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DX SUPER MAX EXPANSION BOARD FOR THE YAMAHA DX7

FEELS LIKE DEJA VU: Here, we check out a new entry in the DX7 enhancement race, DX Super Max from Group Centre. For $399, your DX7 can store 256 patches and functions (eight banks of 32 patches each), stack and detune voices, play microtonal scales, change the MIDI out channel, delay voices up to 9.9 seconds, create new patches, and arpeggiate with the best of them.

The Super Max circuit board replaces three of the DX7's ICs. Installation is relatively easy; you probably can do it yourself. Only the pin inserts hold Super Max in place; no screws are required, though if your DX7 gets thrown around too much, you may be concerned about it staying where it belongs.

Super Max is shipped with 64 patches, many of which are pretty outstanding. And the arpeggiator is an absolute killer-just about the best we've ever seen. What's that? You say you don't have any use for an arpeggiator? When you hear Super Max, you might change your mind. Alain Seghir, the inventor of Super Max, has provided lots of types of control over the arpeggiation. And this isn't just a single arpeggiator; there are actually 32 separately programmable arpeggiators living inside the machine. Each patch contains an arpeggiator number as one of its parameters. What this means is that you must keep at least one arpeggiator switched off, or all of your patches will arpeggiate.

Arpeggiator modes include up, down, up and down, forward assign, backward assign, random, and off. The assign modes are based on the order in which you depress the DX7's keys. Changing the mode works in real-time, so you don't have to restrike the keyboard to engage the new mode. You can latch the arpeggiator so that the last notes you play are held, or so that new notes will be memorized. Super Max's memory limit is 64 notes, a familiar number to computer fanatics. (Severa1 people ran screaming from our end of the office before this test was completed.)

Velocity of individual notes in an arpeggio can be played (depends on how hard you hit the notes), fixed (no variation in the velocity), random (varies over a medium range), or random+ (varies over the entire velocity range). You can choose the number of repeats (up to seven) for each note, or the arpeggiated notes can be transposed by steps of up to a full octave, with up to seven transposed steps. Note values are half, quarter, eighth, or sixteenth. Tempo va1ues range from 40 to 240 beats-per-minute. Super Max's arpeggiator can sync to an external MI DI device, and the incoming MIDI clock can be multiplied or divided by 2 or 4. The arpeggiator can send MI DI note events out to external instruments, and you can limit it to a specific zone on the keyboard.

The arpeggiator is not without its quirks. For starters, once you've called up a patch whose arpeggiator is switched on and started playing on the keyboard, you can't switch the silly thing off-not in any direct way, at least. You can switch to a different patch, but that will cause a bit of extraneous noise as the notes are shut off, and if the new patch happens to be assigned to an arpeggiator that's switched on as well, the arpeggiation won't stop. Alternatively, you can go into function edit mode and switch off that arpeggiator, which requires several keystrokes. If you do this, however, that arpeggiator will be now switched off for all of the patches that happen to use it.

Super Max allows you to stack a DX7 patch in modes of 8x2, 5x3, or 44. Each of the three extra voices can feature its own volume (0 to 3), coarse tuning (-24 to +24 semitones), and fine tuning (0 to .99 of a semitone).

Super Max provides some interesting delay functions. Delay time ranges from lo to 9,930 milliseconds, delay volume ranges from 0 to three, and feedback ranges from 0 to 15. You can have each repetition micro-transposed by 1 to 50 cents, or by semitones from 1 to 12. Delayed note can be sent through MIDI, but the external instrument will only play the first delay, not the original note(s) or later repetitions. Super Max also has a delay hold feature, but instead of working like the hold on a digital delay, anything you play when hold is on will repeat until you turn hold off or play and hold as many notes as are available (16 with no stacking, eight with 8x2, five with 50, or four in 4x4). The delay clock slows down, unfortunately, as you add more notes. With hold on, MIDI sends all delayed notes to the external instrument. We often got stuck notes on the second synthesizer when we turned the hold feature off. Caution: If you make changes to the delay parameters while playing, you'll get some pretty nasty noises.

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Global microtonal tuning is featured by Super Max, but it's pretty tedious to work with. Coarse tuning for each note ranges from 0 to 127 (whole values), while fine tuning ranges from 0 to 99/100s of a semitone. Four temperaments are stored internally. The fine-tuning parameters are probably not as easy to edit as they could be, and there's no compiler to offset notes in each octave or to set up microtonal equal temperaments (both of which are provided by E! for the DX7). If you're interested in working in microtonal scales with Super Max. have your tuning scales and frequency counter ready, and be prepared to spend lot sof time figuring this stuff out.

Super Max allows you to assign up to four different patches from the current bank for cross-switching effects. These patches are affected by the stack settings. Changing between patches can be by rotation, randomly, or by using the pitch-bend or modulation wheels. This effect really isn't crossfading, but cross-switching. Neither wheel smoothly fades from one patch to the next; as a matter of fact, you must retrigger each note while moving a wheel to get the change. The patches aren't allocated to equal portions of the wheels, either.

You can cross-switch between two patches using velocity. A balancing scale of 1 to 7 allows you to adjust the velocity point at which the switch occurs.

The Sound Creator function allows you to choose two patches and get 126 variations based on the two by moving the modulation wheel forward. A random feature will select parameters from two patches to create a new patch; each time you play a note, a new patch will be created. Using the pitch-bend wheel, you can cross-fade between the first patch and a second by pushing the wheel forward, or between the first patch and a third by pulling it back. You can save any patch created by one of these methods; just make sure that the wheel stays in the same place or, in using the random function, don't play a new key until you've saved your patch.

Changing from one patch bank to another with Super Max isn't much fun. (Why couldn't they just have copied the method used in ER) If you're in play mode, you have to push the function button, then push button 12, and then hit the increment/decrement key or the data slider.

An extra memory chip providing eight more banks of patches will be available soon and will cost around $20. Six additional banks of patches are already available f rom Group Centre; two of them are free if you return a blank RAM cartridge with your warranty card.

So which expansion board should you buy for your DX7? E! has better tuning functions and better MIDI functions, but Super Max has a great arpeggiator, some hip delay options, and a patch generator. It's too bad you can't put both products into the instrument at the same time.

- *Mark Vail, Keyboard Magazine, May 1988*