A UNIQUE CABLE ADVERTISING INTERCONNECT

Norman Weinhouse

Norman Weinhouse Associates
Woodland Hills, California

ABSTRACT

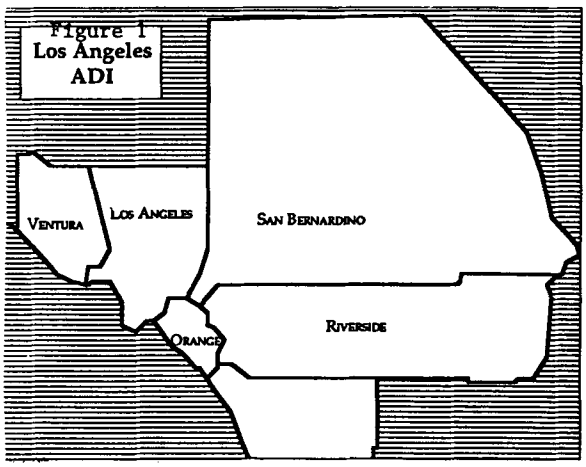
A partnership venture between several cable companies is currently implementing an interconnect for the Greater Los Angeles Area of Dominant Influence (ADI in advertising terminology). The system is unique, but could be cost effectively applied to other markets.

The method employed combines existing technologies in a unique manner to achieve the desired end result. Operation of the system is totally automatic and requires no manpower from the cable company affiliates. Available inventory is shared between the cable company and the interconnect. This sharing of inventory is flexible. Breaks can be alternated or shared within an available time slot.

INTRODUCTION

The Los Angeles ADI represents a huge market for television advertising. It is estimated that over a billion dollars is spent by advertisers in this market annually. Within this ADI there are a large number of cable systems of various size. In the City of Los Angeles alone, there are 14 separate franchises. Regional advertisers have been reluctant to use cable because of this fragmentation and, in general , cable advertising has not been done in a professional manner compared to broadcasters.

Furthermore, this ADI covers an immense geographical area. Figure 1 shows the five counties of Los Angeles, Orange, San Bernardino, Riverside and Ventura. The topography ranges from extremely high urban population density to remote desert and rugged mountain areas. It is obvious that a terrestrial interconnect would be extremely expensive to implement. A solution utilizing the distance insensitivity of satellites is employed in this interconnect. The satellite is used sparingly. Only the spots to be aired are transmitted at off hours for only a few hours a week, thereby reducing the cost of transportation.



SYSTEM OVERVIEW

Figure 2 shows how various elements of the system are connected to form the interconnect.

A Central Hub station is established as business and control center for the interconnect. Each affiliated cable system is equipped with a Commercial Insertion System (CIS) located at the cable company head end. This CIS is in addition to the CIS which may exist to provide ad insertions by the cable company. The Central Hub and remote CIS's are connected by telephone land line. The interconnect CIS's are equipped with Record/Player VCR's rather than Play Only VCR's.

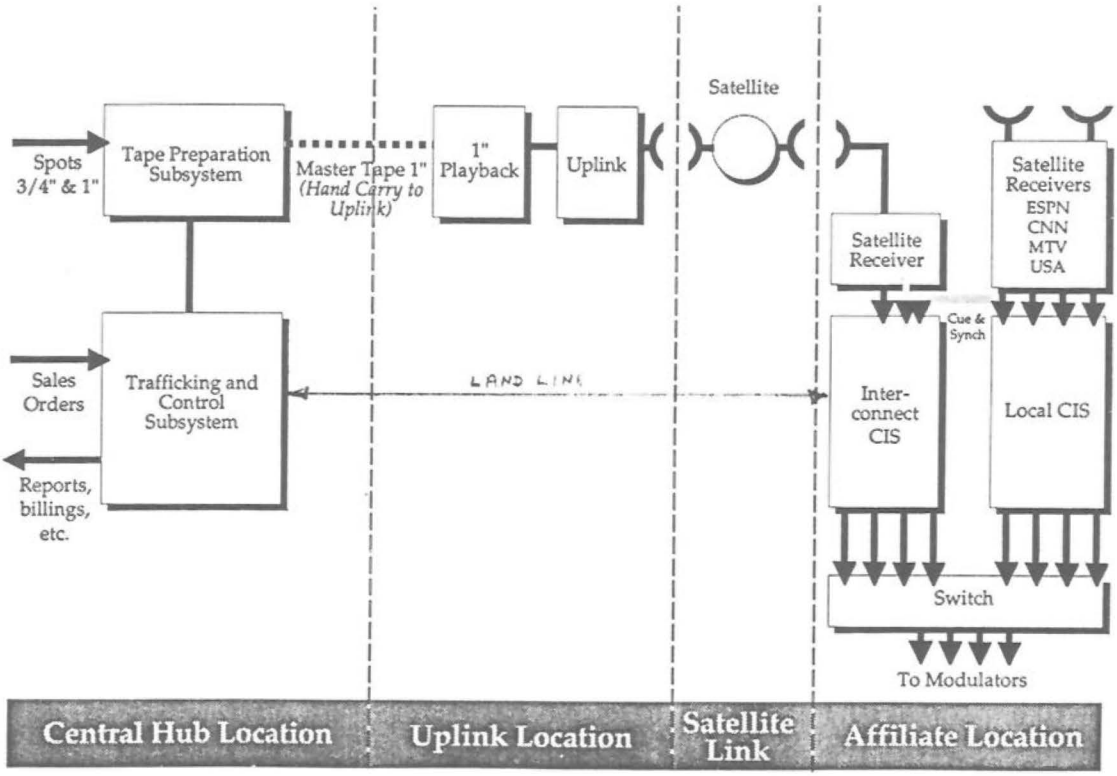


Figure 2 - Interconnect Overview

The Hub compiles a master 1" tape from spots which are supplied by ad agencies or the advertisers. Periodically, as schedule dictates, this master tape is transmitted by satellite, and recorded by the remote CIS's. This transmission and recording session is done at off hours that doesn't conflict with either normal satellite programming on that transponder or with the commercial insertion schedule. Insertion into the programs providing availabilities is done automatically on cue in the usual manner. The telephone line(s) are used to download schedules, provide status and verifications in the recording process, provide verification of spot play, and a host of other communications functions.

Initially, four programs for commercial insertion (ESPN, CNN, USA, and MTV) will be implemented. The system software can accommodate up to 20 programs. Additional programs will require additional hardware. The initial hardware is contained in a single rack of equipment.

SYSTEM DESCRIPTION

Central Hub Facility

The Central Hub contains two major subsystems. They are: Tape Preparation and Traffic and Control. Figure 3 is a sketch of the equipment layout. Professional equipment containing the necessary editing, compiling, library, control and business functions are included. A high degree of automation is employed, such that it is expected that only a single operator will be required, although multiuser software will allow expansion if required.

The Control and Trafficking Subsystem contains two separate 386 class computers for each of the functions. Under normal conditions, one computer is used for system control and the other for trafficking function. In case of a failure in either computer, the other one can perform both functions albeit at a slower rate. A measure of redundancy is thereby obtained.

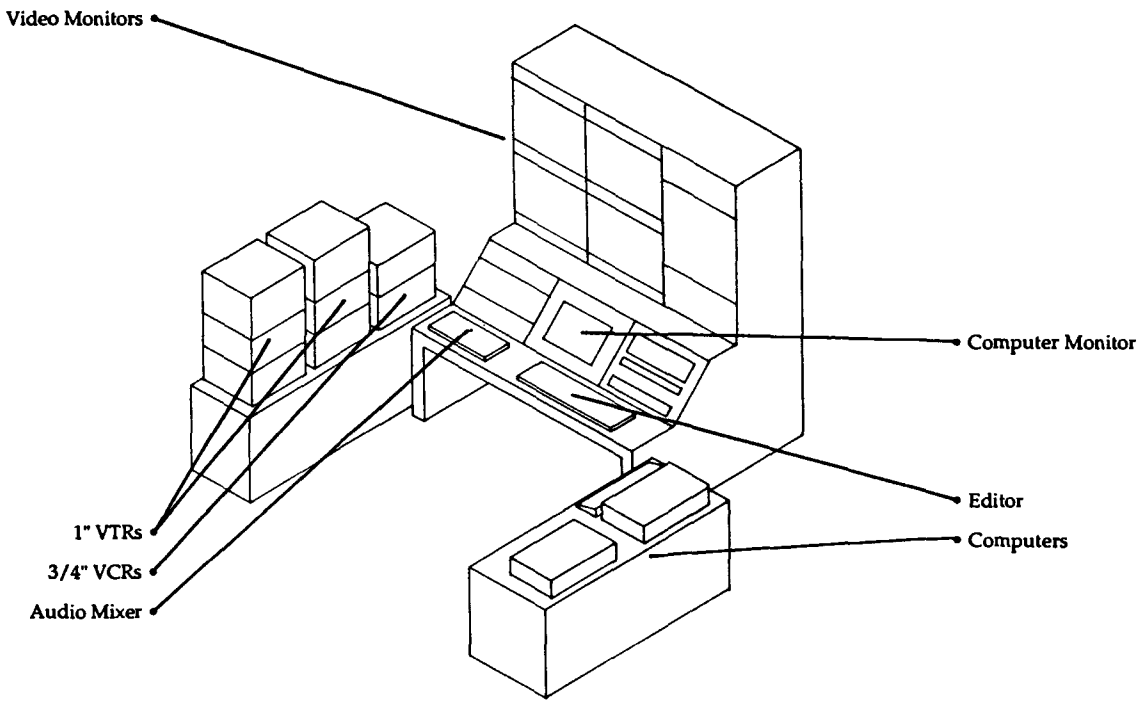


Figure 3 - Central Hub Facility

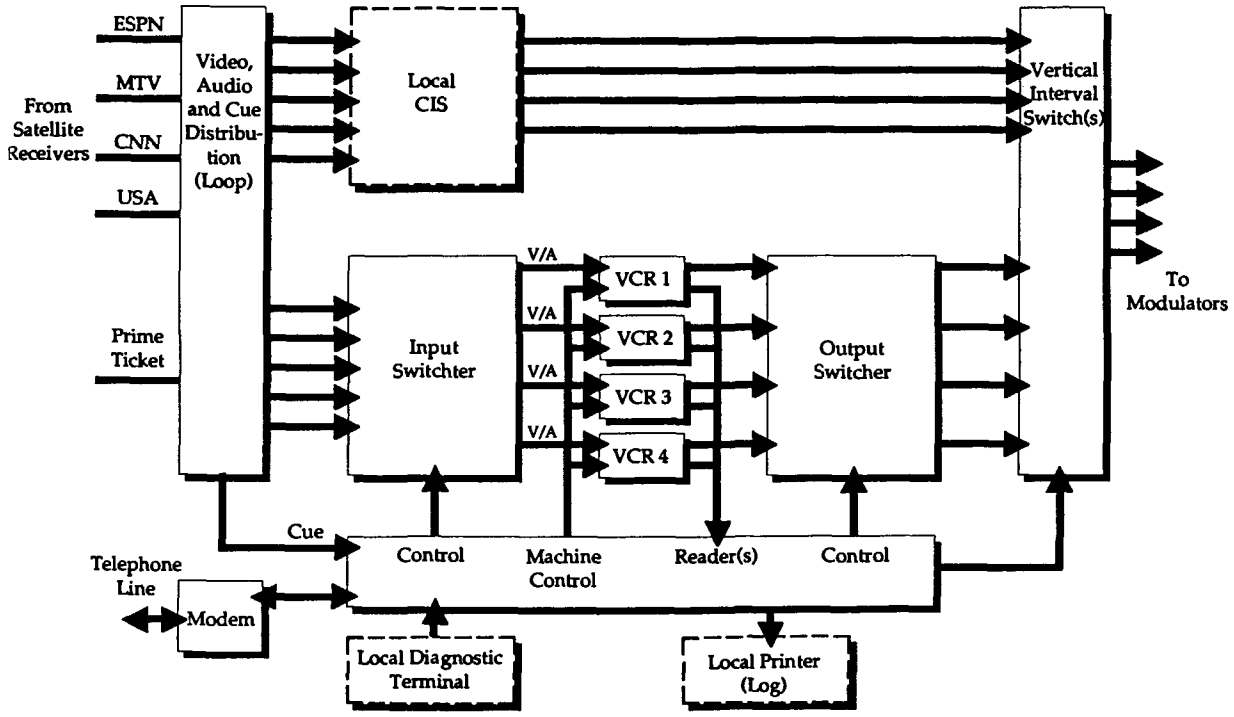


Figure 4 - Block Diagram, CIS

The tape Preparation Subsystem will accept 1" and/or 3/4" spots with either mono or stereo audio from advertisers or agencies and compile a master 1" tape for subsequent transmission by satellite. At the present time, the uplink is separated from the Central Hub, and the master tape is hand carried to the uplink station. The master tape is coded with a header (two minutes maximum) containing a directory of spots with frame code information on the location of the spots. This directory is FSK modulated with error correcting codes on the tape. The frame code data is a numerical designation placed in the video vertical interval at the start and stop frames of each spot. The frame codes are subsequently used at the affiliate location for verification of recording and playback (air).

Commercial Insertion System (CIS)

Figure 4 is a functional block diagram of the Interconnect CIS, and Figure 5 is a rack layout sketch. The VCR's used are the Sony 9600 which have a number of performance enhancements over the previous U Matic machines. This machine has a faster roll/sync time as well as a faster slew time than earlier machines. In addition, there are the following improvements:

- Improved video performance (SP)

  330 Line horizontal resolution (4.2 MHz response)

  46 db (min), S/N-color

- Improved audio performance

  70 db S/N, using Dolby C encoding - will be used

  2% total harmonic distortion

  balanced audio - 600 ohms, input and output

- Improved wow and flutter

  .18% RMS

- Sync input

- Frame coding in vertical interval

The interconnect CIS operates totally independent of any other CIS which the cable company may have for local commercial insertion. A protocol is established such that if a failure occurs in either interconnect or local CIS, signal will revert to the other CIS or to program video. Program video always has priority.

The main functions of the interconnect CIS is given in the following description of the recording and playback process.

Recording Process

The following sequence of events describes the recording session of the interconnect:

- Log of schedule and an approximate time of recording start is sent to all CIS's by land line and entered into the CIS database.
- CIS's confirm and acknowledge Record Sequence Command over land line.
- Cue from satellite feed orders all machines to record mode, rewind and prepare to record.
- Cue from satellite feed orders machines to roll.
- Time code or frame code in vertical interval containing log is stored in CIS memory.
- At conclusion of recording session, a comparison of the recorded tape and the database is made.
- If a malfunction is denoted, a discrepancy report is submitted to the Hub via the land line.
- Hub has the option of re-recording on a selective basis to those CIS where a discrepancy is noted.

Playback Features

- Unattended playback - 4 channels (initially), using normal cue from program.
- Insertion instructions (log) from Hub are stored in Non Volatile Memory.
- Spot length flexibility - 1 second to 1 hour.
- No loss of sync.

- Sharing of breaks and/or split alternate breaks with affiliate.
- Insertion log maintained as completed and transmitted to Hub on demand.
- Positive (Frame Accurate) readers for start/stop run of spots for verification.

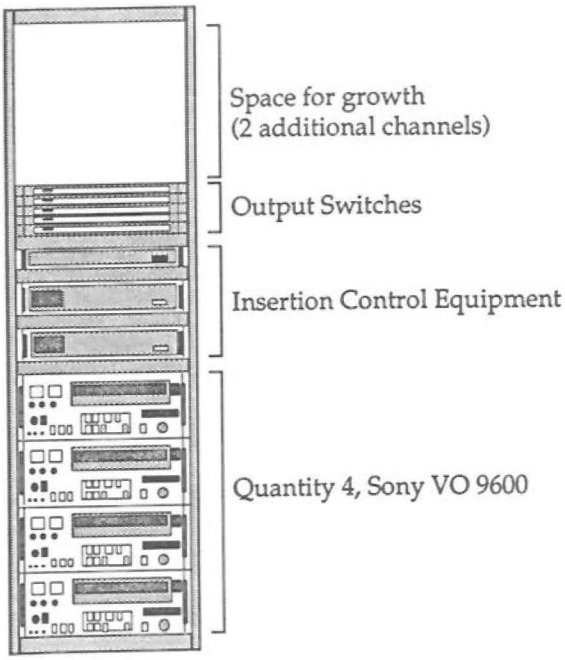


Figure 5 - CIS, Rack Layout

TELEPHONE LINE USE

Telephone lines play a very important function in the interconnect, as can be seen from the description of the recording session and playback operation. After a careful study, a decision was made to use dedicated tie lines between the Hub and Affiliates rather than dial up lines. The modems used are smart modems (up to 2,400 baud rate), and use a communications software package with error correcting protocols.

SUMMARY

An advertising interconnect which will inure to the benefit of the cable company partners and the cable company affiliates has been described. Every attempt has been made to use state-of-the-art technologies in a thoroughly professional manner in the implementation. This interconnect should get the attention of advertisers and agencies who are accustomed to dealing with broadcasters.