Ensoniq Mirage/DSK

The Mirage driver was written to communicate with a Mirage or DSK that is running MASOS version 2.0. The special MASOS-I version used in Vision, another Turtle Beach product, will not work. Contact Ensoniq customer support at 215-647-3930 if you need a MASOS 2.0 disk for your Mirage.

SampleVision uses the same driver for the Mirage, the DSK and the Mirage rack unit. We will refer to the sampler as the Mirage here, meaning whichever unit you have.

The Mirage, which was the first affordable musical sampler, is somewhat out of date technologically. Its 8 bit data format is its major shortcoming. Its internal architecture requires the user to be fairly familiar with such things as memory offsets and hexadecimal notation. While SampleVision attempts to isolate you from this as much as possible, you still need to understand the Mirage's internal format to use it successfully.

Understanding of the following terms is vital to using the Mirage driver:

Keyboard Half

The architecture of the Mirage lets you load lower and upper keyboard halves separately. Even though a sound is said to be in the lower half, it can cover the entire keyboard (through the use of the top key parameter).

Wavesample

Each keyboard half can contain up to 8 different wavesamples. The number of wavesamples actually in use varies by the program that is in effect in the Mirage.

It is very possible that some of these wavesamples (probably the highest numbered ones) really don't contain anything, even though they point to usable

memory. When working with the Mirage, it is your responsibility to determine which wavesample actually is being played by the current program in the Mirage.

Sending Samples to the Mirage

As mentioned above, a wavesample slot must exist in the Mirage that is large enough to contain the new sample. We recommend that you use the MASOS 'template' sounds when sending new soundfiles to your Mirage. Simply load the template that is closest to your desired mapping. For example, if you want to have four samples mapped to each keyboard half, load upper and lower 2 from the MASOS disk. These sounds are set up for four equal length samples mapped to the keyboard.

The Mirage is a quirky instrument and you should know about some of the issues that will affect the playback quality of samples you send it. The Mirage is an 8 bit sampler, which means there are only 256 possible levels that an input signal can be assigned to. The Mirage reserves sample level 0 to use as a stop flag for the digital oscillators and this can cause problems.

If a sound has the loop switch on, the Mirage will insert 16 zeros directly after the loop end. If the sound is unlooped, the zeros will be inserted at hexadecimal offset xF0 in the last page of the memory for the sound.

SampleVision turns the loop off when transmitting or receiving samples from the Mirage, and it always stops reception before the zeros. You may still see them if the sample's loop end is very near the end of the sound, though. Do not do anything with these zeros since the Mirage puts them there for a reason.

If you have a copy of the Ensoniq Advanced Sampler's Guide, we suggest that you read it for more information on the strange and mystifying internal workings of the Mirage.

To send a soundfile to the Mirage, take the following steps:

- Make sure the Mirage sampler driver is active in SampleVision.
- On the Mirage, load or create the wavesample that you want to send the soundfile to. Ensure that it is large enough to contain the soundfile you are sending.
- Select Send to Sampler from the Sample pulldown menu or press the F8 function key on the PC keyboard.
- The keyboard half selector will appear on the screen. Choose the half that you want to send to.
- The wavesample selector will appear on the screen. Choose the wavesample that you want to send to. Each line lists the following things:
  The half
  The wavesample number
  A musical note (if the loop switch is on)
  The size of the wavesample (always in decimal, regardless of calibration)
  The top key of the wavesample.
  The loop and top key info are included so that you can more easily choose the proper wavesample.
- Click on OK or press the PC's Enter key.

Since the Mirage has no way of setting sample rate for each sample, you may have to use the coarse and fine tune (parameters 67 and 68) to tune the sample once it is in the Mirage.

Identifying samples in the Mirage

The first step in getting a sample from the Mirage is to identify the wavesample that you wish to get. If you wish to get a particular sound fron the Mirage, you need to find its wavesample number. To do this, perform the following steps:

- Press the **0/Prog** button, then select the lower or upper program that plays the desired sample on the keyboard.

- Press the **2**, the **7**, and the **Value** keys to see the program's initial wavesample. This is the first wavesample that the program will use in its playback allocation.
- When selecting the wavesample in SampleVision, you can find the desired one because you know where to start looking (the initial wave, found above) and you know what the top key of each wavesample is (it is listed in the wavesample selector).

You will notice that most samples sound terrible when sent into the MASOS slots for the first time. The MASOS disk has very generic settings of filter and amplifier parameters. Remember that the main trick to the Mirage is to use the filter to cover up the noise and incidental clicks caused by table lookup noise in the loop.

Nearly every sample that sounds good in a Mirage will sound bad when played with the filter wide open. If you lower the initial filter setting, set the filter attack to open the filter when the key is struck, then fade back to just above the fundamental frequency for sustaining, you will be able to successfully play any sample in the Mirage.

Receiving samples from the Mirage

Once you have determined which wavesample you want to transfer, you just need to tell SampleVision which sample to receive. To do this, perform these steps:

- Make sure the Mirage sampler driver is active in SampleVision.
- Once you have determined the keyboard half and wavesample that you want, perform the following steps:
- Select Get from Sampler from the Sample pulldown menu or press the F7 function key on the PC keyboard.

- The keyboard half selector will appear on the screen. Choose the half that you want to receive from.
- The wavesample selector will appear on the screen. Choose the wavesample that you want to get. Each line lists the following things:
  The half
  The wavesample number
  A musical note (if the sound is looped)
  The size of the wavesample (always in decimal, regardless of calibration)
  The top key of the wavesample.

Note that SampleVision will get all the samples in the wavesample slot, even if loop end is not at the end of the sound slot. This is done to allow you more latitude in setting loops. In some cases, there may be sound near the end of a wavesample slot that is left over from a previous sample and has no relation to the sample in question. Simply use the delete tool to remove this unwanted sound after it is in SampleVision.

The name given to the sample you get from the Mirage will consist of the name of 'Mirage', the half, and the wavesample number.

Setting loops in the Mirage

The loop architecture in the Mirage is a bit unusual. As mentioned before, there are a lot of quirks involved in getting good loops on the Mirage. If you are using short loops, the Mirage has trouble playing them unless they start on an even page boundary (0,2,4,6,8), are an even page number in length, and have the start and end on a zero crossing. This set of requirements is daunting, to say the least. The Mirage can only set loop start by page, an additional requirement.

SampleVision does its best to meet these requirements, but the loops that exist in other samplers may not meet these requirements. When a soundfile is loaded when the Mirage driver is active, the loop start position will be

set to the nearest page boundary. This probably means you will have to go into the loop editor and reset the loop, using loop end as your fine tuning knob.

If you are doing a lot of work with the Mirage, we suggest that you set your X calibration to be hex samples, since that matches the notation used in the Mirage. It also makes it easy to determine page boundaries, etc.

If a loop is on an odd boundary, you can move it down by deleting samples somewhere ahead of it (usually at the very beginning). Simply zoom in and select the desired number of samples, delete them, and all following samples will be shifted down.

Once you reset the loop, send it to the Mirage and listen to it. Sometimes a loop that looks bad will work on the Mirage, sometimes a good looking loop will sound bad. It all depends on the previously mentioned conditions and the sample you are dealing with (sometimes the phase of themoon affects the Mirage). The loop may sound good on some keys and not on others due to the Mirage's sample skipping technology. If the loop is a short loop, you can tune it by setting loop end in increments of one sample. There will be a short pause each time you reset the loop while SampleVision updates the Mirage.