

MULTI-CHANNEL COMPACT DISC DIGITAL AUDIO ON CABLE

Joseph L. Stern
President

Stern Telecommunications Corporation

ABSTRACT

The introduction of compact discs has brought a new dimension of sound into the home. A system has been developed which will provide the delivery of nine stereo channels over one CATV channel in full compliance with all compact disc specifications.

correction is utilized which allows operation with poor carrier-over-noise and/or operation utilizing small satellite receiving dishes.

The test information which will be presented will show the effect of cable system variations on the signal, as well as the effect of these digital PAM signals on existing cable operations.

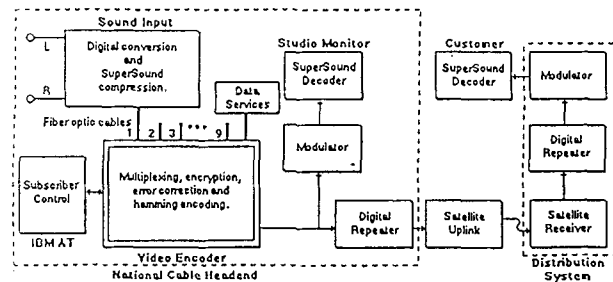
Since the tests will be in process between the publication date and the presentation date, copies of the presentation will be made available at Cable '88.

SUMMARY OF PAPER

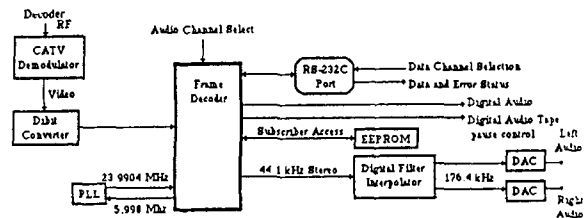
The paper to be presented at Cable'88 will describe CD 8-DM, a new digital audio transmission system delivering nine channels of stereo, plus multiple data channels within a 6 MHz bandwidth. The system will be described and waveforms of the modulation and baseband signals displayed. More importantly, a series of tests of CD 8-DM transmissions over microwave, satellite, and cable systems will be discussed.

CD 8-DM provides for encrypted, addressable delivery of nine stereo channels using a sixteen-bit 44.1 KHz sampling rate. The encryption is performed with a proprietary algorithm and the nine audio channels are combined with forty 9.6 KBPS and twenty-four 19.2 KBPS data channels. This package becomes a 12 megabit data stream. Four-level PAM transmission is used confining the major energy within 3 MHz of bandwidth.

Transmission on the cable is through a modified and patented vestigial side-band modulation scheme. Forward error



CD 8-DM Transmission System



CD 8-DM Decoder