



**TAKE
CONTROL**
www.gdconf.com

MARCH 5-9
2007
SAN FRANCISCO

MOSCONE
CENTER



Scarface: Sound Design & Mixing Using a Post-Production Audio Model: OVERVIEW

- ④ Scarface Game Overview
- ④ How the Post-Production Model Came about
- ④ In-house Tech Developments
- ④ Choosing a Post-Production team
- ④ Planning for Post
- ④ Post-Production Sound Effects Design
- ④ Post-Production Mixing
- ④ Questions: Mature Language Warning!



Scarface Game Overview

- ⌚ Highly Respected and Revered License (lots of incentive to get it right!)
- ⌚ Big license for Vivendi (lots of support)
- ⌚ Third Person, Open-World Action Shooter
- ⌚ Tony Montana Lives! (alternate ending)
- ⌚ Game should sound like a MOVIE (a continuation of the movie)



How did we arrive at a Post-Production model?

- ⌚ EP wanted us to work with premium film sound company
- ⌚ We needed a graceful way to dovetail our development sound work with a third-party – not just more SFX from a list...
- ⌚ **Solution:** Sound Designer to tweak prioritised sounds in real-time & a Full In-Game Mix at END of production!
- ⌚ Our proprietary tech was developing into real-time in-game mixing.
- ⌚ Definition of post-production = “Working on the audio when game play, art and tuning is locked down”

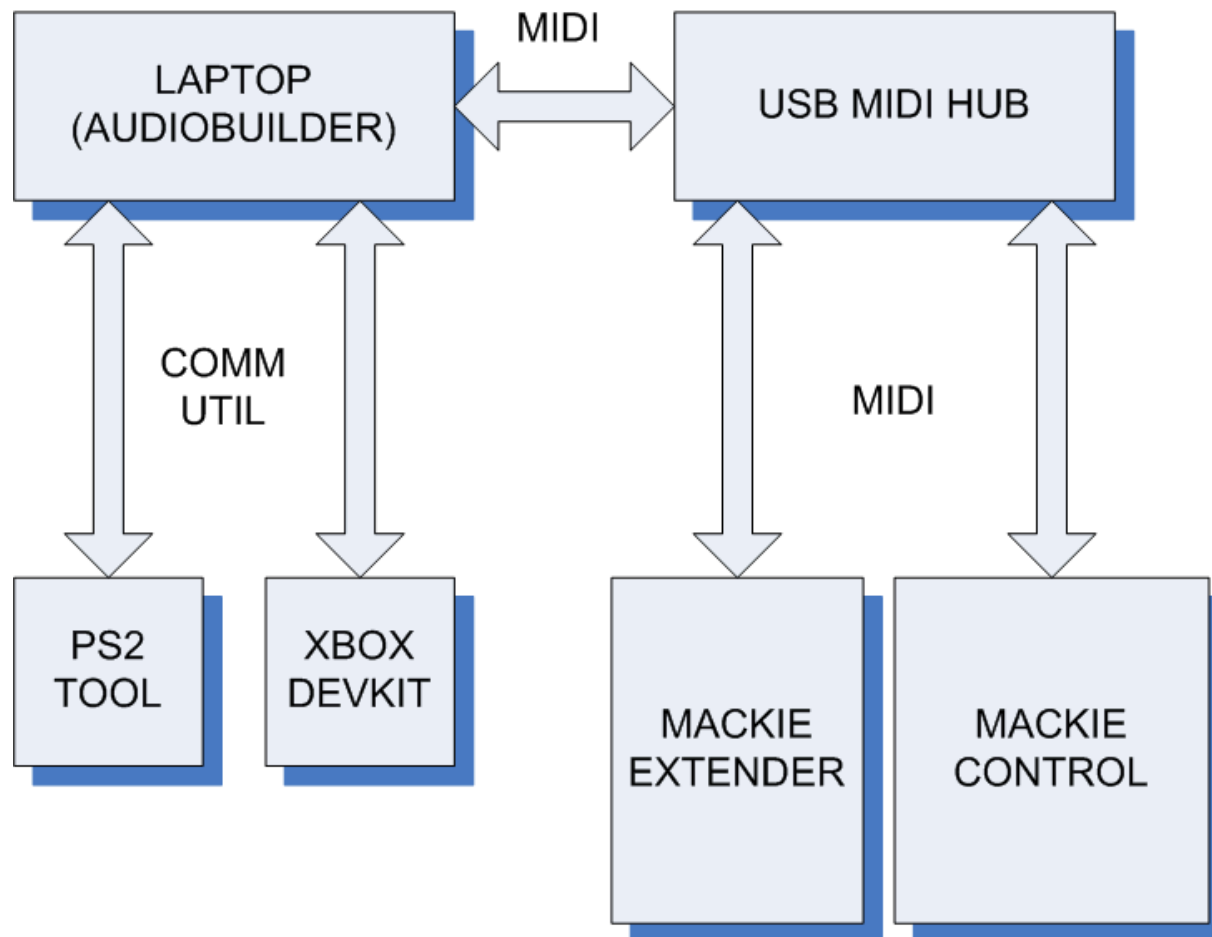


Technical Developments

- ⌚ ATG Audio Group began developing mixing interface
- ⌚ Attach a hardware control surface and you have something a film mixer can use
- ⌚ In-game snapshot Mixers allow interactive mixing to occur at run-time
- ⌚ Right Project (support of Vivendi) / Right Tech / Opportunity to work with film sound studio = We now have the possibility of a full movie-like post-production phase at the end of development!



Technical Developments: Data Flow





Choosing a Post-Production Team

- ③ Visited THREE high-end Hollywood post-production film studios
- ③ Used it as a chance to dry-run our tech by shipping laptops and Mackie Control boards to each facility: REMOTE ACCESS VIA VPN (daily sync)
- ③ Skywalker was the clear choice: Personnel had FILM experience, passion for games, Randy Thom available + a no distraction environment...





Planning for Post-Production

- ⌚ In order for a real “post-production” phase, 4 weeks work was planned between Beta and GMC.
- ⌚ 1 week Sound Effects Replacement
- ⌚ 3 weeks mixing (2 weeks PS2 / 1 week Xbox)
- ⌚ This changed as the project dates dropped back by a couple of weeks
- ⌚ Began 3 weeks before Beta and finished prior to GMC



Post-Production Sound Design – Consultation Week

- ⌚ March 2006 - In order to get the Skywalker team up to speed with the project we had one-week as off-line sound design week
- ⌚ 1 week with Randy Thom (Movie and competitors)
- ⌚ Integrating material for 2 months back at Radical
- ⌚ Had to have all our memory budgets in place
- ⌚ 1 week run-time SFX replacement...



Post-Production Sound Design – Run-Time Week

- ⦿ JUNE 2006 - Set up tool and laptop so we could run the game in Randy's suite
- ⦿ Began prioritising sounds to replace (weapons etc)
- ⦿ To replace a sound Randy would hear what we had in there already (placeholder) and create a new file
- ⦿ This was passed over network to my laptop
- ⦿ This was then integrated into our tools and built as new game data (the slow bit) change wav, build to rsd, build game art, start game, teleport to location/mission, play through to stage
- ⦿ We would then listen to the new sound in context and re-iterate the process.
- ⦿ Sounds Sent back daily to Radical via VPN



Post-Production Sound Design

- ⊕ Randy Thom's first video game
- ⊕ Randy: Began movie sound career on Apocalypse Now (1979). 2 Academy Awards, The Right Stuff (1983), The Incredibles (2004)
- ⊕ A good way to get him into games as he didn't have to get into the technical aspects. I was there as implementer and director.
- ⊕ Interview...



Randy Thom Movie

- ④ Iteration speed of sound effects
- ④ Sampling rates (PS2 / Xbox limitations)
- ④ For Randy as a Sound Designer games are essentially the same sound design process as film...



Post-Production Mixing

- ⊕ I felt that mixing IN-GAME had not been given the attention it deserved. Normally ONLY cinematics receive detailed mix!
- ⊕ Mixing at end of production allows consideration of SOUND, MUSIC & DIALOGUE and how they work together!
- ⊕ Snapshot mixing system allows 'mixes' to be called at any time in the game
- ⊕ Requires playing through entire game from start to finish and mixing as you go



Post-Production Mixing

- ④ Break down the game into several types of mix
- ④ GENERIC GAMEPLAY ACTIONS (TALKING / SHOOTING)
- ④ LOCATIONS (CIGAR SHOP / ALLEY)
- ④ SPECIFIC EVENTS (NIS / MISSION STAGE)
- ④ Combinations of these 3 elements go to make up all game play situations

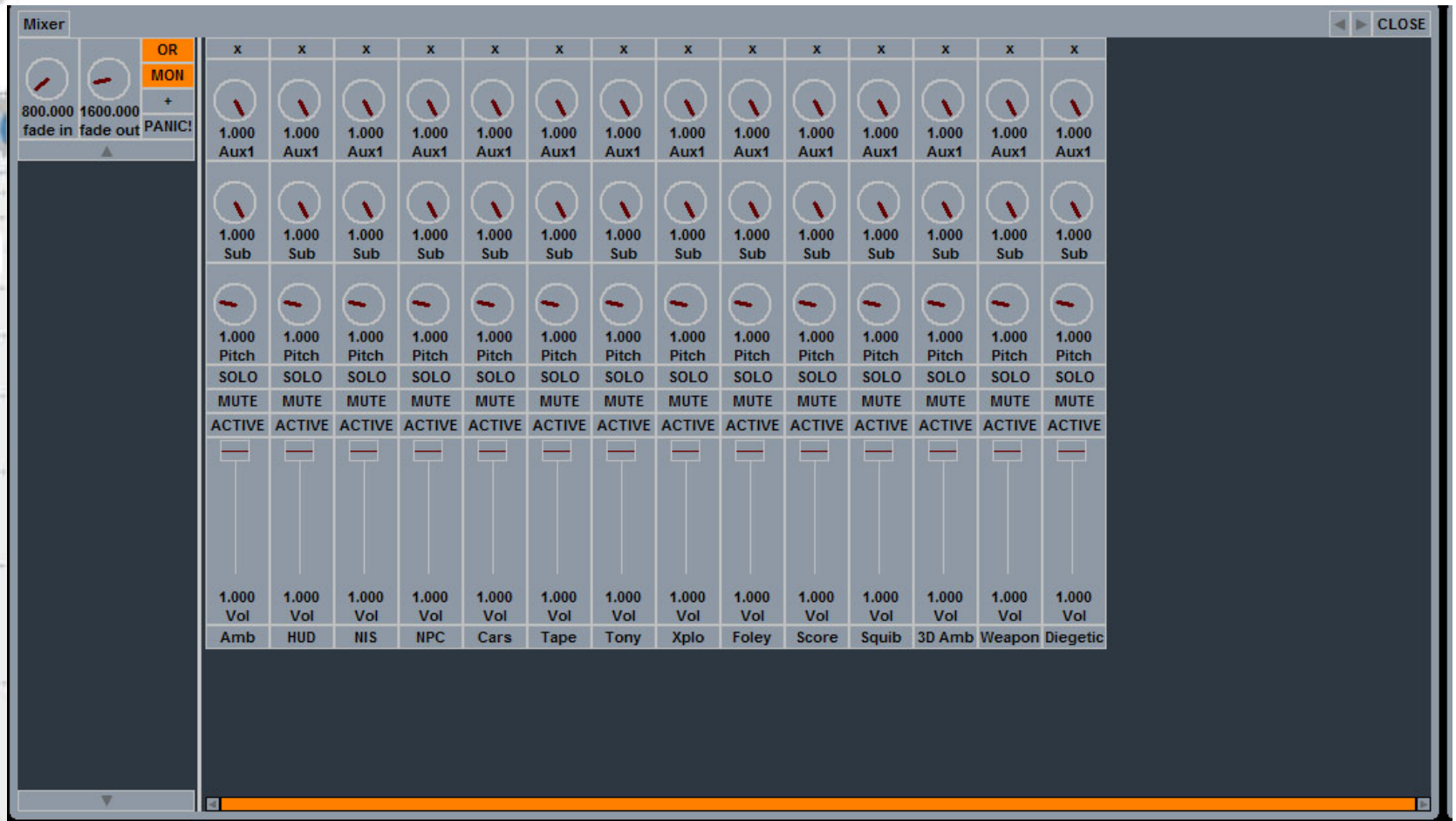


Post-Production Mixing

- ④ What is a 'Mixer Snapshot'?
- ④ Each individual sound in the game is sent to a 'bus' – which represents one fader
- ④ We have (on PS2 and Xbox) Volume, Pitch and LFE information per fader (this can be expanded for PS3 and 360)
- ④ All faders together are considered a 'mix'...

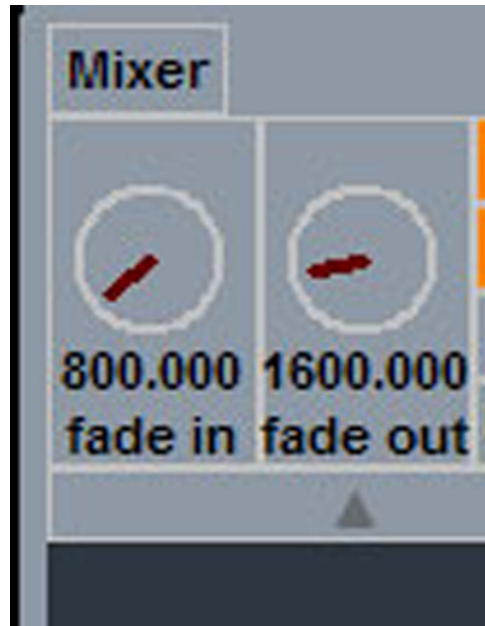


Post-Production Mixing





Post-Production Mixing



Fade in and Fade out timers. These allow the cross-fades between mixers to be tuned

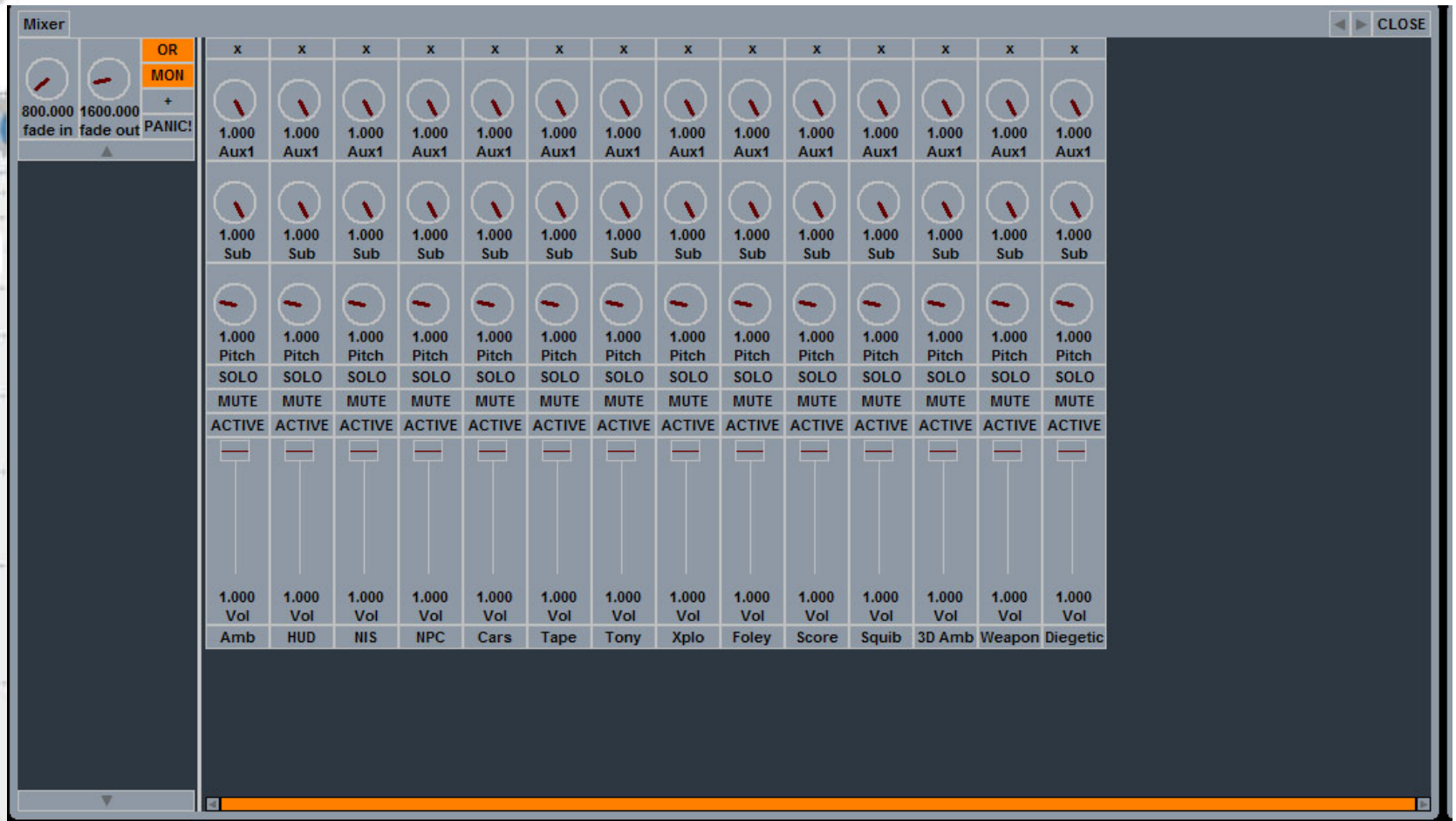


Post-Production Mixing

- ③ We install what we call a 'base mix' at the start of the game, with overall levels set
- ③ There are two different types of mix we can install at any time in the game from here...
- ③ DUCKING MIX (additive = can only duck levels lower than the base, e.g. conversations or interiors)
- ③ BASE MIX (replaces the base mix entirely allowing bus channels to go louder, e.g. entering a vehicle or going into 'rage mode'). Thus the default 'base mix' must leave some headroom

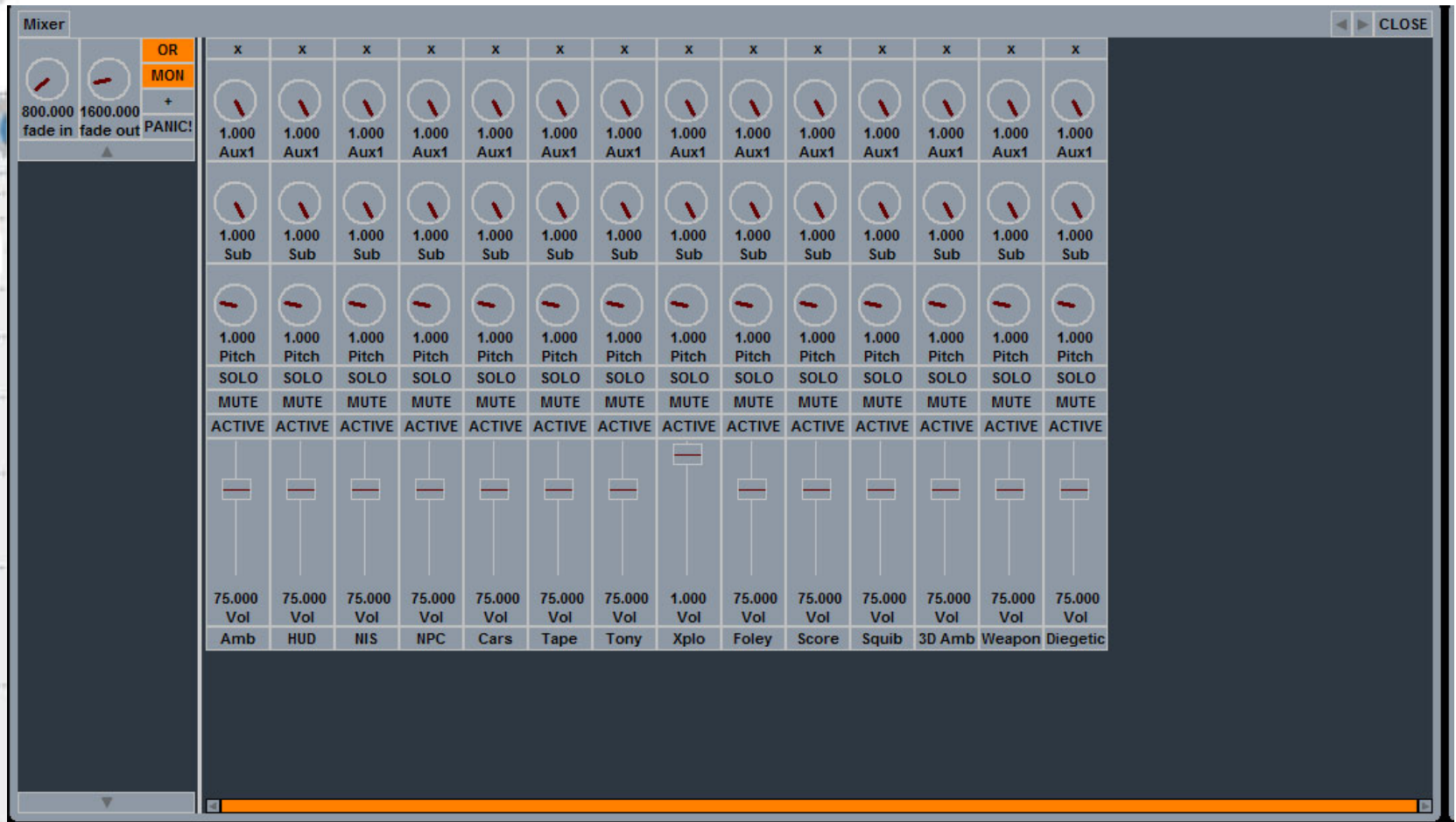


Post-Production Mixing



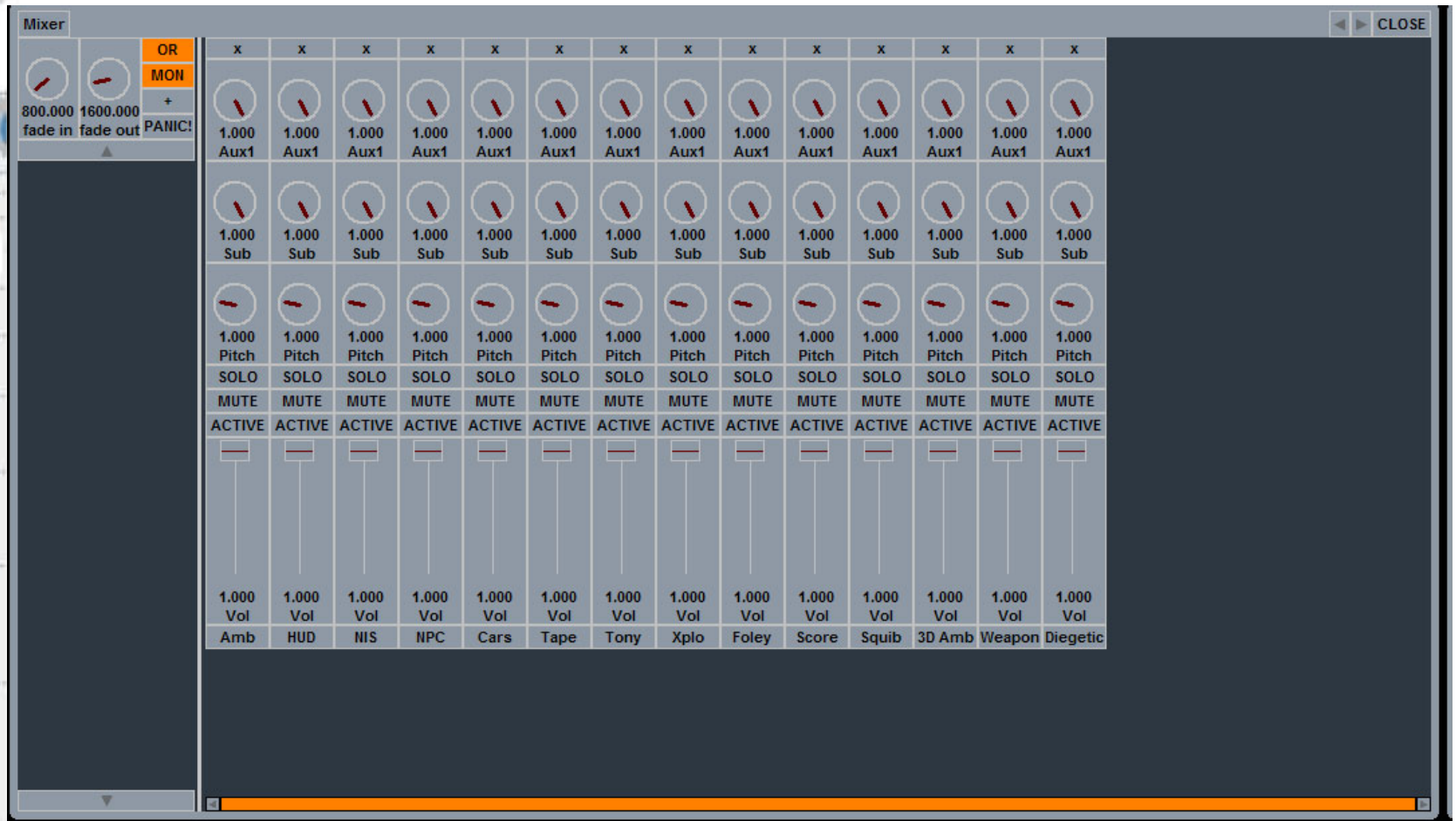


Post-Production Mixing





Post-Production Mixing





Mackie Assigned Controls

- ④ We use a quick and easy way to edit mixes on the fly at run-time
- ④ Use the RECORD button to edit the last installed mix in the game
- ④ Play button releases it back into the game when finished



Mackie Control...



Demo Movie...

WWW.GDCONF.COM



Post-Production Mixing

- ④ 3 weeks mixing time allotted (2 weeks PS2 – 1 week Xbox)
- ④ Used Mix Stage 'E' The "Elia Kazan" at Skywalker
- ④ THX on-site to set-up the room
- ④ Used Near-field Monitor Set-up (Genelec 1032A with M&K MPS-5310 Subwoofers)
- ④ Dolby DP654 decoder going into a Euphonix System 5 for summing



Post-Production Mixing

⌘ Staff:

- ⌘ Juan Peralta (Skywalker) – Mixer
- ⌘ Mac Smith (Skywalker) – SFX Editor
- ⌘ Rob Sparks (Radical) – Sound Programmer
- ⌘ Rob Bridgett (Radical) – Sound Director / Implementer

⌘ Hours:

- ⌘ 9am – 7pm Mixing (full-crew)
- ⌘ 8pm – Midnight (implementation & bug fixing, sync and build – Rob Sparks & Rob Bridgett)



Post-Production Mixing

- ⌚ **Workflow – PS2**
- ⌚ Prioritised the first three hours of game play (mansion shootout – to – first front mission)
- ⌚ This way the majority of generic actions were covered
- ⌚ We then played through the entire game (with cheats!) in order to see every cinematic and mission > to add SPECIFIC mixes to CINEMATICS etc



Post-Production Mixing

- ⊕ After the PS2 was done we cloned over all the mix settings to the Xbox over the weekend
- ⊕ This meant we started off with an Xbox mix that just needed tweaking for Dolby Digital (Add LFE sends to mixes etc)
- ⊕ Way more separation on Xbox compared to ProLogic II – No surprises there!



Post-Production Mixing

- ③ We compared the before and after builds and were surprised by the changes that had occurred...SFX replacement & MIX
- ③ Early Alpha Build...Warning... more bad language...!



After Post...

- ④ Bullet flybys increased
- ④ Weapon sound (m16) intensity increased!
- ④ Explosions (glass)
- ④ Rage mode mix (pitch of weapon decreased)...



Ideas to Take Away

- ⊕ Dedicate as much time at the end of the project as you can for audio post AFTER design and art have LOCKED DOWN content.
- ⊕ Get away from the normal working environment if you can (somewhere without distraction)
- ⊕ Post-Production is the right time to bring in fresh ears to a project – either mixer and/or sound designer
- ⊕ Post can strengthen an audio direction, simple mixing interface allows concentration on AESTHETIC rather than TECHNICAL issues!
- ⊕ Work closely with marketing, they can be strong allies in pushing profile of a mix
- ⊕ PS3 and 360 offer more detail to the mix – more mixer granularity and more even control over DSP filters on the board



Questions?

WWW.GDCONF.COM