

JStream

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Chapter 1

JStream

1.1 No title

```
JStream Loader & Saver for ImageFX

~Loader~

~Saver~

~Different~CPU's~

~Installation~

~JStream~Format~

~Sample~ARexx~Script~

~Applied~Magic~Inc.~

~Acknowledgements~
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```

1.2 Loader

```
JStream Loader
```

The JStream loader allows you to load a frame or field from a video JStream created with a Digital Broadcaster 32 or Broadcaster Elite.

The loader will determine how many frames are in the JStream and prompt you for which frame to load. You will be given the choice of loading both fields, only the even field or only the odd field.

If you are loading both fields, you will be given the option to interlace them after loading.

When loading both fields they are loaded into separate buffers. The even

field will be placed into the swap buffer and the odd field into the main buffer. To reconstruct the field as an interlaced frame, use the Interlace function of the Transformations menu.

Single fields are loaded into a buffer of the appropriate size of the video format of the JStream: 720x480 for NTSC and 720x576 for PAL.

ARexx Use

The JStream Loader accepts the following options:

- Frame/N - For frame number to load.
- Both/S - Load both fields.
- Even/S - Load the even field.
- Odd/S - Load the odd field.
- Lace/S - Interlace the fields after loading.

The Both, Even and Odd keywords are mutually exclusive. If one of them is not supplied the user will be prompted for a choice.

Examples:

```
LoadBufferAs JSTREAM "DBC0:Video.JST" Force ARGS Frame 0 Both LACE
LoadBufferAs JSTREAM "DBC0:Video.JST" Force ARGS Frame 230 Even
LoadBufferAs JSTREAM "DBC0:Video.JST" Force ARGS Frame 230 Odd
```

~Saver~

~Different~CPU's~

~Installing~

1.3 Saver

JStream Saver

The JStream Saver allows you to save images directly into existing JStreams or create new JStreams with those images.

The JStream Saver uses the image data from the main 24-bit buffer. The image size must be correct for the video format of the JStream being created or appended to. For NTSC the image should be 720 x 480 and for PAL the dimensions are 720 x 576.

The image will be deinterlaced into the two fields during the saving process.

In order to create a new JStream, the Saver must have access to an existing JStream of the quality level desired. You will be prompted for the name of the JStream to clone.

ARexx Use

The JStream Saver has the following options when called via ARexx:

- Clone - Selects the JStream to extract quality information from. A valid JStream filename must be supplied.
- Overwrite/S - Tells the saver to overwrite an existing JStream.
- Append/S - Tells the saver to append to an existing JStream.

Example:

```
SaveBufferAs JSTREAM DBC0:Video.jst Clone DBC0:oldvideo.jst
```

```
SaveBufferAs JSTREAM "DBC0:Video.jst" "APPEND"
```

```
~Loader~
```

```
~Different~CPU's~
```

```
~Installation~
```

1.4 Different CPU's

Other CPU's

There are versions of the loader and saver compiled for both the 68000, 68030 and the 68040.

The versions have a suffix to indicate the processor for which they have been compiled. See Installation for more information.

You only need the version appropriate to your Amigas processor but you can copy them all into the ImageFX modules directories and ImageFX will only load the appropriate module for your CPU.

1.5 Installing Modules

Installation

The following files are included in this archive:

```
Ram Disk:JStream (dir)
  Modules (dir)
```

Savers (dir)	
JSTREAM.000	68000 Version of the Saver
JSTREAM.030	68030 Version of the Saver
JSTREAM.040	68040 Version of the Saver
Loaders (dir)	
JSTREAM.000	68000 Version of the Loader
JSTREAM.030	68030 Version of the Loader
JSTREAM.040	68040 Version of the Loader
JStream.guide	This AmigaGuide document
JStream.guide.info	The icon for this AmigaGuide document.

Copy the Saver and Loader appropriate for your CPU type to the matching locations within the ImageFX installation.

IE the Saver goes to ImageFX:Modules/Savers/.

You can copy the AmigaGuide document to where ever is convenient.

1.6 JStream Format

JStreams

JStreams are the JPEG motion video files created by the Digital Broadcaster 32 or Broadcaster Elite. Each captured frame is stored inside the JStream as independent field data.

Each JStream also contains the quantization tables for the quality level the video was captured at. This information is required when extracting the field data for image processing or when creating fields/frames compatible with existing JStreams.

The full IFF spec for JStreams is available from
Applied~Magic~Inc.
upon

request. For owners of a Broadcaster Elite system, the JStream spec is in the back of your reference manual.

1.7 Sample IFX ARexx Script

```

/*
 * Example Arexx program showing how to use the JStream loader and saver.
 *
 */

ADDRESS ImageFX.1

SIGNAL ON ERROR

OPTIONS RESULTS

```

```
/* Load and process the first frame. */
LoadBufferAs JSTREAM "DBC0:oblivion.JST" Force Args Frame 0 Both LACE

/* Using the cool Crystallize hook */
Hook Crystallize GridX 10 GridY 10 Pertub 3 Glint 7 Seed 57005

/* If you are creating a new jstream, you will have to include */
/* the keyword CLONE and a full path to a JStream to use as a */
/* source. */
/* Using the OVERWRITE keyword will cause the saver to replace */
/* an existing JStream with the new one. */

SaveBufferAs JSTREAM "DBC0:Crystal.JST" CLONE "DBC0:Oblivion.jst"

DO i = 1 to 900

    SAY "Processing frame " i

/* The loader can load BOTH fields, the EVEN field or the ODD field. */
/* With BOTH fields the EVEN is in the Swap buffer and the Odd is in */
/* the Main buffer. */
/* The LACE argument tells the loader to interlace the fields. */
/* The FRAME argument accepts the frame number to load. */

    LoadBufferAs JSTREAM "DBC0:oblivion.JST" Force Args Frame i Both LACE

/* Your processing commands go here. */

    Hook Crystallize GridX 10 GridY 10 Pertub 3 Glint 7 Seed 57005

/* The saver always saves a full interlaced frame from the 24bit */
/* buffer. */
/* The APPEND keyword causes it to add to an existing JStream. */
/* The CLONE keyword isn't needed in this case. */

    SaveBufferAs JSTREAM "DBC0:Crystal.JST" "APPEND"

END

EXIT

ERROR:
    EXIT
```

1.8 Applied Magic Inc.

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1.9 Acknowledgements

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Phil Wright
Applied Magic Inc.
March 1995
