ChipCorder®
TECHNOLOGY BY ISD

STAND-ALONE/PARALLEL INTERFACE PRODUCTS

Basic Addressing

ISD single-chip voice record/playback devices include the capability of addressing multiple messages in a single chip. The address inputs provide the ability to partition the message space into a number of equal segments. They also provide access to the Operational Mode options of the device. The address inputs are positive logic and may be thought of as either binary or hex addressed. The binary convention is used in this manual.

Note that the address lines do not correspond to individual message numbers. One or more address lines must be HIGH and set to the correct *binary address* for a message to start anywhere in the memory.

The several series members have different sizes and addressing capability. Table 1 details these differences.

All the above devices are addressed in a similar manner. When addressing one of the 160 "message addresses" of the ISD1000A, for example, we are actually controlling a register in the device called the Message Start Pointer (MSP). The MSP points to where the next Record or Playback operation will begin. Usually, the address inputs pre-load the MSP when a chip enable or power-down initiated operation takes place. The Operational Mode Section will explain the exceptions.

Table 1: Array Size, Addresses, and Message Segments

Devices	Array Size	Binary Number of Add.	Actual Message Segments
ISD1100 Series	64K	256	80
ISD1200 Series	64K	256	80
ISD1400 Series	128K	256	160
ISD1000A Series	128K	256	160
ISD2532/40/48/64	256K	512	320
ISD2560/75/90/120	480K	1024	600

Table 2 shows the storage time, message resolution and the possible number of message addresses for the currently available ISD products.

To determine the value in the MSP, divide the message resolution of the device by the number of counts. For example, to start recording or playing back at the 4-second boundary of an ISD1016A, load the device with an address of 40 (when converted to binary, the actual physical address is 0010100).

Note that in addressing an ISD device, the address is how far "into" the message space MSP the is pointing. The address does not show how much time remains in the memory.