
PRODUCT INFORMATION

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CD-R/CD-RW Signal-Processing ICs Developed

ICs that support 8× recording for the first time in the industry.

LC895840, LC895926

Overview

Due to the continuing growth of the personal computer market and the increasing complexity of application software, the amount of data used by individual users is increasing rapidly. As a result, there is now a rapidly increasing demand for CD-R and CD-RW drives for storage and backup of this data. While the size of this market was 2.76 million units in 1997, that number is expected to double in 1998. While current CD-R drives are mostly 2× or 4× record speed models, there are strong desires for faster write speeds to reduce the total time required for writing data to these devices.

The technology for controlling writing to the CD-R media, called the “write strategy,” is crucial for increasing the speed of the CD-R recording operation. Currently it is necessary to develop separate write strategies for each of the various types of CD-R media on the market. This results in extremely long development periods for these products.

Now, Sanyo, in cooperation with Taiyo Yuden Co., Ltd., has developed the LC895840 optimal CD-R record IC that allows 8× recording in CD-R drives for the first time in the industry. Sanyo has also independently developed the LC895926 CD-R/RW signal-processing IC. Sample shipment of these two ICs as a CD-R/RW signal-processing chip set will begin in September 1998.

The LC895840 combines Sanyo’s semiconductor technology, which provides stable and high-precision pulse width control with Taiyo Yuden’s CD-R recording technology, which is based on their superlative expertise regarding high-speed CD-R recording. Use of the LC895840 significantly eases the development of write technologies, thus allowing drive manufacturers to create 8× record speed CD-R drives with a short development period.

The LC895926, which was developed at the same time as the LC895840, implements CD encoder, CD-ROM encoder, CD-ROM decoder, ATIP decoder, and SCSI interface functions that support 8× record and 24× playback in a single chip. Thus, this device implements all of the digital signal processing required in a CD-R/RW drive and can provide significant rationalization of drive designs. This IC also supports multifunction drives by supporting CD-TEXT record and playback, a standard that is just beginning to become popularity.

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Features and Specifications

CD-R Optimal Record IC: LC895840

- Adjustment of the input EFM signal pulse width and delay to implement 8× recording.
- Sampling pulse generation synchronized with the EFM signal.
- Support for 1×, 2×, 4×, 6×, and 8× recording
- Fabricated in a CMOS process: 3.3 V/5 V power supply
- Package: 48-pin QFP

CD-R/RW Signal-Processing IC: LC895926

- Supports 8× recording and 24× playback
- CD-ROM encoder and decoder functions
- Subcode read and write functions
- CD encoder function
- ATIP decoder and CLV servo functions
- SCSI interface
- Auto-sequencer function
- Batch transfer function
- Multi-block transfer function
- CD-TEXT support
- Buffer RAM mapping function
- Fabricated in a CMOS process: 3.3 V/5 V power supply
- Package: 160-pin QFP

Sample Availability

Samples of the LC895840 and LC895926 are available in September 1998; production quantities will be anticipated in the spring of 1999.

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