Image Engineer batch system

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Image Engineer batch system

1.1 IE batch system - Main menu

```
    [·  the Image Engineer batch system  ·]

    [·       by Patrik M Nydensten       ·]


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      News!                       READ THIS! News since last release.

      Concept & Idea              "What do I need this for?"
      Tutorial                    Step-by-step when executing.
      Batch scripts, using        How to use the included scripts.
      Batch scripts, writing      How you can write your own script.

      ImageEngineer Manual        Link to IE docs.
      ImageEngineer Arexx         Link to Arexx commands.

[----------------------------------------------------------------------------]
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 · Chain of ImageUnlimited · ie96_pny@isk.kth.se ·
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1.2 IE batch system - News

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  * News since IE 3.4 *

  Last changes: 2 Feb 1997

- Support page on internet! Get the latest update of all IE batch scripts.
Surf to URL: http://www.isk.kth.se/~ie96_pny/ieb.html/

- New batch scripts.

  * Antique.ieb
  * Neon.ieb
```

and all batch scripts are now rewritten to use the FORM interface. Now they are even easier to use and look much better too. Crop.ieb have also been improved greatly.

- BatchProcess.rexx has been updated and several bugs are removed since 2.12. Cool features from 2.12 and on are:

  * Neat GUI. (FORM)
  * Multi-batch processing, i.e. multiple batch scripts can be executed in a sequence for one file selection.
  * Private settings and calculation modes for each batch script.
  * Private SECONDARY and/or ALPHA file selection for each batch script.
  * Supports reading, writing and handling of file lists.
  * Secondary/Alpha file lists are looping.
  * Configurable save file format.
  * Remebers all settings.

  Bug fixes / features in version 2.25 are:

  * Recursive reading of file lists, i.e file lists in file lists in file lists etc. Multi-select file lists and files and file lists mixed among each other.
  * Better prefs system. Returns to editor after saving.
  * More advanced file list handling. Re-select files without quiting BatchProcess, saving to specified dir., loading of an entire dir., reversing of loaded file list possible.
  * Bug: Failed to load some batch scripts with no settings. Caused the "Arithmetic conversion" error.
  * Bug: Could sometimes load zero files if a file list was damaged.
  * Bug: Paths for Sec. and Alpha images was forgotten sometimes.
  * Bug: Scripts that saved 8bit grey data failed if the file format was not ILBM24.

1.3 IE batch system - Concept & Idea

  * Concept & Idea *

  The Image Engineer batch system is simply a number of arexx scripts that are to be used with the shareware image processor "Image Engineer". The purpose of these scripts is to automate the image processing when dealing with more than one single image. This is called batch processing.

  When manipulating a single image you can without problems use the user friendly GUI of IE and click your way to the results you want. But, if you have series of files that all need to processed you don’t want to do the same operations over and over again. The most abvious use for batch processing is of course when dealing with animations. Programs like Imagine, Lightwave and VistaPro output sequences of image files when generating, and, with programs like these, animations with more than 100 frames are not unusual. The gain in time and work is obvoius if you can make the computer repeat all operations automatically.

  The idea behind IE batch system is that one executer script can execute any of a number of batch scripts. The executer script let the user set all necessary options for processing, calculates all new values and sets up

lists of files to be used. When this has been done the executer will execute the batch script selected by the user and let it take control of the actual processing.

One advantage of this type of system is that an executing script code only has to be written once. When the executer works as it should it can call any batch script, and new batch scripts can also very easily be written since the user don't have to re-write any code for retrieving images and calculating processing values.

You should seriously consider to try to write a batch script for yourself and see how it works. Thanks to the IE batch system it's not any harder than writing a simple single-image-script, it is infact simpler.

1.4 IE batch system - Tutorial, Exec & Batch

* Tutorial, Exec & Batch *

I will here describe how you, step-by-step, use all of the included executer scripts. An executer script collects information about inputs and outputs that are to be passed on to the selected batch script when processing your images. The only information that the user enter that isn't retrieved by the executer script is the batch script specific settings. This is done by the batch script itself but under control of the executer script.

All settings collected from the executer are entered from the environment that that specific executer is programmed for, giving easier control when using environments with extra features such as advanced file selection GUIs. Batch script settings for first/last images are always entered from IE's screen.

The advantage of using executer scripts is that you can have one executer for each environment you want to work from. As long as all executers interpret the information from the batch scripts the same way, any batch script can be executed from any environment. Currently these executers are available:

* BatchProcess.rexx for Image Engineer 3.4+
* IE_BatchProcess.dopus5 for Directory Opus 5.x
* IE_BatchProcess.ma for MainActor 1.55

More executer scripts may be available in the future. Are there any special environments you would like to be able to access IE from? Send a mail...

* Batch Tutorial *

Are you new to IE's batch system or just want to try out some cool basic effects? Here are a few batch tutorials:

Basic:
1a) Animate a 360 degree rotation of an image. (Rotate)
1b) Resize a sequence of images. (Resize)

```
   1c) Create an animating ripple. (Ripple)
   Advanced:
   2) Warp speed effect. (Roll & ZoomBlur)
   3) Water flow. (Rotate, Resize, Composite & Displace)
   4) Pixel wipe. (Threshold & Composite_Alpha)
   5) Playing with alphas. (Composite GUI & Composite_mix)


  * Usage Tips *

  Here are a few tips that will make it easier to use the IE batch system:

 * Before processing any images, use IE on a single image to really see
that the setting values you are going to use in the batch script will give
results that you will be satisfied with. Since the batch system doesn't
have the luxury of previewing, you, the user will have to think. (ohno! :)
There is nothing more anyoing than to process a large amount of frames in
your animation only to realise afterwards that the stupid values you had
set didn't produce any visible results at all.

 * It is important to optimize your images so that they can be loaded and
processed as fast as possible. A good idea is to save images, that are to be
loaded several times, in a chunky, uncompressed type of file format. The
IFF DEEP format creates large images but is loaded very fast. Using JPEG is
a bad idea since decoding takes long time and the format itself is "lossy".

 * To increase speed when processing many images, set the prefs option
"Prefs/General/Modules Load" to "When needed" ("At startup" is also fine).
If set to "Everytime", you will lose the time it will take to load all used
modules from disk, multiplied with the number of images you process.

 * If you are running out of space on your HD because you have to many
sequences of images then you can simply overwrite them by entering the same
basename in the executer script. You will not get any requesters telling
you that those files already exists, they will simply be deleted for you.
```

1.5 IE batch system - Exec Tutorial

```
  * BatchProcess.rexx, Image Engineer 3.4+ *

  Requires: Image Engineer 3.4+,
            Libs:rexxmathlib.library.

This script is executed by selecting the "BatchProcess" item from the
"Other" menu (default setup since IE 3.3), or by executing the script from
the arexx script lister.


1) The first file requester.
The first thing that happen when you execute the script is that a file
requester apperars. The image files you select in this requester are
considered to be PRIMARY images, and are all loaded into Image Engineer
later for processing. Read "The multi file requester" below on how to use
this requester the right way.
```

2) Main window.
This window is the main control over the executer.
Lets start from the top:

First you have a number (1 to 30) of string and cycle gadgets. A string gadgets contain a batch script that is selected for this "position".
If you press the corresponding "Choose" button, a requester will appear where you can select any new batch script.
Each string gadget also has a corresponding cycle gadget ("Settings:").
A cycle gadget can be set to six positions. This is what they mean:

"--" shows that this batch script is inactive, i.e it will not be used when processing images.
"Set for first image only" means that you will only be able to set settings for the first image. Some scripts does only have settings for the first image and sometimes it is not interesting to twine the batch script settings at all.

The last four settings allows twining of values from the first to the last image.

"Linear" makes the settings change with equally large steps for each image.
"Faster" will accelerate the steps between each image. Little movement in the beginning and much movement at the end.
"Slower" will deaccelerate the steps between each image. Much movement in the beginning and little movement at the end.
"Spline" will make smooth starts and ends, i.e. smaller steps in the beginning/end and larger in the middle.

Then there are two text fields. The first shows the number of selected files and the last shows the first five and the last of the files that are selected.

The "Destination dir" is the directory where the output images will be saved. Press the "Choose" button to select another directory.

"Output base name" is the name of the output images, without index number. Some batch scripts may interpret this field differently. Read more about each specific script.

And last, at the bottom of the window, are a couple of buttons. This is what they do:

"Go!" starts the image processing. Read part (3) on what to do.
"File List" - brings up a new window. Read the "The file list handler" section below on how to use it.
"Prefs" - brings up a new window. Read the "The Prefs requester" section below on how to use it.
"Exit" exits the executer without saving any settings.

3) "Go!", settings and processing.
After pressing "Go!" in the main window it is time to select settings for all those batch scripts that you've selected (only those that are active).
A requester pops up and tells you for which image and which script that

the next sequence of settings are for. Each batch script has it's own unique settings. Read more about the batch scripts to see what those settings are for each specific script.

Also, some batch scripts requires that you select SECONDARY and/or ALPHA images. If you have selected such a batch script, a multi file requester (see below) will appear. At the top of the file requester you can see how many files you should select and for which script you are doing the selection. It is not necessary to select the specified number of files. Infact, it is a speciall feature that you don't have to. If you select more files than the number of PRIMARY images, the extra files will simply be ignored. But, if you select less files, the SEC./ALPHA files will simply "loop" around until all PRIMARY images are processed.

When all settings are set, the processing will automatically start. When the processing is finished a requester will show on IE's screen. Done!

[---]

The multi file requesters.
A file requester for selecting image files is a simple thing to use. However, the BatchProcess script gives you some extra features, when selecting files, that might be useful to know about. The extra features only appear under certain conditions.

For a normal file selection, hold down a "Shift" key and select the files you want to load. Press "OK".

For loading a range of indexed files, hold down a "Shift" key and select the first and last files in the range you want to load. Press "OK". A requester will appear and ask you if you want to load the indexed range. If you select "Yes" all files in the range will be loaded, otherwise only the two images you selected are loaded.

An "indexed" file is a file with a number as extension. For example, "My_Image.0001", "Output.0036" and "Banana.gif.0023" are indexed files.

To clone a file, i.e to load it a number of times, simply select the file you want to clone and press "OK". You will now see a requester where you can select the number of clones (copies) you want. The requester has two sliders. The number of clones is the sum of the values that the sliders represent. This layout is for easier selection when cloning less than 100 files.

It is also possible to select a file list. A file list is a text file (ASCII) containing the complete paths to the images you want to load. A list's name has to end with ".list" or it will not be recognized. It's an error to specify a file that does not exist. If all files in the list are found, a requester will tell you how many files there were in the list.

Since version 2.2 of BatchProcess, it's possible to handle file lists in a more flexible way. For instance, you can...

* Multi-select files lists in the file requester.

```
  * Specify file lists within file lists. Multiple file lists in one list
    or file lists in several "layers".
  * Have file lists with two indexed files in and automatically be prompted
    when loading, where you can choose to load a range or two images.
  * File lists may, of course, contain paths to file lists and image files
    mixed in any order.


The file list handler.
The file list handler is a sub window to the main BatchProcess window.
From here you can perform various operations on your currently selected
list of files. There are five buttons at the bottom and this is what they
do:

  "Done" - Returns to the main window.
  "Load" - Ereases the primary file list and lets you select new images
  and/or file lists.
  "Save" - Lets you save the primary file list to disk. A file requester
  will lets you specify a path and name of the output file list.
  "Load dir" - Ereases the primary file list and lets you select a
  directory from which all files will be loaded, including file lists.
  "Reverse" - Changes the order of image files in the primary file list.
  First becomes last and vice versa.


The Prefs requester.
The file list handler is a sub window to the main BatchProcess window.
It contains seetings that affects the way that the BatchProcess script
works and executes batch scripts. There are currently three settings in
this window:

  "Save Format" sets the 24bit file format that the executer suggests to
  the batch scripts. Some batch scripts use this format some don't.
  "Number of batch scripts" sets the maximum amount of scripts that are
  visible on the main window. You need a large screen to be able to use
  a higher value since the main window will expand much with higher values.
  If you set it to high, the main window will fail to open. Try out a good
  value from the start. (15 scripts requires a screen height of aprx. 768)
  "Priority" is the system priority that IE will be set to when doing the
  actual processing.

The "Save" button saves the changes before returning to main window, while
"Cancel" discards any changes.
```

1.6 IE batch system - Exec Tutorial

```
  * IE_BatchProcess.dopus5, Directory Opus 5.x *

  Requires: Image Engineer,
            Directory Opus 5.x,
            Libs:rexxmathlib.library if using "Spline" calculations,
            Amiga dos command "wait".

  This script is executed by first selecting image files in the source
lister and then pressing the "Process images" button in the included button
```

bank "IE_Functions". Now answer the following questions.

1) >>Only if no DEST lister is selected.<<
"No DEST lister selected" - "Use SRCE / Cancel" :
If no destination lister has been selected then you can output the images to the SRCE directory by selecting "Use SRCE". "Cancel" quits the executer script.

2) >>Only if you selected one single image.<<
"Would you like to clone the image?" - "Yes / No" :
If you select "YES" then this means that the image you selected will be loaded several times instead of loading a sequence of image files.
If you select "NO" then your image will be processed only once and only one output image will be created. This is completely useless cause you could as well do this manually, but it's your choice.

2C) >>Only if you selected cloning of single image.<<
"Select number of clone images." - number requester :
Set the number of clones you want. This is the same number as images that will be processed and saved to disk so don't select any drastic numbers if you don't really know that this is what you want. MIN: 2, MAX: 9999

Note: If you use cloning then the executer will see this as selecting several images. Even if you only selected one image you will be able to set settings for first and last image later. see 4, 5, 6 and 7

3) "Select IE batch script." - new lister :
Pick the desired batch script you want to execute. All batch scripts should have a name describing the script and it should end with ".ieb" (for IE batch) DOpus will wait until you have selected only one single script. Don't double-click, just select your desired script.

3B) "This script require that you select XXX Secondary Image(s)" - "Cont. / Force single" :
If you have selected a batch script that needs more than PRIMARY images to work then this requester will ask you to select your SECONDARY images. Some scripts require only one image, others will need the same number of secondary images as primary images. The requester tells you the number of files you need to select.
If only one image is needed you just press "Continue" and select the image in the new lister that is being presented. If you need to select several images then you will have the option to select all the XXX number of files or you can select the "Force single" option. If you use "force single" then you will only have to select one image but that image will be used for all PRIMARY images.

Note: DOpus will wait until you have selected the correct number of files. The same second as you select the last image, Dopus will accept your file selections and continue.

3C) "This script require that you select XXX Alpha Image(s)" - "Cont. / "Force single" :
This is the same as 3B but here you select the alpha images that are needed for the batch script.

4) "Select settings for first image." :
This requester just tells you that the settings that will follow are for

specific for the batch script you have selected and that they will be the settings for the first image.
  Read separate information on included batch scripts to see what these settings will be for each script. Some scripts do not have any settings at all.

Note: If you have selected only one image then this requester will not show but the settings can be selected immediately.

5) "Select settings for last image?" - "Yes / No" :
  If you answer "YES" on this question then you will have to set new settings for the last image. All setting values between the first and last image will be twined automatically by the executer script. This is a powerful way to make effects animate through the sequence of images.
  If you answer "NO" then the same values will be used for all images that are processed.

Note: If you have selected only one image then this requester will not show.

6) >>Only if you selected to use settings for last image.<<
"Select settings for last image." :
  This requester just tells you that the settings that will follow are for specific for the batch script you have selected and that they will be the settings for the last image.
  Read separate information on included batch scripts to see what these settings will be for each script.

Note: If you have selected only one image then this requester will not show.

7) >>Only if you have selected settings for last image.<<
"Select settings calculation mode." "Linear / Faster / Slower / Spline" :
  This is where you choose how the settings are to be calculated for the middle images. The values will be twined from first image to last image with one of these models:

"Linear" makes the settings change with equally large steps for each image.
"Faster" will accelerate the steps between each image. Little movement in the beginning and much movement at the end.
"Slower" will deaccelerate the steps between each image. Much movement at the end and little movement in the beginning.
"Spline" will make smooth starts and ends, i.e. smaller steps in the beginning/end and larger in the middle.

8) "Enter output file name." - string requester :
  Here you should enter the base name of the output images. For each image that is processed an image will be saved to the DEST directory. (SRCE if using (1)) The name of the image will be the base name plus a four figure number, i.e. "MyImage.0035" for image 35. Press "Go!" to start processing.

1.7 IE batch system - Exec Tutorial

  * IE_BatchProcess.ma, MainActor 1.55 *

  Requires: Image Engineer,
            MainActor 1.55 (Shareware on AmiNet),

Libs:rexxmathlib.library if using "Spline" calculations.

This script is executed by first selecting frames/images in the source project lister and then selecting the menu item "Arexx/Start Arexx script". Start the IE_BatchProcess.ma script and answer the following questions.

1) "Enter number of selected frames" - number requester :
Simply enter the total number images that you have selected.

2) "Select name for output dir." save file req. :
Go to the path were you want to create a directory with output files. Enter the name of the dir in the file name box. All output images will be saved here so make sure there is enough space on the drive.

***> Note that you must select a volume when selecting the output path.
***> You can not enter a relative path.

3) "Select IE batch script." file req. :
Now go to the directory "IE:Arexx/Batch/", were IE's batch scripts are located. Select your desired script.

3B) "This script require that you select XXX Secondary Image(s)" - "Cont. / Force single" :
If you have selected a batch script that needs more than PRIMARY images to work then this requester will ask you to select your SECONDARY images. Some scripts require only one image, others will need the same number of secondary images as primary images. The requester tells you the number of files you need to select.
If only one image is needed you just press "Continue" and select the image in the new lister that is being presented. If you need to select several images then you will have the option to select all the XXX number of files or you can select the "Force single" option. If you use "force single" then you will only have to select one image but that image will be used for all PRIMARY images.

3C) "This script require that you select XXX Alpha Image(s)" - "Cont. / "Force single" :
This is the same as 3B but here you select the alpha images that are needed for the batch script.

4) "Select settings for first image." :
This requester just tells you that the settings that will follow are for specific for the batch script you have selected and that they will be the settings for the first image.
Read separate information on included batch scripts to see what these settings will be for each script. Some scripts do not have any settings at all.

5) "Select settings for last image?" - "Yes / No" :
If you answer "YES" on this question then you will have to set new settings for the last image. All setting values between the first and last image will be twined automatically by the executer script. This is a powerful way to make effects animate through the sequence of images.
If you answer "NO" then the same values will be used for all images that are processed.

6) >>Only if you selected to use settings for last image.<<

```
"Select settings for last image." :
  See 4.

7) >>Only if you have selected settings for last image.<<
"Select settings calculation mode." "Linear / Faster / Slower / Spline" :
  This is where you choose how the settings are to be calculated for the
middle images. The values will be twined from first image to last image
with one of these models:

"Linear" makes the settings change with equally large steps for each image.
"Faster" will accelerate the steps between each image. Little movement in
the beginning and much movement at the end.
"Slower" will deaccelerate the steps between each image. Much movement at
the end and little movement in the beginning.
"Spline" will make smooth starts and ends, i.e. smaller steps in the
beginning/end and larger in the middle.

8) "Shall I render images?" - requester :
  If you want to render the 24bit output images then you can select this
here. The requester contains information on how many colors that were used
in the original images/frames.

8B) "Render options." - render options requester :
  Set the render options for the output images. If you choose to lock the
palette then a requester will ask you to select a palette file to lock to.
It is possible to select an image as a palette file.

8C) "Show rendering?" - requester :
  Choose if you want the images displayed on screen when they are rendered.
```

1.8 IE batch system - Tutorial

```
  * Rotate image 360\textdegree{} *

This tutorial shows how you can rotate an image 360 degrees. It also tries
to give you an idea of how the IE batch system works.

1) Load the example image "IE:Pics/Face.ham8.iff" into IE and scale to 50%
in both directions. Save it to disk. Close the image.

2) Start the "BatchProcess.rexx" script. Select the image you just saved.
Select a where to save all the output images. (You'll need some space)

3) Tell the script you want to clone the image. Select the number 10.

4) Select the 'Rotate.ieb' batch script and set the following settings:

  First image:
    Rotation: 0
    Calc type: "Best"
  Last image:
    Rotation: 324

5) Choose "linear" calculation mode.
```

```
6) Enter a new output name. Set it to "RotateImage".

7) Done! But, since Rotate changes the sizes for all images, you'll have to
fix the new images that have been saved.  Go to next tutorial.
```

1.9 IE batch system - Tutorial

```
  * Resize images *

This tutorial shows you how you can easily resize an entire animation. It's
just as easy to scale an animation. Resize and Scale have similar settings.

1) Start the "BatchProcess.rexx" script. Go to directory where you saved
the images from you just saved in tutorial part 1a. Hold down shift and
select both "RotateImage.0001" and "RotateImage.0010". Accept it.
Select where to save all the new output images.

2) Select "Yes, index range" to load all ten images.

3) Select the "Resize.ieb" batch script and set the following settings:

 First image:
   Width: 180
   Height: 180
   Tile?: NO
   Center?: "YES"

   Select "No, use same" when question about last image appears.

4) Enter a new output name. Set it to "ResizeImage".

5) Done! Now  go to next tutorial  to add a cool ripple effect
to the animated sequence you've already got.
```

1.10 IE batch system - Tutorial

```
  * Ripple images *

This tutorial takes out the true power of the Ripple module. It shows how
you can make a perfect looping, animating ripple.

1) Start the "BatchProcess.rexx" script. Go to directory where you saved
the images from you just saved in tutorial part 1b. Hold down shift and
select both "ResizeImage.0001" and "ResizeImage.0010". Accept it.
Select a where to save all the new output images.

2) Select "Yes, index range" to load all ten images.

3) Select the 'Ripple.ieb' batch script and set the following settings:

   First image:
     Xoffset: 90
```

```
     Yoffset: 90
     Amplitude: 40
     Period: 30
     Phase: 324
     Ripple Spread?: "Around Center"
     Attenuated Ripple?: "No"
     Calc Type: "Best"
   Last image:
     Xoffset: 90
     Yoffset: 90
     Amplitude: 40
     Period: 30
     Phase: 0
```

When creating a perfect looping ripple you should use these Phase values:

First image's Phase = 0
Last image's Phase = (359*number_of_images) / (number_of_images + 1)

4) Choose "linear" calculation mode.

5) Enter a new output name. Set it to "RippleImage".

6) Thats it. Check out the newly created image sequence. It can sometimes be hard to see the difference between the images but try to load them into a program that can convert them into an anim. Watch it move and feel the power!

So, do you like it? Now you can either try to do something on your own, or you can move on to the more advanced tutorials.

1.11 IE batch system - Tutorial

* Warp speed *

This is the ultimate tutorial for all Trekkie-fans! It shows you how you easily can achieve a powerfull warp-speed effect.

Part 1. Build star image.

1) Load any image in to IE. Adjust brightness to intensity -255. You have now a completely black image. Resize the black image to 64 x 64 pixels.

2) Add the following noise (Noise module) to the black image:

```
  Component: Intensity
  Affect: 8%
  Type: Additive
  Distribution: Simple
  Amount: 100%
```

Scale the noise image to 200% in both directions using "Colour Average" method.

```
3) Again, add noise to image:

  Component: Intensity
  Affect: 5%
  Type: Additive
  Distribution: Simple
  Amount: 100%

Look at the nice stars we have made. Save 24bit star image to disk.


Part 2. Make stars move with Roll.ieb script.

1) Start the "BatchProcess.rexx" script. Select the star image you've made.
Choose that you want to clone the image and set the number of clones to 20.

3) Select the Roll.ieb batch script and set the following settings:

 First image:
   X displacement: 0
   Y displacement: 0
 Last image:
   X displacement: 64
   Y displacement: 20

4) Choose "spline" calculation mode.

5) Enter a new output name. Set it to "StarMoves". You will need aprx.
740 Kb of free space on your harddrive to build this sequence.


Part 3. Do the jump into hyperspace.

1) Start the "BatchProcess.rexx" script. Select the first (StarMoves.0001)
and the last (StarMoves.0020) of the images that we made in part 2. Choose
that you want to load an index range instead of the two images you have
selected.

2) Select the ZoomBlur.ieb batch script and set the following settings:

  First image:
    Zoom blur method: Max
    Zoom blur level: 0
  Last image:
    Zoom blur level: 19

3) Choose "linear" calculation mode.

4) Enter a new output name. Set it to "WarpSpeed". You will need aprx. one
megabyte of free space for this sequence.

5) Look at the great animation! Note how nicely the stars that travel
straight towards you (i.e. those in the center of the image) will flash
their light at you.
```

Next tutorial: Water flow

1.12 IE batch system - Tutorial

* Water flow *

This tutorial takes you trough the rather complex building of a rotating displacement sequence. The output will look like water flowing on top of the original image, or as if you look at the image through a rotating, rough glass.

Part 1. Build displacement alphas.

1) Load any image in to IE. Resize it to 32 x 32 pixels. Adjust brightness of the small image to intensity -255. You now have a completely black image.

2) Add the following noise (Noise module) to the black image:

Component: Intensity
Affect: 100%
Type: Random

3) Scale the noise image to size 256 x 256 using "Colour Average" method. You will have to scale the image several times to get the right size since scale doesn't accept so high percent values.

4) To speed things up and to save space on your HD, convert your image to grey. Save the image with large grey blobs as "Blob256".

5) Repeat the above once again but make next image 300 x 300 pixels. Save the image as "Blob300".

Part 2. Make a rotating sequence within a specific size.

1) Start the "BatchProcess.rexx" script. Select the "Blob300" image as PRIMARY. Choose that you want to clone the image and set the number of clones to 20.

2) Select the 'Rotate.ieb' batch script and set the following settings:

First image:
  Rotation: 0
  Calc type: "Fast"
Last image:
  Rotation: 343

3) Choose "linear" calculation mode.

4) Enter a new output name. Set it to "RotateBlob". You will need aprx. 4.6 Mb of free space on your harddrive to build this sequence.

5) Again, start the "BatchProcess.rexx" script. Select the two images "RotateBlob.0001" and "RotateBlob.0020". Choose to use index range to load all images.

```
6) Select the Resize.ieb batch script and set the following settings:

  First image:
    Width: 256
    Height: 256
    Tile?: No
    Center?: Yes

7) Enter a new output name. Set it to "RotateBlob" again. This will replace
your previous sequence of the rotating "Blob300" image. If you really want
to keep the old sequence, choose another name.


Part 3. Composite rotating sequence with single image.

1) Start the "BatchProcess.rexx" script. Select the two images
"RotateBlob.0001" and "RotateBlob.0020". Choose to use index range to load
all images. If you chosed not to replace the first "RotateBlob" seq. then
select the new one you made.

2) Select the Composite.ieb batch script.

3) Select the "force single" option and select the image "Blob256", that we
made before, as SECONDARY image.

4) Set the following settings for Composite.ieb:

  First image:
    X offset: 0
    Y offset: 0
    Composite function: MIN   (try different types of functions for other
                               water effects)

4) Enter a new output name. Set it to "MINBlob". You will need aprx.
XXX Mb of free space on your harddrive to build this sequence.


Part 4. Apply the cool displacement effect.

1) Start the "BatchProcess.rexx" script. Select the example image
"IE:Pics/Face.HAM8.iff" as PRIMARY image. (or any other image with the size
256 x 256 pixels) When asked about cloning of the image set the number of
clones to 20.

2) Select the Displace.ieb batch script.

3) When you are asked to select ALPHA images, answer "Continue" to load
several images. Select the images "MINBlob.0001" and "MINBlob.0020". Choose
that you want to load as an index range instead of the two selected images.

3) Set the following settings for Displace.ieb:

  First image:
    X displacement: 45
    Y displacement: 20
    Calc type: "Best"
```

```
    Hold image?: Yes

4) Enter a new output name. Set it to "WaterFlow". You will need aprx.
XXX Mb of free space for this sequence.


Next tutorial:  Pixel wipe
```

1.13 IE batch system - Tutorial

```
  * Pixel wipe *

This tutorial builds a pixelized wipe sequence between two images. The
result is something that can be found in advanced multimedia applications.

Part 1. Build pixel wipe pattern.

1) Load any image in to IE. Resize it to 64 x 64 pixels. Adjust brightness
of the small image to intensity -255. You now have a completely black image.

2) Add the following noise (Noise module) to the black image:

  Component: Intensity
  Affect: 100%
  Type: Random

3) Scale the image up to 256x256 pixels. Use the "Fast" option to get the
pixelized effect on our wipe pattern.

4) Save this image as "WipePattern".


Part 2. Build sequence of wipe alphas.

1) Start the "BatchProcess.rexx" script. Select the "WipePattern" image as
PRIMARY. Choose that you want to clone the image and set the number of
clones to 20.

2) Select the "Threshold" batch script and set the following settings:

  First image:
    Threshold: 255
  Last image:
    Threshold: 0

3) Choose "spline" calculation mode.

4) Enter a new output name. Set it to "AlphaWipe". You will need aprx.
820 Kb of free space on your harddrive to build this sequence.


Part 3. Alpha composite two images that will wipe.

1) Start the "BatchProcess.rexx" script. Select the "Face.HAM8.iff" image
as PRIMARY image. Choose that you want to clone the image and set the
```

```
number of clones to 20. Of course you can use any other image instead of
the example image.

2) Select the "Composite_alpha.ieb" batch script.

3) Select the "force single" option and select an image that you want to
wipe to. It looks best if it has the same size as the PRIMARY image though.

4) Select the "Continue" option and select the images "AlphaWipe.0001" and
"AlphaWipe.0020". Choose to load index range.

5) Set the following settings for Composite_alpha.ieb:

  First image:
    X offset: 0
    Y offset: 0
    Stretch?: Yes  (alpha will stretch to the size of the PRIMARY image)

6) Enter a new output name. Set it to "WipeImage".

We have now faded from the SECONDARY image to the PRIMARY image. The "wipe"
effect looks like something similar to those of Scala Multimedia but with
more advanced wipe patterns you can easily create wipes that goes far beyond
those found in current versions of Scala. Much fun...


Next tutorial:  Playing with alphas
```

1.14 IE batch system - Tutorial

```
  * Alpha play *

This tutorial show both how the Composite_mix script can be used and how
you can build your own funny and spectacular alpha images from the basic
alphas that are included with Image Engineer.

Part 1. Build new and funny alpha images.

1) Load two images into IE: "IE:Alpha/Gradient.alpha" and
"IE:Alpha/Spherical.alpha". Convert both to grey scale.

2) Mark "Gradient.alpha" as SECONDARY and "Spherical.alpha" as both ALPHA
and PRIMARY.

3) Start the Composite module. Set offset to (0,0) and set the method to
"Alpha". Press OK and save the new image as "Spheros".

4) Rotate the "Spheros" image 90 degrees. Save the rotated image as
"Spheros90".

5) Again, use the "Spheros" image, but this time, make it negative. Save
the negative image as "SpherosNEG".

6) Mark "Spheros" as SECONDARY and "SpherosNEG" as PRIMARY.
```

```
7) Start the Composite module. Set offset to (0,0) and set the method to
"Max". Press OK and save the new image as "SpherosMAX".


Part 2. Start "morphing" from Spheros to Spheros90.

1) Start the "BatchProcess.rexx" script. Select the "Spheros" image as
PRIMARY. Choose that you want to clone the image and set the number of
clones to 9.

2) Use the "force single" option when asked for a SECONDARY image. Select
the "Spheros90" image as SECONDARY.

3) Select the "Composite_mix" batch script and set the following settings:

  First image:
    X offset: 0
    Y offset: 0
    Mix value: 100  (only PRIMARY image)
    Genlock?: NO
  Last image:
    X offset: 0
    Y offset: 0
    Mix value: 10   (almost only SECONDARY image)

4) Choose "linear" calculation mode.

5) Enter a new output name. Set it to "Part1". You will need aprx. 1.3 MB
of free space on your harddrive to build this sequence.


Part 3. Continue "morphing" Spheros images.

1) Repeat the above (part 2) three times, but change the PRIMARY, SECONDARY
and output file names. Use this scheme:

--[ Nr ]-[ Primary ]-[ Secondary ]-[ Output ]--

   1      Spheros90   SpherosNEG    Part2
   2      SpherosNEG  SpherosMAX    Part3
   3      SpherosMAX  Spheros       Part4


The four sequences you now have are, together, a perfectly looping
animation of a smoothly changing alpha. You can use it as a displacement
alpha for animating a twisted face, with the Displace script. Or you could
use it with the Impress script to achieve interesting shading effects.
```

1.15 IE batch system - Writing Batch Scripts

```
  * Writing batch scripts *

  Here is a step-by-step guide to writing your own batch script. This
section contains information about how to comunicate with an executer
script. Trying to write a batch script from scratch is not a very good
```

idea, instead load an already written script and edit it so it does what you want it to do. This reduces script writing to a minimum.

1) Open your favourite text editor, go to the directory where all IE batch scripts are and load one of them. Select a script that you know has similar settings to those you want the user to enter for your new script. Save the script with a new name.

2) Go to the procedure that's called "get_info". This procedure is called by the executer to see what kind of extra information the script requires to work. If the user needs to select SECONDARY and/or ALPHA images then you'll have to request this here. The procedure's return value *always* start with 'OK' to tell the executer that no errors has occured. These are the possible return values:

```
>  back = 'OK'     /* user don't need to select anything         */
>  back = 'OK S1'  /* user must select one secondary image       */
>  back = 'OK S2'  /* user must select multiple secondary images */
>  back = 'OK A1'  /* user must select one alpha image           */
>  back = 'OK A2'  /* user must select multiple alpha images     */
>  back = 'OK F'   /* NEW! returns current frame number and total number
                   ** of frames. See the "Build_Index.ieb" script on how
                   ** to use this function.                      */
```

It can also be a combination of these. (But only 'OK' once) Example:

```
>  back = 'OK S2 A1'  /* user must select multiple secondary images and */
                      /* one single alpha image.                       */
```

***> If an error occurs you should exit the procedure by returning the value '<ERROR>'.

3) Go to the "get_config" procedure. This is the procedure that is called when selecting settings for your first and last image. You need to flip to IE's screen with 'IE_TO_FRONT' and you should also parse the argument to this procedure. If the argument is null (null = '') then you know that this is the selection for the first frame. This is used to filter out those settings that can only be selected once. Example:

```
>  parse arg '"'command'"'
>
>  if command = '' then do
>    'REQUEST' '"Select Contrast type."' '" Red | Green | Blue "'
>    ContType = Result
>  end
>  else ContType = 'none'
>
>  return '#'ContType
```

***> Note that even if the user don't need to set a setting for the last image the setting's value must still be set to something. You _should_ set it to '#none'

***> A setting may NOT contain any spaces, nor double quotes ("). If you

want to have spaces in a setting you'll have to translate the spaces before returning all the settings from the batch script. See the "Posterize.ieb" script on how to solve this problem.

***> Settings with values that can't be twined, e.g. non-number settings, _MUST_ start with the character '#'. This makes the executer ignore this setting and leave it unchanged.

***> All values must be returned with spaces between them. Example:

```
> back = FirstValue SecondValue '#'AnotherValue
> return back
```

***> If the user don't have to set any settings for neither the first nor last image, then the value 'OK' should be returned.

***> If an error occurs you should exit the procedure by returning the value '<ERROR>'.

Follow these rules and everything should work fine.

4) Go to the procedure "process_image". This procedure takes care of all the loading, processing and saving of the image. It is very important to parse the arguments to this function correctly. Each argument is enclosed in double quotes. (options are considered to be one argument) The following arguments are always sent to the procedure:

<PRIMARY image> <DESTINATION image name> <options>

If you have requested (in the "get_info" procedure) that the executer script should feed extra information, like secondary and/or alpha image, then that information will be added after the standard arguments. The extra arguments are added in this order:

... <SECONDARY image> <ALPHA image> <frame number>

This is how it is parsed: (without extra infos)

```
>  parse arg '"'src_image'"' '"'dst_image'"' '"'options'"'
```

As you can see the filenames will not have double quotes when they have been parsed.
You will also need to parse the settings. Just copy the string of those values that were returned from the "get_config" procedure and paste it in after the "parse var options" -part. Could look like this:

```
>  parse var options FirstValue SecondValue '#'AnotherValue
```

***> Make sure that always all images that are opened are closed when the procedure is finished. Otherwise you will soon run out of memory if you're processing lots of images.

***> If an error occurs you should exit the procedure by returning the value '<ERROR>'.

When you have parsed the argument values correctly you can start to insert

those operations you want IE to perform. It doesn't have to be only IE you use in your script. You could easily call other programs and have them interact with IE and process your images. (It could be possible to check for other aplications from the "get_info" procedure.) For instance, take a look at the "Process_AutoFX.ieb" script.

The possibilities are unlimited!

1.16 IE batch system - Batch Scripts

```
  * Batch scripts *

  Here are the batch scripts (.ieb) that are currently included with IE:

--[ Batch scripts for Image Engineer ]-----------------------------------

  Adjust
  Antique, no settings **>NEW<**
  Autocrop, no settings
  BatchConvert, *>READ THIS!<*
  Blur_quick
  Brightness
  Build_index
  Bulge
  Circle_alpha_pattern
  Circle_pattern
  Composite
  Composite_alpha
  Composite_mix
  Contrast
  ContrastStretch, no settings
  ConvertToGrey, no settings
  Convolve
  Crop
  Displace
  Emboss_fast
  Equalisation, no settings
  Fields_crop
  Fields_rotate
  Gamma
  Halftone, no settings
  Highboost
  Highpass
  Hue
  HueMask
  Impress
  Lowpass
  Max_Med_Min_Local
  MotionBlur
  Negative, no settings
  Neon, **>NEW<**
  Noise
  Posterize
  Preserve
  ReflectXY
```

```
  RemoveFeature
  Resize
  Ripple
  Roll
  Rotate
  Saturation
  Scale
  Scale_percent
  Sharpen
  Shear
  ShiftRGB
  Solarize
  Threshold
  Twirl
  ZoomBlur

   ImageEngineer Modules    Link to IE Modules.

--[ Batch scripts for external software ]---------------------------------

  External_ARexx
  Process_AutoFX
  WhirlGIF


Here you can get information about the settings for most of the included
scripts. Some don't have any settings at all (Negative, Equalisation, etc.)
and some have very simple settings that hardly can be made any misstakes
about. Most of the scripts also use the same type of settings as the in the
IE GUI. These scripts are not documented.

Those scripts that have different settings than the IE GUI or those scripts
that are more advanced are however described here.

The settings for each batch are described with type, min/max values and/or
button options. Settings marked <FIRST ONLY> can only be selected for the
first image and will be used through out the processing. These values can't
be twined with, for example, Linear or Spline calculation.

"Batch scripts for external software" are scripts that use software that
is not included with Image Engineer.
```

1.17 IE batch system - Batch Script

```
  * Brightness *

Changes the brightness of all selected images.


1) Brightness value : -255 / 255

2) Affect Red : On /~Off : <FIRST ONLY>
3) Affect Green : On /~Off : <FIRST ONLY>
4) Affect Blue : On /~Off : <FIRST ONLY>
Selects colors (RGB channels) that should be affected by the value set
```

in (1). If all boxes are set, it is the same thing as using intensity.

1.18 IE batch system - Batch Script

```
  * Displace *

Displaces pixels in all selected images.
This script requires multiple ALPHA images.


1) X displacement : -128 / 127

2) Y displacement : -128 / 127

3) Hold image? : On / Off : <FIRST ONLY>
If the "hold" option is On then the PRIMARY image will only be displaced in
the direction selected in the displacement values. Positive is right or
down and negative is left or up.

Setting it to Off  means that you use the same displacment method as in IE's
GUI, i.e. if the alpha image is dark the area will be moved left/up and
when bright, the area will be moved right/down. (Assuming that the
displacement values are positive.)

4) Stretch alpha? : On / Off : <FIRST ONLY>
If enabled your alpha image will automatically be stretched to the same
size as your primary image. If disabled, the alpha image will tile over
the primary image, as normal in IE.

5) Calculation type : Best / Fast : <FIRST ONLY>
```

1.19 IE batch system - Batch Script

```
  * Ripple *

Creates a water ripple effect on all selected images.


1) X offset : 0 / 4096
Center co-ord for ripple. Note that the offset can never be larger than the
image width. If you select a larger value then it will be cropped to image
width.

2) Y offset : 0 / 4096
Center co-ord for ripple. Note that the offset can never be larger than the
image height. If you select a larger value then it will be cropped to image
height.

3) Wave Amplitude : 0 / 359
Amplitude for wave. Higher value gives a more disturbed image.

4) Wave Period : 0 / 4096
```

Period for wave. Higher value gives "longer" waves.

5) Wave frame Phase : 0 / 3600
The phase for waves. This value is very important when animating. It decides how far each wave has travelled. If the value is zero then the wave is in original position. If the value is 180 it has travelled half the way to the original position of the wave in front of it. When the phase is 359 it has travelled to "loop position" because if the phase reaches 360 then the wave is back in the original position.

When creating a perfect looping ripple you should use these Phase values:

First image's Phase = 0
Last image's Phase = (359*number_of_images) / (number_of_images + 1)

Or you could of course use the last value first and vice verse, to make the ripple reverse it's direction.

***> Note that the maximum value is NOT 359 as in the IE GUI. The script will accept maximum 3600 and will automatically recalculate this value. This makes it possible to make the ripple "loop" several times when processing a sequnece of files.

6) Ripple spread : Around Center / Out from center : <FIRST ONLY>
Set if the ripple should go "Around center" or if it should go "Out from center". The "Around Center" option gives a more obvious result and it will also move the ripples inwards. To avoid this you have to set the Phase value higher for the first image than for the last image.

7) Attenuated (limited) ripple? : On / Off : <FIRST ONLY>
If you select this option the ripple will be limited by a radius value. The ripple will not affect the image outside this set radius.

8) Wave radius : 0 / 4096
Radius for ripple limit. This value is only used if you have enabled the "Attenuated ripple" option (7).

9) Calculation type : Best / Fast : <FIRST ONLY>

This effect is probably the most fascinating of them all and I recommend that you play with it a lot. Try to use variations of settings on amplitude, period and phase and also try to sometimes not use same values for first and last image and sometimes do use same values. Good luck and much fun!

See also the ripple tutorial .

1.20 IE batch system - Batch Script

  * Rotate *

Rotates all selected images.

1) Rotation angle : -3600 / 3600
This setting does not use the same max and min values as the GUI module

in IE does. You can rotate your images several full turns through out one image sequence. 20 turns from -3600 to 3600.

2) Calculation type : Best / Fast : <FIRST ONLY>

See also the rotate tutorial .

1.21 IE batch system - Batch Script

  * Preserve *

Preserves selected colors while making unselected colors grey on all selected images.

1) Red : On /~Off : <FIRST ONLY>
2) Yellow : On /~Off : <FIRST ONLY>
3) Green : On /~Off : <FIRST ONLY>
4) Cyan : On /~Off : <FIRST ONLY>
5) Blue : On /~Off : <FIRST ONLY>
6) Magenta : On /~Off : <FIRST ONLY>
Sets which base colors that are to be preserved.

7) Left Hue tolerance : -21 / 0
This is value sets the offset from "perfect" basecolor. It is a negative value to show that it is to the left on the hue spectrum. Setting the value to -21 will set the tolerance to half way to the next basecolor to the left on the hue spectrum. Zero is perfect color.

8) Left Hue tolerance : 0 / 21
This is value sets the offset from "perfect" basecolor. It is a positive value to show that it is to the right on the hue spectrum. Setting the value to 21 will set the tolerance to half way to the next basecolor to the right on the hue spectrum. Zero is perfect color.

9) Work type : Fields /~Spread : <FIRST ONLY>
Special working mode setting. Read more below.

Preserve makes the PRIMARY image grey with the exception of those types of colors that the user has selected. If you set only the color yellow (Y) to be preserved then all colors will be grey except those that have hue values ranging from "perfect yellow" to XX hue steps to the left and from "perfect yellow" to YY hue steps to the right. Where XX is the "Left Hue tolerance" and YY is "Right Hue tolerance".

Selecting more/other colors to be preserved will result in that colors in the same range from the selected preserve color are preserved, i.e. colors ranging from left to right of "perfect" red, green, blue, etc. However, if the Work Type option is set to "Spread" then this will happen when colors next to one and other in the hue spectrum are selected:

"-YG---" => All colors ranging from perfect yellow to perfect green will

be preserved. Also, all colors ranging from <Left Hue tolerance> steps to the left of perfect yellow to perfect yellow will be preserved. So will all colors ranging from <Right Hue tolerance> steps to the right of perfect green to perfect green.

Selecting "-Y-C--" gives the same result as it would have done in "Fields" mode since Y anc C aren't "color neighbours".

1.22 IE batch system - Batch Script

* Hue Mask *

Makes all pixels within a set hue range white. All other pixels are black.

1) Left Hue value : -1024 / 1024
This setting does not use the same max and min values as the module's GUI in IE does. You can enter values outside the real hue spectrum. The reason for this is that now you can let the hue mask wrap, i.e. jump from left side (red) to the right side (magenta). This would have been impossible to animate with the original values.

2) Right Hue value : -1024 / 1024
Same as above.

1.23 IE batch system - Batch Script

* Max Med Min Local *

Applies a selected filter type to all selected images.

1) Mask Width : 1 / 25
This is the pixel width of the filter mask that is applied to the image. Note that even numbers are accepted but they will be transformed to odd numbers by the effect module.

2) Mask Height : 1 / 25
Same as above.

3) Filter type : Maximum / Median / Minimum / Local : <FIRST ONLY>
Since this batch script is a combined one for these four modules you'll have to select one of them. This setup has been done to reduce the amount of batch scripts. All three modules use the same settings for mask size.

1.24 IE batch system - Batch Script

* Remove Feature *

Removes (sucks in) all pixels within a set radius on all selected images.

1) Remove Radius : 1 / 4096
Radius for remove area. The radius can never be larger than the largest value of image width and height. If you select a larger value then it will be cropped to the largest value.

2) Remove Amount : 0 / 4096
The amount of pixels to remove totally of those within the radius. The remove amount can never be larger than the selected radius. If you select a larger value then it will be cropped to the radius value.

3) X offset : 0 / 4096
Center co-ord for ripple. Note that the offset can never be larger than the image width. If you select a larger value then it will be cropped to image width.

4) Y offset : 0 / 4096
Center co-ord for ripple. Note that the offset can never be larger than the image height. If you select a larger value then it will be cropped to image height.

5) Calculation type : Best / Fast : <FIRST ONLY>

1.25 IE batch system - Batch Script

* Circle Alpha Pattern *

Builds a circular pattern of an image on all selected images.
This script requires multiple ALPHA and SECONADRY images.

1) X offset : 0 / 4096
Center co-ord for circle pattern. Note that the offset can never be larger than the image width. If you select a larger value then it will be cropped to image width.

2) Y offset : 0 / 4096
Center co-ord for circle pattern. Note that the offset can never be larger than the image height. If you select a larger value then it will be cropped to image height.

4) Rotation Angle : -3600 / 3600
The current rotation angle for the objects in the circle pattern.

5) Pattern Radius : 0 / 4096
Radius for remove area. The radius can never be larger than the largest value of image width and height. If you select a larger value then it will be cropped to the largest value.

3) Number of Objects : 1 / 360 : <FIRST ONLY>
This is the number of copies of the PRIMARY image that will form a circle pattern.

6) Rotate objects within circle? : On / Off : <FIRST ONLY>

Enable this option to make each copy of the PRIMARY image rotate so that it's bottom always is outwards from the circle. If disabled, each PRIMARY image will have it's down-side downwards.

This script is very specialized. It takes the selected PRIMARY image and applies it a user-selected number of times to the SECONDARY image so that a circle of PRIMARY images is formed on the SECONDARY image. When applying the PRIMARY images it uses an ALPHA image to smooth the edges (or create a funny alpha effect) of each PRIMARY image.

It is important that you select images with appropriate sizes for this script to work correctly. The PRIMARY image should be a small one, like a brush in size 100x100 for example. The SECONDARY image is the background image and should be an ordinary backdrop image, perhaps 640x512 in size. The ALPHA must be in the same size as the PRIMARY image for this script to work. If this is not the case the script will automatically scale it for you.

This script requires "libs:rexxmathlib.library"

1.26 IE batch system - Batch Script

* Highboost *

Highboosts all selected images.

1) Percent of original : 0 / 100
Highboost does not have the mask width/height settings as the IE GUI do. Only one setting, the percent setting, is allowed. The higher value the more of the original image is added to the effect.

1.27 IE batch system - Batch Script

* Fields rotate *

Rotates fields in all selected images.

1) Field size width : 2 / 1024
Width of each field of primary image.

2) Field size heigt : 2 / 1024
Height of each field of primary image.

3) Rotation angle : -3600 / 3600
This is the angle to rotate each field by.

4) Calculation type : Best / Fast : <FIRST ONLY>

```
This script divides the PRIMARY image into squares with size
<Field_size_width> x <Field_size_height>. Each field is then rotated
<Angle> degrees and applied to a black background. What more to say,
funny effect.
```

1.28 IE batch system - Batch Script

```
  * Emboss fast *

Embosses all selected images.

1) X emboss amount : -16 / 16
Emboss offset at X-axis

2) Y emboss amount : -16 / 16
Emboss offset at Y-axis

3) Edge colors : Make grey / Keep or boost : <FIRST ONLY>
Here you can choose to eliminate all traces of colors that usually appear
when embossing. ("Make grey") or you can keep the colored edges
("Keep /~Boost") or even boost the edge colors by using the "color boost"
in setting (3).

4) Color Boost : 0 / 255
This is the amount of color boosting. 0 is normal emboss edge colors and
255 is maximum boosting. This setting is only active if option (4) is set
to "Keep /~Boost".


This script is a lot faster than using the convolve matrixes, so use it when
possible. The offset values should be kept low for a more normal emboss.
High values will only result in strange effects which are better controlled
from the Composite.ieb script anyway.
```

1.29 IE batch system - Batch Script

```
  * Build Index *

Builds a thumbnail index image over selected images.


1) Thumbnails horizontally : 1 / 64 : <FIRST ONLY>
This is the numbers of images that are to be put on the first row of the
index image.

2) X size : 16 / 320 : <FIRST ONLY>
The width of each thumbnail image.

3) Y size : 16 / 256 : <FIRST ONLY>
The height of each thumbnail image.

4) Output base name : string : <FIRST ONLY>
```

This the base name for the output image. The output image will be saved to the destination directory and the extension ".index" will be added to the base name.
If you use the Build Index script more than once, don't forget to set a different base name, otherwise, the first image will be overwritten by the second.

5) Keep image aspect? : On / Off : <FIRST ONLY>
If you enable this option then each image will be scaled so that it fits within the sizes that you have given. Images will not be stretched, only aspect scaled.
If disabled, then each image will be scaled so that it stretches to fit the sizes you have given. Each image will fill the entire area that you have defined for each thumbnail.

To avoid chaos on your harddrive and/or to keep track on which frame that contains what in an animation it is sometimes practical to build image indexes. Build_Index.ieb does just that. It does not, as most other batch scripts, output one image per input-image. Instead it reads all selected images and outputs one single index image.

1.30 IE batch system - Batch Script

* Adjust *

Adjusts slices vertically and/or horizontally in all selected images.

1) Adjustment : Horiz. / Vert. / Hz. & Vt. / Vt. & Hz : <FIRST ONLY>
This is the direction that the slices are to going to move in. Note that the result will not be the same if you adjust horizontally first and then vertically instead of vice versa.

2) Slice width (Horiz) : 1 / 1024
This is the width, in pixels, of each slice that will be adjusted horizontally.

3) Slice adjustment (Horiz) : 1 / 4096
This is the number of pixels that each slice will move from the center of the image in the horizontal direction.

4) Slice width (Vert) : 1 / 1024
This is the width, in pixels, of each slice that will be adjusted vertically.

5) Slice adjustment (Vert) : 1 / 4096
This is the number of pixels that each slice will move from the center of the image in the vertical direction.

1.31 IE batch system - Batch Script

```
  * BatchConvert *

Converts selected images into a new file format. Images can be rendered,
dithered and palette-locked.


1) Destinantion file format : format req. : <FIRST ONLY>
Select the file format you want for your output images. It is important to
know what kind of settings that are allowed for each file format. For more
information on file formats, read the SuperView-Library docs.

2) Save as rendered or 24bit? : Render / 24bit : <FIRST ONLY>
This is the type of data that is to be saved in the output format. Rendered
data is all types of data with lower quality than 24 bit. If you select
"24 bit" then you won't be able to select options in (3) and (4).

Note that far from all formats can store all types of data. For example GIF
can not store 24 bit data, and DEEP and JPEG can't store rendered data.

3) Set render options : render settings : <FIRST ONLY>
Here you set the depth, resolution and dither that is to be used for each
image when rendered. It is possible to render to a locked palette by
selecting "Lock palette" in this requester. See option (4).

4) Lock-palette : file : <FIRST ONLY>
This option is only available if you selected "Lock Palette" in the Render
Options requester (3). Here you select a palette file that is used when
rendering your images. A palette file is any file that contains an ILBM
CMAP palette chunk. Examples: palette files, ILBM or ACBM images or ANIM
animations.

When rendering a long sequence of 24 bit images to use one single palette
it is important to have a well defined palette. The palette should contain
an average of all palette entries from all images. Often you pick one image
out of a sequence and render to 256 colors to get a palette that can be
used to render the entire sequence. However, it's not always that one image
contain all colors that appear in the sequence. If the image don't, then
those colors will disappear or be miscolored when rendering.

To avoid this problem it's a good idea to use the Build_Index.ieb script
to build an index over color key frames in the sequence. From this index
image you can then extract a better palette to use with BatchConvert.

4) Show rendering? : On / Off : <FIRST ONLY>
If enabled, this will bring all images that are rendered to the front
screen. Good for viewing the result, bad when working with another program
while IE renders in the background.

5) Strip last non-number suffix? : On / Off : <FIRST ONLY>
If enabled, this option will remove the last filename extension in the
output filename. This is very handy if you convert files that already have
a filename extension for the old image format. Since you convert the images
there is obviously no need to keep the old extension and it will be removed
automatically. Index number extensions will never be deleted.
Disabling this option will simply ignore this feature when processing.
```

```
6) New file suffix : String : <FIRST ONLY>
The BatchConvert.ieb script does not use the basename that you enter in the
executer for the output images. Instead of renaming all output images, it
uses an images original name and adds an extension after the original
name. With this setting you can specify the used extension.

Also, if the original image has an index number as extension, the new
extension will be inserted between the original basename and the original
index number.

Further more, if you set the new extension to be nothing (no characters),
then the original name will not be changed in any way. This is useful for
replacing original images with new images. You must of course also set the
dest directory to same directory as the source images are in to do this.

Examples:

--[ New file suffix ]--[ Original file name ]--[ New file name ]--

 Without suffix strip:
   "gif"                MyImage                 MyImage.gif
   "deep"               MyImage.0024            MyImage.deep.0024
   "ilbm"               MyImage.jpeg            MyImage.jpeg.ilbm
   "" (nothing)         MyImage.0076            MyImage.0076

 With suffix strip:
   "jpeg"               MyImage.ilbm            MyImage.jpeg
   "ilbm"               MyImage.jpeg.0001       MyImage.ilbm.0001
   "" (nothing)         MyImage.jpeg            MyImage
```

1.32 IE batch system - Batch Script

```
  * Motion Blur *

Creates motion blur effect on all selected images.


1) Motion blur method : Mix / Max / Min : <FIRST ONLY>
This is the composite method that is used when blurring. Mix blurs image,
Max brightens and Min darkens.

2) Mixing sharpness : 0 / 100
This value is only active if you select "Mix" in setting (1). High mix
values will make the image sharper while low mix values will cause the
image to dissolve more.

3) Angle : -1800 / 1800
This is the direction of the motion blur. 0 degrees is right, 90 is up,
180 is left and 270 is down.

4) Length : 1 / 256
Length is the maximum distance (radius), in pixels, that the image can be
blurred. A higher value will blur the image longer (more).

5) Step : 1 / 32
```

Step is the number of pixels between each composite image. The total number
of frames that is used to blur the image is <length>/<step>. A lower value
will give a smoother blurring.

6) Blur both edges? : On / Off : <FIRST ONLY>
If enabled, this option will blur the image from both sides of the selected
direction. If disabled, it will blur the image from the selected direction
towards the center of the image.

1.33 IE batch system - Batch Script

* Blur Quick *

Blurs all selected images with simple scale technique. This is a kind of
"quick & dirty" blur type and it looks best with high blur values.

1) Blur amount : 0 / 300
This is the blur effect amount. Higher value gives higher blur effect. Even
if it is possible to set high values, the blur effect is still limited to
the size of your image. The maximum value that will affect an image is the
image's width/height (the largest value of those two) divided by three.
A value of zero gives no effect at all.

1.34 IE batch system - Batch Script

* Twirl *

Twirls (swirling rotation) all selected images.

1) Twirl radius : 0 / 4096
This is the radius of the area that will be affected by the twirl.

2) Twirl angle : -1800 / 1800
This the angle of the twirl effect, in degrees. Note that the maximum and
minimum twirl angles are not the same as in the graphical user interface.
This makes it possible to get much higher "twirliness" than normal.

3) X offset : 0 / 4096
The x offset coordinate for the twirl center.

4) Y offset : 0 / 4096
The y offset coordinate for the twirl center.

5) Calculation type : Best / Fast : <FIRST ONLY>

1.35 IE batch system - Batch Script

```
  * Fields crop *

Slices all selected images into small parts.


1) Field size width : 2 / 1024
Width of each field of the primary image.

2) Field size height : 2 / 1024
Height of each field of the primary image.


This script divides the PRIMARY image into squares with size
<Field_size_width> x <Field_size_height>. Each field is cropped and saved
as an image with two indexes. The first index is the number of the input
image and the last index is the number of the output crop part of the input
image.
```

1.36 IE batch system - Batch Script

```
  * Convolve *

Applies convolve matrix to all selected images.


1) Matrix file : file requester. : <FIRST ONLY>
Select a convolve matrix file. It can be a matrix file included with IE or
a matrix file you have created and saved yourself.


If you want to emboss your images, take a look at the Emboss_fast batch
script instead.
```

1.37 IE batch system - Batch Script

```
  * Impress *

Applies the Impress effect, using alpha image(s), to all selected images.


1) Light impress : 0 / 256
This is the amount by which the light should be raised. Bright areas on the
alpha image will light up the corresponding area on the primary image.
0 gives no brightning (normal image). 256 gives full white where alpha is
full white.

2) Dark impress : 0 / 256
This is the amount by which the light should be lowered. Dark areas on the
alpha image will darken the corresponding area on the primary image.
0 gives no darkening (normal image). 256 gives totally black image where
alpha is totally black.
```

3) Stretch alpha? : On / Off : <FIRST ONLY>
If you enable this option then your alpha image will automatically be stretched to fit the size of your primary image. Otherwise, the alpha image will tile over the primary image.

1.38 IE batch system - Batch Script

* WhirlGIF *

This script merges already created gif images into a gif animation, using the software WhirlGIF 2.01. It requires that WhirlGIF can be found in the command search path.

WhirlGIF can be downloaded from AmiNet (AmiNet:gfx/conv/whirlgif201.lha).

1) Select disposal method : None / Back / Prev / Not : <FIRST ONLY>
This is the method that the animation player will use to dispose (to clear) an animation frame before redrawing next frame.

None - no disposal specified. The player can do whatever it want, which usually is nothing, before redrawing. This is the most common setting.
Back - clears frame to background color. This might cause flicker.
Prev - use previous frame data.
Not - do not dispose at all. (image overlay)

2) Number of loops : 0 / 99999 : <FIRST ONLY>
The number of times that your animation will loop before it stops. Set it to the maximum for an "eternal" loop. Make sure that the last frame in your animation looks good if you only want to loop a couple of times, since it is the frame that will be seen when the anim stops.

3) Frame timing value : 1 / 10000
This is the value that sets the speed of the animation. A higher value makes each frame display longer (--> slower anim). Frame timing is measured with 1/100 seconds per time unit. So a value of 100 would mean 1 s/frame.

It is possible, thanks to the batch system's structure, to twine the frame timing value by selecting settings for the last frame.

4) Ask frame timing value for all frames? : On / Off : <FIRST ONLY>
Since it is possible to set a new frame timing value for each frame, this option is quite handy. This is a common way to achieve special animation timing effects.

Selecting "On" allows you to confirm the frame setting value later, while the images are being processed. A requester will pop up for each frame and suggest a frame timing value. The suggested value will be what you have set in setting (3), or a twine calculation between the first and last frame. If you choose to set a new value then that value will be used instead of the suggested value, but only for that frame.

Selecting "Off" will make the script use the frame timing value set in
setting (3), or a twine calculation between the first and last frame.

  WhirlGif.ieb output files
 ~~~~~~~~~~~~~~~~~~~~~~~~~~
The WhirlGif.ieb script generates a number of output files that can be
practical to use somtimes. All files are placed in the assigned directory
"T:", usually placed in "RAM:T". Three types of files are generated:

"WG.df" - Internal data file. Not very useful. Contains timing values for
each image.

"WG.iX" (where X is a number) - These files are generated include files
that are used by WhirlGif. Each file contain the file names of all images
that are to use the same timing value.

"WG.script" - This is script that can be executed from Shell (c:execute).
It contains the complete command line for calling WhirlGif using the
WG.iX files.

1.39 IE batch system - Batch Script

  * Scale Percent *

This script scales all selected images to a new size relative to their
original size.

1) Width change : 1 / 1000
This is the percent value for the new image width.

2) Height change : 1 / 1000
This is the percent value for the new image height.

1.40 IE batch system - Batch Script

  * Process AutoFX *

This script loads an image into ImageFX, executes an AutoFX (.ifx) script
and finally saves the result to your specified path. This is repeated for
all selected images.

This script requires that you have the software package ImageFX. It has
been developed to work with ImageFX 2.0/2.1 but should work with later
versions also (2.6). Users of ImageFX 1.5 may have to edit the script to
get it to work since the arexx command "ScreenToFront" is not supported by
this version (use "Screen2Front" instead).
 ~~~~~~~~~~~~~~~~~~~~~~~~~~

When the "Process_AutoFX.ieb" script is selected as the used batch script, it will check for ImageFX's arexx port "IMAGEFX.1". The script will not recognize multiple arexx ports, e.g. IMAGEFX.2, IMAGEFX.3, etc. If no port is open then the script will run ImageFX for you if the program can be found.

It doesn't make sense to use all AutoFX scripts. Some does only swap buffers, set channels or loads another image for example.

1) Select ImageFX AutoFX script : filereq. : <FIRST ONLY>
Select an AutoFX script you want to use. Don't select scripts that aren't AutoFX scripts. All ImageFX's scripts ends with ".ifx" but only those in the directory "ImageFX:Rexx/AutoFX/" are AutoFX scripts. Selecting a pre-setting script (.pre) will only access the corresponding AutoFX script anyway.

2) <Any settings in ImageFX> : req.
You will be shown the ImageFX screen where you can set settings for the AutoFX script. It is possible to set new settings for the last frame which will make it possible to twine all settings you set. This is not possible in ImageFX. All Effect Over Time (EOT) scripts will also work.

Read more about AutoFX in the ImageFX AutoFX manual .

The Process_AutoFX script depends on a basic structure and variable names in the AutoFX scripts. If you have written your own scripts it is possible that they won't work if they don't conform to the standard structure.

1.41 IE batch system - Batch Script

  * External ARexx *

This script executes a user selectable arexx script once for each selected primary image.

It can succesfully be used to execute scripts such as Fresco.rexx, Antique.rexx, Scale200.rexx, etc.

1) Arexx script : file : <FIRST ONLY>
Select an arexx script you want to execute for each primary image. You can select an IE arexx script or any other script that make any sense to use.

2) Script type : IE script / External script : <FIRST ONLY>
If you select IE script, the following will happen for each selected image:
 * the image is loaded.
 * the script is executed with correct IE arguments.
 * the script's output image is saved and closed.
 * the loaded image is closed.

If you select External script, the script will simply be executed once for each image. It's up to the script to do something useful. Some arguments

can be passed on to the script however. See next option.

3) Argument line : string : <FIRST ONLY>
This setting is only valid if you have selected External script in option (2). Here you can enter an argument string that will be used for the executed script. There are four keywords that can be entered within the argument line.

Keyword	is replaced with...
%S	the complete file path to the primary image.
%D	the complete file path to the expected output image.
%F	the current frame number, i.e the image number.
%N	the total number of frames (images) that will be loaded.

File paths are not quoted with double quotes.

1.42 IE batch system - Batch Script

* Crop *

Crops (cuts) all selected images to new sizes.

1) X offset : 0 / 4096
This is the X offset for the top left corner of the cropped area. A value of zero includes the top left pixel.

2) Y offset : 0 / 4096
This is the Y offset for the top left corner of the cropped area. A value of zero includes the top left pixel.

3) Type : Wd & Ht / X2 & Y2 / X & Y back : <FIRST ONLY>
Here you choose which values, from the sliders below, that actually are used.

4) Width : 0 / 4096
This is the width of the cropped area.

5) Height : 0 / 4096
This is the height the cropped area.

6) X2 offset : 0 / 4096
This is the X offset for the bottom right corner of the cropped area. A value same as the image width includes the bottom right pixel.

7) Y2 offset : 0 / 4096
This is the Y offset for the bottom right corner of the cropped area. A value same as the image height includes the bottom right pixel.

8) X back offset : 0 / 4096
This is the X offset from the bottom right corner of the image. A value of zero includes the bottom right pixel.

9) Y back offset : 0 / 4096

```
This is the Y offset from the bottom right corner of the image. A value
of zero includes the bottom right pixel.
```