



Location Intelligence

# GeoTAX<sup>®</sup> Matrix

## 6.1.4.7 Release

# Technical Notes



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# Introduction

Pitney Bowes is pleased to announce the release of GeoTAX Matrix 6.1.4.7. This release is available for Internet download from the Pitney Bowes Software eStore and Technical Support Web site, [www.g1.com/support](http://www.g1.com/support).

Listed below is an overview of the release documentation, release highlights and database compatibility for this release.

Although we will continue to provide Level 1 technical support for GeoTAX Matrix 6.1.4.6, any future product updates will only be provided for the 6.1.4.7 version of this product.

## Release Documentation

The technical notes and installation guides for GeoTAX Matrix 6.1.4.7 are available for viewing and download from the Pitney Bowes Technical Support Web site, <http://www.g1.com/support>. To access these documents, log into the Support site and select **Documentation**. Then, select **Technical Product Info** for the technical notes, or **Installation Guides** for the installation documentation.

## Highlights and General Enhancements

The enhancements and new features introduced in GeoTAX Matrix 6.1.4.7 include:

- **Extended Match Code for House Number, Unit Number and Unit Type Matching**

A new Extended Match Codes property has been added that enables the return of additional information about any changes in the matched address from the input address for house number, unit number and unit type. In addition, it includes when input information in the input address line has been ignored. This is particularly useful in identifying whether or not the input unit number was specifically matched, or just the main address was matched, for a multi-unit address. When enabled, the Extended Match Code appends a 3<sup>rd</sup> hex digit to the match code.

- **Improved Handling of Hyphenated House Numbers**

Improvements have been made in cases where the input address has a hyphenated house number (N-M). If the input street does not have a hyphenated range, the match is made using "N" as the house number and "M" as the unit number. For example, 18-20 Morton St., 02907 now returns 18 Morton St #20, 02907 since "Morton St" does not have a hyphenated range. In addition, in cases where the input address has a number, followed by a dash and an ordinal street, a match is now made and returns correct address information.

- **Enhancements in Handling of Misspelled Street Suffixes**

Enhancements have been made to the handling of misspelled street suffixes. Additional matches are now made in spite of the misspellings; for example, 1861 Lincoln Hgy East, now matches to 1861 LINCOLN HWY E.

This enhancement also provides improved matches. For example, 5834 Brookstone Ovlk previously matched to 5834 BROOKSTON WALK NW, now returns a correct match to 5834 BROOKSTONE OVERLOOK NW.

- **Improved Matching of Addresses with Conjunction Tokens**

Improved matching of addresses that contain conjunction tokens (AND, AT and &), such as:

- Firms or POI's that have conjunction tokens. For example: PARK & RIDE-OLDE TOWN ARVADA, 80002
- Intersections that start with numeric/ordinal streets. For example: 6 1/2 W AND MILE 9 N, TX 78599
- Addresses that start with a non-numeric house number. For example: 1504-B 3 AND 20 RD,EASLEY SC 29642

- Street centroid matches where the street has a conjunction token. For example: HILL AND DALE RD, PLYMOUTH WI 53073
- **Improvement in Singleline Address Matching**  
Refinements have been made to singleline address matching to ensure the best address match is returned, regardless of geocode precision.

## Product Updates

### Deprecated File Support

Support for the following file has been deprecated in GeoTAX Matrix 6.1.4.7:

- Personal Property Tax Districts (PTD)

## Extended Match Codes

The Extended Match Code property enables the return of additional information about any changes in the house number, unit number and unit type fields. In addition, it can indicate whether there was address information that was ignored. The Extended Match Code is only returned for address-level matches (match codes that begin with A, G, H, J, Q, R, S, T or U), in which case a 3rd hex digit is appended to the match code.

**NOTE:** A typical match code contains up to 4 characters: a beginning alpha character followed by 2 or 3 hex digits. The third hex digit is only populated for intersection matches or as part of the Extended Match Code.

“Address information ignored” is specified when any of the following conditions apply:

- The output address has a mail stop (*MailStop*).
- The output address has a second address line (*AddressLine2*).
- The input address is a dual address (two complete addresses in the input address). For example, “4750 Walnut St. P.O Box 50”.
- The input last line has extra information that is not a city, state or ZIP Code, and is ignored. For example, “Boulder, CO 80301 USA”, where “USA” is ignored when matching

Input Addressline	Output Addressline	Extended Code	Description
4750 WALNUT ST STE 200	4750 WALNUT ST STE 200	0	Matched on all address information on line, including Unit Number and Unit Type if included.
4750 WALNUT ST C/O JOE SMITH	4750 WALNUT ST	1	Matched on Unit Number and Unit Type if included. Extra information on address line ignored. Extra information not considered for matching moved to AddressLine2 or MailStop field.
4750 WALNUT ST UNIT 200	4750 WALNUT ST STE 200	2	Matched on Unit Number. Unit Type changed.
4750 WALNUT ST UNIT 200 C/O JOE SMITH	4750 WALNUT ST STE 200	3	Matched on Unit Number. Unit Type changed. Extra information on address line ignored. Extra information not considered for matching moved to AddressLine2 or MailStop field.
4750 WALNUT ST STE 2-00	4750 WALNUT ST STE 200	4	Unit number changed or ignored.
4750 WALNUT ST STE 2-00 C/O JOE SMITH	4750 WALNUT ST STE 200	5	Unit Number changed or ignored. Extra information on address line ignored. Extra information not considered for matching moved to AddressLine2 or MailStop field.
4750 WALNUT ST STE 400	4750 WALNUT ST STE 400	6	Unit Number changed or ignored. Unit Type changed or ignored. In this example, Suite 400 is not valid for the input address, but the address match is not prevented because of an invalid unit number.

4750 WALNUT ST UNIT 2-00 C/O JOE SMITH	4750 WALNUT ST STE 200	7	Unit Number changed or ignored. Unit Type changed or ignored. Extra information on address line ignored. Extra information not considered for matching moved to AddressLine2 or MailStop field.
47-50 WALNUT ST STE 200	4750 WALNUT ST STE 200	8	Matched on Unit Number and Unit Type if included. House Number changed or ignored.
47-50 WALNUT ST STE 200 C/O JOE SMITH	4750 WALNUT ST STE 200	9	Matched on Unit Number and Unit Type if included. House Number changed or ignored. Extra information not considered for matching moved to AddressLine2 or MailStop field.
47-50 WALNUT ST UNIT 200	4750 WALNUT ST STE 200	A	Matched on Unit Number. Unit Type changed. House Number changed or ignored.
47-50 WALNUT ST UNIT 200 C/O JOE SMITH	4750 WALNUT ST STE 200	B	Matched on Unit Number. Unit Type changed. House Number changed or ignored. Extra information on address line ignored. Extra information not considered for matching moved to AddressLine2 or MailStop field.
47-50 WALNUT ST STE 20-0	4750 WALNUT ST STE 200	C	House Number changed or ignored. Unit Number changed or ignored.
47-50 WALNUT ST STE 20-0 C/O JOE SMITH	4750 WALNUT ST STE 200	D	House Number changed or ignored. Unit number changed or ignored. Extra information on address line ignored. Extra information not considered for matching moved to AddressLine2 or MailStop field.
47-50 WALNUT ST UNIT 20-0	4750 WALNUT ST STE 200	E	House Number changed or ignored. Unit Number changed or ignored. Unit Type changed or ignored.
47-50 WALNUT ST UNIT 2-00 C/O JOE SMITH	4750 WALNUT ST STE 200	F	House Number changed or ignored. Unit Number changed or ignored. Unit Type changed or ignored. Extra information on address line ignored. Extra information not considered for matching moved to AddressLine2 or MailStop field.

## Implementation

To enable the return of Extended Match Codes in the GeoTAX Matrix server, modify the .ini file to include the MATCH\_CODE\_EXTENDED property. For example: MATCH\_CODE\_EXTENDED = True.

Options are True or False. The default value for MATCH\_CODE\_EXTENDED is False.

To enable Extended Match Codes from the client, use the appropriate SetProperty method based on your language:

- Java:
  - ab.setProperty("MATCH\_CODE\_EXTENDED", "True");
- .NET:
  - ab.setProperty("MATCH\_CODE\_EXTENDED", "True");

## New Batch configuration parameter

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Parameter	Description
MATCH_CODE_EXTENDED	Specifies whether to return the Extended Match Code (3rd hex digit). TRUE = Enable return Extended Match Code. FALSE = <i>Default</i> . Disable return of Extended Match Code.

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## New processing control property

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String Property Name	Property ID TB_* .NET/Java	Data Type	Description
"MATCH_CODE_EXTENDED"	TB_MATCH_CODE_EXTENDED	Boolean	Specifies whether to return the extended match code (3rd hex digit). TRUE = Enable return Extended Match Code. FALSE= <i>Default</i> . Disable return of Extended Match Code.

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## New 3<sup>rd</sup> hex digit Extended Match Code return values

The following table contains the description of the 3<sup>rd</sup> hex digit Extended Match Code return values:

**NOTE:** For Auxiliary file matches, the 3<sup>rd</sup> hex digit is always "0".

Code	In 3rd hex position means:
0	Matched on all address information on line, including Unit Number and Unit Type if included.
1	Matched on Unit Number and Unit Type if included. Extra information on address line ignored. Extra information not considered for matching moved to AddressLine2 or MailStop field.
2	Matched on Unit Number. Unit Type changed.
3	Matched on Unit Number. Unit Type changed. Extra information on address line ignored. Extra information not considered for matching moved to AddressLine2 or MailStop field.
4	Unit Number changed or ignored.
5	Unit Number changed or ignored. Extra information on address line ignored. Extra information not considered for matching moved to AddressLine2 or MailStop field.
6	Unit Number changed or ignored. Unit Type changed or ignored.
7	Unit Number changed or ignored. Unit Type changed or ignored. Extra information on address line ignored. Extra information not considered for matching moved to AddressLine2 or MailStop field.
8	Matched on Unit Number and Unit Type if included. House Number changed or ignored.
9	Matched on Unit Number and Unit Type if included. House Number changed or ignored. Extra information on address line ignored. Extra information not considered for matching moved to AddressLine2 or MailStop field.
A	Matched on Unit Number. Unit Type changed. House Number changed or ignored.
B	Matched on Unit Number. Unit Type changed. House Number changed or ignored. Extra information on address line ignored. Extra information not considered for matching moved to AddressLine2 or MailStop field.
C	House Number changed or ignored. Unit Number changed or ignored.
D	House Number changed or ignored. Unit Number changed or ignored. Extra information on address line ignored. Extra information not considered for matching moved to AddressLine2 or MailStop field.
E	House Number changed or ignored. Unit Number changed or ignored. Unit Type changed or ignored.
F	House Number changed or ignored. Unit Number changed or ignored. Unit Type changed or ignored. Extra information on address line ignored. Extra information not considered for matching moved to AddressLine2 or MailStop field.



## Improved Handling of Hyphenated House Numbers

Improvements have been made in cases where the input address has a hyphenated house number (N-M).

- If the input street does not have a hyphenated range, the match is made using “N” as the house number and “M” as the unit number.
- Further improvements have been made in the handling of an input address line that contains a house number with the pattern N-NA.
- In addition, in cases where the input address has a number, followed by a dash and an ordinal street, a match is now made and returns correct address information.

Input Address	New match results	Old match results
<p>18-20 Morton St., 02907</p> <p><i>Previously, the Input address was considered a hyphenated house number. Now the match correctly returns a house and unit number.</i></p>	<p>18 MORTON ST #20 PROVIDENCE, RI 02905-2825</p> <p>Match Code: SF0E Location Code: AP02</p> <p><i>Returns correct street and unit information.</i></p>	<p>18-20 MORTON ST PROVIDENCE, RI 02905-2825</p> <p>Match Code: SF00 Location Code: AP02</p>
<p>108-64B 49 AVE, CORONA NY 11368</p> <p><i>Input address with a N-NA hyphenated house number now returns a better match with correct address information.</i></p>	<p>10864B 49TH AVE, CORONA, NY 11368</p> <p>Match Code: S888 Location Code: AS0</p> <p><i>Returns correct address information.</i></p>	<p>108 RAILROAD PL # 64B, MASPETH, NY 11378</p> <p>Match Code: TB9E Location Code: AS0 Alias Code: A06</p>
<p>120-10TH ST, 10306</p> <p><i>Input address with hyphenated house number and street name now correctly identifies the house number and street name.</i></p>	<p>120 10TH ST STATEN ISLAND, NY 10306-2948</p> <p>Match Code: SE00 Location Code: AP02</p> <p><i>Returns correct street address information.</i></p>	<p>120-10TH SANTO CT STATEN ISLAND, NY 10306-1421</p> <p>Match Code: SE90 Location Code: AS0</p>
<p>5609-4TH AVE S, 98108</p> <p><i>Input address with incorrectly hyphenated house number and street name now able to match.</i></p>	<p>5609 4TH AVE S SEATTLE, WA 98108-2422</p> <p>Match Code: SE00 Location Code: AP02</p> <p><i>Now able to match and returns complete address information.</i></p>	<p>Match Code: E020 Location Code: ZC5X</p>

## Improved Handling and Matching of Addresses with Conjunction Tokens

Improved matching of addresses that contain conjunction tokens (AND, AT and &), such as:

- Firms or POI's that have conjunction tokens
- Intersections that start with numeric/ordinal streets
- Addresses that start with a non-numeric house number
- Street centroid matches where the street has a conjunction token.

Input Address	New match results	Old match results
R&D TROPHY & DESIGN, ARVADA CO  <i>Input address with company name with multiple conjunction tokens now able to match.</i>	13825 W 75TH PL R&D TROPHY & DESIGN ARVADA, CO 80005-3010  Match Code: A9B8 Location Code: AP02  <i>Returns match with complete address.</i>	R & D TROPHY AT DESIGN 80005  Match Code: E020 Location Code: ZC5X
BOULDER FIRE AND POLICE, 80301  <i>Firm name with conjunction token.</i>	BOULDER FIRE AND POLICE 1805 33RD ST BOULDER, CO 80301-2576  Match Code: AE98 Location Code: AP02  <i>Now able to match.</i>	BOULDER FIRE AND POLICE BOULDER, CO 80301  Match Code: E021 Location Code: ZC5X
6 1/2 W AND MILE 9 N, TX 78599  <i>Intersection input address between numeric and ordinal streets.</i>	N MILE 6 1/2 W AT N MILE 9 RD WESLACO, TX 78599  Match Code: Y2A7 Location Code: AX3  <i>Now able to match.</i>	6 1/2 W AND MILE 9 N TX 78599  Match Code: E020 Location Code: ZC5X
1504-B 3 AND 20 RD, EASLEY SC 29642  <i>Input address with a non-numeric house number and the street name has a conjunction token.</i>	1504B THREE AND TWENTY RD EASLEY, SC 29642-9631  Match Code: A888 Location Code: AS0  <i>Now able to match.</i>	1504-B 3 AT 20 RD EASLEY, SC 29642  Match Code: E020 Location Code: ZC5X
HILL AND DALE RD, PLYMOUTH WI 53073  <i>Input address with a conjunctive street name. (Should result in a street centroid match since no house number is given.)</i>	HILL AND DALE RD PLYMOUTH, WI 53073  Match Code: C00 Location Code: CCC  <i>Now able to match.</i>	HILL AT DALE RD PLYMOUTH, WI 53073  Match Code: E021 Location Code: ZC5X

## Enhancements to Handling of Misspelled Street Suffixes

Improvements have been made to the handling of misspelled street suffixes. Additional matches are now made in spite of the misspellings.

Input Address	New match results	Old match results
1861 Lincoln Hgy East <i>Input address with a misspelled street suffix.</i>	1861 LINCOLN HWY E Match Code: S89 <i>Now able to match.</i>	<No match> Match Code: E020
5834 Brookstone Ovlk <i>Input address with an abbreviated street name that appears as a street type.</i>	5834 BROOKSTONE OVERLOOK NW Match Code: S8C <i>Now returns the correct street address.</i>	5834 BROOKSTON WALK NW Match Code: S8D
1213 Hillcrest Cro E <i>Input address with an unsupported street suffix.</i>	1213 HILLCREST XING E Match Code: S81 <i>Now returns the correct street name and suffix.</i>	1213 HILLCREST RD Match Code: S89
5491 WINSLOW CROSSNG <i>Input address with a misspelled street suffix.</i>	5491 WINSLOW XING Match Code: S91 <i>Now returns the correct street address.</i>	5491 WINSLOW XING N Match Code: A9D
1005 61ST AVE TCE <i>Input address with a misspelled street suffix.</i>	1005 61ST AVENUE TER E Match Code: S8D <i>Now returns the correct street suffix.</i>	1005 61ST AVE E Match Code: T8D
25039 WOODRIDGE TRI <i>Input address with an abbreviated street suffix.</i>	25039 WOODRIDGE TRIANGLE Match Code: SA8 <i>Now returns the correct street suffix.</i>	25039 WOODRIDGE DR Match Code: TA9

# Fixed Change Requests and Known Issues

## Fixed Change Requests

There were no fixed change requests in this release.

## Known Issues

- For Windows users only - After the installation of GeoTAX Matrix completes, when attempting to start the application, the following error may display:  
C:\Program Files\Centrus\GeoTAXMatrix\bin\TaxServiceManager.exe  
The application has failed to start because its side-by-side configuration is incorrect. Please see the application event log or use the command-line sxstrace.exe tool for more detail. This error means that your system needs additional runtime libraries that Microsoft provides.

To resolve the error:

- Download and install the redistributable package available from the Microsoft Download Center via this link based on whether GeoTAX Matrix is 32-bit or 64-bit:
  - 32-bit: <http://www.microsoft.com/en-us/download/details.aspx?id=5582>
  - 64-bit: <http://www.microsoft.com/en-us/download/details.aspx?id=2092>
- It may be necessary to uninstall and reinstall GeoTAX Matrix if TaxServiceManager.exe fails to start.
- For Windows users only - After the installation of GeoTAX Matrix completes, when attempting to start the application, the following error may display:  
TaxServer.exe – Unable to Locate Component  
The application has failed to start because MSVCR110.dll was not found. Re-installing the application may fix this problem.

To resolve the error:

- Download and install the redistributable package (x86 or x64) available from the Microsoft Download Center via this link for GeoTAX Matrix 32-bit or 64-bit:  
<http://www.microsoft.com/en-us/download/details.aspx?id=30679>
- It may be necessary to uninstall and reinstall GeoTAX Matrix if TaxServiceManager.exe fails to start.
- Placing tabs in InitList causes the GeoTAX Matrix server to stop.
- The GeoTAX Matrix batch application does not allow spaces in path names.

# Database Compatibility

The following information should be noted for database compatibility for the GeoTAX Matrix 6.1.4.7 release:

- There are no data format changes to the street and point data sets for this release.
- Support for the Personal Property Tax Districts (PTD) data has been deprecated.

# Platform-specific Changes

## Minimum Supported Levels

The minimum supported level for JAVA is 1.7.

# 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](mailto:software.support@pb.com), or
- Call our toll-free number, +1 800.367.6950.

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