

Shiny New Toys

What You Need to Know About Nintendo DSi Tools

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Purpose of This Talk

- ◆ Inform you about the new TWL hardware and software tools
- ◆ Help you make the most out of your existing NITRO hardware

Overview

- ◆ TWL hardware tools
- ◆ Using NITRO tools
- ◆ TWL software tools
- ◆ Who needs what?

New Hardware Tools

- ◆ IS-TWL-Capture
 - ◆ IS-TWL-Debugger
 - ◆ TWL Testing Hardware
 - ◆ TWL Development Flash Cards
 - ◆ Gang Writer With TWL Support
 - ◆ IS-TWL-MIDI
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- ◆ For hardware prices please see WarioWorld.com

IS-TWL-Capture

- ◆ Used to capture images and video
 - Images output to PC or TV
 - Captures audio
 - Wireless is standard
 - Supports both NITRO and TWL applications

IS-TWL-Capture

◆ Options

- Development card version
- Retail card version
- Wired option

IS-TWL-Debugger

- ◆ Basic Development Support
 - Supports NITRO and TWL application development
 - Can write NITRO and TWL development cards
 - Can execute in NITRO mode
 - 32 MB of main memory
 - USB 2.0 triples download speeds
 - Wireless is standard

IS-TWL-Debugger

◆ Options

- Debugger only
- Debugger and IS-TWL-Capture
- Wired option

TWL Development Flash Cards

- ◆ Used for testing TWL applications
 - Uses the same backup memory (NITRO)
 - Support both NITRO and TWL applications

TWL Development Flash Cards

- ◆ Necessary for testing and QA
 - Lets you distribute your game for testing on TWL Testing Hardware
 - TWL applications will not write to NITRO development cards
 - Work in TWL debugging and testing units only when used with limited TWL software

TWL Testing Hardware

- ◆ PANDA!
- ◆ Special units for testing TWL applications
 - Runs NITRO and TWL development cards
 - Installed applications
 - ◆ Nmenu
 - ◆ NAND filer
 - ◆ Nintendo DSi Camera
 - ◆ Nintendo DSi Sound
 - ◆ No DSi shop
 - Wireless is standard

TWL Testing Hardware

- ◆ Necessary for testing and QA
 - Retail Nintendo DSi units will not run TWL development cards

Gang Writer With TWL Support

- ◆ Writes development flash cards
 - Writes 8 cards at a time
 - Improved writing speed
 - Writes both NITRO and TWL flash cards

Gang Writer With TWL Support

- ◆ Actually just an upgraded NITRO gang writer
 - Send yours in for an upgrade
 - Buy a new one

IS-TWL-MIDI

- ◆ Tool for creating and testing sounds
 - Connects to a MIDI device
 - Confirms sounds on a TWL system

IS-TWL-MIDI

- ◆ Different from IS-NITRO-UIC (MIDI)
 - Does not connect to PC
 - No plans to develop a UIC alternative

Using NITRO tools

- ◆ Your existing hardware is still useful
- ◆ Save some money!



Developing a NITRO game

- ◆ All tools still work and are fully supported
- ◆ Your game will work on both DS and Nintendo DSi
 - Panda unit is recommended
- ◆ TWL tools can be used to develop NITRO games

Developing a TWL hybrid game

- ◆ You can still use:
 - IS-NITRO-Emulator
 - NITRO Development Flash Cards
 - IS-NITRO-Writer
 - IS-NITRO-Capture
 - Retail DS units for testing

Developing a TWL hybrid game

- ◆ You need:
 - IS-TWL-Debugger
 - TWL development cards
 - TWL Testing Hardware
- ◆ You may also want:
 - Updated gang writer
 - IS-TWL-Capture

Developing a TWL limited game

- ◆ You can still use (to a point):
 - IS-NITRO-Emulator
 - NITRO Development Flash Cards
 - IS-NITRO-Writer
 - IS-NITRO-Capture
 - Retail DS units for testing

Developing a TWL limited game

- ◆ You need:
 - IS-TWL-Debugger
 - TWL development cards
 - TWL Testing Hardware
- ◆ You may also want:
 - Updated gang writer
 - IS-TWL-Capture

NITRO and TWL Hardware Compatibility: Writing

	TWL Development Card with TWL software	TWL Development Card with NITRO software	NITRO Development Card with NITRO software
IS-TWL-Debugger	OK	OK	OK
IS-NITRO-Emulator	X	Support is planned	OK
IS-NITRO-Writer (TWL Support)	OK	OK	OK
IS-NITRO-Writer (No TWL Support)	X	X	OK

TWL Hardware Compatibility: Running Development Cards

	TWL Development Card with TWL software	TWL Development Card with NITRO software	NITRO Development Card with NITRO software
IS-TWL-Debugger	OK	OK	OK
IS-TWL-Capture (Development Card Support)	OK	OK	OK
IS-TWL-Capture (Commercial Card Support)	X	X	X
TWL Testing Hardware	OK	OK	OK
TWL Retail Hardware	X	X	X

TWL Hardware Compatibility: Running Commercial Software

	TWL Retail Software	NITRO Retail Software
IS-TWL-Debugger	X	X
IS-TWL-Capture (Development Card Support)	X	OK
IS-TWL-Capture (Commercial Card Support)	OK	OK
TWL Testing Hardware	X	OK
TWL Retail Hardware	OK	OK

NITRO Hardware Compatibility: Running Development Cards

	TWL Development Card with TWL software	TWL Development Card with NITRO software	NITRO Development Card with NITRO software
IS-NITRO-Emulator	X	X	X
IS-NITRO-Capture	Hybrid Only	OK	OK
NITRO Commercial Hardware	Hybrid Only	OK	OK

NITRO Hardware Compatibility: Running Commercial Software

	TWL Retail Software	NITRO Retail Software
IS-NITRO-Emulator	X	X
IS-NITRO-Capture	Hybrid Only	OK
NITRO Retail Hardware	Hybrid Only	OK

New Software Tools

- ◆ TWL_SDK
- ◆ TWL System
- ◆ CodeWarrior for DSi
- ◆ IS-TWL HIO features
- ◆ TWL Manual Tools
- ◆ TWL Master Editor



TWL_SDK

- ◆ Basic software components and tools
- ◆ Can be used to create both NITRO and TWL applications
- ◆ New libraries for TWL development
 - Nintendo DSi Camera
 - DSP
 - Support for NAND application development



TWL_SDK

- ◆ This is an update to NITRO_SDK
- ◆ TWL_SDK will replace NITRO_SDK in the future

TWL System

- ◆ Middleware
- ◆ Added support for TWL hardware and SDK
- ◆ Support for hybrid and limited applications
- ◆ Viewer and 3D tools integrated into package

TWL System

- ◆ This is an update to NITRO System
- ◆ TWL System will replace NITRO System in the future

CodeWarrior for DSi

- ◆ Compiler and IDE
- ◆ Supports both NITRO and TWL development
- ◆ Updated compiler
- ◆ Additional features



IS-TWL HIO Features

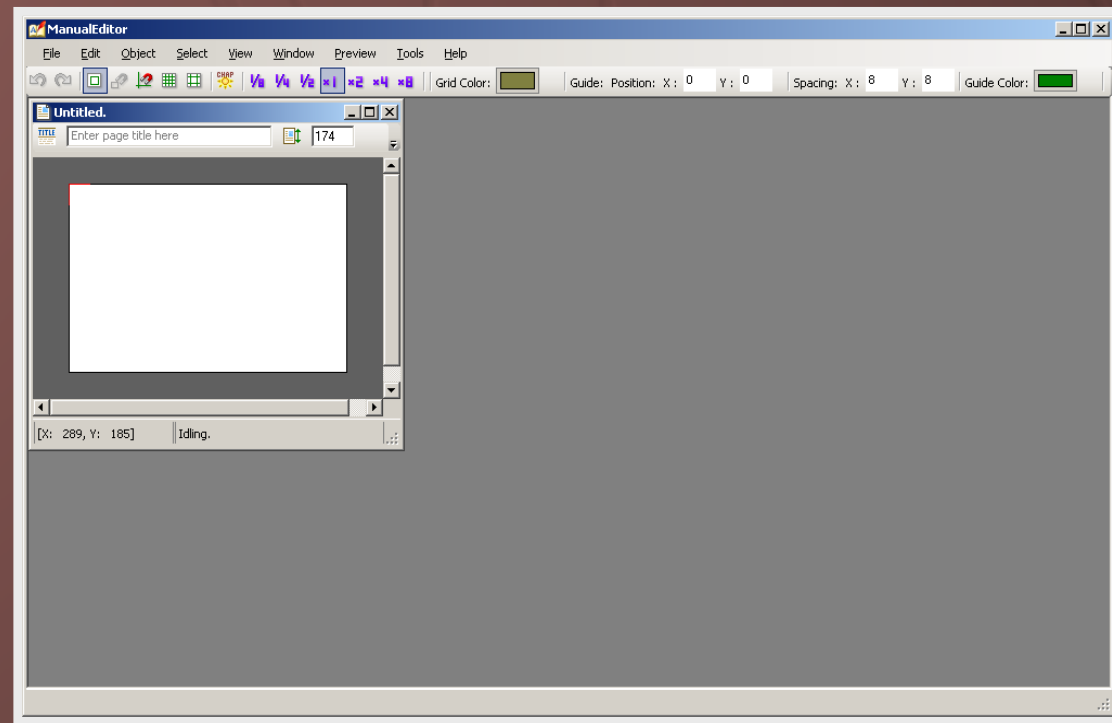
- ◆ Communications between IS-TWL-Debugger and PC
- ◆ Two methods of communication:
 - FIO (File IO)
 - SIO (Stream IO)

IS-TWL HIO Features

- ◆ SDK provides an example
- ◆ Headers are located in the devkit drivers package

TWL Manual Tools

- ◆ Tools for creating DSiWare manuals
- ◆ Built in localization support
- ◆ Can be previewed in several places
 - PC viewer
 - IS-NITRO-Emulator
 - IS-TWL-Debugger



TWL Master Editor

- ◆ Creates master submission sheet
- ◆ Required for TWL titles
- ◆ Different from NITRO Rom submission process

Which Team Members Need What Equipment?

- ◆ Coders
- ◆ Artists
- ◆ Sound Creation
- ◆ Testers and QA
- ◆ Producers

Coders

- ◆ You will need:
 - IS-TWL-Debugger
 - TWL development flash card
 - TWL_SDK
 - CodeWarrior for DSi
- ◆ You may also want:
 - TWL System
 - IS-TWL HIO features
 - TWL Master Editor

Artists

- ◆ You will need:
 - IS-TWL-Debugger
 - TWL development flash card
- ◆ You may also want:
 - IS-TWL-Capture upgrade
 - TWL System
 - TWL Manual Tools

Sound Creation

- ◆ You will need:
 - IS-TWL-Debugger
 - TWL_SDK
- ◆ You may also want:
 - IS-TWL-MIDI
 - TWL System

Producers

- ◆ You may want:
 - TWL Testing Hardware
 - Gang writer with TWL support
 - TWL development flash card
 - IS-TWL-Capture
 - TWL Master Editor

Testers and QA

- ◆ You will need:
 - TWL Testing Hardware
 - TWL development flash card
- ◆ You may also want:
 - Gang writer with TWL support
 - IS-TWL-Capture

Questions?

- ◆ www.WarioWorld.com
- ◆ support@noa.com
- ◆ developmentparts@noa.nintendo.com