

Music and Digital Audio Solutions

Computers and Music! Why?

After All, Mozart Didn't Have a Computer!

- Expand your music knowledge
- Extend your capabilities with MIDI
- Experience conducting, directing, and more
- Experiment with new sounds
- Exchange files with other musicians
- Excite audiences with live performances



A Creative Legacy...



Chick
Corea
Jazz Legend
Macintosh

Macintosh

The Professional's Choice

- Aerosmith • Danny Elfman • George Michael • Nick Rhodes
- Al Di Meola • Dave Stewart • Gloria Estefan • Nine Inch Nails
- Amy Grant • David Bowie • Graham Nash • Paul McCartney
- B.B. King • David Crosby • Hans Zimmer • Quincy Jones
- Beastie Boys • David Mash • Herbie Hancock • Rolling Stones
- Billy Cobham • Donald Fagen • Jan Hammer • Rush
- Branford Marsalis • Dust Brothers • Keith Emerson • Sarah McLachlan
- Carlos Santana • Dwight Yoakam • Kenny G • Seal
- Celine Dion • Eric Clapton • Madonna • Sheryl Crow
- Chick Corea • Faith No More • Mariah Carey • Spice Girls
- Clint Black • Garbage • Michael Jackson • Sting
- Coolio • Gary Burton • Michael Kamen • Thomas Dolby
- Counting Crows • George Martin • Michael McDonald • U2

The Integrated Solution

Macintosh: From Inspiration to Publication

- Composition and notation
- Collaboration
- Recording
- Mastering and production
- PowerPC G3 performance

Apple in Music

The Only Integrated Solution

- Mac OS 8.6 – Built to rock
- QuickTime 4 Pro – MIDI and digital audio
- PowerPC G3 – Options from student to pro
- Software – World-class applications
- Mastering and delivery – CD and DVD
- Beyond music – Theater lighting, video...

Mac OS
8.6

Mac OS 8.6

OS-level Support for Music and Digital Audio



- Stability
- Speed
- Intuitive
- Plug and play
- QuickTime

QuickTime 4 Pro

Apple Music Technologies



QuickTime 4 Pro

- Integrated MIDI and audio support
- Roland Sound Canvas and GS format extensions
- Native MP3 file support
- QDesign 2.0 Music Codec
- Cross-platform authoring and playback

What Is MIDI?

- Musical Instrument Digital Interface
- Serial Protocol (31,250 bps)
- Controls:
 - Note on, note off
 - Key pressure (Aftertouch)
 - Control change
 - Program change
 - Pitch bend
 - System exclusive



QuickTime 4 Pro

Import and Play Standard MIDI Files



New Age

[J-Cycle.mid](#) (64K)

Jazz

[2nd Time.mid](#)
(20K)

Classical

[Brandenburg.mid](#)
(120K)

QuickTime 4 Pro

Native MP3 File Support

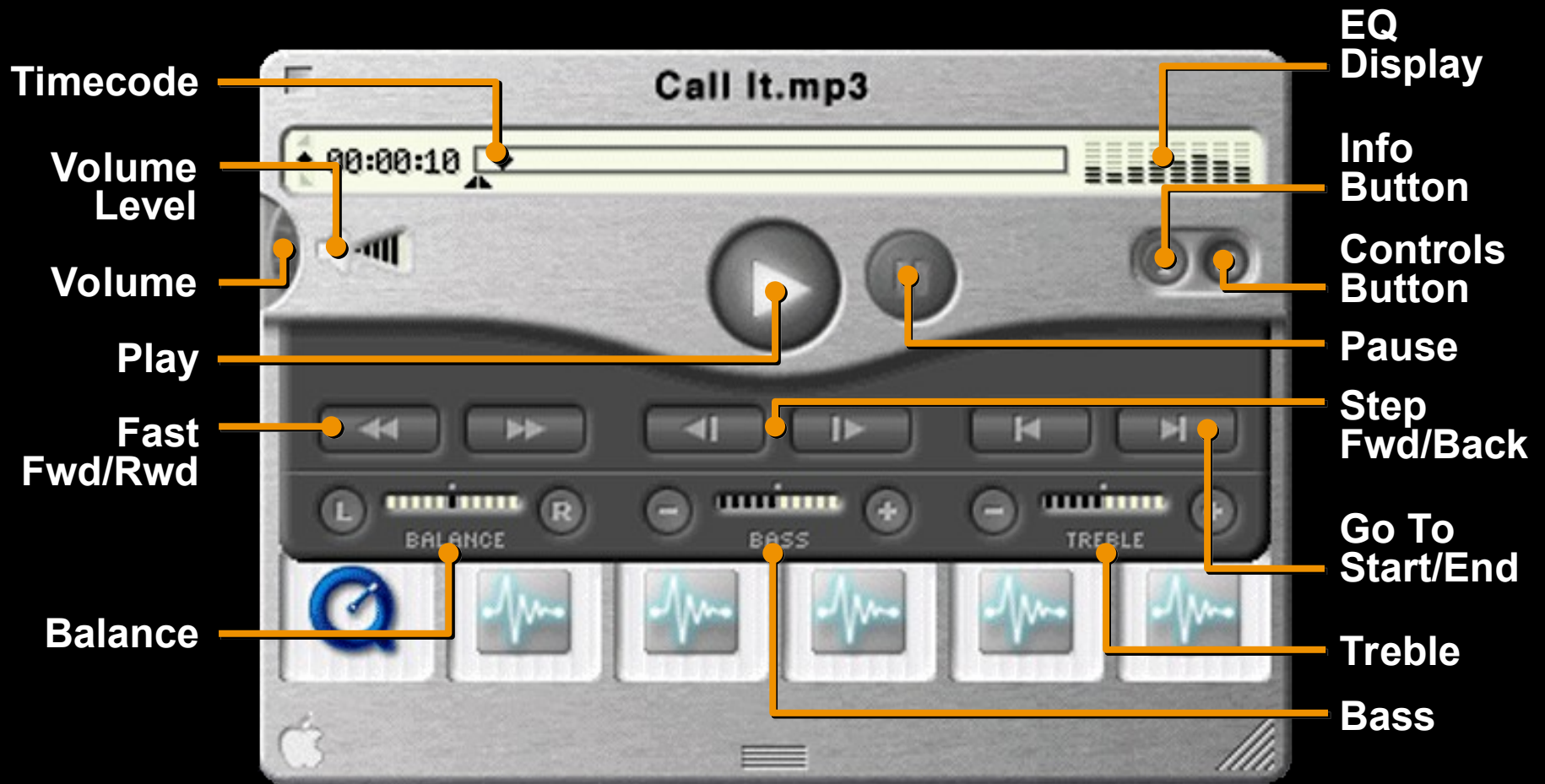
- New QuickTime Player
- Many encode choices
 - AudioCatalyst 2.0
 - Media Cleaner Pro 4.0
 - SoundJam
 - Peak 2.0



QuickTime

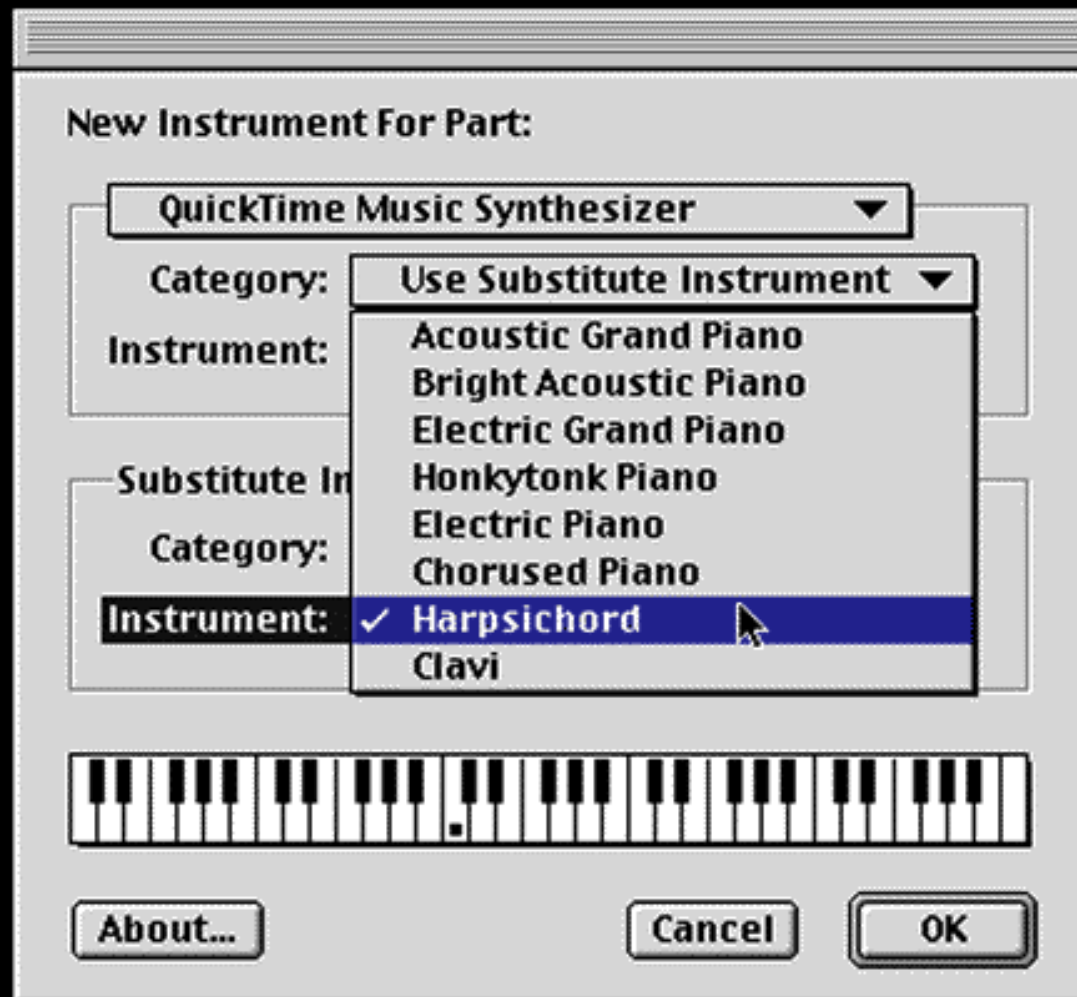
QuickTime 4 Pro

New QuickTime Player



QuickTime 4 Pro

Roland Sound Canvas and GS Extensions



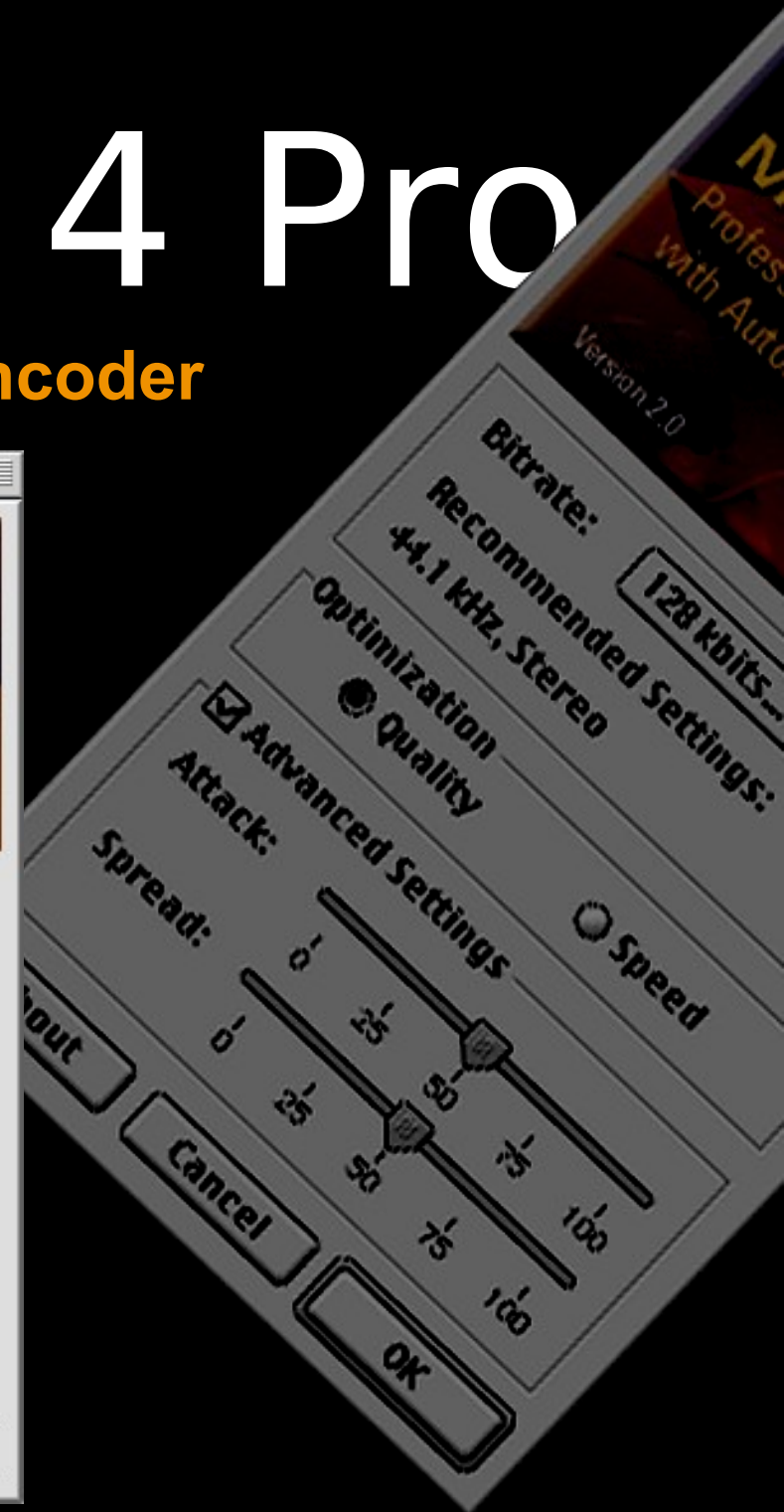
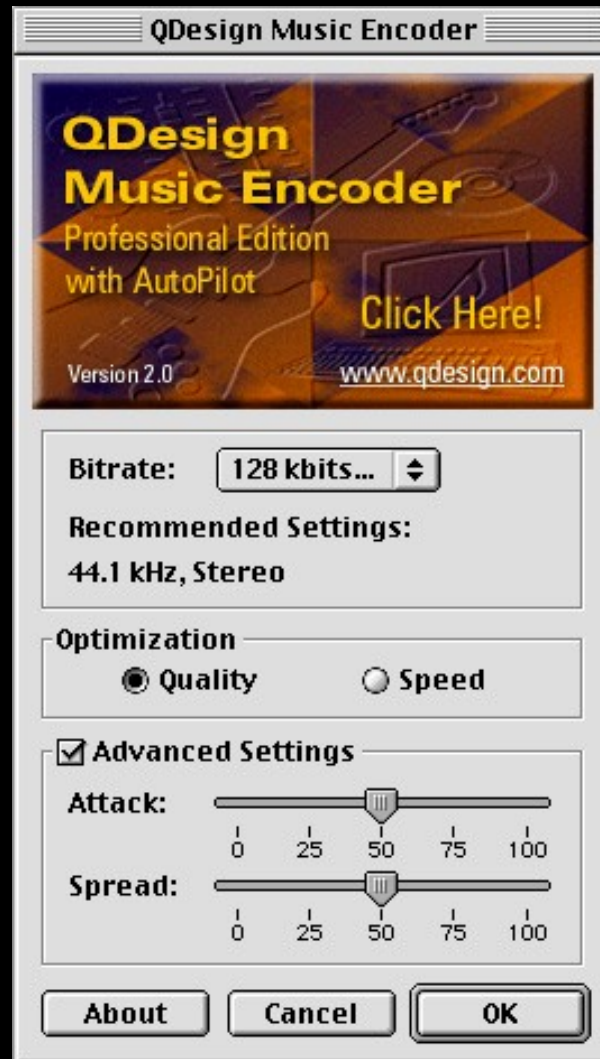
QuickTime 4 Pro

Support for Other Software Instruments



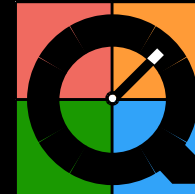
QuickTime 4 Pro

Digital Audio – QDesign 2 Music Encoder



QuickTime 4 Pro

Digital Audio – QDesign Music Samples



Sample Rate (kHz)	44.1	22.05	22.05
Length (sec)	120	120	120
Channel	2	1	1
Data	16-bit	16-bit	16-bit
Compression	none	IMA	QDesign Music
Data Size	20.1MB	1.3MB	466.6K
Date Rate	172.2 Kbps	11.4 Kbps	3.9 Kbps

Wessin' It by Sal Soghoian—used by permission

QuickTime 4 Pro

Compatible File Formats

MP3	IMA	Sound Designer
GSM	aLaw, AU	Wave
G.728	General MIDI	ADPCM
G.723	Karaoke	AIFF

Getting Started

Hardware Setup



Wind
Controller
USB MIDI
Interface



Keyboard
Controller

PowerPC

G3

Performan

ce

iMac

The Music Creation Workstation

- PowerPC G3 processors
- Internet ready
- Built-in USB and 16-bit audio
- Accelerated MIDI with USB
- 10/100BASE-T Ethernet



PowerBook G3

The Senior Road Warrior Series

- PowerPC G3 processors
- Built-in USB and 16-bit audio input/output
- Latest I/O technology; FireWire CardBus option
- DVD-ROM option



Power Macintosh

Professional Production Powerhouse

G3

- PowerPC G3 processors
- Built-in FireWire, USB, and 16-bit audio
- Accelerated MIDI with USB
- DVD-ROM option



World-Class
Software
Titles

Extensive Titles

World-Class Software, Many Titles Mac Only

- Musical instruction
- Software-based instruments
- Composition and scoring
- Digital recording and editing
- Sound design
- Live performance



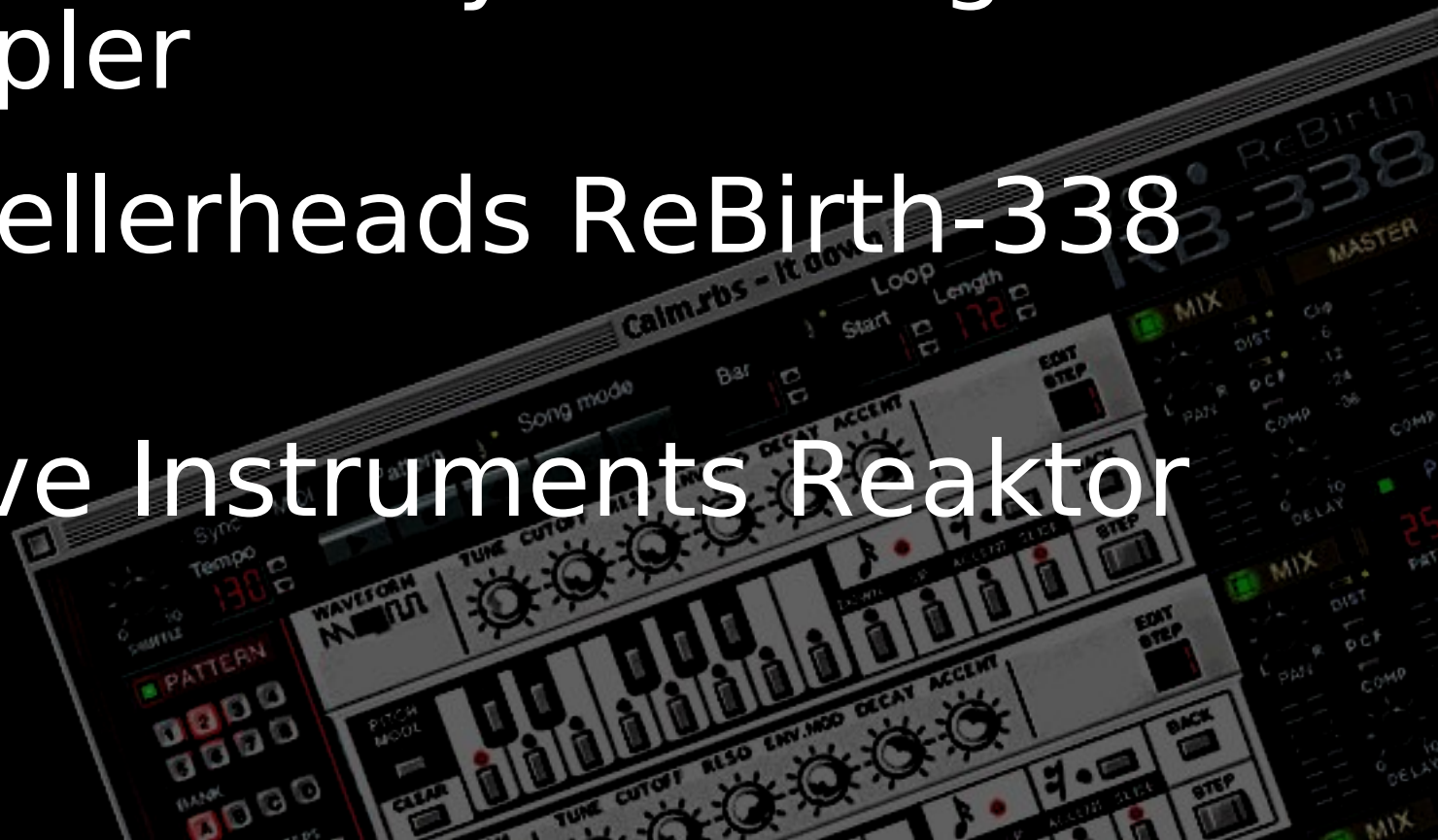
Musical Instruction

- Learn to play your favorite instrument through CD-based interactive instruction
- Accompaniment
 - Play while a virtual band accompanies you



Software-based Instruments

- Bitheadz Unity DS-1 Digital Sampler
- Propellerheads ReBirth-338 2.0
- Native Instruments Reaktor



Software-based Instruments

Unity DS-1 Digital Sampler



Software-based Instruments

ReBirth-338 2.0



Software-based Instruments

Reaktor

The screenshot displays the Reaktor software interface, which is used for creating software-based instruments. The interface is divided into several panels and a central signal flow diagram.

Top Menu and Status: The top bar includes a menu (File, Edit, Insert, Settings, System, Window, Help), a power button, and status indicators for input/output (15.1 IN, 33075 OUT), MIDI, and a tempo of 120.

Instrument Panels:

- Hihat - Panel:** Features six knobs for parameters: D (24.5), B (0.52), R (36.5), F-Env (2700), Cutoff (109.5), and Reson (0.33).
- Agogo - Panel:** Features five knobs for parameters: D (20.5), B (0.73), R (32), Pitch A (25), and Pitch B (20).
- Synare - Panel:** Features three knobs for parameters: Duymm (34), Freq (130), and N-Dec (27.5).
- Para Boost - Panel:** Features three knobs for parameters: Mid Frq (33), Q (0.22), and Boost (1.9).

Ensemble - Panel: This panel provides a high-level overview of the instrument's components. It includes a list of sub-instruments (SimpleDrum, Para Boost, Synare, Agogo, Hihat) and a set of sliders for their levels: BDrum (-4), Synare (-0.5), Agogo (-4), Hihat (-6), and Main (-11). A Tune knob is also present, set to 0.

Signal Flow Diagram: The central diagram illustrates the internal routing of the instrument. It shows a Mixer 4 block with four inputs (Lv1, Lv2, Lv3, Lv4) and one output. The inputs are connected to the outputs of the Hihat, Agogo, Synare, and BDrum sub-instruments. The output of the Mixer 4 is connected to the Tun and Main knobs, which then feed into the Audio Out block. The Audio In block is also visible, indicating the instrument's input stage.

Composition and Scoring

- Mark of the Unicorn
FreeStyle
- Coda Finale 98
- Cakewalk Overture 2



Composition and Scoring

FreeStyle

The screenshot displays the FreeStyle software interface. The main window, titled "Brandenburg.mid 2", shows a musical score for "Brandenburg". The score is written in 3/4 time and features a complex, rhythmic melody with many triplets. The score is displayed in a two-staff format (treble and bass clef) and is numbered 1 through 7. The interface includes a menu bar (File, Edit, Region, Record Song, Setup, Windows, Text, Help) and a control palette on the left. The control palette shows the "Record Target" set to "Brandenburg.mid, Track-0, 1", the tempo set to "Constant" at 60.00, and a list of tracks (Track-0 through Track-7) with their respective take numbers and play buttons. The status bar at the bottom indicates "Page 1" and "100%" zoom.

Digital Recording and Editing

- Digital Design and Tools
- Arboretum Harmony
- Wide array of powerful plug-ins



Digital Recording and Editing

Digidesign Pro Tools

The screenshot displays the Pro Tools software interface for a session titled "Edit:Demo Session". The interface is organized into several key areas:

- Menu Bar:** File, Edit, Effect, Options, Setups, Display, Region List, Help.
- Transport and Control:** Includes buttons for Shuffle, Spot, Stop, Grid, and various navigation controls. The time display shows 0:17, and the Nudge/Grid is set to 10 msec.
- Waveform Tracks:** Three tracks are visible: Drums-01 (4 Bar Drums), Bass-01 (4 Bar Bass), and Gtrs-01 (4 Bar Gtrs). Each track shows a waveform with a 4-bar region highlighted.
- Channel Strip:** On the left, there are control panels for each track, including record (rec), solo, mute, voice, and waveform options.
- Region List:** On the right, a list of regions is shown, including 4 Bar Bass, 4 Bar Drums, 4 Bar Gtrs, Bass-01, Drums-01, Gtrs-01, and Ld Gtr.
- Transport Controls:** A separate window at the bottom shows transport settings for "Pro Tools", including play start, record start, record length, record end, and play end.

transport = Pro Tools	1	6	
play start	0 : 00.000	2	7
record start	0 : 00.000	3	8
record length	:	4	9
record end	:	5	10
play end	:	:	:

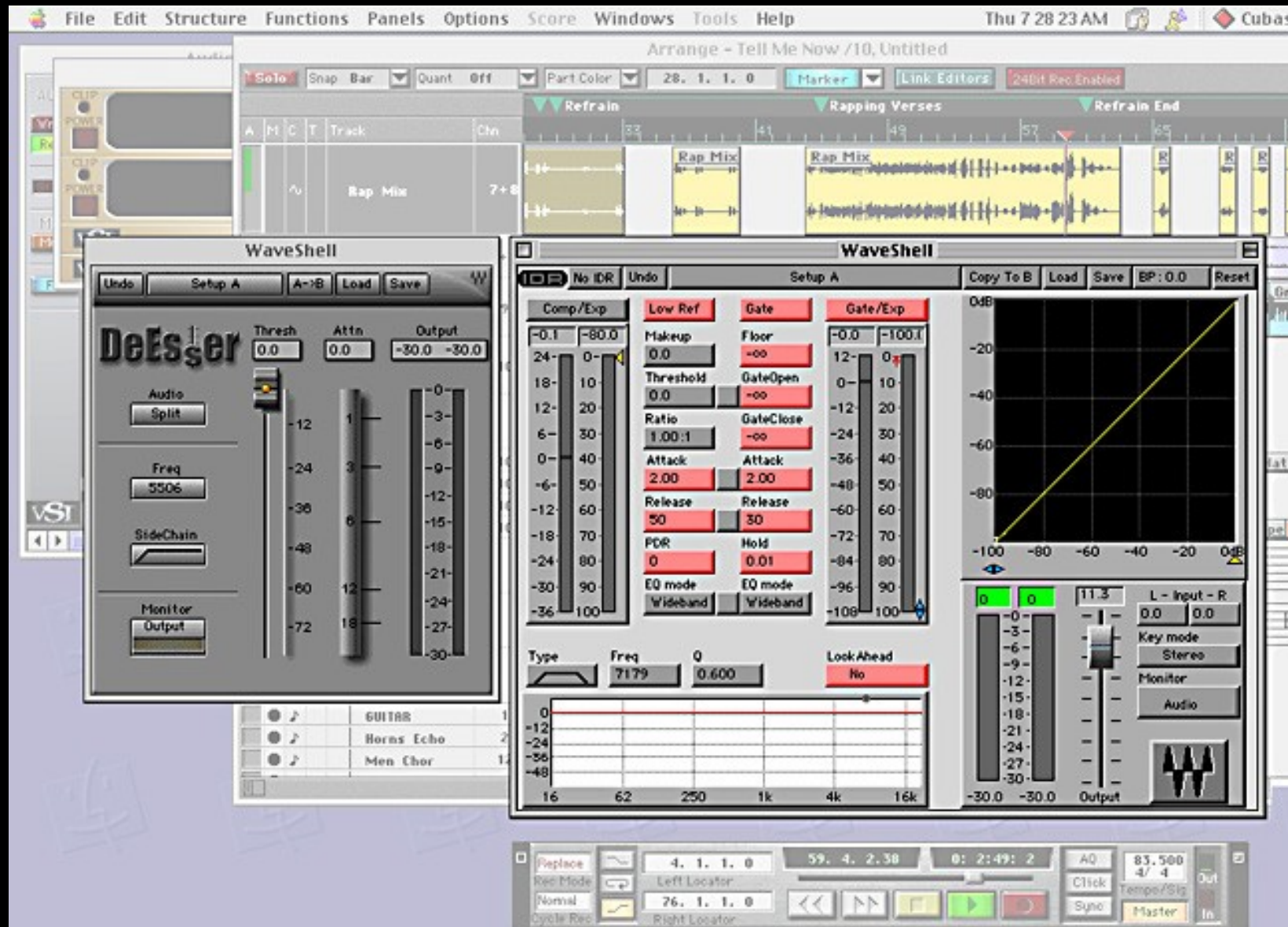
Digital Recording and Editing

Arboretum Harmony



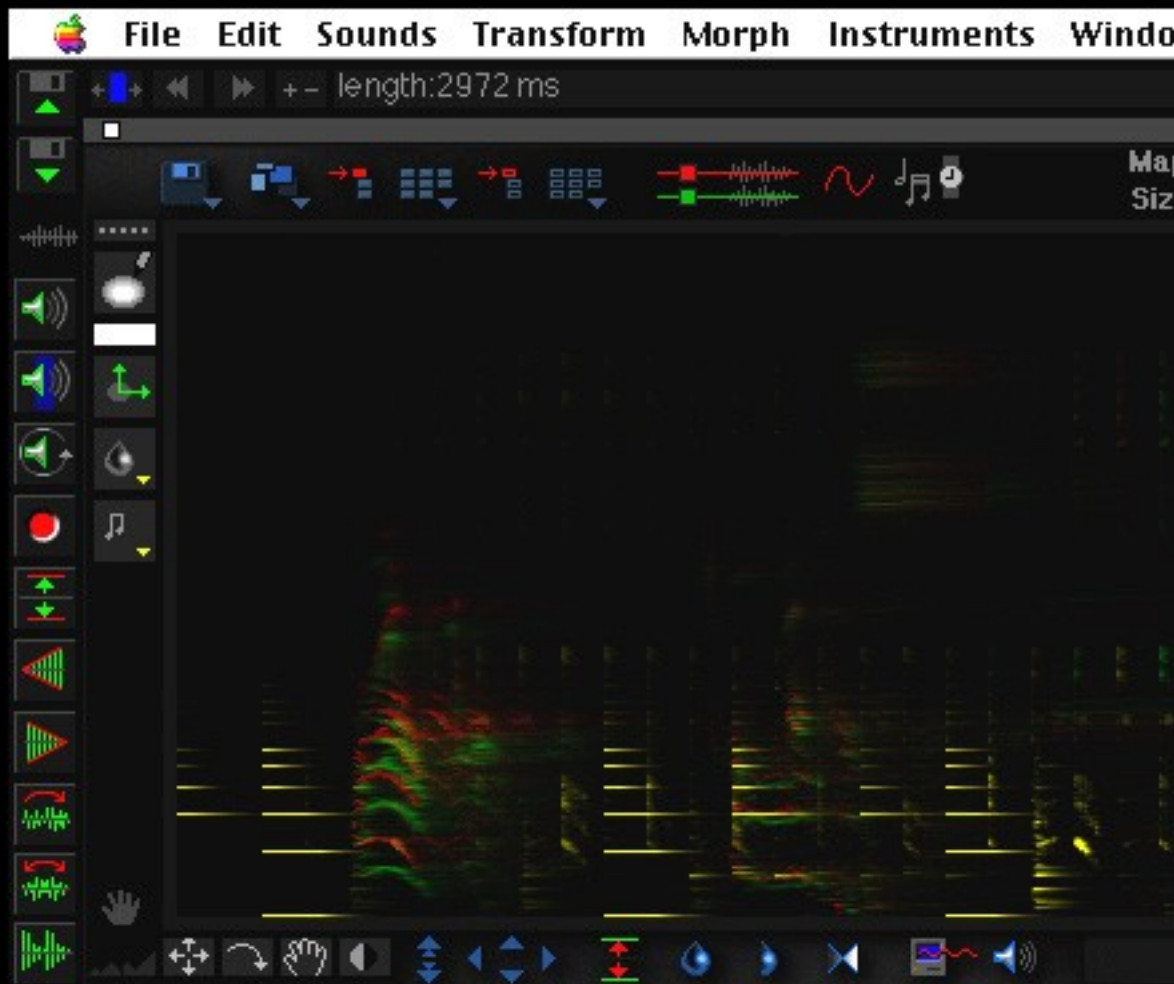
Digital Recording and Editing

Waves Plug-ins



Sound Design

MetaSynth



- Echo
- Pre-Echo
- Reverb
- Repeat
- Reverse
- Pulse
- Saw
- Shorten
- Attacks
- Max

16 grid

Live Performance



- Steinberg Cubase VST/24
- Mark of the Unicorn Performer
- Logic Audio

Live Performance

Cubase VST/24

CUBASE
VST/24
MUSIC RECORDING AND EDITING SYSTEM

40



Mastering and Delivery

Mastering and Delivery

- CD mastering
 - Adaptec Toast and Jam
- DVD
 - Sonic DVD Creator from Sonic Solutions
- QuickTime on the web
 - Audio (MP3, QDesign 2, RTP Streaming)
 - MIDI (QuickTime Instruments)



Beyond Music

Beyond Music

LanBox LC — DMX Lighting Control

The screenshot displays the LanBox LC software interface, which is used for DMX lighting control. The main window is titled "Stage: v1.3 Demo Stage" and features a menu bar with "File", "Edit", "Stage&Cast", "Fixture", "Control", "Window", and "Help".

The central area shows a stage layout with 16 channels (01-16) and various fixture controls. The "Control" panel on the right provides detailed settings for a "Pro400 [out]" fixture, including Shutter (227), Intensity (246), Color 1 (0), Color 2 (245), Gobo (253), C. speed (246), and D. speed (6). Below this, the "Sequencer" panel shows "Cur 3276 Stop" and "Go 1". The "Editor" panel includes "View", "Cur 0", "Load Scene", and "Store". The "Transition" panel is set to "Cross-f..." for "3.0 secs". The "Action" panel has a "Hold" button and a "scene" field.

At the bottom, the "Cast: v1.3 Demo Stage" window displays a table of fixtures:

Label	Type	Lanbox	Channel	Status
9...16	8 pack	LanBox-LCII-1	9 16	
Left Back	Pro400	LanBox-LCII-1	33 39	
Right Back	Pro400	LanBox-LCII-1	40 46	
Scan Left	Trackspot	LanBox-LCII-1	47 53	
Scan Right	Trackspot	LanBox-LCII-1	54 60	

Beyond Music

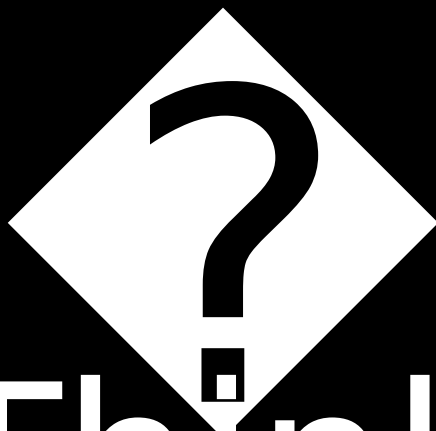
Video Control: X<>Pose Visual Sampler



Apple in Music

The Only Integrated Solution

- Mac OS 8.6 – Built to rock
- QuickTime 4 – MIDI and digital audio
- PowerPC G3 – Options from student to pro
- Software – World-class applications
- Mastering and delivery – CD and DVD
- Beyond music – Theater lighting, video...



Think
different.

Q&A