Roland W-30 Workstation

It was only a matter of time before Roland came out with a sampling-based workstation—but the important thing is that they got it right.

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We've been inundated with "workstations" over the past couple of years. Mostly, they include a sequencer, keyboard, sound generators including drums, and (sometimes) internal signal processing. The idea of these one-size-fits-all boxes is that you need not invest in anything else to make music; everything necessary to make instrumental tracks is all there, in one package, at an attractive price.

Right. And the Easter Bunny will be over for dinner just as soon as Santa Claus leaves.

The fact is, once you descend from the stratospheric world of Synclaviers and AudioFrames, most workstations are really just keyboards on steroids. I think people generally buy workstations for what they offer as keyboards, with the sequencer and processing taking a distant second place. Sure, an onboard sequencer is handy to have around for a sketchpad or to sequence a few MIDI instruments live, and onboard digital signal processing can save having to dedicate a reverb or two to your keyboard stack. But in many ways, I think Yamaha hit a bull's-eye when they refused to call the V50 (reviewed in the July 1989 EM) a workstation, preferring instead to say that it "contains features people expect from today's keyboards."

Given all the above, I approached the W-30, Roland's new $2,795 workstation, with a certain amount of trepidation. But Roland threw me a curve: it really *is* a workstation, with a genuinely powerful sequencer based on the Roland MC-500, a no-excuses sampler that's roughly equivalent to the S-330, and some open-ended "system" touches (polyphonic audio outputs, optional SCSI port for hard disk or CD-ROM, and file compatibility with a slew of gear) that can integrate it into a larger studio context. There are a few short cuts here and there (and my review unit's LCD made a soft, though distracting, whine), but overall, the W-30 lives up to its billing.

This workstation is wisely based on sampling rather than sample playback or synthesis (the only other "budget" workstation to cast its lot purely with sampling is the Ensoniq EPS). As Roland's ads say, "It's a whole lot easier to make a sampler sound like a synthesizer than the reverse," and I agree: I've had great luck combining synthesized and sampled timbres to create compositions that have the best of both worlds. There's no internal digital signal processing (curious, considering the great success Roland has had sticking reverb in their keyboards and expander modules), but all the other essentials are there.

For those who hate to sample, the W-30 comes with a selection of internal waves stored in ROM that become playable as soon as you boot the system disk. This does not compete with sample memory. Furthermore, the W-30 can load sound disks from Roland's S-330, S-50, and S-550 samplers, as well as from Optical Media's Roland CD-ROM (assuming you have an appropriate CD-ROM drive and have installed the optional SCSI interface). What this means is that the W-30 already has an extensive sound library.

The big surprise, though, is that Roland seems to have taken the scathing criticisms of their documentation and user interface seriously. The manual is generally readable and well-organized, but that's almost a moot point—the user interface is so logical and easy to understand, you need the manual only to catch up on the fine points and advanced features (of which there are many).

Multiple-identity "soft" buttons lie below the 240x60 dot LCD, call up specific functions and pop-up menus, and are given non-cryptic function descriptions on the LCD itself. Two large knobs control cursor setting and value, but in many cases you can select functions in several ways—with the knobs, numeric

keypad, or soft buttons. The user interface is so fluid it seduces you into using even advanced functions, and somehow makes them seem simple.

The W-30 consists of three main sections: the sampler, the sequencer, and the keyboard. Let's look at each in turn, but first, we'll investigate how the W-30 organizes its sounds.

SOUND ORGANIZATION

The basic sound unit is the wave, a raw sample. There are two banks (A and B) of ROM waves, and two banks of RAM waves you can load with your own samples, either from disk or by sampling directly into the instrument.

The next step up on the sonic food chain is the Tone, which takes a raw wave and processes it via looping, enveloping (both filter and VCA), level and pitch setting, and so on. The W-30 can hold up to 96 Tones, 64 of which use the ROM waves and 32 the RAM waves. Note that you can also take a Tone and modify its parameters, without using up additional memory, to create a Sub-tone. For example, you could sample a synthesized bass sound, then create a Sub-tone that's transposed up a couple of octaves and has a long attack time, thus creating a synthesized string sound. This allows for a greater variety of sound within the given memory constraints.

Assigning Tones to the keyboard and adding niceties like velocity crossfading creates a Patch (equivalent to a Preset in E-mu parlance or an Instrument in Ensoniq-speak). The W-30 holds a total of sixteen Patches. Two Tones can be layered on a key, although this cuts the maximum number of available voices from sixteen to eight.

Finally, a Patch can be assigned to one of eight Parts, each of which has a MIDI channel assignment that determines how a Patch will be accessed from the sequencer or MIDI input when placed in a multitimbral context. Since there are sixteen Patches one would think that sixteen Parts would have been useful, but considering the sixteen-voice limit, it would be hard to effectively use sixteen Parts anyway. Besides, if you need more sounds, any of the sequencer tracks can drive external MIDI devices.

Regarding the Patches that use the ROM waves when you boot the system (the operating system is not in ROM), these include drums (good and strong, lacking only a convincing hi-hat), nine basses (slap, fretless, fingered, and synth; fair to excellent), a weak clav, good electric piano (for those who are not yet sick of this sound), a nice string pad, standard issue polysynth sound, steam calliope, and a synth lead. The latter promises much more than it delivers: the upper range is murky, and pitch-bending gives pretty serious zipper noise, even with small bend ranges—a problem I noted on most sounds.

I was hoping for some piano, acoustic guitar, cellos, and other bread-and-butter sounds in ROM, but I guess you can't have everything. Still, drums, bass, and some pad sounds are enough to get you started, and the three sample disks included with the W-30 offer good piano, guitar, and other samples that you can load into memory for your own purposes.

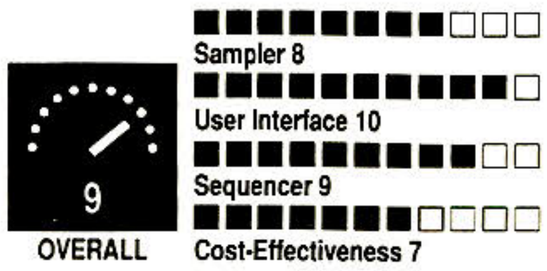
By the way, if you do check out the W-30, make sure you hear the four demo disks recently produced by Roland as sales aids (Amin Bhatia's tune "Olympic 89.2" is a standout). If you end up getting a W-30, see if you can copy these disks; you'll get some cool sounds for free. The W-30 Alternate Patches disk is also worth having as it provides easy access to sixteen alternate patches based on the internal ROM waves (these patches are also available on the system disk); these are mostly pads, though, and nowhere near as universally applicable as the sounds on the system disk shipped with the unit.

While we're on system-oriented topics, this is also where you can set the optional footswitch and footpedal assignments, turn local control on or off, determine whether the keyboard feeds MIDI out, set the MIDI out to a software MIDI thru, control whether MIDI clock and timing data will be transmitted, adjust keyboard MIDI channel and octave shift, and set breath controller data assignment.

But my vote for best system function is the one that lets you assign often-used screens (there are 62 of them!) to function keys, allowing you to jump immediately to a particular screen. This is a very helpful feature and is representative of the attention to detail that makes the W-30 something more than just another keyboard.

Product Summary

PRODUCT:
W-30
TYPE:
Sampling-based workstation
MAIN FEATURES:
Extensive sequencer-editing options, compatibility with sequencer and sample data from other Roland gear, polyphonic audio outputs
PRICE:
$2,795 (not including SCSI interface)
MANUFACTURER:
RolandCorp US
7200 Dominion Circle
Los Angeles, CA 90040
tel. (213) 685-5141



THE SAMPLER

The W-30 has all the stuff you'd expect from an upper-middle class, stand-alone sampler: graphic waveform editing displays, lots of editable synth-type parameters (such as filter with resonance, LFO, 8-stage envelopes for the filter and VCA—sorry, no pitch EG), velocity switching and crossfading—in short, all the current sampler vocabulary. Fixed frequency sampling technology, with interpolation to fill in "missing" samples when transposing downward, keeps the quality up and the noise down, even over a fairly wide transposition range.

The sound quality is a little better than what you'd expect from a standard 12-bit machine. No, it's not 16-bit, and Roland has not figured out any magic way to make the W-30 sound like it. But listen to the demos and some of the sounds; they're clean and usable. The sonic aspect that bugged me the most was the grainy pitch bend, and sometimes the high end is problematic, but otherwise it sounds pretty good.

The RAM blocks that store samples are segmented into 400-millisecond blocks at the maximum 30 kHz sampling rate. Since I'm a fan of short-looped synthesizer samples, often squeezing multiple samples into a space that long, I'm kind of disappointed that smaller memory blocks are not available. File under *c'est la vie.* Another point of con-

cern for memory hogs is that according to a Roland representative, there are no plans to offer memory expansion for the W-30. I hope some third-party developer gets on it, because a 2x or 4x memory expander would really kick this machine into overdrive.

Upon pressing a key, the sample can be played once (forward or reverse) or looped (forward or bidirectional looping is available). You can select the start and end points as well as the loop points, and hear the effects of loop point changes as you make them—hurrah. You can choose the loop points manually, or use the built-in autolooping algorithm (which works only on forward looping and seems happiest creating single-cycle loops). For those "unloopable" sounds, rather than include a crossfade looping algorithm, the W-30 can "smooth" the wave data between the loop points to make it easier to loop. This is a destructive process; samples must be saved or copied before trying this, just in case it doesn't work out.

Although the looping options aren't as sophisticated as some machines, it's still fairly easy to get acceptable loops, partially because of the impressive (and fun) graphic waveform displays. There are three view modes: you can look at the entire waveform (good for getting an overview), at the individual loop start and end points, and at the loop splice point (i.e., the display's left side shows the waveform up to the loop end, and the display's right side shows the waveform from the loop start point). The latter is a staple of computer-based visual editors and is great for lining up loop splices.

For editing, you can truncate, mix, butt splice (Roland calls this "combine"), or copy waves. Digital filtering (highpass or lowpass) with variable frequency and resonance is present as well.

The sampling process itself is straightforward, including the usual pretrigger (10, 50, and 100 ms) and threshold functions found on just about any decent sampler these days. The input level control is on the back—kind of a silly place, if you ask me—but I can cope.

THE SEQUENCER

Not an afterthought, not a gimmick, and not under-powered, this is an easy-to-use yet very capable sequencer. It has its own dedicated memory and does not compete with the samples for RAM.

Recording follows along the usual lines for a sequencer that uses the tape recorder metaphor instead of pattern/song programming, but there are a few twists. You can set record in and out points on measure boundaries, do drum machine-style loop recording, or jump to eight different autolocations (which are easy to set). A single button press takes you to the beginning or end, and there are recorder-like play, stop, and forward/reverse controls. To initiate recording, you can press a button, postpone recording until you hit a key, or let an autopunch feature do the work for you.

Editing is where the sequencer really shines. On a global level, *track editing* works on any or all tracks. You can even edit specific note ranges within specific measure ranges of the chosen track(s), and insert/delete measures (when deleting measures at the beginning of individual tracks, the whole track shifts forward; when creating new measures, you can mix time signatures). Other track edit options include copy, merge (different MIDI channels retain their channel identities when merged), erase, quantize (with offset if desired), transpose, clock shift, and pitch shift. You can also change MIDI channels, gate time, or velocity (with add, subtract, *and* scale functions for both gate and velocity). Extract replaces the contents of any or all MIDI channels from one track with the same channel data, which is then erased, on another track; exchange swaps two tracks. It's possible to insert tempo changes in a dedicated tempo track, which is separate from the sixteen main tracks.

Micro editing functions let you get really deep into the bitstream. The process is a bit tedious, but comprehensive. Events are viewed as an event list, with measure, beat, and clock; channel; type of data; and value. All are editable, either with the value dial, numeric keypad, or in many cases, with the keyboard (e.g., to set velocity, play that velocity on any keyboard note). You can also choose *not* to display particular data; this is good for, say, turning off pitch bend messages so you can concentrate on note data. As you scroll through note events, the W-30 will automatically play them.

MIDI functions are what you'd expect: you can send data to internal sound sources and/or external devices, slave to song pointer or generate it if used as a master (but there's no tape sync), assign different channels to different tracks, and so on. You can even edit and create sysex data (up to 500 bytes) should you want to dump new parameters to some MIDI gizmo while sequencing. The sequencer can send and record polyphonic aftertouch via MIDI, although the W-30 keyboard generates only channel aftertouch.

All the standard disk save and load disk functions are there, too, including commands for compatible formats. Disks can be of two types: song only (64 songs with a total of 100,000 events, with an event being pitch bend, program change, aftertouch, note on/off, etc.) and sound and song (approximately 7,000 events), which stores songs along with their samples.

Overall, the sequencer is much more than what gets built into the average keyboard. It has lots of nice touches (like a countdown timer when it loads from disk, and a track data screen that shows which tracks contain what kind of data), an array of features more likely associated with computer-based software, and true ease of use—if you know a bit about sequencers, you can figure out most of it without the manual in a couple of hours, then read the pertinent parts in the manual (it's *indexed*) to fill in the gaps.

For live use, as a sequence playback device it's overkill—you don't need that kind of editing up on stage. Rather, the sequencer helps legitimize the W-30 as a workstation. The fact that it can drive external devices is great. The biggest limitation is the 96 ppqn resolution; only you can decide whether that's adequate for your needs.

THE KEYBOARD

So much for the main features. First, a correction: the MIDI implementation chart says that the keyboard transmits neither pitch bend nor aftertouch over MIDI; happily, this is incorrect. Unlike pitch bend, aftertouch and velocity response is smooth. There is no mod wheel per se; the W-30 uses a single wheel that, when rotated to the right or left, bends pitch up or down respectively, and when pushed toward the rear of the instrument, generates a single continuous controller value of your choice (from 0 to 127) over MIDI controller 1. It cannot generate smooth controller changes.

Bend range, octave select, master tuning, and individual levels for each patch are selectable. What's less common is that while the keyboard has a 61-note range, Tones can be assigned over a 109-key range. These can be accessed directly over MIDI, or by shifting the keyboard up and down in octaves to grab a particular note range.

Three voice allocation modes are available. You can fix a particular number of voices to a particular set of parts in 22 different ways, from sixteen voices stacked on one part to two voices stacked on eight parts, with twenty other options in between these two extremes. There are also two dynamic allocation modes, last-note and first-note priority. First-note priority may seem weird, but it lets the machine ignore new messages and lets older notes sustain, which may be useful to somebody, somewhere.

In other odds and ends, the optional footswitch can function as a sustain switch, do punch-in/out, or start/stop the sequencer. The optional volume pedal can transmit over any continuous controller from 0 to 95.

SO WHO'S IT FOR?

Despite the thoroughness and clever design, this isn't the instrument for everybody. If you already have a high-level, computer-based sequencer, the W-30 is redundant, and there's no point in paying for it. Pick up a sampler instead. If you already have a sampler, then the sampler section is unnecessary, and you're probably better off getting a sequencer like the MC-500, or a computer-based sequencing setup. But if you're in the market for an instrument that really does pack a tremendous amount of power in one small box, and has the hooks for future expansion as well, the W-30 doesn't mess around. ■

TECH SPECS AT A GLANCE

Sampler

Keyboard: 61 notes, global aftertouch, and velocity
Internal storage: 0.5 megaword ROM, 0.5 megaword RAM
Disk storage: internal 3.5-inch disk holds 0.5 megaword of samples, 16 patch parameters, and 32 Tones based on internal ROM data. Upgrades are available for optional SCSI port and hard disk.
Total sampling times/rates: 14.4 seconds/30 kHz; 28.8 seconds/15 kHz
A/D resolution: 12 bits
Maximum notes: 16, with three dynamic allocation modes
Audio outputs: Eight individual polyphonic 1/4-inch phone jack audio outputs, stereo headphone jack
Sampling input: Mono audio in with gain trim

Sequencer

Note capacity: Up to 15,000 events (note on/off counts as a single event)
Song capacity: Up to 20, with MIDI song select
Maximum song length: 9,998 measures
Tracks: 16, plus dedicated tempo track
Resolution: 96 ppqn
Editing: Track, measure, or event
Sync: MIDI song position pointer send and receive with start, stop, and continue
Disk storage: Internal 3.5-inch disk stores up to 64 songs, 100,000 events; or 7,000 events if used to store sound data, too
Controllers: Tape transport-style fast forward, rewind, play, and stop buttons; footswitch (shared with some sampler functions) for sequence start/stop and record/punch

General

Current consumption: 18 watts (very energy efficient)
Size: 39 15/16 x 11 7/8 x 4 3/16 inches
Interface: 62 menu-driven screens displayed on high-resolution, backlit LCD with contrast control, dual alpha dials, 29 buttons
Compatibility: Reads samples from S-50, S-550, and S-330 disks; reads sequences from SYS-553, SYS-333, SYS-503, MRC-500, MRC-300, and Super-MRC disks (data can also be saved in these formats)