Icon and Banner Specifications

Version 1.0.0

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Icon and Banner Specifications

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Revision History

| Version | Revision Date | Description |
|---------|---------------|---|
| 1.0.0 | 2008/02/05 | Deleted Chapter 2 Relationship Between the Icon and Banner, and moved its content to Chapter 1 Icon and Banner Overview. Replaced screenshots. |
| | | In section 2.4 Switching Languages, explained Korea (Hangul), China (Simplified Chinese), and Taiwan. |
| | | In section 2.5 Animation, explained animation segments and animation segment tags. |
| | | Divided section 2.8 Creating Icon Layout Resources, into three subsections. Added a warning that binary output from the Layout Editor is prohibited and information on the Layout Binary Converter. |
| | | Added section 2.9 Support for the New Message Display Feature. |
| | | Revised the wording of section 3.9 Creating Banner Layout Resources. Added a warning that binary output from the Layout Editor is prohibited. |
| | | Revised the wording of section 5.2 Banner Data Header to include support for Chinese and Korean. Added a supplementary explanation about displaying the title on Wii Message Board. |
| 0.3.5 | 2007/07/12 | In section 5.1 Packed Data, added a description about file names for banner packages. |
| 0.3.4 | 2007/07/03 | Partially revised the description in section 2.2 Data Structure. Added a caution to reflect the change in Layout Binary Converter specifications. |
| | | In section 2.4 Switching Languages, added a caution about visible animations. |
| | | Partially revised the description in section 3.2 Data Structure. In addition, added a caution to reflect the change in Layout Binary Converter specifications. |
| | | Replaced some screenshots with the most recent versions. |
| 0.3.3 | 2007/06/04 | Revised the caution entry in section 3.3 Placement and Display Areas on the Layout. |
| | | Revised the explanation of bns files in section 5.1 Sound Format. |
| | | Added a note on the use of uncompressed waveform data to section 5.1 Sound Format. |
| | | Added section 5.4 Sound and Animation Synchronization. Added a caution to section 3.3 Placement and Display Areas on the Layout. |
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| 0.3.1 | | Added a caution to Chapter 5 Sound Data. |
| | | Added a note to section 6.2.3 Titles (JP, EN, GE, FR, SP, IT, DU). |
| 0.3.0 | 2006/10/18 | Completely revised Chapter 6 Banner Data Creation Tool. |
| | 2006/10/13 | Added descriptions about the language to use in section 4.3 Title Display. |
| 0.2.1 | | Added the behavior during application startup in section 5.2 Sound Behavior. |
| | | Added cautions for usage in Chapter 6 Banner Data Creation Tool. |
| | 2006/10/10 | Added restrictions specific to the data size of icons in section 3.1 Data Size. |
| | | Noted that animation data is required for icons in section 3.2 Data Structure. |
| | | Completely revised section 3.4 Switching Languages. |
| 0.2.0 | | Added restrictions specific to data size of banners in section 4.1 Data Size. |
| 0.2.0 | | Added restrictions specific to data size of opening.bnr in Chapter 6 Banner Data Creation Tool. |
| | | Completely revised Chapter 7 Using Logos, Trademarks, and Copyright Notices. |
| | | Made other revisions to layout and formatting. Corrected spelling errors. |
| 0.1.2 | 2006/09/30 | Revised the description about handling of the font data. |
| 0.1.1 | 2006/09/25 | General revisions. |
| 0.1.0 | 2006/09/16 | Initial version. |

1 Icon and Banner Overview

Developers of Wii-compatible applications must provide icons that will be displayed on the Wii Menu screen and banners that will be displayed when a Channel is selected.

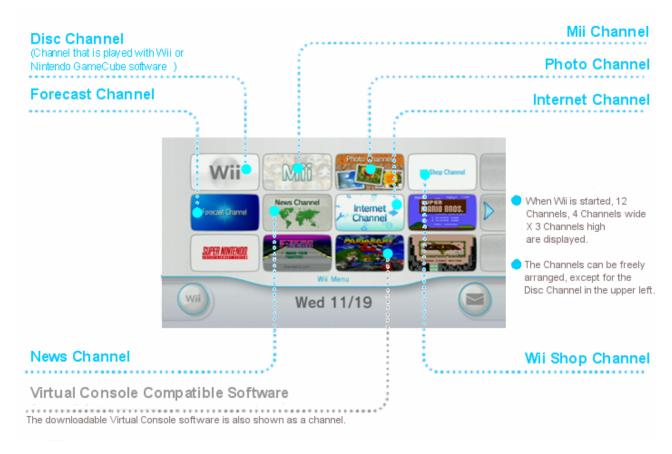


Figure 1-1 Wii Menu Channel List

When the user clicks a Channel icon, the banner associated with that icon (and application) is displayed across the entire screen.



Figure 1-2 Icon Selection and Banner Display

In NintendoWare for Revolution, this data (layout resource) is created using Layout Editor.

2 Icon Layout Resources

This chapter describes how to specify and create icon data.

2.1 Data Size

An icon has the following size restrictions:

- 100 KB for archives created with the archive tool
- 50 KB for files compressed with the banner data creation tool

For a description of this tool, see Chapter 5 Banner Data Creation Tool.

2.2 Data Structure

Use "icon" for layout and animation data. The tool for creating banner data requires binary data; use the Layout Binary Converter (nw4r_lytcvtr.exe), included in NintendoWare for Revolution, to prepare files with the following names:

Layout Data Name: Icon.brlyt

Animation Data Name: icon.brlan

When generating icon data with the Layout Binary Converter included with NintendoWare for Revolution version 20070717 or later, you must specify the --banner option when running the converter.

Note: To display icons correctly on the Wii Menu, both layout and animation data are required.

2.3 Placement and Display of Areas on the Layout

Create an icon image centered at the point of the layout origin. Although the basic size for the icon image is 128 x 96 pixels (Figure 2-1), keep in mind that the screen display depends on the Wii console screen mode, which can be 4:3 or 16:9.

In 16:9 mode, icons for which **Target for position adjustment** is not selected in the Layout Editor are stretched to fill the Channel aperture (Figure 2-3). When this parameter is selected, the image is displayed without stretching; thus, a 170 x 96 image (Figure 2-2) must be prepared in advance. However, in 4:3 mode the superfluous pixels on the left and right edges of the 170 x 96 image are not displayed (Figure 2-4 – Figure 2-7).

When **Target for position adjustment** is selected, the results are inherited by children, even if this parameter is not selected in the child pane. To check which object pane in the Layout Editor is the child pane, use the parent-child hierarchy pane of the **Property Window**, as shown in Figure 2-3.

Note: If you do not specify the icon size correctly, the Wii Menu may not be displayed correctly. All applications must use an icon image of size 170 x 96 or smaller.

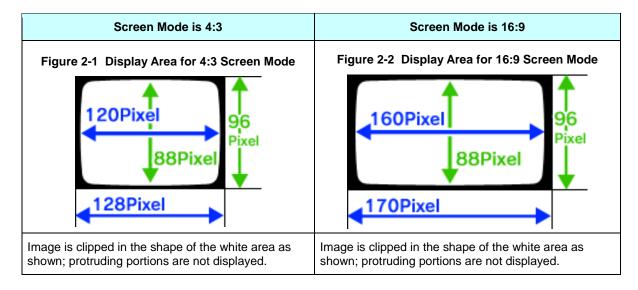
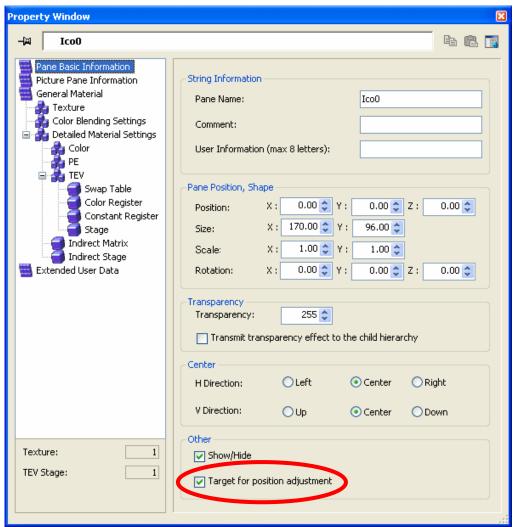
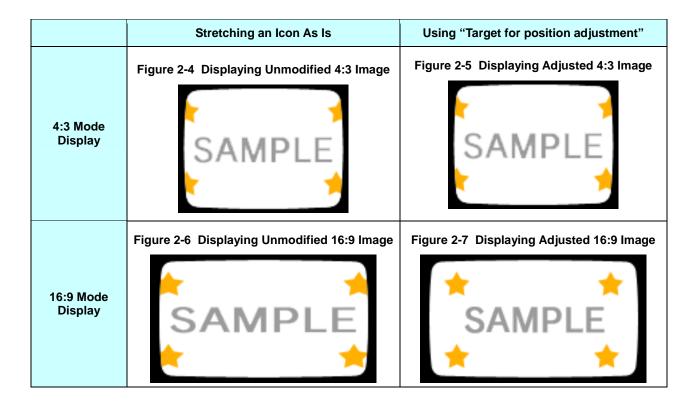


Figure 2-3 Pane Position Adjustment Setting



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2.4 Switching Languages

The pane group feature is used to gather icons that support multiple languages into a single piece of data.

When a group is created and assigned a name from Table 2-1, panes that belong to that group are displayed only when an appropriate language is specified in Wii options. To display multiple languages, you have to associate panes to a group name.

Table 2-1 Language Codes

| Language | Group Name |
|--------------------|------------|
| Japanese | JPN |
| English | ENG |
| German | GER |
| French | FRA |
| Spanish | SPA |
| Italian | ITA |
| Dutch | NED |
| Korean | KOR |
| Simplified Chinese | CHN |

If a pane associated with a language group specified in Wii options is absent, a pane associated with another language group will be displayed. As Table 2-2 shows, in every region Wii consoles have a set preference for language groups.

Table 2-2 Display Preferences for Language Groups

| | Region | | | | |
|-----------------------|-----------------|---------------|---------------------|-------|-------|
| Display Preference | Japan Taiwan | North America | Europe Australia | Korea | China |
| | JPN | ENG | ENG | KOR | CHN |
| Higher Preference | | FRA | FRA | | |
| 1 | | SPA | GER | | |
| | | | SPA | | |
| ↓ Lower Preference | | | ITA | | |
| | | | NED | | |

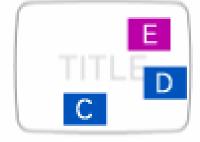
Panes not associated with any group will always be displayed, regardless of the Wii console language settings.

In the examples shown in Figure 2-8 and Figure 2-9, a created icon consists of panes A and B belonging to the FRA group, panes C and D belonging to the ENG group, and pane E that does not belong to any group. Panes A, B, and E are displayed if French is specified in the Wii console language settings (Figure 2-8); and panes C, D, and E are displayed if German is specified (Figure 2-9). Because there is no GER group, ENG is selected as the highest preference.

Figure 2-8 French is Specified on the Wii Console

Figure 2-9 German is Specified on the Wii Console





Grouping panes for a purpose other than switching languages is prohibited.

Note: In panes that are set to visible (**Show/Hide** is selected), switching languages does not work correctly.

2.5 Animation

Animation must be set for icons.

Note: Use of still image icons for which animation has not been set is prohibited.

Icon animation plays loops of specified frames. Set the start and end frames and the playback start and end frames. The frame segment between the playback start and end frames is played. Unlike banners, icons cannot play back a combination of multiple animation segments (see section 3.6 Animation). Animation segment tags are valid only if you use the new message display feature, described in section 2.9 Support for the New Message Display Feature.

Figure 2-10 provides an example of looped playback from frame 0 to frame 2400 (sample lcon_1).

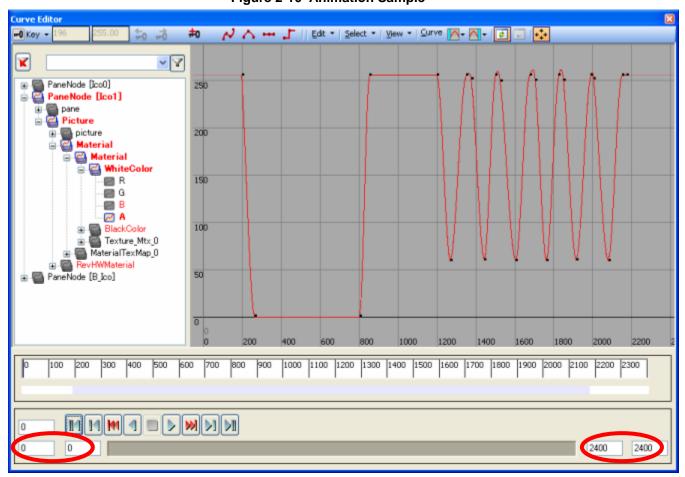


Figure 2-10 Animation Sample

In the Layout Editor, the following properties can be specified for an animation:

- Pane Basic Information
 - Display: position, size, scale, rotation, transparency, visibility
- Texture
 - Vertex color: upper left, upper right, lower left, lower right
 - Black or white color interpolation
 - Texture matrix: parallel translation, scale, rotation
 - Texture pattern
 - Texture color mixture ratio
- Material
 - Color register
- TEV
 - TEV color register
 - TEV constant color register
- Indirect texture
 - Indirect texture matrix: parallel translation, scale, rotation

For details, see the NintendoWare for Revolution Layout Editor manual and hardware specifications.

2.6 PAL50 Support

In PAL50 mode, the Wii console plays back the animation at 1.2 times the NTSC speed; however, due to the frame rate relationship, roughly the same contents as in NTSC mode are shown on the screen. Because of the faster playback, animation no larger than 1.2 frames may not appear during playback, so caution is advised.

2.7 Using Text Boxes

For text boxes in the icon layout, only use the bitmap fonts (data\fonts\wbf1.brfna and data\fonts\wbf2.brfna) included in the icon and banner package; any other font is prohibited.

2.8 Creating Icon Layout Resources

The operations required to create icon layout resources are described below in order.

2.8.1 Creating Image Data

The image data used for the title, title background, and other elements must be prepared as a TGA file. In 16:9 screen mode, the way to adjust the data size of a created image is dictated by whether you want to simply stretch the image or preserve its aspect ratio. For more information about creating image data, see section 2.3 Placement and Display of Areas on the Layout.

2.8.2 Creating Layout

To create icon layout, do the following.

- 1. Start the Layout Editor, position the different pane(s), and apply the production settings to the animation.
- 2. Load the image data prepared in step one into the texture window, and then click Create Pane to create a picture pane.
- 3. In the layout window, visually adjust the position of the created picture pane.
- 4. In each pane, use the curve editor to set animations for various elements, including fade in, fade out, translating display location, rotation, and scale. Enter 0 into the start frame, and the total frame count for the entire animation into the end frame. Normally, the same values are entered in the playback start/end frames as in the start/end frames.

As an illustration, when translating the display location of a given pane, create a *key frame point* in the frame where movement begins and in the frame where it stops. After setting values in each key frame, check the changes in values using the animation curve while adjusting with *Slope*. This can set a simple animation that moves a pane. Different kinds of effects can be created by repeating operations, such as setting animations in multiple properties of panes, increasing the key frame points, and changing the direction of animation curve.

The Viewer included in NintendoWare for Revolution is recommended for verifying animations with the hardware-specific features and colors that are actually displayed. For more information, see the appropriate Layout Editor and Viewer manuals.

2.8.3 Creating the Layout Resource Binary

To convert the layout described in section 2.8.2 into a layout binary resource, run the Layout Binary Converter, nw4r_lytcvtr.exe, included with NintendoWare for Revolution.

The Code 2-1 example creates a binary from the icon layout resource saved in the icon\layout directory and outputs the binary to the arc directory.

Code 2-1 Creating a Binary from the Icon Layout Resource

```
C:\work>%NW4R_ROOT%\CommandLineTools\bin\nw4r_lytcvtr.exe --banner icon\layout arc
NW4R Layout Binary Converter
Version 2.0.0
Copyright (C)2006-2007 Nintendo All Rights Reserved.

"icon\layout\icon.rlan" -> "arc"

"icon\layout\icon.rlyt" -> "arc"

C:\work>
```

The --banner option is specified for the icon data output; the -g option is not specified because icons do not support animations controlled by animation tags.

For detailed converter specifications, see the *Layout Binary Converter*. For a specific example of creating layout resource binaries, see the sample provided in the <code>IconBannerTools</code> package.

Note: The layout resource binaries that are output directly, using Binary Output in the Layout Editor, cannot be used for banners.

2.9 Support for the New Message Display Feature

Wii Menu contains a feature that indicates the arrival of a new message; when a WiiConnect24 message is delivered to a Channel application, the feature displays images and animations on top of an installed Channel's icon.

Note: This feature is not supported in Wii Menu versions 2.1 and earlier. In addition, it cannot be used by disc applications even with Wii Menu versions 3.0 and later.

To use this feature, prepare icon layout as described in the next section.

2.9.1 Creating "Newly Arrived" Groups

Panes that belong to the "New" group are always displayed when an appropriate application receives a new WiiConnect24 message. If a group with a name based on Table 2-3 ("New_" + "Language Code") is created while the "New" group does not exist, panes that belong to the created group will be displayed only when an appropriate language is specified in the Wii options.

Table 2-3 Group Names by Language

| Language | Group Name |
|--------------------|-------------------|
| Japanese | New_JPN |
| English | New_ENG |
| German | New_GER |
| French | New_FRA |
| Spanish | New_SPA |
| Italian | New_ITA |
| Dutch | New_NED |
| Korean | New_KOR |
| Simplified Chinese | New_CHN |

The display preference for a language conforms to section 2.4 Switching Languages.

2.9.2 Creating "Newly Arrived" Animations

Animations that have the **New** tag will be played back together with the display of the aforementioned "New" group.

When you use "Newly Arrived" animations (and the **New** animation tag is set), you have to specify the **Whole** tag for displayed frames of the entire icon's animation, which will always be played back regardless of WiiConnect24 messages.

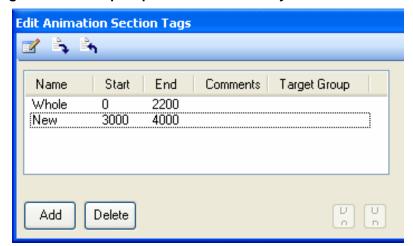


Figure 2-11 Example Specification for "Newly Arrived" Animations

3 Banner Layout Resources

This chapter describes banner specifications and the procedure for creating banner data.

3.1 Data Size

Archives created with the archive tool must have banner data of size 512 KB or less. Banner resources are stored in a compressed form in banner data. For information on the banner data creation tool, see Chapter 5 Banner Data Creation Tool.

3.2 Data Structure

Use "banner" for the layout and animation data. The banner data creation tool requires binary data, so use the Layout Binary Converter (nw4r_lytcvtr.exe), included in NintendoWare for Revolution, to prepare files with the following names:

Layout Data Name: banner.brlyt

Animation Data Name: banner.brlan

When banner data is generated using the Layout Binary Converter included in the 20070717 or later versions of NintendoWare for Revolution, the --banner option must be specified when the converter is started up.

Note: Unlike icons, banners without animation data can be displayed correctly.

3.3 Title Display

Banner title display can be formatted as a texture or a text box, and its size is customizable. The title does not have to be displayed at all times; effects can be used to fade it out.

For the display language, we recommend (but do not require) the use of a language specified in the system setting (see section 3.5 Switching Languages).

For cautions about font use, see section 3.8 Using Text Boxes.

3.4 Display Areas

3.4.1 Placement on the Layout and Areas Displayed by the Wii Console

The banner is displayed with the prepared buttons and the black frame in the foreground (see **Figure 3-1**). Arrows are displayed on the screen edges, so make sure that important information is not obscured by them.

The banner is displayed on the entire TV screen.

Figure 3-1 Buttons and Black Frame Displayed on the Wii Console

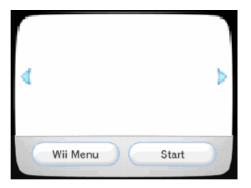


Figure 3-2 Actual Banner Display



When you check the display on the NintendoWare for Revolution Viewer, confirm the rendering settings (such as screen size of the Wii console) shown in Code 3-1.

Code 3-1 Rendering Settings

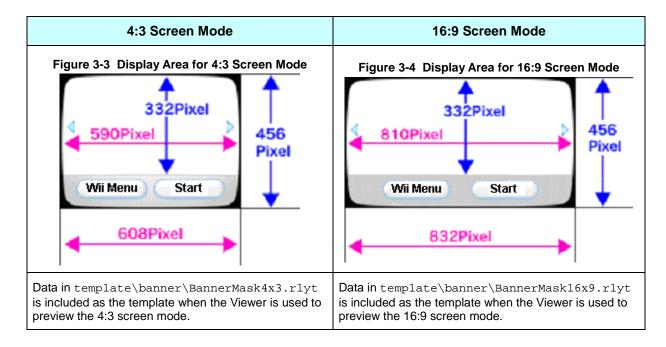
```
# Frame buffer size
/system/video/fb_width = 608
/system/video/fb_height = 456

# Screen size
/system/video/vi_width= 670
/system/video/vi_height= 456
```

The settings are written in the viewer.ini file stored in the Viewer's dvdroot folder.

3.4.2 Changes in the Display Area Based on Screen Mode

As shown in Figure 3-3 and Figure 3-4, the area displayed on the Wii console depends on the screen mode, which can be 4:3 or 16:9.



3.4.3 Creating Data for the Display Area

As with icons (section 2.3), the same data is displayed even if the screen mode is changed. To achieve the correct display in either screen mode, use the Layout Editor's position adjustment feature.

3.4.4 Banner Backgrounds

If the application does not draw a background, the screen display will be undefined and the base background may not be solid black; thus, always draw a background pane.

3.5 Switching Languages

As with icons (section 2.4), if a created group is named after a language code, the panes that belong to that group are displayed only when an appropriate language is specified in the Wii options.

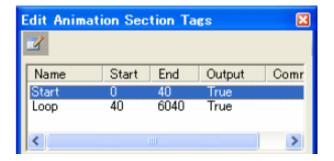
3.6 Animation

Animation can start with any given frame and loop for any number (controlled by animation tags) of frames thereafter.

The two animation tags are **Start** and **Loop**, and both are created for use. After the **Start** tag completes, the **Loop** tag plays, then the **Loop** tag loops and plays back. When there are no animation tags, the loop playback is from the animation data playback start frame to the playback end frame. For example, after the trademark is displayed with the **Start** tag, loop the title display with the **Loop** tag as follows:

Tag settings: Start tag \rightarrow Loop tag \rightarrow Loop tag \rightarrow ••• Screen display: Trademark display \rightarrow Title display \rightarrow Title display \rightarrow •••

Figure 3-5 Animation Controlled by the Animation Tag



The properties that can be configured for animation in banners are the same as those for creating the layout resource for icons; for details, see section 2.5 Animation.

Still image banners do not pose a problem because animation settings are not required.

3.7 PAL50 Support for Banner Animations

In PAL50 mode, the Wii console plays back the animation at 1.2 times the speed, but due to the frame rate relationship, almost the same content is displayed as in the NTSC mode. It is possible, however, that animations whose display may disappear at a rate lower than 1.2 frames will not be shown during playback.

3.8 Using Text Boxes

When you use text boxes in the banner layout, only use the bitmap fonts (data\fonts\wbf1.brfna and data\fonts\wbf2.brfna) included in the icon and banner package; any other font is prohibited.

3.9 Creating Banner Layout Resources

In spite of the differences, such as the display size and the need to consider the frame displayed by the Wii console, the procedure for creating banner layout resources is basically the same as for icon layout resources (see section 2.8 Creating Icon Layout Resources).

In banners, animations can be controlled with animation tags. To control animations, create animation tags and specify the -q option. For more information, see section 3.6 Animation.

Note: The layout resource binaries that are output directly, using Binary Output in the Layout Editor, cannot be used for banners.

4 Sound Data

You must set a sound effect (banner sound) to banners; this sound effect will be played when the banner is displayed full-screen.

Because the banner sound is packed with icons and banner resources as banner data, consider its data size while creating each layout resource.

Note: Use of a silent banner for which no banner sound has been set is prohibited.

4.1 Sound Format

The sound format is as follows:

Bits: 16-bit

Rate: Not fixed

Channels: Stereo or Mono

File format: aiff (non-compressed), wav (non-compressed),

or bns (ADPCM banner-specific sound data)

Playback method: One-shot or Loop

Volume: The file volume is reflected as is

The bns files (ADPCM banner-specific sound data) can be generated from uncompressed aiff or wav files with the help of the dedicated banner sound converter, BNAdpcm.exe.

Note: Depending on the data, when uncompressed waveform data (such as aiff or wav) is converted to banner sound format, it may generate noise. If the noise is detected when the uncompressed waveform data is used, convert the data to the ADPCM-compressed waveform data (bns).

4.2 Sound Behavior

Sound starts to play when the banner zoom-in completes, and fades out when **Wii Menu** is selected. When **Start** is selected, the sound will be turned off after two seconds. In certain North American Wii consoles, however, the sound stops in the middle and *does not fade out*. Depending on the sound being played, the sudden stop may cause a loud noise. Where possible, make sure that no problems arise, regardless of where the stop is applied.

In Wii consoles for other regions (and in North American Wii consoles where the preceding does not apply), the banner sound will fade out along with the screen fadeout; thus, you do not have to consider potential popping.

4.3 Sound Data Size Limitation

There is no specific size limitation for the sound data itself. As long as the total size of all banner data is within memory limitations (512 KB), the sound data can be of any size.

4.4 Sound and Animation Synchronization

When sound and animation are played together in a loop, they will get out of sync unless playback time of the sound is *exactly the same* as that of the animation. As long as the number of waveform data samples must be an integer, sound and animation playback times cannot be matched precisely. Therefore, loss of synchronization will inevitably occur at some point, even though there will be some degree of difference in sampling accuracy. Thus, a looping banner sound should not be used if loss of synchronization is not permissible.

4.4.1 Countermeasures for Loss of Synchronization

Even when synchronization loss is permissible, its effects can be minimized by setting the sound playback time and the loop start point. Keep in mind that, as dictated by the NTSC standard's frequency of 59.94Hz, animation is played back at 60 frames per 1.001001 second. This is expressed in the following equation:

(sound sample) = (animation frames) / 60 x (waveform sampling rate [Hz]) x 1.001001001

When the total number of animation frames and the frame at which the sound loop will start are known, use the equation to determine the total number of sound samples and the sample number where the loop will start.

Whether the result should be rounded up or its fractional part truncated depends on what makes the loss of synchronization less noticeable.

5 Banner Data Creation Tool

The banner data creation tool, WiiMakeBanner.exe, collects and packs the data described in earlier chapters (Icon Layout Resources, Banner Layout Resources, and Sound Data) into one data set for application identification.

5.1 Packed Data

The following data is packed by WiiMakeBanner.exe:

Banner data header Includes the title name and other items

Icon layout resource
 Compressed after archiving

Sound data Compressed

The banner package generated by the banner data creation tool is restricted in size to 512 KB.

For disc applications, storing a banner package with the file named opening.bnr directly under the dvddata [directory] will apply the banner package to the Wii Menu as an icon and banner for the Disc Channel. On the other hand, for channel applications, the file name can be set to anything because the package to be used is directly specified when the application's image file (.wad file) is generated.

Note: In the initial tool releases, the file name for channel applications was fixed to title.met. This specification has been deprecated and currently any arbitrary file name can be used.

5.2 Banner Data Header

Code 5-1 describes the banner data header using

build/demos/iconbanner/simple/banner.cfg.txt as an example.

Code 5-1 Banner Header

```
IconFile:icon.arc
BannerFile:banner.arc
SoundFile:sound/Banner_sample.32.bns
JP:サンプル1
   サンプル2
EN:sample1
   sample2
GE:Probe1
   Probe2
FR: échantillon1
   échantillon2
SP:muestral
  muestra2
IT:esemplare1
   esemplare2
DU:steekproef1
   steekproef2
KR: 샘플1
   샘플2
SC: 样品1
   样品2
```

5.2.1 IconFile, BannerFile

Specify an icon layout resource archive file for IconFile, and a banner layout resource archive file for BannerFile.

Generate archive files using the archive tool, darchD.exe, included in the Revolution SDK.

5.2.2 SoundFile

Note: The layout resource binaries that are output directly, using **Binary Output** in the Layout Editor, cannot be used for banners.

Because sound data is required, be sure that for SoundFile it matches the specifications described in Chapter 4 Sound Data.

5.2.3 Titles (JP, EN, GE, FR, SP, IT, DU, KR, SC)

Titles are assigned individually for all languages supported by a specific Wii console. The maximum number of characters for a single line is 20. A line that starts with a space or a blank without language specification (such as JP: or EN:) will be treated as a continuation of the previous (second) line; this means that a maximum of two lines and 40 characters can be displayed.

Although the title does not have to be exactly the same as the application name, use of a title that evokes the application name for the first line, a subtitle for the second line, and so on, is recommended. Use of a string unrelated to the application name is prohibited.

The title specified here will pop-up when the cursor is moved over the unselected icon in the Wii Menu. However, only the first line will be displayed; if the text does not fit the display area, the end of the line will be truncated by a maximum of four characters.

The complete title, including the second line, can be viewed in the Wii Message Board under Today's Accomplishments. If the title name has been configured with two lines for any language, it will be displayed (under Today's Accomplishments) with two lines for all other languages as well.

Note: The Classic Controller and Nunchuk connection check options (NeedClassic / NeedFreeStyle), selectable in the previous version of the banner data creation tool, are no longer available. Do not attempt to use these options.

5.3 Using Sample Data

Files under build/demos/iconbanner, included in the banner data creation tool package, contain sample-specific data. The files (icon layout resource, banner layout resources, and sound data) must not be used with actual games.

6 Using Logos, Trademarks, and Copyright Notices

Your banner may display corporate logos, such as trademarks and copyright notices. If the banner includes these elements, the trademark display during the software launch sequence and the copyright notice on the title screen are redundant and can be left out to reduce user wait time. (In general, the policy for titles developed by Nintendo is to reduce the wait time by displaying copyright notices on the title screen and trademarks in the banner.)

Regardless of how quickly the banner **Start** button is clicked, the banner screen is displayed with a guaranteed wait of at least one second. This it the time interval from the moment the display screen zoom effect completes after an icon is selected (or the moment the transition effect from the adjacent banner completes), to the moment before the fadeout begins to transition to the game title. This way, the display of trademarks and copyright notices will not be skipped if you use only the banner for trademark and copyright information.

Displaying corporate logos, trademarks, and copyright notations in the banner is optional. In addition, trademarks and copyrights can be displayed on both the banner and the title screen (during the software launch sequence); however, this must be done carefully to maintain consistency in the banner and title screen content.

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