



Customer Information Management

MailStream Plus[™]

Version 8.3.5

MailStream Plus Installation Guide

For All Platforms



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1 - Pre-Installation Information

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Before you install

This document describes the process you will follow to install software releases, updates, and database releases that have been distributed on cartridges (applies to z/OS, only), or through the Pitney Bowes Software eStore site.

Your software installer must be familiar with the target installation environment (operating system), your site's file systems and directory naming conventions, disk organizational structure, and any installation requirements for third party vendor software on your target machines.

Note: Pitney Bowes highly recommends that you set up separate libraries for each application installed on mainframe platforms. There are several modules that have common names that are used by more than one product. These modules are periodically updated to accommodate new features in one software product, and may cause conflicts if shared with other (older) Pitney Bowes applications.

Subscription databases

MailStream Plus requires a subscription database to perform special processing and to calculate presorts.

Subscription databases, updated monthly, include USPS data such as labeling lists, delivery counts, City/State product, USPS Zone matrix, and mail direction files. For file lengths and record counts for the database (and the sub-files they contain), review the MailStream Plus "green bar listing" on [our support website](#), under **Documentation > Greenbars and Technical Bulletins**. Follow the instructions in your operating system's chapter to load your subscription databases.

Contents of the *.ZIP or *.EXE file

We deliver software releases in a zipped or executable file named MSNnnn.ZIP, where nnn is the release number.

The file name may also contain additional characters, following the xxxnnn structure, that indicate post-release build numbers and other important internal information. This file contains an installation image that must be downloaded to a temporary folder you define.

Software updates may also be identified by a fix level, along with the product code and release number; for example: MSNnnnFxxxxx.zip.

Custom databases

You may request custom databases for MailStream Plus add-on products:

- DuoSort Reference Files - Used with the DuoSort licensed add-on
- CSA Reference Files (Customer Supplier Agreement) - Required for CSA First-Class palletization

DuoSort is a separately licensed product from Pitney Bowes Software. To install the DuoSort database, you must purchase and have a current maintenance license for DuoSort. The DuoSort Workshare Manager provides the ability to sort mail two ways in a single processing step.

- Software presorting method (including manifest mailings) - DuoSort uses MailStream Plus to presort mail so it can be submitted directly to the USPS and processed as a “bulk mailing.” Postage discounts are based on individual presort job qualification, and vary with each mailing.
- Machine presorting method - DuoSort prepares mail for presorting by a sorting machine such as an MLOCR (multiple line optical character reader). DuoSort can sort mail to be more efficiently processed by an in-house or outsourced machine presorting operation. By sorting mail using machine-defined schemes, DuoSort enables most barcoded mail to be machine sorted in a single sort pass.
- The DuoSort database supplied by Pitney Bowes Software facilitates the two presorts/one pass processing.

The CSA databases supplied by Pitney Bowes Software allow you to palletize mail according to your USPS FAST/CSA agreement. Customer Supplier Agreement, or CSA, is a separately licensed product from the USPS. In order to install the CSA database, you must apply for Customer Supplier [Agreement through the USPS Business Customer Gateway](#) These files are:

- MSRFCD - CSA Destination Information
- MSRFCM - CSA Routing Map

These files must be built specifically for your individual USPS CSA. You must contact Pitney Bowes Software technical support, or create an online support case, to establish your company's processing requirements.

Contact the Pitney Bowes Support Team for more information on these optional products and how to request custom databases.

If you need more help

If you are unable to resolve a problem, a Pitney Bowes Technical Support representative can help guide you to a solution. When you call Pitney Bowes Technical Support, please have the following information ready:

- Description of the task you were performing
- Resulting reports: specifically, the Execution Log and Parameter Record Listing.

Reporting complete details to Technical Support will help you and the Technical Support representative quickly resolve the problem. You can contact us at 800-367-6950 or at software.support@pb.com. You can also obtain product information and updates from our [support site](#).

2 - Installing on IBM® i

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Preparing for installation

Follow these steps to prepare the installation library and save files.

1. Create library G1INSTALL:

```
CRTLIB LIB (G1INSTALL) TYPE (*PROD) TEXT ('Installation Library')
```

2. If library G1INSTALL already exists, clear it:

```
CLRLIB LIB (G1INSTALL)
```

3. Create a SAVF (Save file) for the extracted file in the G1INSTALL library:

```
CRTSAVF FILE (G1INSTALL/G1SVINSTL)
```

Overview of the installation process

Before starting the installation process, you should back up the functions library (G1@@PGMS) and the product library (G1MSPGMS).

For Internet downloads, you first need to download the appropriate file to a Windows-based machine. Extract the files to the working/installation location.

1. Prepare the installation library and save files.
2. Run the install program.

Note: If the installation procedure fails, you may cancel installation, restore your previously-made backups for G1@@PGMS and G1MSPGMS or their equivalents, check for object locks or other abnormalities, and try again. If you do not have any backups, or if you have any questions, please call Technical Support.

You are now ready to begin the installation of the product.

Install the software

To install your software from the Internet, follow the steps below:

1. Download your files from our support site or from the eStore.

- FTP the extracted image file to its corresponding SAVF in the library you created. Be sure that you specify binary when you FTP the file to your target machine.
- Sign on to the system with your own user profile.

Note: You do not need to be signed onto the system as QSECOFR to perform an installation. However, you must have *SECADM or *SECOFR special authority.

- At the IBM® i command line, type:

```
RSTOBJ OBJ(*ALL) SAVLIB(QTEMP) DEV(*SAVF) SAVF(YourLib/G1SVINSTL)
```

...where *YourLib* is the library that contains the Save files from which you are installing. Or, if you prefer to prompt (F4) the RSTOBJ command, and press F10, you should fill in the lines shown below as indicated.

- When the command completes, you should see the following message at the bottom of your screen:

```
n objects restored from QTEMP to QTEMP
```

...where *n* is a varying number.

- To start the install program, type:

```
CALL G1UI *SAVF
```

Selecting MailStream Plus components

Select MailStream Plus to see the Product Selection screen (G1INST200).

- Place **1** next to any item you want to install. If you want to skip any part of the installation, remove the **1** next to that item.

Note: To ensure that your application version numbers display correctly, we recommend that you update the Global library during any new or product update installation.

- Press **F6** to continue with the installation.

Selecting global library options

- If you have selected the **Software Global Library**, the Global Library Special Options screen (G1INST300) appears.
- Place **1** next to any task to perform. If you want to omit a task, remove the **1** next to that item.

3. Press **F6** to continue.

Selecting product installation options

Note: If you are installing the optional MAIL360 Manager software, you must install it into the same global library as MailStream Plus.

The Product Installation screen (G1INST400) displays for each product you selected on the Product Selection screen (G1INST200). If the **Install to library** already exists, the **Backup library name** field appears, as shown in the example below. The library name is automatically generated as **G1yymmddnn**, where *yymmdd* is the current date, and *nn* is a sequential number.

Note: Keep track of your backup library name in case you want to restore your original library. The backup library name will also appear in the installation log file.

1. If you want to install the Installation Verification Program (IVP) test job, select **Y** (recommended).

Note: If yellow warning text appears on this screen, you must review the warning before you are allowed to proceed to the next screen. Or, If an error in red appears on this screen, you must resolve the condition causing the error before you are allowed to proceed.
2. To install the product, press **F6**.
3. If the Lock Library screen (G1INST401) appears, continue to [Clearing locked libraries](#).
4. When all components are finished installing, the Installation Complete screen (G1INST999) is displayed.
5. Continue to the section entitled [Completing installation](#).

Clearing locked libraries

1. If you are overlaying an existing installation, the installer checks for locks before the installation begins. If any are found, the Locked Library screen (G1INST401) appears.
2. You must clear the locks before you can continue the installation. Use a second session to determine the jobs holding the locks:

```
WRKOBJLCK OBJ(LibraryName) OBJTYPE(*LIB)
```

3. When the locks are released, return to this session, and press **F6** to continue.

Completing installation

When the installation is done, you will see the Installation Complete screen (G1INST999). Press Enter to review the G1UILOG spool file. This file logs all steps taken during the installation process.

The following table shows the installation steps in an "overlay" installation, and provides progress notes for each of those steps. Note that in an actual G1UILOG file, all steps are prefaced with the date and time they were performed.

Step/Log Contents	Notes
G1UI *PGM G1UI *PGM started	
G1UI *PGM Checking user's authority	The initial authority check ensures that you have *SECADM or *SECOFR special authorities in your profile for performing an installation.
G1UI *PGM Source=save file library QTEMP G1UI *PGM Examining media RtvLbl Retrieving labels from savefile library MSnnnMSPG	The release-specific installation source is examined.
G1UI *PGM Req prod to inst (SCR200)	Next, the SCR200 screen displays.
G1UI *PGM Processing install queue	Processing the list of products from SCR200 begins.
SCR300 Req Global options (SCR300) SCR400 Req prod inst opts (SCR400)	The first product installed was the global library, so SCR300 is displayed, then SCR400 The system prompts the user to press F6 on SCR400.
IInstPrd Starting install of @@ version [version] InstPrd Overlaying [version] InstPrd Old library will be renamed [name]	Installation displays progress notes.
PreInstGlb Start of Global pre-processing PreInstGlb Creating GROUP1USER *USRPRF	The global library special options are performed.

Step/Log Contents	Notes
ChkLibLck Checking for locks on library [library name]	Before attempting to install, the installation program checks for locks on the existing library.
InstPrdUpd Renaming [old library name] to [new library name] InstPrdUpd Restoring product library RstPrd Restoring library for @@ InstPrdUpd Merging objects from old library	The installation program installs the new library.
InstPrdUpd Processing data areas PrcDtaAra Reading G0@@PG *DTAARA PrcDtaAra Updating G1@@PG *DTAARA	Update the various data areas that track where products are installed, their version, and install dates.
PstInstGlb Start of Global post-processing PstInstGlb Changing GROUP1USER *USRPRF INLPGM to G1MM00 PstInstGlb Adding Directory Entry for GROUP1USER *USRPRF	Now the rest of the global library options can be performed.
UpdCmd Updating xxSBMJOB/xxRUNJOB *CMDs	The xxRUNJOB and xxSBMJOB commands must be updated during an install.
InstPrd Installation of @@ has completed.	The global library installation is complete. Screen SCR400 displays, showing product installation options.

Step/Log Contents	Notes
<pre>SCR400 Req prod inst opts (SCR400) InstPrd Starting install of MS version [version] InstPrd Installing to library G1MSPGMS InstPrd Overlaying [version] InstPrd Old library will be renamed G115062903 InstPrd Associated with global library G1@@PGMS ChkLibLck Checking for locks on library G1MSPGMS InstPrdUpd Renaming [old name] to [new name] InstPrdUpd Restoring product library RstPrd Restoring library for MS InstPrdUpd Merging objects from old library InstPrdUpd Processing data areas PrcDtaAra Copying G1@@PG *DTAARA PrcDtaAra Deleting old G1@@PG *DTAARA PrcDtaAra Deleting QTEMP/G1@@PG *DTAARA PrcDtaAra Reading GOMSPG *DTAARA PrcDtaAra Updating G1MSPG *DTAARA InstPrdUpd Forwarding from previous release UpdCmd Updating xxSBMJOB/xxRUNJOB *CMDs</pre>	<p>Follow the same steps, with the exception of the global library special options.</p>
<pre>InstPrd Installing IVP job InstPrd Loading license file</pre>	<p>Install the product installation verification job and licensing information...</p>
<pre>InstPrd Installation of MS has completed.</pre>	<p>Software Installation is complete.</p>
<pre>InstHlp Installing help text for @@ InstHlp Installing help text for MS</pre>	<p>System and product help are installed.</p>
<pre>G1UI *PGM G1UI *PGM ended normally</pre>	<p>The installation of all items is complete.</p>

Defining custom screen headings

To change your heading when you are not installing software:

1. Sign on using your site-specific procedure.

2. Go to the Application Selection screen, and instead of selecting a product to use, type **CN** (this is not one of the listed options).
3. Press **ENTER**. You will see the Change Screen Heading screen.
4. Type your new heading in the Enter new Screen Heading field and press **ENTER** to save the definition. You will see your previous screen heading and your new heading.
5. If you wish to change the heading, press **F12** to return to the previous screen and repeat steps 3 and 4.
6. If you want to save the heading, press **ENTER**. You will now see the new heading at the top of your selection screen.

Install database files

For Internet downloads (also known as “IDS”), you first need to download the appropriate file to a Windows-based machine and execute it, or unzip it using a standard unzip utility. You will then:

- Prepare the installation library by entering the appropriate option on the Database Functions screen.
- FTP the unzipped (extracted) files in binary mode.

There are two methods to install the monthly USPS Postal Reference database files:

- [Installation method 1 - Install database files from the IFS](#) on page 15
- [Installation method 2 - Install database files via FTP](#) on page 15

Databases - required and optional

Note: Please review the latest MailStream Plus database release notification (“greenbar”) for specific information on your product’s database size requirements. Go to the Pitney Bowes support site, login to Support, select **Product Documentation > Greenbars and Technical Bulletins**. Please note that these space allocations will change with each release or database file update.

The products listed below require a database. If your product is on this list, you should follow the instructions provided to load your database.

Product Name	Available Databases
MailStream Plus	USPS Reference File, Monthly - Required

Product Name	Available Databases
DuoSort	DuoSort Database - Optional; See Installing optional DuoSort database files for installation steps.
Customer Supplier Agreement (CSA)	Customer Supplier Agreement, or CSA - Optional; See Installing optional Customer Supplier Agreement (CSA) files for installation steps.

Installation method 1 - Install database files from the IFS

You can place the downloaded files in a folder on the Integrated File System (IFS).

1. Create a folder on the IFS. In this example, our folder is named "/PRF".
2. Copy the database files to the new folder.
3. From the Work With Jobs screen (UPCPMM03), press **F20** to access the Database Functions menu (MSCPDB01).

```

12:11:15      MailStream Plus Presorting and Reporting System      MSINSTDB
11/17/2017      Replace with Screen Heading Desired                          MSINDB01
                Install MailStream Plus Database Files         Rts 99.9

Supply media device and name for MailStream Plus database library:
Media device . . . . .
-- OR --
IFS Path . . . . . /PRF

MailStream Plus database library . . MSDBFILES

Specify Restore Device and Database Library. Press Enter when ready.

F3=Exit  F6=Confirm
MB  A 08/044

```

4. Select option **1**: Install New MailStream Plus USPS Reference File.
5. Clear the Media device field, and enter the folder name in the IFS Path field (in this case, /PRF).
6. Press **F6** to begin the installation.
7. Check option **8** on the Database Functions screen to see if the database library that you loaded is set as the default for MailStream Plus. If not, use option **9** to change the default database library.

Installation method 2 - Install database files via FTP

1. Sign on to your product.
2. From the Work with Jobs screen, press **F20** to access the Database Functions screen.
3. Select option **2**: Prepare USPS Reference File Library for IDS Installation.

4. Specify the library name where you want the database installed in the Install to Library field, and press **F6** to confirm your choices. If you are installing over a previous version of the database, MailStream Plus overwrites the previous database version.
5. Exit the Product menu.
6. Start an FTP session on the PC where the databases reside.
7. Transfer the corresponding files into the new or replaced library, to reside in the file-member that matches the file's name on your PC (excluding the *.MSP extension).
 - a) Be sure that you transfer in binary mode.
 - b) If you have created a new library, see [Change the default library name](#) before proceeding.
8. Check option **8** on the Database Functions screen to see if the database library that you loaded is set as the default for MailStream Plus. If not, use option **9** to change the default database library.

Installing optional Customer Supplier Agreement (CSA) files

Note: Customer Supplier Agreement, or CSA, is a separately licensed product from the USPS™. To obtain permission to install the CSA database, you must complete a Customer Supplier Agreement application through the USPS® [Business Customer Gateway](#).

The CSA databases supplied by Pitney Bowes allow you to palletize mail according to your USPS® FAST/CSA agreement. These files are:

- MSRFCD - CSA Destination Information
- MSRFCM - CSA Routing Map

These files must be built specifically for your individual USPS® CSA. You must contact technical support, or create an online support case, to establish your company's processing requirements.

Installation Steps

1. From the Work With Jobs screen (UPCPMM03), press F20 for Database Functions.
2. On the Database Functions screen (MSCPDB01), select option **4** to Create/Install Files for Customer Supplier Agreement (CSA).
3. Specify the library that will contain the files.
4. Press **F6** to Confirm. If you have previously installed the CSA files, you will see a message that the files already exist in the library, and that they will be replaced.
5. Press **F6** to Confirm. Files CSARTMAP and CSADSTIN will be created in the library specified. The screen will instruct you to FTP the source files to the new native files in text mode.
6. Press **F6** to return to the Database Functions screen.

Installing optional DuoSort database files

Note: DuoSort is a separately licensed product from Pitney Bowes. To install the DuoSort database, you must purchase and have a current maintenance license for the DuoSort product. You can learn more about DuoSort [here](#).

The DuoSort Workshare Manager provides the ability to sort mail two different ways in a single processing step.

- Software presorting method (including manifest mailings) - DuoSort uses MailStream Plus to presort mail so it can be submitted directly to the USPS and processed as a “bulk mailing.” Postage discounts are based on individual presort job qualification, and vary with each mailing.
- Machine presorting method - DuoSort prepares mail for presorting by a sorting machine such as an MLOCR (multiple line optical character reader). The DuoSort files supplied by Pitney Bowes facilitates two presorts/one pass processing.

DuoSort files must be built specifically for your individual mail needs. You must contact technical support, or [create an online support case](#), to establish your company’s processing requirements.

Installation steps

1. From the Work With Jobs screen (UPCPMM03), press **F20** to select Database Functions.
2. On the Database Functions screen (MSCPDB01), select option **3** to Create/Install Files for DuoSort.
3. Specify the library that will contain the files.
4. Press **F6** to confirm.

If you have previously installed these files, you will see a message that the files already exist in the library, and that they will be replaced.

5. Press **F6** to confirm.

Files DSFZPSCH, DSFSCHFC, and DSFFCINF will be created in the library specified. The screen will instruct you to FTP the source files to the new native files in text mode.

6. Press **F6** to return to the Database Functions screen, completing the installation.

Change the default library name

If you are installing a database into a new library, you must change the default library from the existing one to the new one for any new jobs submitted. Follow the instructions below to change the default library.

1. From the Work with Jobs screen, press **F20** to display the Database Functions screen.

2. Select option **9** to change the default database library.

MailStream Plus displays the Database Functions screen to enter the default database library name. The current library name appears as the default.

3. Enter the library name you specified for the new database installation, and press **Enter**.
4. To exit without saving, press **F3**.

Install product updates

To install the product update:

1. Download the product update file from the Product Updates page of the web site (*.zip file), and extract the files. One of the extracted files will be an IBM® i save file with the extension *.SVF. This file contains the product update, and must be on a PC that has file transfer capabilities (such as FTP) to your IBM® i system.

Note: If there are two files with an *.SVF extension, this patch includes code for both the global library and the product library. You must follow additional instructions to install both sets of code. These instructions are contained in NOTES accompanying each affected step.

2. On the IBM® i, create a save file in your own library. This is the location that will hold the file after it is transferred from the PC. For example:

```
CRTSAVF FILE(YourLib/YourSaveFileName)
```

Create one save file (or two, if necessary) in your own library. This is the location that will hold the files after they are transferred from the PC. For example:

- CRTSAVF FILE(YourLib/SAVFMS)
- CRTSAVF FILE(YourLib/SAVF@@) CRTSAVF FILE(YourLib/SAVFMS)

3. Transfer the *.SVF file from the PC to the IBM® i save file created in the previous step. Transfer the file using FTP in binary mode.

Note: Transfer the *.SVF files from the PC to the IBM® i save files created in the previous step. Transfer the files using FTP in binary mode. The name of one of the *.SVF files will end in "@@" This is the patch for the global library: FTP it into your Lib/SAVF@@. The other *.SVF file will end in the product code. FTP this file into your Lib/SAVFMS.

4. Verify that the files were transferred successfully using the following command:

```
DSPSAVF FILE(YourLib/SAVFMS)
```

And if a Global library update is included:

```
DSPSAVF FILE(YourLib/SAVF@@)
```

5. Restore the objects to your product library using this command:

```
RSTOBJ OBJ(*ALL) SAVLIB(G1MSPGMS) DEV(*SAVF)
SAVF(YourLib/YourSaveFileName) MBROPT(*ALL) ALWOBJDIF(*ALL)
```

...where `G1MSPGMS` is the default product library. If your product library is not the default of `G1MSPGMS`, you will need to add an `RSTLIB (YourProductLibrary)` parameter to the command above.

Restore the objects to your global install library using the following command:

```
RSTOBJ OBJ(*ALL) SAVLIB(G1@@PGMS) DEV(*SAVF) SAVF(YourLib/SAVF@@)
MBROPT(*ALL) ALWOBJDIF(*ALL)
```

...where `G1@@PGMS` is the default global install library.

If your global library is not the default of `G1@@PGMS`, you will need to add an `RSTLIB (YourFunctionLibrary)` parameter to the above command.

6. Check your job log (`DSPJOBLOG`) to ensure that all objects were successfully restored. You can compare the results of Step 5 with the job log to ensure that all of the intended objects transferred and installed properly.
7. You may now delete or clear the save file(s) created earlier in this process.

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Pre-installation information

Please review this section before you install, to ensure that you have that you have these checks in place for successful installation.

The /opt/pitneybowes product registration area

MailStream Plus requires a product registration area, located in the /opt directory, where third-party software should be located. This product registration area must be defined as /opt/pitneybowes.

Note: During installation, MailStream Plus accesses /opt/pitneybowes to track production installation versions. You can install product software in any location you choose. The product registration area requires less than 10 megabytes of space.

We provide a script, pbprep, to create the /opt/pitneybowes product registration area. A System Administrator, or someone with root privileges, must run the pbprep script. Run the pbprep script as:

```
pbprep <user> <group>
```

...where:

- <user> is the owner of the /opt/pitneybowes area
- <group> is the group id of users with write access to /opt/pitneybowes

The /opt/pitneybowes product registration area is updated during the installation process and the installer must have write access to this area.

If you choose to install the product/software into the /opt/pitneybowes location, you must allocate additional space, as defined in the product Release Notes. We recommend against installing software into the /opt/pitneybowes area, since this location is at the root level, and MailStream Plus needs additional space during processing.

Anyone with root privileges, such as a system administrator, can create the /opt/pitneybowes product registration area, which must contain the following subdirectories:

- /etc
- /man
- /var
- /var/log

If these directories are not present at the time of installation, the installation will stop. The /opt/pitneybowes product registration area needs to be created only once per target machine.

During the installation process, the installation script provides these product registration area setup options:

- Install to a production area: Similar to a production installation, this can be any location on the target machine, including NFS mounts. This product location will be tracked by the product registration area.
- Install to a test area: The test area will not be tracked by the product registration file, so any patches/updates will not be applied to any test areas. You may create as many test areas as needed. Although TEST installations are not tracked by the shared product registration area, the `/opt/pitneybowes` directory structure must be present on the target machine, even for a TEST installation.

Using "permtest" to determine installation permissions

The root area of the downloaded installation package includes a utility to assist you help you determine if your target installation area has proper permissions (is writable).

You can run the `permtest` utility, using the target installation area as an argument to determine the permission settings. It should also be used on the `/opt/pitneybowes` area to determine if that area is writable as well. To find valid `permtest` arguments, first run `permtest` without any arguments:

```
./permtest
```

This will display usage information. To determine permissions, run `permtest` with a target area as the first argument followed by the appropriate option if desired: `./permtest <target installation area> <option>`

...where *<target installation area>* is the path into which you will install the software, or points to the `/opt/pitneybowes` product registration area. Both areas should be checked for proper permissions prior to running the installation process. Variable *<option>* is **-V**, **-v**, or blank.

Important Installation Notes

Please review this section, before you install, to ensure that you have that you checks in place for a successful installation.

Installation permissions - user:group

The person installing MailStream Plus must have user:group write access to the product installation area.

If the installer does NOT have write access/authority, he or she cannot install the software. Root access is not required; however, if MailStream Plus cannot determine the access privileges and authority, the installation procedure will end with a warning message.

The installation process creates a log file to assist our Technical Support Representatives in resolving problems you may encounter during the installation. The installation script places a file, pbauto.log, in the /opt/pitneybowes/var/log directory. If the installer does not have write access to the opt/pitneybowes area, or if they do not have write access to an existing pbauto.log file, the install process will end with a warning message.

AIX users

This section contains notes for AIX system users.

If you are installing over an existing product, and there have been system stoppages and/or aborted jobs, please note the following potential installation process error condition and the suggested resolution:

```
Please terminate acushare and then have your System Administrator or
someone with root privileges run the AIX system command "slibclean"
after stopping acushare, so that all unused and detached shared memory
segments are released from memory. Then reinstall this product:
```

1. source the setup script in the product bin directory.
2. acushare -kill or kill -9 <acushare pid>
3. slibclean (as root)
4. reinstall.

```
If the reinstall fails for any reason, please contact Pitney Bowes
Technical Support before attempting to install again.
```

HP - UX users

This section contains installation notes for HP - UX users.

If you are installing over an existing product, and the acushare daemon is running, please note the following potential installation process error condition and the suggested resolution:

```
Please terminate acushare and then reinstall this product.
```

1. source the setup script in the product bin directory.
2. acushare -kill or kill -9 <acushare pid>.
3. Reinstall. If the reinstall fails for any reason, please contact Pitney Bowes Technical Support before attempting to install again.

Pre-installation checklist

Use this checklist to ensure that you complete the needed pre-installation steps:

Have you...?

-
- ...established the /opt/pitneybowes area and granted write permission for the person who is installing the software?

 - ...obtained permissions and privileges to access, read, and write to the installation area for Pitney Bowes products (including user group permissions)?

 - ...downloaded documentation and release notes from the [Pitney Bowes documentation library](#)?

 - ...run the permtest utility (see [Using "permtest" to determine installation permissions](#)) to determine if the person installing the software is allowed to write to the target installation area? You can skip this step if you know the area you are installing to and the /opt/pitneybowes area is writable by the person installing the software and databases.

Re-Installation and new release information

If you are re-installing or installing a newer release of any software, you must have appropriate privileges.

For new releases that replace existing products, we suggest that you establish separate TEST and PROD (Production) areas and environments. Run the new software in the TEST environment until you are satisfied with the processing results of the new release before you delete or overlay the previous release. If you choose to re-install or install a newer release in an existing area, please be advised that certain scripts (setmedia and setup) will NOT be overwritten and the newer scripts will be named setmedia.new and setup.new. The original script will not be modified. However, you should compare (diff) the old and new scripts to see if there have been changes (like new DD file statements in the *.new script that you may have to incorporate into the original script.

The setmedia script defaults to the /tmp location. You can change this script to point to the directory where your raw database files are located. If you change the default, the setmedia script will maintain the location of your raw database files. You may also change the raw database file location when installing database files.

System requirements

Please be sure that your system meets the following hardware/software requirements before attempting to install any Pitney Bowes Software product.

- Your computer hardware should have at least 32 MB of RAM.
- Ensure that your host machine has the minimum required disk space for the product you are installing. The amount required depends upon the products you are installing. The maximum product requirement, as of this document's release, is 2 GB.
- Databases require additional space. The amount of space varies for the type of database that is installed.

Contents of the Unix/Linux compressed tar file (*.taz)

Pitney Bowes delivers Internet software updates in compressed format as a zipped file, which contains the following files:

- install - installation script
- Platform-specific *.taz (compress tar'd and zipped product) files:
 - msnaix.taz - For AIX
 - aixacu.taz - For AIX runtime
 - msnhpx.taz - For HP-UX
 - hpxacu.taz - For HP-UX runtime
 - msnlnx.taz - For Linux
 - msnrls.taz - Contains product version information for the installer.
 - lnxacu.taz - For Linux runtime
 - msnsol.taz - For Solaris
 - solacu.taz - For Solaris runtime
 - permtest - Permissions Utility script
 - pbprep - utility script to create /opt/pitneybowes product registration area
 - uninstall - Script to remove existing products
 - uninstall.main - Driver script for uninstall
 - Readme - Text file containing relevant installation notes

Runtime changes

Each Pitney Bowes product has its own version of the runtime files, placed in the product directory area.

The runtime directory name is "rts" and can be found along with the bin, data and lib directories within the product installed root directory. This approach reduces compatibility issues when a product is updated with a new runtime version. In addition, locating the runtime with the product facilitates the support of both 32-bit and 64-bit products on the same target machine.

Performance considerations

Please review performance considerations regarding NFS mounted file systems, sorted raw input files, and temporary directories.

NFS mounted file systems

Network File Systems (NFS) are mounted file systems that are used on most UNIX and Linux systems today. We recommend that all files used in the production process of Pitney Bowes Software products be located on the target machine's local file system.

Although some Pitney Bowes products may run efficiently on NFS-mounted files systems, performance and record locking issues can cause processing bottlenecks that cannot be tuned or modified for performance gains. If you choose to use NFS-mounted file systems for your production processes, Pitney Bowes cannot assist in product efficiency or performance metrics.

Sort the raw input file

If possible, all raw data input files into Pitney Bowes Software products, especially files with address information, should be presorted on specific fields that your process will use for matching, merging, and duplicate record elimination.

Unsorted raw data input files will require more processing time due to normal sequential file batch processing and caching techniques. Sorted raw data files will benefit by these caching techniques. If you need more information on sorting and what it can do for your processes, please contact Pitney Bowes Technical Support for assistance.

Temporary directories (/tmp)

Temporary directories are used by Pitney Bowes Software products for internal sorts and for record caching techniques.

As noted [in the NFS section](#), if your temporary directory (typically /tmp), is located on an NFS mount for space reasons, please expect performance issues. As above, we recommend that you allocate temporary space on the local file system.

Note: You can change your temporary directory on a product-by-product basis by changing the TMPDIR environment variable located in the setup script in the product bin subdirectory.

Install the software

Archive your installed products prior to installing new versions. The install program will overwrite existing files if you install into an area that contains earlier versions of a Pitney Bowes product. For example, if you have installed in /usr/g1, and you then install a new version or copy into /usr/g1, the newer version will delete the previous release.

You must have appropriate privileges to install, re-install, or update any of your Pitney Bowes products. Otherwise, the installation may not update all of your files. For new releases, you may want to establish separate TEST and PROD (Production) environments. Run the new software in the TEST environment until you are satisfied with the processing results of the new release before you delete the previous release.

To install:

1. Download the product software from the Internet, extract the files, and FTP (in binary mode) all the files to your system.
2. Ensure that you are in the location to which the FTP'd files will be located. Change to that directory, if needed.
3. Change the permissions on the install script by using the chmod command: `chmod -R 775 install`
4. Type the install command: `./install`
5. Follow the instructions provided in the installation script.

The installation script will query you and your system. Based upon the operating system level, the installation script determines which software to install. In most cases, you should use the installation defaults. You will see a prompt to specify a base directory where you will install MailStream Plus, and the full path for source files.

Considerations:

- If you install new software over a current release, the current setup script (found in the bin subdirectory) will be saved, and a new script with a file name extension of *.new is installed.
 - Because there may have been significant changes since you last installed the product, we recommend that you compare the current setup script with the setup.new script, note the differences, and modify the current script to include the new changes found in the *.new script.
6. After you load the files, you may need to change the owner and group of each file using the `chown` command: `chown -R owner:group *`. Change `owner` to your owner name, and `group` to your group name. The asterisk (*) updates all of the files and directories, and switch `-R` updates all of the subdirectories. You may change file permissions to limit or expand access to product files; however, this is not required. If you have any MailStream Plus add-on products, repeat this step for each one.

Overview of the Installation Verification Program (IVP) job

You must install the Postal Reference database files before you run the IVP job. To install these database files, please have the raw Postal Reference files (from Internet download) to a known location on your UNIX/Linux machine.

1. Once the raw database files are available, follow these steps to install the Postal Reference database files.
 - a) Navigate to directory `$PBDIR/msn/bin`.
 - b) Source the setup script: `./setup`, or Source setup for the C shell: `source setup.csh`
 - c) Run the `installdb` command and follow the on screen directions: `./installdb`
2. Once the license file and postal reference database files have been loaded and verified, you can run the IVP job.
 - a) In the `msn/bin` directory enter: `./runmsp ivp`
 - b) While the job is running, you can check the progress by entering: `./chkrun`
 This tells you when the job has completed. You can also use the `ps -f` command to determine when the job has completed.
 - c) After the IVP job has completed, navigate to the `$PBDIR/msn/data` directory and specify `cat` or `more` to review the `ivp.log` file, to determine if the IVP job ran to completion. If the status codes for all program steps indicate a 0 (zero), the IVP job completed successfully. If not, review the error messages in the `ivp.log`, correct the problems, and re-run the IVP job until you receive 0 (zero) status on all steps.

Install database files

If you need to load a new database, complete these steps after you download the database from the Internet. The database must be loaded before using the software.

About the databases - required and optional

Database files include the following:

Product Name	Available Databases
MailStream Plus	USPS Reference File, Monthly - Required
DuoSort Workshare System	DuoSort Workshare System database files - Optional; see Install DuoSort reference files - optional on page 29
CSA (Customer Supplier Agreement)	Optional, but required for some MailStream Plus add-on processing; see Install CSA reference files - optional

Install DuoSort™ reference files - optional

DuoSort™ reference files are provided by Pitney Bowes Technical Support.

To install DuoSort files:

1. Navigate to directory **\$PBDIR/msn/bin**.
2. Source the setup script.
3. Type **./installdb** at the prompt.
4. Follow the prompts generated from the installdb script to complete installation.

Install CSA reference files - optional

CSA reference files are provided by Pitney Bowes Technical Support.

To install CSA reference files:

1. Navigate to directory **\$PBDIR/msn/bin**.
2. Source the setup script.
3. Type **./installdb** at the prompt.
4. Follow the prompts generated from the installdb script to complete installation.

Database file installation instructions

1. For database files that are 2 GB or larger, remove the comment character (#) from the following commands in the setuprts script: `USE_LARGE_FILE_API=1; export USE_LARGE_FILE_API`
2. Change the setmedia script, if needed. The setmedia script defaults to the /tmp location. You can change this script to point to the directory where your raw database files are located. If you change the default, the setmedia script will maintain the location of your raw database files. You may also change the raw database file location when installing database files.
3. If you specified a non-default directory for your database, you must change the \$PBMSMDB environment variable in the \$PBDIR/msn/bin/setup script. (Some products will have the PBDB instead of the PBMSMDB environment variable.) The database defaults to the directory \$PBDIR/db.
4. Issue the appropriate source command to setup the environment:
 - `.bin/setup` for Bourne shells
 - `source bin/setup.csh` for C shell
5. Run the database installation script using `$PBDIR/msn/bin/installdb` or change directories to `$PBDIR/msn/bin` and type `installdb`.
6. Follow the prompts as the script verifies your environment and database location.
7. When the database file is loaded, continue to follow the steps to verify installation.

Applying license management files

MailStream Plus is a Pitney Bowes product that requires license keys and license files to process mail. To install License Management files, please follow these steps:

1. FTP one or more license files, in ASCII format, to the \$PBDIR/msn/data folder.
2. Navigate to directory \$PBDIR/msn/bin.
3. Type `linstall` at the prompt.
4. Follow the prompts generated from the `linstall` script to complete installation.

45-day access keys and the install script

MailStream Plus requires an access key to run production jobs. The installation script will request one required key (for MailStream Plus) and three optional keys (Manifest Reporting, Palletization, and DuoSort). If you are not using an optional key/product, press **Enter** to bypass that option. Once

you enter the necessary keys, you may proceed to run the IVP job, assuming the **database files are also installed**.

Permanent license keys and the linstall script

Note: You must obtain your permanent license keys from the Pitney Bowes Support site.

To install the permanent License Management files, download your permanent license keys from the Pitney Bowes Support site and copy them to the /data subdirectory where the MailStream product is installed. Once the permanent license keys are in the /data subdirectory, navigate to the \$PBDIR/msn/bin area, source the setup script then run the linstall script.

The License Management files (g1lmlic, g1lmlic.vix) are, by default, loaded into the \$PBDIR/msn/data subdirectory area where the MailStream Plus product is installed. The initial temporary Access Keys that are loaded and activated via the install script process as mentioned above contain a 45-day key that will allow you to run your MailStream Plus jobs. At the end of the 45-day period, you will be unable to run your MailStream Plus jobs unless you load your permanent license keys.

If this is an upgrade installation, and you have previous versions of MailStream Plus installed, your License Management files will be copied from the previous location to the new location, assuming you have used the registration located in /opt/pitneybowes/var. If you have installed prior MailStream Plus releases in an area we cannot track using the registration file in /opt/pitneybowes/var, you will have to copy the license files manually.

Installing product updates

Note: Before installing, please ensure that you have downloaded the correct version of the patch from the web site.

Make sure that you have downloaded the patch appropriate to your UNIX or Linux version. To install the product update:

1. Download the product update file. The downloaded file has a *.zip or *.exe extension.
2. Unzip the file. One of the files is a *.tar file. Use this file in the steps below.
3. Copy or FTP the *.tar file to your UNIX or Linux machine. The patch software can be un-tarred anywhere on the UNIX/Linux system. When executed, it will read the product registration file located in /opt/pitneybowes/var to determine where the MailStream Plus product is currently installed and it will use that location to install the patch into the \$PBDIR/msn/lib area. If you FTP, be sure to use binary mode.

Note: Make sure you back up or save your \$PBDIR/msn/lib directory before going to the next step.

4. The person performing this step must have write privileges on all files in the current directory or else the tar command will fail. Un-tar the file using the following command: `tar -xvf mspXnn.download.tar`
5. In the previous command, replace `x` with one of these update designators:
 - **C** - comprehensive
 - **O** - one-off
 - **S** - special
6. Replace "nn" with the update number, such as "02." Two new files should now be available: `mspXnn.tar` and `install`.
7. Run the installation script to install updates from the `mspXnn.tar` file. Do not manually un-tar the `mspXnn.tar` file unless you are directed to do so by Pitney Bowes Technical Support. MailStream Plus places a new file (for example, `aix_O01rls`, `hpx_S02rls`) in `$PBDIR/msn/lib` to verify the patch that was installed.
8. You are ready to run. We recommend you run the IVP sample job that is provided when the product is installed to verify the update.

If you did not use the production installation area, we will not know where your product has been installed, causing the update to fail. We suggest this work-around:

- Un-tar the downloaded tar file in the `msn/lib` area of where you have installed MailStream Plus.
- Un-tar the `mspXnn.tar` file directly into the `msn/lib` area. Remember to backup the current `msn/lib` area prior to un-tarring the `mspXnn.tar` file. If you have problems with this manual method, please contact Technical Support for assistance.

Verifying the installation - IVP

MailStream Plus ships with an Installation Verification Program (IVP) that tests the product with sample parameters and produces reports based on those parameters.

The IVP job helps you to set up and run your jobs. Please take the time to run the IVP to ensure that the MailStream Plus software has been installed correctly and is ready to use. After the IVP job completes successfully, you can create jobs knowing that the MailStream Plus installation is correct and ready to use.

After completing your Unix/Linux installation, go to the "base" folder created by the installation. The base folder has the following subdirectories:

- `bin`
- `data`

- lib
- rts

Related tasks

[Overview of the Installation Verification Program \(IVP\) job](#) on page 28

Listing the MailStream Plus files

To obtain a listing of MailStream Plus files:

1. Go to your MailStream Plus installation directory.
2. At the command prompt, use the change directory (cd) command to reach the product subdirectory: `cd msn`
3. Use the command `ls -R` to show all files in the subdirectories.

Once you have installed the software and database, you should run the verification procedures to ensure that everything works properly. Issue the appropriate source command to set up the environment: `. bin/setup` for Bourne shells, or `source bin/setup.csh` for C shell scripts.

You must issue this command every time you establish a new environment by either logging in or exiting the shell in which the source command was issued. Do this as soon as you have logged on, so all subshells you create will have the product environment variables defined. Pitney Bowes strongly recommends that you add the source command to your `*.profile` or `*.cshrc` file, but this is optional. During the installation process, the setup script needed to run Pitney Bowes products are customized for your hardware and software environment.

Most scripts do not need to be modified, and you can skip those steps at this time. If there is a need to modify these scripts, please review these changeable environment variables.

Note: In most cases, these scripts will not have to be changed. They are outlined here to provide guidance if a script needs to be changed after the installation.

Table 1: Product environment variables - setup or setup.csh

Variable	Defines
<i>PBSYS</i>	Type of OS (AIX, SOLARIS, HP-UX, LINUX)
<i>PBDIR</i>	Root path where the Pitney Bowes products are installed
<i>PBMSP</i>	Full path to where MailStream Plus is installed
<i>PBMSPDB</i>	Full path where the subscription database is located

Table 2: COBOL environment variables - setup or setup.csh

Variable	Defines
<i>PBMSPTS</i>	Full path to where the MailStream Plus COBOL runtime directory is located
<i>CODE_PREFIX</i>	Full path to where Pitney Bowes programs are located
<i>PATH</i>	The COBOL bin directory should be added here
<i>LD_LIBRARY_PATH</i>	Used for UNIX/Linux SVR4 system only; Add \$PBMSPTS/lib to the existing LD_LIBRARY_PATH
<i>SHLIB_PATH</i>	Used for HP-UX systems only; Add \$PBMSPTS/lib to the existing SHLIB_PATH
<i>LIBPATH</i>	Used for AIX systems only; Add \$PBMSPTS/lib to the existing LIBPATH

Table 3: Product environment variable - setmedia

Variable	Defines
<i>PBCDDIR</i>	Input location of the raw database files - The default location for this variable is /tmp. You can change this variable by running the installdb script or by editing the setmedia script. Once you change this location in the setmedia script, it will not change until you edit it or run the installdb script.

4. Submit the IVP or sample job: `runmsp ivp`

Normally you will not change these scripts. They are outlined here to provide assistance if a script needs to be changed after the product installation is complete. The IVP sample jobs run in the background and take up to 10 minutes to complete. You may monitor IVP progress using one of these methods:

- For IVP jobs: `ps-ef | grep ivp.job | grep -v grep`
- Or you can run the `chkrun` script found in the product bin subdirectory.

5. Verify that the job executed properly by running the script `bin/chkrun`, or look at the sample log file created in `$PBDIR/msn/data`.

Before running the IVP job, you must ensure that the product licenses are available to MailStream Plus. If you have a prior installation area where there are valid license files (found in `msn/data`), and the product has been tracked by the product registration file, found in the old `/var/group1` area, we will copy the existing license files from the current area to the new install area. This will only occur if you are installing into a production installation area, and does not occur for test areas. If you have

a current installation but have NOT used the `/opt/pitneybowes/var` product registration area, you must copy the current license files to the new installation area. The two license files (`g1lmlic` and `g1lmlic.vix`) can be found in the current `msn/data` subdirectory. You must run the license management process after completing the software installation. For more information, review the section on [Applying license management files](#) on page 30.

Note: License Management files must be present, active, and validated before running any MailStream Plus job.

Defining the parameters for a new job

Job parameters are in a `*.prm` file. You may access this file to update parameters as needed. Review your *MailStream Plus Reference Guide* to learn about parameter layouts.

Notes for uninstalling products

Note: Anyone who un-installs the software MUST have proper permissions to do so, or the uninstall will not complete successfully.

Un-install scripts are included with your product in the `/opt/pitneybowes/etc` directory for default installations or the base directory of the alternate area where the product is installed. You can select any product from the list of available products.

It is important to note that running this script will remove product files and ALL files within the product directory structure, such as parameter files, input, and output files. For this reason, we suggest that you backup all files before you uninstall your product.

Use the following steps to un-install your software:

1. Create a backup before uninstalling the product. This will ensure that any user-created content is not lost.
2. Navigate to the `/opt/pitneybowes/etc` subdirectory.
3. Specify `./uninstall` at the command line.
4. Follow the on-screen prompts to remove the product.

4 - Installing on Windows

In this section

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Pre-installation notes

Before you install, ensure that your operating system is supported by Pitney Bowes Software. Review our current supported platforms at our [support site](#). If you are upgrading an installed product, be sure to back up any files to which you have made modifications.

Note: Since your product uses system environment variables, you must be logged on as an administrator to successfully install a product.

When installing software on Windows® Server 2012 or later, ensure that the file system supports the 8.3 naming convention, as outlined in [this Pitney Bowes Knowledge Base Article](#).

If you are installing your product and databases for the first time, perform a check on the status of 8.3 format support. From a Windows command line, use the following command, assuming drive "c" for this example:

```
fsutil 8dot3name query c:
```

Windows will display a message with 8.3 file name support status. If 8.3 file name support is disabled, use this command to enable that feature, replacing "c" with your drive letter:

```
fsutil 8dot3name set c: 0
```

Installing products and databases - an overview

Before installing the software or subscription database files, make sure you:

- Have administrative rights on the PC where the software/databases are being installed.
- Know the directory and path where the software and subscription databases are to reside (unless you plan to accept the install defaults).
- Use your user ID and password to gain access to the secure area of the Pitney Bowes [support site](#) (for internet installations). To receive your user ID and password, call Technical Support.
- Download the software and databases from Pitney Bowes [support site](#).
- Review the Release Notes.
- Have your *permanent* license key (for a new installation, if required). The access key allows only *temporary* use of the software (45 days).

MailStream Plus for Windows

The Windows installation creates two folders: one for the application, and one for application data. This discussion assumes that you installed MailStream Plus into the following folders:

- For data - [Public Documents]\Pitney Bowes\MailStream Plus
- For the application - [Program Files]\Pitney Bowes\MailStream Plus

Environment variables

The following variables are either set at installation ("Required") or are user-defined ("Optional"). You can overwrite default paths during installation.

Variable	Description	Default	Required or Optional?
<i>PBCD</i>	Source location for media, set at installation	First media drive found on your machine, if present. Will default to the directory containing the installation media if no media drive is found.	Required
<i>PBEDIT</i>	Defines the text editor to use for jobs and parameters, using the editing icon; set this as a user variable; If not explicitly set by user, the default value will be used.	Notepad™	Optional
<i>PBMSP</i>	Path of the product software directory containing the lib and rts folders, set at installation	[Program Files]\Pitney Bowes\MailStream Plus	Required
<i>PBMSPDB</i>	Path of the MailStream Plus database/reference file directory; set at installation	[Public Documents]\Pitney Bowes\MailStream Plus\DB	Required
<i>PBMSPDOCS</i>	Top-level directory for user-modifiable files (*.bat scripts, parameters, data). This directory contains the MailStream Plus bin and data folders; set at installation	[Public Documents]\Pitney Bowes\MailStream Plus	Required

Variable	Description	Default	Required or Optional?
<i>PBPAUSE</i>	Defines whether to pause at the end of the job when running in Windowed mode; If not explicitly set by user, the default value will be used.	By default, jobs do not run in Windowed mode: they run in the background	Optional
<i>PBTMP</i>	Location for temporary files; If not explicitly set by user, the default value will be used.	%PBMSPDOCS%\data	Optional

Installed folders

1. Locate the application data folder.

This folder contains scripts and data for running MailStream Plus jobs.

Folder	Description
bin	Contains files, scripts, and icons used to run/edit MailStream Plus jobs. <ul style="list-style-type: none"> • Batch files (.bat) <ul style="list-style-type: none"> IVP.bat - batch installation verification procedure that runs the IVP job • Visual basic scripts (.vbs) <ul style="list-style-type: none"> MSPJOB.VBS - Utility to edit MailStream Plus job batch file MSPRun.VBS - Runs a MailStream Plus job • Icon files (.ico)
data	Contains job parameters, report files, input name/address file, and output files generated by the job
DB	Contains MailStream Plus postal reference files

2. Locate the application folder.

This folder contains the MailStream Plus application and runtime:

Folder or File	Description
bin	Contains .bat files for user interface
doc	Documentation for the user interface
lib	Contains the MailStream Plus program files
rts	Contains the runtime system
README.TXT	File containing late-breaking information from the Pitney Bowes Software programming team

Installing the software

To install your software, you must:

- Locate the setup.exe file and double-click to start the installation process.
- Follow all installation prompts to complete the installation process.

Installing databases

Note: The section [Installing products and databases - an overview](#) provides a summary of the steps you will accomplish to install database files.

After the software is installed, you are ready to load the subscription databases. If you are installing from the Internet, you should have already downloaded the appropriate files.

Loading the MailStream Plus database files

After product installation and after the appropriate variables are defined, you are ready to load the required and optional database files.

Product Name	Available Databases
MailStream Plus	USPS Reference File, Monthly - Required
DuoSort	DuoSort Database - Optional
Customer Supplier Agreement (CSA)	Customer Supplier Agreement, or CSA - Optional

Load the required MailStream Plus databases from the Internet:

1. Download the Database to your computer.
 - a) Unzip the downloaded file, if necessary.
 - b) From the MailStream Plus program group, double click the Database Load icon found in the MailStream Plus program group window. This will start the database load process.
 - c) Select the Postal Reference Files button
 - d) Click Browse and navigate to the location containing the downloaded database file. Highlight any one of the *.msp files.
 - e) Click Next so that the database load process will inspect your system and place the MailStream Plus files into your designated %PBMSPPDB% directory. If you have other Pitney Bowes products and have a PBMSPPDB variable already defined, MailStream Plus will use this value for the destination/location of the database files.
2. Once the Database Load has completed, check the MSDBLOAD.XLG file found in the %PBMSPPDOCS%\data directory to see if any errors occurred in the database load process. If the load completed without errors, you may run MailStream Plus jobs. If there were errors during installation, please contact our Support Team for assistance.

Load the MailStream Plus CSA database files (optional):

Note: To install the CSA database, you must purchase and have a current maintenance license for the Palletization Plus add-on product.

1. Place the CSA Raw Data files (CSARTMAP.CSA, CSADSTIN.CSA) in the MailStream Plus Data folder (%PBMSPPDOCS%\data). CSA files are provided through Pitney Bowes Technical Support.

2. Navigate to the MailStream Plus bin folder (%PBMSPDOCS%\bin), and run the CREATECS.BAT script.
3. Once the CSA Database Load has completed, check the CREATECS.XLG file found in the %PBMSPDB%\ directory to see if any errors occurred in the database load process.

Load the MailStream Plus DuoSort database files (optional):

Note: DuoSort is a separately licensed add-on to MailStream Plus from Pitney Bowes Software. To install the DuoSort database, you must purchase and have a current maintenance license for the DuoSort add-on product.

1. Place the DuoSort Raw Data files (DSFZPSCH.DSF, DSFSCHFC.DSF, DSFFCINF.DSF) in the MailStream Plus Data folder (%PBMSPDOCS%\data). DuoSort files are provided through Pitney Bowes Technical Support.
2. Navigate to the MailStream Plus bin folder (%PBMSPDOCS%\bin), and run the CREATEDS.BAT script.
3. Once the DuoSort Database Load has completed, check the CREATEDS.XLG file found in the %PBMSPDB%\ directory to see if any errors occurred in the database load process.

Installing product updates

Before you begin, download the appropriate files from the Pitney Bowes [support site](#). To install the product update:

1. Back up your lib subdirectory.
2. Extract the objects contained in the *.ZIP file to a temporary directory on the same computer as your product installation.
 - If the update contains an install.bat file, simply execute this file to install the update.
 - If install.bat is not included in the update, copy the objects extracted from the *.ZIP file to the lib subdirectory of your existing product installation.
3. When prompted to overwrite existing files, reply **Yes to all**.
4. Check to see if the files updated successfully.

Verifying the product installation (IVP)

For new product releases, you may want to run the Installation Verification Procedure (IVP) before running your own production jobs. Follow these steps to run the IVP job:

1. Click the **Start** button and choose **Programs > Pitney Bowes MailStream Plus > Run MailStream Plus Job**.
2. Enter the name of the job, **IVP**, and click **OK**. The job takes a few minutes to run.
3. When the job is complete, you will receive notification via a dialog box. Click **Yes** to review the output for errors.

4. To ensure that output files were produced, you can check the execution log (IVP.XLG) in the data directory where you loaded the software. For example, this location might be [Public Documents]\Pitney Bowes\MailStream Plus\Data. The execution log will list the number of records processed during the IVP job run.

If the IVP job did not run to completion, [contact Technical Support](#) for assistance.

Obtaining the permanent license key file

If the IVP was successful, your final step is to acquire your permanent license key file from the product download page of the Pitney Bowes [support site](#). If license management is not yet installed in your production environment, you must obtain a permanent license key from Pitney Bowes Software, and perform installation of the license file. For details, see the Pitney Bowes *License Management Guide* available from our [support site](#).

Note: If you are upgrading a current installation of MailStream Plus, you can continue to use your current permanent license with the new software version.

5 - Installing on z/OS

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Pre-installation notes

The person who installs the files must:

- Have permission to delete, replace, and allocate libraries and files
- Know the site file/member naming conventions
- Know how to FTP files to the mainframe (for Internet installations)

Media installation - overview

The installation process involves the following steps.

- **Step 1. Unload the installation JCL**
- **Step 2. Run the installation job**
- **Step 4. (Optional) Re-link object modules to the load library**
- **Step 5. Install the databases**
- **Step 6. Run the Installation Verification Procedure (IVP)**

If you are installing from media, you have received 3490e tape cartridges containing the software application and databases. You can obtain a listing of the tape file contents by printing the first (physical) file on the installation/software tape. This file has 80-byte records and a block size of 8000.

Contents of the installation media

Your installation/software tape contains files that either assist in the installation process or load onto your system during the installation process. These files may include:

- **CONTENTS** - Table of Contents/Copyright Information
- **INSTALIB** - Installation library; a description of each member in this library is in the \$\$READIN member
- **OBJCMVS** - Object modules that are used to build the load modules for the software applications
- **LNKCMVS** - Load library for building the software application
- **NAMEADDR** - Input name/address file for the Installation Verification Procedure (IVP)
- Other optional product-specific files

Your installation/database media contains all the files necessary to build your product database or reference files.

License management

WARNING! Do NOT delete or modify your production License File!

The Pitney Bowes License Management technology prevents users from overwriting the Pitney Bowes License File (G1LICEN). If you overwrite the License File, your product WILL NOT OPERATE! Please carefully read the upgrade procedures in this section to ensure proper installation of your license-managed product.

You have these installation options:

- Installation to a Production System - If you install your Pitney Bowes product directly onto a production system, the installation routines will automatically account for an existing License File, and the product will operate as expected.
- Copy From Test System to Production System - If you copy the product from a test system onto a production system, it is important that you DO NOT COPY THE LICENSE FILE from the test environment as part of the upgrade process. You must not modify the production License File (G1LICEN) during the upgrade process. If you overwrite the License File, your Pitney Bowes product will cease to operate.

Note: If license management is not yet installed in your production environment, you must obtain a permanent license key from Pitney Bowes Software, and perform installation of the license file. For details, see the Pitney Bowes License Management Guide available from the web site at www.g1.com/support.

Installing software and database files from media

Complete the following steps to install the software and database files.

Step 1. Unload the installation JCL

Create a job stream (IEBCOPY) similar to the one below to unload the installation library. Edit as needed for your site's requirements. Variables that you will supply appear in lowercase, bold type. Add your site-defined job card.

```
//jobcard
//*
//*  UNLOAD <PRODUCT NAME> JCL LIBRARY.
//*
//LOAD      EXEC PGM=IEBCOPY
```

```
//SYSPRINT DD    SYSOUT=*
//INDD      DD    DSN=INSTALIB,DISP=OLD,
//          UNIT=device,VOL=SER=tvolses,LABEL=(2,NL),
//          DCB=BLKSIZE=27920
//OUTDD     DD    DSN=yourhlq.MSP.INSTALL.JCL,DISP=(,CATLG,DELETE),
//          DCB=(LRECL=80,BLKSIZE=27920,RECFM=FB,DSORG=PO),
//          SPACE=(CYL,(5,1,20)),UNIT=SYSDA
//SYSUT3    DD    UNIT=DISK,SPACE=(TRK,(10))
//SYSUT4    DD    UNIT=DISK,SPACE=(TRK,(10))
//SYSIN     DD    *
          COPY OUTDD=OUTDD
          INDD=INDD
/*
```

Table 4: JCL Variables from the Installation JCL

Variable	Description
tvolses	Volume serial number of the installation/software tape
yourhlq	High level qualifier of the installation files
device	The UNIT name for the input device

Step 2. Run the installation job

After you unload the installation library, you are ready to customize the JCL variables and submit the job to install the software.

Note: Please review the information contained in the \$\$READIN member of the installation library for the latest information on this release.

The installation JCL is a multi-step process that will:

- Unload the application object and load modules.
- Unload the Installation Verification Procedure (IVP) name/address file.
- Unload any optional database files.
- Define and load a temporary license file and associated product-enabling key, if applicable.

Note: Make a backup copy of the original installation library before you make any modifications. Alternatively, save the edited members under another name and cancel your edits to the unloaded member.

Once you make a backup copy, edit the installation JCL skeleton by replacing the lower-cased variables to suit your standards. The variable names that you replace are unique, allowing you to use the ISPF “change all” function. Add your site-defined jobcard, using the comments within the JCL to walk you through this process.

Note: The installation job deletes the specifically-named files and libraries that you specify prior to unloading the tape. Ensure that no other files or libraries are using these names. Also, set your ISPF Edit profile to uppercase using the “caps on” command.

Note: The installation JCL copies from tape to disk the entire application’s software and IVP file. If your product requires license management, various other steps will run to load the license management file/key.

Step 3. Load the License Management Key(s)

Note: If you are a new user, your temporary access keys allow you to run your software for 45 days, until you can obtain your permanent license key file from the Pitney Bowes web site. Once the temporary access keys expire, you cannot process your data until you have installed or updated your permanent license file(s).

1. If you are installing MailStream Plus for the first time, use the access key(s) provided with the software to complete the ACCESS parameter(s) found in the UNLOAD JCL member.
2. If you have installed MailStream Plus previously, remove the ACCESS parameter(s).
3. Submit the modified UNLOAD job. Acceptable return codes are 0 (zero), 4, 14, and 99.

Step 4. (Optional) Re-link object modules to the load library

Note: You can safely bypass this step if your facility allows you to install load modules.

1. Edit the LNKBATCH JCL member in the INSTALL.JCL PDS.
2. Submit the modified LNKBATCH job. The return codes should never be greater than 4.

Step 5. Install the databases

The MSPDBINS JCL creates the database containing multiple database files. To load these files:

1. Locate DASD space to accommodate the product database.
2. Edit the MSPDBINS JCL member in the INSTALL.JCL PDS.
3. Submit the JCL.

4. Check the output (Database Summary output) to ensure that all steps completed with a zero return code.

Step 6. Run the Installation Verification Procedure (IVP)

Run the IVPFILE JCL member to ensure that the batch load modules function properly. The IVP job test-runs a large number of programs in the system, so you can be sure that the verification process is comprehensive. Be sure to add the LE run-time library reference to your steplib concatenation.

Using IVPFILE

After completing your z/OS MailStream Plus product installation, go to the JCL library created by the installation and locate the member IVPFILE. You can use this installation verification job to verify a successful product installation.

1. Locate member IVPFILE. Edit this member as required to add a job card and replace the lower-case variable names with your site-specific information.
2. After the IVP job runs, go to your SDSF (Systems Display and Search Facility), or IOF (Interactive Output Facility), or use your preferred display tool to view reports, logs, system messages, and other job details.
3. Select the job ID for the IVPFILE job that you just ran.

All functions should end with a return code of zero (RC=0). Several files are created including the MSRPRPT and MSRPXLG files. MSRPRPT contains a listing of the parameters used and other reporting information for the MailStream Plus job. The MSRPXLG (execution log) file contains statistics about compile dates and whether all executable programs, subprograms, and subroutines completed successfully.

Installing software and database files from Internet download

These steps assume you have already unzipped the *.exe or *.zip file to extract the installation 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. MailStream Plus is delivered in load module format. Once the IDSINSTL job completes, you can install required databases and run your regression/IVP tests. Once you are

satisfied with the results, you can schedule migrating the new modules into your production environment, with no re-linking required.

5. Load the License Management file if there is no license file currently on the system.
6. Load or reload the required and optional databases.
7. Run the installation verification procedure to verify installation.

The Installed libraries

The installation creates these libraries:

Library	Description
Load library	MailStream Plus load members
Object library	MailStream Plus object members
PDSE Load library	MailStream Plus PDSE load members
JCL library	MailStream Plus JCL members
Side deck library	MailStream Plus side deck members

Contents of the *.zip file

Pitney Bowes delivers Internet software updates in compressed format. This file includes:

- IDSINSTL.JCL used to upload and install your new software release
- Installation JCL and the LE Runtime Options module (CEEUOPT); \$\$READIN member will contain an index of all the members in the install library.
- Load file containing load modules.
- Load PDSE file containing PDSE (partitioned data set extended) load modules.
- Object file containing the object modules
- Input data file for the installation verification procedure
- Side deck file containing side deck members, used only in optional re-linking step
- A temporary license key, if applicable, containing temporary license keys for MailStream Plus and the sub components MR (Manifest Reporting), PP (Palletization Plus), and PS (DuoSort). These sub components are supplied as xxTMPLIC.DAT.

- Other files that may be pertinent to your release, such as *.DAT files

Note: The IDSINSTL JCL member is a complete job that will perform all of the functions required to upload a specific product's libraries and support files to the mainframe. The job is complete. If your site does not utilize FTP as the preferred file transfer protocol, then substitute the FTP step with the utility used at your site and the job will continue to be operational.

Step 1. FTP the IDSINSTL JCL

Follow the steps below to FTP the IDSINSTL JCL to the mainframe:

1. Use the following file transfer settings:
 - Ensure that file transfer is set to ASCII format.
 - NOCRLF - No Carriage Return/Line Feed
 - RECFM - FB (fixed-block)
 - BLKSIZE - 1600 or the block size of the receiving library
 - LRECL - 80
2. With your company's file transfer protocol set to ASCII, upload IDSINSTL JCL to the mainframe.

Step 2. Customize the IDSINSTL JCL

Customize the IDSINSTL as needed for your site's requirements. Variables that you supply appear in lowercase type (see the Variable Replacement Table in the IDSINSTL JCL).

Step 3. Run the IDSINSTL job

To run the install job, submit the job and check the return codes. The job should complete with zero return codes.

Note: Running the IDSINSTL install will delete all of the files associated with the installation of the product; therefore, you need to create backups first.

Step 4. (Optional) re-link object modules to the load library

Note: You can omit this step if your facility allows you to install load modules.

The LNKBATCJ Link-Edit JCL member is included in the INSTALL.JCL PDS.

1. Select the LNKBATCJ job from the INSTALL.JCL PDS.
2. Add a job statement to the JCL and update the necessary parameters.
3. Submit the modified LNKBATCJ job. The return codes should never be greater than 4.

Step 5. Load the license management key(s)

1. If you are installing MailStream Plus for the first time, use the access key(s) provided with the software to complete the ACCESS parameter(s) found in the MSPLICEN JCL member.
2. If you have installed MailStream Plus previously, remove the ACCESS parameter(s).
3. Submit modified MSPLICEN job. Acceptable return codes are 0 (zero), 4, 14, and 99.

Step 6. Load the required and optional database files

At this point, you will load your new or updated database files. Pitney Bowes provides database images, on the Internet, as required.

Required and optional databases

Product Name	Available Databases
MailStream Plus	USPS Reference File, Monthly - Required
DuoSort	DuoSort Database - Optional; See Installing optional DuoSort databases for more information.
Customer Supplier Agreement (CSA)	Customer Supplier Agreement, or CSA - Optional; See Installing optional Customer Supplier Agreement (CSA) databases for more information.

Databases are available for download at [our support site](#). Contact our support team if you do not have a user ID or password.

Installing required databases

1. Locate the files, and start the download.

Once the download completes, the files will be on your local network in the location you specified. You may need to unzip the files. MailStream Plus Postal Reference database files will have the *.MSP extension.

2. Log onto your mainframe and locate the product's installation library.
3. Locate and customize the MSPALOCF member to suit your site standards; submit the MSPALOCF member.
4. Locate and customize the MSPDBIND member to suit your site standards. Submit the member. The MSPDBIND member creates the appropriate VSAM database files from the sequential files uploaded in the prior step, then removes the flat files from the mainframe.

Installing optional Customer Supplier Agreement (CSA) databases

CSA databases are available through Pitney Bowes Technical Support.

Note: Customer Supplier Agreement, or CSA, is a separately licensed product from the USPS. To install CSA databases, you must apply for Customer Supplier Agreement through the USPS [Business Customer Gateway](#).

The CSA databases supplied by Pitney Bowes Software allow you to palletize mail according to your USPS FAST/CSA agreement. These files are:

- **MSRFCB** - CSA Destination Information
- **MSRFCM** - CSA Routing Map

These files must be built specifically for your individual USPS CSA. You must contact Pitney Bowes Software technical support, or create an online support case, to establish your company's processing requirements. To install the CSA files:

1. Copy the two CSA databases to your network.
2. Log onto your mainframe and locate the MailStream Plus installation library.
3. Locate and customize the CSFALOCF member to suit your site standards.
4. Submit CSFALOCF to allocate temporary/sequential files and upload the CSA reference files to the mainframe.
5. Locate and customize the CSFDBIND member to suit your site standards.
6. Submit CSFDBIND to create the appropriate VSAM database files from the sequential files uploaded in the prior step, and to remove the flat files from the mainframe.

Installing optional DuoSort databases

DuoSort databases are available through Pitney Bowes Technical Support.

Note: DuoSort is a separately licensed product from Pitney Bowes Software. To install the DuoSort database, you must purchase and have a current maintenance license for the DuoSort product.

The DuoSort Workshare Manager provides the ability to sort mail two different ways in a single processing step.

- Software presorting method (including manifest mailings) - DuoSort uses MailStream Plus to presort mail so it can be submitted directly to the USPS and processed as a “bulk mailing.” Postage discounts are based on individual presort job qualification, and vary with each mailing.
 - Machine presorting method - DuoSort prepares mail for presorting by a sorting machine such as an MLOCR (multiple line optical character reader). DuoSort can sort mail to be more efficiently processed by an in-house or outsourced machine presorting operation. Using machine-defined schemes, DuoSort can sort most barcoded mail in a single pass.
1. Copy the DuoSort Databases to your network.
 2. Log onto your mainframe and locate the MailStream Plus installation library.
 3. Locate and customize the DSFALOCF member to suit your site standards.
 4. Submit DSFALOCF to allocate temporary/sequential files on the mainframe, then upload the DuoSort file to the mainframe.
 5. Locate and customize DSFDBIND to suit your site standards.
 6. Then submit DSFDBIND to create the appropriate VSAM database files from the sequential files uploaded in the prior step, and to remove the flat files from the mainframe.

Step 7. Run the Installation Verification Procedure (IVP)

Run the IVPFILE JCL member to ensure that the batch load modules function properly.

The IVP job tests a large number of programs in the system, so you can be sure that the verification process is comprehensive. Be sure to add the LE run time library reference to your steplib concatenation.

Using IVPFILE

After completing your z/OS MailStream Plus product installation, go to the JCL library created by the installation and locate the member IVPFILE. You can use this installation verification job to verify a successful product installation.

1. Locate member IVPFILE. Edit this member as required to add a job card and replace the lower-case variable names with your site-specific information.
2. Submit the IVPFILE JCL for processing.
3. After the IVP job runs, go to your SDSF (Systems Display and Search Facility), or IOF (Interactive Output Facility), or use your preferred display tool to view reports, logs, system messages, and other job details.
4. Select the job ID for the IVPFILE job that you just ran.

All functions should end with a return code of zero (RC=0). Several files are created including the MSRPRPT and MSRPXLG files. MSRPRPT contains a listing of the parameters used and other reporting information for the MailStream Plus job. The MSRPXLG (execution log) file contains statistics about compile dates and whether all executable programs, subprograms, and subroutines completed successfully.

Installing product updates

This section provides instructions for applying product updates downloaded from the Pitney Bowes Web site.

Step 1. Configure your file transfer utility

Before uploading the MVSPATCH JCL from your PC to the mainframe, use the following settings to configure your installation-approved file transfer utility.

- “ASCII” - file is provided in ASCII format
- CRLF - Carriage Return/Line Feed
- RECFM - FB (fixed-block)
- BLKSIZE - 80
- LRECL - 80

Step 2. Upload MVSPATCH JCL member

Use your site's file transfer utility to upload the MVS PRODUCT UPDATE JCL member, MVSPATCH, to a location on your mainframe where it can be edited.

Step 3. Determine if the FTP step in MVSPATCH applies

Review the MVSPATCH JCL member and determine if you need to substitute or remove the FTP step from the job. If you are substituting another utility, or removing the step and using an interactive file transfer, be sure to use the following file transfer settings for the *.OBJ File:

- BINARY - Binary transfer (the file is provided in EBCDIC format)
- NOCRLF - No Carriage Return/Line Feed
- RECFM - FB (fixed-block)
- BLKSIZE - 1600
- LRECL - 80

Step 4. Customize the MVSPATCH JCL member

The MVSPATCH member contains a list of variables, enclosed in a “flower box,” at the start of the member. Review the variable requirements in the JCL member and follow the directions.

Step 5. Run the MVSPATCH JCL member

The job should complete with zero-value return codes.

Step 6. (Optional) re-link the uploaded objects

Note: Once the MVSPATCH job runs, you can (using the current load library) run your regression/IVP tests. Once you are satisfied with the results, you can schedule migrating the new modules into your production environment. No re-linking is required.

Now you can optionally re-link the uploaded object members in the TEST object Library. You will find the necessary Link-Edit JCL, LNKBATCH, that you unloaded during your last complete software installation. However, in some cases the Product Update may contain new objects that previously did not exist. In these cases, create a job similar to LNKBATCH, including the modules that did not previously exist.

1. Point the SYSLMOD (output load library) to a new, or TEST library. Never re-link directly into your PROD library.
2. Submit the modified LNKBATCH job. The return codes should never be greater than four (4).

Step 7. Test the product update

Run the IVPFILE provided with the original software tape (or any existing job at your site) to ensure that the batch load modules function properly. The IVPFILE job tests a large number of programs in the system, so you can be sure that the verification process is comprehensive.

Note: If you call Pitney Bowes programs from your applications statically, we suggest that you re-compile your programs at this point to pick up the new modules.

Step 8. Apply the product update

Once you have tested the new TEST load Library and are satisfied with the results, you may copy the TEST libraries into production.

Alternatively, you can concatenate STEPLIBs, so that the patches will be used first, newer patches before older ones. For example, if there is an S01 update, and then later an S02 update, the STEPLIBs should be ordered so that the MailStream Plus job's JCL looks first at the S02 load library, then the S01 load library, ending with the original load library.

You may use IECOPY or ISPF (or any other valid utility) to copy the TEST load and TEST object libraries into your respective Production libraries. It is important that you use the replace option with either method.

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