**ELECTRONICS**

# Akai XR10 Drum Machine

CALLED THE "ULTIMATE Drumming Machine," Akai's new XR10 boasts 16-bit digital sounds, flexible sound editing controls, 99 user patterns along with 50 factory patterns, 20 songs, and a list price of $699.00. Without a doubt, this drum box offers some impressive features. On the other side of the coin, Akai's design team has made some puzzling compromises. What can the XR10 do well and what are its limitations? Read on.

**General Information.** The XR10 is just a little bit larger than a three-ring notebook and weights in at less than four pounds. The back panel houses the power switch, the AC adapter input, MIDI-In and Out jacks (no thru), two footswitch jacks, along with stereo, headphone, and effect outputs. The front panel contains two large knobs (one for volume and one for tempo/data), a numeric keypad, cursor controls, and 24 rectangular buttons. An LCD display with two lines of 16 characters each keeps you in touch with the internal workings of the XR10.

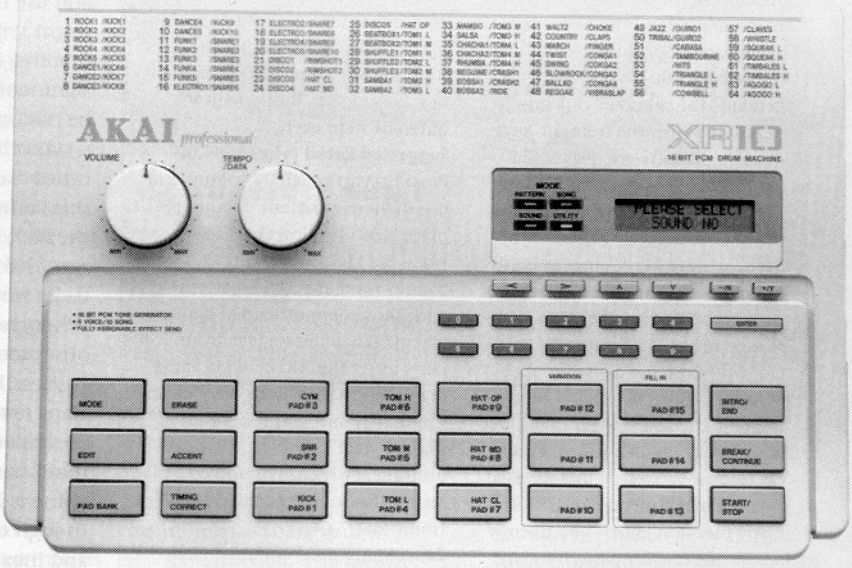
In order to communicate with the XR10, you must first select one of its four operation modes. The mode button toggles among the pattern, song, sound, and utility functions. Pattern mode is used to play patterns and record new ones into the machine, and since this is the machine's most impressive mode, let's take a look at it first.

**Patterns.** There are 50 different patterns burned into the XR10's memory. These ROM (read-only-memory) patterns contain a wide variety of styles ranging from disco, rock, funk and "electro," to beguine, twist, reggae, and mambo. Each pattern comes with three variations (of two bars each), three types of fills (one bar each), an introduction, a break, and an ending. All told, that amounts to a grand total of 450 unique patterns.

When playing the preset patterns, you begin by selecting one of the variations and pushing the button for the introduction. When the introduction is finished playing, the machine jumps to the selected variation. When you're ready for another two-bar variation, just push the appropriate button, and when the original variation is finished, the newly selected variation will begin.

Fill patterns work in a unique way. Each fill pattern is one bar in length, but it can be called up into the variation at any time. The fill pattern begins one quarter-note after one of the fill buttons has been pressed. In other words, if you select one of the three fill buttons right before the first beat of a bar, the entire fill will be heard. If you push one of the fill buttons just before the third beat, only the last two counts of the fill will be played. After playing the fill pattern, the machine will jump back automatically to playing the variation.

Break patterns are one measure riffs that keep the same basic groove as the variations, but are much less dense. Breaks, like fills, can be called up any time a variation is being played. Unlike fills, they will continue playing until the "break" button is pressed a second time. Once you do this, the break will continue playing until the end of the bar, and then move on. When you're finished playing around with a pattern and all its possible variations, fills, and breaks, simply hit the "end" button and a perfectly good ending comes out of the speakers.




The flexibility of moving among three different variations, fills, introductions, breaks, and endings provides a quick and easy way to create drum parts that sound pretty logical and stylistically correct. One might ask why some combinations work just fine while others are impossible. For example, you can ask the XR10 to play a fill or variation after the ending, but it won't play a break after a fill, a fill after a break, or two fill patterns in a row.

You can record your own pattern into any of 99 user locations. Real-time, as well as step time recording is supported. It's possible to copy a factory pattern into a user location for additional editing.

**Songs.** Twenty songs can be programmed into the XR10's memory. Each song can hold up to 99 different steps. All of the basic song programming features are supported (such as insert and delete), and the XR10 even supports nested loops at three levels: outer, middle, and inner. However, programmed tempo changes are not supported.

Songs can consist of factory pattern variations, fills, intros, breaks, and endings, as well as any user patterns that you may create. When building songs, you lose the ability to start a fill or a break in the middle of a pattern. Each variation, fill, or break begins and ends at the bar line.

**Sounds.** The XR10 comes out of the box with 97 sounds. Of these, 65 are internal ROM and the remaining 32 are user programmable and assignable. Since these sounds are 16-bit samples, they are very clean. Especially notable are kick

**Manufacturer's Response:** Product Specialist James Martin replies: "Overall I think that Mr. Weinberg has done a fine job, correctly identifying the excellent 16-bit sounds, and the variety and flexibility of the preset patterns as the strongest features of the XR10. However, there are a few points which require comment. Regarding the non-scrolling plus and minus buttons, the reviewer gives the impression that entering MIDI note assignments can only be achieved by repeatedly pressing them until the desired value is reached. Actually, the numbers can simply be entered with the numeric keys. Also, a new software release (2.2) reduces the sensitivity of the buttons in general, doing away with the double-triggering mentioned in the review. Mr. Weinberg is critical of the XR10's user interface, citing the number of button pushes, due to the lack of default values. I suppose the question of defaults is a subjective point—certainly many users prefer them, but what if you happen to work most of the time in styles not addressed by your machine's defaults? The Copy function allows you to copy any Preset or User pattern to any other User pattern (with far less button pushing) for further editing. I keep a few User patterns in my XR10 reserved as templates, with different lengths, time signatures, etc., and copy them as needed. Finally, regarding the XR10's MIDI implementation, the primary market for this unit includes songwriters, solo performers, and other entry-level-MIDI musicians, and not so much those with more complex MIDI systems. And even for the more experienced MIDI user, the superb sounds (both in terms of selection and audio quality) of the XR10 will make it an attractive addition to their system."

**Manufacturer:** Akai Digital Electronics, 1316 Lancaster Avenue, Fort Worth, TX 76102, (817) 336-5114.

**Product:** Akai XR10 drum machine

**Features:** 16-bit digital sampled sounds; flexible sound editing controls; 99 user patterns; 50 ROM factory patterns; MIDI in and out; two footswitch jacks; stereo, headphone, and effects outputs; real-time and step-time record capabilities; 20 song capability with 99 different steps each.

**Suggested Retail Price:** $699.00

**Pros:** Easy to get all 97 sounds and use them in a pattern; "sound replace" feature allows user to replace the kick, snare, and tom sounds from any given pattern with those of another pad bank; can quickly build logical drum parts using the XR10's wide variety of internal patterns; very clean internal 16-bit samples; would make a great sound generator for drummers triggering sampled sounds from an acoustic or electronic kit.

**Cons:** Many different unlabeled functions to certain buttons; tempo knob only adjusts the speed in large increments; plus or minus buttons don't scroll when held down; some operating procedures seem overly complicated; no MIDI-Thru port; no sync-to-tape capability; user patterns limited to a maximum of four measures; doesn't receive or send MIDI-clocks in pattern mode; the pattern play mode can't be used with a sequencer in any way.

drums 1, 7, and 9; snares 2, 4, 5, and 9; tom sets 1, 2, and 4; the ride cymbal, guiro, and the bass guitar sound.

The parameters available for sound editing are: volume (any value between 0 and 31), pitch (a little over a four-octave range), fine tuning (with 16 divisions between each half-step), pan position (31 values between hard left and hard right), individual effect send volume (any value between 0 and 31), reverse (for playing samples backwards) and something called "velocity feel." This last parameter tells the sample to begin from a different starting point depending on the velocity. This makes the attack portion of the sample a little softer and less crisp at lower velocities. In addition to these parameters, the XR10 offers a simple two-stage amplitude envelope and sweep settings that can be used to bend the sound up or down in pitch.

**Cool Things.** There are ten different "pad banks" of 15 sounds each. This means that it's easy to get to all 97 sounds and use them in a single pattern (eight voice maximum). The first five banks are factory assignments, but banks 6-10 can be customized to your liking.

Another really slick feature is called "sound replace." Using this command, you can replace the kick, snare, and tom sounds recorded into a pattern with those from another pad bank. When you do this, all of the other sounds such as Latin percussion, bass guitar, cymbals, or claps remain the same.

**Gripes.** The biggest gripe that I have with this drum machine is its user interface. Even though the unit is small, light, and inexpensive, I can't understand why Akai gave so many different unlabeled functions to certain buttons. Why, for example, does the user have to push the cursor keys to select between playing the factory patterns and the user patterns? This important piece of information was found only once in the manual—on page 18—in small type. It seems that with 50 factory patterns, Akai could have either: A) included only 49 user patterns, B) incorporated a three-digit LCD in the display so that you could enter numbers over 100, C) had an extra button on the front panel dedicated to toggling between factory and user patterns or D) put this piece of information in big bold type on several different pages of the manual.

This isn't the only problem with the user interface. The big knob labeled "TEMPO" only adjusts the speed by large increments (from 110, 116, 120, 126, 130, 136, and so on). If you're looking for a tempo of 113, you've got to roll the tempo knob and then hit the plus or minus buttons until you reach the desired tempo. If a knob is dedicated to tempo, then it ought to control every aspect of the tempo.

Speaking of the plus and minus buttons, they don't scroll when held down! Selecting MIDI note numbers is a real pain because the data knob doesn't work for this particular function. Personally, I resent having to push any single button more than 60 times. While we're on the subject of buttons: I found that the rubbery "chicklet" style keys double triggered far too often.

Okay, I know you're thinking these are fairly minor gripes. What's my biggest complaint? Here is what you must do before recording your first user pattern. Push the mode button until the "Utility" mode LED lights up (three pushes), turn the data knob to switch off the memory protect feature (you've got to turn off the memory protect before doing just about anything on this machine). Okay, now simply push the mode button once more to select patterns, push the edit button, select the user pattern you want to program, press enter, push keypad #1 to tell the XR10 that you want to record a pattern in real-time, push enter, define the length of the pattern by pushing keypad #1 and then rolling the data knob (this has to be done because there is no default length), define the meter by pushing keypad #2 and then rolling the data knob (same here, no default meter), press enter, press start. Yes, this is true, you must perform no fewer than 14 button pushes

and three data knob rolls!

If you think that's a hassle, when you decide to keep your pattern, you must save it to memory before moving into another mode or all your efforts will be lost. To save your work, just hit the edit button, roll the data knob to select a tempo, hit enter, and then hit the yes button. Excuse me, but didn't we turn off the memory protect feature before we started recording the pattern?

There are other design and software decisions that puzzle me. The machine defaults to Omni-On, listening to MIDI channel one. This can be changed, but it cannot be memorized. In other words, any time you want to use this box in a moderately complex MIDI system, you're going to have to turn off Omni and possibly change the MIDI channel. Solution? Leave the machine on forever.

Why is there no MIDI-Thru port? Why is there no sync-to-tape capability? Many less expensive drum machines support click-sync or FSK. Why are user patterns limited to a maximum of four measures? And why, oh why, doesn't the XR10 receive or send MIDI-clocks in pattern mode? It means that the hippest feature of the machine (the pattern play mode with all its variations, fills, breaks, and so on) can't be used with an external sequencer in any way.

Another weird idiosyncrasy appeared when working with MIDI messages on the XR10. During one session, the machine wouldn't send note-off messages. I tried recording an 80-measure song into a software sequencer, and the first note sustained for 80 bars. This could create nightmares for anyone running the XR10 into a synth or sampler in order to fire additional sounds. In all fairness, this only happened once. All other times, the machine did send note-off messages perfectly. I can't be absolutely certain that the glitch wasn't in the software, but this particular program (Mark of the Unicorn's Performer) never has exhibited this problem before.

**The Verdict.**

The XR10's sounds are clean, functional, and full of promise. The sound editing capabilities, while not the most extensive on the market, work fine and can be used to create many interesting timbres from the 65 factory samples. Since each sound can be assigned its own MIDI note number, the XR10 would make a great sound generator for those drummers wanting to trigger sampled sounds from an acoustic kit, or add some fresh sounds to their electronic drum kit.

Having 450 different patterns in 50 styles burned into its memory makes the XR10 a helpful partner in the songwriting process. It's been my experience that drummers are interested in creating their own patterns, while guitarists or singers are more interested in factory patterns.

If you're in the market for a drum machine to be used as a sound generator, or want to experiment with the factory patterns, check out this machine. If you're looking for a complete drum machine that is logical and easy to use, has a thorough MIDI implementation, and will serve your needs as your system grows, this is not the best choice in today's market.

*—Norman Weinberg*

**ACOUSTIC DRUMS**

## Solid Snare Drum

SOLID PERCUSSION OF Watsonville, California, has built its reputation by producing top-line solid wood snare drums. In this review we will be covering a different side of Solid's drum line, the BR4000 solid bronze snare drum.

**Construction.** The bronze shell is 4" x 14", and weighs 14 pounds. At just under 3/16" thick (.160" to be exact) this drum would not be considered thick by wooden shell standards, but it is the thickest solid metal snare drum on the market today. The thickness of the casting allows the manufacturer to machine in a precise bearing edge as well as an accurate snare bed. Most metal snare drums have thinner shells, and the bearing edge is formed by rolling the top edge over onto itself. The Solid snare drum has a 45° bearing edge from the inside to the outside. By maintaining a tight tolerance on the bearing edge they are able to achieve a greater sensitivity than most drums offer. The major benefit gained from the thickness of the shell is that the drum can play articulately at softer levels, and can be played as loud and hard as possible without losing its characteristic sound. The sound of some thinner shelled drums will tend to change as the volume increases. With Solid's drum, it felt as though no matter how hard we hit it (short of breaking the head or snare wires) there was still more headroom.

A clear lacquer is applied to the shell, and the finish resembles the appearance of a cymbal. There are ten chrome-plated double-ended lugs. These are the same lugs used on Solid's wooden snare drums and they are box-shaped with sloping sides. Die-cast hoops are included, and the tension rod points on the hoops are shaped like the lugs, indicating Solid's attention to the cosmetic details of the drum. At each tension rod point there is an indentation for the washer. This allows the washer to sit flat, and helps in tuning. The tension rods are stainless steel so they will not rust, and will hold threads better than most tension rods made of an inferior metal.

This drum definitely is built