



Katana Release 2 Documentation



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Getting Started with Katana

Blue links will open the document.

Hardware and Software Requirements

Programming environment:

Supported art packages:

Katana System Components

Installing the Hardware

Installing the Development Software

Manual Installation of the Development Software

Installing the Drivers

First Time Installation

Updating Drivers

Troubleshooting

Video Output

Video Modes

For NTSC (60 Hz):

For PAL (50 Hz):

For VGA:

Building the Samples

Compiling via a DOS window

Compiling within Microsoft Developer Studio

Appendix A - ARC1A Drivers

Katana Ninja Guide

Blue links will open the document.

01. View Function

Initialization Method

1. Use `njInitView()`.
Set the view as follows:
2. Directly set VIEW structure members.
 1. When performing relative operations:
 2. When performing absolute operations:

View Movement and Rotation

Example:

Structures

02. Texture Guide

Modification History

Ver.0.04

Ver.0.05

ver0.06

Overview

Terminology

Textures

Texture List

Texture Number

Global Index Number

Current Texture List

Current Texture

- PVR Format
- U, V Coordinates
- Aspect Ratio
- Mipmap
- LOD (level of detail)
- Texture Memory
- Cache
- Texture Information Area
- Cache Information Area
- Category Code
- Stride Value

Creating Textures

- Overview

- PVR Format

- Category Code

 - Twiddled, Twiddled Mipmap Format

 - VQ,VQ Mipmap Format (Vector Quantization)

 - Palettize4, Palettize4 Mipmap Format, Palettize8, Palettize8 Mipmap Format

 - Rectangle Format

 - Stride Format

- Color Format

 - Normal Texture Color Format

 - YUV422 format

 - Bump format

 - ARGB8888 format

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- Texture Memory

 - Cache

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Overview

Flowchart of Texture Loading

Creating a Texture List

Global Index Number

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NJD_TEXERR_FILEOPEN

NJD_TEXERR_EXTND

NJD_TEXERR_HEADER

NJD_TEXERR_FILELOAD

NJD_TEXERR_SURFACE

NJD_TEXERR_MAINMEMORY

NJD_TEXERR_TEXMEMLOAD

Global Index Error

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Texture Functions, Structures, and Definitions

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njInitTexture

njLoadTexture

njLoadTextureNum

njSetTexture

njSetTextureNum

njSetTextureNumG

njLoadCacheTextureNum

njLoadCacheTextureNumG

njReleaseTextureAll

njReleaseTexture

njReleaseTextureNum

njReleaseTextureNumG

njReleaseCacheTextureAll

njReleaseCacheTextureNum

njReleaseCacheTextureNumG

njGetTextureNumG

njCalcTexture

njExitTexture

njSetTexturePath

njSetTextureInfo

njSetTextureName

njReloadTextureNum (New Function)

njReloadTextureNumG (New Function)

njSetRenderWidth (New Function)

NjFrameBufferBmp (New Function)

Deleted functions

Texture Structures

Texture Definitions

Used with nWidth, nHeight

Used with attr

Used with Type, color format

Category code

Texture error code (new addition)

Acquire texture memory size (used with njCalcTexture)

Sample Program

Overview

Sample

Ex. 1 : Display of PVR texture file

Ex. 2: Load a texture from memory and display it.

Ex. 3: Load file from cache and display texture

03. NINJA LIGHT

How to set LIGHT

```
>> void njCreateLight(NJS_LIGHT*, Int)
>> void njDeleteLight(NJS_LIGHT*)
>> void njLightOff(NJS_LIGHT*)
>> void njLightOn(NJS_LIGHT*)
>> void njMultiLightMatrix(NJS_LIGHT*, NJS_MATRIX*)
>> void njSetLight(NJS_LIGHT*)
>> void njSetLightAlpha(NJS_LIGHT*, Float)
>> void njSetLightAngle(NJS_LIGHT*, NJS_Angle, NJS_Angle)
>> void njSetLightColor(NJS_LIGHT*, Float, Float, Float)
>> void njSetLightDirection(NJS_LIGHT*, Float, Float, Float)
>> void njSetLightIntensity(NJS_LIGHT*, Float, Float, Float)
```

```
>> void njSetLightLocation(NJS_LIGHT*, Float, Float, Float)
>> void njSetLightRange(NJS_LIGHT*, Float, Float)
>> void njSetUserLight(NJS_LIGHT*, NJF_LIGHT_FUNC*)
>> void njUnitLightMatrix(NJS_LIGHT*)
>> void njTranslateLightV(NJS_LIGHT*, NJS_VECTOR*)
>> void njTranslateLight(NJS_LIGHT*, Float, Float, Float)
>> void njRotateLightX(NJS_LIGHT*, NJS_Angle) N
>> void njRotateLightXYZ(NJS_LIGHT*, NJS_Angle, NJS_Angle,
>> void njRotateLightY(NJS_LIGHT*, NJS_Angle)
>> void njRotateLightZ(NJS_LIGHT*, NJS_Angle)
```

Macro

How to Use

Example1

Example2

Example3

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The members of NJS_LIGHT structure

The members of NJS_LIGHT_ATTR structure

(Example:Spot light)

(Example:point light source)

The members of NJS_LIGHT_CAL structure

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- Diagram of Structure

- Description of Structures

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- Diagram of Structure

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 - For a quadrilateral polygon list (NJD_MESHSET_4)

 - For a contiguous polygon list (NJD_MESHSET_TRIMESH)

 - For an N-sided polygon list (NJD_MESHSET_N)

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- Diagram of Structure

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Diagram of Structure

Explanation of Structures

Action structure

Motion structure

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Key structures

Construction of a Motion

Diagram of Structure

Explanation of Structure

05. Scroll Guide

Revision Information

Ver.0.04

Ver.0.05

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Image Units

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Cell

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Scroll Rotation, Resizing, and Movement

Overview

Scroll Rotation, Resizing, and Movement

Scroll Programming

Overview

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- Scroll-related Definitions

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11. Fonts

11.1 Overview

11.2. Description of Font Functions

Nindows API

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Katana Ninja Reference


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System Functions

njAlphaModeSets Alpha Mode.
njColorBlendingModeSets Color Blending Mode.
njExitSystemPerforms system termination processing.
njIgnoreTextureAlphaModeSets Texture Alpha Mode.
njInitSystemInitializes the system.
njInitVertexBufferAllocates the buffers for registration of vertex data.
njMipmapAdjustAdjusts Mipmap Level of Textures.
njModifierVolumeModeSets Modifier Volume Mode
njPolygonCullingModeSets Polygon Culling Mode
njPolygonCullingSizeSets Polygon Size for Culling
njSetBackColorSets background color.
njSetVSyncFunctionRegisters the vertical sync interrupt callback function.
njSpecularModeSets Specular Mode
njSuperSampleModeSets texture super sample.
njTextureClampModeSets the texture clamp.
njTextureFilterModeSets the texture filter.
njTextureFlipModeSets the texture flip.
njTextureShadingModeSets Texture Shading Mode
njVersionGets the library version.
njWaitVSyncWaits for a vertical interrupt.

 **These functions will be deleted in the future**

Matrix Functions

njAddMatrix	.....	Performs matrix addition.
njAddVector	.....	Performs vector addition.
njCalcPoint	.....	Applies matrix conversion to an arbitrary point.
njCalcVector	.....	Applies matrix conversion to an arbitrary vector.
 njClearMatrix	.....	Clears the matrix stack.
njDetMatrix	.....	Determines a matrix expression.
njGetMatrix	.....	Gets a copy of the current matrix.
njInitMatrix	.....	Initializes the matrix stack.
njInnerProduct	.....	Obtains the inner product of two vectors.
njInvertMatrix	.....	Obtains the inverse (reversed rows/columns) of a matrix.
njMirror	.....	Obtains the mirror image of an arbitrary boundary surface.
njMultiMatrix	.....	Performs matrix multiplication.
njOuterProduct	.....	Obtains the outer product of two vectors.
njPopMatrix	.....	Pops the matrix stack.
njProject	.....	Throws a parallel project onto an arbitrary picture plane.
njProject2	.....	Projects a transparent view onto an arbitrary picture plane.
njProjectScreen	.....	Projects an arbitrary point onto the screen.
njPushMatrix	.....	Pushes the matrix stack.
njResMatrix	.....	(Unsupported)
njRotate	.....	Rotates a matrix around an arbitrary axis.
njRotateX	.....	Applies a matrix that gives a rotation around the X axis.
njRotateY	.....	Applies a matrix that gives rotation around Y axis.
njRotateZ	.....	Applies a matrix that gives rotation around Z axis.
njRotateXYZ	.....	Applies a matrix that gives rotation around X, Y, and Z axes.
njScale	.....	Scales a matrix.
njScaleV	.....	Scales a matrix.
njScalor	.....	Returns the scalar of an arbitrary vector.

njScalor2Returns the square of the scalar of an arbitrary vector.
njSetMatrixCopies an arbitrary matrix.
njSubMatrixPerforms matrix subtraction.
njSubVectorPerforms vector subtraction.
njTranslateApplies a matrix that gives parallel translation along each axis.
njTranslateVMoves a matrix laterally.
njTransposeMatrixTransposes a matrix.
njUnitMatrixConverts an arbitrary matrix to a unit matrix.
njUnitVectorConverts an arbitrary vector to a unit vector.

Collision Functions

njCollisionCheckBBChecks Collision for 2 Hexahedron.
njCollisionCheckBCChecks collision for a hexahedron and a capsule.
njCollisionCheckBSChecking for collision for a hexahedron and a sphere.
njCollisionCheckCCChecks collision for two capsules.
njCollisionCheckSCChecks collision for a sphere and a capsule.
njCollisionCheckSSChecks collision for two spheres.
njDistanceL2LReturns the distance between two lines.
njDistanceL2PLReturns the distance between a line and a plane.
njDistanceP2LReturns the distance between a point and a line.
njDistanceP2PReturns the distance between two points.
njDistanceP2PLReturns the distance between a point and a line.
njDistancePL2PLReturns the distance between two planes.
njGetPnaneNormalFinds the vector that is normal to a plane.
njGetPnaneNormal2Finds the vector that is normal to a plane.
njIsParalelL2LReturns whether two lines are parallel. N
njIsParalelL2PLReturns whether a line and a plane are parallel.
njIsParalelPL2PLReturns whether two planes are parallel.

Mathematical Functions

njAbs	.....Returns an absolute value.
njArcCos	.....Returns an arc cosine (ArcCos).
njArcCosec	.....Returns an arc cosecant.
njArcCot	.....Returns an arc cotangent.
njArcSec	.....Returns an arc secant.
njArcSin	.....Returns an arc sine.
njArcTan	.....Returns an arc tangent.
njArcTan2	.....Returns an arc tangent (ArcTan2).
njCeil	.....Returns the smallest integer not less than n (Ceiling Function).
njCos	.....Returns a cosine.
njCosec	.....Returns the cosecant.
njCosech	.....Returns the hyperbolic cosecant.
njCosh	.....Returns the hyperbolic cosine.
njCot	.....Returns the cotangent.
njCoth	.....Returns the hyperbolic cotangent.
njExp	.....Returns exponents.
njFloor	.....Returns the largest integer not greater than n (Floor Function).
njFraction	.....Returns the decimal fraction.
njHypot	.....Returns length of a hypotenuse.
njInvertSqrt	.....Returns the inverse square root.
njLog	.....Returns the natural logarithm.
njLog10	.....Returns the base 10 logarithm.
njLog2	.....Returns the base 2 logarithm.
njPow	.....Returns the power of a number.
njRandom	.....Generates a random number.
njRandomSeed	.....Sets the random number seed.
njRoundOff	.....Rounds down the decimal fraction.

njRoundUpRounds up the decimal fraction.
njSecReturns a secant.
njSechReturns a hyperbolic secant.
njSinReturns a sine.
njSinhReturns a hyperbolic sine.
njSqrtReturns a square root.
njTanReturns a tangent.
njTanhReturns a hyperbolic tangent.

2D Graphics Functions

njDrawCircle2DDraws circles on a 2D screen.
njDrawLine2DDraws lines on a 2D screen.
njDrawPoint2DDraws points on a 2D screen.
njDrawPolygon2DDraws a polygon on a 2D screen.
njDrawTriangle2DDraws triangles on a 2D screen.

3D Graphics Functions

njDrawLine3DDraws lines in 3D space.
njDrawPoint3DDraws points in 3D space.
njDrawPlygon3DDraws a polygon in 3D space.
njDrawTriangle3DDraws triangles in 3D space.

Light Functions

njSetLightAlpha	Sets the changes of alpha against material, whose light is set by njCreateLight.
njCreateLight	Defines a light source type and registers a new light.
njDeleteLight	Deletes a light created by njCreateLight.
njLightOff	Deactivates a light created by njCreateLight (turns the light off).
njLightOn	Activates a light created by njCreateLight (turns the light on).
njMultiLightMatrix	Multiplies a matrix with a light matrix.
njRotateLightX	Rotates a light matrix around the X axis.
njRotateLightXYZ	Rotates a light matrix around the X, Y, and Z axes.
njRotateLightY	Rotates a light matrix around the Y axis.
njRotateLightZ	Rotates a light matrix around the Z axis.
njSetLightAngle	Sets the limit angle of a light created with njCreateLight.
njSetLightColor	Sets the color of light defined by njCreateLight.
njSetLightDirection	Sets the direction of light defined by njCreateLight.
njSetLightIntensity	Sets the intensity of light defined using njCreateLight.
njSetLightLocation	Sets the location of light defined by njCreateLight.
njSetLightRange	Sets the limit distance of a light created with njCreateLight.
njSetUserLight	Assigns a user-defined light function to a light.
njTranslateLight	Applies a matrix that gives parallel translation along each axis.
njTranslateLightV	Moves a light matrix laterally according to a directional vector.
njUnitLightMatrix	Unitizes a light matrix.


Scroll Functions

njDrawScroll	Draws a 2D scroll surface.
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Modeling Functions

njControl3D Controls the drawing surface for a 3D object.
njDrawModel Draws a model.
njDrawObject Draws an object.
njFastDrawModel Draws Models.
njFastDrawObject Draws objects.
njInit3D Initializing 3D system.
njSetConstantAttr Sets model attributes.
njSetConstantMaterial Sets model material data.
njSetDepthQueue Sets depth queue.
njSimpleDrawModel Draws models.
njSimpleDrawObject Draws objects.

View Functions

njCalcScreen Projects points in 3D space onto the screen, then finds
the screen coordinates to which the points are projected.
njClip2D Specifies the drawing area on the screen.
njClipZ Specifies the limit values of near clipping and far clipping.
njForwardViewAbsolute Moves the view location in the direction of the view.
(Absolute Move).
njForwardViewRelative Moves the view location along the viewline.
(Relative Move).
njInitView Initializes the view.
njLookAtView Changes the view direction towards point (x, y, z).
njLookAtViewV Changes the view direction towards point (x, y, z).
 **njMultiViewMatrix** Multiplies a view by a matrix.
njReturn2BaseView Returns the current view to the base view.
njRotateViewPosXAbsolute Rotates the view location around the X axis.
(Absolute Rotation).

	njRotateViewPosXRelative	Rotates the view around the X axis (Relative Rotation).
	njRotateViewPosYAbsolute	Rotates the view location around the Y axis. (Absolute Rotation).
	njRotateViewPosYRelative	Rotates the view around the Y axis (Relative Rotation).
	njRotateViewPosZAbsolute	Rotates the view location around the Z axis. (Absolute Rotation).
	njRotateViewPosZRelative	Rotates the view around the Z axis (Relative Rotation).
!	njRotateViewX	Rotates the view around the X axis (Absolute Rotation).
	njRotateViewXAbsolute	Rotates the view location around the X axis. (Absolute Rotation).
	njRotateViewXRelative	Rotates the view around the X axis (Relative Rotation).
!	njRotateViewXYZ	Rotates the view around the X, Y, and Z axes (Absolute Rotation).
	njRotateViewXYZAbsolute	Rotates the line of view around the X, Y, and Z axes. (Absolute Rotation).
	njRotateViewXYZRelative	Rotates the view around the X, Y, and Z axes (Relative Rotation).
!	njRotateViewY	Rotates the view around the Y axis (Absolute Rotation).
	njRotateViewYAbsolute	Rotates the view line around the Y axis. (Absolute Rotation).
	njRotateViewYRelative	Rotates the view around the Y axis (Relative Rotation).
!	njRotateViewZ	Rotates the view around the Z axis (Absolute Rotation).
	njRotateViewZAbsolute	Rotates the view around the Z axis. (Absolute Rotation).
	njRotateViewZRelative	Rotates the view around the Z axis (Relative Rotation).
	njSetAspect	Sets the screen aspect ratio.
	njSetBaseView	Sets the current view as the base view.

njSetPerspective	Sets the perspective in horizontal direction.
njSetScreen	Sets the screen.
njSetScreenDist	Sets the distance from the perspective to the screen.
njSetView	Specifies a user-defined view as the current view.
 njTranslateView	Translates the view along the X, Y, and Z axes (Absolute Translation).
njTranslateViewAbsolute	Moves the view location along the X, Y, and Z axes. (Absolute Move).
njTranslateViewRelative	Translates the view along the X, Y, and Z axes (Relative Translation).
njTranslateViewV	Translates the view along the X, Y, and Z axes (Absolute Translation).
njTranslateViewVAbsolute	Moves the view location along the X, Y, and Z axes. (Absolute Move).
njTranslateViewVRelative	Translates the view along the X, Y, and Z axes (Relative Translation).
njUnitBaseViewVector	Converts the original view vector to a unit vector.
njUnitCurrentViewVector	Converts the view vector of the current view to a unit vector.
 njUnitViewMatrix	Sets a unit matrix to the view matrix.
njUnitViewVector	Converts the view vector to a unit vector.

Texture Functions

njCalcTextureCalculates the remaining texture memory size.
njGetTextureNumGObtains the global index number of the current texture.
njInitTextureSets the area used for storing texture information.
njLoadCacheTextureSets the cache information area.
njLoadCacheTextureNumLoads a texture by texture number.
njLoadCacheTextureNumGLoads texture number globalIndex from cache memory
into texture memory.
njLoadTextureLoads a texture.
njLoadTextureNumLoads textures.
njReleaseCacheTextureNumRelease cache memory.
njReleaseCacheTextureAllRelease all cache memory.
njReleaseCacheTextureNumG ...Releases cache memory.
njReleaseTextureReleases texture memory.
njReleaseTextureNumReleases texture memory.
njReleaseTextureNumGReleases texture memory. N
njReleaseTextureAllRelease all texture memory.
njSetTextureSet current texture list.
njSetTextureInfoSet data into texture name structure.
njSetTextureNameSet data into texture name structure.
njSetTextureNumSets a texture number as the current texture.
njSetTextureNumGSets the current texture to a global index number.
njReLoadTextureNumReloads Textures.
njReLoadTextureNumGReloads Textures.
njRenderTextureNumRenders Texture Area. N
njRenderTextureNumGRenders at the Texture Area.
njSetRenderWidthSets Stride Value.

Sprite Functions

njDrawSprite2DDraws 2D sprite.

njDrawSprite3DDraws 3D sprite.

Debugging Functions

njPrintBDisplays a value in binary notation.

njPrintCDisplays a character string.

njPrintColor.....Specifies the character color.

njPrintDDisplays a value in decimal notation.

njPrintFDisplays a floating point decimal value.

njPrintHDisplays a value in decimal notation. N

njFrameBufferBmp.....Converts Frame Buffer To Bit Map Image.

njPrintSize.....Specifies Character Size.

Special Effects Functions

njExcuteFadeExcutes the fade effect.

njFadeDisableDisables the fade effect.

njFadeEnableEnables the fade effect.

njFogDisableDisables the fog effect.

njFogEnableEnables the fog effect.

njGenerateFogTable.....Creates Fog Table.

njGenerateFogTable2.....Creates Fog Table and Sets Density.

njGenerateFogTable3.....Creates Fog Table and Sets Density.

njSetFadeColor.....Specifies the fade color.

njSetFogColor.....Specifies the fog color.

njSetFogDensity.....Specifies the fog density.

njSetFogTable.....Sets a user-defined fog table.

Motion Functions

njActionDrawing motion.
njActionLinkLinks motions.
njDrawMotionDrawing Motion.
njDrawMotionLinkLinks motions.
njDrawShapeMotionExecutes motion that includes shapes.
njDrawShapeMotionLinkLinks motions that include shapes.
njFastActionDraws Motion.
njFastActionLinkLinks motions.
njFastDrawMotionDraws Motion.
njFastDrawMotionLinkLinks motions.
njFastDrawShapeMotionExecutes motion that includes shapes.
njFastDrawShapeMotionLinkLinks motions that include shapes.
njSetMotionCallbackRegistering motion callback routine.

Memory Functions

njMemCopyMemory Copy.
njMemCopy4Memory Copy. (Word)
njMemCopy2Memory Copy. (Long)

Drawing Functions

njDrawPolygonDraws polygons without textures.
njDrawTextureDraw texture polygons.

Input Functions

njGetPeripheralGets information of input device. (Peripheral).
njPrintPeripheralInfoDisplays peripheral condition.

Kamui

Blue links will open the document.

1. OVERVIEW

2. BASIC PROCESSING FLOW

3. KAMUI FUNCTIONS

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3.2 INITIALIZATION FUNCTION

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3.3.3 Creating the Texture Surface

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3.3.8 Determining the Display Screen

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3.6.14 Notifying the End of Vertex Data Writing
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3.6.15 Rendering into the Texture Memory
(When Data Is Written into Buffers)

3.6.16 Rendering into the Texture Memory (When Data Is Directly Written)

3.6.17 Specifying a Modifier Volume List

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3.9.6 Obtaining the Available Texture Memory Space

- 3.9.7 Reading the Texture in Texture Memory
- 3.9.8 Garbage Collection of Texture Memory

4. KAMUI UTILITY LIBRARY

4.1 TEXTURE-RELATED FUNCTIONS

- 4.1.1 Conversion from KAMUI Bit Map Format to Twiddled Format
- 4.1.2 Conversion from Frame Buffer Format (Rectangle)
to Windows BMP Format

5. STRUCTURES

- 5.1 FRAME BUFFER/TEXTURE SURFACE STRUCTURE
- 5.2 VERSION INFORMATION STRUCTURE
- 5.3 VERTEX CONTEXT
- 5.4 PACKED 32-BIT COLORS
- 5.5 PALETTE DEFINITION STRUCTURE
- 5.6 VERTEX DATA BUFFER STRUCTURE

6. TEXTURE FORMAT

- 6.1 TEXTURE FORMATS SUPPORTED BY ARC1/CLX1
- 6.2 ARC1/CLX1 TEXTURE FORMAT
 - 6.2.1 Texture Format of KAMUI
 - 6.2.2 Twiddled Format and Twiddled Mipmap Format
 - 6.2.3 VQ Format and VQ Mipmap Format
 - 6.2.4 Palettized 4-bpp/8-bpp Format
 - 6.2.5 Rectangle Format
 - 6.2.6 Stride Format
 - 6.2.7 BUMP-Mapping Format
 - 6.2.8 Kamui Bit Map Format

Katana Utilities

Blue links will open the document.

01. PowerVR Texture Converter

How to Use PVRConv

Command Line Usage

Alpha Channel

.bmp:

.pix:

PVRConv Defaults

PVRConv Options

-p <dir> | -path <dir> :

-ns | -nosuffix :

-gi <num> | -globalindex <num> :

-t | -twiddled :

-r | -rectangle :

-s | -stride :

-nm | -nomipmap :

-nd | -nodither :

-na | -noadither :

-5 | -565 :

-4 | -4444 :

-1 | -1555 :

-t1 | -t1555 :

-b4 | -b4444 :

-ra | -ralpha :

PowerVR Texture Format

02. VQ Compression Tool UPC-7

How to Use VQ Compress

Command Line Usage

VQ Compress Defaults

VQ Compress Options

VQ Compression Ratios

03. Using the LightWave Converter

Overview of the LightWave Converter

Output Files

Execution

Path Input

Creating Models for the Converter

Textures

< twiddled format >

<rectangle format>

Texture Extraction (Alpha)

Material Names

<flags>

<Filter mode>

Motion Output Using an MRS File

Creating Shape Data

Restrictions

04. Gigen Tool

Function Overview

Parameters

gigen <target directory name> [option] Execution Method

Options

-b baseNo

-l

-i

05. Ninja Export for 3D Studio MAX R2

Overview

Files used in libraries

Other files

Installation Method

Usage

Options Dialog Box

NSC File (Scene)

Create NSC File

NJA File (Model)

Strip

Add Polygon Normal List

MRS File (Motion Resource)

Create MRS File

PVR File (Texture)

Overwrite Texture File

Texture Global Index Base

Texture Type

Pixel Format

- Mipmap OFF
- Dither OFF
- Alpha Dither OFF
- NAM File (TRS Motion)
 - MRS File
 - Motion Type U
 - SelectKeys
 - OptimizeDataSize
- NAS File (Shape Motion File)
 - DataType
 - Select Keys
- Global Options
 - XAxis -90 Rotate
 - Create Log File
 - Reset
 - Cancel
 - OK

Models

- Outputting Selected Models
- Materials
- Textures
 - <twiddled format>
 - <rectangle format>
- Texture Extraction (Alpha)
 - Method 1: Extraction by 32-bit TGA
 - Method 2: Extraction by 24-bit BMP + 24-bit BMP
- Texture UV
- TRS Motion
 - Ignore Keys (All Frames)
 - Key Frames

Motion Output Using an MRS File

Shape Motion

 UserKeys (Plugin)

 Modifier Keys

 Ignore Keys (All Frames)

Attributes

 Double-sided Polygons

 Flat Shading

Attributes That Are Set by Adding Characters at the Beginning of Material Names

 <flags>

 <Filter mode>

Error Messages

Other Notes

Future Development

06. KeyListGen (3D Studio Max R2)

Overview

Usage

Restrictions

Future Development

07. NinjaExport for SoftImage3D NT

ninjaExport Overview

ninjaExport Package Contents

ninjaExport Installation method

ninjaExport Functions

- Setting for File Output

- Options for Models

- Texture-related Options

- Motion-related Options

- ninjaExport Texture

 - twiddled format

 - rectangle format

- ninjaExport Material

 - flags

 - Filter mode

- ninjaExport Future Support Plan

08. NinjaExport for SoftImage SGI

Overview

Flow for the gigen (globalIndex Generator) Command

Notes on the Ninja File Format and Compiling