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World's Best HDTV? PIONEER'S ELITE PLASMA



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SONY'S \$399 PLAYER

**ELEVATING
THE AVR**
PIONEER'S LATEST
AND GREATEST



Pioneer Elite KURO PRO-111FD Plasma HDTV

PRICE: \$5,000 **HIGHLIGHTS:** Blacks to die for • Precise color and excellent resolution • 72-hertz operation on film-based sources for judder-free motion • Video processing could be better

Once More, With Feeling



My review schedule is starting to look a bit like the Pioneer Channel. But timing is everything. Pioneer is introducing a boatload of interesting new products, including the newest KURO flat panels. These include the upcoming Signature Series KURO monitor plasma models. Pioneer says these models will offer enough adjustments to inspire video calibrators to set up shop in buyers' homes. "Will calibrate for room and board."

These products will be around until next summer (at least), but we didn't think you'd want to wait until then to read about them. That's particularly important this year. This series of KURO plasmas—generation 9—will be the last models built completely by Pioneer. Next summer, if things go according to plan, the company will roll out its generation-10 sets with some components supplied by Panasonic (although the sets will reportedly still include Pioneer-exclusive features and technologies).

The Lay of the Land

Pioneer has long offered two plasma lines: Pioneer and Elite. Both offer similar performance in many ways. They both provide the best black levels in the flat-panel business—plasma or LCD.

But the two lines have differed in some of the features they offer. This year the differences are even more pronounced. In particular, the Pioneer sets have no color-temperature options in the User menu, nor any way to calibrate the factory setting (not even in a hidden service menu, according to Pioneer). The company says this further distinguishes the two lines and makes the Pioneer line easier to operate for the average user.

The Elite line, which includes the Elite KURO PRO-111FD,

doesn't have this limitation. In fact, its feature set is nearly the same as that in the generation-8 Elites. The biggest changes are in the onscreen menus and the remote control.

The new menus aren't all that different than before, but they aren't distinctly better, either. For example, it takes longer to get into the new Picture menu. It's located in a separate Setup menu rather than the Home menu as it was in last year's models. The multi-component remote still works well, but many of its important buttons are smaller than the previous model's.

The PRO-111FD offers an Ethernet port for a home network

connection and an RS-232C terminal to supplement its standard video and audio connections. The latter connections are generous enough, apart from the single component input.

As in earlier Elite models, Pioneer packs the speakers for the above-average onboard audio system separately from the set itself. Most users will mount the speakers to the left and right of the screen. But the speakers are wired externally, so you can leave them off or move them to a different location if you have limited space.

Pioneer includes a USB interface for the Home Media Gallery, in addition to the Ethernet. You can

use the Home Media Gallery feature to display your own photos and videos. You can even display your HD videos if they are recorded in a compatible format. The PRO-111FD also includes a Multi-Screen function that displays picture-in-picture or two images side by side, as well as a three-position Energy Save control.

KURO Link is Pioneer's version of the industry-standard HDMI Consumer Electronics Control (CEC), which most manufacturers now offer under various names. This feature is designed to provide integrated control of equipment linked together via HDMI. But not all CEC-capable equipment

Screen image courtesy of 20th Century Fox



provides full CEC interactivity with all manufacturers' gear.

The PRO-111FD has seven different AV Selections—Pioneer's name for the usual preset picture modes. Although most of the settings for Dynamic and Optimum are fixed, you can change the controls for the other modes from the factory settings to your preferences. The User mode is the only mode you can set up differently for each input. You can use the other modes for more than one input, but the same settings will apply to all of them.

The Optimum mode uses a room light sensor and a color sensor to automatically and dynamically adjust the picture for both the room and program material. It also adjusts the audio and even takes the characteristics of the *video* into consideration when it makes its sound adjustments. An onscreen menu displays the current status, but it's an information menu only. You can't make manual changes in the Optimum mode; they're locked into the internally calculated and constantly changing picture settings.

Pioneer designed the Optimum and Standard modes to comply with the newest Energy Star standards. Pioneer also reduced the set's

power draw in standby mode, from about 25 watts in last year's gen-8 sets to less than 0.5 watts in the gen-9 models.

The Pro Adjust submenu offers a wide assortment of specialized controls. Some are useful, others, not so much. The PureCinema control automatically detects film-based sources and offers three options (plus Off):

- Standard (interlaced inputs only) converts the input, as necessary, to feed the panel 1080p at 60 frames per second (or hertz), complete with 3:2 pulldown for film-based sources.

- Smooth (for all sources except 1080p/60) reportedly produces "smoother and more vivid moving images." As far as I could determine, though, it offered no real benefits.

- Advance (also for all sources except 1080p/60) converts film-based program material (as required) to 1080p at a display rate of 72 fps. First it eliminates 3:2 pulldown (if present) and then converts the 24-fps result to 72 fps by repeating (not interpolating) each frame three times.

If the program material is already 1080p/24, as is the case with nearly all films on Blu-ray and HD DVD, the Pioneer converts it to a display frame rate of 72 fps automatically. It will do this regardless of the PureCinema control's setting.

You'll also find the display's five preset color-temperature settings in Pro Adjust. There's also a Custom option that allows full calibration with the User menu's red, green, and blue adjustments (both High and Low). Only an experienced calibration technician with the appropriate test tools should use the Custom option.

The only other Pro Adjust controls I found useful were Gamma (three options), Enhancer (set to either 1 or 2), Color Space (2 provides the most accurate color), and I-P mode for interlaced sources only (2 is the standard—and best—

setting). On less-than-pristine program material, I also liked a touch of one of the four flavors of noise reduction (3DNR, Field, Block, and Mosquito).

The other Pro Adjust controls offered little or no benefit. In my opinion, some of the controls degraded a properly adjusted and calibrated picture. I recommend leaving them off or in their neutral settings.

The set also includes the ISF CCC feature, which provides a special, code-locked setup menu that calibration technicians can use. This menu offers separate Day, Night, and Auto ISF AV Selections (modes), much more flexible gray-scale adjustments (at 10 positions across the brightness range, rather than the usual high and low), and separate adjustments for each input. You can't change the settings in the ISF modes once the calibration is complete, but you can still access and adjust the other modes.

Of the available aspect ratios, Dot by Dot (available only in 1080i and 1080p) offers the lowest (zero) overscan. The Full option slightly overscans a 16:9 image (an average of about 3 percent, peaking at 4 percent), which may be useful if there's unwanted noise at the edges of the picture. However, overscan does sacrifice some resolution.

Pioneer also designed a number of features to minimize the risk of image retention or burn-in, such as its Orbiter mode. In my experience, Pioneer sets resist visible image retention more than other plasmas I've tested. Still, you should exercise a reasonable degree of caution. In particular, you should always avoid extended display of still images. This is a good practice with any phosphor-based set (plasmas and CRTs).

No Surprises

The Mid-Low color-temperature option produced a very respectable, out-of-the-box gray scale. But I did most of my testing and viewing in the Custom setting, after a full calibration. I also worked primarily in the Pure mode, which produced the most accurate color gamut (with the Color Space set to 2, as noted above).

The Pioneer's 480i-to-1080p video processing (tested with a 480i component input) produced a fair result, at best. It displayed more jaggies than usual on my standard slate of torture-test patterns. While it did recognize 3:2 pulldown, it was a little poky in doing so. But on real-world tests, including *Gladiator*, *Star Trek: Insurrection*,



• The PRO-111FD's speakers are externally wired and detachable, so you can mount them to the cabinet or leave them off.

and *The Day the Earth Stood Still*, the PRO-111FD performed well. The results on 1080i-to-1080p tests were only fair, as well. The set deinterlaced well, but it didn't recognize 3:2 pulldown. It produced moiré on many of my tests, including the Vatican wall and steps on *Mission: Impossible III*.

The PRO-111FD reproduced above white and below black, but just barely. There was enough of each to properly set the Brightness and Contrast controls, but little more than that. Many sets (including Pioneer's own gen-8 PRO-110FD and PRO-150FD) push deeper into below black and above white. Fortunately, this had little or no visible impact on most program material. But if the source includes significant information above 100-percent white (it shouldn't, but some programming does), it will be crushed out.

These concerns were not distracting in normal viewing. Moreover, the Pioneer's exceptional color, resolution, and contrast completely overshadowed my concerns. The colors were accurate, not just flesh tones and greens (the latter, in particular, were more natural-looking than on most digital displays), but in every other respect as well. It's true that we can't always tell if a specific color is "right." This is particularly the case if it's on an unknown object or something we don't see every day in the real world. But nothing in the Pioneer's color looked wrong. Its nearly flawless technical performance (see the Measurements) confirms that I wasn't just seeing pretty but false representations of the real thing.

Casanova (Blu-ray) may have its flaws, but picture quality is not one of them. Its eye-candy alone is worth the price of admission, and the PRO-111FD showed its brilliant production design. The images pop with color, but it never looks overdone. The resolution is exceptional, as well. The Pioneer



Features

PIONEER ELITE KURO PRO-111FD PLASMA HDTV

TYPE: Plasma

SCREEN SIZE (DIAGONAL, INCHES): 50

NATIVE RESOLUTION: 1,920 by 1,080

HD TUNER(S): 8VSB/64QAM/256QAM, ATSC, QAM (cable in the clear)

RATED HALF LIFE: Not specified

WALL MOUNT OR STAND INCLUDED?: Stand

DIMENSIONS (W X H X D, INCHES):

56.9 x 28.5 x 3.7 (without stand);

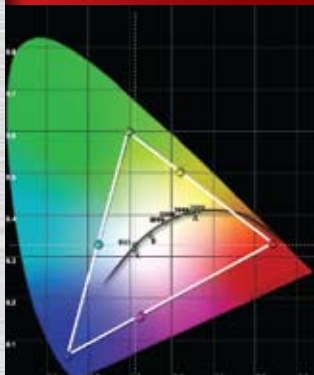
56.9 x 31.1 x 13.8 (with stand)

WEIGHT (POUNDS): 82.4 (without stand);

88.0 (with stand)

PRICE: \$5,000

HT Lab Measures



PIONEER ELITE KURO PRO-111FD PLASMA HDTV

0.001 37.0

FULL-ON/FULL-OFF CONTRAST RATIO: 37,000:1

Visit our Website for a detailed explanation of our testing regimen, plus a list of our reference gear.

on the web

All of the measurements here were taken in the Pure mode, adjusted for the most accurate picture. The Energy Save control was set to off. The full-on/full-off contrast ratio above speaks for itself. The Pioneer KURO PDP-6020FD we reviewed in the September 2008 issue (the latest KURO 60-inch standard-range model) actually had a lower measured black level—0.00 ft-L. But this difference appears to be strictly a result of unit-to-unit variation. (We're dealing with very small numbers here.) Again, this is at the very threshold of our test instruments' published specs for accuracy.

Some readers may recall that the gen-8 PRO-150FD we reviewed also had a measured black level of 0.001 ft-L. I was unable to view the PRO-150FD and the PRO-111FD side by side, but my impression was that the PRO-111FD has darker blacks. And apart from the fact that the

PRO-150FD may have been an above-average gen-8 sample, keep in mind that our light meter rounds off to three decimal places. Even assuming absolute meter accuracy at its minimum sensitivity, that could mean that a reading of 0.001 could actually be anywhere between 0.0006 and 0.0014.

I did note a black-level oddity that I first saw on the PDP-6020. When I switched quickly from a bright white test pattern to video black, the black level would initially be elevated. After a few seconds, it would drop to the more typical, low level shown above. After another 15 to 30 seconds, it would drop further, to total black—as if the set had shut off (it hadn't). But I only experienced this on test patterns.

The software needed to use the more precise ISF CCC feature was still under development. But even without it, the PRO-111FD calibrated beautifully. The color tracking charts below show how well a display adheres to the D65 standard white point. The pre-calibration result is for the Mid-

Low color-temperature setting. Post calibration, the result deviates from nearly perfect compliance only at the darkest end of the brightness range, below 30 IRE, and then only to a degree that's visually irrelevant.

The white triangle in the set-shaped CIE chart shows the set's color gamut in the Color Space 2 setting (Pure mode). It's a virtual overlay of the ATSC standard (the black triangle, nearly invisible here).

The HDMI luma (black-and-white) resolution was superb up to the limit of our resolution test patterns in 1080i and 1080p, with the chroma (color response) nearly as good. The 720p (HDMI and component) resolution was slightly less impressive, but only by a step short of excellent. The same held for true 480i/p (HDMI and component)—within the more limited resolutions inherent to those formats. 1080i component fared the worst, with a satisfactory score.—TJN



Connections

INPUTS: VIDEO: HDMI 1.3 (4), PC RGB (1), component video (1, shared), S-video (1, shared), composite video (3, 2 shared), antenna **AUDIO:** L/R stereo (5), PC (L/R minijack) **OUTPUTS: AUDIO:** L/R analog (fixed), digital (optical), subwoofer, speakers (L/R), headphones **ADDITIONAL:** USB, Ethernet, Control Out, RS-232C, IR Repeater Out, Color Sensor Terminal

precisely rendered the details in the powdered wigs, the smallest stitch in the elaborate costumes, and every texture in the sets. While the Panasonic TH-50PZ85U (reviewed in the October 2008 issue of *Home Theater*) looked very slightly crisper when viewed side by side, no one will likely be disappointed by the Pioneer's natural reproduction of color and detail.

And certainly no one will complain about the Pioneer's reproduction of blacks and shadow detail. It's truly mind-blowing to see the star fields in *Stargate: Continuum*, the belowdecks scenes at the beginning of *Master and Commander: The Far Side of the World*, and the darkest scenes in *Batman Begins* as they were meant to be seen. No gray haze. No washed-out areas. No uneven, muddy appearance. And, most importantly, nothing takes you out of a film. Some users might comment that the Pioneer's blacks are unrealistic because you'll never see blacks this rich and deep in a movie theater, but I suspect that most filmmakers wish you could.

The Pioneer's great blacks also give its images a genuine feeling of depth. This sort of depth hints at reality in a way that the plastic depth you get from a 3-D movie in a theater doesn't. The latter is fun for a couple of hours but would be tiring as a steady diet.

So how does the KURO PRO-111FD compare with last year's PRO-110FD? While my measurements showed that the newer set's blacks were at least 75 percent deeper than the blacks on the older model, we're talking about very subtle differences—in the



A few important buttons are smaller on Pioneer's new remote, but Tom still liked its performance.

range of 0.003 foot-lamberts. These blacks approach the accuracy threshold of the professional-grade instruments we use to measure them. While it doesn't seem possible that they would be visible to the eye, the PRO-111FD's blacks look clearly darker on scenes that have a large area of black, such as a star field or the fade-out between scenes. The new set is also sharper and has more richly saturated colors, even on bright scenes. (The depth of a set's blacks forms a foundation for nearly all program material; it just looks more obvious on the darkest.)

All of these differences were relatively subtle. They were mainly visible in a side-by-side comparison. They were real enough, but the two sets looked remarkably alike on most program material. If you just bought a gen-8 PRO-110FD or a PRO-150FD, you haven't missed the gravy train.

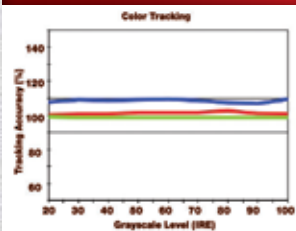
Conclusions

When we were pondering our RAVE Award winners for this year, editor Shane Buettner asked me to comment on the Pioneer as a strong candidate for major kudos. My review was still in progress, and all I could think was, "What if I find something bad at the last minute, after the awards are set in stone?"

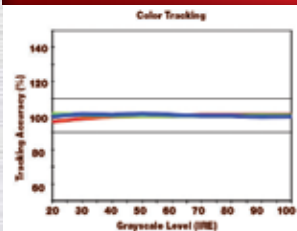
But there was no reason to be concerned. The Pioneer Elite may be expensive (though more affordable than last year's models), but as they say in the movie biz, the money is all on the screen. ☺

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BEFORE CALIBRATION



AFTER CALIBRATION



Color-tracking charts were generated in Datacolor ColorFacts.



 **ILLUSTRATION**
Matt Mahurin

HOME THEATER

Best HDTV

Pioneer Elite KURO PRO-111FD Plasma HDTV

Pioneer's KURO displays deliver remarkably deep, dark blacks and sterling performance. If the competition can ever catch up, but at bargain prices, we'd be delighted. But for now, this is the only game in town if you want the best home theater picture you can buy this side of front projection.

\$5,000, www.seeingandhearing.com

Product OF THE YEAR



Pioneer Elite KURO PRO-111FD Plasma HDTV

What more can we say about the Pioneer KUROs that we haven't already said? Yes, this Pioneer is worth every penny of its not inconsiderable cost. The only things we'd like to see are a bigger, 60-inch Elite model and perhaps hand-selected, Signature monitor versions loaded with all the extra adjustments the sophisticated user, enthusiast, or pro might ever need. Oh, we forgot, Pioneer has you covered there, as well.

\$5,000, www.seeingandhearing.com