

GeoTAX[®] Premium

Version 7.3 IBM z/OS

Technical Notes



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Introduction

Pitney Bowes is pleased to announce the GeoTAX Premium 7.3 release. This release is available for Internet download. This document provides an overview of release documentation, release highlights, product updates, database compatibility and platform-specific changes for this release.

Note: Although we will continue to provide Level 1 technical support for release versions of GeoTAX prior to 7.3, any future product updates will only be provided for the 7.3 version of this product.

Release Documentation

The technical notes, release announcement and User's Guide for GeoTAX Premium 7.3 are available for viewing and download from the Pitney Bowes Software Support Web site, <http://www.q1.com/support>. To access these documents, log into the Support site and select **Documentation**. Then, select **Technical Product Info** for the technical notes, **Customer Communications** for the release announcement or **User Documentation** for the User's Guide.

Highlights and General Enhancements

The enhancements and new features introduced in GeoTAX Premium 7.3 include:

- **Single-step processing**
GeoTAX Premium brings a new level of accuracy to the tax jurisdiction assignment process in a one-step solution. With previous releases, CODE-1 Plus™ was bundled with GeoTAX to provide address cleansing in order to return address level tax jurisdiction assignment. GeoTAX Premium will continue to use our world-class USPS address cleansing capabilities, coupled with our premium address-level geocoding, thus improving accuracy and reducing the amount of disk space needed for processing. While we strive to maintain backwards compatibility, the change to a single-step process will require some minor changes to existing processes. For upgrade instructions, see [Upgrade Path](#) on page 93.
- **New Landmark Auxiliary file for customized matching**
This new Auxiliary file allows for matching to non-traditional addresses such as "SUBSTATION 95". See [Landmark Auxiliary file](#) on page 9.
- **Introducing the new Pitney Bowes Software Sales and Use Tax Rate file**
Sales and use tax rates can be returned for each of the assigned tax jurisdictions as well as the total tax rate for the assigned locations. See [Pitney Bowes Software Sales and Use Tax Rate file](#) on page 15.
- **Support for Input Latitude/Longitude coordinates to determine tax jurisdictions**
For companies that deliver goods or services to locations that don't have a recognizable address, GeoTAX Premium can accept latitude/longitude coordinates as input to return the tax jurisdictions and corresponding GeoTAX Key values. Examples of this type of location include bill boards, street lights, communications towers or new housing developments. See [Input Latitude/Longitude Coordinates](#) on page 23.
- **Optional point-level matching**
Point-level matching locates the center of the actual parcel - this is the most accurate type of geocode. Once the data is installed you do not need to execute any additional initialization or setup for your system to begin using the point-level data. GeoTAX Premium will automatically process your address lists through the point-level data. See [Point-level matching](#) on page 16.

- **Additional searching, matching and geocoding options**

GeoTAX Premium introduces new searching, matching and geocoding options including:

- Address match cache size (page 17)
- Cache size for boundary file matching (page 17)
- Search area & expanded distance radius (page 17)
- Address match modes (page 18)
- Multi-match results (page 19)
- Address range matching (page 20)
- Building and firm name matching (page 21)
- Alternate lookup (page 22)
- First letter expanded (page 22)
- Fallback geographic centroid search (page 26)
- Street centroid (page 26)
- Boundary search buffer distance (page 27)

- **More detailed address match and location quality return codes**

GeoTAX Premium provides detailed and qualitative matching and location reporting. The Match codes report on the address standardization and matching process. The Location codes indicate at what level an address has been geocoded. See [Match and Location return codes](#) on page 28.

- **New confidence returns by taxing jurisdiction**

GeoTAX Premium determines geocoding accuracy and associates a confidence level with the resulting latitude/longitude coordinates. See [Confidence level returns](#) on page 39.

- **Support for Pitney Bowes Master Location Data**

This optional data set provides access to Pitney Bowes' expanded and enhanced data set of point-level geocodes. Note that Master Location Data must be used in conjunction with a standard street data set. If you are interested in purchasing Master Location Data, contact your Pitney Bowes sales representative. See [Support for Pitney Bowes' Master Location Data \(MLD\)](#) on page 52.

- **Matching Improvements**

Improved matching of addresses that contain incorrect pre-directionals, oddly formed street type abbreviations, and truncated street names. Enhanced reverse geocoding in rural areas with unranged street segments. Various additional improvements have been made to the matching logic. For more information, see [Improved Handling of Addresses with Misplaced Directionals and Street Types](#) on page 54 and [Improved Matching of Truncated and Abbreviated Street Names](#) on page 55.

- **Return Data Updated to Latest Florida-Native File Record Format**

The Florida-native files from the Florida Department of Revenue provide statewide address and taxing jurisdiction data and can be used to match to your input records. The Florida Department of Revenue recently made changes to the record format. This version of GeoTAX Premium has been updated to return information in the new format. See [Return Data Updated to Latest Florida-Native File Record Format](#) on page 56.

- **Matching Changes**

Changes have been made to the Offset default value and the default Squeeze setting. See [Matching Changes](#) on page 57.

- **Single-line Address Matching Improvements**

Significant improvements have been made to matching when using single-line address input. On average, single-line matching achieves a 3.5% match rate lift compared to using parsed address input, and a 1.0% increase in match rate compared with the prior release of single-line.

- **Address Point Interpolation Improvements**

Significant performance improvements have been realized when using address point interpolation. Performance improvements vary widely and are dependent on a number of factors, including: the number of points datasets loaded, the quality of the input data, and the closeness of available points (typically rural verses urban). Improvements have also been made to the placement of some interpolated address points, which results in better locations as well as associated data returns.

- **Improved Centerline Projection with New Fallback**

Additional refinements have been made to improve matching of the street segment to a point geocode in centerline matching. These improvements better determine when a matched street segment is not optimally positioned from the matched point. In cases where the matched street segment and point geocode are not near one another, a new fallback mechanism is automatically invoked. The fallback operation will search along the entire length of the matched street and return the street segment that is closest to the matched point.

- **Improved Resolution of Matches when using Multiple Point Datasets**

Enhancements have been made to provide the single, best, point-level match when identical, point-level matches are returned from multiple datasets.

Product Updates

Landmark Auxiliary file

The Landmark Auxiliary file provides a way to specify customized address information in the input records; this file also includes latitude/longitude spatial information. The recommended primary use of this file is to match to a company's non-address locations such as well heads, transmission towers or any other descriptive location. The latitude/longitude coordinates that is part of the input needed to build this file allows companies to automatically keep track of any jurisdictional changes that affect these unique locations. Matching to this file requires that the input record information match exactly to the Landmark file contents. This also applies to street records if you choose to enter them in the Landmark Auxiliary file.

Landmark Auxiliary file requirements

GeoTAX requires that the Landmark Auxiliary file complies with the following:

For z/OS:

- File must be an EBCDIC text file with a fixed-width of 854 bytes
- There are two options for creating the Landmark Auxiliary file:
 - Create the file on Windows, then FTP in ASCII mode. Upon upload, convert to EBCDIC.
 - Create the file on z/OS using the sample template file **yourhlq.GEOTAX.LDMKFILE** delivered with GeoTAX.
- File must have less than 500,000 records
- File must follow the column field order and lengths specified in [Landmark Auxiliary file layout](#) on page 11.

Record types

You can include two types of records in your Landmark Auxiliary file: Landmark and Street records.

Landmark Records

A landmark record represents a single site. To be a valid landmark record the record must have the following fields:

- ZIP Code
- Name of the landmark – placed in the street name field
- Beginning latitude of the landmark
- Beginning longitude of the landmark

In addition, a landmark record may NOT have the following fields:

- Street type abbreviation
- Pre-directional abbreviation
- Post-directional abbreviation
- Low house number
- High house number

Street Records

A street record contains a range of one or more addresses on a street. To be a valid street record the record must have the following fields:

- ZIP Code
- Street name
- Street type abbreviation, if part of the address
- Pre-directional abbreviation, if part of the address
- Post-directional abbreviation, if part of the address
- Low house number within the street segment
- High house number within the street segment
- Beginning longitude of the street segment
- Beginning latitude of the street segment

In addition, a street record may NOT have:

- Secondary address information, such as unit numbers
- Mailstops
- Private mail boxes (PMBs)

During processing GeoTAX ignores any record that does not comply with the preceding requirements.

Landmark Auxiliary file organization

You must comply with the following organizational rules when creating your Landmark Auxiliary file.

- Use semicolons in the first column to indicate a row is a comment, not a data record; GeoTAX ignores rows that begin with a semicolon.
- Order the records within the file by descending ZIP Code then descending street name for optimal performance.
- All records must represent one or both sides of a street.
- All records must represent segments that are straight lines. Records cannot represent a non-straight segment.
- If house numbers are present in the record, the house number range must be valid according to USPS rules documented in Publication 28.
- The numeric fields, such as ZIP Codes, must contain all numbers.
- Latitude and longitude values must be in millionths of decimal degrees.
- Records cannot contain PO Box addresses.

Default values

GeoTAX uses the following defaults if you do not include the values in the Landmark Auxiliary file:

- House number parity = B (both odds and evens)
- Segment direction = F (forward) or A (ascending), these are interchangeable.
- Side of street = U (unknown)

Landmark Auxiliary file layout

Field	Description	Required		Requires Exact Match	Length	Position
		For Street Segment Match	For Landmark Match			
ZIP Code	5-digit ZIP Code.	X	X	X	5	1-5
Street name	Name of the street or landmark.	X	X	X	30	6-35
Street type abbreviation	Street type. Also called street suffix. See the USPS Publication 28 for a complete list of supported street types.			X	4	36-39
Pre-directional	USPS street name pre-directional abbreviation. Supported values are N, E, S, W, NE, NW, SE, and SW.			X	2	40-41
Post-directional	USPS street name post-directional abbreviations. Supported values are N, E, S, W, NE, NW, SE, and SW.			X	2	42-43
RESERVED	RESERVED				4	44-47
Low house number	Low house number of the address range.	X			11	48-58
High house number	High house number of the address range.	X			11	59-69
House number parity ¹	Parity of the house number in the range. <i>E</i> – Even <i>O</i> – Odd <i>B</i> – Both				1	70
Segment direction	Direction the house numbers progress along the segment: <i>F</i> – Forward (<i>default</i>) or <i>A</i> - Ascending <i>R</i> – Reverse or <i>D</i> - Descending				1	71
RESERVED	RESERVED				1	72
FIPS state	US government FIPS state code.				2	73-74

¹ For even and odd house number parity records, this specifies on which side of the street the house lays. For records containing both even and odd house numbers, the odd house numbers are on the specified side of the street, and the even house numbers are on the other side. This is a factor when using street offset.

Field	Description	Required		Requires Exact Match	Length	Position
		For Street Segment Match	For Landmark Match			
FIPS county	US government FIPS county code.				3	75-77
Census tract	US Census tract number.				6	78-83
Census block group	US Census block group number.				1	84
Census block ID	US Census block ID number.				3	85-87
RESERVED	RESERVED				5	88-92
State abbreviation	USPS state abbreviation.				2	93-94
County name	Name of the county.				25	95-119
MCD code	Minor Civil Division code.				5	120-124
MCD name	Minor Civil Division name.				40	125-164
CBSA code	Core Based Statistical Area code.				5	165-169
CBSA name	Core Based Statistical Area name.				49	170-218
RESERVED	RESERVED				5	219-223
City Name	City name. Overrides the city/state preferred city name upon a return.				40	224-263
RESERVED	RESERVED				237	264-500
User-defined data	User-defined data.				300	501-800
Record ID Number	User-defined unique record identifier.				10	801-810

Field	Description	Required		Requires Exact Match	Length	Position
		For Street Segment Match	For Landmark Match			
Side of street	Side of the street for the address: <i>L</i> – Left side <i>R</i> – Right side <i>B</i> – Both sides <i>U</i> – Unknown side (<i>default</i>) This is relative to the segment end points and the segment direction.				1	811
Beginning longitude	Beginning longitude of the street segment in millionths of degrees.	X	X		11	812-822
Beginning latitude	Beginning latitude of the street segment in millionths of degrees.	X	X		10	823-832
Ending longitude	Ending longitude of the street segment in millionths of degrees.				11	833-843
Ending latitude	Ending latitude of the street segment in millionths of degrees.				10	844-853

Matching to the Landmark Auxiliary file

Matching overview

GeoTAX performs the following steps when matching an input address to a Landmark Auxiliary file.

1. GeoTAX determines if there is a Landmark Auxiliary file present. If more than one Landmark Auxiliary file is present, GeoTAX attempts to match against the first file. GeoTAX ignores any additional Landmark Auxiliary files for matching, regardless if GeoTAX found a match to the first auxiliary file.

If a record within the Landmark Auxiliary files is invalid, GeoTAX returns a message indicating the auxiliary file has an invalid record. GeoTAX continues to process input addresses against the Landmark Auxiliary file, but will not match to the invalid auxiliary file record.

2. If the Landmark Auxiliary file is present, GeoTAX first attempts to match to it. If more than one type of auxiliary file is present, the search order is:

- Landmark Auxiliary file
- User Auxiliary file
- State-supplied file
- GeoTAX Auxiliary file

NOTE: GeoTAX only matches your input address to your Landmark Auxiliary file if there is an exact match. Therefore, your input address list should be as clean as possible; free of misspellings and incomplete addresses.

3. If GeoTAX finds an exact record match to the Landmark Auxiliary file, it standardizes the match to USPS regulations and returns the output of the auxiliary file match.

NOTE: You cannot update the Landmark Auxiliary file while GeoTAX is running. If you want to update the auxiliary file, you need to terminate GeoTAX before attempting to replace or edit the file.

Record type matching rules

When attempting a match against the Landmark Auxiliary file, GeoTAX abides by the following rules:

Landmark record match

- The input data must contain both a ZIP Code and address line, and they must exactly match the values on the auxiliary record.
- The input address cannot have any other data, such as a house number, unit number, or Private Mail Box (PMB).

Street record match

- The input house number must fall within or be equal to the low and high house number values of the auxiliary record.
- The input house number must agree with the parity of the auxiliary record.
- The input ZIP Code must exactly match the ZIP Code of the auxiliary record.

NOTE: GeoTAX only matches the ZIP Code against the auxiliary file. GeoTAX does not verify that the ZIP Code of the input address record is correct for the city and state. You should validate this information in your input address before processing against the auxiliary file.

Unavailable GeoTAX features and functions

The following contains the features and functions that do not apply when GeoTAX makes a Landmark Auxiliary file match. GeoTAX does not match to:

- two-line addresses
- multi-line addresses
- intersection addresses
- dual addresses

Landmark Auxiliary match output

Several standard GeoTAX outputs do not apply to a Landmark Auxiliary match since GeoTAX matches to an exact auxiliary match and does not perform any additional validation for the match.

GeoTAX provides special match codes and location code values for auxiliary matches.

When GeoTAX finds a match to a Landmark Auxiliary file, the default output follows the following conventions:

- GeoTAX formats the output of the auxiliary file match as a street-style address.
- GeoTAX follows the casing setting you indicate by the casing function. GeoTAX does not maintain the casing in the auxiliary file for mixed cased values. For example, GeoTAX returns O'Donnell as O'DONNELL or O'donnell depending on the setting of the casing function.

NOTE: GeoTAX does not change the casing for the User Data field.

- GeoTAX removes spaces at the beginning and ending of fields in the auxiliary file.

NOTE: GeoTAX does not remove spaces for the User Data field.

Pitney Bowes Software Sales and Use Tax Rate file

The Pitney Bowes (PB) Software Sales and Use Tax Rate file is an optional data reference file that provides sales and use tax rates for each of the assigned tax jurisdictions as well as the total tax rate for the assigned locations.

NOTE: To use this feature, you must be a licensed user of the Pitney Bowes Software Sales and Use Tax Rate product.

For this release, there are four types of rates available:

- General
- Automotive
- Medical
- Construction

For the selected tax type, the following sales and/or use tax rate data can be provided:

- State
- County
- Municipality
- Up to 10 Special Purpose Districts (SPDs)
- Total Rate - the sum of the individual state, county, municipality and SPD rates

To use the PB Software Sales and Use Tax Rate file, the following steps need to be completed:

Step 1: Download the PB Software Sales and Use Tax Rate file

Step 2: Load the PB Software Sales and Use Tax Rate file

Step 3: Match to the PB Software Sales and Use Tax Rate file

Step 1: Download the PB Software Sales and Use Tax Rate File

The PB Software Sales and Use Tax Rate file is only available via Internet download. Refer to the download instructions provided in the *GeoTAX Premium User's Guide*.

Step 2: Load the PB Software Sales and Use Tax Rate File

Run **LOADRATE**:

1. Obtain the SEQRTE file from Pitney Bowes.
2. Modify the following variables:
 - yourhql - your high-level qualifier
 - yourRTlib - Runtime Library in effect at your site
 - volume - VSAM DASD pack volser

In addition, modify the ftp variables appropriate for your site.

3. Insert a job card and submit.

The program produces a database file called GTTAXRT.

Step 3: Match to the PB Software Sales and Use Tax Rate File

There are four different types of rates available: General, Automotive, Medical and Construction. For the selected tax type, the following sales and/or use tax rate data can be provided:

- State
- County
- Municipality
- Up to 10 SPDs
- Total Rate - the sum of the individual state, county, municipality and SPD rates

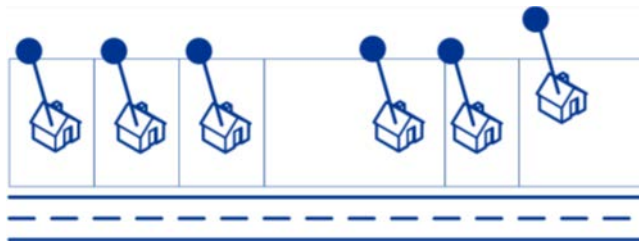
Use the following to match to the PB Software Sales and Use Tax Rate file:

Batch Processing	Use the TAXOUT parameter record to enable tax rate matching, to set the tax type and to specify the desired state, county, municipality and/or combined tax rates. For the SPD rates, use the SPDOUT parameter record.
Callable Functions	Use MCA-TAXRATE-MATCH-OPT in the Matcher Control Area prior to Calling GTMATCH.

Point-level matching

Note: Point data must be used in conjunction with a standard street data set.

Point-level matching locates the center of the actual building footprint or parcel. This is the most accurate type of geocode.



If you are licensed for the point-level data option, you do not need to execute any additional initialization or setup for your system to begin using the point-level data. GeoTAX automatically processes your address lists through the point-level data.

When processing address lists, GeoTAX first searches for a match in the point-level data. If it cannot find an exact match in the point-level data, GeoTAX continues searching for a better match in the street network data. GeoTAX returns the best match found, with preference given to matches from the point-level dataset.

New searching, matching and geocoding options

Address Match Cache Size

To optimize performance, GeoTAX provides the means to specify the relative amount of memory that is allocated to store temporary street data during address processing. A smaller cache may slow the performance, whereas a large cache setting may improve processing performance. Use the following to specify cache size usage (small, medium or large [default]):

Batch processing	Use the Cache Size field in the CONFIG parameter card.
Callable Functions	Use the MCA-CACHESIZE field in the Matcher Control Area prior to calling GTMATCH.

Cache Size for Boundary File Matching

When using a boundary file for matching, the relative cache size can be set to optimize performance. Use the following to specify cache size usage (none, medium [default], large or very large):

Batch processing	Use the Boundary Cache Size field in the CONFIG parameter card.
Callable Functions	Use the MCA-BOUNDARY-CACHESIZE field in the Matcher Control Area prior to Calling GTMATCH.

Search Area & Expanded Distance Radius

You can designate the search area to encompass a finance area or an expanded area specified by distance.

Searching a Finance area

A finance area is the default search area in GeoTAX. A finance area is a region defined by the U.S. Postal Service and typically consists of a set of contiguous ZIP Codes. GeoTAX will search the finance area defined by the input lastline.

Searching an Expanded area

The search area can be extended up to a 99-mile radius from the centroid of the input ZIP Code to assist in finding a match when the input address contains limited or inaccurate city or ZIP Code information. The expanded area is confined to within the state's borders.

Use the following to designate the search area:

Batch Processing	Use the Search Area Option field in the CONFIG parameter card. When the value of the Search Area Option is set to '2', you can set the Expanded Distance Radius property to tell GeoTAX how far to expand the search with a value from 1-99 miles.
Callable Functions	Use the MCA-SEARCH-AREA-OPT field in the Matcher Control Area prior to Calling GTMATCH. To expand the radius of the search area, set the desired radius in miles in the MCA-SEARCH-RADIUS field.

Address Match Modes

Match modes determine the leniency used to make a match between your input and the reference database. Select a match mode based on the quality of your input and your desired output. For example, if you have an input database that is prone to errors, you may want to select the relaxed match mode.

The following match modes are available:

Mode	Description
Exact	Requires a very tight match. This restrictive mode generates the fewest match candidates, which decreases the processing time. When using this mode, ensure that your input is very clean; free of misspellings and incomplete addresses.
Close	<i>Default.</i> Requires a close match and generates a moderate number of match candidates.
Relaxed	Allows a loose match and generates the most match candidates, which increases the processing time and results in more multiple matches. Use this mode if you are not confident that your input is clean; free of misspellings and incomplete addresses. This is the only mode that does not respect the street parity when making an address match.

Use the following to specify the match mode:

Batch processing	Use the Address Match Mode field in the CONFIG parameter card.
Callable Functions	Use the MCA-ADDR-MATCH-MODE field in the Matcher Control Area prior to calling GTMATCH.

Multi-match Results

In some cases GeoTAX cannot resolve an address match to a single best candidate. A multi-match occurs when multiple equally-scored matches are found in either the Points or Streets files. There are a couple of options for handling a multi-match outcome:

- Accept the multiples and return the 1st match candidate in the list.
- Do not accept the multiples and return information (default).

To indicate whether the first match candidate information should be returned or not, use the following:

Batch Processing	Use the Accept Multiple field in the CONFIG parameter card.
Callable Functions	Use MCA-ACCEPT-MULTIPLE in the Matcher Control Area.

Use the following to retrieve a multi-match list and to select a candidate from the multiple address matches:

Batch Processing	Not applicable.
Callable Functions	Use MOA-NUM-MULTIPLE to retrieve the number of multiple match candidates found. Use MCA-GET-MULTIPLE in the Matcher Control Area to select which match result should be returned.

Address Range Matching

Some business locations are identified by address ranges. For example, a shopping plaza could be addressed as 10-12 Front St.; this is how business mail is typically addressed to such a business location. These address ranges can be geocoded to the interpolated mid-point of the range.

Address ranges are different from hyphenated (dashed) addresses that occur in some metropolitan areas. For example, a hyphenated address in Queens County (New York City) could be 243-20 147 Ave. This represents a single residence (rather than an address range) and is geocoded as a single address. If a hyphenated address similar to this example returns as an exact match, then there is no attempt to address range match.

Address range matching is disabled by default and is an optional mode. Address range matching is not available in Exact mode, since an address range is not an actual, mailable USPS® address.

Use the following to enable matching with address ranges:

Batch Processing	Use the Address Range Option field in the CONFIG parameter card.
Callable Functions	Use MCA-ADDRESS-RANGE-OPT in the Matcher Control Area prior to calling GTMATCH.

Address Range matching capabilities and guidelines

Address Range matching works within the following guidelines:

- There must be two numbers separated by a hyphen.
- The first number must be lower than the second number.
- Both numbers must be of the same parity (odd or even) unless the address range itself has mixed odd and even addresses.
- Numbers can be on the same street segment or can be on two different segments. The segments do not have to be contiguous.
- If both numbers are on the same street segment, the geocoded point is interpolated to the approximate mid-point of the range.
- If the numbers are on two different segments, the geocoded point is based on the last valid house number of the first segment. The ZIP Code and FIPS Code are based on the first segment.
- In all cases, odd/even parity is evaluated to place the point on the correct side of the street.

Building and Firm Name Matching

GeoTAX can enhance standard address matching by matching to building and business names.

The following table shows matching results with input firm or building names:

Input	Output
Firm: Address: 5001 Chrysler Bldg Last Line: New York New York 10174 <i>Building name entered into the Address line with unit number in the address line.</i>	Firm: Address: 405 LEXINGTON AVE RM 5001 Last Line: NEW YORK, NY 10174-5002 <i>The returned information is the address of the Chrysler building. GeoTAX returns a standardized address in place of the building name.</i>
Firm: White House Address: Last Line: Washington DC 20500 <i>Building name entered into the Firm name field without an address.</i>	Firm: WHITE HOUSE Address: 1600 PENNSYLVANIA AVE NW Last Line: WASHINGTON DC 20500-0004 <i>The address is returned for the input firm.</i>

Using the following to set up your firm name parameters for your input records; then set the Alternate Lookup option described in the following section to enable matching to a firm name:

Batch Processing	Use the FIRMNM parameter card.
Callable Functions	Use the MIA-FIRM-NAME field in the Input Address Block of the Matcher Input Area.

Alternate Lookup

The Alternate Lookup option allows specifying the preferred way to match when both an address and firm name are provided. The matching method can be set to match to the address rather than the firm name or vice versa. If neither is specified, the default matching method is to match to the address line only.

Use the following to specify an Alternate Lookup option:

Batch Processing	Use the Alternate Lookup Option field in the CONFIG parameter card.
Callable Functions	Use MCA-ALTERNATE-LOOKUP-OPT in the Matcher Control Area prior to Calling GTMATCH.

First Letter Expanded

The missing and wrong first letter feature enables GeoTAX to look for the correct first letter of a street address if the first letter is missing or incorrect. GeoTAX searches through the alphabet looking for possible correct first letters to complete the street address.

The feature is disabled by default and cannot be enabled in Exact mode.

The following are some examples of wrong, missing first letter, and duplicate first letter input addresses and the corresponding GeoTAX output:

Input	Output
Address: 4750 nalnut Last Line: boulder co 80301	Address: 4750 WALNUT ST Last Line: BOULDER CO 80301-2532 <i>Corrects an incorrect first letter and outputs a complete street address.</i>
Address: 4750 alnut Last Line: boulder co 80301	Address: 4750 WALNUT ST Last Line: BOULDER CO 80301-2532 <i>Corrects a missing first letter and outputs a complete street address.</i>
Address: 4750 wwalnut Last Line: boulder co 80301	Address: 4750 WALNUT ST Last Line: BOULDER CO 80301-2532 <i>Corrects an extra first letter and outputs a complete street address.</i>

Use the following to enable the First Letter Expanded option:

Batch Processing	Use the First Letter Expanded Option field in the CONFIG parameter card.
Callable Functions	Use MCA-FIRST-LETTER-EXP-OPT in the Matcher Control Area prior to Calling GTMATCH.

Input Latitude/Longitude Coordinates

Instead of using addresses or ZIP Codes for matching, latitude/longitude coordinates can be supplied as input. Use the following to indicate that latitude/longitude coordinates will be used as input:

Batch Processing	Use the Location of input Latitude, Length of input Latitude, Location of input Longitude and Length of input Longitude fields in the LATLON parameter card.
Callable Functions	Use MCA-LAT-LONG-INPUT in the Matcher Control Area prior to Calling GTMATCH.

The required format for the input coordinates is as follows:

Latitude - 00.000000 or without the decimal point 00000000
 Longitude - 000.000000 or without the decimal point 000000000
 or 00.000000 or without the decimal point 00000000

The following sections list the possible fields that can be returned as well as the fields that are not provided when matching using input coordinates:

Returned fields:

- Place Code
- Place Name
- GNIS
- Place Date information (annexed, updated, etc.)
- Place Class Code
- Incorporated flag
- MCD Code
- MCD Name
- State Code (FIPS)
- County Code (FIPS)
- County Name
- ZIP Code
- Boundary file information (from SPD, IPD, PTD, PAY or User)
- Vertex or Taxware file lookup info (GeoTAX Key)
- Payroll Tax Correspondence file lookup information
- PB Software Sales and Use Tax Rate file information

Excluded fields:

- Census Tract
- Block Group
- Block ID
- CBSA Code and Name
- CSA Code and Name
- CBSAD Code and Name
- Metro Flag
- Firm Name
- Data Type
- Address Line 1
- Address Line 2
- Last Line
- Any address elements
- City
- State Abbreviation
- ZIP+4
- Any Confidence Codes

Address Point Interpolation

Address point interpolation uses a patented process that improves upon regular street segment interpolation by inserting point data into the interpolation process. This feature is only for use with point-level geocoding. Use the following to specify address point interpolation:

Batch processing	Use the Address Point Interpolation Option field in the CONFIG parameter card.
Callable Functions	Use the MCA-ADDRESS-POINT-INTERP-OPT field in the Matcher Control Area prior to calling GTMATCH.

When a points database is present, more precise address geometry is used for interpolation than what is available by the use of street segments alone.

GeoTAX first attempts to find a match using the loaded points data. If an exact point match is found in the points data, then searching ceases and the point match is returned. If an exact point match was not found, GeoTAX attempts to find high and low boundary address points to use for address point interpolation.

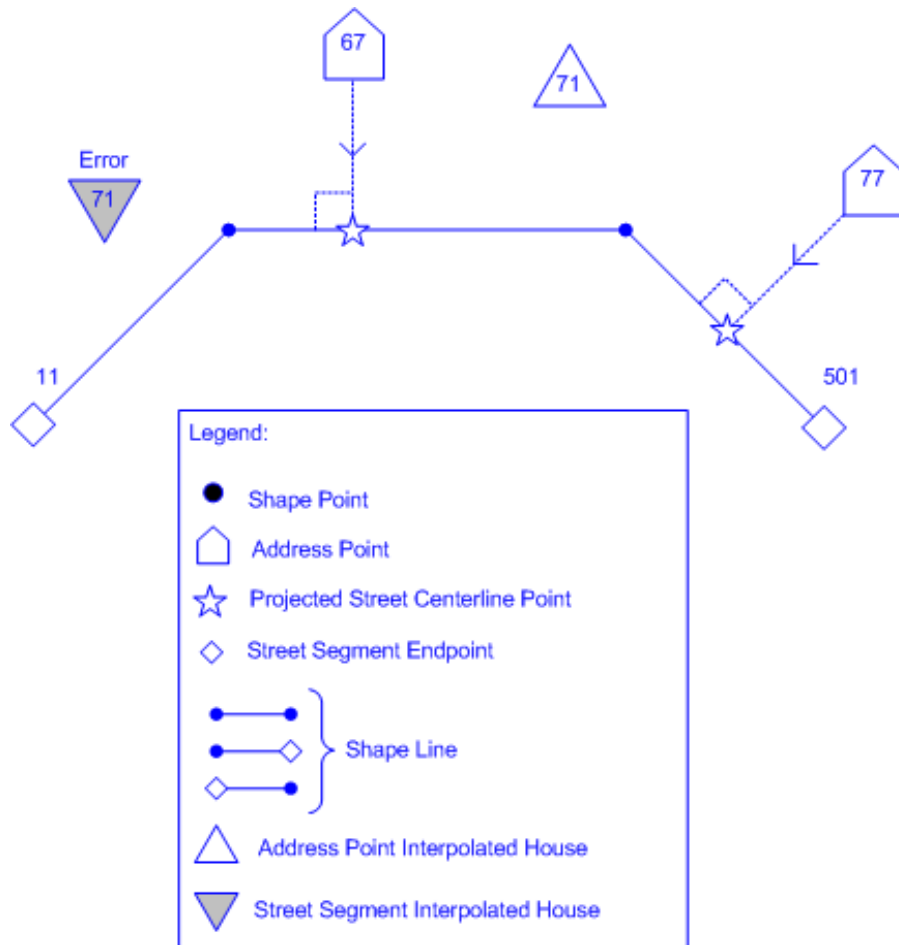
NOTE: This feature does not work with point addresses in auxiliary files.

To illustrate the use of this feature, see the following example. In this example, the input house number is 71, and the points database contains address points for 67 and 77.

The street segment ranges from 11 to 501. The street segment contains shape lines describing the actual layout of the street.

GeoTAX attempts to map the points for addresses 67 and 77 onto the closest shape line. After finding a point on the centerline of the street, GeoTAX then performs the interpolation for the input house number 71 with the new street centerline points of 67 and 77.

Without this feature, GeoTAX performs an interpolation with the street segment end points of 11 and 501. This creates a far less accurate result (labeled in the diagram) than using the centerline points of the closest surrounding high and low address points.



Fallback Geographic Centroid Search

The default search does not perform a search of geographic centroids. When enabled, the Fallback Geographic feature locates the first city, county and/or state centroid, and then matches from the set of possible matches found.

Use the following to enable the Fallback Geographic Centroid Search option:

Batch Processing	Use the Fallback Geographic Option field in the CONFIG parameter card.
Callable Functions	Use MCA-FALL-BACK-GEOGRAPHIC-OPT in the Matcher Control Area prior to Calling GTMATCH.

Street Centroid

Street locator geocoding is an optional feature, which is enabled using the Street Centroid option. When enabled, if an input street address cannot be found using the street number and name, GeoTAX then searches the input ZIP Code or city/state for the closest match. If GeoTAX is able to locate the street, it returns a geocode along the matched street segment rather than the geocode for the entered ZIP Code or ZIP + 4.

Use the following to enable street locator geocoding:

Batch processing	Use the Street Centroid Option field in the CONFIG parameter card.
Callable Functions	Use the MCA-STREET-CENTROID-OPT field in the Matcher Control Area prior to Calling GTMATCH.

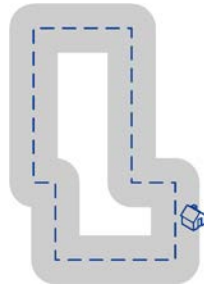
If Street Centroid is enabled, and the input address is 5000 Walnut Street, Boulder, CO 80301, and there is no 5000 Walnut Street, GeoTAX searches for the closest match to that address within the input ZIP Code. If there is no input ZIP Code, GeoTAX searches for the closest match to the input address within Boulder, CO.

If the input address is Walnut Street, Boulder, CO 80301, since there is no street number, GeoTAX then searches for that street within the input ZIP Code. As with the previous example, if there is no input ZIP Code, then GeoTAX searches within Boulder, CO for the closest match.

When using street locator geocoding, if no exact matching house number is found, a match code of either E029 (no matching range, single street segment found), or E030 (no matching range, multiple street segment) returns. For example, if you enter Main St and there are both an E Main St and a W Main St within the input ZIP Code, then an E030 returns and the location code returned is reflective of the input ZIP Code. The location code returned begins with a 'C' when matched to a single street segment, indicated by E029. GeoTAX does not change the street name on the output address.

Boundary Search Buffer Distance

You can specify the distance, in feet, to use as a buffer around polygons defined in the standard boundary files or a user-defined boundary file. This is an optional comparison between a point and the buffered zone. The returned data will indicate whether the point is inside the polygon, inside the polygon but in the buffered zone, or outside the polygon but still inside the buffered zone (as shown in the following illustration):



To define the buffer distance for the boundary files (SPD, IPD, PTC & PAY), use the following:

Batch processing	Use the Input buffer distance field in the BUFOUT parameter card.
Callable Functions	Use the MCA-BOUNDARY-BUFFER-DIST field in the Matcher Control Area prior to Calling GTMATCH.

To define the buffer distance with a user-defined boundary file, use the following:

Batch processing	Use the Input buffer distance field in the BF2OUT parameter card.
Callable Functions	Use the MCA-USER-BND-BUFFER-DIST field in the Matcher Control Area prior to Calling GTMATCH.

NOTE: The buffer distance for place and cousub files is internally set to zero and cannot be modified, so that only one place and one MCD is returned for each type of associated match.

NOTE: The spatial calculations that are required to perform buffer distance functions consume a lot of processing power and will decrease the throughput of the process.

The results for the point comparison to a buffered area on a boundary is covered in [Distance & status returns for a point comparison](#) on page 44.

Match and Location return codes

The Match and Location return codes provide detailed information about the status and results of the address matching and geocoding operations. This section describes these two codes.

Match Codes

The address matching process returns a Match Code that provides information about the quality of the match. The Match Code indicates the differences between the input address and the reference address to which the address was matched. This code also defines what elements of an input address were modified, or the reason a match was not made.

Use the following to view the Match Codes:

Batch processing	Refer to the Location for 4-byte Address Match Return Code field specified in the ALOUT parameter card.
Callable Functions	Refer to the MOA-ADDR-MATCH-CODE field in the Matcher Output Area (MOA).

Match Code values

GeoTAX returns Match Codes that indicate the portions of the address that matched or did not match to the GeoTAX reference file. If GeoTAX could not make a match, the Match Code begins with 'E' and the remaining digits indicate why the address did not match. The digits do not specifically refer to which address elements did not match, but rather why the address did not match.

The following table contains the Match Code values. You can find a description of the hex digits for the different Match Codes in the table following the Match Code table.

Code	Description
Ahh	Same as Shh, but indicates a match to an alias name record or an alternate record.
Chh	Street address did not match, but located a street segment based on the input ZIP Code or city.
D00	Matched to a small town with P.O. Box or General Delivery only.
Ghh	Matched to an auxiliary file.
Hhh	House number was changed.
Qhh	Matched to USPS range records with unique ZIP Codes. CASS rules prohibit altering an input ZIP if it matches a unique ZIP Code value.
Rhh	Matched to a ranged address.
Shh	Matched to USPS data. This is considered the best address match, because it matched directly against the USPS list of addresses. S is returned for a small number of addresses when the matched address has a blank ZIP + 4.

Code	Description
Thh	Matched to a street segment record. Street segment records do not contain ZIP Code information. If you enter a ZIP Code, the application returns the ZIP Code you entered. If the input city and state has only one ZIP Code, the application returns that ZIP Code.
Uhh	Matched to USPS data but cannot resolve the ZIP + 4 code without the firm name or other information.
Xhhh	Matched to an intersection of two streets, for example, "Clay St & Michigan Ave." The first hex digit refers to the last line information, the second hex digit refers to the first street in the intersection, and the third hex digit refers to the second street in the intersection. The USPS does not allow intersections as a valid deliverable address.
Yhhh	Same as Xhhh, but an alias name record was used for one or both streets.
Z	No address given, but verified the provided ZIP Code.

Hex digit decoding

The following table contains the description of the hex digits for the Match Code values.

Code	In first hex position means:	In second and third hex position means:
0	No change in last line.	No change in address line.
1	ZIP Code changed.	Street type changed.
2	City changed.	Pre-directional changed.
3	City and ZIP Code changed.	Street type and pre-directional changed.
4	State changed.	Post-directional changed.
5	State and ZIP Code changed.	Street type and post-directional changed.
6	State and City changed.	Pre-directional and post-directional changed.
7	State, City, and ZIP Code changed.	Street type, pre-directional, and post-directional changed.
8	ZIP + 4 changed.	Street name changed.
9	ZIP and ZIP + 4 changed.	Street name and street type changed.
A	City and ZIP + 4 changed.	Street name and pre-directional changed.
B	City, ZIP, and ZIP + 4 changed.	Street name, street type, and pre-directional changed.
C	State and ZIP + 4 changed.	Street name and post-directional changed.
D	State, ZIP, and ZIP + 4 changed.	Street name, street type, and post-directional changed.

Code	In first hex position means:	In second and third hex position means:
E	State, City, and ZIP + 4 changed.	Street name, pre-directional, and post-directional changed.
F	State, City, ZIP, and ZIP + 4 changed.	Street name, street type, pre-directional, and post-directional changed.

Match Error Codes

The following table describes the values returned when the application cannot find a match code.

Code		Description
Ennn		Indicates an error, or no match. This can occur when the address entered does not exist in the database, or the address is badly formed and cannot be parsed correctly. The last three digits of an error code indicate which parts of an address the application could not match to the database.
	nnn = 000	No match made.
	nnn = 001	Low level error.
	nnn = 002	Could not find data file.
	nnn = 003	Incorrect GSD file signature or version ID.
	nnn = 010	No city and state or ZIP Code found.
	nnn = 011	Input ZIP not in the directory.
	nnn = 012	Input city not in the directory.
	nnn = 013	Input city not unique in the directory.
	nnn = 014	Out of licensed area. Only occurs if using Group 1 licensing technology.
	nnn = 015	Record count is depleted and license has expired.
	nnn = 020	No matching streets found in directory.
	nnn = 021	No matching cross streets for an intersection match.
	nnn = 022	No matching segments.
	nnn = 023	Unresolved match.
	nnn = 024	No matching segments. (Same as 022.)
	nnn = 025	Too many possible cross streets for intersection matching.
	nnn = 026	No address found when attempting a multiline match.
	nnn = 027	Invalid directional attempted.

Code		Description
	nnn = 028	Record also matched EWS data, therefore the application denied the match.
	nnn = 029	No matching range, single street segment found
	nnn = 030	No matching range, multiple street segments found

Location Codes

GeoTAX returns Location Codes that indicate the methodology used to compute the geocode and may also provide some information about the quality of the geocode.

A Location Code of 'E' indicates a location code is not available. This usually occurs when you have requested ZIP Code centroids of a high quality, and one is not available for that match. It can occur infrequently when GeoTAX does not have a 5-digit centroid location. GeoTAX can also return an E location code type when it cannot standardize an input address and there is no input ZIP Code. In this case, do not assume the ZIP Code returned with the non-standardized address is the correct ZIP Code because GeoTAX did not standardize the address; therefore, GeoTAX does not return geocoding or Census Block information.

Address Location Codes

Address Location Codes detail the known qualities about the geocode. An Address Location Code has the following characters.

1 st character	Always an A indicating an address location.	
2 nd character	May be one of the following	
	C	Interpolated address point location.
	G	GeoTAX Auxiliary or Landmark Auxiliary file data location
	I	Application infers the correct segment from the candidate records
	P	Point-level data location
	R	Location represents a ranged address.
	S	Location on a street range
	X	Location on an intersection of two streets
3 rd and 4 th characters	Digit indicating other qualities about the location.	

The following table contains the address codes.

Code		Description
AGn		Indicates a geocode match to a GeoTAX Auxiliary or Landmark Auxiliary file where n is one of the following values:
	n = 0	The geocode represents the center of a parcel, building or landmark.
	n = 1	The geocode is an interpolated address along a segment.
	n = 2	The geocode is an interpolated address along a segment, and the side of the street cannot be determined from the data provided in the auxiliary file record.
	n = 3	The geocode is the midpoint of the street segment.
APnn		Indicates a point-level geocode match representing the center of a parcel or building, where nn is one of the following values:
	nn = 02	Parcel centroid Indicates the center of an assessor's parcel (tract or lot) polygon. When the center of an irregularly shaped parcel falls outside of its polygon, the centroid is manually repositioned to fall inside the polygon as closely as possible to the actual center.
	nn = 04	Address point Represents field-collected GPS points with field-collected address data.
	nn = 05	Structure centroid Indicates the center of a building footprint polygon, where the building receives mail or has telephone service. Usually a residential address consists of a single building. For houses with outbuildings (detached garages, shed, barns, etc.), only the residences have a structure point. Condominiums and duplexes have multiple points for each building. Larger buildings, such as apartment complexes, typically receive mail at one address for each building and therefore individual apartments are not represented as discrete structure points. Shopping malls, industrial complexes, and academic or medical center campuses where one building accepts mail for the entire complex are represented as one point. When addresses are assigned to multiple buildings within one complex, each addressed structure is represented by a point. If the center of a structure falls outside of its polygon, the center is manually repositioned to fall inside the polygon.
	nn = 07	Manually placed Address points are manually placed to coincide with the midpoint of an assessor's parcel's street frontage at a distance from the center line.

Code		Description
	nn = 08	<p>Front door point</p> <p>Represents the designated primary entrance to a building. If a building has multiple entrances and there is no designated primary entrance or the primary entrance cannot readily be determined, the primary entrance is chosen based on proximity to the main access street and availability of parking.</p>
	nn = 09	<p>Driveway offset point</p> <p>Represents a point located on the primary access road (most commonly a driveway) at a perpendicular distance of between 33-98 feet (10-30 meters) from the main roadway.</p>
	nn = 10	<p>Street access point</p> <p>Represents the primary point of access from the street network. This address point type is located where the driveway or other access road intersects the main roadway.</p>
	nn = 21	<p>Base parcel point</p> <p>The Centrus point data includes individual parcels that may be "stacked". These stacked parcels are individually identified by their unit or suite number, and GeoTAX is able to match to this unit number and return the correct APN. If an input address is for a building or complex without a unit number, the "base" parcel information returns and will not standardize to a unit number or return additional information such as an APN.</p>
Aln		The correct segment is inferred from the candidate records at match time.
ASn		House range address geocode. This is the most accurate street interpolated geocode available.
Aln, ASn, and ACnh share the same qualities for the 3 rd character n as follows:		
	n = 0	Best location.
	n = 1	Street side is unknown. The Census FIPS Block ID is assigned from the left side; however, there is no assigned offset and the point is placed directly on the street.
	n = 2	<p>Indicates one or both of the following:</p> <p>The address is interpolated onto a TIGER segment that did not initially contain address ranges.</p> <p>The original segment name changed to match the USPS spelling. This specifically refers to street type, pre-directional, and post-directional.</p> <p>Only the second case is valid for non-TIGER data because segment range interpolation is only completed for TIGER data.</p>
	n = 3	Both 1 and 2.
	n = 7	Placeholder. Used when starting and ending points of segments contain the same value and shape data is not available.

Code		Description
ARn		Ranged address geocode, where n is one of the following:
	n = 1	The geocode is placed along a single street segment, midway between the interpolated location of the first and second input house numbers in the range.
	n = 2	The geocode is placed along a single street segment, midway between the interpolated location of the first and second input house numbers in the range, and the side of the street is unknown. The Census FIPS Block ID is assigned from the left side; however, there is no assigned offset and the point is placed directly on the street.
	n = 4	The input range spans multiple USPS segments. The geocode is placed on the endpoint of the segment which corresponds to the first input house number, closest to the end nearest the second input house number.
	n = 7	Placeholder. Used when the starting and ending points of the matched segment contain the same value and shape data is not available.
AXn		Intersection geocode, where n is one of the following:
	n = 3	Standard single-point intersection computed from the center lines of street segments.
	n = 8	Interpolated (divided-road) intersection geocode. Attempts to return a centroid for the intersection.

Street centroid location codes

Street centroid location codes indicate the Census ID accuracy and the position of the geocode on the returned street segment. A street centroid location code has the following characters.

1 st character	Always C indicating a location derived from a street segment.
2 nd character	Census ID accuracy based on the search area used to obtain matching Street Segment.
3 rd character	Location of geocode on the returned street segment.

The following table contains the values and descriptions for the street centroid location codes.

Character position	Code	Description
2 nd Character		
	B	Block Group accuracy (most accurate). Based on input ZIP Code.

Character position	Code	Description
	T	Census Tract accuracy. Based on input ZIP Code.
	C	Unclassified Census accuracy. Normally accurate to at least the County level. Based on input ZIP Code.
	F	Unknown Census accuracy. Based on Finance area.
	P	Unknown Census accuracy. Based on input City.
3 rd Character		
	C	Segment Centroid.
	L	Segment low-range end point.
	H	Segment high-range end point.

ZIP + 4 centroid location codes

ZIP+4[®] centroid location codes indicate the quality of two location attributes: Census ID accuracy and positional accuracy. A ZIP+4 centroid location code has the following characters.

1 st character	Always Z indicating a location derived from a ZIP centroid.
2 nd character	Census ID accuracy.
3 rd character	Location type.
4 th character	How the location and Census ID was defined. Provided for completeness, but may not be useful for most applications.

The following table contains the values and descriptions for the location codes.

Character position	Code	Description
2 nd Character		
	B	Block Group accuracy (most accurate).
	T	Census Tract accuracy.
	C	Unclassified Census accuracy. Normally accurate to at least the County level.
3 rd Character		
	5	Location of the Post Office that delivers mail to the address, a 5-digit ZIP Code centroid, or a location based upon locale (city). See the 4th character for a precise indication of locational accuracy.

Character position	Code	Description
	7	Location based upon a ZIP + 2 centroid. These locations can represent a multiple block area in urban locations, or a slightly larger area in rural settings.
	9	Location based upon a ZIP + 4 centroid. These are the most accurate centroids and normally place the location on the correct block face. For a small number of records, the location may be the middle of the entire street on which the ZIP + 4 falls. See the 4th character for a precise indication of locational accuracy.
4 th Character		
	A	Address matched to a single segment. Location assigned in the middle of the matched street segment, offset to the proper side of the street.
	a	Address matched to a single segment, but the correct side of the street is unknown. Location assigned in the middle of the matched street segment, offset to the left side of the street, as address ranges increase.
	B	Address matched to multiple segments, all segments have the same Block Group. Location assigned to the middle of the matched street segment with the most house number ranges within this ZIP + 4. Location offset to the proper side of the street.
	b	Same as methodology B except the correct side of the street is unknown. Location assigned in the middle of the matched street segment, offset to the left side of the street, as address ranges increase.
	C	Address matched to multiple segments, with all segments having the same Census Tract. Returns the Block Group representing the most households in this ZIP + 4. Location assigned to the middle of the matched street segment with the most house number ranges within this ZIP + 4. Location offset to the proper side of the street.
	c	Same as methodology C except the correct side of the street is unknown. Location assigned in the middle of the matched street segment, offset to the left side of the street, as address ranges increase.
	D	Address matched to multiple segments, with all segments having the same County. Returns the Block Group representing the most households in this ZIP + 4. Location assigned to the middle of the matched street segment with the most house number ranges within this ZIP + 4. Location offset to the proper side of the street.
	d	Same as methodology D except the correct side of the street is unknown. Location assigned in the middle of the matched street segment, offset to the left side of the street, as address ranges increase.

Character position	Code	Description
	E	Street name matched; no house ranges available. All matched segments have the same Block Group. Location placed on the segment closest to the center of the matched segments. In most cases, this is on the mid-point of the entire street.
	F	Street name matched; no house ranges available. All matched segments have the same Census Tract. Location placed on the segment closest to the center of the matched segments. In most cases, this is on the mid-point of the entire street.
	G	Street name matched (no house ranges available). All matched segments have the same County. Location placed on the segment closest to the center of the matched segments. In most cases, this is on the mid-point of the entire street.
	H	Same as methodology G, but some segments are not in the same County. Used for less than .05% of the centroids.
	I	Created ZIP + 2 cluster centroid as defined by methodologies A, a, B, b, and c. All centroids in this ZIP + 2 cluster have the same Block Group. Location assigned to the ZIP + 2 centroid.
	J	Created ZIP + 2 cluster centroid as defined by methodologies A, a, B, b, C, and c. All centroids in this ZIP + 2 cluster have the same Census Tract. Location assigned to the ZIP + 2 centroid.
	K	Created ZIP + 2 cluster centroid as defined by methodologies A, a, B, b, C, c, D, and d. Location assigned to the ZIP + 2 centroid.
	L	Created ZIP + 2 cluster centroid as defined by methodology E. All centroids in this ZIP + 2 cluster have the same Block Group. Location assigned to the ZIP + 2 centroid.
	M	Created ZIP+2 cluster centroid as defined by methodology E and F. All centroids in this ZIP + 2 cluster have the same Census Tract. Location assigned to the ZIP + 2 centroid.
	N	Created ZIP + 2 cluster centroid as defined by methodology E, F, G, and H. Location assigned to the ZIP + 2 centroid.
	O	ZIP Code is obsolete and not currently used by the USPS. Historic location assigned.
	V	Over 95% of addresses in this ZIP Code are in a single Census Tract. Location assigned to the ZIP Code centroid.
	W	Over 80% of addresses in this ZIP Code are in a single Census Tract. Reasonable Census Tract accuracy. Location assigned to the ZIP Code centroid.

Character position	Code	Description
	X	Less than 80% of addresses in this ZIP Code are in a single Census Tract. Census ID is uncertain. Location assigned to the ZIP Code centroid.
	Y	Rural or sparsely populated area. Census code is uncertain. Location based upon the USGS places file.
	Z	P.O. Box or General Delivery addresses. Census code is uncertain. Location based upon the Post Office location that delivers the mail to that address

Geographic centroid location codes

Geographic centroid location codes indicate the quality of two location attributes: the geographic location and area type.

1 st character	Always G indicating a location derived from a geographic centroid.
2 nd character	Geographic area type.

The following table contains the values and descriptions for the geographic centroid location codes.

Character position	Code	Description
2nd Character		
	M	Municipality (city).
	C	County.
	S	State.

Confidence level returns

After an address has been cleansed and a geocode has been assigned for the location, a confidence level can optionally be computed and returned. The confidence level provides the percentage overlap of a geocode to a polygon layer. The polygon layer can be specified as a boundary (e.g. Special Purpose Districts), a user-defined geographic layer, or a place, county or county subdivision. The returned percentage value describes the probability that a point falls in the comparison area. This addresses an often typical problem of whether or not an address falls inside a specific area.

The types of data files that can be used for the comparison include:

- Boundary files, such as:
 - Special Purpose Districts
 - Insurance Premium Districts
 - Payroll Districts
 - Personal Property Districts
 - User-defined Boundary file
- Local Jurisdiction files, such as:
 - Place
 - County
 - MCD/County Subdivision

Confidence surface types

To determine a confidence level, a confidence surface is first generated. The confidence surface provides the smallest possible area wherein an address is likely to be located. Based on the GeoTAX location code, a buffer is built around a given location that indicates the confidence surface that will contain it. If the match is a ZIP Code-level match, then the ZIP Code boundary itself is used as the confidence surface. The reported surface types that can be generated and reported include:

- Intersection confidence-surface
- Interpolated street segment
- Point-level match
- State confidence-surface
- County confidence-surface
- City confidence-surface
- ZIP Code confidence-surface
- ZIP + 2 Code confidence-surface
- ZIP + 4 Code confidence-surface
- Street centroid confidence-surface

Use the following to view the status of the confidence-generation process and the returned confidence surface type:

Batch processing	Refer to the Location for 2-byte Confidence Type field specified in the CNFOUT parameter card.
Callable Functions	Refer to the MOA-SURFACE-TYPE field in the Matcher Output Area (MOA).

Confidence level returns using Boundary files

An address can be compared to a boundary file and report the probability that a point falls in the comparison area. When the boundary confidence option is enabled, a confidence level will be returned for the input address. The following boundary files are supported:

- Special Purpose Districts (SPD), if licensed
- Insurance Premium Districts (IPD), if licensed
- Payroll Districts (PAY), if licensed
- Personal Property Districts (PTD), if licensed
- User-defined Boundary file (USR)

The boundary file will first need to be loaded and set up for use in matching.

Special Purpose Districts

When matching to an SPD boundary file, use the following to enable the return of boundary confidence levels:

Batch processing	Use the Output location for 3-byte SPD Confidence Code field in the SPDOUT parameter card.
Callable Functions	Use the MCA-BOUNDARY-CONF field in the Matcher Control Area prior to Calling GTMATCH.

Use the following to view the returned SPD boundary confidence levels:

Batch processing	Refer to the Output location for 3-byte SPD Confidence Code field specified in the SPDOUT parameter card.
Callable Functions	Refer to the MOA-CONF-BND field in the Matcher Output Area (MOA).

Insurance Premium Districts

When matching to an IPD boundary file, use the following to enable the return of boundary confidence levels:

Batch processing	Use the Output location for 3-byte IPD Confidence Code field in the IPDOUT parameter card.
Callable Functions	Use the MCA-BOUNDARY-CONF field in the Matcher Control Area prior to Calling GTMATCH.

Use the following to view the returned IPD boundary confidence levels:

Batch processing	Refer to the Output location for 3-byte IPD Confidence Code field specified in the IPDOUT parameter card.
Callable Functions	Refer to the MOA-CONF-BND field in the Matcher Output Area (MOA).

Payroll Districts

When matching to a PAY boundary file, use the following to enable the return of boundary confidence levels:

Batch processing	Use the Output location for 3-byte PAY Confidence Code field in the PAYOUT parameter card.
Callable Functions	Use the MCA-BOUNDARY-CONF field in the Matcher Control Area prior to Calling GTMATCH.

Use the following to view the returned PAY boundary confidence levels:

Batch processing	Refer to the Output location for 3-byte PAY Confidence Code field specified in the PAYOUT parameter card.
Callable Functions	Refer to the MOA-CONF-BND field in the Matcher Output Area (MOA).

Personal Property Districts

When matching to a Personal Property Districts (PTD) boundary file, use the following to enable the return of boundary confidence levels:

Batch processing	Use the Output location for 3-byte PTD Confidence Code field in the PTDOU parameter card.
Callable Functions	Use the MCA-BOUNDARY-CONF field in the Matcher Control Area prior to Calling GTMATCH.

Use the following to view the returned PTD boundary confidence levels:

Batch processing	Refer to the Output location for 3-byte PTD Confidence Code field specified in the PTDOU parameter card.
Callable Functions	Refer to the MOA-CONF-BND field in the Matcher Output Area (MOA).

User-defined Boundary file

An address can be compared to a user-defined boundary file. When the boundary confidence option is enabled, a confidence level will be returned for each input address. Refer to the directions in “User-Defined Boundary File” on page 45 to download and set up matching to this file.

Use the following to enable the return of User-defined boundary confidence levels:

Batch processing	Use the Output location for 3-byte USR Confidence Code field in the USROUT parameter card.
Callable Functions	Use the MCA-USER-BOUNDARY-CONF field in the Matcher Control Area prior to Calling GTMATCH.

Use the following to view the returned User-defined boundary confidence levels:

Batch processing	Refer to the Output location for 3-byte USR Confidence Code field specified in the USROUT parameter card.
Callable Functions	Refer to the MOA-CONF-USER-BND field in the Matcher Output Area (MOA).

Confidence level returns using Local Jurisdiction files

Place file

An address can be compared to a place file (place.txb is supplied with the GeoTAX install). When the place confidence option is enabled, a confidence level will be returned for each input address.

Use the following to enable the return of place confidence levels:

Batch processing	Use the Output location for 3-byte Place Confidence Code field in the CNFOU parameter card.
Callable Functions	Use the MCA-PLACE-CONF field in the Matcher Control Area prior to Calling GTMATCH.

Use the following to view the returned place boundary confidence levels:

Batch processing	Refer to the Output location for 3-byte Place Confidence Code field specified in the CNFOUT parameter card.
Callable Functions	Refer to the MOA-CONF-PLACE field in the Matcher Output Area (MOA).

County file

An address can be compared to a county file (counties.txb is supplied with the GeoTAX install). When the county confidence option is enabled, a confidence level will be returned for each input address.

Use the following to enable the return of county confidence levels:

Batch processing	Use the Output location for 3-byte County Confidence Code field in the CNFOUT parameter card.
Callable Functions	Use the MCA-COUNTY-CONF field in the Matcher Control Area prior to Calling GTMATCH.

Use the following to view the returned county boundary confidence levels:

Batch processing	Refer to the Output location for 3-byte County Confidence Code field specified in the CNFOUT parameter card.
Callable Functions	Refer to the MOA-CONF-COUNTY field in the Matcher Output Area (MOA).

Minor Civil Division/County Subdivision

An address can be compared to a Minor Civil Division (MCD)/county subdivision file (cousub.txb is supplied with the GeoTAX install). When the MCD confidence option is enabled, a confidence level will be returned for each input address.

Use the following to enable the return of MCD confidence level:

Batch processing	Use the Output location for 3-byte MCD Confidence Code field in the CNFOUT parameter card.
Callable Functions	Use the MCA-COUSUB-CONF field in the Matcher Control Area prior to Calling GTMATCH.

Use the following to view the returned MCD confidence level:

Batch processing	Refer to the Output location for 3-byte MCD Confidence Code field specified in the CNFOUT parameter card.
Callable Functions	Refer to the MOA-CONF-COUSUB field in the Matcher Output Area (MOA).

Distance & status returns for a point comparison

Results for a comparison between a point and a buffered boundary zone include the distance of the point to the polygon and the status of the point location relative to the polygon. As shown in the illustrations below, the status indicates whether the point is inside the polygon, inside the polygon but in the buffered zone, or outside the polygon and inside the buffered zone.

Confidence level returns

After an address has been cleansed and a geocode has been assigned for the location, a confidence level can optionally be computed and returned. The confidence level provides the percentage overlap of a geocode to a polygon layer. The polygon layer can be specified as a boundary (e.g. Special Purpose Districts), a user-defined geographic layer, or a place, county or county subdivision. The returned percentage value describes the probability that a point falls in the comparison area. This addresses an often typical problem of whether or not an address falls inside a specific area.

The types of data files that can be used for the comparison include:

- Boundary files, such as:
 - Special Purpose Districts
 - Insurance Premium Districts
 - Payroll Districts
 - Personal Property Districts
 - User-defined Boundary file
- Local Jurisdiction files, such as:
 - Place
 - County
 - MCD/County Subdivision

Confidence surface types

To determine a confidence level, a confidence surface is first generated. The confidence surface provides the smallest possible area wherein an address is likely to be located. Based on the GeoTAX location code, a buffer is built around a given location that indicates the confidence surface that will contain it. If the match is a ZIP Code-level match, then the ZIP Code boundary itself is used as the confidence surface. The reported surface types that can be generated and reported include:

- Intersection confidence-surface
- Interpolated street segment

- Point-level match
- State confidence-surface
- County confidence-surface
- City confidence-surface
- ZIP Code confidence-surface
- ZIP + 2 Code confidence-surface
- ZIP + 4 Code confidence-surface
- Street centroid confidence-surface

Use the following to view the status of the confidence-generation process and the returned confidence surface type:

Batch processing	Refer to the Location for 2-byte Confidence Type field specified in the CNFOUT parameter card.
Callable Functions	Refer to the MOA-SURFACE-TYPE field in the Matcher Output Area (MOA).

Confidence level returns using Boundary files

An address can be compared to a boundary file and report the probability that a point falls in the comparison area. When the boundary confidence option is enabled, a confidence level will be returned for the input address. The following boundary files are supported:

- Special Purpose Districts (SPD), if licensed
- Insurance Premium Districts (IPD), if licensed
- Payroll Districts (PAY), if licensed
- Personal Property Districts (PTD), if licensed
- User-defined Boundary file (USR)

The boundary file will first need to be loaded and set up for use in matching.

Special Purpose Districts

When matching to an SPD boundary file, use the following to enable the return of boundary confidence levels:

Batch processing	Use the Output location for 3-byte SPD Confidence Code field in the SPDOUT parameter card.
Callable Functions	Use the MCA-BOUNDARY-CONF field in the Matcher Control Area prior to Calling GTMATCH.

Use the following to view the returned SPD boundary confidence levels:

Batch processing	Refer to the Output location for 3-byte SPD Confidence Code field specified in the SPDOUT parameter card.
Callable Functions	Refer to the MOA-CONF-BND field in the Matcher Output Area (MOA).

Insurance Premium Districts

When matching to an IPD boundary file, use the following to enable the return of boundary confidence levels:

Batch processing	Use the Output location for 3-byte IPD Confidence Code field in the IPDOUT parameter card.
Callable Functions	Use the MCA-BOUNDARY-CONF field in the Matcher Control Area prior to Calling GTMATCH.

Use the following to view the returned IPD boundary confidence levels:

Batch processing	Refer to the Output location for 3-byte IPD Confidence Code field specified in the IPDOUT parameter card.
Callable Functions	Refer to the MOA-CONF-BND field in the Matcher Output Area (MOA).

Payroll Districts

When matching to a PAY boundary file, use the following to enable the return of boundary confidence levels:

Batch processing	Use the Output location for 3-byte PAY Confidence Code field in the PAYOUT parameter card.
Callable Functions	Use the MCA-BOUNDARY-CONF field in the Matcher Control Area prior to Calling GTMATCH.

Use the following to view the returned PAY boundary confidence levels:

Batch processing	Refer to the Output location for 3-byte PAY Confidence Code field specified in the PAYOUT parameter card.
Callable Functions	Refer to the MOA-CONF-BND field in the Matcher Output Area (MOA).

Personal Property Districts

When matching to a Personal Property Districts (PTD) boundary file, use the following to enable the return of boundary confidence levels:

Batch processing	Use the Output location for 3-byte PTD Confidence Code field in the PTDOUT parameter card.
Callable Functions	Use the MCA-BOUNDARY-CONF field in the Matcher Control Area prior to Calling GTMATCH.

Use the following to view the returned PTD boundary confidence levels:

Batch processing	Refer to the Output location for 3-byte PTD Confidence Code field specified in the PTDOOUT parameter card.
Callable Functions	Refer to the MOA-CONF-BND field in the Matcher Output Area (MOA).

User-defined Boundary file

An address can be compared to a user-defined boundary file. When the boundary confidence option is enabled, a confidence level will be returned for each input address. Refer to the directions in “User-Defined Boundary File” on page 45 to download and set up matching to this file.

Use the following to enable the return of User-defined boundary confidence levels:

Batch processing	Use the Output location for 3-byte USR Confidence Code field in the USROUT parameter card.
Callable Functions	Use the MCA-USER-BOUNDARY-CONF field in the Matcher Control Area prior to Calling GTMATCH.

Use the following to view the returned User-defined boundary confidence levels:

Batch processing	Refer to the Output location for 3-byte USR Confidence Code field specified in the USROUT parameter card.
Callable Functions	Refer to the MOA-CONF-USER-BND field in the Matcher Output Area (MOA).

Confidence level returns using Local Jurisdiction files

Place file

An address can be compared to a place file (place.txb is supplied with the GeoTAX install). When the place confidence option is enabled, a confidence level will be returned for each input address.

Use the following to enable the return of place confidence levels:

Batch processing	Use the Output location for 3-byte Place Confidence Code field in the CNFOOUT parameter card.
Callable Functions	Use the MCA-PLACE-CONF field in the Matcher Control Area prior to Calling GTMATCH.

Use the following to view the returned place boundary confidence levels:

Batch processing	Refer to the Output location for 3-byte Place Confidence Code field specified in the CNFOUT parameter card.
Callable Functions	Refer to the MOA-CONF-PLACE field in the Matcher Output Area (MOA).

County file

An address can be compared to a county file (counties.txb is supplied with the GeoTAX install). When the county confidence option is enabled, a confidence level will be returned for each input address.

Use the following to enable the return of county confidence levels:

Batch processing	Use the Output location for 3-byte County Confidence Code field in the CNFOUT parameter card.
Callable Functions	Use the MCA-COUNTY-CONF field in the Matcher Control Area prior to Calling GTMATCH.

Use the following to view the returned county boundary confidence levels:

Batch processing	Refer to the Output location for 3-byte County Confidence Code field specified in the CNFOUT parameter card.
Callable Functions	Refer to the MOA-CONF-COUNTY field in the Matcher Output Area (MOA).

Minor Civil Division/County Subdivision

An address can be compared to a Minor Civil Division (MCD)/county subdivision file (cousub.txb is supplied with the GeoTAX install). When the MCD confidence option is enabled, a confidence level will be returned for each input address.

Use the following to enable the return of MCD confidence level:

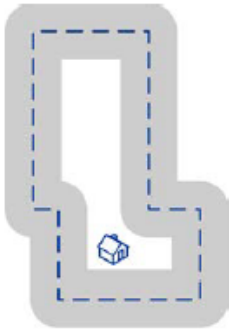
Batch processing	Use the Output location for 3-byte MCD Confidence Code field in the CNFOUT parameter card.
Callable Functions	Use the MCA-COUSUB-CONF field in the Matcher Control Area prior to Calling GTMATCH.

Use the following to view the returned MCD confidence level:

Batch processing	Refer to the Output location for 3-byte MCD Confidence Code field specified in the CNFOUT parameter card.
Callable Functions	Refer to the MOA-CONF-COUSUB field in the Matcher Output Area (MOA).

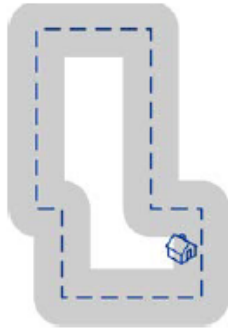
Distance & status returns for a point comparison

Results for a comparison between a point and a buffered boundary zone include the distance of the point to the polygon and the status of the point location relative to the polygon. As shown in the illustrations below, the status indicates whether the point is inside the polygon, inside the polygon but in the buffered zone, or outside the polygon and inside the buffered zone.



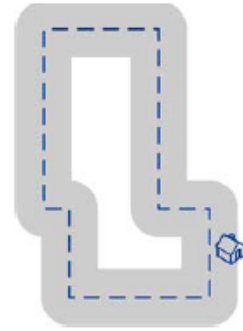
THE POINT IS INSIDE THE POLYGON AND NOT IN THE BUFFER AREA.

THE OUTPUT FIELD WILL CONTAIN "P".



THE POINT IS INSIDE THE POLYGON AND IN THE BUFFER AREA.

THE OUTPUT FIELD WILL CONTAIN "I".



THE POINT IS OUTSIDE THE POLYGON AND IS IN THE BUFFER AREA.

THE OUTPUT FIELD WILL CONTAIN "B".

Point comparison to a buffered area using Boundary files

SPD, IPD, PTD & PAY Boundary files

Use the following to view the results for a point comparison to a buffered area defined in a boundary file:

Batch processing	Refer to the District # buffer status and output distance fields specified in the BUFOUT parameter card.
Callable Functions	Refer to the MOA-TAX-DIST-BUFFER-RC and MOA-TAX-DIST-DISTANCE fields in the Matcher Output Area (MOA).

User-defined Boundary file

Use the following to view the results for a point comparison to a buffered area defined in a user-defined boundary:

Batch processing	Refer to the District # buffer status and output distance fields specified in the BF2OUT parameter card.
Callable Functions	Refer to the MOA-USR-DIST-BUFFER-RC and MOA-USR-DIST-DISTANCE fields in the Matcher Output Area (MOA).

Point comparison to a buffered area using Local Jurisdiction files

Place point status & distance

Use the following to view the returned place point status and distance to border:

Batch processing	Refer to the Location for 10-byte Place Point status & distance field specified in the CNFOUT parameter card.
Callable Functions	Refer to the MOA-PLACE-BUFFER-RC and MOA-PLACE-DISTANCE fields in the Matcher Output Area (MOA).

MCD point status & distance

Use the following to view the returned MCD (cousub) point status and distance to border:

Batch processing	Refer to the Location for 10-byte MCD Point status & distance field specified in the CNFOUT parameter card.
Callable Functions	Refer to the MOA-COUSUB-BUFFER-RC and MOA-COUSUB-DISTANCE fields in the Matcher Output Area (MOA).

Point comparison to a buffered area using Boundary files

SPD, IPD, PTD & PAY Boundary files

Use the following to view the results for a point comparison to a buffered area defined in a boundary file:

Batch processing	Refer to the District # buffer status and output distance fields specified in the BUFOUT parameter card.
Callable Functions	Refer to the MOA-TAX-DIST-BUFFER-RC and MOA-TAX-DIST-DISTANCE fields in the Matcher Output Area (MOA).

User-defined Boundary file

Use the following to view the results for a point comparison to a buffered area defined in a user-defined boundary:

Batch processing	Refer to the District # buffer status and output distance fields specified in the BF2OUT parameter card.
Callable Functions	Refer to the MOA-USR-DIST-BUFFER-RC and MOA-USR-DIST-DISTANCE fields in the Matcher Output Area (MOA).

Point comparison to a buffered area using Local Jurisdiction files

Place point status & distance

Use the following to view the returned place point status and distance to border:

Batch processing	Refer to the Location for 10-byte Place Point status & distance field specified in the CNFOUT parameter card.
Callable Functions	Refer to the MOA-PLACE-BUFFER-RC and MOA-PLACE-DISTANCE fields in the Matcher Output Area (MOA).

MCD point status & distance

Use the following to view the returned MCD (cousub) point status and distance to border:

Batch processing	Refer to the Location for 10-byte MCD Point status & distance field specified in the CNFOUT parameter card.
Callable Functions	Refer to the MOA-COUSUB-BUFFER-RC and MOA-COUSUB-DISTANCE fields in the Matcher Output Area (MOA).

Other changes

- Removed Metropolitan Statistical Area (MSA) return values
- Added Core Based Statistical Area (CBSA) return values

Support for Pitney Bowes' Master Location Data (MLD)

New Data Type Return Values

A new return value has been added to indicate a match was obtained using Master Location Data.

Interface	Name	Return Value
Callable Functions – GTMATCH Program	Position 5671-5672 MOD-ADDR-DATA-TYPE	'12' – Master Location Data
Batch	GEOOUT Parameter Record Position 60-62 Location to store 2-byte Data Type Indicator	'12' – Master Location Data

New Latitude/Longitude Level Return Values

- **Standard GeoTAX Matcher**

If the returned Match Level is "P", the Lat/Long level can return one of the following new values for MLD:

- C** Latitude/longitude coordinates from Backfill Address Point.
- D** Latitude/longitude coordinates from Virtual Address Point.
- E** Latitude/longitude coordinates from Interpolated Address Point

- **Callable Functions - GTMATCH Program**

New MOA-LATLONG-LEVEL return values in the Matcher Output Area (MOA):

Position	Name	Length	Description
690	MOA-LATLONG-LEVEL	1	<p>If the General Return Code (MOA-GRC) is "P" (point match), then the following are possible values for Master Location Data:</p> <ul style="list-style-type: none"> C Latitude/longitude coordinates from Backfill Address Point. D Latitude/longitude coordinates from Virtual Address Point. E Latitude/longitude coordinates from Interpolated Address Point.

- **Batch Parameter Record – LLOUT**

New point-level latitude/longitude level return codes for LLOUT position 8-10.

- **Point-Level Latitude/Longitude Return Codes**

If the General Return Code is "P" (point match), then the following values apply to the 2nd digit of the Lat/Long Level and indicate Master Location Data the source of the Point latitude/longitude coordinates:

Point-Level Return Codes	Description
C	Latitude/longitude coordinates from Backfill Address Point.
D	Latitude/longitude coordinates from Virtual Address Point.
E	Latitude/longitude coordinates from Interpolated Address Point.

New AP Address Location Return Codes

An APnn return code indicates a point-level geocode match representing the center of a parcel or building. AP22, AP23 and AP24 address location return codes are new for MLD.

APnn	Description
nn = 22	Backfill address point - The precise parcel centroid is unknown. The address location assigned is based on two known parcel centroids.
nn = 23	Virtual address point - The precise parcel centroid is unknown. The address location assigned is relative to a known parcel centroid and a street segment end point.
nn = 24	Interpolated address point - The precise parcel centroid is unknown. The address location assigned is based on street segment end points.

Improved Handling of Addresses with Misplaced Directionals and Street Types

Improvements have been made in the handling of misplaced characters, directionals and street types in the input address. Example matching improvements are listed in the following table. These examples were processed using Close mode.

Input Address	New match results	Old match results
<p>E 2260 GRPVW LP R, GRAPEVIEW WA 98546</p> <p><i>Previously, the placement of the pre-directional in addition to the abbreviated street name and street type did not produce a match.</i></p>	<p>2260 E GRAPEVIEW LOOP RD, GRAPEVIEW, WA 98546-9410</p> <p>Match Code: S8B Location Code: AP02</p> <p><i>Now able to match.</i></p>	<p>Match Code: E020 – street not found.</p>
<p>1875 SW RENFROST, PORT ST LUCIE FL 34982</p> <p><i>Input address with street type put as part of street name results in a match.</i></p>	<p>1875 SW RENFRO ST, PORT ST LUCIE, FL 34953-1375</p> <p>Match Code: S89 Location Code: AP02</p> <p><i>Returns a match with correct street name.</i></p>	<p>Match Code: E020 – street not found.</p>
<p>1374 SE LIBERTY LND, WINNABOW NC</p> <p><i>Input address with post-directional placed as pre-directional results in a match.</i></p>	<p>1374 LIBERTY LANDING RD SE WINNABOW, NC 28479-5139</p> <p>Match Code: S9F Location Code: AP02</p> <p><i>Returns a match with correct street name, street type and post-directional.</i></p>	<p>Match Code: E020 – street not found.</p>

Improved Matching of Truncated and Abbreviated Street Names

Improvements have been made in cases where the input address has a street name that is shortened or truncated. Example matching improvements are listed in the following table. These examples were processed using Close mode

Input Address	New match results	Old match results
<p>2487 OLD WINDER JEF, JEFFERSON, GA</p> <p><i>Input address with truncated street name results in a match.</i></p>	<p>2487 OLD WINDER JEFFERSON HWY, JEFFERSON, GA 30549-4568</p> <p>Match Code: S99 Location Code: AP02</p> <p><i>Now able to match.</i></p>	<p>Match Code: E020 – street not found.</p>
<p>14076 SPRINGMILL PO, CARMEL, IN 46032</p> <p><i>Input address with truncated street name now returns a better match with correct street name and street type and a higher quality geocode.</i></p>	<p>14076 SPRINGMILL PONDS CIR, CARMEL, IN 46032-8500</p> <p>Match Code: S89 Location Code: AP02</p> <p><i>Matches a point-level address and returns correct street name and street type.</i></p>	<p>14076 SPRINGMILL RD, CARMEL, IN 46032</p> <p>Match Code: T89 Location Code: AS0</p>
<p>16 LAWRENCE-PENN RD, LAWRENCEVILLE NJ 08648</p> <p><i>Input address with shortened street name now returns the correct address.</i></p>	<p>16 LAWRENCEVILLE PENNINGTON RD, LAWRENCEVILLE, NJ 08648-1648</p> <p>Match Code: A88 Location Code: AP02</p> <p><i>Provides complete street name.</i></p>	<p>16 LAWRENCE AVE, LAWRENCEVILLE, NJ 08648-3533</p> <p>Match Code: S89 Location Code: AP02</p>
<p>2938 NORTHERN SL NE, ROCHESTER MN 55906</p> <p><i>Input address containing a truncated street name now returns a correct street address.</i></p>	<p>2938 NORTHERN SLOPES LN NE, ROCHESTER, MN 55906-3942</p> <p>Match Code: SCD Location Code: AP02</p> <p><i>Returns correct and complete street address.</i></p>	<p>2938 NORTHERN VALLEY DR NE, ROCHESTER, MN 55906-3942</p> <p>Match Code: A89 Location Code: AS0</p>

Return Data Updated to Latest Florida-Native File Record Format

The Florida-native files from the Florida Department of Revenue provide statewide address and taxing jurisdiction data and can be used to match to your input records. The Florida Department of Revenue recently made changes to the record format.

Florida-Native File Format Changes:

- City Name – field length changed from 28 to 40 bytes
- Date Submit – field removed
- Date Approve – field removed
- Effect Date – field position moved from 45-52 to 41-48
- Date Expire – field removed
- Reserved (61-150) – changed to Reserved (105-170)
- Update Key – field removed
- Aux Key – field removed
- Fire Opt – field removed
- Fire District ID – field position moved from 173 -176 to 99-101
- Police Opt – field removed
- Evidence – new field
- Reserved (172-176) - new

Modified STEOUT Parameter Record

Florida-native database updated format:

Field Name	Description	Position
City Name	USPS long city name. Character, Left-justified, blank-filled.	1-40
Effect Date	Date change goes into effect, in the format YYYYMMDD.	41-48
Evidence	Name of competent evidence file. This field is only required for uploading of address for objections.	49-98
Fire District ID	Fire district ID number.	99-101
Police District ID	Police district ID number.	102-104
Reserved		105-170
Relax match Flag	Relax match flag: Y Match occurred as a result of relaxing secondary matching N Match did not occur as a result of relaxing secondary matching.	171
Reserved		172-176
Format Indicator	Indicates type of database format: F Florida-native	200

Matching Changes

New default Offset value

The default Offset value has been changed to 40 feet for both batch and online matching.

New default Squeeze setting

Squeeze is now set on by default in both batch and online matching.

Parameter Record Changes

For additional information on parameters, please refer to the *GeoTAX Premium 7.3 User's Guide*.

New Parameter Records

AEOU – Address Elements Output Record

AEOU is an optional parameter that tells GeoTAX where on the output file to store the individual address elements.

AEOU Parameter Record Definition		
Position	Field Name	Description
1-6	KEYWORD	Parameter name: AEOU
8-10	Location to store 11-byte House Number	Location on output record for House Number
12-14	Location to store 2-byte Pre-Directional	Location on output record for Pre-Directional
16-18	Location to store Street Name	Location on output record for Street Name
20-21	Length of Street Name	Length of Street Name to store (maximum 40-bytes)
23-25	Location to store 4-byte Street Type	Location on output record for Street Type
27-29	Location to store 2-byte Post-Directional	Location on output record for Post-Directional
31-33	Location to store 4-byte Unit Type	Location on output record for Unit Type
35-37	Location to store 11-byte Unit Number	Location on output record for Unit Number

ALOUT – Address Location Output Record

ALOUT provides the Address Match Return Code and standardized address, city, state and ZIP code.

ALOUT Parameter Record Definition		
Position	Field Name	Description
1-6	KEYWORD	Parameter name: ALOUT
8-10	Location to store the 4-byte Address Match Return Code	Location on output record for the address Match Code.
12-14	Location to store Address Line 1	Location on output record for Address Line 1
16-17	Length of Address Line 1	Length of Address Line 1 to store (maximum 60 bytes)
19-21	Location to store Address Line 2	Location on output record for Address Line 2
23-24	Length of Address Line 2	Length of Address Line 2 to store (maximum 60 bytes)
26-28	Location to store City Name	Location on output record for City Name to store
30-31	Length of City Name	Length of City Name (maximum 28 bytes)
33-35	Location to store 2-byte State Abbrev	Location on output record for State Abbrev.
37-39	Location to store 5-byte ZIP	Location on output record for ZIP
41-43	Location to store 4-byte ZIP+4	Location on output record for ZIP+4
45-47	Location of Urbanization Name	Location on output record for Urbanization Name
49-50	Length of Last Line	Length of Last Line (maximum 60-bytes)
52	Format of Last Line	Code indicating the output format of the Last Line: S - City and State only Z - City, State and ZIP (5-dig. only) 9 - City, State and ZIP+4
54-56	Location of 30-byte Urbanization Name	Location on output record for Urbanization Name

CBSOUT – Core-Based Statistical Area Output Record

CBSOUT provides the description and code for statistical areas such as the CBSA Division, CBSA and CSA.

CBSOUT Parameter Record Definition		
Position	Field Name	Description
1-6	KEYWORD	Parameter name: CBSOUT
8-10	Location for 5-byte CBSAD Code	Contains the location in the output record where the CBSAD (Core-Based Statistical Area Division) Code is to be posted.
12-14	Location for 127-byte CBSAD Description	Contains the location in the output record where the CBSAD Description is to be posted.
16-18	Location for 5-byte CBSA Code	Contains the location in the output record where the CBSA (Core-Based Statistical Area) Code is to be posted.
20-22	Location for 127-byte CBSA Description	Contains the location in the output record where the CBSA Description is to be posted.
24-26	Location for 3-byte CSA Code	Contains the location in the output record where the CSA (Combined Statistical Area) Code is to be posted.
28-30	Location for 127-byte CSA description	Contains the location in the output record where the CSA Description is to be posted.
32-34	Location for 1-byte Metro Flag	Contains the location in the output record where the 1-byte Metro Flag is to be posted. The Metro Flag indicates if the CBSA is a "Metropolitan Area" versus a "Micropolitan Area."

CNFOUT – Confidence Assignment Output Record

CNFOUT is an optional parameter that provides confidence information about the Place, MCD and/or County to be posted to the output record.

CNFOUT Parameter Record Definition		
Position	Field Name	Description
1-6	KEYWORD	Parameter name: CNFOUT
8-10	Location for 2-byte Confidence Surface Type	Confidence Surface types: 0 Undefined 1 The search failed - address was not found 2 Intersection confidence-surface generated 3 Interpolated street segment 4 Point level match 5 State confidence-surface generated 6 County confidence-surface generated 7 City confidence-surface generated 8 Reserved 9 A ZIP confidence-surface generated 10 A ZIP + 2 confidence-surface generated 11 A ZIP + 4 confidence-surface generated 12 Reserved 13 A street centroid confidence-surface generated
12-14	Location for 3-byte Place Code Confidence Code	Output number is percentage confidence
16-18	Location for 3-byte MCD Confidence Code	Output number is percentage confidence
20-22	Location for 10-byte Place Code Point Status and distance	9-byte distance of the point to the polygon and the 1-byte status of the point: P Point in the polygon. I Point in the buffer inside the polygon. B Point in the buffer, outside of the polygon. blank Polygon not found.
24-26	Location for 10-byte MCD Point Status and distance	9-byte distance of the point to the polygon and the 1-byte status of the point: P Point in the polygon. I Point in the buffer inside the polygon. B Point in the buffer, outside of the polygon. blank Polygon not found.

CNFOUT Parameter Record Definition		
28-30	Location for 3-byte County Confidence level	Output number is percentage confidence

FIRMNM – Firm Name Input

The optional FIRMNM parameter record allows firm or building names to be used as inputs for matching.

FIRMNM Parameter Record Definition		
Position	Field Name	Description
1-6	KEYWORD	Parameter name: FIRMNM
8-10	Location of input firm name	Location on input record for firm name
12-13	Length of input firm name	Length of firm name on input record
15-17	Location of output standardized firm name	Location on output record for standardized firm name
19-20	Length of output standardized firm name	Length of standardized firm name on output record

LATLON – Latitude/Longitude Input

The optional LATLON parameter record allows latitude/longitude coordinates to be used as inputs for matching.

The required format for the input coordinates is as follows:

Latitude - 00.000000 or without the decimal point 00000000

Longitude - 000.000000 or without the decimal point 000000000

or 00.000000 or without the decimal point 00000000

LATLON Parameter Record Definition		
Position	Field Name	Description
1-6	KEYWORD	Parameter name: LATLON
8-10	Location of input Latitude	Location on input record for Latitude
12-13	Length of input Latitude	Length of Latitude on input record
15-17	Location of input Longitude	Location on input record for Longitude
19-20	Length of input Longitude	Length of Longitude on input record

TAXOUT – Pitney Bowes Software Sales and Use Tax Rate Output

The optional TAXOUT parameter record provides a way to specify the posting of sales and use tax rate data to the output records. TAXOUT data can include the Tax Rate General Return Code (GRC), the sales & use tax rates for the state, county and municipality as well as a combined rate which is the total sum of the individual sales or use tax rates. A license for the Pitney Bowes Software Sales and Use Tax Rate reference file is required and must be installed for this parameter to function. One TAXOUT card is allowed.

NOTE: The format of the returned tax rate field is a 10-character decimal value, for example, 0.08250000 which represents a tax rate of 8.25%.

TAXOUT Parameter Record Definition		
Position	Field Name	Description
1-6	KEYWORD	Parameter name: TAXOUT
8	1-byte Tax Rate Type	Specifies the type of tax rate to return. Valid values: A Automotive C Construction G General M Medical
10-12	Output location for 1-byte Tax Rate Return Code	Location on the output record where the 1-byte Return Code is posted: E Exact match P Partial match A Alternate match N Default match Blank No match
14-16	Output location for 10-byte Combined Sales Tax Rate	Location on the output record where the sum of the state, county, municipality and SPD sales tax rates is posted. Format is 0.00000000
18-20	Output location for 10-byte State Sales Tax Rate	Location on the output record where the state sales tax rate is posted. Format is 0.00000000
22-24	Output location for 10-byte County Sales Tax Rate	Location on the output record where the county sales tax rate is posted. Format is 0.00000000
26-28	Output location for 10-byte Municipality Sales Tax Rate	Location on the output record where the municipality sales tax rate is posted. Format is 0.00000000
30-32	Output location for 10-byte Combined Use Tax Rate	Location on the output record where the sum of the state, county, municipality and SPD use tax rates is posted. Format is 0.00000000

TAXOUT Parameter Record Definition		
Position	Field Name	Description
34-36	Output location for 10-byte State Use Tax Rate	Location on the output record where the state use tax rate is posted. Format is 0.00000000
38-40	Output location for 10-byte County Use Tax Rate	Location on the output record where the county use tax rate is posted. Format is 0.00000000
42-44	Output location for 10-byte Municipality Use Tax Rate	Location on the output record where the municipality use tax rate is posted. Format is 0.00000000

Modified Parameter Records

The following parameter records have been modified in GeoTAX release 7.0. Only the changed fields are shown in the tables. For the complete parameter record definition, please refer to the *GeoTAX Premium 7.0 User's Guide*.

CONFIG – Configuration Input Record

CONFIG is an optional parameter that provides you with a way to specify whether you want to use the street address, state-supplied, GeoTAX Auxiliary, or User Auxiliary database during matching. The GeoTAX 7.0 release gives you additional options for specifying matching modes and functions.

CONFIG Parameter Record Change Description		
Added Fields:		
Position	Field Name	Description
32	First Letter Expanded Option	Enables extra processing for bad first letter (missing, wrong, etc.): Y - Yes N - No (default)
34	Street Centroid Option	Attempts to find the centroid of a street if unable to match address: Y – Yes N – No (default)
36	Address Range Option	Enables address range matching and geocoding: Y – Yes N – No (default)
40	Alternate Lookup Option	Specifies the preferred lookup method: 1 – Matches to Address line then Firm Name line 2 – Matches to Firm Name line then Address line 3 – Matches to Address line only (default)

CONFIG Parameter Record Change Description		
Added Fields:		
Position	Field Name	Description
42	Address Match Mode	Controls the closeness of match rules used for matching: 0 – Enable 'Exact' address match mode 1 – Enable 'Close' address match mode (default) 2 – Enable 'Relaxed' address match mode
44	Fallback Geographic Option	Enables automatic fallback to the next best level: Y – Yes N – No (default)
46	Search Area Option	Assists in finding a match when the input address contains limited or inaccurate city or ZIP Code information. 1 – Searches the entire finance area (default) 2 – Expanded distance. Used in conjunction with radius below, searches radius in miles, but only within state
48-49	Expanded Distance Radius	Specifies distance, in miles, to use for the expanded search distance option above: 1-99 miles 25 miles (default)
51	Cache Size	Specifies relative cache size to be used in address matching. Controls the amount of memory that is allocated to store temporary street data during address processing. A smaller cache may slow the performance. A cache size of 2 gives best performance, but uses more memory. 0 – uses less memory 1 – uses medium memory 2 – uses more memory (default)
53	Address Point Interpolation Option	Enables address point interpolation: Y – Yes N – No (default)
55	Boundary Cache Size	The relative size of cache for boundary file matching: 0 No cache 1 Medium cache (default) 2 Large cache 3 Very large cache
57	Accept Multiple indicator	Indicates whether the address information of the 1 st match should be returned in a multi-match outcome: Y Return 1 st multiple information N Do not return information on multiple (default)

GEOOUT – Geographic Code Output Record

GEOOUT posts geographic codes to your name-and-address records. The 7.0 release adds fields to support recording of the optional Extended Geocode and Census Block ID values, and removes the option to record the ZIP Code in the County Flag.

GEOOUT Parameter Record Change Description		
Added Fields:		
Position	Field Name	Description
44	Minimum match level allowed	<p>Minimum match level you specified for posting geocode components.</p> <p>P Point level must be achieved.</p> <p>S Street Address level must be achieved (General Return code = S).</p> <p>9 ZIP + 4 level or Street Address level must be achieved (General Return Code = S or 9).</p> <p>5 ZIP Code, ZIP + 4, or Street Address levels must be achieved (General Return code = S, 9 or 5).</p> <p>F Fallback level or better must be achieved.</p> <p>blank No minimum specified.</p>
52-54	Location to store 15-byte Extended Geocode	<p>Location on output record for 15-byte Extended Geocode, comprising:</p> <p>2-byte State 3-byte County 6-byte Census Tract 1-byte Census Block Group 3-byte Census Block ID</p>
56-58	Location to store 3-byte Census Block ID	Location on output record for 3-byte Census Block ID.
60-62	Location to store 2-byte Data Type indicator	<p>Location on output record to store the 2-byte indicator which provides the file from which the match was obtained:</p> <p>0 USPS 1 TIGER 2 TomTom Street 6 NAVTEQ Street 7 TomTom Point 8 Centrus Point 11 NAVTEQ Point 90 State-supplied file 91 User Auxiliary file 92 Landmark Auxiliary file 93 GeoTAX Auxiliary file</p>
Modified Field:		
8-10	Location of General Return Code	See General Return Codes on page 67 for return values.

GEOOUT Parameter Record Change Description		
Deleted Field:		
60-62	Location to store ZIP Code in County Flag	Location to store the 1-byte ZIP Code in the County flag to indicate if the 5-digit ZIP Code boundary is wholly contained within the county boundary.

General Return Codes

The output General Return Code is based in part on the input indicator that you set for the minimum match level required to post the latitude/longitude coordinates. The minimum level input indicator is set in field 44 of GEOOUT. The following table shows the possible return codes (indicated by an 'X' in the column) for the specified minimum input level.

General Return Code	Description	Minimum match level allowed (field 44 in GEOOUT)				
		F - Fallback or better	5 - ZIP Code, ZIP+4 or Street Address level	9 - ZIP+4 or Street Address level	S - Street Address level	P - Point level
P	Address Point match	X	X	X	X	X
O	Input latitude/longitude coordinates match	X	X	X	X	X
L	Landmark Auxiliary file match	X	X	X	X	X
A	User Auxiliary file match	X	X	X	X	X
U	GeoTAX Auxiliary file match	X	X	X	X	X
I	Intersection match	X	X	X	X	
S	Street address match	X	X	X	X	
G	State-supplied file match	X	X	X	X	
9	ZIP+4 Code match	X	X	X		
5	ZIP Code match	X	X			
C	Street Centroid match	X				
F	Fallback Geographic match	X				
M	Multiple match (multi-match)					
X	Aborted processing or expired database					

General Return Code	Description	Minimum match level allowed (field 44 in GEOOUT)				
		F - Fallback or better	5 - ZIP Code, ZIP+4 or Street Address level	9 - ZIP+4 or Street Address level	S - Street Address level	P - Point level
Blank	Did not match					

IPDOUT – Insurance Premium Districts Output Record

The optional IPDOUT parameter record provides you with a way to specify the posting of Insurance Premium Tax Districts (IPD) data to your output records to enhance tax jurisdiction assignment. IPD data includes the IPD ID, IPD Name, IPD Type, and IPD Dates. You must have licensed and installed the IPD data file for this parameter to function. In GeoTAX 7.0, this parameter can now occur up to ten times (once for each possible district returned) rather than only up to 3 times. In addition, an optional field for the IPD confidence code has been included.

IPDOUT Parameter Record Change Description		
Added Field:		
Position	Field Name	Description
28-30	Output location for 3-byte IPD Confidence Code	Output number is percentage confidence.

LLOUT – Latitude/Longitude Output Record

LLOUT posts latitude/longitude information to your name-and-address records. It also allows you to set address matching levels and their respective details. This release adds an optional field for the latitude/longitude location code.

LLOUT Parameter Record Change Description		
Added Fields:		
Position	Field Name	Description
18	Indicator for minimum level to post latitude/longitude	Minimum level to post latitude/longitude: Z ZIP Code level T Tract level B Block group level 2 ZIP + 2 level Centroid 4 ZIP + 4 level Centroid R Address level P Point level (new option) Blank No minimum
36-38	Location to store Lat/Long Location Code	Location on output record for 4-byte Latitude/Longitude Location Code.

LLOUT Parameter Record Change Description		
Modified Field:		
8-10	Location to store 1-byte latitude/longitude level	Storage location for the output latitude/longitude level return code. See following tables for values.
Removed Fields:		
16	Code Indicating source of latitude/longitude	<p>If no Street-level match is found, indicates which postal database to search:</p> <p>B Use both file (default)</p> <p>C Use Base File exclusively</p> <p>Z Use ZIP+4 exclusively</p>
28	ZIP Code level match centroid determination	<p>ZIP Code level matching:</p> <p>T Return census tract centroid, if available, when a 5-digit match exists.</p> <p>Z Return ZIP Code centroid, if available, when a 5-digit match exists.</p> <p>Blank Default is T.</p>

Latitude/Longitude General Return Codes

The output latitude/longitude return code is based in part on the input indicator that you set for the minimum level required to post the latitude/longitude coordinates. The minimum level input indicator is set in field 18 of LLOUT. The following table shows the possible return codes (indicated by an 'X' in the column) for the specified minimum input level.

For example, if you set a minimum level of Address level (R), then the return code would be one of the following:

- P + Point-level Latitude/Longitude Return Code (see table for values in following section),
- U - GeoTAX Auxiliary,
- L - Landmark Auxiliary,
- O - Latitude/longitude was input,
- R - Street, or
- I - Intersection

All other values are not applicable to an Address level match and would not be returned.

If "Point" is set as a minimum level, then refer to [Point-Level Latitude/Longitude Return Codes](#) on page 70.

Latitude/Longitude General Return Code	Description	Minimum level to post latitude/longitude (field 18 of LLOUT)						
		Z ZIP Code	T Tract level	2 ZIP+2 level centroid	B Block group level	4 ZIP+4 level centroid	R Address level	P Point level
see table in next section	Point	X	X	X	X	X	X	X
U	GeoTAX Auxiliary	X	X	X	X	X	X	X
L	Landmark Auxiliary	X	X	X	X	X	X	X
O	Latitude/longitude was input	X	X	X	X	X	X	X
R	Street	X	X	X	X	X	X	
I	Intersection	X	X	X	X	X	X	
4	ZIP+4	X	X	X	X	X		
B	Block Group	X	X	X	X			
2	ZIP+2	X	X	X				
T	Census Tract	X	X					
Z	ZIP Code	X						
C	City Centroid							
S	State Centroid							

Point-Level Latitude/Longitude Return Codes

If the General Return Code (field 8-10 in GEOOUT) is “P” (point match), then the following values apply to the 2nd digit of the Lat/Long Level and indicate the source of the Point latitude/longitude coordinates:

Point-Level Return Code	Description
0	Latitude/longitude coordinates from User Dictionary.
2	Latitude/longitude coordinates from Parcel Centroid.
4	Latitude/longitude coordinates from Address Point.
5	Latitude/longitude coordinates from Structure Centroid.
7	Latitude/longitude coordinates from Manually-placed Point.
8	Latitude/longitude coordinates from Front Door Point.
9	Latitude/longitude coordinates from Driveway Offset Point.
A	Latitude/longitude coordinates from Street Access Point.
B	Latitude/longitude coordinates from Base Parcel Point.

PAYOUT – Payroll Tax District Output Record

The optional PAYOUT parameter record provides you with a way to specify the posting of Payroll Tax District (PAY) data to your output records to enhance tax jurisdiction assignment. PAY data includes PAY ID, PAY District ID, PAY Type, PAY Name, PAY Municipal Income Tax Flag, PAY Municipal EMS Tax Flag, PAY School District Income Tax Flag, and PAY Update Date. This release adds an optional field for the PAY confidence code.

PAYOUT Parameter Record Change Description		
Added Field:		
Position	Field Name	Description
48-50	Output location for PAY Confidence Code	Location on output record for 3-byte PAY Confidence Code; the output number is percentage confidence.

PCOUT – Place Codes Output Record

PCOUT posts place codes and names to your name-and-address records. GeoTAX 7.0 removes the ZIP Code in the city confidence code.

PCOUT Parameter Record Change Description	
Modified behavior:	The ZIP Code in City confidence code will no longer be stored on the output record.
Removed Field:	
Position	Description
38-40	Location to post ZIP Code in place/municipality flag This flag indicates if a ZIP Code’s boundary is contained wholly within the place or municipality: Y ZIP Code is contained within the place/municipality N ZIP Code is not contained within the place/municipality

PTDOUT – Property Tax Districts Output Record

The optional PTDOUT parameter record provides you with a way to specify the posting of Property Tax Districts (PTD) data to your output records to enhance tax jurisdiction assignment. PTD data includes the PTD ID, PTD Jurisdiction ID, PTD Type, PTD Name, and PTD Update Date. You must have licensed and installed the PTD data file for this parameter to function. In GeoTAX 7.0, this parameter can now occur up to ten times (once for each possible district returned) rather than only up to 4 times. This release also adds an optional field for the PTD confidence code.

PTDOUT Parameter Record Change Description	
Modified behavior:	This parameter can now occur up to ten times (once for each possible district returned) rather than only up to 4 times. Plus the confidence code for each district can be appended. Elements past 34 are removed.
Added Field:	

PTDOUT Parameter Record Change Description		
Position	Field Name	Description
32-34	Output location for PTD Confidence Code	Location on output record for 3-byte PTD Confidence Code; the output number is percentage confidence.

SPDOUT – Special Purpose Districts Output Record

The optional SPDOUT parameter record provides you with a way to specify the posting of Special Purpose Tax Districts (SPD) data to your output records to enhance tax jurisdiction assignment. SPD data includes the SPD Code, SPD Name, and SPD Dates. You must have licensed and installed the SPD data file for this parameter to function. You can define up to ten SPD cards. The 7.0 release adds an optional field for the SPD confidence code and output fields for the SPD Sales & Use Tax Rates.

SPDOUT Parameter Record Change Description		
Added Fields:		
Position	Field Name	Description
32-34	Output location for SPD Confidence Code	Location on output record for 3-byte SPD Confidence Code; the output number is percentage confidence.
36-38	Output location for 10-byte SPD Sales Tax Rate	Location on output record for 10-byte SPD Sales Tax Rate ¹
40-42	Output location for 10-byte SPD Use Tax Rate	Location on output record for 8-byte SPD Use Tax Rate ¹

1) The format of the returned tax rate field is a 10-character decimal value; for example, 0.08250000 represents a tax rate of 8.25%.

USROUT – User Districts Output Record

USROUT outputs the number of user districts found in your user-defined boundary file. GeoTAX has return areas for up to 10 districts. In GeoTAX 7.0, this parameter can now occur up to ten times (once for each possible district returned) rather than only up to 3 times. In addition, the USR confidence code for each district is provided.

USROUT Parameter Record Change Description		
Modified behavior:	This parameter can now occur up to ten times (once for each possible district returned) rather than only up to 3 times. Plus the confidence code for each district is appended. Elements past 26 are removed.	
Added Field:		
Position	Field Name	Description
24-26	Output location for USR Confidence Code	Location on output record for 3-byte USR Confidence Code; the output number is percentage confidence.

Removed Parameter Records

AX2OUT – GeoTAX Auxiliary file Output Record

The AX2OUT parameter record provided the means to post data from the user-defined portion of the GeoTAX Auxiliary file – this functionality is now supported in the AUXOUT parameter record.

EXITOP (GCP60)

The GCP60 EXITOP was an output exit routine that posted variable GeoTAX data to a record passed to it.

EXITOP (GCP70)

The GCP70 EXITOP was an output exit routine which provided the capability to post latitude/longitude coordinates and distance calculations.

Callable Functions Changes

GCP10 – GeoTAX ZIP Code Matcher

- Function deprecated

GTMATCH – GeoTAX Matcher Program

- Return of MSA code and name removed.
- Matcher Output Area (MOA) changed from 4000- to 6092-byte area.
- Matcher Audit Area (GTAADT) changed from 1,300,001- to 1,520,001-character area.
- Changes to MCA, MIA & MOA parameter areas noted in the following tables.

Matcher Control Area (MCA) Changes

New Fields

Matcher Control Area			
New fields:			
Position	Field Name	Length	Contents
2	MCA-FIRST-LETTER-EXP-OPT	1	First letter expanded option: Y Enable extra processing for bad first letter (missing, wrong, etc.) N No extra processing (default) Any other value is treated as N .
3	MCA-STREET-CENTROID-OPT	1	Street centroid option: Y Enable matching to a street segment. Returns street segment centroid information. N Normal matching to range only, rather than segment. (default) Any other value is treated as N .

Matcher Control Area

New fields:

4	MCA-ADDRESS-RANGE-OPT	1	<p>Address range matching option:</p> <p>Y Enable matching of house range input.</p> <p>N No range input matching. (default)</p> <p>Any other value is treated as N.</p>
6	MCA-ALTERNATE-LOOKUP-OPT	1	<p>Alternate lookup option:</p> <p>1 Street match preferred over firm match.</p> <p>2 Firm match preferred over street match.</p> <p>3 Match to address line only. (default)</p> <p>Any other value is treated as 3.</p>
7	MCA-ADDR-MATCH-MODE	1	<p>Match mode option:</p> <p>0 Enable 'Exact' address match mode.</p> <p>1 Enable 'Close' address match mode. (default)</p> <p>2 Enable 'Relaxed' address match mode.</p> <p>Any other value is treated as 1.</p>
8	MCA-FALL-BACK-GEOGRAPHIC-OPT	1	<p>Fallback geographic option:</p> <p>Y Find the first city, county, and/or state centroid, and then match from the set of possible matches found.</p> <p>N No geographic centroid search. (default)</p> <p>Any other value is treated as N.</p>
9	MCA-SEARCH-AREA-OPT	1	<p>Search area option:</p> <p>1 Search entire finance area for a match. (default)</p> <p>2 Search a given radius but stays in state (this option requires an input radius - see MCA-SEARCH-RADIUS below).</p> <p>Any other value is treated as 1.</p>
10	MCA-SEARCH-RADIUS	9	<p>Expanded search radius (in miles) to apply as the expanded search area when option 2 is selected in MCA-SEARCH-AREA-OPT above.</p> <p>1-99 miles - right justified, padded with zeroes to left.</p> <p>25 miles (default)</p> <p>A space or any non-numeric value is treated as a zero.</p>

Matcher Control Area

New fields:

19	MCA-CACHESIZE	1	<p>Relative cache size used in address matching. Controls the amount of memory that is allocated to store temporary street data during address processing. A smaller cache may slow the performance.</p> <p>0 Smallest memory usage.</p> <p>1 Middle memory usage.</p> <p>2 Largest memory usage. (default)</p> <p>Any other value is treated as 2.</p>
20	MCA-ADDRESS-POINT-INTERP-OPT	1	<p>Address point interpolation option (only for use with point level geocoding):</p> <p>Y Enable address point interpolation.</p> <p>N No address point interpolation. (default)</p> <p>Any other value is treated as N.</p>
21	MCA-BOUNDARY-CONF	1	<p>Boundary confidence option. Indicates if confidence codes for boundary matches should be returned:</p> <p>Y Return boundary confidence levels.</p> <p>N Do not return boundary confidence levels. (default)</p> <p>Any other value is treated as N.</p>
22	MCA-USER-BOUNDARY-CONF	1	<p>User boundary confidence option. Indicates if confidence codes for user boundary matches should be returned:</p> <p>Y Enable return of user boundary confidence levels.</p> <p>N Do not return user boundary confidence levels. (default)</p> <p>Any other value is treated as N.</p>
23	MCA-PLACE-CONF	1	<p>Place confidence option. Indicates if confidence codes for place matches should be returned:</p> <p>Y Enable return of place confidence levels.</p> <p>N Do not return place confidence levels. (default)</p> <p>Any other value is treated as N.</p>
24	MCA-COUSUB-CONF	1	<p>County subdivision confidence option. Indicates if confidence codes for county subdivision matches should be returned:</p> <p>Y Enable return of county subdivision confidence levels.</p> <p>N Do not return county subdivision confidence levels. (default)</p> <p>Any other value is treated as N.</p>

Matcher Control Area

New fields:

25	MCA-COUNTY-CONF	1	<p>County confidence option. Indicates if confidence codes for county matches should be returned:</p> <p>Y Enable return of county confidence levels.</p> <p>N Do not return county confidence levels. (default)</p> <p>Any other value is treated as N.</p>
26	MCA-LAT-LONG-INPUT	1	<p>Latitude/Longitude input option. Indicates if latitude/longitude coordinates will be input rather than address or ZIP code.</p> <p>Y Latitude/longitude coordinates to be used as input.</p> <p>N Address and lastline info to be used as input. (default)</p> <p>Any other value is treated as N.</p>
27	MCA-GET-MULTIPLE	1	<p>For a multi-match outcome, indicates which match result should be returned; valid values are 1-9.</p> <p>NOTE: Any non-numeric value will be ignored.</p>
28	MCA-BOUNDARY-CACHESIZE	1	<p>The relative size of cache used in boundary file matching:</p> <p>0 No caching</p> <p>1 Medium-sized cache (default)</p> <p>2 Large-sized cache</p> <p>3 Very large-sized cache</p> <p>Any other value is treated as 1.</p>
29	MCA-ACCEPT-MULTIPLE	1	<p>Indicates whether address information should be returned in a multi-match outcome:</p> <p>Y Accept multiples and return 1st match information in multi-match list</p> <p>N Do not accept multiples and return information. (default)</p> <p>Any other value will be treated as N.</p>
535	MCA-TAXRATE-MATCH-OPT	1	<p>Tax Rate matching indicator field. Indicates whether to enable tax rate matching and the type of tax rate to return:</p> <p>G Enable tax rate matching and return general rates.</p> <p>A Enable tax rate matching and return automotive rates.</p> <p>M Enable tax rate matching and return medical rates.</p> <p>C Enable tax rate matching and return construction rates.</p> <p>N Disable tax rate matching (default)</p> <p>Any other value returns zeros in the tax rate output fields.</p>

Modified Fields

Matcher Control Area			
Modified field:			
30-493	Reserved	464	

Removed Fields

Matcher Control Area			
Removed fields:			
The following fields 538-542 and 546 were changed to Reserved			
538	MCA-BGC	1	<p>Indicates if GeoTAX should perform Geographic Coding Base file processing.</p> <p>Y Returns geographic coding answers from the base file, and attempts to match latitude/longitude from the advanced file</p> <p>N Returns latitude/longitude from the advanced File and bypasses any other geographic coding</p> <p>Any other value is treated as Y. GeoTAX ignores this parameter if the Advanced file does not exist or cannot be found, or if option G for MCA-LLS is selected.</p>
539	MCA-BCN	1	<p>Indicates if GeoTAX should determine the county name:</p> <p>Y Attempt to determine the county name of any county code determined</p> <p>N Do not attempt to determine the county name of any county code determined</p> <p>Any other value is treated as Y.</p>
540	MCA-BMN	1	<p>Indicates if GeoTAX should determine the MSA name:</p> <p>Y Attempt to determine the MSA name of any MSA code determined</p> <p>N Do not attempt to determine the MSA name of any MSA code determined</p> <p>Any other value is treated as Y.</p>
541	MCA-BPN	1	<p>Indicates if GeoTAX should determine the place name:</p> <p>Y Attempt to determine the place name of any place code determined</p> <p>N Do not attempt to determine the place name of any place code determined</p> <p>Any other value is treated as Y.</p>

Matcher Control Area**Removed fields:**

The following fields 538-542 and 546 were changed to Reserved

542	MCA-ZLL	1	<p>ZIP Code-level latitude/longitude source:</p> <p>T Return census tract centroid, if available, when a 5-digit match exists</p> <p>Z Return ZIP Code centroid, if available, when a 5-digit match exists</p> <p>NOTE: Any other value is treated as T. If option T is used and no census tract centroid is found, ZIP Code centroid is returned if available. This field is ignored if the value of CCILLS (latitude/longitude source) above is Z.</p>
546	MCA-LLS	1	<p>Latitude/longitude source used to determine which postal files the latitude/longitude is obtained from:</p> <p>G Base master file</p> <p>Z Advanced feature</p> <p>B Both Base and Advanced</p> <p>Any other value is treated as B.</p>

Matcher Input Area (MIA) Changes

New Fields

Matcher Input Area (MIA)			
New fields:			
Position	Field Name	Length	Contents
423-722	MIA-ADR-BLK	300	Input address block, consisting of 1 firm name line and 2 address lines, each 100 bytes long. If country, ZIP/postal code, city, or state/county input fields are blank or invalid, this area is searched for those values.
723-1322	Reserved	600	
1323-1344	MIA-LAT-LONG	22	Input latitude (11 bytes) and longitude (11 bytes). The required format for the input coordinates is as follows: Latitude: 00.000000 or without the decimal point 00000000 Longitude: 000.000000 or without the decimal point 000000000; or 00.000000 or without the decimal point 00000000
1345-1416	MIA-LIC-FILE-PATH	72	License File path and name
1417-1424	MIA-LIC-PASSWORD	8	License File password

Modified Fields

Matcher Input Area (MIA)			
Modified fields:			
Position	Field Name	Length	Contents
1425-1500	Reserved	76	

Matcher Output Area (MOA) Changes

- MOA parameter area changed from 4000 bytes to 6092 bytes

New Fields

Matcher Output Area (MOA):			
New fields:			
Position	Field Name	Length	Contents
203-222	MOA-TAXRATE-VINTAGE	20	PB Software Sales and Use Tax Rate File vintage.
223-262	MOA-TAXRATE-VERSION	40	PB Software Sales and Use Tax Rate File software create version.
263-382	Reserved	120	
4756-4908	Reserved	153	
4909	MOA-PLACE-BUFFER-RC	1	Status of the buffered point: P Point in the polygon I Point in the buffer inside the polygon B Point in the buffer, outside of the polygon blank Polygon not found.
4910-4918	MOA-PLACE-DISTANCE	9	Distance, in feet, from the place district border.
4919	MOA-COUSUB-BUFFER-RC	1	Status of the buffered point: P Point in the polygon I Point in the buffer inside the polygon B Point in the buffer, outside of the polygon blank Polygon not found.
4920-4928	MOA-COUSUB-DISTANCE	9	Distance, in feet, from the county subdivision district border.

Matcher Output Area (MOA):

New fields:

Position	Field Name	Length	Contents
4929-4930	MOA-SURFACE-TYPE	2	Confidence Surface types: 0 Undefined 1 The search failed - address was not found 2 Intersection confidence-surface generated 3 Interpolated street segment 4 Point level match 5 State confidence-surface generated 6 County confidence-surface generated 7 City confidence-surface generated 8 Reserved 9 A ZIP Code confidence-surface generated 10 A ZIP + 2 confidence-surface generated 11 A ZIP + 4 confidence-surface generated 12 Reserved 13 A street centroid confidence-surface generated
4931-4933	MOA-CONF-PLACE	3	The returned confidence code for a place.
4934-4936	MOA-CONF-COUSUB	3	The returned confidence code for a county subdivision.
4937-4939	MOA-CONF-COUNTY	3	The returned confidence code for a county.
4940-4969	MOA-CONF-BND	3	The returned confidence code for a comparison to a boundary file. Data occurs in 10 blocks of 3 bytes each.
4970-4999	MOA-CONF-USER-BND	3	The returned confidence code for a comparison to a user-defined boundary file. Data occurs in 10 blocks of 3 bytes each.
5000	Reserved	1	
5001-5004	MOA-ADDR-MATCH-CODE	4	The returned Match Code indicates the portions of the address that matched or did not match to the reference file.
5005-5008	MOA-ADDR-LOC-CODE	4	The returned Location Code indicates the methodology used to compute the geocode and may also provide information about the accuracy of the assigned geocode.
5009-5028	MOA-ADDR-DB-VERSION	20	Address Matcher database version.
5029-5068	MOA-ADDR-SW-VERSION	40	Address Matcher software version.
5069-5108	MOA-ADDR-FIRM-NAME	40	Output Firm name.
5109-5168	MOA-ADDR-ADDRESS-LINE-1	60	Output Address Line 1.

Matcher Output Area (MOA):**New fields:**

Position	Field Name	Length	Contents
5169-5228	MOA-ADDR-ADDRESS-LINE 2	60	Output Address Line 2.
5229-5288	MOA-ADDR-LAST-LINE	60	Output Address Last Line.
5289-5318	MOA-ADDR-URB	30	Output urbanization name.
5319-5346	MOA-ADDR-CITY	28	Output city.
5347-5348	MOA-ADDR-STATE-ABBREV	2	Output state abbreviation.
5349-5353	MOA-ADDR-ZIP	5	Output ZIP Code.
5354-5347	MOA-ADDR-ZIP4	4	Output 4-character add-on code for ZIP+4 Code.
5358-5368	MOA-ADDR-HOUSE-NUM	11	Output house number.
5369-5370	MOA-ADDR-PRE-DIR	2	Output pre-directional.
5371-5410	MOA-ADDR-STREET-NAME	40	Output street name.
5411-5414	MOA-ADDR-STREET-TYPE	4	Output street type.
5415-5416	MOA-ADDR-POST-DIR	2	Output post-directional.
5417-5420	MOA-ADDR-UNIT-TYPE	4	Output secondary type (e.g. Apt, Suite).
5421-5431	MOA-ADDR-UNIT-NUM	11	Output secondary number.
5432-5436	MOA-CBSA-CODE	5	CBSA code.
5437-5511	MOA-CBSA-NAME	75	CBSA name.
5512-5516	MOA-CBSAD-CODE	5	CBSA Division code.
5517-5588	MOA-CBSAD-NAME	72	CBSA Division name.
5589-5591	MOA-CSA-CODE	3	CSA code.
5592-5668	MOA-CSA-NAME	77	CSA name.
5669	MOA-METRO-FLAG	1	Metropolitan flag. Indicates if the CBSA is a "Metropolitan Statistical Area" or a "Micropolitan Statistical Area".
5670	MOA-NUM-MULTIPLE	1	The number of multiple matches found for a given input address.

Matcher Output Area (MOA):

New fields:

Position	Field Name	Length	Contents
5671-5672	MOA-ADDR-DATA-TYPE	2	Indicates the file from which the match was obtained: 0 USPS 1 TIGER 2 TomTom Street 6 NAVTEQ Street 7 TomTom Point 8 Centrus Point 11 NAVTEQ Point 90 State-supplied file 91 User Auxiliary file 92 Landmark Auxiliary file 93 GeoTAX Auxiliary file
5673-5799	Reserved	127	
5800	MOA-TAXRATE-GRC	1	Tax Rate return code denoting the level of match obtained against the PB Software Sales and Use Tax Rate table: E Exact match, using all 5 fields P Partial match, using 4 fields A Alternate match, using 3 fields N Record is default-coded based on valid state code Blank No matching PB Software Sales and Use Tax Rate record found.
5801-5810	MOA-TAXRATE-SALES-COMBINED	10	The sum of the state, county, municipality and SPD sales tax rates.
5811-5820	MOA-TAXRATE-SALES-STATE	10	State sales tax rate.
5821-5830	MOA-TAXRATE-SALES-COUNTY	10	County sales tax rate.
5831-5840	MOA-TAXRATE-SALES-MUNI	10	Municipality sales tax rate.
5841-5940	MOA-TAXRATE-SALES-SPD	10	SPD 1-10 sales tax rates. Data occurs in 10 blocks of 10 bytes each.
5941-5950	MOA-TAXRATE-USE-COMBINED	10	The sum of the state, county, municipality and SPD use tax rates.
5951-5960	MOA-TAXRATE-USE-STATE	10	State use tax rate.
5961-5970	MOA-TAXRATE-USE-COUNTY	10	County use tax rate.

Matcher Output Area (MOA):**New fields:**

Position	Field Name	Length	Contents
5971-5980	MOA-TAXRATE-USE-MUNI	10	Municipality use tax rate.
5981-6080	MOA-TAXRATE-USE-SPD	10	SPD 1-10 use tax rates. Data occurs in 10 blocks of 10 bytes each.
6081-6092	Reserved	12	

Modified Fields**Matcher Output Area (MOA)****Modified fields:**

Position	Field Name	Length	Contents
1	MOA-ABEND-RC	2	Return code from matcher abnormal termination. The first character indicates the file (or set of files affected). Blank Matcher terminated normally A User Auxiliary file problem CE cousub.txb file problem CI Confidence engine problem D Boundary file problem F User Boundary file problem G Address Matching engine problem L Licensing problem S State file problem U GeoTAX Auxiliary file problem X Combination of street and state file problem Z zip.gsb file problem The second position is: E Fatal issue, program terminating F Expired database I Informational
407	MOA-ST-IND	1	F Indicates if the match results are from the Florida State files.

Matcher Output Area (MOA)

Modified fields:

Position	Field Name	Length	Contents
433	MOA-GRC	1	<p>General return codes:</p> <ul style="list-style-type: none">5 ZIP Code match9 ZIP + 4 Code matchA User Auxiliary file matchC Street Centroid matchF Fallback Geographic matchG State-supplied file matchI Intersection matchL Landmark Auxiliary file matchM Multiple match (multi-match)O Input Latitude/Longitude coordinates matchP Address point matchS Street address matchU GeoTAX Auxiliary file matchX Aborted processing or expired databaseblank Did not match <p>NOTE: GeoTAX attempts matches to files in the following order: Landmark Auxiliary File, User Auxiliary File, state-supplied file, GeoTAX Auxiliary file, Points file, then Streets file.</p>

Matcher Output Area (MOA)

Modified fields:

Position	Field Name	Length	Contents
690	MOA-LATLONG-LEVEL	1	<p>The latitude/longitude coordinates may be returned from one of a number of possible sources, some of which are optional. The output latitude/longitude level return code is a single character denoting the level for which the geocode was determined, as follows:</p> <p>2 ZIP + 2 Code centroid 4 ZIP + 4 Code centroid B Block group centroid C City centroid L Landmark Auxiliary file O Latitude/longitude was matched as input R Street latitude/longitude based on street address S State centroid T Census tract centroid U GeoTAX Auxiliary file Z ZIP Code centroid</p> <p>blank Could not determine latitude/longitude.</p> <p>If the General Return Code (MOA-GRC) is "P" (point match), then the following are possible values and have the following meaning:</p> <p>0 Latitude/longitude coordinates from User Dictionary. 2 Latitude/longitude coordinates from Parcel Centroid. 4 Latitude/longitude coordinates from Address Point. 5 Latitude/longitude coordinates from Structure Centroid. 7 Latitude/longitude coordinates from Manually-placed Point. 8 Latitude/longitude coordinates from Front Door Point. 9 Latitude/longitude coordinates from Driveway Offset Point. A Latitude/longitude coordinates from Street Access Point. B Latitude/longitude coordinates from Base Parcel Point.</p>
5109-5168	MOA-ADDR-ADDRESS-LINE-1	60	Output Address Line 1.
5169-5228	MOA-ADDR-ADDRESS-LINE-2	60	Output Address Line 2.
5229-5288	MOA-ADDR-LAST-LINE	60	Output Address Last Line.

Matcher Output Area (MOA)**Modified fields:**

Position	Field Name	Length	Contents
5289-5318	MOA-ADDR-URB	30	Output urbanization name.
5319-5346	MOA-ADDR-CITY	28	Output city.
5347-5348	MOA-ADDR-STATE-ABBREV	2	Output state abbreviation.
5349-5353	MOA-ADDR-ZIP	5	Output ZIP Code.
5354-5357	MOA-ADDR-ZIP4	4	Output ZIP+4 Code.
5358-5368	MOA-ADDR-HOUSE-NUM	11	Output house number.
5369-5370	MOA-ADDR-PRE-DIR	2	Output pre-directional.
5371-5410	MOA-ADDR-STREET-NAME	40	Output street name.
5411-5414	MOA-ADDR-STREET-TYPE	4	Output street type.
5415-5416	MOA-ADDR-POST-DIR	2	Output post-directional.
5417-5420	MOA-ADDR-UNIT-TYPE	4	Output secondary type (e.g. Apt., Suite).
5421-5431	MOA-ADDR-UNIT-NUM	11	Output secondary number.

Removed Fields

Matcher Output Area (MOA):			
Removed fields:			
Position	Field Name	Length	Contents
203-222	MOA-BASE-VINTAGE	20	Base matcher file vintage
223-262	MOA-BASE-VERSION	40	Base matcher file software create version.
263-282	MOA-ADVANCED-VINTAGE	20	Advanced file vintage.
283-322	MOA-ADVANCED-VERSION	40	Advanced file software create version.
323-342	MOA-STREET-VINTAGE	20	Street address file vintage.
343-382	MOA-STREET-VERSION	40	Street address file software create version.
482-485	MOA-MSA-CODE	4	Metropolitan Statistical Area (MSA) Code
486-535	MOA-MSA-NAME	50	MSA Name
688	MOA-CONF-CITY	1	Indicates if the 5-digit ZIP Code is wholly contained within the boundary of the place or municipality: Y ZIP is wholly contained within place or municipality N ZIP is not wholly contained within place or municipality Blank Unknown, or match not at the ZIP level.
689	MOA-CONF-CNTY	1	Indicates if the 5-digit ZIP Code is wholly contained within the boundary of the county: Y ZIP is wholly contained within the county N ZIP is not wholly contained within the county Blank Unknown or match was not at the ZIP level.

Matcher Audit Area (GTAADT) Changes

- GTAADT area changed from 1,300,001 bytes to 1,520,001 bytes

New Fields

Matcher Audit Area (GTAADT)			
New fields:			
Position	Field Name	Length	Contents
Fields added to the audit area.			
	GTAA-MAT-L	5	Count of Landmark Auxiliary matches.
	GTAA-MAT-P	5	Count of Point matches.
	GTAA-MAT-I	5	Count of Intersection matches.
	GTAA-MAT-C	5	Count of Street Centroid matches.
	GTAA-MAT-F	5	Count of Fallback Geocoding matches.
	GTAA-MAT-M	5	Count of Multiple matches.
	GTAA-LL-L	5	Latitude/Longitude Landmark Auxiliary level matches counts.
	GTAA-LL-P	5	Latitude/Longitude Point level matched counts.
	GTAA-LL-I	5	Latitude/Longitude Intersection level matched counts.
	GTAA-LL-C	5	Latitude/Longitude City Centroid level matched counts.
	GTAA-LL-S	5	Latitude/Longitude State Centroid level matched counts.

GTDBINFO – Database Version Program

The fields related to the Base File (Month, Year, Expiration Month & Year, and Days until Expiration) have been removed – these fields are now reserved.

GTDBINFO			
Removed fields:			
Position	Field Name	Length	Contents
31-32	Base File Month	2	2-digit numeric month of Base file vintage
33-36	Base File Year	4	4-digit numeric year of Base file vintage
37-38	Base File Expiration Month	2	2-digit numeric month of Base file expiration
39-42	Base File Expiration Year	4	4-digit numeric year of Base file expiration
43-45	Base File Days Left	3	3-digit number of days until Base file expires

MFDIST – Distance Calculator Program

A DSRSV Reserved Parameter Area has been added.

DSRSV Reserved Parameter Area			
New area:			
Position	Field Name	Length	Contents
1-320	Reserved	320	

Fixed Change Requests and Known Issues

Fixed Change Requests

The list below represents all of the change requests addressed in this release. Please review this list carefully to determine whether the following corrections apply to your situation.

Item Number	Change Request	Description		
CENTRUS-9562	Case 03143979	Fixed a problem where entering a large numeric character string (greater than 18 numbers) in the input address resulted in the return of special characters in Address Line 1.		
		<table border="1"> <tr> <td>Input address</td> <td>PO Box 1234569145678945654654 Greeley, CO 80634</td> </tr> </table>	Input address	PO Box 1234569145678945654654 Greeley, CO 80634
		Input address	PO Box 1234569145678945654654 Greeley, CO 80634	
		<table border="1"> <tr> <td>New match results</td> <td>PO BOX 12345691456 GREELEY, CO 80634 Match Code: E022</td> </tr> </table>	New match results	PO BOX 12345691456 GREELEY, CO 80634 Match Code: E022
New match results	PO BOX 12345691456 GREELEY, CO 80634 Match Code: E022			
<table border="1"> <tr> <td>Old match results</td> <td>PO BOX 123456914567ÿÿÿ GREELEY, CO 80634 Match Code: E022</td> </tr> </table>	Old match results	PO BOX 123456914567ÿÿÿ GREELEY, CO 80634 Match Code: E022		
Old match results	PO BOX 123456914567ÿÿÿ GREELEY, CO 80634 Match Code: E022			
CENTRUS-9578	Case 03147752	Corrected an issue where the Find First Letter Expanded and Find Street Centroid options are set to true, and a street segment was found; however, the matching process continued and returned additional, less accurate results.		
		<table border="1"> <tr> <td>Input address</td> <td>1407 Victory Drive, Austin, TX 78704</td> </tr> </table>	Input address	1407 Victory Drive, Austin, TX 78704
		Input address	1407 Victory Drive, Austin, TX 78704	
		<table border="1"> <tr> <td>New match results</td> <td>1407 VICTORY DRIVE AUSTIN, TX 78704 Match code: E029</td> </tr> </table>	New match results	1407 VICTORY DRIVE AUSTIN, TX 78704 Match code: E029
New match results	1407 VICTORY DRIVE AUSTIN, TX 78704 Match code: E029			
<table border="1"> <tr> <td>Old match results</td> <td>1407 VICTORY DRIVE AUSTIN, TX 78704 Match code: E030 CATER DR AUSTIN, TX 78704 Match code: C08</td> </tr> </table>	Old match results	1407 VICTORY DRIVE AUSTIN, TX 78704 Match code: E030 CATER DR AUSTIN, TX 78704 Match code: C08		
Old match results	1407 VICTORY DRIVE AUSTIN, TX 78704 Match code: E030 CATER DR AUSTIN, TX 78704 Match code: C08			
CENTRUS-9796		Corrected an issue to improve the placement of interpolated address points in cases where the points are located on curved roads.		
CENTRUS-9800		Fixed an issue to ensure an interpolated address point candidate returns the correct ZIP Code for the matched Finance area.		
CENTRUS-9802		Made changes to use exact address point interpolation of points that are located in parcels that are aligned orthogonally to the street.		

Item Number	Change Request	Description
CENTRUS-9803		Fixed an issue to improve the return of an interpolated address point when N-N house numbers, box or lot numbers are specified in the input address.
CENTRUS-10354		Improved matching of alphanumeric house numbers that start with the letter I.
CENTRUS-10361	MMCUSTSUP-884	Corrected an issue in singleline where an invalid ZIP Code was incorrectly returning GS-SUCCESS (COBOL API).
CENTRUS-10363, CENTRUS-10364		Improved handling of alphanumeric house numbers input with a space between numeric and alpha characters.
GEOTAX-1560		Corrected an issue with the casing not working on the County name on matches to the GeoTAX Auxiliary file.
GEOTAX-1567		Fixed a problem with the input address not passing through if the data failed to match.
GEOTAX-1577	Case 03496259	Added a missing geotax.h file which was creating a runtime error on the Solaris platform.
GEOTAX-1584	Case 03526079	Added a missing geotax.h file which was creating a runtime error on the UNIX platform.
GEOTAX-1593		When using a GeoTAX Auxiliary file, the latitude/longitude coordinates, when available, are now being used.
GEOTAX-1665		Fixed issue where city name has to be uppercased before Taxware lookup to match the Taxware file.

Known Issues

The following is the known issue for this release.

- The GeoStan version number 29.01 is not reported.

GeoTAX Premium Installation – Uninstall Recommended

NOTE: You will need to uninstall existing versions of the software prior to installing the new release for best results. This will ensure that all software components are installed correctly for the new release. Failure to uninstall prior to installing the new release may produce unpredictable results.

GeoTAX Premium on z/OS Installation Instructions

The installation process involves the following steps. These steps assume you have already downloaded the .exe or .zip file and unzipped it to extract the files.

1. FTP the IDSINSTL JCL.
2. Customize the IDSINSTL JCL.
3. Run the IDSINSTL job.
4. (Optional) Re-link object modules to create load modules.

NOTE: You can bypass this step if your facility allows you to install load modules. Some products are now delivered in load module format. This enables you to get up and running much faster than ever before. Once the IDSINSTL job completes, you can install any required databases (using the current load library where applicable) and run your regression/IVP tests. Once you are satisfied with the results, you can schedule migrating the new modules into your production environment. No relinking required.

5. Load or reload the database.
6. Run the installation verification procedure to ensure a successful install.
7. Configure and test CICS, if applicable.

Upgrade Path

While we strive to maintain backwards compatibility, the change to a single-step process will require some minor changes to existing processes.

For batch processing, change the input file in the GeoTAX batch driver to what was being used as input to Code-1 Plus. The next step is to copy the address output storage locations from your Code-1 Plus parameter card to create the new ALOUT parameter card in GeoTAX Premium as illustrated in the following examples.

If your system relies on a custom program to process your customer data the change to single step processing is also a relatively simple change. The simplified COBOL code examples below provide an example of the needed changes. Any references to Code-1 Plus can be removed and the input address elements are then moved directly to the GeoTAX calling area.

Existing two-step processing

```
*** CODE 1 PLUS SETTINGS AND CALL

      MOVE INPUT-STREET-INFO TO P9IAD1.
      MOVE INPUT-CITY-STATE  TO P9ICST.
      MOVE INPUT-ZIP-CODE    TO P9IZIP.
      MOVE INPUT-ZIP-4      TO P9IZIP4.

      CALL "C1MATCHL" USING P9IN P9OUT P9AUDIT.

* Optional logic for handling of cleansed address

*** GEOTAX SETTINGS AND CALL

      MOVE "N"                TO MCA-BMN.
      MOVE "N"                TO MCA-GTX.
      MOVE "B"                TO MCA-LATLONG-OFFSET.
      MOVE SPACES              TO MIA-STREET-1.
      MOVE P9OSAD              TO MIA-STREET-1.
      MOVE SPACES              TO MIA-CITY.
      MOVE P9OCTL              TO MIA-CITY.
      MOVE P9OSTA              TO MIA-STATE.
      MOVE P9OCZP              TO MIA-ZIP.
      MOVE P9OZP4              TO MIA-Z4.
      MOVE SPACES              TO MATCHER-OUTPUT-AREA.

      CALL "GTMATCH" USING MATCHER-PARAMETERS.

* Optional logic for handling of jurisdiction assignments
```

GeoTAX Premium one-step processing

```
*** GEOTAX SETTINGS AND CALL

      MOVE "N"                TO MCA-BMN.
      MOVE "N"                TO MCA-GTX.
      MOVE "B"                TO MCA-LATLONG-OFFSET.
      MOVE SPACES              TO MIA-STREET-1.
      MOVE INPUT-STREET-INFO TO MIA-STREET-1.
      MOVE SPACES              TO MIA-CITY.
      MOVE INPUT-CITY          TO MIA-CITY.
      MOVE INPUT-STATE         TO MIA-STATE.
      MOVE INPUT-ZIP-CODE     TO MIA-ZIP.
      MOVE INPUT-ZIP-4        TO MIA-Z4.
      MOVE SPACES              TO MATCHER-OUTPUT-AREA.

      CALL "GTMATCH" USING MATCHER-PARAMETERS.

* Optional logic for handling of cleansed address
* Optional logic for handling of jurisdiction assignments
```

This same logic applies to applications that utilize the Enterprise Tax Module on the Spectrum Platform. Custom programs or data flows that use the ValidateAddress service can now pass their input records directly to the AssignGeoTAXInfo service.

Database Compatibility

NOTE: The GeoTAX Premium 7.3 release uses a different data format than previous releases. You must download and install the GeoTAX Premium database for use in this version. The GeoTAX Premium database is not compatible with any previous releases. For data installation instructions, see “Loading GeoTAX Data” in the *GeoTAX Premium User’s Guide*.

Platform-specific Changes

New Platforms

For this GeoTAX software release, the following additional platform is supported:

- IBM z/OS

Retired and Unsupported Platforms

Please note that we are no longer supporting:

- Windows XP Professional
- Windows Server 2003
- Windows Server 2008 32-bit
- AIX 5.3
- Solaris 9
- SUSE 9

GeoTAX Premium 7.3 is currently not supported on the following platform:

- IBM i

For Further Assistance

If you have any questions about this release, please contact us via the web, email, or phone for further assistance:

- Create a case in our [Online Case Management System](#),
- Send an email to software.support@pb.com, or
- Call our toll-free number, +1 800.367.6950.

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