Fred Manteghian reviewed the Krell Home Theater Standard 2 in our January 2002 issue, and while he raved about its performance, a few features were missing that any well-turned-out, high-end surround-sound preamplifier-processor should have to compete on even terms in today’s hot home-theater market. Those features, as promised, are now available in the Home Theater Standard 7.1. But owners of the earlier model haven’t been left out in the cold; the HTS 2 can be upgraded to the HTS 7.1, and while Krell charges $1500 for the upgrade, the HTS 2 originally cost $6500, so your total out-of-pocket costs will be comparable to the price of a new HTS 7.1. And just as the HTS 2 can be upgraded to the HTS 7.1, the basic flexibility of the design allows for possible future upgrades to the hardware and software of the HTS 7.1 as well.

**Description and Setup**

The HTS 7.1 matches the style of the entire Krell KAV series, with a brushed and polished aluminum chassis that is less laid-back than the company’s more conservatively styled, 2-channel–oriented Class A series. A full set of front-panel buttons provides access to all the usual operations, as does the small remote. User feedback is provided by the unit’s small LED display or onscreen menus. Around back, an ample set of inputs and outputs permits balanced or unbalanced operation.

Surround operations are handled by two Crystal Digital signal processors, the CS49623 and CS493302. All digital signals are upsampled to 24-bit/88MHz precision for internal processing. The digital high- and lowpass filters run at double precision (48-bit). The analog stages, with a rated bandwidth of 1MHz, use Krell’s Current Tunnel topology, developed for the company’s Class A Series 2-channel preamp.

Standard features include a full complement of operating modes, including a number of music surround formats for simulating surround from 2-channel sources. FM
discussed these in his review of the HTS 2 (available online at www.guidetohometheater.com). Suffice it to say that Krell’s, unlike the simulated surround modes in most surround processors and receivers, are well worth experimenting with. If you don’t like them, 2-channel stereo is available at the touch of a button on the remote.

There are a zillion other things I could discuss about the operation of the HTS 7.1, but I’ll resist the temptation to cover everything that appears in the 75-page owner’s manual. One thing you’ll want to know, however, is how this update differs from the HTS 2. There are added music and film surround modes: Dolby Pro Logic II Movie and Music (unlike the original Pro Logic, which was designed solely for film, Pro Logic II is suitable for music as well as matrixed Dolby Surround film soundtracks), DTS Neo:6 Music and Cinema, THX Surround EX, Dolby Digital EX, and DTS 6.1 ES Matrix and Discrete. THX can be switched in or out of all film surround modes, including EX and DTS ES, by repeatedly pushing the THX button on the remote. There’s a 7.1 analog surround bypass mode for DVD-Audio and SACD. Both of these formats are currently native 5.1, so you’re unlikely to need the extra two inputs for surround back channels, but they’re provided anyway. The HTS 7.1 sports several available crossover points (40Hz, 60Hz, 80Hz, 100Hz, or 120Hz) vs the single 80Hz point of the HTS 2, though a single point must be selected for all crossed-over speakers. And all 7.1 channels now have 24-bit/192kHz DACs.

Setup is performed using the onscreen display (OSD) menus. These are available from all three flavors of video outputs: composite, S-video, and component. Composite and S-video provide two monitor outputs each, one with OSD, the other without. But component has only one set of outputs, and these provide OSD. If you use the component output, one way to keep an indicator from popping up every time you change the volume level is to shut off the menu; you can do this by going into the Operation setup menu and changing the OSD “On” time to “0.” Another option is to set the component input to the Progressive/HD setting, which disables that input only.

Like all sophisticated surround processors, the HTS 7.1 is relatively complex, but the sequences provided by the OSD menus made setup painless. After you connect all the inputs, you access the main menu to designate the speaker setup (5.1, 6.1, or 7.1), the bass range for each speaker (Limited or Full Range), and the crossover frequency to the subwoofer. There are also the usual speaker-level and distance settings; you can calibrate the levels with the processor’s own test signal, which can cycle between the speakers automatically or manually, or you can use an outboard signal of your choosing—possibly from the Video Essentials or Avia Guide to Home Theater test DVDs.

After setup and calibration, you designate which input buttons will be linked to the input jacks you’ve used. Any input can be assigned to any button (or you can use the factory defaults, if they’re suitable). Analog audio inputs, digital audio inputs, and video inputs are separately assignable. There are ample inputs for almost any application; about the only one missing is an RF input for Dolby Digital laserdiscs—a rare feature on any of the current crop of surround processors.

Limitations and glitches? Not many, but a few worth mentioning. As FM noted of the HTS 2, the HTS 7.1 also tends to cut off the first few milliseconds of a CD as it locks on and settles down. It does the same with the

| REVIEW SYSTEM |
| Sources |
| Proceed PMDT DVD player |
| Kenwood DV-5700 DVD player |
| Power Amp |
| Krell Theater Amplifier Standard |
| Speakers |
| NHT M6 (LCR) |
| Revel S30 surrounds (2 pairs in direct-radiating, monopole mode) |
| Revel Performa B15 subwoofer |
| Cables |
| Digital: Kimber AGDL, Sound and Video |
| Interconnect: Monster Cable |
| Speaker: Monster Cable |
occasional DVD; the sound on the THX logo that opens *Ice Age*, for example, was truncated a bit. On more than one occasion, I got no sound when I switched to an input; cycling to another input and back again invariably corrected the problem. You can't set up separate operating parameters (Full Range or Limited response for selected channels, crossover frequency, levels, etc.) for different sources, though there is a bass-level trim for music-only sources.

As is the case with most current surround processors, there is no bass management when listening through the multichannel analog bypass inputs—all speakers are driven full-range. There's an option in which the subwoofer can be turned on, presumably fed with a combined signal from all channels (the manual doesn't say), but there appears to be no lowpass filter at the subwoofer output in this mode. You'll have to use your sub's onboard lowpass filter to keep it from reproducing excessive upper-bass energy, muddying the sound, and possibly being localizable. This limitation may make system setup difficult if you plan to use a subwoofer for both hi-rez multichannel audio and home theater. If you're happy with your main channels' bass response alone for multichannel audio, it won't matter.

I generally liked the remote control once I got used to it, but it's still not illuminated, and it was all too easy to push the wrong button. Several times I was trying to increase the level and accidentally put the processor in Standby (the buttons are next to each other). The remote is conveniently thin and light, but it has a homing instinct for the cracks between sofa cushions. Presumably, most buyers in this price range will be using some sort of all-singing, all-dancing aftermarket touchscreen remote to control the Krell and the rest of their system, rendering any criticism of the stock remote moot. But a few of us still cling to the hair-shirt policy of using the dedicated remotes of our individual components. Finally, the readouts on the front-panel display are hard to read from more than a few feet away.

**Performance**

While my discussion here will be almost exclusively audio, one non-audio feature worth noting is the Krell's broadcast-quality video switching. Krell claims a video bandwidth of 80MHz for its switcher, and I believe it. I used it with several high-resolution displays, including some very detailed plasmas, and saw no visible degradation of DVD or high-definition signals.

Most of my listening from DVD-Video and CD was done using digital inputs to the HTS 7.1. For 2-channel music listening, the modestly priced (relative to the processor) DVD and CD players I had on hand would, I reasoned, be the limiting factor if I used their onboard DACs and analog output stages to evaluate the Krell's 2-channel analog performance. The single high-end DVD player I had on hand—the Proceed PMDT—has no analog audio outputs. (The Krell and EAD DVD players reviewed in last month's issue were not available to me in time for this review.)

My DVD-Audio listening was done through the multichannel analog bypass inputs, and that experience strongly suggested that the Krell's analog-only operation need be no concern for the critical listener. For those with sophisticated analog sources (most likely vinyl LP through an external phono stage), the Preamp mode is a 2-channel bypass that drives the left and right main-channel speakers full-range without a subwoofer.

I also used the usual 80Hz crossover frequency to the subwoofer. Dynamic-range compression (there are two selectable levels, 11dB and 22dB, the latter called Night mode) was left off at all times, and the sys-
tem was set up for 7.1-channel operation, with two surround speakers at the sides (120° back from the front-center position) and two more in the back.

I didn't immediately get the best out of the HTS 7.1—like many high-resolution audio products, it appeared to be a little particular as to its partnering components. It worked well with a well-used Revel Performa F30 speaker system, but sounded a little bright with a new and not yet run-in Performa F50 system (review in progress). But when I listened to it through the new NHT Evolution M6 speakers (used in the three front channels; a review of the complete T6 system is scheduled for an upcoming issue), the balance was almost ideal, particularly when I connected the processor to the Krell Theater Amplifier Standard with Monster M1500 single-ended interconnects. That setup, combined with four Revel Performa S30 surrounds and a Performa B15 room-equalized subwoofer, is the setup reflected in all of my comments.

The HTS 7.1 was an extremely open, detailed, and dynamic-sounding surround processor. If it didn't always sound smooth and sweet, well, there's plenty of program material that doesn't sound smooth and sweet, either, and you don't blame the messenger. Even so, with the system described above I seldom felt the need to switch in THX re-equalization.

One of my longtime favorite soundtracks for evaluating sound quality is Fools Rush In. For a romantic comedy, it has a particularly open, sparkling quality, and that's just the way it came across through the Krell. It definitely did not sound soft, but it didn't spill over into unnatural brightness either. While sound effects on this DVD are limited, they're there if you listen for them. Chapter 34 has a particularly effective thunderstorm that will do everything but get you wet, and the Krell handled the rumbling thunder with natural ease.

More significant, however, this DVD has a superb underscoring of pop songs. The extended musical interludes in chapter 30 and, particularly, in chapter 27 sounded outstanding through the HTS 7.1, with fine depth, air, and detail. And the club sequence in chapter 25 has everything from a persistent, driving bass rhythm to the ambient sounds in the club itself. With the Krell, it was all there.

Even bad—or at least badly flawed—movies can have terrific soundtracks. The recent remake of The Time Machine won't be on anyone's list of the best films of the year, but it provides plenty of eye and ear candy. The bass is solid throughout, and the HTS 7.1 brought out the music's cinematic sweep, particularly in the children's chorus and the dynamic orchestral accompaniment to the time-travel sequences.

But The Lord of the Rings: The Fellowship of the Ring is my current favorite sound-test DVD; it's superb throughout, despite having been recorded about 10dB too hot. This might make it a handy overload test for pre-pros. The Krell shrugged it off, sailing through unruffled and sounding great in the process. The dynamic range was alarmingly wide. Despite the probability of dynamic compression in the recording to compensate for the high-level transfer, I heard no loss of punch or impact—on the contrary, in fact. The Dolby EX soundstage was solid, and while I'm not yet entirely convinced that everyone needs to go to a full 7.1 channels in their home-theater systems, in my room this recording through the HTS 7.1 certainly made as good a case as any for such a setup. The orcs surrounded me in the cave scenes, and the superbly recorded music track—particularly the often-used chorus—sounded startlingly good for a film. Actually, this didn't surprise me; I know how good the music can sound on the best soundtracks. But this recording, as heard through the Krell, might well convince a lot of skeptical audiophiles.

The Music Goes ‘Round

We all hope for even better sound from digital now that we have SACD and DVD-Audio. But there's still not a wide-enough selection of program material in either format, and we're all still groping around a bit in the multichannel music soundstage.

Nevertheless, I popped a few DVD-A recordings into the Kenwood DVD player to test the Krell's bypass quality. It performed extremely well, with a single caveat: the above-mentioned lack of a lowpass filter on its subwoofer output in this mode. If you don't roll off the sub's top-end response by using the lowpass filter in the sub itself (which may be a little inconvenient, because you probably won't be using the
sub's filter for film playback), inherently clean, open-sounding recordings—like Paul Simon's *You're the One* (Warner Bros. 47844-9) and the soundtrack from *AI: Artificial Intelligence* (Warner Sunset/Warner Bros. 48096-9)—can sound a little muddy. Good organ recordings, however, like Ton Koopman’s *Organ Spectacular: Famous Organ Works by Bach* (Teldec 8573-82041-9), were less affected by this (assuming the sub is positioned so that localization is not an issue), since they tend to sound warm and rich in the first place. In any case, if you're using full-range speakers in all channels, or an outboard bass-management box such as the Outlaw ICBM, this will not be a concern.

The music surround modes could be fun, but to get a better handle on what the Krell would do music-wise with familiar program material, I listened to it primarily with some of my trusty 2-channel reference CDs in stereo mode. For starters, the Krell easily sorted out the differences among CD/DVD transports used from their digital outputs, the Proceed PMDT easily bettering the much less expensive Kenwood DV-5700 and an older Pioneer CLD-99 laserdisc/CD player. It also revealed differences among digital cables with little difficulty. I know, I know—many audiophiles are highly skeptical when they read reports of such differences. I can only say that I heard them through the Krell, which speaks highly of the HTS 7.1’s powers of resolution. (Or, if you’re in the show-me camp, it might make your head spin. Lie down for a few minutes and it will pass.)

In any event, the HTS 7.1 in 2-channel stereo mode left little to be desired. Imaging was superb, even with a 40-inch Toshiba RPTV in the center of the soundstage (though a couple of feet behind the plane of the speakers). Coloration was extremely low, and good recordings had just the right balance of detail and warmth. Overly bright recordings weren’t made to sound sweet and smoothed-over, but they didn’t bite back, either. Closely miked voices and instruments were up-front, but there was plenty of depth when called for. Bass was strong, deep, and punchy. In short, I couldn’t find much of anything to complain about.

Conclusions
Components produced in relatively low quantities, like the Krell HTS 7.1 and products from other high-end manufacturers, are inherently expensive. But for your money, you get not only top performance, but superb build quality and the services of a company small enough to provide the kind of customer support that’s hard to find these days. Yes, you can get excellent sound for less, but that last 10% of performance is always expensive. If the HTS 7.1 can’t quite fit into your budget, you might want to look into Krell’s new Showcase processor. We haven’t tested it, but at half the price of the HTS 7.1, it’s certainly worth a close listen. If the Krell Home Theater Standard 7.1 is within your reach, however, you won’t be disappointed.