSeqExec.exe)	◆ Anytime a report is previewed or printed via a scheduled autosequence (records autosequence number, step, and report name) ◆ Anytime a report is run via POS Operations (records name of logged-in user and report)
Credit Card Utility (CreditCards.exe)	◆ All successful and unsuccessful login attempts ◆ Batch creation ◆ Report preview or Report print (including the name of the specific report) ◆ Access to the batch edit form ◆ Any edits to credit card data (account number, expiration date) on the batch edit form ◆ Batch settlement
Report Explorer (RptExpl.exe)	◆ All successful and unsuccessful login attempts ◆ Report preview or Report print (including the name of the specific report)

Application	Activity

POS Configurator
(Poscfg.exe)
	◆ All successful and unsuccessful login attempts
	
	◆ Access, Edit, or Delete to the following forms:
	
	  ◆ System | Restaurant
	
	    ◆ Business | Settings:
	      - (Save Batch Records) Number of Days
	
	    ◆ Security:
	      - (Enhanced Password)
	        Use MICROS Classic Security
	        Days Until Password Expires
	        Maximum Idle Time in Minutes
	        Minimum Password Length
	        Maximum Failed Logins
	        Require AlphaNumeric Passwords
	        Password Repeat Intervals
	
	    ◆ Options:
	      - (Restrict Access to Employee Data)
	        No Access Limitation
	        Same level or lower
	        Lower level only
	      - (Date/Time)
	        European date format
	        European time format
	      - Weight in kilograms
	
	    ◆ Taxes:
	      - Enable US tax or Canadian GST
	      - Enable Singapore Tax
	      - Enable Canadian Tax
	      - Enable Florida surcharge tax
	      - Enable Japan tax
	      - (VAT Tax Method)
	        Post taxable totals only
	        VAT by round
	        VAT by item
	      - Australian GST is active
	      - GST Prompt Threshold
	      - Enable Thai Tax

Application	Activity

POS Configurator
(Poscfg.exe)
	◆ Sales | Tender/Media
	
	  ◆ General:
	    - Type
	
	  ◆ Tender:
	    - Post to charge receipts
	    - Post to gross receipts
	
	  ◆ CC Tender:
	    - Verify before authorization
	    - Tender must exceed tip
	    - Credit auth required
	    - Credit final amount required
	    - Allow recall
	    - Mask Credit Card Number
	    - Mask Cardholder Name
	    - Debit Card
	    - Require PIN
	    - Prompt for immediate payment
	    - Prompt for issue number
	    - Prompt for issue date
	    - Prompt for option trailer print
	    - Prompt for cashback amount
	    - Prompt for Card Holder Not Present
	    - Expiration date required
	    - Do not check expiration
	    - Open expiration format
	    - Mask expiration date
	
	  ◆ Credit Auth:
	    - CA Driver
	    - EDC Driver
	    - CA tip %
	    - Initial Auth Amount
	    - Secondary Floor Limit
	    - Secondary Difference %
	
	  ◆ Printing:
	    - Print with lookup

| Application	Activity

POS Configurator
(Poscfg.exe)
	◆ Revenue Center | RVC Credit Cards
	
	  ◆ General:
	    - Suppress amount on initial authorization
	    - Suppress linefeeds after voucher
	    - Authorize below CA floor message
	    - Allow 20 reference characters
	    - Confirm customer signature
	    - Disable charged tip
	    - Do not add estimated tips to CC authorization
	    - Disable prompt for Card Holder Not Present
	    - (CA Status)
	      Enable CA status display
	      Display for entire RVC
	
	  ◆ Headers:
	    - CC Voucher Header
	
	  ◆ Trailers:
	    - Customer CC Trailer
	    - Customer Initial Auth Trailer
	    - Customer Optional 2nd Trailer
	    - Customer Cashback Trailer
	    - Merchant CC Trailer
	    - Merchant Initial Auth Trailer
	    - Merchant Optional 2nd Trailer
	    - Merchant Cashback Trailer
	
	  ◆ Floor Limits:
	    - Enable secondary floor limit %
	    - Enable secondary floor limit amount
	
	  ◆ Printing:
	    - Print two vouchers
	    - Print voucher in background
	    - Print initial credit authorization voucher
	    - Print voucher after secondary authorization
	    - Do not print customer name on voucher
	    - Show REPRINT on voucher
	    - Print TOTAL on voucher

Application	Activity

POS Configurator
(Poscfg.exe)
	◆ Revenue Center | RVC Transactions
	
	   ◆ General:
	     - Tax Florida Surcharge
	     - Print/Display lb. weight with 2 decimal places
	
	◆ Employees | Employee Classes
	
	   ◆ Privileges | Privilege Levels:
	     - Mgr Procedures
	     - POS Config.
	
	   ◆ Privileges | Privilege Options:
	     - Use Reports
	     - Clear all totals
	     - Access to apps using password ID
	     - (Credit Card Batch)
	        Create
	        Edit
	        Reporting
	        Settle
	
	   ◆ Options:
	     - Pay canceled credit auth
	     - Mgr Procedures emp ID
	     - POS Configurator emp ID
	
	   ◆ Printing:
	     - Reprint Credit Card Voucher
	
	◆ Employees | Employees
	
	   ◆ Security:
	     - User Account Disabled
	     - User must change password at first logon
	     - User ID
	     - User Password
	
	◆ POS Configurator | Totals
	
	   ◆ Clear All Totals
	   ◆ Clear Labor Totals
	   ◆ Clear Sales Totals

Application	Activity
GSS Backoffice (GSS.exe)	◆ All successful and unsuccessful login attempts ◆ Access to all forms (edits not recorded)
Export Utility (ExportUtility.exe)	◆ All successful and unsuccessful login attempts ◆ All queries run
Transaction Analyzer (Analyzer.exe)	◆ All successful and unsuccessful login attempts ◆ Whenever a query is created ◆ Whenever a query is run ◆ Whenever a query is saved ◆ Records all query details
Database Manager (DM.exe)	◆ All successful and unsuccessful login attempts ◆ Records all DM functions, whether implemented through the user interface (GUI) or from the Command Line.
EM (Mecu.exe)	◆ All successful and unsuccessful login attempts
EM (EMStoreTotalsSynch.exe)	◆ All successful and unsuccessful login attempts
EM (Store Employee Import Utility)	◆ All successful and unsuccessful login attempts
EM (UCTconfig.exe)	◆ All successful and unsuccessful login attempt
EM (MIPriceWiz.exe)	◆ All successful and unsuccessful login attempts
Forecast Setup (ForecastSetup.exe)	◆ All successful and unsuccessful login attempts
Forecasting (Forecasting.exe)	◆ All successful and unsuccessful login attempts
Human Resources (HumanResources.exe)	◆ All successful and unsuccessful login attempts
Labor Management (LM.exe)	◆ All successful and unsuccessful login attempts

Application	Activity
Language Administration (Translate.exe)	◆ All successful and unsuccessful login attempts
MICROS Security Audit Log	◆ Logs rotation of Event Viewer Log (adds an entry to existing log and log
Payroll Preprocessing (PayrollPre.exe)	◆ All successful and unsuccessful login attempts
Product Management (PM.exe)	◆ All successful and unsuccessful login attempts
Scheduling (Scheduling.exe)	◆ All successful and unsuccessful login attempts

Viewing Events

Events posted to the Security Log can be viewed through the Microsoft®
Event Viewer utility (*Start | Programs | Administrative Tools | Event
Viewer*). A sample report is shown below:
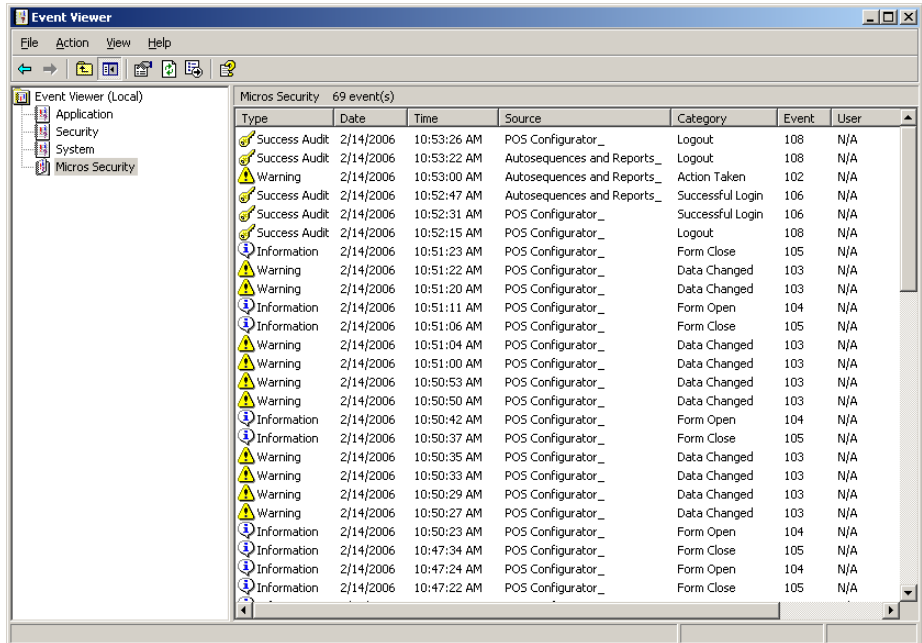
Note	*All users on the Windows 2003 and XP Professional platforms will have read-only rights to the Event Viewer log.*
	To manipulate the file (i.e., backup, delete, etc.), a user must be logged in with Administrative-level privileges. However, on Windows 2003 system, Administrators can use the Policy Editor to assign these rights to non-administrative users.

Users can temporarily limit the number of entries displayed by applying a
data filter (*Action | Properties | Filter*). Filters are only applicable for the
current session. Once the Event View is closed, the filter is removed.
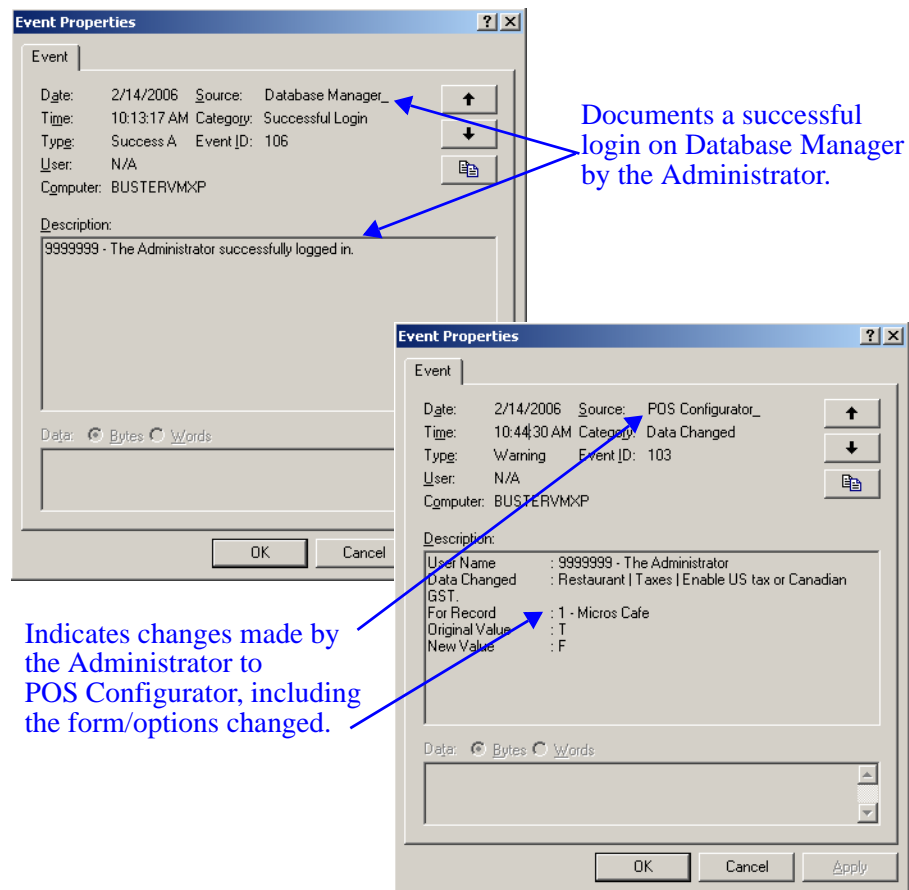
◆ **Viewing Details**

Event details can be viewed by double-clicking the item and opening the individual record. For each event logged, the system provides these details:

◆ **Date** — Date action occurred.

◆ **Time** — Time action occurred.

◆ **Source** — RES 4.x application where the activity occurred.

◆ **Type/Category** — Event label and descriptor. The options are:

Type	Category
Success Audit	Successful Login Logout
Failure Audit	Failed Login
Warning	Data Changed
Information	Form open Form close Action Taken

◆ **Event** — ID number.

◆ **User** — Name of the remote operating system user, if any.

◆ **Computer** — Computer name where event occurred.

◆ **Description** — Details of the event, including the user name, forms accessed (if any), and any changes made to the actual options.

For example:

Documents a successful login on Database Manager by the Administrator.

Indicates changes made by the Administrator to POS Configurator, including the form/options changed.

Audit Trail History

One of the auditing requirements is the ability to retain a backup copy of the MICROS Security Log for historical purposes. This can be done either in the Event Viewer or from the Database Manager application.

◆   **Event Viewer**

Users can backup the MICROS Security Log from the Event Viewer by selecting *Action | Save Log File As* from the toolbar. The system will prompt for a file name and location. By default, all logs are saved as **xxx.evt** files, which cannot be read except through the Event Viewer. They can also be saved as text (***.txt**) and comma-delimited (***.csv**) files for import into an external application.

◆ **Database Manager**

The Database Manager also includes options for backing up the MICROS Security Log, but these are limited. Users can only enter a filename and specify where to store the backup. The default filename is **Microssecuritylogyyyymmdd.evt**.

Risk Management

Maintaining a secure network requires more than encryption and passwords. To ensure data privacy, users must assume some responsibility for establishing a secure work environment and for implementing policies and procedures that protect their system as well as their customer's personal information.

This section includes recommendations for risk management in a highly computerized environment. In addition to standard practices, it describes a number of programming options and processes that, while not explicitly prevented, are strongly discouraged as they may cause problems with and/or compromise the system.

Security Standards

In a secure environment, users are responsible for:

◆ **Securing the Network** — This includes installing and maintaining a firewall, monitoring network access, and regularly performing diagnostics to test the integrity of the security system.

◆ **Changing Passwords** — Once a user is added, it is up to the site to enforce rules on password rotation. Regularly changing passwords (e.g., every 60 or 90 days) reduces the probability that they will be obtained and used by someone outside the system. Similarly, when installing third-party applications, users are responsible for securing the interface by changing default settings and passwords.

◆ **Hiring Policies** — A system is only as secure as the people who operate it. Sites have sole responsibility for their hiring practices, assignment of user IDs, and granting access to the network, servers, workstations, key cards, or other physical devices that might provide access to the data.

Limitations and Recommendations

The following items represent known issues that will impact the secure database:

◆ **Sybase Updates** — All RES products are designed to work with the specific version of Sybase 9 software that is included with the current installation. Users are strongly advised to avoid downloading Sybase updates (either from the Sybase website or by using the automatic upload option from the DBISQL Help option) and applying them to the system.

◆ **Fast User Switching** — This option allows 2 users to log onto the computer simultaneously, and to switch between active users without having the current user log off first. RES 4.x does not support this option on the Windows XP platform. If enabled, it may cause some applications and/or processes to fail.

To disable, open the Windows Control Panel and select *User Accounts | Change the way users log on or off*. When the form displays, clear the option **Use Fast User Switching**.

◆ **SIM Scripts** — Sites using SIM scripts to read track data from a magnetic stripe card should be aware that the FULL track data will be exposed by SIM. For security reasons, users should evaluate any SIM script that involves credit card track data to assess whether or not the script should be used in RES 4.x.

◆ **Enhanced Security** — When using enhanced security, user passwords are not stored in the database in plain text. They are stored with one-way encryption (hashed). Third parties that wished to add employees to the MICROS database (micros.emp_def) must insert the employee record without the user password.

These users will have access to POS Operations, Manager Procedures, and Cash Management through their **Password ID**, but will not have access to other RES applications until a privileged user opens *POS Configurator | Employees | Employees | Security* and assigns a **User Password**.

Configuration   This section is intended to provide a guide for configuring the discussed security features.

Electronic Payments   Electronic Payments are another critical area of the POS environment that is often targeted by attacks. The user can protect their system in the following ways:

◆   Read the Payment Application Best Practices documentation, and follow the steps to secure electronic payments in the database.

◆   Install the Transaction Vault Credit Card Driver.

Payment Application Best Practices

When customers offer their bankcard at the point of sale, over the Internet, on the phone, or through the mail, they want assurance that their account information is safe. That's why Visa USA has instituted the Payment Application Best Practices (PABP) program. The program is intended to protect Visa cardholder data—wherever it resides—ensuring that members, merchants, and service providers maintain the highest information security standard.

Payment Application Best Practices (PABP) is a quick reference guide that provides information concerning MICROS's adherence to the Visa PABP Data Security Standard. This documentation contains a series of steps required by Visa. Please consult the *Payment Application Best Practices Data Security Standard Adherence Documentation* for the appropriate version of RES and implement the suggested practices.

Transaction Vault Credit Card Driver

Traditionally, cardholder data (card number, expiration date, and the cardholder name) is stored by the RES system until it is purged from the system, typically within 90-180 days after settlement. In this environment, it is possible for a site to be the victim of a malicious attack, potentially compromising credit card data.

To provide the best possible protection against these threats, MICROS recommends that the site implement the TransactionVault Credit Card Driver solution. Transaction Vault stores all sensitive data in the TransactionVault, a hosted database at Merchant Link, instead of in the merchant's local RES database. Merchant Link's TransactionVault coupled with MICROS 3700 secures data for the customer, minimizing the potential for security breaches.

The purpose of the TransactionVault feature is to remove sensitive credit card information from the RES data store. This is done by using Merchant Link to provide the card storage at their data center. In exchange, Merchant Link provides a TransactionVault key that replaces all cardholder information at the customer site. The key utilizes leading edge encryption technology, which helps to ensure that only TransactionVault can match the key to access the cardholder information.

For additional information about TransactionVault see the *Transaction Vault Credit Card ReadMe First, MD0003-121*.

PCI Compliance Verified at System Startup

The system will now verify that the site is compliant with the PCI Credit Card Data Security Standard upon starting POS Operations. This will occur if the following conditions are met:

* The site is not in demo mode, and

* At least 1 tender is linked to a non-demo driver.

If the site is not compliant, POS Operations will not start and an error message will appear. The text in the log will indicate the reason why the site was deemed to be non-PCI compliant. All error messages and steps to correct them are listed in the *Error Messages* section on page 38.

The system uses the following criteria to determine a site's PCI-compliance:

* DBA database password is not set to the default.

* MICROS database password is not set to the default.

- Database file encryption passphrase is not set to the default.

- Sensitive data passphrase is not set to the default.

- Complex Security enabled at the site.

- Security is configured as specified in the *RES Version 4.3 Hotfix 1 or Higher Payment Application-Data Security Standard (PA-DSS) Implementation Guide, MD0003-117.* These settings include:

  - **Days Until Expiration** (*POS Configurator | System | Restaurant | Security*). This field specifies the number of days that a password may remain active before it must be changed. This value cannot be greater than 90 days.

  - **Minimum Password Length** (*POS Configurator | System | Restaurant | Security*). Enter the minimum number of characters required for the password length. This field must be set to a minimum of 7.

  - **Password Repeat Interval** (*POS Configurator | System | Restaurant | Security*). Enter the number of different passwords that must be used before an old password can be repeated. This option must be set to a minimum of 4.

  - **Require Alphanumeric Passwords** (*POS Configurator | System | Restaurant | Security*). Select this option to require passwords to contain letters and numbers. This option must be enabled.

  - **Maximum Allowed Failed Logins** (*POS Configurator | System | Restaurant | Security*). Enter the number of failed logins that may occur before locking the user out of his/her account. This value cannot be greater than 6.

  - **Maximum Idle Time** (*POS Configurator | System | Restaurant | Security*). Enter the number of minutes an administrative application will remain idle before the application will undo any saved changes and exit, requiring the user to login again. This setting cannot be more than 15 minutes.

◆ **Mask Credit Card Number** (*POS Configurator | Sales | Tender/ Media | CC Tender*). This option must be enabled to mask all credit card numbers in the database.

◆ **Mask Expiration Date** (*POS Configurator | Sales | Tender/Media | CC Tender*). This option must be enabled to mask all credit card expiration dates in the database.

◆ **Mask Cardholder Name** (*POS Configurator | Sales | Tender/Media | CC Tender*). When enabled, the cardholder name is masked in all displays, logs, reports, journals, and printouts. This option must be enabled.

Error Messages

In the event that a site is not PCI-compliant, POS Operations will fail to start, and the user will be prompted with an error message indicating that the site is not PCI-compliant.

To determine the specific reason why the system is not PCI-compliant, the user should reference the **3700d.log** file or the MICROS Security Event Log. A list of potential messages can be found in the *Error Messages Logged in the 3700d.log File* section.

Error Messages Logged in the 3700d.log File

If the database verbosity is set to 1 or higher, the following messages will be written to the **3700d.log** and the MICROS Security Event log.

If Demo Mode is in use, or credit cards are not used, then the following messages will be written to the log, and POS Operations will start successfully.

- `DbCheckPCICompliance: system in demo mode, skipping PCI verification`

- `DbCheckPCICompliance: CA/EDC not in use, skipping PCI verification`

If the database is configured for production credit cards, and the database is not PCI-compliant, then POS Operations will not start and the following messages will appear in the log. These messages will appear regardless of the verbosity setting.

WARNING! Before Changing the Data Key or the Database Key, all credit card transactions should be batched and settled. The server and clients must be rebooted after changing the key.

- `Error msg – PCI Security Error: Sensitive data passphrase set to default.` The sensitive data passphrase must be changed from the default settings. Go to Database Manager | *Encryption Keys* and select the Data key and press the **[Change Encryption Keys]** button. The system will automatically select a key.

- `Error msg – PCI Security Error: Database passphrase set to default.` This message indicates that the default passphrase must be changed. Go to *Database Manager | Encryption Keys* and select the Database key and press the **[Change Encryption Keys]** button. The system will automatically select a key.

- `Error msg – PCI Security Error: DBA password set to default.` This message indicates that the DBA password should be changed from the default settings. This password must be complex, containing a minimum of 7 characters with both alpha and numeric characters.

- `Error msg – PCI Security Error: MICROS password set to default.` This message indicates that the MICROS password should be changed from the default settings. This password must be complex, containing a minimum of 7 characters with both alpha and numeric characters.

◆ `Error msg – PCI Security Error: One or more tenders not set to mark sensitive data.` One or more of the option bits to mark card number, expiration date, and customer name must be enabled for any tender linked to a production credit card driver in POS Configurator.

◆ `Error msg – PCI Security Error: Complex security not enabled (POScfg | System | Restaurant | Security, Disable "Use Micros Class Security."` Enhanced security must be enabled in POS Configurator, follow the path listed in the error message to make this change.

◆ `Error msg – PCI Security Error: Password expiration setting exceeds maximum allowed (not greater than 90).` The Days Until Expiration field contains a value that exceeds 90 days.

◆ `Error msg – PCI Security Error: Minimum password length less than minimum allowed (at least 7).` The Minimum Password Length field must be set to a value of 7 or greater.

◆ `Error msg – PCI Security Error: Password repeat interval less than minimum (at least 4).` The Password Repeat Interval field should be set to a value of 4 or greater.

◆ `Error msg – PCI Security Error: Alphanumeric passwords not required (must be enabled).` The Require Alphanumeric Passwords field must be enabled.

◆ `Error msg – PCI Security Error: Maximum failed login attempts exceeds maximum allowed (not greater than 6).` The Maximum Allowed Failed Logins field must be set to a value of 6 or lower.

◆ `Error msg – PCI Security Error: Maximum idle time exceeds maximum allowed (no more than 15 minutes).` The Maximum idle time field must be set to a value of 15 minutes or less.

PCI Compliance and Table Pay Service

Please keep the following issues in mind after upgrading a system running Table Pay Service (TPS):

◆ If the system is not PCI-compliant at the time of upgrade, and is later updated to be compliant, then the user must restart TPS. If not, then the device running TPS will continue to indicate that it is "NOT PCI compliant," even after the system is compliant.

◆ To become PCI-compliant, sites must change the DBA and MICROS passwords from the Defaults. If **TPS_Configuration.exe** was set to connect to the DB using either the DBA or MICROS user, then the TPS device will be unable communicate until the defaults are changed.

◆ If the system is not PCI-compliant, the TPS device will print a receipt saying "Not PCI Compliant", however, it will not log the reason(s) why to either the Event viewer or 3700d.log.

Appendix N: MagTek® IPAD Reader Installation

**MagTek® IPAD
Operations**
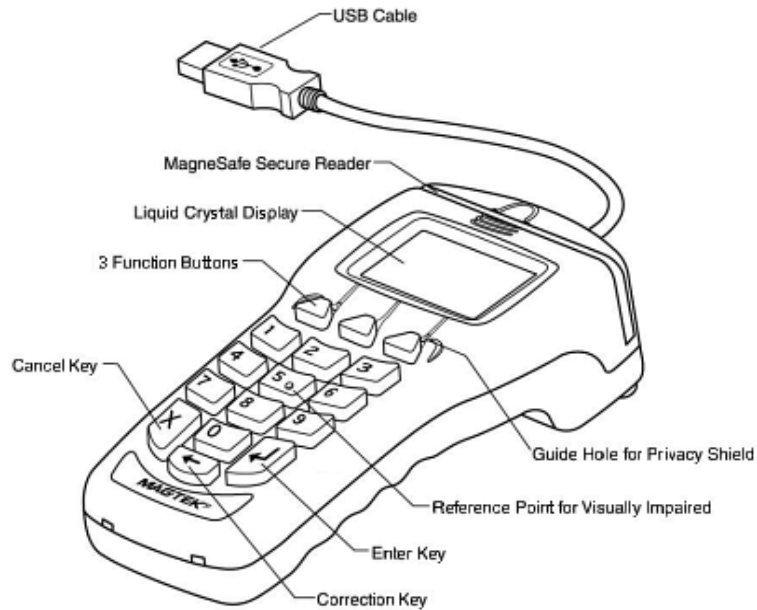
General Information about the MagTek IPAD Card Reading Device:

The IPAD contains a MagneSafe® reader that encrypts card data at the point of swipe to protect the cardholder's personal information. The MagTek IPAD card reader securely reads, decodes, and encrypts card data within the head of the device. This technology secures the magnetic stripe data at the earliest point in the transaction chain-the initial swipe. As a card is swiped through the reader, it can be authenticated immediately by the Merchant Link Host Processor, to determine whether the card is counterfeit or has been altered.

Sample screen showing the IPAD is ready for the next transaction:

Welcome

 For Credit or Gift Card Swipe:

Use the secure reader slot. After pressing the Credit Authorization or desired Gift Card/ Loyalty Card key, the IPAD will display the 'Please Swipe Card' prompt (per the example shown below).

Please Swipe Card

◆ Make sure that the Magnetic Stripe on the card is facing you and the card can be swiped in either direction (i.e. - left to right or right to left).

◆ After the card has been swiped on the IPAD device, the screen displays 'PROCESSING'.

◆ The display then changes to 'APPROVED', and the PC Workstation confirms 'Authorized'.

◆ You can then Service Total or Credit Card Finalize to close the guest check.

> *Note: The integrated Mag Card Reader on the Workstation itself, can still be used for all kinds of employee card swipes. If desired, the MagTek IPAD can read employee cards for Clock-In or Manager Authorizations without any further configuration. In order to use the MagTek IPAD for employee Sign-Ins, a new touchscreen button can be added (Function: Non-Sales/Sign in PINpad swipe).*

Manually Keyed Card Entry:

If there is something wrong with the Magnetic Stripe on a card; to manually enter the card number into the MagTek IPAD Device, press the 'Red X' key. This will display the required data that needs to be entered from the card:

```
ACCOUNT NUMBER
 8888888888888888888
EXPIRATION DATE
 0813
CARD VERIFICATION CODE
 0358
```

- **Account Number** - press the 'Green' key to move down to the next line.

- **Expiration Date** - press the 'Green' key again.

- **CVV Number** - a 3 or 4 digit number on the back of the customer's card; press the 'Green' key again.

- The IPAD device will display 'Processing' and card will either be approved or declined.

> *Note: If a mistake is made while entering data, use the 'Yellow' key to backspace and re-enter.*

Error Handling with a MagTek IPAD:

- ◆ If a 'Card Has Expired' message is received, the IPAD device will display 'CANCELLED' and then return to the 'Welcome' screen.

- ◆ If a '* CHECK DIGIT ERR' message is received, this means that the manually entered card account number is invalid. Re-enter the card number again (per instructions above).

MagTek® IPAD Device Installation Instructions

From the Workstation(s) where the device(s) will be installed;

1. Stop the POS Operations on the Workstation. You will need a keyboard or remote access (i.e.- VNC) to do this.

2. Connect the MagTek device to one of the Workstations USB ports. *Not all USB Ports work. See diagrams on page **172**.

3. Start POS Operations.

4. The MagTek IPAD will say 'Initializing' and then display 'Welcome'.

5. To Test Device: Press the Clock-In Key and the MagTek device should sound a 'beep' tone, then prompt 'Please Swipe Card'.

6. Clear the 'Clock In' dialog box and the MagTek IPAD device is ready for use.

IMPORTANT:

When EMSR Mode is enabled, no other PINPad Payment device type will be allowed. In POSCfg | Devices | User Workstation | Peripherals, make sure that none of the following devices are configured under any clients: PINpad; Mx870 Terminal; ViVOPay or ViVOPay 4800.

The Magtek IPAD does not require any UWS Peripheral configuration.

The Protégé (since it is not a payment device), could be configured and run on a workstation that did *not* have an IPAD connected, but it would have to be a cash only terminal, as it would not be able to accept any kind of electronic payments.

Important USB Connection Instructions

Question:

What USB Ports can be used for connecting the MagTek IPAD device?
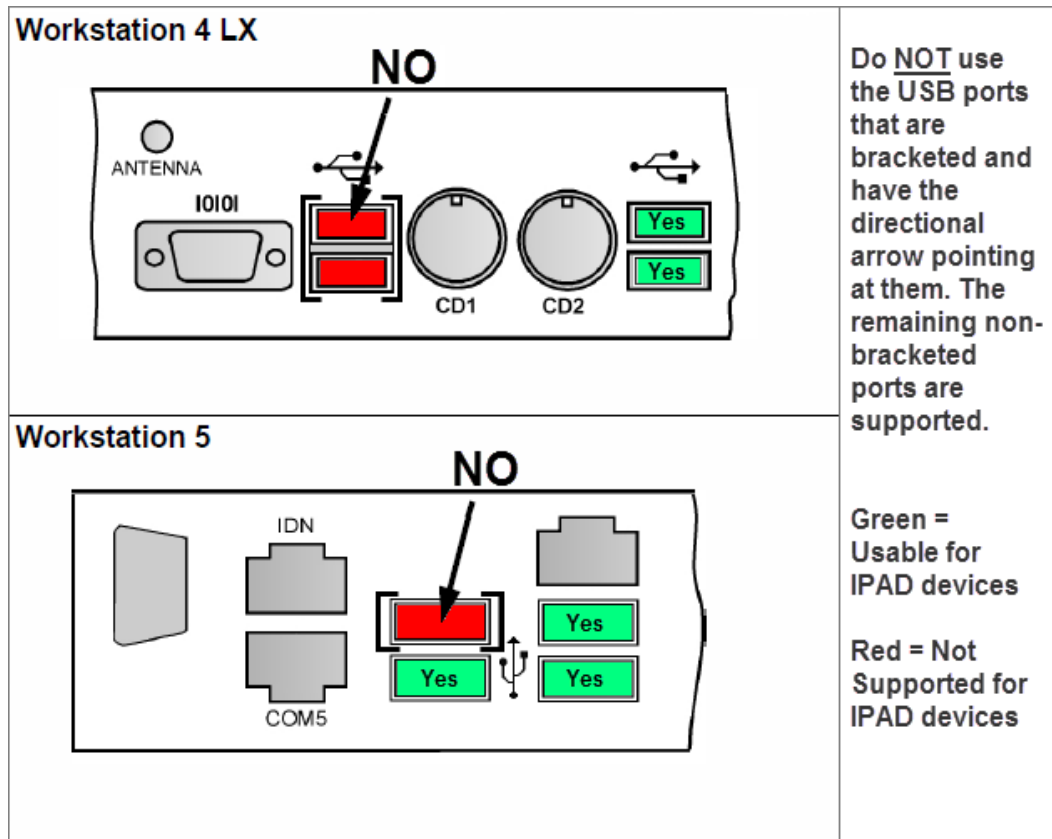
Answer:

PCWS 2010 - All USB Ports

PCWS 2015 - All USB Ports

WS5A - All USB Ports

WS4 LX & WS5 - An IPAD device will *not* work after a reboot on some USB Ports. Please see the diagram below.

WS4 - Not Supported

Troubleshooting

If for any reason the device stops working:

1. Power off the client, then power it back on.

2. Press the Clock-In Key and the MagTek IPAD device should sound a 'beep' tone, then prompt 'Please Swipe Card'.

3. If the device does not respond, then stop POS Operations on the Workstation. You will need keyboard or remote access (i.e.- VNC) to do this.

4. Disconnect the MagTek's USB connection for 10 seconds.

5. Re-connect the MagTek device to one of the Workstations USB ports.

6. Start POS Operations.

Appendix O: Database Update Rules and Solutions

There are rules in place to prevent a database of a higher version from being 'updated' to a lower version.

Since this would generally not work and could easily lead to database errors, we prevent it.

However, in some cases these safeguards can prevent a system from upgrading a database that should be allowed.

Example:

RES 4.10 MR2 (4.10.4.3634) has a higher 4th octet in the build number than RES 4.11 (4.11.1.3616).

In most cases this upgrade will just work because Maintenance Release (MR) patches do not update the 'database' row of the db_version_cfg table, which is what gets compared to the value in the registry to determine if the update will be allowed.

However, if a RES 4.10 MR2 database gets rebuilt for any reason, including changing the encryption keys, then all rows in db_version_cfg will be updated with the new version number and the built-in safeguard will prevent it.

Warning   *These safeguards are in place for a good reason and should NOT be circumvented unless Micros has documented that this update is allowed.*

Solution:

If the system prevents a database from being updated, when it should not, the server's registry can be temporarily changed to allow it.

Example:

If a RES 4.10 MR2 DB has been restored on a RES 4.11 server and the DB update fails, you can verify why it failed by looking in MICROS\Common\Etc\DM.log

Ex: "Cannot update a version 3634 database on a version 3618 system."

Solution:

To successfully update a database that has failed due to version checking, do the following:

1. If a RES patch was run, but failed the DB update, reboot the server.

2. Start | Run, type **regedit** and hit enter.

3. Go to HKLM\Software\Micros\Version and change the value From: 4.11.1.3618

   To: 4.11.1.9999

4. Exit the registry.

5. Start | Run, type **DM -U** and hit enter. Allow the database update to complete.

6. Start | Run, type **regedit** and hit enter.

7. Go to HKLM\Software\Micros\Version and change the value back to it's original value of 4.11.1.3618.

8. Reboot the server.

Warning   *Failing to change the Micros Version back to it's original value in the registry could lead to database errors if an incorrect database is updated, and will also prevent any future patches from running.*

In general, if you restore a 4.11 database from a Maintenance Release (MR) that is lower than the MR currently installed on the RES Server, then Database Manager will "think" it is up-to-date and will not update it to the higher MR. Follow the steps below to update the lower MR database.

Example 1: Restoring a Pre 4.11 Database to a 4.11 MR 4 Server

1. Start Database Manager and restore a 4.9 database.

2. Start the database, open Database Manager and update/upgrade.

Result = It will upgrade the database all the way to 4.11 MR4.

Example 2: Restoring an earlier version 4.11 Database to a 4.11 MR4 Server

1. Use Database Manager to restore a 4.11 MR3 database to a 4.11 MR4 Server.

2. Take Restaurant to Database level using Micros Control Panel.

3. In Database Manager, select "Update/Upgrade Database" and click "Run".

Result = Database Manager window shows: "Database is current, no update needed."

> ***Note:*** *That is not accurate. Database Manager is comparing the 4.11 GR version in the registry to the RES row in Utilities | Version info | Database, which match.*

Solution:

1. In Database Manager | Rebuild/Update, click the folder icon below the "Apply Script" button and browse to Micros\Database\Data\NovaFixRES_411_MR4.mcs.

2. Click "Apply Script".

Result = In about 1 minute Database Manager shows: "Successfully applied Micros Compressed Script to Database."

Verification:

1. Start the database, and open Micros Applications | Utilities | Version Info | Database. Expand the window and scroll to the bottom.

Result = "RES 4.11 Maintenance Release 4"

Example 3: Restoring a 4.11 Database to a 4.11 MR3 Nova Fix A Server

1. There are very rarely any changes to the database in a Nova Fix patch—none in 4.11 MR3 NOVA A, for example.

   If there are database changes, then a new .mcs file will be installed to Micros\Database\Data.

2. Apply the correct .mcs script to the newly restored 4.11 GR database.

   Follow the same steps as Example 2 above. Either select NovaFixRES_411_MR3.mcs, or if there is a newer .mcs from the Nova patch, then select it.