



# Installing and running the programs of the DELTA System

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## Installing the programs

### Introduction

The DELTA format (DEscription Language for TAXonomy) is a flexible method for encoding taxonomic descriptions for computer processing. The DELTA System is an integrated set of programs based on the DELTA format. For more information, see [Overview of the DELTA System](#).

The programs were originally written for Microsoft Windows by the CSIRO Division of Entomology, and were ported by The Atlas of Living Australia (ALA) to run under Windows or Mac OS X. The ALA version is available at [Open DELTA downloads](#).

This document describes how to download and configure the CSIRO DELTA System.

For a list of the available programs, see [Programs available in the DELTA System](#).

For documentation of the programs, see [DELTA documentation](#).

For the revision history, see [Revision history of the Delta System](#),

### Removing previous installations

*If you have previously installed Intkey or the DELTA System by the procedures given below*

Delete the 'delta' folder (unless you've used it to store your own data, in which case rename or move it). Download the distribution file, and unzip it into the same location as the original installation, as described below. The other configuration steps should not be necessary.

*If you previously installed the programs by running `intk32.exe` or `delt32.exe`*

Uninstall using 'Control Panel > Add or Remove Programs' (Windows XP), or 'Control Panel > Programs > Programs and Features' (later versions of Windows). (If 'Delta' doesn't appear in the list of

installed programs, it means that DELTA wasn't installed in that way.) Then follow the complete procedures given below.

If you use Revo Uninstaller, be careful when deleting registry entries, as items unrelated to the DELTA programs may be shown, e.g. 'ContentViewModeLayoutPatternForBrowse - delta'.

## The Intkey app for interactive identification and information retrieval

### *Downloading and unzipping*

Intkey is included with the **complete DELTA System**, but can be downloaded and configured separately.

Download the **Intkey zipfile**. Open the downloaded zipfile in File/Windows Explorer, and drag the folder 'delta' from the zipfile. It can be placed anywhere, but the root of your 'C' drive is recommended. This will produce a folder 'C:\delta\'.

### *Running*

You can run the app by double-clicking on 'C:\delta\intkey5.exe' in File/Windows Explorer. In the 'Select data set' window, browse to an initialization file, or type or paste the name of an initialization file, which may be on your computer (e.g. 'C:\delta\sample\intkey.ink' – DELTA sample data) or on the Web (e.g. '<http://delta-intkey.com/angio/webstart.ink>' – angiosperm families).

### *Configuring*

For convenience in running Intkey, you can associate it with its initialization-file type, '.ink', as follows.

- *Windows 10*. In File Explorer, double click 'C:\delta\sample\intkey.ink'. A dialog opens, with the message 'Windows cannot open this file'. Scroll to the bottom of the list. Leave 'Always use this app to open .ink files' checked, and click 'Look for another app on this PC'. In the 'Open with...' dialog, browse to 'C:\delta\intkey5.exe', and click 'Open'.
- *Windows 8, 7, Vista, and XP*. In Windows Explorer, double click 'C:\delta\sample\intkey.ink'. A dialog opens, with the message 'How do you want to open this file?'. Select 'Select a program from a list (of installed programs)', and click 'OK'. In the 'Open with' dialog, leave 'Always use the selected program to open this kind of file' checked, and click 'Browse'. In the 'Open with...' dialog, browse to 'C:\delta\intkey5.exe', and click 'Open'. Click 'OK'.

You can also pin Intkey to the Start Menu. In File/Windows Explorer, right-click on 'C:\delta\intkey5.exe', and select 'Pin to Start (Menu)'.

### *Testing*

You will now be able to start Intkey by double clicking on an Intkey initialization file in File/Windows Explorer, e.g. 'C:\delta\sample\intkey.ink'; or by clicking on a link to an Intkey Web startup file, e.g. [delta-intkey.com/britin/noc/webstart.ink](http://delta-intkey.com/britin/noc/webstart.ink) (Insects of Britain and Ireland: the genera of Lepidoptera-Noctuidae).

To test the app, we recommend using the demonstration key **Butterflies and moths**, which is specially designed for exploring the general principles of interactive identification, and for use in training courses and workshops. When evaluating interactive-key apps, it's important to carry out real identifications (when the answer is unknown), rather than *pretending* to identify familiar organisms (when the answer is known beforehand). This key is suitable for that purpose. The characters don't require special knowledge, and the illustrations can be used as 'specimens' to be identified. For more information, see [Principles of interactive keys](#).

When you exit from a key, you will be given the opportunity to download the zipfile containing the Intkey data, and/or to add the dataset to an index file for easier future access.

## The complete DELTA System

### *Downloading and unzipping*

Download the **DELTA zipfile**. Open the downloaded zipfile in File/Windows Explorer, and drag the folder 'delta' from the zipfile. It can be placed anywhere, but the root of your 'C' drive is recommended. This will produce a folder 'C:\delta'. A subfolder 'sample' contains the 'DELTA sample data', which can be used to experiment with the programs.

### *Configuring*

#### *Intkey*

Configure Intkey as described **above**.

#### *The DELTA Editor and other programs*

In File/Windows Explorer, right click 'C:\delta\delta.exe' ( the DELTA Editor). In Windows XP, choose 'Open'; in later versions of Windows, choose 'Run as administrator', and supply administrator login information when prompted. The DELTA Editor runs. You can open a dataset if you wish, or just exit.

You should now be able to run the DELTA Editor by double clicking on the program file (without running as administrator), or by double clicking on a DELTA database (.dlt) file such as 'C:\delta\sample\sample.dlt'.

The DELTA Editor allows you to enter and maintain DELTA data. To use the DELTA data to produced descriptions, keys, classifications, etc., you need to run various other programs, such as Confor, Key, and Dist (see **Programs available in the DELTA System**). To run these programs, you must add the folder 'C:\delta' to the environment variable 'path', as follows.

- *Windows 10, 8, 7, and Vista*. Open the Control Panel. Choose 'System and Security > System > Advanced System Settings', and supply administrator login information if prompted.
- *Windows XP*. Open the Control Panel. Choose 'System'. In the 'System Properties' dialog, select the 'Advanced' tab.

Click 'Environment variables'. In the 'System variables' box, select 'path' and click 'Edit'. Add 'C:\delta;' at the start of the path. Note the semicolon, which is required to separate the item from the rest of the path, except in Windows 10, which supplies it automatically.

To check that the path has been correctly set, open a command window (see **below**), and enter the DELTA command 'listpath'. You should see a listing of the 'path' environment variable, with one folder per line. (The standard Windows command 'path' gives the same information, but in a less readable format.)

### *Testing*

For an introduction to using the DELTA System, see **User's guide to the DELTA Editor**. This includes instructions on experimenting with the sample data, producing your own data, and running other programs to produce descriptions, keys, etc.

## Running the programs

### Running from File/Windows Explorer

Intkey and the DELTA Editor are normally run by double clicking the program (e.g. 'C:\delta\delta.exe') or an associated file (e.g. 'C:\delta\sample\sample.dlt') in File/Windows Explorer. The programs Confor (converting data formats), Key (generating conventional identification keys), and Dist (generating

distance matrices) can be run from within the DELTA Editor by choosing ‘View > Action Sets’, choosing the tab for the required program, selecting an ‘Action’, and clicking ‘Run’.

All of the above programs can also be run from a command window, and the other programs described in [Programs available in the DELTA System](#) are normally run in that way.

## Opening a command window

- *Windows 10 and 8.* Right click ‘Start’ and choose ‘Command Prompt’.
- *Windows 7, Vista, and XP.* Choose ‘Start > All Programs > Accessories > Command Prompt’.

In Windows Vista and later, there is another method that opens a command window in the folder where you want to work. In File/Windows Explorer, hold down the Shift key and right click on the folder. In the context menu, choose ‘Open command window here’. A similar option can be added to Windows XP by running ‘[download.microsoft.com/download/whistler/Install/2/WXP/EN-US/CmdHerePowertoySetup.exe](http://download.microsoft.com/download/whistler/Install/2/WXP/EN-US/CmdHerePowertoySetup.exe)’.

For easier access to a command window, pin it to the Start Menu, or add a shortcut to the taskbar.

To adjust the size and other properties of a command window, click on the icon at the top left of the window, and choose ‘Properties’. In the ‘Layout’ tab, you can set the ‘Screen Buffer Size’ (which controls the number of lines that are stored for scrolling), the ‘Window Size’, and the ‘Window Position’.

## Running in a command window

To run DELTA programs in a command window, you must first add the DELTA program folder to the ‘path’ environment variable, as described [above](#).

In a command window, you run a program by entering its name, possibly followed by parameters that specify other information such as the name of the file that the program is to process. For example, ‘confor toint’ converts DELTA data to Intkey format.

```

C:\>to col

C:\tx\britin\col>confor toint

CONFOR version 2.24e Win32-gfortran
M.J. Dallwitz, T.A. Paine and E.J. Zurcher
CSIRO Division of Entomology, GPO Box 1700, Canberra, ACT 2601, Australia

Translate into INTKEY format.
Insects of Britain and Ireland: Coleoptera families
Specifications - 9 October 2012
Character list - 9 October 2012
Item descriptions - 31 October 2012

Normal Termination.

Output files -
  toint.lst
  ichars
  iitems

C:\tx\britin\col>

```

In the above window, prompts are shown in green and user commands in red. The command ‘to col’ changes the default folder to ‘C:\tx\britin\col’, which contains the ‘Coleoptera families’ data files. See [Programs available in the DELTA System](#) for information about the ‘to’ command. The default folder could also have been changed by using the built-in Windows command ‘cd’, but this requires more typing: ‘cd \tx\britin\col’.