Integrating Oracle® Receivables with Vertex® Quantum

Release 11*i*

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Integrating Oracle® Receivables with Vertex® Quantum Release 11*i*

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Preface

Welcome to Release 11*i* of the *Integrating Oracle Receivables with Vertex Quantum* implementation guide.

This manual provides you with all the information you need to integrate Oracle Receivables and Oracle Order Management with Vertex Quantum. It is organized for easy access to the following information:

- Implementation procedures
- Day to day operations
- Reconciliation, support, and audit procedures
- Technical reference material
- Commonly asked questions

This preface explains how this guide is organized and introduces other sources of information that can help you.

Audience for This Guide

This guide assumes you have a working knowledge of the following:

- The principles and customary practices of your business area.

- Oracle Receivables

  If you have never used Oracle Receivables, we suggest you attend one or more of the Oracle Receivables training classes available through Oracle University.

- Vertex Quantum

- The Oracle Applications graphical user interface.

  To learn more about the Oracle Applications graphical user interface, read the *Oracle Applications User Guide.*

See Other Information Sources for more information about Oracle Applications product information.

How To Use This Manual

This guide is the primary source of information about integrating Vertex Quantum with Oracle Receivables and Oracle Order Management It contains overviews as well as task and reference information. This manual includes the following chapters:

- Chapter 1 describes the installation and implementation steps required to integrate Vertex Quantum with Oracle Receivables and Oracle Order Management.

- Chapter 2 describes the normal operation of Oracle Receivables and Oracle Order Management when the Vertex products are implemented.

- Chapter 3 provides an overview of the various accounting and business processes required for the Vertex integration.

- Chapter 4 describes the internal communication parameters between Oracle and Vertex, the Oracle tax view functions that support this communication, and how to extend the integration using user descriptive flexfields, Oracle Receivables fields, and the PL/SQL functions. Additionally, this chapter includes some commonly asked questions about using Vertex Quantum with Oracle Receivables.

Assumptions

This guide assumes that you will consult with qualified tax professionals when setting up your system. The examples in this guide are for illustrative purposes only; your specific implementation may be different. This guide also assumes you are familiar with Oracle Receivables. If you have never used Oracle Receivables, we suggest you attend one or more of the Oracle Receivables training classes available through Oracle Education. For more information about Oracle Receivables and Oracle training, refer to the Other Information Sources section below.

This guide also assumes that you are familiar with the Oracle Applications graphical user interface. To learn more about the Oracle Applications graphical user interface, read the *Oracle Applications User Guide.*

Other Information Sources

You can choose from many sources of information, including online documentation, training, and support services, to increase your knowledge and understanding of Oracle Receivables.

If this manual refers you to other Oracle Applications documentation, use only the Release 11*i* versions of those manuals unless we specify otherwise.

Online Documentation

All Oracle Applications documentation is available online in either HTML or PDF format (or both). The technical reference guides are available in paper format only. Note that the HTML documentation is translated into over twenty languages. This guide is available in PDF format only.

Related User Guides

Oracle Receivables shares business and setup information with other Oracle Applications products. Therefore, you may want to refer to other user guides when you set up and use Oracle Receivables.

You can read the guides online by choosing Library from the expandable menu on your HTML help window, by reading from the Oracle Applications Document Library CD included in your media

pack, or by using a Web browser with a URL that your system administrator provides.

If you require printed guides, you can purchase them from the Oracle store at http://oraclestore.oracle.com.

User Guides Related to All Products

Oracle Applications User Guide

This guide explains how to navigate the system, enter data, and query information, and introduces other basic features of the GUI available with this release of Oracle Receivables (and any other Oracle Applications product).

You can also access this user guide online by choosing "Getting Started and Using Oracle Applications" from the Oracle Applications help system.

Oracle Alert User Guide

Use this guide to define periodic and event alerts that monitor the status of your Oracle Applications data.

Oracle Applications Implementation Wizard User Guide

If you are implementing more than one Oracle product, you can use the Oracle Applications Implementation Wizard to coordinate your setup activities. This guide describes how to use the wizard.

Oracle Applications Developer's Guide

This guide contains the coding standards followed by the Oracle Applications development staff. It describes the Oracle Application Object Library components needed to implement the Oracle Applications user interface described in the *Oracle Applications User Interface Standards*. It also provides information to help you build your custom Oracle Developer forms so that they integrate with Oracle Applications.

Oracle Applications User Interface Standards

This guide contains the user interface (UI) standards followed by the Oracle Applications development staff. It describes the UI for the

Oracle Applications products and how to apply this UI to the design of an application built by using Oracle Forms.

User Guides Related to This Product

Oracle Receivables Tax Manual

This manual provides everything you need to know about calculating tax within Oracle Receivables, Oracle Order Management, Oracle Sales, and Oracle iStore. It includes information about implementation procedures, setup forms and windows, the Oracle Receivables tax calculation process, tax reports and listings, and tax–specific open interfaces.

Oracle General Ledger User Guide

Use this manual when you plan and define your chart of accounts, accounting period types and accounting calendar, functional currency, and set of books. It also describes how to define journal entry sources and categories so you can create journal entries for your general ledger. If you use multiple currencies, use this manual when you define additional rate types and enter daily rates.

Oracle Cash Management User Guide

This manual provides information about using Oracle Cash Management to clear your receipts, as well as reconciling bank statements with your outstanding balances, transactions, and receipts.

Oracle Purchasing User Guide

If you install Oracle Purchasing, refer to this user guide to read about entering and managing the purchase orders to which you match invoices.

Oracle Inventory User Guide

This manual explains how to define your items, units of measure classes, units of measure, and unit of measure conversions for use in measuring amounts for your units of production items, as well as other information about setting up and using Oracle Inventory.

Oracle HRMS User Guide

This manual explains how to enter your employees, so you can enter expense reports for them. It also explains how to set up organizations and site locations.

Country–Specific Manuals

Use these manuals to meet statutory requirements and common business practices in your country or region. They also describe additional features added to Oracle Receivables to meet those requirements. Look for a user guide appropriate to your country; for example, see the *Oracle Financials for the Czech Republic User Guide* for more information about using this software in the Czech Republic.

Multiple Reporting Currencies in Oracle Applications

If you use the Multiple Reporting Currencies feature to report and maintain accounting records in more than one currency, refer to this manual before implementing Oracle Receivables. The manual details additional steps and setup considerations for implementing Oracle Receivables with this feature.

Multiple Organizations in Oracle Applications

If you use the Oracle Applications Multiple Organization Support feature to use multiple sets of books for one Oracle Receivables installation, use this guide to learn how to set up and use Oracle Receivables with this feature.

Oracle Receivables User Guide

This user guide explains how to create and maintain transactions, enter and apply receipts, and enter customer information in Oracle Receivables. It also describes the Oracle Receivables open interfaces, such as AutoLockbox which lets you create and apply receipts and AutoInvoice which you can use to import and validate transactions from other systems.

Oracle Applications Flexfields Guide

This guide provides flexfields planning, setup, and reference information for the Oracle Receivables implementation team as well as for users responsible for the ongoing maintenance of Oracle

Applications product data. This guide also provides information on
creating custom reports on flexfields data.

Installation and System Administration Guides

Oracle Applications Concepts

This guide provides an introduction to the concepts, features,
technology stack, architecture, and terminology for Oracle Applications
Release 11*i*. It provides a useful first book to read before an installation
of Oracle Applications. This guide also introduces the concepts behind,
and major issues, for Applications–wide features such as Business
Intelligence (BIS), languages and character sets, and self–service
applications.

Installing Oracle Applications

This guide provides instructions for managing the installation of Oracle
Applications products. In Release 11*i*, much of the installation process
is handled using Oracle One–Hour Install, which minimizes the time it
takes to install Oracle Applications and the Oracle 8*i* Server technology
stack by automating many of the required steps. This guide contains
instructions for using Oracle One–Hour Install and lists the tasks you
need to perform to finish your installation. You should use this guide
in conjunction with individual product user guides and
implementation guides.

Upgrading Oracle Applications

Refer to this guide if you are upgrading your Oracle Applications
Release 10.7 or Release 11.0 products to Release 11*i*. This guide
describes the upgrade process in general and lists database upgrade
and product–specific upgrade tasks. You must be at either Release 10.7
(NCA, SmartClient, or character mode) or Release 11.0 to upgrade to
Release 11*i*. You cannot upgrade to Release 11*i* directly from releases
prior to 10.7.

Using the AD Utilities

Use this guide to help you run the various AD utilities, such as
AutoInstall, AutoPatch, AD Administration, AD Controller, Relink,
and others. It contains how–to steps, screenshots, and other
information that you need to run the AD utilities.

Oracle Applications Product Update Notes

Use this guide as a reference if you are responsible for upgrading an installation of Oracle Applications. It provides a history of the changes to individual Oracle Applications products between Release 11.0 and Release 11*i*. It includes new features and enhancements and changes made to database objects, profile options, and seed data for this interval.

Oracle Applications System Administrator's Guide

This guide provides planning and reference information for the Oracle Applications System Administrator. It contains information on how to define security, customize menus and online help, and manage processing.

Oracle Receivables Applications Technical Reference Manual

The *Oracle Receivables Applications Technical Reference Manual* contains database diagrams and a detailed description of Oracle Receivables and related applications database tables, forms, reports, and programs. This information helps you convert data from your existing applications, integrate Oracle Receivables with non–Oracle applications, and write custom reports for Oracle Receivables.

You can order a technical reference manual for any product you have licensed. Technical reference manuals are available in paper format only.

Oracle Workflow Guide

This guide explains how to define new workflow business processes as well as customize existing Oracle Applications–embedded workflow processes. You also use this guide to complete the setup steps necessary for any Oracle Applications product that includes workflow–enabled processes.

Training and Support

Training

We offer a complete set of training courses to help you and your staff master Oracle Applications. We can help you develop a training plan that provides thorough training for both your project team and your

end users. We will work with you to organize courses appropriate to your job or area of responsibility.

Training professionals can show you how to plan your training throughout the implementation process so that the right amount of information is delivered to key people when they need it the most. You can attend courses at any one of our many Educational Centers, or you can arrange for our trainers to teach at your facility. We also offer Net classes, where training is delivered over the Internet, and many multimedia–based courses on CD. In addition, we can tailor standard courses or develop custom courses to meet your needs.

Support

From on–site support to central support, our team of experienced professionals provides the help and information you need to keep Oracle Receivables working for you. This team includes your Technical Representative, Account Manager, and Oracle's large staff of consultants and support specialists with expertise in your business area, managing an Oracle server, and your hardware and software environment.

Do Not Use Database Tools to Modify Oracle Applications Data

We STRONGLY RECOMMEND that you never use SQL*Plus, Oracle Data Browser, database triggers, or any other tool to modify Oracle Applications tables, unless we tell you to do so in our guides.

Oracle provides powerful tools you can use to create, store, change, retrieve, and maintain information in an Oracle database. But if you use Oracle tools such as SQL*Plus to modify Oracle Applications data, you risk destroying the integrity of your data and you lose the ability to audit changes to your data.

Because Oracle Applications tables are interrelated, any change you make using an Oracle Applications form can update many tables at once. But when you modify Oracle Applications data using anything other than Oracle Applications forms, you might change a row in one table without making corresponding changes in related tables. If your tables get out of synchronization with each other, you risk retrieving erroneous information and unpredictable results throughout Oracle Applications.

When you use Oracle Applications forms to modify your data, Oracle Applications automatically checks that your changes are valid. Oracle

Applications also keeps track of who changes information. But if you enter information into database tables using database tools, you may store invalid information. You also lose the ability to track who has changed your information because SQL*Plus and other database tools do not keep a record of changes.

About Oracle

Oracle Corporation develops and markets an integrated line of software products for database management, applications development, decision support and office automation, as well as Oracle Applications. Oracle Applications provides the E–business Suite, a fully integrated suite of more than 70 software modules for financial management, Internet procurement, business intelligence, supply chain management, manufacturing, project systems, human resources and sales and service management.

Oracle products are available for mainframes, minicomputers, personal computers, network computers, and personal digital assistants, enabling organizations to integrate different computers, different operating systems, different networks, and even different database management systems, into a single, unified computing and information resource.

Oracle is the world's leading supplier of software for information management, and the world's second largest software company. Oracle offers its database, tools, and application products, along with related consulting, education and support services, in over 145 countries around the world.

Your Feedback

Thank you for using Oracle Receivables and this implementation manual.

We value your comments and feedback. This manual contains a Reader's Comment Form you can use to explain what you like or dislike about Oracle Receivables or this manual. Mail your comments to the following address or call us directly at (650) 506–7000.

> Oracle Applications Documentation Manager
> Oracle Corporation
> 500 Oracle Parkway
> Redwood Shores, CA 94065
> U.S.A.

Or, send electronic mail to **appsdoc@us.oracle.com**.

Implementing the Vertex Quantum Integration

This chapter describes the installation and implementation steps required to integrate Vertex Quantum with Oracle Receivables and Oracle Order Management.

Implementing the Vertex Quantum Integration

Oracle Receivables provides a Tax Vendor Extension to integrate external tax calculation programs with Oracle Applications. This Extension lets you provide for complex tax calculations while retaining the full power of Receivables to create and store all other tax data.

The Tax Extension is called whenever a tax rate is calculated by the Receivables Tax Engine. When implemented, the Tax Extension will return a tax rate or amount from the vendor program. Receivables will use this information to create the appropriate tax line(s) and related accounting information.

> **Note:** If your Receivables installation uses multiple organizations (multi–org), the profile option Tax: Use Tax Vendor lets your system administrator control which users can call an installed third party application for tax calculations. The default value is Yes; this indicates that a user can call a third party application to calculate tax. See: Overview of Receivables Profile Options in the *Oracle Receivables User Guide.*

Scope

This implementation guide is for the integration of the tax vendor extension with Oracle Receivables Release 11i. The tax vendor extensions have been implemented using Vertex Quantum.

> ☞ **Attention:** The Vertex Quantum integration is only supported for US state and local taxes. Do not implement this integration for Canada or any other country. For more information on international taxation handling, including Canadian taxes, please refer to the *Oracle Receivables Tax Manual.*

Related Documents

This integration guide is intended as a supplement to the *Oracle Receivables Tax Manual.*

When Implementing Vertex Quantum within Oracle Receivables, you should first review the Implementing US Sales Tax topical essay. Only after completing all of the steps described in that essay should you execute the additional steps required for Vertex Integration. For more information, see: Implementing US Sales Tax in the *Oracle Receivables Tax Manual.*

Sales Tax Rate Interface

Both Oracle Order Management and Receivables provide an interface to load tax rates, zip code ranges, and location names from data files supplied by external vendors. This information is used by the Receivables Customers windows to validate addresses and create compiled sales tax data whenever an address is updated or created.

Receivables provides the sample Vertex SQL*Loader control file, arvertex.ctl. This file will load state, county, city, zip ranges, GeoCodes, and jurisdiction code from the Vertex SEQMAST.dat data file into the Oracle AR_TAX_INTERFACE table. Once loaded, the GeoCode will be automatically used by the Vertex views. For more information, see: Sales Tax Rate Interface in the *Oracle Receivables Tax Manual*.

Tax Database Views and Functions

Receivables provides database views to control which database columns are passed into the Tax Engine to calculate tax for your transaction lines. The database views call PL/SQL functions to provide a consistent and flexible access to vendor–specific data.

Generic Tax Extension

The Tax Extension is called whenever a tax rate is calculated by the Receivables Tax Engine. Tax rates are calculated in the following windows, concurrent programs, and reports:

- Adjustments windows
- AutoInvoice
- Copy Transactions window
- Credit Transactions window
- Quote window (Oracle Sales and Marketing)
- Sales Orders window (Oracle Order Management)
- Sales Order Acknowledgment Report
- Transactions window
- Web Customer Orders

The Tax Extension can be implemented to generate single or multiple tax lines for every invoice line. Receivables will store each tax line in the RA_CUSTOMER_TRX_LINES table.

Integration with Oracle Order Management

Vertex Quantum is fully integrated with Oracle Order Management. At the time of order entry, the tax amount for an order or line is calculated by calling the Receivables Tax Engine. Consequently, if you have installed a Tax Vendor, it will be called to calculate tax on the order in the same way as on the invoice.

> **Note:** Tax on an order is for information only and will be recalculated at the time of invoice creation. This is necessary because tax rates change over time and there could be a significant difference in the rates between the order date and the invoice date.

Integration with Oracle Sales and Marketing

Vertex Quantum is fully integrated with Oracle Sales (OS). At the time of quote entry, the tax amount for the quotation is calculated by calling the Receivable Tax Engine. Consequently, if you have installed a Tax Vendor, it will be called to calculate tax on quotes in the same way as on invoices and sales orders.

Integration with Oracle Web Customers

Vertex Quantum is fully integrated with Oracle Web Customers. At the time of submitting an order to Oracle Order Management, the tax amount for the order is calculated by calling the Receivables Tax Engine. Consequently, if you have installed a Tax Vendor, it will be called to calculate tax on on–line sales orders the same way as on invoices, sales orders, and quotes.

> **Note:** Tax on an order, quote, or an on–line order are for information only and will be recalculated at the time of invoice creation. This is necessary because tax rates change over time and there could be a significant difference in the rates between the order date and the invoice date.

Preparing Receivables

The tax extension is a PL/SQL procedure that is called by the Oracle Tax Engine every time a tax rate is calculated within Receivables or Oracle Order Management.

Load External Tax Information

Receivables provides a sample Vertex SQL*Loader control file, $AR_TOP/bin/arvertex.ctl, to load new locations and tax rates from the SEQMAST data file supplied by Vertex. These programs let you load multiple tax rates for the same location, which may cover different date ranges and postal codes. The following diagram shows how your Tax Vendor's data is imported into Receivables tax tables.

> **Note:** Receivables provides six possible Sales Tax Location Flexfield structures. The sample Vertex SQL*Loader file arvertex.ctl only supports the structure State.County.City. If you select another structure, you will need to modify the SQL*Loader file.

Figure 1 – 1 Sales Tax Rate Interface
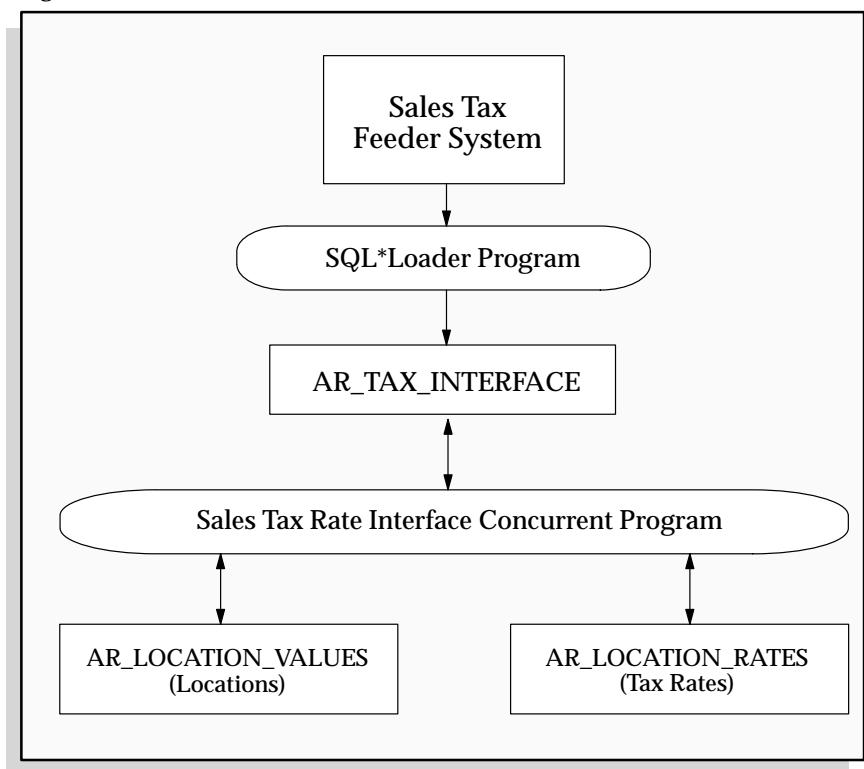
Receivables provides database views to pass tax information to the Tax Engine. You can use these views to control which database columns are passed into the Tax Engine for every transaction line that you tax. The following views have been defined:

- SO_TAX_LINES_SUMMARY_V
  Used by the Order Management Sales Orders window.

- SO_TAX_LINES_CREDIT_CHECK_V
  Used by the Order Management Sales Orders window.

- AS_TAX_LINES_SUMMARY_V
  Used by the Oracle Sales and Marketing Quote Workbench

- TAX_LINES_INVOICE_IMPORT_V
  Used by the Receivables AutoInvoice program.

- TAX_LINES_RECURR_INVOICE_V
  Used by the Receivables Recurring Invoice program (Copy
  Transactions window).

- TAX_LINES_CREATE_V
  Used by the Receivables Transactions Workbench.

- TAX_LINES_DELETE_V
  Used by the Receivables Transactions Workbench.

- TAX_ADJUSTMENTS_V
  Used by the Receivables Transactions Workbench.

For more information, please refer to the *Oracle Receivables Applications
Technical Reference Manual* and the *Oracle Order Management Applications
Technical Reference Manual.*

Figure 1 – 2 Sales Using the Tax Engine to Calculate Tax

Sales & Marketing Quotes Web Customer Storefront	AS_TAX_LINES_SUMMARY_V	
Enter Sales Orders Window (Oracle Order Management) Payment Information Credit Checking	SO_TAX_LINES_SUMMARY_V SO_TAX_LINES_CREDIT_CHECK_V	Tax Engine
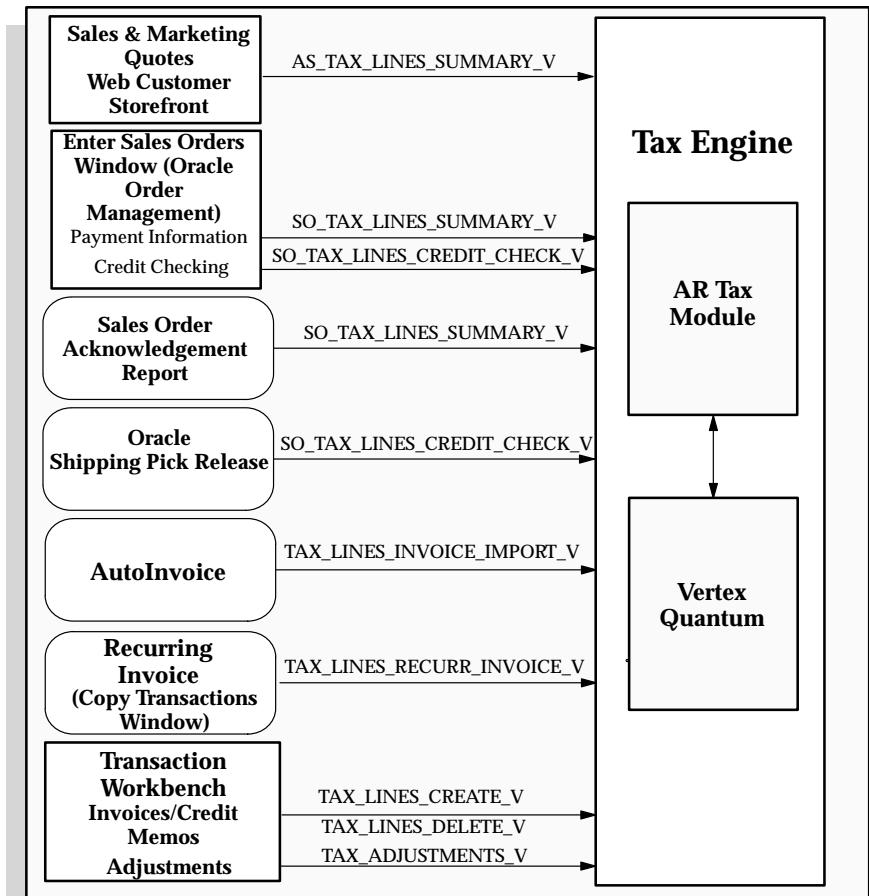
Receivables Tax Engine

The Tax Engine uses the information passed by the database views to calculate tax, regardless of whether an external Tax Vendor is installed. Both the Tax Extension and the AR Tax Module are components of the Tax Engine and are called every time the Tax Engine is requested to calculate tax.

If an external tax vendor is installed, the Tax Engine will use the tax rate or amount returned by the Tax Extension to override the rate or amount calculated by the AR Tax Module. The following table highlights key columns used by your tax vendor.

View Column Name	Description
TRX_NUMBER	Transaction Number
TRX_DATE	Transaction Date
BILL_TO_CUSTOMER_NAME	Bill–to customer name
SHIP_FROM_ADDRESS_CODE	Jurisdiction code for Ship From Address
SHIP_TO_ADDRESS_CODE	Jurisdiction code for Ship–To Address
PART_NUMBER	Inventory Part Number

Table 1 – 1   Columns used by your tax vendor.

Tax Jurisdictions

Within the United States, a tax rate is calculated from Ship–To, Ship From, and Point of Order Acceptance. To implement the Tax Extension using each of these addresses, you will need to store the latter three values in descriptive flexfields at the appropriate level: Invoice Line or Header, or Order Line or Header.

If you use AutoInvoice to import orders from Oracle Order Management, AutoInvoice will populate the item line Transaction Flexfield with packing slip information. This can be used to source the Ship From site use and address for each order. See Integrating Oracle Order Management with Oracle Receivables in the *Oracle Financials Open Interfaces Manual.*

The jurisdiction codes are loaded by the Sales Tax Rate Interface into attribute 1 of the table ar_location_rates. To load vendor jurisdiction codes into the other view columns, you will need to modify the views to join ar_location_rates with your appropriate customized table.

If you require postal code data to nine characters (zip+4) to segregate customer addresses by jurisdiction code, you will need to manually update the address data provided by your Tax Vendor. You can use the Tax Location and Rates window to update the postal code data to comply with your jurisdiction code requirements.

Below is an example of multiple jurisdiction codes within a standard five digit zip code designation:

location_segment_id	from_postal_code	to_postal_code	jurisdiction_code
43 (San Francisco)	94110	94116	code 1
43 (San Francisco)	94117	94117	code 2
43 (San Francisco)	94118	94118–3999	code 3
43 (San Francisco)	94118–4000	94118–9999	code 4

Table 1 – 2   Jurisdiction codes

See Also

Storing Tax Information in Oracle Receivables: page 4–15

Installing the Vertex Quantum Integration

The tax vendors will provide a mechanism to install their PL/SQL packages, tables, data, and any other necessary objects. These database objects should all be created in a separate vendor schema. Once the vendor has been installed, there are several manual steps that need to be performed to enable the functionality.

Character Mode Upgrade

If you are upgrading from Oracle Applications Release 10 character mode applications, integrating with Vertex Quantum using the solution from Design Migration Services, please contact Oracle Design Migration Services or your Oracle account manager for consulting assistance.

Prerequisites

❑ Install Vertex's Quantum Sales and Use Tax version 1.3 (PL/SQL)

If a new version of Vertex is released, you must apply the cumulative Oracle tax patch that is intended to work with the newer Vertex release. Contact your Oracle support representative for more information.

❑ Quantum, TDM, Returns, and implementation training from Vertex, Inc.

❑ Implement US Sales Tax. To do this, you need to perform all of the steps described in the Implementing US Sales Tax essay in the *Oracle Receivables Tax Manual*.

❑ Upload the Vertex SEQMAST data file into Oracle Receivables Address Validation tables. You need to upload this file before loading any customer addresses. This two step process is described in Monthly Procedures: page 3–6.

❑ Validate customer addresses. All Ship–to and Bill–to Customer Addresses within the US must have been validated by Oracle Receivables by setting the Address Validation field in the System Options window to 'Error.'

❑ Oracle SQL*Plus access to the APPS schema

❑ Permission to relink Oracle executables

❑ Test database

☞ **Attention:** Oracle Receivables allows a maximum of 20 characters when entering transaction numbers. However, the Vertex Audit Report displays only 12 characters, so some transaction numbers may be truncated. For this reason, we recommend that you limit transaction numbers to no more than 12 characters when creating them in Oracle Receivables.

Setup Checklist for the Vertex Quantum Integration

Complete the following steps in the order shown to implement the Tax Vendor Extension:

- Step 1   Provide Grants to the APPS Schema
- Step 2   Remove the C Tax Vendor (optional)
- Step 3   Re–create Synonyms
- Step 4   Set Profile Options
- Step 5   Set Up Lookup Code ARTAXVDR: Location Qualifier
- Step 6   Set Up Lookup Code Tax Exemption Reason
- Step 7   Set Up Vendor–Specific Tax Codes
- Step 8   Set Up System Options

- Step 9   Create Index on Vertex Audit Table
- Step 10   Verify Tax Vendor Implementation
- Step 11   Set Up Jurisdiction Codes (optional)

Step 1 – Provide Grants to the APPS Schema

Once the vendors have been installed, certain grants must be given to the APPS schema so that these vendor packages can be executed.

```
CONNECT <Vertex schema>/<Vertex password>
GRANT ALL ON QSU TO <APPS Schema>
WITH GRANT OPTION;
GRANT ALL ON GEO TO <APPS Schema>
WITH GRANT OPTION;
GRANT ALL ON REGPRERETURNSTBL TO <APPS Schema>
WITH GRANT OPTION;
```

Step 2 – Remove the C Tax Vendor (optional)

This step is required only for those who are upgrading from the DMS integration. To use the PL/SQL version of the tax vendor extensions, the C tax vendor extension must be taken out of all Oracle executables. This integration will make obsolete the integration from DMS.

First, the $FND_TOP/usrxit/devenv files VNDARSL and VNDARPL should include the vendor–specific object files. These need to be removed.

The following objects have been defined for Vertex in VNDARPL and VNDARSL. Please remove any references to these objects.

- $(AR_TOP)/lib/arvertex.o
- $(VERTEX_TOP)/lib/libvst.a
- $(VERTEX_TOP)/lib/libloc.a
- $(VERTEX_TOP)/lib/libport.a

Next, relink aiap, AutoInvoice, recurring invoices, OE Transaction Manager, and the reports executables by issuing the following commands:

```
adrelink force=y ranlib=y "fnd aiap"
adrelink force=y ranlib=y "fnd ar25run"
adrelink force=y ranlib=y "ar RAXTRX"
adrelink force=y ranlib=y "ar ARXREC"
adrelink force=y ranlib=y "ar ARTXMT"
```

```
adrelink force=y ranlib=y "oe OEORPC"
adrelink force=y ranlib=y "oe OESREL"
adrelink force=y ranlib=y "oe OEBSHC"
adrelink force=y ranlib=y "oe OECMWC"
adrelink force=y ranlib=y "oe OEIIRA"
adrelink force=y ranlib=y "oe OEKCII"
adrelink force=y ranlib=y "oe OEOBOE"
adrelink force=y ranlib=y "oe OEPREL"
adrelink force=y ranlib=y "oe OERLDI"
adrelink force=y ranlib=y "oe OERLRI"
adrelink force=y ranlib=y "oe OERPRS"
adrelink force=y ranlib=y "oe OESHTM"
adrelink force=y ranlib=y "oe OEVINV"
adrelink force=y ranlib=y "oe OEWREL"
adrelink force=y ranlib=y "oe OEZMAI"
adrelink force=y ranlib=y "oe WSHARI"
adrelink force=y ranlib=y "oe WSHIAR"
adrelink force=y ranlib=y "oe WSHREL"
```

Step 3 – Re–create Synonyms

Once the packages have been installed, you need to recreate certain synonyms to point to the correct vendor packages.

```
CONNECT <APPS_Schema>/<APPS_Password>

DROP SYNONYM ARP_TAX_VERTEX_QSU;
DROP SYNONYM ARP_TAX_VERTEX_GEO;
DROP SYNONYM ARP_TAX_VERTEX_AUDIT;

CREATE SYNONYM ARP_TAX_VERTEX_QSU FOR <Vertex
Schema>.QSU;
CREATE SYNONYM ARP_TAX_VERTEX_GEO FOR <Vertex
Schema>.GEO;
CREATE SYNONYM ARP_TAX_VERTEX_AUDIT FOR <Vertex
Schema>.REGPRERETURNSTBL;
```

Step 4 – Set Up Profile Options

The following profile options are used by the tax vendor extension:

Profile Name	Default Value	Description
Tax: Use Tax Vendor	Null	Use this option to indicate whether the vendor tax engine should be used. (The default value indicates that the tax vendor is *not* used.)
Tax: Use PL/SQL Vendor	Null	This indicates which tax vendor are used in a multi–org environment where multiple tax vendors are installed.
Tax Vertex: Case Sensitive	No	This indicates whether tax calculation queries to the Vertex Tax Decision Maker (TDM) are case sensitive. Set this profile option to Yes to improve system performance.
Tax Vertex: Use Secondary Taxes	Use Secondary Tax	This indicates whether secondary taxes are returned to Oracle (you should accept the default value).
Tax: Calculate Tax on Credit Memos	No	Set this option to Yes to post credit memo transactions to the Vertex audit file.

Table 1 – 3   Profile Options and Default Values

Step 5 – Set Up Lookup Code ARTAXVDR: Location Qualifier

The lookup code ARTAXVDR: Location Qualifier determines whether tax lines should be created separately for State, County, and City, or if the tax rates and amounts should be summed up into one tax line. Use the Receivables QuickCodes window to define this lookup code.

Oracle Receivables Lookups

					Access Level		Security Group

Type **ARTAXVDR_LOC_QUALIFIER**
User Name **Artaxvdr Loc Qualifier**
Application **Oracle Receivables**
Description **ARTAXVDR: Location Qualifier**

Access Level
○ User
● Extensible
○ System

Security Group
● Standard
○ Custom

Code	Meaning	Description	Tag	Effective Dates From	To	Enabled [ ]
ALL	ALL	Sales Tax		14/JAN/1999		☑ .
CITY	CITY	City		14/JAN/1999		☐ .
COUNTY	COUNTY	County		14/JAN/1999		☐ .
STATE	STATE	State		14/JAN/1999		☐ .
						☐
						☐
						☐
						☐
						☐
						☐

Navigate–> Setup–> System –> QuickCodes –> Receivables

Required Setup: Enable ALL and disable STATE, COUNTY, and CITY to get a consolidated, single tax line.

Step 6 – Set Up Lookup Code Tax Exemption Reason

When storing tax exemptions in Oracle Receivables, use the Receivables Lookups window to set up the Tax Exemption Reason lookup code. These reason codes are used by the tax vendor in determining the exemption reason and are restricted in the number of characters that are used by the vendors.

☞ **Attention:** Vertex is restricted to 1 character of the Exemption Reason QuickCode Name. Therefore, define these exemption reasons such that the first character is unique.

Step 7 – Set Up Vendor–Specific Tax Codes

When using the tax vendor extensions, you need to define a location–based tax. Only location–based taxes will be calculated by the tax vendor extensions.

This integration will generate one tax line per invoice. The State, County, City, and District amounts are held in the Global Descriptive Flexfield for the tax line. This enhancement enables Oracle to provide a more detailed level of tax reporting and reconciliation without requiring three tax lines per invoice line and multiple tax codes.

Oracle Receivables will use the Tax Account identified in the Tax Locations and Rates window to control the tax liability posting so that each state may have its own state tax liability account.

Step 8 – Set Up System Options

The default tax views will not work properly with the tax vendor extensions. These views should be replaced with the vendor tax views provided. These views have been installed under a different name (see below).

System Options (Vision Operations)

| Accounting | Tax | Tax Defaults and Rules | Trans and Customers | Miscellaneous |

Tax Method **Sales Tax**

Location Flexfield Structure **State.County.City**

Postal Code Range **00000** – **99999-9999**

Address Validation **Error**   ☑ Compound Taxes

Invoice Printing **Itemize And Sum**

Tax Registration Number **98-7895444**

Tax Vendor Views **Vertex**

Sales Tax Geo Override

☐ Inclusive Tax Used

Rounding Options

Calculation Level **Line**

Rounding Rule **Nearest**

Reporting Currency **USD**

Precision **2**

Min Accountable Unit

☐ Allow Override

In the Tax tabbed region of the System Options window, set the Tax Vendor Views field to Vertex. This changes the database views for this organization so that they will use the data source derived from the Vertex views.

Step 9 – Create Index on Vertex Audit Table

During the rollback phase of AutoInvoice, the program deletes invalid transactions from the Oracle Receivables interface tables. You need to create an index for the column TRANSUSERAREA in the Vertex table REGPRERETURNSTBL so Vertex can identify the invoices to delete.

To create this index, perform the following:

1. Login to SQLPLUS in the Vertex Schema.

2. Enter the following SQL command:

```
CREATE INDEX <INDEX_NAME> ON
REGPRERETURNSTBL(TRANSUSERAREA);
```

where `<INDEX_NAME>` is unique within the Vertex schema.

☞ **Attention:** Do not insert data into TRANSUSERAREA. This column is used by Oracle Receivables.

Step 10 – Verify Tax Vendor Implementation

Perform the steps below to verify that the tax vendor was implemented successfully.

Note: After each step, confirm that the vendor's tax reports reconcile to Oracle Receivables.

- Create Customer Addresses

  Customer addresses are validated against existing locations.

- Create a sales order and run the Sales Order Acknowledgment Report.

  The tax vendor extensions have been integrated with Order Management to allow tax estimations to be calculated.

- Import a sales order using AutoInvoice

  Tax will be calculated using the vendor tax extensions on invoices imported from Oracle Order Management or other feeder systems.

- Maintain Imported Invoices using the Transaction Workbench

Any modifications to imported invoices will be reconciled with your vendor's tax reports.

- Credit this invoice

  When you create credit memos, tax amounts will always reconcile to your vendor's tax reports.

- Adjust the invoice

  Tax adjustments will reconcile with your vendor's tax reports. Only approved adjustments of type 'Tax' are reflected in your vendor's tax reports. This lets you control which write-offs have recoverable sales tax from the state, county, and city.

- Copy (Recur) this invoice

  Tax will be calculated using the vendor tax extensions on recurred invoices.

- Create an invoice in the Transaction Workbench

  Tax will be calculated using the vendor tax extensions on manual invoices created from within Oracle Receivables.

- Create an exempt order

  Oracle Receivable exemptions can be used to calculate tax with the vendor tax extensions.

Step 11 – Set Up Jurisdiction Codes (optional)

You can implement descriptive flexfields and use standard fields available in Oracle Receivables windows to extend the basic functionality of this integration. Specifically, Warehouse GeoCode, Salesperson GeoCode, and Customer Addresses GeoCode can be used to support tax calculations using both ship–from and ship–to addresses. For more information, see: Storing Tax Information in Oracle Receivables: page 4–15.

2

Tutorial

This chapter describes the normal operation of Oracle Receivables and Oracle Order Management when the Vertex products are implemented. Use this tutorial to learn how your daily transactions are reflected in the Vertex Sales Tax Register.

Tutorial

This section describes the Demonstration Script for a standard implementation.

Create Customer Addresses

When creating a new address for a customer, the state, county, city, and zip code are validated against existing locations. These locations are imported into Oracle Receivables using the Vertex SEQMAST file and the Receivables Sales Tax Rate Interface. In this way, each customer site is guaranteed to have an address that is associated with a valid jurisdiction code.
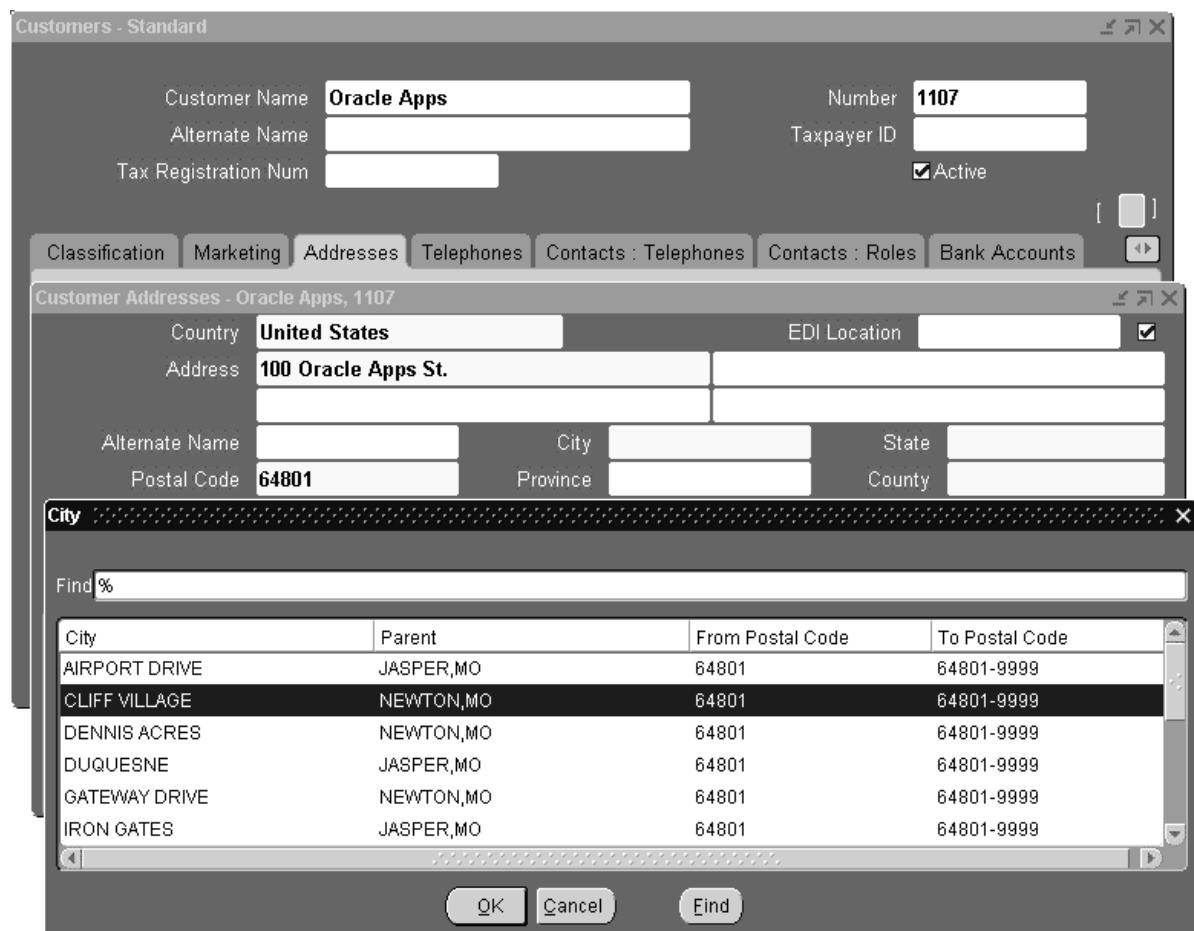
When entering the address, the zip code can be used to automatically populate the state, county, and city. In cases where multiple jurisdiction codes are available for a particular zip code, a pop up list will appear as shown below.

In this example the zip code 64801 is defined in several jurisdictions in the state of Missouri. The poplist helps you select the correct jurisdiction code for your addresses.

Create a Sales Order

Sales orders can be created in Oracle Order Management and the tax amount will be calculated automatically. The sales order includes the customer (which defines the ship–to address) and the salesperson can be assigned the point–of–order acceptance. Also, if the order is a shipped order, the warehouse from which the order is shipped will define the ship–from address.

Tax Calculation on Sales Orders

The tax calculated on a sales order is an estimation since many factors, including the ship–to address, can change. Also, since there is no accounting for the tax amounts at this time, the vendor will calculate the tax, but will not update its audit files.

Sales Orders (97989) - Oracle Apps

Order Information | Line Items

Order Total   **13,978.30**

Main | Pricing | Shipping | Addresses | Returns | Others

Line	Ordered Item	Qty	List Price	Line Charges	Tax Amount	Payment Terms
1.1	f80000	1	10,000.00		510.00	2/10, Net 30
2.1	f82000	3	1,100.00		168.30	2/10, Net 30

Line Total   **3,300.00**   Line Qty

Description   **Consulting/Training**

Actions   Configurator   Availability   Book Order

Run the Sales Order Acknowledgment Report

Use the Sales Order Acknowledgment Report to view the order on a printed document. The tax is calculated by the vendor and is summarized by tax rate. As with the creation of the sales order, since there is no accounting for the tax amount here, the vendor does not update its audit files with this tax amount.

The following report shows the order entered in the previous steps. The two order lines are shown with the tax amount for both lines summarized. The total sales order amount is displayed at the end of the page.

Figure 2 – 1 Sales Order Acknowledgement Report

Import Sales Orders Using AutoInvoice

Orders created in Oracle Order Management or documents created in other feeder systems can be imported into Oracle Receivables using AutoInvoice. Tax will be calculated using the vendor tax extension. AutoInvoice will generate the accounting and sales credits, creating a fully validated invoice in Oracle Receivables.

The figure below shows the invoice imported from the order created in the previous steps.

Invoice Lines from an Imported Order

The order lines are imported by AutoInvoice and the following invoice lines are created. The top section of the window shows the totals for the transaction, lines, tax, and freight.

	Transaction	Lines	Tax	Freight	
Total	13,978.30	13,300.00	678.30	0.00	☑

Main | Sales Order | Tax Exemption | Rules | More

	Num	Item	Description	UOM	Quantity	Unit Price	Amount	Tax Code
■	1	f82000	Consulting/Training	Each	3	1100	3,300.00	Location
	2	f80000	Sentinal Multimedi	Each	1	10000	10,000.00	Location

Distributions | Sales Credits | Freight | Tax

Accounting for the Imported Order

The accounting entries are created for the imported order, including the accounting for the tax lines calculated by the tax vendor extension.

Accounting (Vision Operations: USD) - Oracle Apps, 10002829

Accounts For All Lines

Transaction Line

Detail Line Number

		Class	GL Account	GL Date	%	Amount [ ]
		Receivable	01-000-1210-0000-000	14/NOV/2000	100.0000	13,978.30
		Rounding Di	01-000-1110-0000-120	14/NOV/2000	100.0000	0.00
1		Revenue	01-000-6410-0000-000	14/NOV/2000	100.0000	3,300.00
1	1	Tax	01-000-2520-0000-000	14/NOV/2000	100.0000	168.30
2		Revenue	01-000-6410-0000-000	14/NOV/2000	100.0000	10,000.00
2	1	Tax	01-000-2520-0000-000	14/NOV/2000	100.0000	510.00

Total

GL Posted Date

Comments

Description **Operations-Balance Sheet-Accounts Receivable-No Sub Account-No Product**

Tax Account

Description

Line Amount

Accounting Rule

Balances

The Balances window shows the balance due for the Line, Tax, Freight, and Bank Charges. The balance can be modified by applying payments, credit memos, adjustments, or early payment discounts. The tax balance will reconcile with your vendor's tax reports.

Balances (Vision Operations: USD) - Oracle Apps, 10002829

○ Entered Currency   ● Functional Currency   Currency **USD**

	Line	Tax	Freight	Charges	Total
Original	13,300.00	678.30	0.00		13,978.30
Receipts	0.00	0.00	0.00	0.00	0.00
Credits	0.00	0.00	0.00		0.00
Adjustments	0.00	0.00	0.00	0.00	0.00
Discount	0.00	0.00	0.00		0.00
Balance	13,300.00	678.30	0.00	0.00	13,978.30

Vertex Tax Reports (After AutoInvoice)

The vendor tax reports will reconcile with the balances in Oracle Receivables. The following report shows the result of importing the order with AutoInvoice.

```
RELEASE:  1.3  07/03/1998                                                                   PAGE   1
RUN DATE 12/01/2000                    SALES TAX REGISTER - DETAIL (PRE)      TRANS PERIOD:   START - END
                                                                             INVOICE PERIOD:  START - END
COMPANY-CD: ALL   DIVISION-CD: ALL   TYPE: ALL        SUBTYPE: ALL        TAX-TYPE: ALL    STATE: ALL


                          STATE              COUNTY             CITY           DISTRICT           TOTAL TAX
---------------------------------------------------------------------------------------------------------------
.........MISSOURI
---------------------------------------------------------------------------------------------------------------
CITY: CLIFF VILLAGE          COUNTY: NEWTON     GEOCODE: 26-145-3755 STR:       T 26-145-3755 F 26-145-3755 A 26-145-3755
   COMPANY-CD: 01    DIVISION-CD: 01    CUST-CD: 1107                 TRANS-CD: N  TYPE: SALE    SUBTYPE: P
   EXEMPT CERTIFICATE #:
   INV: 10002829    DATE: 11/14/2000  LINE: 00001  PROD-CD: f82000                   USER: 12114
   TAX RATE/TYPE-----        .042250 S           .008750 S         .000000 ZS         .000000 ZS
   GROSS SALES-------       3,300.00            3,300.00           3,300.00           3,300.00
   ZERO RATE AMT-----           .00                 .00            3,300.00           3,300.00
   TAXABLE AMT-------       3,300.00            3,300.00               .00                .00
   TAX AMT----------         139.42               28.88                .00                .00              168.30
CITY: CLIFF VILLAGE          COUNTY: NEWTON     GEOCODE: 26-145-3755 STR:       T 26-145-3755 F 26-145-3755 A 26-145-3755
   COMPANY-CD: 01    DIVISION-CD: 01    CUST-CD: 1107                 TRANS-CD: N  TYPE: SALE    SUBTYPE: P
   EXEMPT CERTIFICATE #:
   INV: 10002829    DATE: 11/14/2000  LINE: 00001  PROD-CD: f80000                   USER: 12114
   TAX RATE/TYPE-----        .042250 S           .008750 S         .000000 ZS         .000000 ZS
   GROSS SALES-------      10,000.00           10,000.00          10,000.00          10,000.00
   ZERO RATE AMT-----           .00                 .00           10,000.00          10,000.00
   TAXABLE AMT-------      10,000.00           10,000.00               .00                .00
   TAX AMT----------         422.50               87.50                .00                .00              510.00
---------------------------------------------------------------------------------------------------------------
CITY TOTALS-----: CLIFF VILLAGE
   GROSS SALES-------      13,300.00           13,300.00          13,300.00          13,300.00
   ZERO RATE AMT-----           .00                 .00           13,300.00          13,300.00
   TAXABLE AMT-------      13,300.00           13,300.00               .00                .00
   TAX AMT----------         561.92              116.38                .00                .00              678.30

COUNTY TOTALS---: NEWTON
   GROSS SALES-------      13,300.00           13,300.00          13,300.00          13,300.00
   ZERO RATE AMT-----           .00                 .00           13,300.00          13,300.00
   TAXABLE AMT-------      13,300.00           13,300.00               .00                .00
   TAX AMT----------         561.92              116.38                .00                .00              678.30

STATE TOTALS----: MISSOURI
   GROSS SALES-------      13,300.00           13,300.00          13,300.00          13,300.00
   ZERO RATE AMT-----           .00                 .00           13,300.00          13,300.00
   TAXABLE AMT-------      13,300.00           13,300.00               .00                .00
   TAX AMT----------         561.92              116.38                .00                .00              678.30
---------------------------------------------------------------------------------------------------------------

   ------------------------------------------------TAX-SUMMARY------------------------------------------------

        SALES TAX          561.92              116.38                .00                .00              678.30
        USE TAX               .00                 .00                .00                .00                 .00
       RENTAL TAX             .00                 .00                .00                .00                 .00
      OVERRIDE TAX            .00                 .00                .00                .00                 .00
       SERVICE TAX            .00                 .00                .00                .00                 .00
   CONSUMER USE TAX           .00                 .00                .00                .00                 .00
   ------------------------------------------------------------------------------------------------------------
      TAX TOTALS           561.92              116.38                .00                .00              678.30
```

Inserting New Lines

Invoices imported using AutoInvoice can be maintained using the Transaction Workbench. Modifying attributes such as the transaction date or customer will force the invoice lines to recalculate the tax using the tax vendor extension. Additionally, invoice lines can be deleted, updated, or inserted.

The following figure shows a third invoice line being added to the imported invoice.

Lines (Vision Operations: USD) - Oracle Apps, 10002829									⤯ ⤢ ✕

	Transaction	Lines	Tax	Freight	
Total	16,080.30	15,300.00	780.30	0.00	☑

Main | Sales Order | Tax Exemption | Rules | More

Num	Item	Description	UOM	Quantity	Unit Price	Amount	Tax Cod
1	f82000	Consulting/Trainin	Each	3	1100	3,300.00	Location
2	f80000	Sentinal Multimedi	Each	1	10000	10,000.00	Location
3	f81000	One Year Maintena	Each	1	2000	2,000.00	Location

Distributions | Sales Credits | Freight | Tax

Update Invoice Lines

In the figure below, the quantity of the third invoice line is changed from 1 to 3. The original tax amount for this invoice line will be deducted from the vendor's audit files and the new tax amount will be inserted.

Any modifications to the tax amounts will always be maintained across the vendor's audit files.

	Num	Item	Description	UOM	Quantity	Unit Price	Amount	Tax Cod
	1	f82000	Consulting/Training	Each	3	1100	3,300.00	Location
	2	f80000	Sentinal Multimedi	Each	1	10000	10,000.00	Location
	3	f81000	One Year Maintena	Each	3	2000	6,000.00	Location

Lines (Vision Operations: USD) - Oracle Apps, 10002829

	Transaction	Lines	Tax	Freight
Total	20,284.30	19,300.00	984.30	0.00

Main Sales Order Tax Exemption Rules More

Distributions   Sales Credits   Freight   Tax

Credit the Invoice

Manual credit memos can be applied to an invoice through Oracle Receivables. The tax amounts for this credit memo will always reconcile to your vendor's tax reports.

| Credit Transactions (Vision Operations: USD) - Oracle Apps, 10002831 | ⌄ ⌐ ⤢ X |

Credited Transaction

Number		10002829	Source **Order**

Credit Memo

Batch	**None** ▾	Batch Name		
Source	**Order**	Date	**14/NOV/2000**	☑ Complete
Number		10002831	Reference	Trans **ORDE**
Reason		Type	**Credit Memo**	
GL Date	**14/NOV/2000**	Rules Method	▾	
Currency	**USD**	Split Term Method	▾	[ ]

Transaction Amounts | More

	Credit Memo %	Amount	**Credited Transaction** Original	Balance Due
Line	10.0000	<1,930.00>	19,300.00	17,370.00
Tax	10.0000	<98.43>	984.30	885.87
Freight				0.00
Total	10.0000 %	<2,028.43>	20,284.30	18,255.87

| Incomplete | Credit Balance | Credit Lines |

Adjust the Invoice

As with manual credit memos, manual adjustments can be applied to your invoice and the tax amounts will also reconcile to your vendor's tax reports. Only approved adjustments of type 'Tax' will be applied to the vendor's tax reports. This gives you greater control over which adjustments should reduce the sales tax liability. If you have adjustments of type 'Tax' that you do not want to post to Vertex, see: Storing Tax Information in Oracle Receivables: page 4–15.

Adjustments (Vision Operations) - Oracle Apps, 10002829, 1

Installment

	Line	Tax	Freight	Charges	Total
Original	19,300.00	984.30	0.00		20,284.30
Balance	17,370.00	785.87	0.00	0.00	18,155.87

Adjustments <100.00>   Pending Adjustments

Adjustments

Main | Account, IDs | Comments

Number	Activity Name	Type	Includes Tax Amount		GL Date	Adjustment Date
3871	Write off---	Tax	<100.00>	☐	14/NOV/2000	14/NOV/2000
				☐		
				☐		
				☐		
				☐		
				☐		

Copy (Recur) an Invoice

When you copy (recur) transactions, tax will be calculated using the tax vendor extension on all copied invoices.

Copy Transactions (Vision Operations) ⌄ ⌐ ✕

Model Transaction

Source	Order	Trans Number	10002829
Currency	USD	Reference	
Bill To	Oracle Apps	Number	1107
Terms	30 Net	Type	Invoice
Date	14/NOV/2000	Transaction Amount	20,284.30
Due Date	14/DEC/2000	Transaction	GL Date	14/NOV/2000

Schedule

Rule	Single Copy	Number Of Times	1
Number Of Days		First Transaction Date	15/NOV/2000
First GL Date	15/NOV/2000	Request ID	707181

New Transactions

Transaction Number	Document Number	Trans Date	GL Date	Due Date	Amount
10002832		15/NOV/2000	15/NOV/2000	15/DEC/2000	20,284.30

Viewing the Copied Invoice

The copied invoice will have the exact same invoice lines as the original invoice. The tax amounts will automatically be recalculated by the tax vendor extension which may give different results if the tax rates have changed over time.

Transactions (Vision Operations: USD) - Oracle Apps, 10002832		⊻ ⊼ ✕
Number	10002832	Date **15/NOV/2000** ☑Complete
Reference		Currency **USD** Transaction .9798⁹
Source **Order**		Class **Invoice** ▾
Type **Invoice**		GL Date **15/NOV/2000** [ ]

| Main | More | Remit To, Sales | Paying Customer | Notes | Commitment | Credit |

Ship To

Name	**Oracle Apps**
Number	**1107**
Location	**Ship-To**
Address	**100 Oracle Apps St.**
	CLIFF VILLAGE, MO 64801 United States
Contact	

Bill To

	Oracle Apps
	1107
	Bill-To
	100 Oracle Apps St.
	CLIFF VILLAGE, MO 64801 United States

Terms	**30 Net**	Commitment	
Due Date	**15/DEC/2000**	Salesperson	**Lewis, Mr. Barry**

Tax	Distributions	Sales Credits	Balances
Incomplete	Freight	Credit Installments	Line Items

The figure below shows line–level information for the copied invoice.

Num	Item	Description	UOM	Quantity	Unit Price	Amount	Tax Code
1	f82000	Consulting/Trainin	Each	3	1100	3,300.00	Location
2	f80000	Sentinal Multimedi	Each	1	10000	10,000.00	Location
3	f81000	One Year Maintena	Each	3	2000	6,000.00	Location

Lines (Vision Operations: USD) - Oracle Apps, 10002832

	Transaction	Lines	Tax	Freight
Total	20,284.30	19,300.00	984.30	0.00

Main Sales Order Tax Exemption Rules More

Distributions   Sales Credits   Freight   Tax

Creating Manual Invoices

You can also create invoices manually in Oracle Receivables using the Transactions window. The tax amounts will be calculated by the tax vendor extension and will reconcile to your vendor's tax reports.

Invoice Lines on Manual Invoices

The figure below shows the invoice lines for this manually created invoice. As with invoices imported through AutoInvoice, tax amounts will always be recalculated when you update, delete, or insert invoice lines and the tax amounts will reconcile with your vendor's tax reports.

Lines (Vision Operations: USD) - Oracle Apps, DEMO-INV

	Transaction	Lines	Tax	Freight
Total	17,446.60	16,600.00	846.60	0.00 ☑

Main | Sales Order | Tax Exemption | Rules | More

Num	Item	Description	UOM	Quantity	Unit Price	Amount	Tax Cod
1	f81000	One Year Maintena	Each	1	10000	10,000.00	Location
2	f82000	Consulting/Training	Each	6	1100	6,600.00	Location

Apply Exemptions to Invoice Lines

Vertex's TDM will always be used to determine if an invoice line should be exempt. Optionally, an Order Management clerk or a Receivables clerk may want to mark a particular invoice line 'exempt.' Tax exemptions defined in Oracle Receivables can be applied to an invoice line and the tax vendor extension will override the TDM and exempt the invoice line.
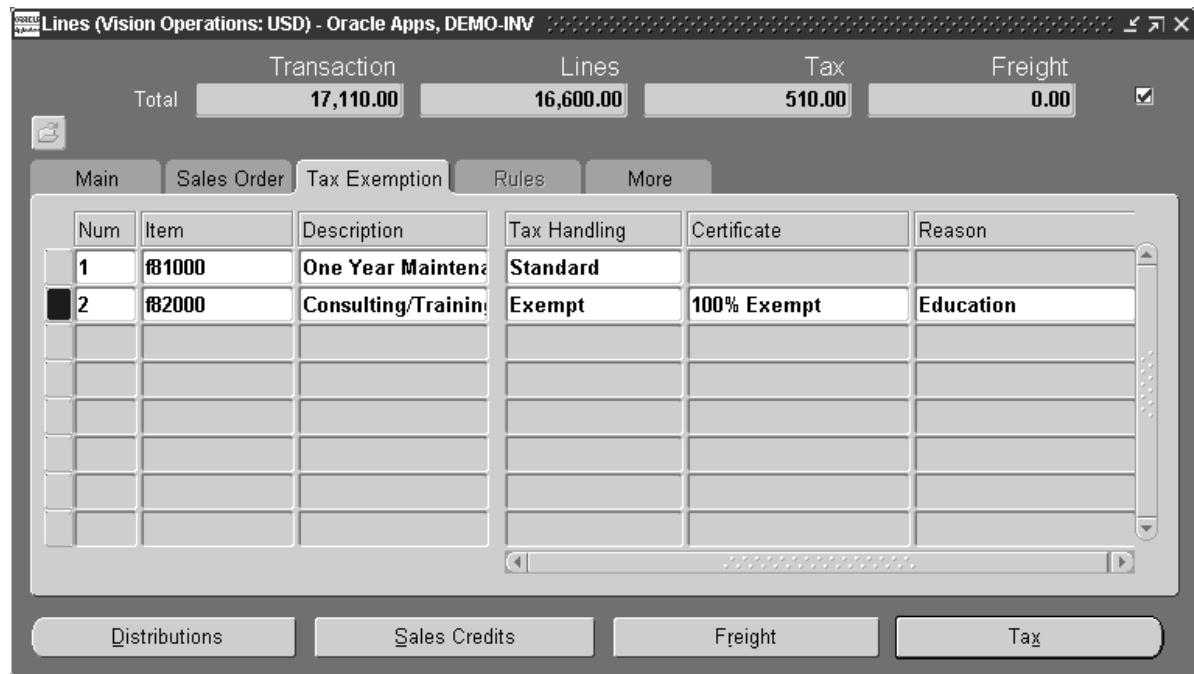
	Num	Item	Description	Tax Handling	Certificate	Reason
	1	f81000	One Year Maintena	Standard		
	2	f82000	Consulting/Training	Exempt	100% Exempt	Education

Lines (Vision Operations: USD) - Oracle Apps, DEMO-INV

	Transaction	Lines	Tax	Freight
Total	17,110.00	16,600.00	510.00	0.00

Main | Sales Order | Tax Exemption | Rules | More

Distributions | Sales Credits | Freight | Tax

Vendor Tax Reports (Complete)

The following vendor tax report shows the result of all of the transactions entered in this section.

```
RELEASE:  1.3  07/03/1998                                                                    PAGE   1
RUN DATE 12/01/2000                   SALES TAX REGISTER - DETAIL (PRE)      TRANS PERIOD:    START - END
                                                                            INVOICE PERIOD:   START - END
COMPANY-CD: ALL   DIVISION-CD: ALL   TYPE: ALL        SUBTYPE: ALL       TAX-TYPE: ALL   STATE: ALL

                      STATE            COUNTY            CITY          DISTRICT           TOTAL TAX
---------------------------------------------------------------------------------------------------------
.........MISSOURI
---------------------------------------------------------------------------------------------------------
CITY: CLIFF VILLAGE         COUNTY: NEWTON     GEOCODE: 26-145-3755 STR:        T 26-145-3755 F 26-145-3755 A 26-145-3755
   COMPANY-CD: 01   DIVISION-CD: 01    CUST-CD: 1107                         TRANS-CD: N  TYPE: SALE   SUBTYPE: P
   EXEMPT CERTIFICATE #:
   INV: 10002829    DATE: 11/14/2000  LINE: 00001  PROD-CD: f82000                     USER: 12114
   TAX RATE/TYPE-----         .042250 S          .008750 S         .000000 ZS          .000000 ZS
   GROSS SALES-------        3,300.00          3,300.00          3,300.00          3,300.00
   ZERO RATE AMT-----             .00               .00          3,300.00          3,300.00
   TAXABLE AMT-------        3,300.00          3,300.00               .00               .00
   TAX AMT-----------          139.42             28.88               .00               .00              168.30
CITY: CLIFF VILLAGE         COUNTY: NEWTON     GEOCODE: 26-145-3755 STR:        T 26-145-3755 F 26-145-3755 A 26-145-3755
   COMPANY-CD: 01   DIVISION-CD: 01    CUST-CD: 1107                         TRANS-CD: N  TYPE: SALE   SUBTYPE: P
   EXEMPT CERTIFICATE #:
   INV: 10002829    DATE: 11/14/2000  LINE: 00001  PROD-CD: f80000                     USER: 12114
   TAX RATE/TYPE-----         .042250 S          .008750 S         .000000 ZS          .000000 ZS
   GROSS SALES-------       10,000.00         10,000.00         10,000.00         10,000.00
   ZERO RATE AMT-----             .00               .00         10,000.00         10,000.00
   TAXABLE AMT-------       10,000.00         10,000.00               .00               .00
   TAX AMT-----------          422.50             87.50               .00               .00              510.00
CITY: CLIFF VILLAGE         COUNTY: NEWTON     GEOCODE: 26-145-3755 STR:        T 26-145-3755 F 26-145-3755 A 26-145-3755
   COMPANY-CD: 01   DIVISION-CD: 01    CUST-CD: 1107                         TRANS-CD: N  TYPE: SALE   SUBTYPE: P
   EXEMPT CERTIFICATE #:
   INV: 10002829    DATE: 11/14/2000  LINE: 00001  PROD-CD: f81000                     USER: 12114
   TAX RATE/TYPE-----         .042250 S          .008750 S         .000000 ZS          .000000 ZS
   GROSS SALES-------        2,000.00          2,000.00          2,000.00          2,000.00
   ZERO RATE AMT-----             .00               .00          2,000.00          2,000.00
   TAXABLE AMT-------        2,000.00          2,000.00               .00               .00
   TAX AMT-----------           84.50             17.50               .00               .00              102.00
CITY: CLIFF VILLAGE         COUNTY: NEWTON     GEOCODE: 26-145-3755 STR:        T 26-145-3755 F 26-145-3755 A 26-145-3755
   COMPANY-CD: 01   DIVISION-CD: 01    CUST-CD: 1107                         TRANS-CD: X  TYPE: SALE   SUBTYPE: P
   EXEMPT CERTIFICATE #:
   INV: 10002829    DATE: 11/14/2000  LINE: 00001  PROD-CD: f81000                     USER: 12114
   TAX RATE/TYPE-----         .042250 S          .008750 S         .000000 ZS          .000000 ZS
   GROSS SALES-------       -2,000.00         -2,000.00         -2,000.00         -2,000.00
   ZERO RATE AMT-----             .00               .00         -2,000.00         -2,000.00
   TAXABLE AMT-------       -2,000.00         -2,000.00               .00               .00
   TAX AMT-----------          -84.50            -17.50               .00               .00             -102.00
CITY: CLIFF VILLAGE         COUNTY: NEWTON     GEOCODE: 26-145-3755 STR:        T 26-145-3755 F 26-145-3755 A 26-145-3755
   COMPANY-CD: 01   DIVISION-CD: 01    CUST-CD: 1107                         TRANS-CD: N  TYPE: SALE   SUBTYPE: P
   EXEMPT CERTIFICATE #:
   INV: 10002829    DATE: 11/14/2000  LINE: 00001  PROD-CD: f81000                     USER: 12114
   TAX RATE/TYPE-----         .042250 S          .008750 S         .000000 ZS          .000000 ZS
   GROSS SALES-------        6,000.00          6,000.00          6,000.00          6,000.00
   ZERO RATE AMT-----             .00               .00          6,000.00          6,000.00
   TAXABLE AMT-------        6,000.00          6,000.00               .00               .00
   TAX AMT-----------          253.50             52.50               .00               .00              306.00
CITY: CLIFF VILLAGE         COUNTY: NEWTON     GEOCODE: 26-145-3755 STR:        T 26-145-3755 F 26-145-3755 A 26-145-3755
   COMPANY-CD: 01   DIVISION-CD: 01    CUST-CD: 1107                         TRANS-CD: X  TYPE: SALE   SUBTYPE: P
   EXEMPT CERTIFICATE #:
   INV: 10002831    DATE: 11/14/2000  LINE: 00001  PROD-CD: f82000                     USER: 12115
   TAX RATE/TYPE-----         .042250 S          .008750 S         .000000 ZS          .000000 ZS
   GROSS SALES-------         -330.00           -330.00           -330.00           -330.00
   ZERO RATE AMT-----             .00               .00           -330.00           -330.00
   TAXABLE AMT-------         -330.00           -330.00               .00               .00
   TAX AMT-----------          -13.94             -2.89               .00               .00              -16.83
CITY: CLIFF VILLAGE         COUNTY: NEWTON     GEOCODE: 26-145-3755 STR:        T 26-145-3755 F 26-145-3755 A 26-145-3755
   COMPANY-CD: 01   DIVISION-CD: 01    CUST-CD: 1107                         TRANS-CD: X  TYPE: SALE   SUBTYPE: P
   EXEMPT CERTIFICATE #:
   INV: 10002831    DATE: 11/14/2000  LINE: 00001  PROD-CD: f80000                     USER: 12115
   TAX RATE/TYPE-----         .042250 S          .008750 S         .000000 ZS          .000000 ZS
   GROSS SALES-------       -1,000.00         -1,000.00         -1,000.00         -1,000.00
   ZERO RATE AMT-----             .00               .00         -1,000.00         -1,000.00
```

```
   TAXABLE AMT-------      -1,000.00            -1,000.00                .00                  .00
   TAX AMT-----------        -42.25               -8.75                  .00                  .00              -51.00
CITY: CLIFF VILLAGE         COUNTY: NEWTON      GEOCODE: 26-145-3755 STR:        T 26-145-3755 F 26-145-3755 A 26-145-3755
   COMPANY-CD: 01   DIVISION-CD: 01    CUST-CD: 1107                          TRANS-CD: X TYPE: SALE    SUBTYPE: P
   EXEMPT CERTIFICATE #:
   INV: 10002831    DATE: 11/14/2000  LINE: 00001  PROD-CD: f81000                        USER: 12115
   TAX RATE/TYPE-----         .042250 S            .008750 S         .000000 ZS          .000000 ZS
   GROSS SALES-------       -600.00              -600.00            -600.00             -600.00
   ZERO RATE AMT-----          .00                  .00             -600.00             -600.00
   TAXABLE AMT-------       -600.00              -600.00                .00                  .00
   TAX AMT-----------        -25.35               -5.25                  .00                  .00              -30.60
CITY: CLIFF VILLAGE         COUNTY: NEWTON      GEOCODE: 26-145-3755 STR:        T 26-145-3755 F 26-145-3755 A 26-145-3755
   COMPANY-CD: 01   DIVISION-CD: 01    CUST-CD: 1107                          TRANS-CD: X TYPE: SALE    SUBTYPE: P
   EXEMPT CERTIFICATE #:
   INV: 3871        DATE: 11/14/2000  LINE: 00001  PROD-CD:                                USER: 1702
   TAX RATE/TYPE-----         .042250 S            .008750 S         .000000 ZS          .000000 ZS
   TAXABLE AMT-------          .00                  .00                  .00                  .00
   TAX AMT-----------        -14.17               -2.93                  .00                  .00              -17.10
CITY: CLIFF VILLAGE         COUNTY: NEWTON      GEOCODE: 26-145-3755 STR:        T 26-145-3755 F 26-145-3755 A 26-145-3755
   COMPANY-CD: 01   DIVISION-CD: 01    CUST-CD: 1107                          TRANS-CD: X TYPE: SALE    SUBTYPE: P
   EXEMPT CERTIFICATE #:
   INV: 3871        DATE: 11/14/2000  LINE: 00001  PROD-CD:                                USER: 1702
   TAX RATE/TYPE-----         .042250 S            .008750 S         .000000 ZS          .000000 ZS
   TAXABLE AMT-------          .00                  .00                  .00                  .00
   TAX AMT-----------        -42.92               -8.89                  .00                  .00              -51.81
CITY: CLIFF VILLAGE         COUNTY: NEWTON      GEOCODE: 26-145-3755 STR:        T 26-145-3755 F 26-145-3755 A 26-145-3755
   COMPANY-CD: 01   DIVISION-CD: 01    CUST-CD: 1107                          TRANS-CD: X TYPE: SALE    SUBTYPE: P
   EXEMPT CERTIFICATE #:
   INV: 3871        DATE: 11/14/2000  LINE: 00001  PROD-CD:                                USER: 1702
   TAX RATE/TYPE-----         .042250 S            .008750 S         .000000 ZS          .000000 ZS
   TAXABLE AMT-------          .00                  .00                  .00                  .00
   TAX AMT-----------        -25.76               -5.33                  .00                  .00              -31.09
CITY: CLIFF VILLAGE         COUNTY: NEWTON      GEOCODE: 26-145-3755 STR:        T 26-145-3755 F 26-145-3755 A 26-145-3755
   COMPANY-CD: 01   DIVISION-CD: 01    CUST-CD: 1107                          TRANS-CD: N TYPE: SALE    SUBTYPE: P
   EXEMPT CERTIFICATE #:
   INV: 10002832    DATE: 11/15/2000  LINE: 00001  PROD-CD: f82000                        USER: 12207
   TAX RATE/TYPE-----         .042250 S            .008750 S         .000000 ZS          .000000 ZS
   GROSS SALES-------      3,300.00             3,300.00            3,300.00            3,300.00
   ZERO RATE AMT-----          .00                  .00             3,300.00            3,300.00
   TAXABLE AMT-------      3,300.00             3,300.00                .00                  .00
   TAX AMT-----------        139.42               28.88                  .00                  .00              168.30
CITY: CLIFF VILLAGE         COUNTY: NEWTON      GEOCODE: 26-145-3755 STR:        T 26-145-3755 F 26-145-3755 A 26-145-3755
   COMPANY-CD: 01   DIVISION-CD: 01    CUST-CD: 1107                          TRANS-CD: N TYPE: SALE    SUBTYPE: P
   EXEMPT CERTIFICATE #:
   INV: 10002832    DATE: 11/15/2000  LINE: 00001  PROD-CD: f80000                        USER: 12207
   TAX RATE/TYPE-----         .042250 S            .008750 S         .000000 ZS          .000000 ZS
   GROSS SALES-------     10,000.00            10,000.00           10,000.00           10,000.00
   ZERO RATE AMT-----          .00                  .00            10,000.00           10,000.00
   TAXABLE AMT-------     10,000.00            10,000.00                .00                  .00
   TAX AMT-----------        422.50               87.50                  .00                  .00              510.00
CITY: CLIFF VILLAGE         COUNTY: NEWTON      GEOCODE: 26-145-3755 STR:        T 26-145-3755 F 26-145-3755 A 26-145-3755
   COMPANY-CD: 01   DIVISION-CD: 01    CUST-CD: 1107                          TRANS-CD: N TYPE: SALE    SUBTYPE: P
   EXEMPT CERTIFICATE #:
   INV: 10002832    DATE: 11/15/2000  LINE: 00001  PROD-CD: f81000                        USER: 12207
   TAX RATE/TYPE-----         .042250 S            .008750 S         .000000 ZS          .000000 ZS
   GROSS SALES-------      6,000.00             6,000.00            6,000.00            6,000.00
   ZERO RATE AMT-----          .00                  .00             6,000.00            6,000.00
   TAXABLE AMT-------      6,000.00             6,000.00                .00                  .00
   TAX AMT-----------        253.50               52.50                  .00                  .00              306.00
CITY: CLIFF VILLAGE         COUNTY: NEWTON      GEOCODE: 26-145-3755 STR:        T 26-145-3755 F 26-145-3755 A 26-145-3755
   COMPANY-CD: 01   DIVISION-CD: 01    CUST-CD: 1107                          TRANS-CD: N TYPE: SALE    SUBTYPE: P
   EXEMPT CERTIFICATE #:
   INV: DEMO-INV    DATE: 11/14/2000  LINE: 00001  PROD-CD: f81000                        USER: 12113
   TAX RATE/TYPE-----         .042250 S            .008750 S         .000000 ZS          .000000 ZS
   GROSS SALES-------     10,000.00            10,000.00           10,000.00           10,000.00
   ZERO RATE AMT-----          .00                  .00            10,000.00           10,000.00
   TAXABLE AMT-------     10,000.00            10,000.00                .00                  .00
   TAX AMT-----------        422.50               87.50                  .00                  .00              510.00
CITY: CLIFF VILLAGE         COUNTY: NEWTON      GEOCODE: 26-145-3755 STR:        T 26-145-3755 F 26-145-3755 A 26-145-3755
   COMPANY-CD: 01   DIVISION-CD: 01    CUST-CD: 1107                          TRANS-CD: N TYPE: SALE    SUBTYPE: P
   EXEMPT CERTIFICATE #:
   INV: DEMO-INV    DATE: 11/14/2000  LINE: 00001  PROD-CD: f82000                        USER: 12113
   TAX RATE/TYPE-----         .042250 S            .008750 S         .000000 ZS          .000000 ZS
   GROSS SALES-------      6,600.00             6,600.00            6,600.00            6,600.00
   ZERO RATE AMT-----          .00                  .00             6,600.00            6,600.00
   TAXABLE AMT-------      6,600.00             6,600.00                .00                  .00
   TAX AMT-----------        278.85               57.75                  .00                  .00              336.60
```

```
CITY: CLIFF VILLAGE          COUNTY: NEWTON      GEOCODE: 26-145-3755 STR:        T 26-145-3755 F 26-145-3755 A 26-145-3755
  COMPANY-CD: 01   DIVISION-CD: 01    CUST-CD: 1107                             TRANS-CD: X  TYPE: SALE     SUBTYPE: P
  EXEMPT CERTIFICATE #:
  INV: DEMO-INV     DATE: 11/14/2000  LINE: 00001  PROD-CD: f82000                         USER: 12113
  TAX RATE/TYPE-----       .042250 S          .008750 S          .000000 ZS          .000000 ZS
  GROSS SALES-------     -6,600.00          -6,600.00          -6,600.00          -6,600.00
  ZERO RATE AMT-----           .00                .00          -6,600.00          -6,600.00
  TAXABLE AMT-------     -6,600.00          -6,600.00                .00                .00
  TAX AMT-----------       -278.85             -57.75                .00                .00              -336.60
CITY: CLIFF VILLAGE          COUNTY: NEWTON      GEOCODE: 26-145-3755 STR:        T 26-145-3755 F 26-145-3755 A 26-145-3755
  COMPANY-CD: 01   DIVISION-CD: 01    CUST-CD: 1107                             TRANS-CD: N  TYPE: SALE     SUBTYPE: P
  EXEMPT CERTIFICATE #: 100% Exempt
  INV: DEMO-INV     DATE: 11/14/2000  LINE: 00001  PROD-CD: f82000                         USER: 12113
  TAX RATE/TYPE-----       .042250 ES         .008750 ES         .000000 ES         .000000 ES
  GROSS SALES-------      6,600.00           6,600.00           6,600.00           6,600.00
  EXEMPT AMT/CD-----      6,600.00  E        6,600.00  E        6,600.00  E        6,600.00  E
  TAXABLE AMT-------           .00                .00                .00                .00
  TAX AMT-----------           .00                .00                .00                .00                 .00
-------------------------------------------------------------------------------------------------------------------
CITY TOTALS-----: CLIFF VILLAGE
  GROSS SALES-------     53,270.00          53,270.00          53,270.00          53,270.00
  EXEMPT AMT--------      6,600.00           6,600.00           6,600.00           6,600.00
  ZERO RATE AMT-----           .00                .00          46,670.00          46,670.00
  TAXABLE AMT-------     46,670.00          46,670.00                .00                .00
  TAX AMT-----------      1,888.95             391.22                .00                .00            2,280.17

COUNTY TOTALS---: NEWTON
  GROSS SALES-------     53,270.00          53,270.00          53,270.00          53,270.00
  EXEMPT AMT--------      6,600.00           6,600.00           6,600.00           6,600.00
  ZERO RATE AMT-----           .00                .00          46,670.00          46,670.00
  TAXABLE AMT-------     46,670.00          46,670.00                .00                .00
  TAX AMT-----------      1,888.95             391.22                .00                .00            2,280.17

STATE TOTALS----: MISSOURI
  GROSS SALES-------     53,270.00          53,270.00          53,270.00          53,270.00
  EXEMPT AMT--------      6,600.00           6,600.00           6,600.00           6,600.00
  ZERO RATE AMT-----           .00                .00          46,670.00          46,670.00
  TAXABLE AMT-------     46,670.00          46,670.00                .00                .00
  TAX AMT-----------      1,888.95             391.22                .00                .00            2,280.17
-------------------------------------------------------------------------------------------------------------------


        -----------------------------------------------TAX-SUMMARY-------------------------------------------------

       SALES TAX         1,888.95             391.22                .00                .00            2,280.17
        USE TAX               .00                .00                .00                .00                 .00
      RENTAL TAX              .00                .00                .00                .00                 .00
    OVERRIDE TAX              .00                .00                .00                .00                 .00
     SERVICE TAX              .00                .00                .00                .00                 .00
CONSUMER USE TAX              .00                .00                .00                .00                 .00
        --------------------------------------------------------------------------------------------------------
      TAX TOTALS         1,888.95             391.22                .00                .00            2,280.17


                *** BREAKDOWN BY TRANSACTION SUBTYPE ***
                        TAXABLE      NON-TAXABLE       TAX
        P - PROPERTY    46,670.00            .00     2,280.17
```

The boldfaced, larger numbers in this tax report correspond to the lines in the operations described below:

- AutoInvoice and Importing Invoices: Inserts lines 1 and 2

- Inserting New Lines: Inserts line 3

- Updating Lines: Backs out of original tax amount with Line 4; Inserts line 5

- Manual Credit Memos: Inserts lines 6, 7, and 8

- Manual Adjustments: Inserts line 9, 10, and 11

- Copy (Recur) an Invoice: Inserts lines 12, 13, and 14

- Creating Manual Invoices: Inserts line 15 and 16

- Updating a line with an exemption backs out the original tax amount with line 17: inserted line 18 has a 100% exemption applied to it

  Note: Oracle Receivables and Vertex view the interaction between exemptions and taxable amounts in slightly different ways. Oracle Receivables deducts the tax rate to give the correct tax amount, whereas Vertex deducts the taxable amount to derive the correct tax amount. Therefore, the total taxable amount may differ between Oracle Receivables and the vendor's tax reports.

Business Processes

This chapter provides an overview of the various accounting and business processes required for the Vertex integration. The following sections are included:

- Accounting for State and Local Taxes
- Working with Vertex Tax Decision Maker (TDM)
- Using Vertex GeoCodes
- Monthly Procedures
- Reconciliation and Audit Procedures
- Support Procedures

Accounting for State and Local Taxes

Oracle Receivables will use the Tax Accounts defined in the Tax Locations and Rates window for each tax amount that you record on the customer invoice. Using Oracle Receivables, you can set up different liability accounts for each ship–to state of the invoice. Using different ship–to states lets you reconcile total tax amounts for each state to the Oracle and Vertex reports. This reconciliation can be used during audit to ensure that any given state has the total tax recorded correctly.

We recommend that you create liability accounts for each state. After you create these accounts and assign them to each state using the Tax Locations and Rates window (based on your tax AutoAccounting setup), those accounts will be used automatically during invoice entry.

Origin and Destination–Based Taxes

Transactions that are subject to Origin and Destination–based tax will have the entire portion of tax recorded in the account noted on the Ship–to State. This does not impact reconciliation because Origin–based taxes are typically levied on District or other local taxes for intra–state transactions (transactions where the ship–from and ship–to states are the same).

Working with Vertex Tax Decision Maker

The Vertex Tax Decision Maker (TDM) lets you control the taxability of transactions. By using Vertex TDM with Oracle Receivables, you can control taxability at state, county, city, and district levels based on Item, Bill–to Customer, or Ship–to Jurisdiction. Once set up, the TDM will automatically apply these rules to all sales orders and invoices.

The Tax Decision Maker will use the Company, Division, Customer, Address & Part Number, and Category fields for controlling taxability. The integration provides this information to TDM as follows:

TDM Field	Oracle Value
Company Code	Constant 01
Division Code	Constant 01
Customer Code	Bill–to customer number of the invoice or order
Customer Class	(not used)
Address	The GeoCode associated with the Ship–to Address (State, County, City, Zip)
Product Code	Segment1 of the Oracle Inventory Item Key Flexfield

Table 3 – 1   Vertex Tax Decision Maker Values

When implementing Oracle Receivables, you can choose to record all of your taxability rules and customer/product exemptions using Vertex, Oracle, or a combination of both. If an Oracle exemption is found and applied to the tax calculation, the Vertex programs will still be called and the Vertex Tax Register will include the exempt tax line for complete audit and reconciliation.

You must enter product rate exceptions into Vertex TDM. Product rate exceptions stored in Oracle are not used when integrating with Vertex Quantum.

For more information on using and changing the standard Oracle values, see: Tax View Functions: page 4–7.

Integration with Oracle Exemption Handling

Define Tax Exemptions

Exemption Certificates created within Oracle Receivables using the Tax Exemptions window can be used to control Vertex Quantum and TDM. If you enable Customer Exemptions in the Oracle Receivables System Options window, then any Primary Exemption Certificate that is applicable to a given Bill–to Customer and Ship–to State will be automatically used on Vertex Quantum tax calculations.

Using Oracle you can migrate from Oracle Tax Exemptions to the Tax Decision Maker, allowing a flexible transition from legacy tax controls to the Vertex Quantum Tax Decision Maker.

Order and Invoice level Overrides

You can use the transaction level Tax Handling fields of Oracle Order Management and Oracle Receivables to provide transaction–level control of Exemptions. These fields allow the Order Management or Invoice Entry clerks to override the TDM module, letting you identify a transaction as exempt, and documented with the Reason and Certificate Number fields. The Oracle Receivables profile option Tax: Allow Override of Customer Exemptions lets you secure access to this feature.

Working with Vertex GeoCodes and GeoCoder

GeoCodes

GeoCodes are used by Vertex to identify a taxing jurisdiction. The GeoCode supplements or replaces the address fields (State, County, City, ZIP) with a 9 digit numeric code. This code is an internal code that is understood by the Vertex Quantum Integration.

A GeoCode is typically needed when the state, zip, and city fields of an address do not uniquely identify the exact taxing jurisdiction. For example, the same city and zip can be found in multiple counties.

Using GeoCodes with Oracle Applications

The Oracle Receivables Customer Workbench and Oracle Sales & Marketing Contacts Workbench will automatically populate the County field of an address given the other field values.

Alternatively, all three fields (state, county, city) are automatically populated when you enter a single zip code. If multiple candidates exist, then only those applicable location values are shown in the list of values. As a result, you rarely need to research an address and manually identify the county or GeoCodes before the customer can be invoiced.

The association of an address to a GeoCode is an automatic process, but can be manually overridden. For more information, see: Storing Tax Information in Oracle Receivables: page 4–15.

GeoCoder

The Vertex GeoCoder is a PL/SQL program unit or API that will convert address information into GeoCodes. The Vertex Quantum integration will call the GeoCoder API's at calculation time if needed. The PL/SQL function SHIP_TO_ADDRESS_CODE will attempt to return the GeoCode for every tax calculation. If this function fails to return a GeoCode, then the GeoCoder API is called automatically.

Vertex Quantum will raise a Vertex error message if after both attempts for a GeoCode is not found for a given tax calculation.

The GeoCoder is only called for the Ship–to Address; if no GeoCode is found for the SHIP_FROM and POA addresses, then the Ship–to GeoCode will be used for these values.

Monthly Procedures

Database Storage Requirements

The Oracle Receivables tables AR_LOCATION_VALUES and AR_LOCATION_RATES should be sized to allow a full upload of the Vertex SEQMAST data file; a full upload requires approximately 75MB of free space. An additional 100MB of free space is required in the Vertex schema to allow the Vertex tables to be initialized.

Each audited tax calculation requires approximately 800 bytes of database storage within the Vertex Schema. Normally, each Oracle Receivables transaction line will need one audited tax calculation; however, manual changes to the invoice lines will require an additional 1600 bytes for each change.

For more information, please refer to the *Vertex Quantum Installation Manual* and Preparing to Load Sales Tax Rates in the *Oracle Receivables Tax Manual.*

Address Validation Data – Vertex SEQMAST file

Each month Vertex will send an updated version of the SEQMAST data file. You need to upload the SEQMAST file into both Vertex Quantum and Oracle Receivables. This will ensure that Oracle Receivables has the latest information for address validation and GeoCode assignments.

As part of your standard monthly procedures, you can use the SQL*Loader script $AR_TOP/bin/arvertex.ctl to load the SEQMAST data file into the Oracle Receivables Tax Interface tables. Then, run the Sales Tax Rate Interface program to transfer this data into Oracle Receivables. Repeat both of these steps each month as the Vertex data file is updated. These procedures will ensure that you have up to date address validation data available.

Use the following Unix script to execute the SQL*Loader program:

```
mv SEQMAST SEQMAST.dat
sqlload apps/apps control=$AR_TOP/bin/arvertex.ctl \
data="SEQMAST" discard="vertex.dis" skip=1 rows=4096
```

Next, run the Oracle Receivables concurrent program Sales Tax Rate Interface using the following parameters:

Parameter	Value
Review or Upload	Load Changed Data Only in Tax Interface Table
Print Format	Print Warnings in Detail
State	<null>

Table 3 – 2 (Page 1 of 1) Sales Tax Rate Interface Parameters

Sales Tax Reporting and Reconciliation Processes

Before completing your tax returns using the Vertex Quantum reports, you should reconcile the total tax amounts held in Oracle Receivables, Oracle General Ledger, and Vertex Quantum.

Oracle Receivables will post all tax amounts to the Vertex Quantum Tax Ledger so that Quantum reports can be used to assist the state and local tax filing process. Using Oracle, the Vertex Tax Ledger is posted online as the transactions are entered. This allows Oracle and Vertex to provide tax reports without a lengthy period end close procedure and long running posting program. This online posting of tax, using Vertex, is a key benefit of the Oracle/Vertex product integration.

Since Oracle performs this posting of tax amounts automatically and for all transactions that you enter, you should ensure that the steps in the Reconciliation Checklist below have been completed before you close your period and report your state and local taxes.

Reconciliation Checklist

❑ All transactions must be completed and posted to the General Ledger. You should verify that no incomplete, manually entered transactions exist for your reporting period. Incomplete invoices will appear as Tax Liabilities in Vertex without an appropriate receivable in Oracle.

All incomplete transactions must be either completed or deleted from Oracle Receivables before the period is closed.

Suggestion: Run the Oracle Receivables Incomplete Invoice report to see all incomplete invoices, debit memos, and credit memos that exist for your reporting period.

❑ Reconcile Oracle Receivables total tax amounts by state to Oracle General Ledger. The Total Tax amounts by State reported by the Oracle Receivables US Sales Tax Report should reconcile to each state tax liability account held in Oracle General Ledger. If this reconciliation step fails, refer to Reconciling US Sales Tax in the *Oracle Receivables Tax Manual.*

❑ Reconcile Oracle total tax amounts by state to Vertex Quantum. After you run the Vertex reports, you should be able to reconcile the tax amounts by state to both Oracle Receivables and Oracle General Ledger. If this reconciliation step fails, verify that you have no incomplete transactions in Oracle Receivables.

Audit Process

Each taxable transaction line within Oracle Receivables will be recorded in the Vertex Quantum Reports as a single Vertex report line.

If a Receivables transaction line is updated, the integration will post two audit records to the Vertex Quantum Register to record the update. The first will reverse out the original value for tax, the second record will then post the updated values. This is illustrated in Update Invoice Lines: on page 2–12 and in sections 4 and 5 of: Vendor Tax Reports: page 2–21.

During your audit, a given line in the vertex register report may need to be grouped with the other lines within the same report before it can be reconciled to Oracle Receivables.

This process allows for a rapid period close, as long running posting programs do not have to be completed before the AR period is closed.

☞ **Attention:** The Vertex Quantum reports and Oracle Receivables use different terms when referring to the tax calculation date and the accounting date for transactions. The table below summarizes these differences.

Value	Oracle Receivables	Vertex Quantum
Accounting Date	GL Date	Transaction Date
Tax Calculation Date	Transaction Date	Invoice Date

Table 3 – 3   (Page 1 of 1) Terminology Differences

Support Procedures

If you have a support request concerning tax calculations, Oracle Receivables will document all the input and output parameters to the tax calculation. You can then use this information to document your support request.

Vertex error messages are prefixed with 'APP–11526: Vertex.' These messages can be received when creating invoices or sales orders. If you receive an error message and are unsure why the error occurred, follow these procedures to document the parameters to the Vertex tax calculation, then refer to the Vertex Quantum documentation and support procedures.

If you are using Oracle Receivables AutoInvoice or the Copy Transactions program, run either program with the Message Level field in the Receivables System Options window set to 3. You can then use the complete log file to help document your support request.

If you are using the Oracle Receivables Transaction Workbench, please follow the steps below to document your support question.

Step 1   Set Profile Option Tax: Debug File Directory

Set the profile option Tax: Debug File Directory to a server side directory where a file that contains log messages will be created. You can set this profile option only at the Site level.

> **Note:** This directory must be set as the value of one of the Oracle initialization parameters, "UTL_FILE_DIR". To see the current value of UTL_FILE_DIR, issue the following SQL statement in the apps schema:
>
> ```
> select value from v$parameter where name =
> 'utl_file_dir';
> ```
>
> If this parameter does not contain a value, modify the initialization parameter file init<db_name>.ora to add the parameter and a value for it (where <db_name> is the name of your database).

Step 2   Set Profile Option Tax: Debug Flag

Set the profile option Tax: Debug Flag to Yes to create a file with debugging information. This log file can be created by any module that uses the Tax Engine (for example, Oracle Receivables or Order Management). You can set this profile option only at the User level.

A log file called <USERNAME>.log will be created in the directory specified by the profile option Tax: Debug File Directory (where <USERNAME> is your login username).

4

Technical Reference

This chapter describes the internal communication parameters between Oracle and Vertex, the Oracle tax view functions that support this communication, and how to extend the integration using user descriptive flexfields and the PL/SQL functions. This chapter also includes some commonly asked questions about using Vertex Quantum with Oracle Receivables.

Available Parameters

The structure ARP_TAX.TAX_INFO_REC is the communications area for the integration with Vertex Quantum. This structure passes information that is selected from the database views. The tax extension then calculates the tax and passes back all of the necessary output parameters through the same structure.

For more information about PL/SQL stored procedures and customizing Oracle Applications, contact your system administrator.

⚠ **Warning:** The parameters in ARP_TAX.TAX_INFO_REC are subject to change in subsequent releases of Oracle Applications. If you customize Oracle Applications to integrate your own PL/SQL tax calculations, you should review and test your custom code after each upgrade.

Member	Data Type	Parameter Type	Null Allowed	Related View Column
amount_includes_tax _flag	varchar2	input	no	AMOUNT_INCLUDES_TAX_ FLAG
audit_flag	varchar2	input	no	AUDIT_FLAG
bill_to_customer_ name	varchar2	input	yes	BILL_TO_CUSTOMER_NAME
bill_to_customer_ number	number	input	yes	BILL_TO_CUSTOMER_NUMBER
bill_to_cust_id	number	input	no	BILL_TO_CUSTOMER_ID
bill_to_location_id	number	input	yes	BILL_TO_LOCATION_CCID
bill_to_postal_code	varchar	input	yes	BILL_TO_POSTAL_CODE
bill_to_site_use_id	number	input	yes	BILL_TO_SITE_USE_ID
calculate_tax	varchar2	input	yes	TAXABLE_FLAG
company_code	varchar2	input	yes	COMPANY_CODE
credit_memo_flag	boolean	input	no	(True if credit memo)
customer_trx_charge_ line_id	number	input	yes	CUSTOMER_TRX_CHARGE_ LINE_ID
customer_trx_id	number	input	yes	TRX_HEADER_ID
customer_trx_line_id	number	input	yes	TRX_LINE_ID

Table 4 – 1   (Table 1 of 4)   Members of the database structure ARP_TAX.TAX_INFO_REC

Member	Data Type	Parameter Type	Null Allowed	Related View Column
default_ussgl_ transaction_code	varchar2	input	yes	USSGL_TRANSACTION_CODE
division_code	varchar2	input	yes	DIVISION_CODE
extended_amount	number	input	yes	EXTENDED_AMOUNT
fob_point	varchar2	input	yes	FOB_CODE
gl_date	date	input	yes	GL_DATE
inventory_item_id	number	input	yes	INVENTORY_ITEM_ID
invoicing_rule_id	number	input	yes	INVOICING_RULE_ID
item_exception_rate_ id	number	input/output	yes	TAX_EXCEPTION_ID
link_to_cust_trx_line_ id	number	input	yes	TRX_LINK_TO_CUST_TRX_ LINE_ID
memo_line_id	number	input	yes	MEMO_LINE_ID
minimum_ accountable_unit	number	input/output	yes	MINIMUM_ACCOUNTABLE_ UNIT
part_no	varchar2	input	yes	PART_NUMBER
payment_terms_ discount_percent	varchar2	input	yes	PAYMENT_TERMS_ DISCOUNT_PERCENT
payment_term_id	number	input	yes	PAYMENT_TERM_ID
poa_code	varchar2	input	yes	POA_ADDRESS_CODE
poa_id	number	input	yes	POA_ID
poo_code	varchar2	input	yes	POO_ADDRESS_CODE
poo_id	number	input	yes	POO_ID
precision	number	input/output	yes	PRECISION
previous_customer_ trx_id	number	input	yes	PREVIOUS_TRX_HEADER_ID
previous_customer_ trx_line_id	number	input	yes	PREVIOUS_TRX_LINE_ID
previous_trx_number	number	input	yes	PREVIOUS_TRX_NUMBER
qualifier	varchar2	input	no	LOCATION_QUALIFIER

Table 4 – 1   (Table 2 of 4)   Members of the database structure ARP_TAX.TAX_INFO_REC

Member	Data Type	Parameter Type	Null Allowed	Related View Column
ship_from_code	varchar2	input	yes	SHIP_FROM_ADDRESS_CODE
ship_from_warehouse _id	number	input	yes	SHIP_FROM_WAREHOUSE_ID
ship_to_code	varchar2	input	yes	SHIP_TO_ADDRESS_CODE
ship_to_customer_ name	varchar2	input	yes	SHIP_TO_CUSTOMER_NAME
ship_to_customer_ number	number	input	yes	SHIP_TO_CUSTOMER_NUMBER
ship_to_cust_id	number	input	yes	SHIP_TO_CUSTOMER_ID
ship_to_location_id	number	input	yes	SHIP_TO_LOCATION_CCID
ship_to_postal_code	varchar2	input	yes	SHIP_TO_POSTAL_CODE
ship_to_site_use_id	number	input	yes	SHIP_TO_SITE_USE_ID
status	number	output	yes	(Default return code)
taxable_amount	number	output	no	TAXABLE_AMOUNT
taxable_basis	varchar2	input	yes	TAXABLE_BASIS
taxed_quantity	number	input	yes	TAXED_QUANTITY
tax_amount	number	input/output	yes	TAX_AMOUNT
tax_calculation_plsql _block	varchar2	input	yes	TAX_CALCULATION_ PLSQL_BLOCK
tax_code	varchar2	input/output	yes	TAX_CODE
tax_control	varchar2	input/output	yes	TAX_EXEMPT_FLAG
tax_exemption_id	number	input/output	yes	VAT_TAX_ID
tax_header_level_flag	varchar2	input	yes	TAX_HEADER_LEVEL_FLAG
tax_line_number	number	input	yes	TAX_LINE_NUMBER
tax_rate	number	input/output	yes	TAX_RATE
tax_rounding_rule	varchar2	input	yes	TAX_ROUNDING_RULE
tax_vendor_return_ code	varchar2	output	no	(Return code from tax vendor)
trx_currency_code	varchar2	input	yes	CURRENCY_CODE

Table 4 – 1 (Table 3 of 4) Members of the database structure ARP_TAX.TAX_INFO_REC

Member	Data Type	Parameter Type	Null Allowed	Related View Column
trx_date	date	input	yes	TRX_DATE
trx_exchange_rate	number	input	yes	EXCHANGE_RATE
trx_line_type	varchar2	input	yes	TRX_LINE_TYPE
trx_number	number	input	yes	TRX_NUMBER
trx_type_id	number	input	yes	TRX_TYPE_ID
userf1–10	varchar2	input	yes	ATTRIBUTE1–10
usern1–10	number	input	yes	NUMERIC_ATTRIBUTE1–10
vat_tax_id	number	input/output	yes	VAT_TAX_ID
vdrctrl_exempt	varchar2	input	yes	VENDOR_CONTROL_ EXEMPTIONS
xmpt_cert_no	varchar2	input/output	yes	TAX_EXEMPT_NUMBER
xmpt_percent	number	input/output	yes	TAX_EXEMPT_PERCENT
xmpt_reason	varchar2	input/output	yes	TAX_EXEMPT_REASON

Table 4 – 1   (Table 4 of 4)   Members of the database structure ARP_TAX.TAX_INFO_REC

Note: The taxable_amount output parameter is required and must be set by the PL/SQL program before returning control to the tax module. Additionally, the program must also set either the tax_amount or the tax_rate parameter. For more information, refer to the example below.

Example PL/SQL Formula

Following is an example of a PL/SQL formula to set the tax rate, tax amount, and taxable amount parameters.

```
create or replace procedure mytaxcalc as
begin
 -- Stored procedure example for user tax calculation.
 --
 -- The following example shows a constant rate tax calculation but
 -- highlights how Oracle rounds the returned amounts.
 --
 -- Set the Tax rate
arp_tax.tax_info_rec.tax_rate := 4.21231;
 --
 -- Set the Tax Amount. Oracle rounds the calculation as needed.
arp_tax.tax_info_rec.tax_amount:= arp_tax.tax_info_rec.extended_amount *
arp_tax.tax_info_rec.tax_rate / 100;
 --
 -- Set the Taxable Amount. This number will be used in reporting.
arp_tax.tax_info_rec.taxable_amount := arp_tax.tax_info_rec.extended_amount;
end;
.
/
show errors procedure mytaxcalc;
```

Tax View Functions

The views that will be used by the tax vendors will return some extra information that were passed a NULL in the Oracle views. These values will be passed to the views through PL/SQL functions from the package ARP_TAX_VIEW_VERTEX.

Additionally, the package will define the procedure GET_EXEMPTIONS, which will return information about exemptions. This procedure is not called by the views, but rather by the interface package.

⚠ **Warning:** Any modifications to the tax view functions are considered customizations and must be reapplied after applying any tax–only or Oracle Receivables patches.

The following functions will be defined for Vertex (ARP_TAX_VIEW_VERTEX package).

Column Name	Function Name	Default Value
COMPANY_CODE	COMPANY_CODE	01
CUSTOMER_ CLASS	NA	Null
DIVISION_CODE	DIVISION_CODE	01
PRODUCT_CODE	PART_NUMBER	SEGMENT1 of MTL_ SYSTEM_ITEMS
POA_ADDRESS_ CODE	POA_ADDRESS_ CODE	1) Salesperson GeoCode 2) Ship–From GeoCode 3) Ship–To GeoCode
SHIP_FROM_ ADDRESS_CODE	SHIP_FROM_ ADDRESS_CODE	1) Warehouse address GeoCode 2) Ship–to GeoCode
SHIP_TO_ ADDRESS_CODE	SHIP_TO_ADDRESS_ CODE	1) Ship–To Address GeoCode 2) ATTRIBUTE1 of AR_LOCATION_RATES
ATTRIBUTE1	TRX_LINE_TYPE	SALE
NUMERIC_ ATTRIBUTE1	USE_SECONDARY	Profile: TAXVDR_SECTAXS

Table 4 – 2 Vertex Functions

The PL/SQL functions are included in the Oracle Receivables file
$AR_TOP/admin/sql/ARTXVWVB.pls on your installation CD and in
$AR_TOP/patch/115/sql/ARTXVWVB.pls in any maintenance
patchsets that you apply.

The functions will be defined as follows; if the returned value has a
combined meaning (for example, if the first character means something
and the rest of the string means something else), this will be described;
if the value is derived from a descriptive flexfield defined on a table,
this will also be defined; if the value is derived from a field in a base
table, this will also be defined.

```
FUNCTION COMPANY_CODE (

          p_view_name          IN VARCHAR2,
          p_header_id          IN NUMBER,
          p_line_id            IN NUMBER) RETURN
                               VARCHAR2;


 INPUT    p_view_name          Name of view calling
                               this function

          p_header_id          ID of transaction
                               header

          p_line_id            ID of transaction line

 RETURNS  Company code
```

This value is used to control the tax reporting level and identifies
exemptions defined in Vertex TDM. Returns '01' for Vertex.

The PL/SQL global variable
ARP_STANDARD.SYSPARM.SET_OF_BOOKS_ID and
ARP_STANDARD.SYSPARM.ORG_ID can be referenced from within
these functions for set of books and organization information.

```
FUNCTION CUSTOMER_CLASS (

        p_view_name         IN VARCHAR2,
        p_header_id         IN NUMBER,
        p_line_id           IN NUMBER,
        p_customer_id       IN NUMBER) RETURN
                            VARCHAR2;


 INPUT   p_view_name        Name of view calling
                            this function

         p_header_id        ID of transaction
                            header

         p_line_id          ID of transaction line

         p_customer_id      ID of customer (ship-
                            to, bill-to, or other)

 RETURNS Customer class
```

Returns the customer class code of the customer. This value is used to determine exemption eligibility. Returns NULL.

```
FUNCTION DIVISION_CODE (

        p_view_name         IN VARCHAR2,
        p_header_id         IN NUMBER,
        p_line_id           IN NUMBER) RETURN
                            VARCHAR2;


 INPUT   p_view_name        Name of view calling
                            this function

         p_header_id        ID of transaction
                            header

         p_line_id          ID of transaction line

 RETURNS Division code
```

This value is used to control the tax reporting level and identifies exemptions defined in Vertex TDM. Returns '01' for Vertex.

The PL/SQL global variable ARP_STANDARD.SYSPARM.SET_OF_BOOKS_ID and ARP_STANDARD.SYSPARM.ORG_ID can be referenced from within these functions for set of books and organization information.

```
PROCEDURE GET_EXEMPTIONS (

        p_exemption_id          IN NUMBER
        p_cert_no               OUT VARCHAR2,
        p_state_exempt_
        percent                 OUT NUMBER,
        p_state_exempt_
        reason                  OUT VARCHAR2;
        p_county_
        exempt_percent          OUT NUMBER,
        p_county_
        exempt_reason           OUT VARCHAR2,
        p_city_exempt_
        percent                 OUT NUMBER,
        p_city_exempt_
        reason                  OUT VARCHAR2,
        p_district_
        exempt_percent          OUT NUMBER,
        p_district_
        exempt_reason           OUT VARCHAR2);
```

INPUT	p_exemption_id	ID of exemption
OUTPUT	p_cert_no	Certificate Number
	p_<juris>_ exempt_percent	Exemption percent for jurisdiction
	p_<juris>_ exempt_reason	Exemption reason for jurisdiction

This function is called by ARP_TAX_VERTEX (interface package) to determine the jurisdiction level exemptions.

If p_exemption_id is passed a NULL value, then no exemptions were found. Therefore, all output parameters will be passed back a NULL value.

Otherwise, p_cert_no will inherit the actual Oracle exemption certificate number and the exemption reasons for all jurisdictions will inherit the first character of the Oracle exemption reason.

The exemption percent will be derived from EXEMPT_PERCENT1, EXEMPT_PERCENT2, EXEMPT_PERCENT3, and EXEMPT_PERCENT4 for the state, county, city and district exemption percentages respectively from the Vendor Exempt Rates descriptive flexfield. If they do not exist, then the exemption percentages will be set to that of the actual Oracle exemption.

```
FUNCTION PART_NUMBER (

        p_view_name          IN VARCHAR2,
        p_header_id          IN NUMBER,
        p_line_id            IN NUMBER,
        p_item_id            IN NUMBER,
        p_memo_line_id       IN NUMBER) RETURN
                             VARCHAR2;


 INPUT   p_view_name         Name of view calling
                             this function

         p_header_id         ID of transaction
                             header

         p_line_id           ID of transaction line

         p_item_id           ID of inventory item

         p_memo_line_id      ID of memo line

 RETURNS  Item Category
```

This function returns the part number used by the vendors to determine exemptions for this line. This function will return SEGMENT1 from the MTL_SYSTEM_ITEMS table (System Items key flexfield). If a memo line is passed instead of an inventory item, then a NULL value is passed.

```
FUNCTION POA_ADDRESS_CODE (

        p_view_name          IN VARCHAR2,
        p_header_id          IN NUMBER,
        p_line_id            IN NUMBER,
        p_salesrep_id        IN NUMBER) RETURN
                             VARCHAR2;
 INPUT   p_view_name         Name of view calling this
                             function

         p_header_id         ID of transaction header

         p_line_id           ID of transaction line

         p_salesrep_id       ID of the primary sales
                             representative
```

RETURNS   The Point–of–Order–Acceptance Jurisdiction code and In/Out City Limits flag

The first character of this function will return the In/Out City Limits flag. If this value is 1, then the Point–of–Order–Acceptance is within city limits; if this value is 0, then it is outside city limits.

The rest of the string will be the value of the jurisdiction code for the Point–of–Order–Acceptance.

The In/Out City Limits will be derived from the SALES_TAX_INSIDE_CITY_LIMITS column of the RA_SALESREPS_ALL table. The jurisdiction will be derived from the SALES_TAX_GEOCODE column of the RA_SALESREPS_ALL table.

If this information is not available, then the default value of 'XXXXXXXXXX' will be returned. This will indicate to the interface package that the ship–from GeoCode should be used. If no ship–from GeoCode is found, then the ship–to GeoCode will be used in place of POA_ADDRESS_CODE.

FUNCTION SHIP_FROM_ADDRESS_CODE (

	p_view_name	IN VARCHAR2,
	p_header_id	IN NUMBER,
	p_line_id	IN NUMBER,
	p_warehouse_id	IN NUMBER) RETURN VARCHAR2;
INPUT	p_view_name	Name of view calling this function
	p_header_id	ID of transaction header
	p_line_id	ID of transaction line
	p_warehouse_id	ID of warehouse of the ship–from

RETURNS   The Ship–from Jurisdiction code and In/Out City Limits flag

The first character of this function will return the In/Out City Limits flag. If this value is 1, then the Ship–from is within city limits; if this value is 0, then it is outside city limits.

The rest of the string will be the value of the Jurisdiction code for the ship–from.

The In/Out City Limits will be derived from LOC_INFORMATION14 of the Location Address descriptive flexfield. The Jurisdiction code

will be derived from LOC_INFORMATION13 of the Location Address descriptive flexfield.

If neither value is available, then the default value of 'XXXXXXXXX' will be returned. This will indicate to the interface package that the ship–to address code should be used in place of the SHIP_FROM_ADDRESS_CODE.

```
FUNCTION SHIP_TO_ADDRESS_CODE(
```

	p_view_name	IN VARCHAR2,
	p_header_id	IN NUMBER,
	p_line_id	IN NUMBER
	p_ship_to_address_id	IN NUMBER,
	p_ship_to_location_id	IN NUMBER,
	p_trx_date	IN DATE,
	p_ship_to_state	IN VARCHAR2,
	p_postal_code	IN VARCHAR2) RETURN VARCHAR2;
INPUT	p_view_name	Name of view calling this function
	p_header_id	ID of transaction header
	p_line_id	ID of transaction line
	p_ship_to_address_id	ID of Ship–to address
	p_ship_to_location_id	ID of Ship–to location
	p_trx_date	Transaction Date
	p_ship_to_state	State of the Ship–to
	p_postal_code	Zip code for the Ship–to
RETURNS	The Ship–to Jurisdiction code and In/Out City Limits flag	

The first character of this function will return the In/Out City Limits flag. If this value is 1, then the Ship–to is within city limits; if this value is 0, then it is outside city limits. The rest of the string will be the value of the Jurisdiction code for the Ship–to.

The In/Out City Limits will be derived from the SALES_TAX_INSIDE_CITY_LIMITS column of the RA_ADDRESSES_ALL table. The Jurisdiction code will be derived from the SALES_TAX_GEOCODE column of the RA_ADDRESSES_ALL table.

If the In/Out City Limits flag is not found in the SALES_TAX_INSIDE_CITY_LIMITS column of the RA_ADDRESSES_ALL table, this function will default to within city limits ('1').

If the Jurisdiction code is not found in the SALES_TAX_GEOCODE column of the RA_ADDRESSES_ALL table, this function will search for the Jurisdiction code in ATTRIBUTE1 of AR_LOCATION_RATES table.

If a value is not found, then a NULL value is passed back from Vertex. This will then cause an error to occur within the tax engine.

FUNCTION TRX_LINE_TYPE (

	p_view_name	IN VARCHAR2,
	p_header_id	IN NUMBER,
	p_line_id	IN NUMBER) RETURN VARCHAR2;
INPUT	p_view_name	Name of view calling this function
	p_header_id	ID of transaction header
	p_line_id	ID of transaction line
RETURNS	Transaction type	

This function returns the transaction type. Valid values are PURCHASE, RENTAL, SALE, or SERVICE. Returns 'SALE.'

FUNCTION USE_SECONDARY (

	p_view_name	IN VARCHAR2,
	p_header_id	IN NUMBER,
	p_line_id	IN NUMBER) RETURN VARCHAR2
INPUT	p_view_name	Name of view calling this function
	p_header_id	ID of transaction header
	p_line_id	ID of transaction line
RETURNS	Use Secondary tax flag	

This value controls whether secondary taxes should be returned. '1' for Yes and '2' for No. Returns the value of the profile option 'Tax Vertex: Secondary Taxes.'

Storing Tax Information in Oracle Receivables

Many of the functions in the previous section and functionality of the interface package derive their values from descriptive flexfields or fields in Oracle Receivables windows. The following tables list each Descriptive Flexfield and Oracle Receivables field you can use to store tax information. Using any of the following Oracle Receivables fields or Descriptive Flexfields to store tax information is optional. If these columns are not used, a default value is assigned.

Predefined Descriptive Flexfields Used to Store Tax Information

The table below shows the predefined Descriptive Flexfields you can use to enter an exemption percentage and ship–from information.

Table Name	Column	Window	Field Name(s)	Description
RA_TAX_ EXEMPTIONS (Vendor Exempt Rates descriptive flexfield)	EXEMPT_PERCENT1		State Exempt Percent	State Exempt Percent
	EXEMPT_PERCENT2	Tax Exemptions	County Exempt Percent	County Exempt Percent
	EXEMPT_PERCENT3		City Exempt Percent	City Exempt Percent
	EXEMPT_PERCENT4		District Exempt Percent	District Exempt Percent

Table Name	Column	Window	Field Name(s)	Description
	LOC_ INFORMATION13	Location Address	Sales Tax Override	Ship–From jurisdiction code
HR_LOCATIONS _V (Location Address descriptive flexfield)	LOC_ INFORMATION14		Inside City Limits	Indicates whether the ship–from address is inside the city limits of the associated jurisdiction code.

Table 4 – 3 Predefined Oracle Descriptive Flexfields

User–Defined Descriptive Flexfields Used to Store Tax Information

If you want to use any of the following Descriptive Flexfields to store tax information, you must register each flexfield as required. Refer to the *Oracle Appliations Flexfields Guide* for more information.

Table Name	Descriptive Flexfield Name	Column	Description	Value Set Name
AR_RECEIVABLES_ TRX	Receivables Activity Information	ATTRIBUTE15	Post Adjustment to Vertex Flag	AR_TAXVDR_ YES_NO

Table 4 – 4 User–Defined Oracle Descriptive Flexfields

Oracle Receivables Fields Used to Store Tax Information

The table below lists each field in Oracle Receivables that you can use to enter point of order acceptance (POA) and ship–to information.

Table Name	Column	Window	Field Name(s)	Description
RA_SALESREPS _ALL	SALES_TAX_ GEOCODE	Sales Force	Geo Override	Point of Order Acceptance GeoCode
	SALES_TAX_INSIDE _CITY_LIMITS		Inside City Limits	Indicates whether the POA address is inside the city limits of the associated GEOCODE.
RA_ADDRESSES _ALL	SALES_TAX_ GEOCODE	Customer Addresses	Geo Override	Ship–to GeoCode
RA_ADDRESSES _ALL	SALES_TAX_INSIDE _CITY_LIMITS	Customer Addresses	Inside City Limits	Indicates whether the ship–to address is inside the city limits of the associated GEOCODE.

Table 4 – 5   Mapping Oracle Columns with Vertex Tax Information

Note: If you used Descriptive Flexfields in Oracle Receivables Release 10.7SC/NCA or Release 11 store tax information, the values are automatically populated into predefined Descriptive Flexfields and Receivables fields during the upgrade process. For more information, refer to the *Oracle Applications Upgrade Manual* for Release 11i.

⚠ **Warning:**   Use of these columns is considered a customization. Functions supplied by Oracle may change in future releases to support these fields in core tables. Additionally, if these columns are in use by your customizations, you will need to either redefine the view functions so that they look in other attribute columns, or your customizations will need to be changed so that they reside in other locations.

Commonly Asked Questions

What benefits are there to the Vertex Quantum Integration?

- Oracle Receivables provides a simple solution to US Sales Tax Compliance that does not consider Origin Based Taxes, Quantity Thresholds, or Muni/District Taxes.

- The integration with Vertex Quantum allows you to calculate, account for, and report on these complex taxes. You may be required to consider these tax issues if you have multiple warehouses or you have warehouses that are located in jurisdictions that include origin–based tax.

- Vertex Inc. provides leadership and expertise in state and local tax research.

- Quantum Calculation Engine: Provides the ability to calculate complex state, local, and district taxes based on ship–to, ship–from, and order acceptance locations.

- Quantum TDM:

  - Flexible tax exemption and exception processing

  - Central control by Tax Department

  - Eliminate IS involvement

- Quantum Returns:

  - Windows GUI application

  - Supports over 350 laser printed tax returns

  - Eliminates manual preparation of tax returns, allowing more time for tax planning.

Who should I call to obtain the Vertex products and services?

Vertex Sales Department
1–800–355–3500
http://www.vertexinc.com

When is the Tax Extension called to calculate a rate?

The Tax Extension is called whenever Receivables or Oracle Order Management calculates a sales tax or VAT rate. The following concurrent programs and windows do this:

- Oracle Order Management Sales Orders Workbench

- Oracle Order Management Sales Acknowledgment Report

- Receivables AutoInvoice program
- Receivables Transaction Workbench
- Receivables Copy Transactions program
- Oracle Sales 'Quotes' window
- iStore Order Capture

What Sales Tax Location Flexfield structure should I select when implementing the Tax Extension within the US?

Oracle Applications provides the following default location structures for sites within the US:

- State.County.City

The State.County.City structure provides the greatest accuracy in locating a tax jurisdiction and tax rate given a customer address. Additionally, the SQL*Loader control file arvertex.ctl supports the State.County.City location flexfield structure.

How do we make orders or invoices exempt from tax when using a Tax Vendor?

Receivables and Oracle Order Management will automatically find customer exemptions based on the bill–to customer and ship–to site. If found, the exemption certificate number and reason will be passed down to the Tax Vendor.

Do we still need to upload the Tax Vendor monthly tax locations and rates file in to Oracle Receivables?

Yes. You need to upload the locations and rates file into both Oracle Receivables and the Tax Vendor. Oracle Receivables uses this information for address validation and GeoCode assignments.

How do we distinguish between tax rates calculated by Oracle and tax rates calculated by an installed Tax Vendor?

Receivables will mark tax lines for an invoice that have been calculated by an installed Tax Vendor.

How do I implement tax on freight?

Receivables will calculate tax on freight lines if you can enter freight as a revenue line item. Additionally, you can automatically present freight lines as revenue lines during the Ship Confirm process within Oracle Order Management. If the Oracle Order Management user profile Tax: Invoice Freight as Revenue is set to Yes, the Oracle Order Management Receivables Interface program will generate a standard invoice line for the freight amount, optionally using the inventory item defined by the

user profile Tax: Inventory Item for Freight. Refer to the *Oracle Receivables Tax Manual* for more information.

Does the Customer Interface program allow me to import US customer addresses without a County field when I have address validation set to 'Error' and a Sales Tax Location flexfield of 'State.County.City'?

No. When preparing to convert legacy data that only tracks state, city, and zip code, you will need to manually assign the correct county to each customer address before you import that customer into Oracle Receivables.

How do we enter item tax rate exceptions tax when using a Tax Vendor?

Item tax rate exceptions must be entered into the Tax Vendor software. Oracle Receivables and Oracle Order management do not pass item tax rate exception information to the Tax Vendor.

Reader's Comment Form

Integrating Oracle® Receivables with Vertex® Quantum
A80834–01

Oracle Corporation welcomes your comments and suggestions on the quality and usefulness of this publication. Your input is an important part of the information we use for revision.

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- Is the information clearly presented?
- Do you need more information? If so, where?
- Are the examples correct? Do you need more examples?
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If you find any errors or have any other suggestions for improvement, please indicate the topic, chapter, and page number below:

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