

Now it's time to use the internal voices on the ESQ. Let's say you would like to place a slap bass and a flute on the same sequencer track. The obvious solution here is a split keyboard. If you can place your split point such that both parts can be played at the keyboard, then assign that split program to the sequencer track -- say track 2. You can either play both parts at the same time (good luck) or you can lay down the bass on track 2, then do the flute part on the scratch track. When you're satisfied with both, merge the scratch track into track 2 (back it up first, of course).

There is a less obvious way to use the split keyboard. The previous example used musical parts in non-overlapping ranges. There is a way that you can use the split for parts that do appear to overlap. For example, let's say you'd like to record an electric piano sound and a B-3 sound. Both of them cover a range of three octaves. You say it's hard to get two sets of three octaves on a five-octave keyboard? Take a look at the MIDI implementation chart in the back of the ESQ manual and you can see that the ESQ can send or receive over seven octaves worth of note values (notes 21 - 108). If you could just get at that somehow, you could certainly squeeze in that six-octave split. You can. You just have to design a special split voice. Here's how.

Copy your chosen sounds to new locations and program them as a split, with the piano on the left and the B-3 on the right (arbitrary choice). Now transpose the piano up. You can do this by shifting the oscillators up an octave and futzing with the filter. Now shift the B-3 down. When you play the split, you should notice the following effect. The piano voice goes high enough (up to the split key), but you run out of keys at the bottom. The B-3 goes low enough (starting at the split key), but you run out of keys at the top. Perfect. Now, assign your original untransposed piano voice to the scratch track and record it until you're satisfied. Transpose the track down an octave and copy it over to track 2 (which has the split voice). It should sound in the correct octave (the upward transposition of the split voice corrects the downward transposition in the scratch track), and it should now magically have those extra bass keys that your keyboard doesn't have.

Now assign the unmodified B-3 voice to the scratch track and get the organ part recorded. Transpose it up an octave and then merge (not copy) it into track 2. It should now sound correctly and have those extra treble keys as well. Play the track. You just got six octaves out of a five octave keyboard and you squeezed two different voices into a single sequencer track. Not bad.

You can continue juggling these puppies around until all your tracks except the scratch track have been used up. You then record on to the scratch track in the normal way. If you were only using an ESQ-1 with no Mirage, you then could have gotten 15 "tracks" out of an 8 track sequencer.

There are disadvantages to this technique, such as the fact that any controller information may affect both voices on a split, or the fact that unmerging tracks is very difficult to do without external editing. But if you're on a budget or if you don't like lugging the old 1040ST to gigs, this works fine.

But wait, there's more. There are two interesting jacks on the back of the ESQ-1 labeled TAPE-IN and TAPE-OUT. In addition to providing support for tape storage, they also allow the synth to lay a sync tone on to tape and then follow that sync tone on subsequent takes. The basic technique is well documented in the manual and works quite well. But there are a few tricks that aren't in the manual. If you play a sequence and listen to the sync tone, you'll notice that it is a simple, low frequency square wave. If you vary the sequencer clock, you'll notice that the sync tone goes down in pitch when the clock slows and that it goes up when the clock speeds up. Hmm...

You've probably noticed that the sequencer doesn't have any programmed way to handle gradual changes of tempo (unless you play by ear, meaning that notes don't necessarily have any connection with the metronome tick). If you record the sync tone while you adjust the tempo in the way you want (using buttons or the slider), then you can sync to the taped tone and ESQ will follow all of the tempo changes. This means that the metronome tick will follow all the accelerandos and ritards and that it will be much easier to edit your sequences. Just follow the tape.

Wait. There's more. If you have another synthesizer that can generate a very low frequency square wave, the ESQ will follow it -- just plug the audio output of the "clock synth" to the tape input of the ESQ-1. You have to make sure the signal is pretty hot, but it works. I even used the Mirage bass-clarinet, but the "squarer" the waveform, the better. While this sounds nuts, it gives you a tremendous amount of control over tempo. You can set the basic pitch of your clock synth to give you the tempo and then vary the tempo with the pitch wheel. Playing different notes on the clock synth gives precise changes in tempo. Playing a note an octave higher doubles the tempo: playing an octave lower halves it. Playing up a fifth speeds the tempo up by 50 percent and so on. Playing nothing stops the clock completely. This is fun.

A few small tips in closing:

- If you are concerned about small differences in timing, then you should set the clock as fast as you can. If you have a passage at 60 beats per minute, then you will get better resolution by setting the tempo at 120 and letting each tick represent a half note. The ESQ divides each beat into 48 little time slices, so if you let a beat represent half a beat, you'll get 96 slices instead.

- If you are only using local voices on your sequencer, be sure to set those tracks to LOCAL on the MIDI page (rather than BOTH, the default). This will keep a lot of non-essential stuff from going out to slave synthesizers and clogging them up.

- You can use program changes in the sequencer to cause the Mirage to load new sounds from disk. It takes around seven seconds for a full load. If you can arrange your music to leave the Mirage a rest of eight or nine seconds, then you can have it busy loading. I sometimes split a long sequence in two pieces with the first sequence playing music on the Mirage and the second sequence issuing a load command while the ESQ does the playing. (By the way, it's not always a good idea to have a Mirage playing on the very first clock tick of a sequence. On most sequences, the program number goes out on the first clock and the Mirage is often too busy changing programs to play anything on that tick. If you slip the first note a clock or two, you'll get the note and only you will know it came in late.)

*Bio: Michael Carnes' most recent strange use of his sequencer came with the premiere of his War Songs, Book II. This featured noted bass/baritone David Ripley along with ESQ-1, Mirage, DX-7 and piano.*