

AMPEX

*Audio
Applications*

CASE HISTORIES

14 CHANNEL
AG-300

HISTORY RECREATED BY 14-CHANNEL SYSTEM AT KNOTT'S BERRY FARM

Fourteen channel stereophonic sound is used to recreate the historical aura of the signing of the Declaration of Independence at Knott's Berry Farm, near Los Angeles. Heart of the Stereo-Rama Fourteen system are two Ampex 14 channel AG-300 recorders, which operate alternately every other day for nearly 11 hours continuously. In its first two years of operation, more than 132,000 people have seen the 17 minute program.

INDEPENDENCE HALL: An Exact Replica

Independence Hall was rededicated on July 4, 1966, 190 years after the signing of the Declaration of Independence. This Independence Hall is a brick by brick reconstruction of the original building in Philadelphia that played such an important role in shaping our history. Located at Knott's Berry Farm, some 40 miles southeast of Los Angeles, this building houses a unique electronic exhibit that dramatizes the important events surrounding the signing of the Declaration of Independence.

14 CHANNEL STEREO: The Voices and Sounds of History

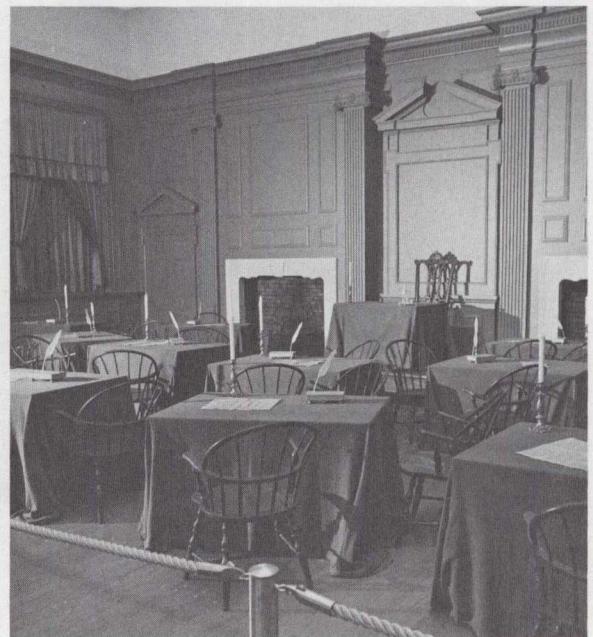
The exhibit relies primarily on the power of 14 channel stereo sound to recreate the historical aura of the spirited discussions and conversations that attended the original event. Tables, chairs, candles (electric), ink stands and other memorabilia of the period serve as visual focal points for the program to set the mood for the 17 minute audio presentation.

Spectators in tour groups sit along one side of the 40 x 40 foot room. The pretty tour guide in colonial dress turns a key and the show begins. House lights dim and the electric candles on the delegate's tables flicker to life. The audience is transported in imagination to the 1770's as the 56 delegates to the Second Continental Congress are heard entering the room, walking through the audience and sitting down at their tables.

Chairs scrape, men talk and laugh, papers rustle. John Hancock, President of the Continental Congress, raps his gavel for order. He recognizes Richard Henry Lee as the first speaker. During the presentation, a battle rages outside the building, a marching band tramps past playing "The White Cockade," the town crier proclaims the surrender of Yorktown and the Liberty Bell tolls. As John Adams delivers an impassioned speech, the audience hears him stand and walk in ghostly fashion from one side of the room to the other.

STEREO-RAMA FOURTEEN: A Seven Year Project

This histrionic wizardry is accomplished with an elaborate audio system called Stereo-Rama Fourteen by its creator, Philip Stuart, Hollywood producer of documentary films and exhibits. Stuart has worked closely with Walter Knott, founder of Knott's Berry Farm and builder of the new Independence Hall, for about seven years.



Reconstruction of 40 by 40 foot room where Declaration of Independence was signed. Loud speakers are concealed under tables, in wall panels, window casements, and fireplaces for effective stereo illusion.

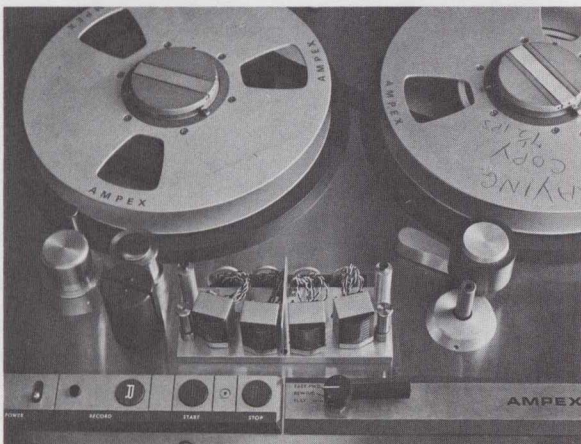
Stuart and his staff spent more than two years of research combing contemporary accounts of the assemblies, diaries and letters of the delegates to reconstruct their speeches at the sessions. Fifty-six James B. Lansing speakers (coincidentally, the number of delegates) are concealed throughout the exhibit room to give depth and presence to his special effects.

According to Stuart, more than 132,000 people have seen the program since the exhibit was opened to the public on July 5, 1966. "Almost a third of the visitors have taken the time to write notes to Mr. Knott expressing their enjoyment of the program," Stuart said.

HEART OF THE SYSTEM: 14 Channel AG-300 Recorders

Heart of Stereo-Rama Fourteen is a pair of Ampex AG-300 series solid state professional audio recorders modified to handle 14 channels on one-inch magnetic tape. Ten channels carry dialogue, three are used for special sound effects and the final track controls the room lights, candles and audio switching from speaker to speaker to create special effects.

The Ampex equipment is rack-mounted in the spacious projection room of the building's second floor movie theatre (sound also by Ampex). To provide duplicating and standby capacity, one unit is a record/reproduce machine, the other is a reproduce only. The recorders are used on alternate days. This combination allows operators to make their own play copies of tapes from masters and to change and upgrade the program at any time.



Close up view of the tape recorder with its 14-track head stacks, lengthened capstan and idlers, and locking hold downs.

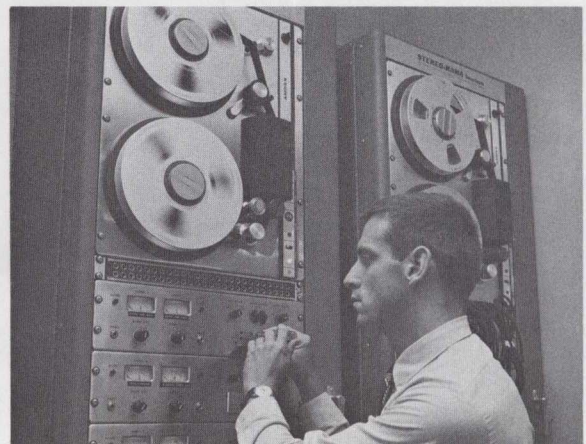
AUTOMATIC OPERATION: Photocell Sensing

The Ampex equipment is set up for virtually automatic operation so a tour leader need do no more than insert a key in a tamper-proof lock in a door casement to start the show. To accomplish this, Ampex engineers installed photo cell assemblies and memory systems in the AG-300-14 recorders. Lights and photocells are mounted in the tape path. As the tape runs between the cells, they sense transparent leaders spliced at the beginning and end of the program. At the end, the machine goes into rewind (approximately one minute to rewind the entire program). When the beginning of the program is sensed, a forward relay cues up automatically. On an average day the recorders operate almost continuously for 11 hours.

RECORDING SESSION: Famous Voices from Radio, Movies, and Broadway

The program was recorded in the room at Knott's Berry Farm where it is presented. Stuart gathered more than twenty famous voices from the golden age of radio, motion pictures and the Broadway stage, including Jay Jostyn, Brainard Duffield, David Bond, Marvin Miller and Nestor Paiva, to portray the voices of history. Jostyn, for instance, (radio's "Mr. District Attorney"), plays John Hancock. These well-known voices add a dimension of familiarity to the all-encompassing stereo program.

All of the actors gathered in the Assembly Hall for ten live recording sessions over a period of six weeks. Footsteps, rustles and chair-scrapings were recorded as they took place. The final effort is a blend of these sessions, with the special effects, outside noises and control track added later.



The special sound system consists of two Ampex 14-track professional stereo audio tape recorders.

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