

# Operator's Manual

## Overview

(Read This Document First)

Project: Point-Of-Sale  
Business Application

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### **Please Note:**

Due to ongoing design and development, **Quantum Blue Technology LLC.** may, at any time, and without notification, amend and update either this document and/or the associated “POS Business Application” software package.

## Change History

<b>Date</b>	<b>Version</b>	<b>Author</b>	<b>Reason for Change</b>
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## 1 Scope

This document provides the Overview of the Point-Of-Sale Business Application. This manual should be read first.

### 1.1 General

The Point-Of-Sale (POS) Business Application is designed for the small business and provides networking capabilities not normally available to general Point-Of-Sale systems.

#### 1.1.1 Operating System

The POS Business Application software executes on a standard IBM Personal Computer System (or compatible) which executes one of the following operating systems:

1. Windows Vista
2. Windows XP (Professional or Home Editions, or later versions)
3. Windows 2000 (or later versions)
4. Windows 2000 Server (or later versions)

**Note:** The POS Business Application may operate correctly on previous versions of Windows, however, at this time it has not been verified.

#### 1.1.2 Hardware Requirements

The following minimum IBM PC compatible computer features are required:

- Pentium III 1GHz
- 512MB RAM
- LAN Network Interface
- Video Monitor (800 x 600 minimum)
- Mouse
- Keyboard

The POS Business Application program interface screens have been designed to fit on a monitor set to 800 x 600 pixel resolution. This permits the image to fill the entire screen thereby allowing the text to be easily readable by both the customer and the counter staff.

**Note:** A DVD R/W device would be recommended for storing Server Database Backups.

## 1.2 Server / Client Stations

The POS Business Application executes as either a:

1. Server Station
2. Client Station

**Note:** The term “Server” and “Client” refers to the type of POS Business Application installation and not to the type of operating system executing on the computer.

**Note:** The POS Business Application computer software may be installed on a computer system as either a Server Application or as a Client Application. The same software program is used for both these types of installations.

### 1.2.1 Server Station

In a single computer environment, the computer will be configured as a POS Business Application Server.

In a multiple networked computer environment, one computer will be configured as a POS Business Application Server and the remaining computers will be configured as POS Business Application Clients.

The computer system which is configured to be the POS Business Application Server contain the central databases. These databases are shared over the network with the POS Business Application Client computers. The Server Station is used to perform database import and export operations, as well as database backup and restore operations.

The POS Business Application Server can execute the following modules:

1. Inventory Module
2. Point-Of-Sale Module
3. Accounts Receivable Module

**Note:** Other modules are in the process of being developed.

## 1.2.1.1 License

The POS Business Application (POSBA) may be installed on one or more networked computer systems. Of these computer systems, one is designated the POS Business Application "Server" since it holds the primary databases. Up to 99 POS Business Application "Client" networked computer systems may be associated with this Server system.

The POS Business Application license is a single fixed price license. This license permits the user to install the POS Business Application software on a POSBA Server computer system and also on up to 99 networked POSBA Client computer systems all for one fixed price.

The POS Business Application license is installed on the POSBA Server system.

## 1.2.2 Client Station

In a single computer environment, the computer will be configured as a POS Business Application Server.

In a multiple networked computer environment, one computer will be configured as a POS Business Application Server and the remaining computers will be configured as POS Business Application Clients.

The computer systems which are configured to be the POS Business Application Clients contain copies of various Server databases. The Client Stations constantly monitor the Server databases and download new copies of required databases whenever they have detected that the databases have been updated.

**Note:** The POS Business Application may utilize up to 99 client stations.

### 1.2.2.1 License

Each Client Station accesses the license stored on the POSBA Server system. No additional client license need be purchased.

## 1.3 Recommendations

It is important to note that computer systems are totally dependant upon a clean and reliable power source. If they are not provided with such a power source, hardware disk drive errors may occur – for example, the system power fails during a disk write to a database file. Such events can corrupt disk files making them unusable.

With this in mind, we strongly suggest the use of an uninterruptible power supply (UPS) which will provide a clean power source during normal operation and also supply power for a limited time in the event of a power failure. All computer systems and network Ethernet hub modules should be powered by the UPS. Either a single UPS which can handle the entire load, or several smaller UPS units each handling individual computer systems may be used.

When a power fail condition occurs, the UPS unit(s) will allow the counter staff to continue using the computer systems to complete their current sales. Once all sales have been completed, the computer systems should then be shut down as per the Windows Operating System procedure. The size of the UPS units should be such to provide at least ten (10) minutes of power for each computer system to safely complete this task.

Also, it is important to remember that hard disk drives are electro-mechanical in nature (ie. they have electronic and mechanical internal mechanisms) and do not have an infinite life span. They can either fail gradually or suddenly. When they fail gradually the computer system can appear to operate normally under most conditions but sluggishly when performing certain tasks (ie. performing retries when writing to a specific region of the disk drive). This can be an indication of a drive failure in progress. When a disk drive fails suddenly, it just stops. No amount of begging or pleading will help.

For this reason and since the POS Business Application relies on various database files it is important that database backups are performed frequently and stored off site. This will allow the system to be easily restored if database corruption or disk failure occurs.

## 1.4 End-User License Agreement (EULA)

Please refer to the Installation Manual for a complete description of the End-User License Agreement.

## 1.5 Abbreviations

CSV	Comma Separated Variable
LAN	Local Area Network
PC	Personal Computer
POS	Point-Of-Sale
UPS	Uninterruptible Power Supply

## 1.6 Documents

The following documents describe the entire POS Business Application system and should be read in the following order:

1. Overview
2. Installation
3. System
4. Inventory
5. Point Of Sale
6. Accounts Receivable
7. Import Database (General)

## 2 Overview

The Point-Of-Sale (POS) Business Application accounting software is designed to operate on one or more IBM PC computers each running the Windows operating system.



This POS Business Application provides the following main features:

1. Distributed Encrypted Network Databases
2. System User Password Control
3. Single or Multiple Networked Computer Systems (Server & Client Stations)
4. Point-Of-Sale (POS) Terminal
5. Inventory Control Module
6. Accounts Receivable Module
7. Database Import and Export
8. Database Backup and Restore

**Note:** Other accounting modules are currently under development.

## What sets this product apart from other POS Systems

The principal features which set this POS Business Application Software apart from other POS accounting software systems are the following:

- Ease of Use
- Distributed Encrypted Databases
- Quicker Data Access via Calendar Indexed Databases
- Re-Posting of POS Sales transactions if database recovery is required
- Safe Non-Destructive Database Backup and Restore Operations

### 2.1 Ease of Use

Many POS Systems require their users to have in-depth accounting experience in order to understand how to use their software. The POS Business Application has been designed to be easy to understand and to use.

### 2.2 Distributed Encrypted Network Databases

The main restriction with many Point-Of-Sale accounting systems is their reliance on both the network and on the Server computer system. These accounting systems locate their central database on the server computer and the client computer systems must access this database via the network in order to perform any Point-Of-Sale operations.

A major cause for concern with users of such systems is with regard to what would happen if the network or the server were to fail. If either of these failures were to occur then the client computer systems would not be able to access the central database and would therefore not be able to perform Point-Of-Sale transactions. In this situation, the counter staff would then be required to make hand written sales receipts and refer to previously printed (and perhaps outdated) price lists. This method of operation is tedious, slow and can easily generate errors.

Later, when the Server and/or network are once more operational, the handwritten sale transactions have to be manually entered into the accounting system – another time consuming operation which is also fraught with possible errors.

### **The POS Business Application**

This POS Business Application system, however, is designed to minimize these conditions. It uses a distributed encrypted database and is therefore not totally reliant on the network nor on the Server. Although our Server contains the central database, any changes to this database are passed on to database copies which reside on each Client computer system. If the Server and/or the network were to subsequently fail, each POS

Business Application Client computer system would still contain copies of the latest relevant inventory and accounts receivable databases and may still be used to perform Point-Of-Sale transactions with the current inventory stock part numbers and prices.

Once the Server and network are once more operational, the transaction sales data collected by each POS terminal may then be posted to the Server thereby updating the central database.

All Server and Client databases are encrypted to provide basic system security. For higher level security, the file system encryption features of Windows XP Professional may be utilized.

## **2.3 Calendar Indexed Databases**

General POS accounting systems are very responsive when the system is first installed. As the days and months progress, more and more history data is created and the system can start to get sluggish. After several years of history data has been collected, the system can take a long time to scan an entire database in order to access and obtain specific information pertaining to a report.

In order to minimize this effect, some accounting systems impose database size limitations which restrict the amount of data history which may be retained.

### **The POS Business Application**

Firstly, this POS Business Application has no size limitation regarding the number of years of data history which may be retained.

In order to have direct, fast, access to sales history information, the POS Business Application Sales History database has been indexed by calendar year and month sub-directories. This means that when searching for data pertaining to a specific year and month, the data file for that calendar period can be quickly accessed and the information speedily obtained.

## 2.4 POS Sales Transaction Re-Posting

Most POS accounting systems use the Server to contain the central accounting databases. This database usually also includes the Point-Of-Sale transactions for each POS terminal. At the end of a business period, these POS sales transactions are posted to the sales history database and certain inventory database parameters (eg. the “On Hand” quantity) are updated. Once this posting operation has completed, the original information is then deleted since it is no longer required.

Normally this approach is successful, except under conditions when the database has had to be recovered due to system related problems.

If the database is to be recovered, the current day’s posted (and un-posted) sales transactions for each POS Terminal may be deleted during the database backup restoration process. The sales data for the period between the backup date and the current date will then have to be manually re-entered in order to bring the database up to date. This is another time consuming operation which is also fraught with possible errors.

### The POS Business Application

The POS Business Application, however, keeps each POS terminal’s sales information on local files within each respective computer system. At the end of the business period, the collected sales data is posted to the server and the sales history and Inventory database updated.

With the POS Business Application, the sales data is never deleted after the posting operation. Instead, it is placed into a local database directory and given a unique name which includes the date and time when the posting operation occurred. If a Server related problem were to occur at this point and a prior database was to be restored, the intervening sales data still exists on all POS Terminal computers and can simply be re-posted thereby quickly bringing the Server central database up to date. No manual re-entry of POS Sales transaction data would normally be required.

During the re-posting operation, the POS Business Application software merges the new information with the currently existing information. Since Calendar Indexed Databases are used, the speed of the merging process is optimized since only the sales history file for the re-posting day in question has to be scanned. The merging process also ensures that no duplicate sales entries are stored in the database and that subsequent databases operations (ie. adjustment of the Inventory On-Hand quantity, etc.) only occur once. If multiple re-posting operations were to be performed with a previously posted file no harm would result to the database.

Other POS systems may not allow re-posting since the merging process would involve the scanning of the entire POS history database – a lengthy, time-consuming operation.

## 2.5 Database Backup and Database Restore

During Database Backup operations, some POS Accounting systems use the same backup storage file name and/or location, which may result in the previous backup file being overwritten.

During Database Restore operations the same POS Accounting system's active directory database is overwritten.

With this procedure a healthy database can easily be destroyed if an incorrect restore operation was performed.

### The POS Business Application

The POS Business Application Database Backup operation allows the various databases to be converted to a single backup file for transfer to another storage location or to removable media (eg. removable hard drive, DVD-ROM, etc.). The system generated backup file name is always unique and includes the current date and time and is therefore easily identified as shown in the example below:

For example: `POS_Database_Backup 2007-01-09 11-15-21.BAK`

Each database backup operation will create a new unique backup file and will never overwrite any previous backup file.

The POS Business Application Database Restore operation takes a specified backup file and expands it to create the required system directories and databases. Prior to performing the Database Restoration, the previously existing database directory is renamed and is therefore not overwritten during this process. The Database Restore operation also has the capability of restoring this or any other previously created database directory.

The default Database Backup and Database Restore operations do not erase or modify any existing database files, therefore the user is never faced with the situation where the system database could be overwritten due to operator error. If the user wishes to overwrite the active database directory during a restore operation, an override option is provided.

## 3 Main Features

### 3.1 System User Password Control

The POS Business Application provides user name / password protection access to the various sub-modules. For example, a user may be given access to the Point-Of-Sale module but may be restricted from overriding prices or discount information. If such a request is required a user with the correct authority may log in temporarily to perform the override operation.

The following features are provided:

1. Unlimited number of users
2. Specify access to various system operations

### 3.2 Single or Multiple Networked Computer Systems

The POS Business Application may operate on a single computer system or on a network of computer systems. A single computer installation may be performed initially and some time in the future be converted into a multiple computer system. When a multiple computer system is used, certain server databases are copied to the client system (ie. distributed databases) thereby allowing the client systems to function during network or server failure conditions.

The following features are provided:

1. Single or Multiple Computer System Operation.
2. Up to 99 client stations may be utilized.
3. Descriptive lockout details when another user has locked a database

### 3.3 Point-Of-Sale (POS) Terminal

The Point-Of-Sale screen allows the recording of sales transactions for cash or account customers. The purchase details of the sale are displayed along with discount price and percentage information. A cash sale may utilize cash, check, credit card and gift certificate tender in a single transaction.

The POS terminal may utilize a bar code scanner (keyboard interface). An option is available to place the scanner into manual operation (user enters item quantity manually) or automatic operation (a quantity of 1 is entered automatically).

The following features are provided:

1. Quotes – Create, List, Convert to Sales
2. Sales – Create, List or Retrieve a current sale or a sale from the history database
3. Associate a special instruction message to a quote or to a sale
4. Store customer information if sale above a specific value
5. Specify start of business, paid in, paid out till amounts
6. Re-Printing of Receipts (original or copy)
7. Balance Register Screen and printout
8. Reposting of previous sales data to bring an old restored database up-to-date
9. The ESC/POS or Windows Driver Till Printer Interface

The following POS Register Reports are provided:

1. Register Summary/Full Reports (identify sale items)
2. Register Year Report (Yearly takings)
3. Sales Tax Report

### **3.4 Inventory Control Module**

The POS Business Application Inventory Control Module is used to identify all the information associated with a specific inventory part.

The following Inventory features are provided:

1. Stock number, description, aliases and price break information
2. Category, Brand and Type details
3. Find utility for quick search
4. List, Markup, Level List, Level Markup Pricing (Margin Pricing added later)
5. Storage for Vendor Information and Notes
6. Stock Adjustment screen
7. History display of Inventory transactions

The following Inventory Reports are provided:

1. Quick Stock List
2. Price Book
3. Under Stock Report
4. Over Stock Report
5. Stock Value Report
6. Stocktake Worksheet
7. Stock Labels (prints Bar Code 39)
8. History Report

## 3.5 Accounts Receivable Module

The POS Business Application Accounts Receivable Module is used to identify all information pertaining to an account customer.

The following Account Receivable features are provided:

1. Customer ID, name, phone numbers, billing and shipping addresses.
2. Storage for email and WWW addresses
3. Term Codes and Tax Codes
4. Job Names and Authorization (information displayed on POS screen)
5. Account Statistics (charges, statement, payment, finance charge and aging info)
6. Posted account transaction history
7. Payment / Adjustments (including generation of finance charge transactions)
8. Notes

The following Accounts Receivable Reports are provided:

1. Customer Summary Report
2. Customer Full Report
3. Address Labels
4. Aged Analysis Report
5. Statements

## 3.6 Database Import and Export

The POS Business Application has a database import module which allows data from other POS accounting software systems to be imported. The database import screen allows the user to indicate which data items from specific data files are to be imported into the system.

Data may be imported into the following POS Business Application databases:

1. Accounts Receivable
2. Accounts Receivable History
3. Inventory
4. Inventory History
5. POS Sale History Register
6. POS Sale History Transaction

Data may be exported from the following POS Business Application databases:

1. Accounts Receivable
2. Inventory

**Note:** Future enhancements will include the exportation of other databases.

## 3.7 Database Backup and Restore

The database backup operation is used to keep system backups such that if the need ever arose, a previous copy of the system database may be restored.

The POS Business Application backup and restore operations when compared to other systems is unique in that no files or databases are ever deleted and can easily be recovered. A description of the processes involved is described earlier in this document.

## 3.8 Operator Manual

The various operator manuals may be easily accessed from the main menu. The user may specify which PDF reader is to be used to display the manuals.

The following manuals may be displayed:

1. Overview
2. Installation
3. Systems
4. Inventory
5. Point Of Sale
6. Accounts Receivable
7. Import Database