

UMR Does GWIII XBR & WE (Updated to include WE)

It appears most of the adjustments for these two sets are nearly the same.

I finally have some useful information to post. This afternoon/evening I spent about 4 hours tweaking bigscreentv's KF-60XBR950. I was able to improve the resolution, gray scale and color decoder in his set. Generally, I would say the GWIII XBR can look very close to a fully tweaked GWII XBR. The bright 60" XBR screen is very sweet though.

The main difference is that it is much brighter. His 60" is 44% brighter (56 ftL) than my untweaked 50" (39ftL). The contrast ratio though is about the same. His measured at 390:1 while mine is 400:1 with a color correction filter. It appears to me that Sony has tweaked the panels on this set such that they are much closer to D65 at 0% signal level than the GWII without a filter. I prefer the lower black level of my set, but if you want to watch it in a bright setting the GWIII would look better. You could achieve the same effect with a neutral density filter in the GWIII XBR.

The color and gray scale on both sets can be very accurate. I did not notice a big difference between the two here.

Resolution on the GWIII was much worse without going into the service menu for HD. The DVE-HD (D-VHS over fire-wire) resolution patterns were very soft without SM adjustments. The HD color decoder had a strong red push without the SM adjustments as well.

I was not able to test a 480p input, but I would not be surprised if it turned out to need similar adjustments as the 480i input.

I did not have a chance to play with gamma, but the inputs I looked at looked correct in PRO mode. The XBR set had quite a few user adjustments that looked like they would alter gamma.

I also did not adjust the geometry on his set. It had about 5% overscan and looked to be generally well centered. It was a little less straight than my GWII, but it was not noticeable without test patterns..

I was not able to get the 480i input to look quite as good as my Panny XP30 on my GWII in either 480i or 480p. I only had 4 hours to do the whole enchilada so more improvements might be possible. I thought the 720p looked a little better on the GWIII XBR after tweaking than my tweaked GWII, but the difference is pretty subtle. The GWII looks a little sharper, but the GWIII XBR has a little better resolution. I would guess this is the improvement in electronics for the all digital path showing up.

GWIII Best Practices (1/6/04):

The following are general rules I would follow to get the best picture quality from these sets before or after tweaking.

- Feed all signals in at their native resolution (480p at 480p, 720p at 720p, 1080i at 1080i). Scaling the source twice is a bad idea. The only exception to this are PAL sources. They should be fed at 720p if possible because the TV does not support PAL directly.
- Assume that the comb filter in the Sony TV is better than the one in any other video source unless you prove otherwise. This means use composite inputs instead of S-Video unless you prove S-Video is better.
- Use a quality DVD player that includes decks like the Denon DVD-3800, Panasonic DVD-XP30 or the Denon 1600. PAL would benefit from a player that scales the signal to 720p.
- Use component inputs for component sources like DVD players.
- Stop worrying about DVI inputs for DVD players. Component is just as good and frequently better quality deinterlacers are available with component outputs.
- Pay careful attention to room lighting and screen placement. Minimize reflections. Do not sit too close or too far. Do not sit too high or too low. Do not sit too far off to the side. Do not view the TV with too little or too much light.

USE THE FOLLOWING INFORMATION AT YOUR OWN RISK!!!!

Here is what I changed from the default PRO mode settings. Press the reset button on the remote to go back to default settings while in the user menu with PRO highlighted.

ENTERING THE SERVICE MENU COULD VOID YOUR WARRANTY AND RENDER YOUR TV USELESS!!!

THE FOLLOWING CHANGES ARE INTENDED FOR PRO MODE ONLY. CHANGE THE PICTURE MODE ON ALL SOURCES TO PRO AND RESET THE SETTINGS TO DEFAULT BEFORE STARTING TO DO THESE CHANGES.

ALWAYS RECORD THE CATEGORY, ITEM NO., DATA, PICTURE MODE, ITEM NAME & INPUT SIGNAL BEFORE CHANGING ANYTHING!!!!

The service menu is arranged as follows:

Category.....	Item No.	Data.....	Menu Mode
Item Name.....			Input Signal

The following are the service menu commands (multiple button pushes are separated with a dash). NO COMMANDS REQUIRE BUTTONS TO BE PUSHED AT THE SAME TIME:

To Enter Service Menu Press {Display - 5 - Vol+ - Power (While off)} If you do this quickly after you turn off the set the lamp will not shutdown. You have about 3 seconds to avoid a lamp restart.

To Save Settings Press {Mute - Enter}

To Navigate Service Menu

Up Item Press {1}

Down Item Press {4}

Up Category Press {2}

Down Category Press {5}

Increment Data Press {3}

Decrement Data Press {6}

To erase changes that have not been saved unplug TV after cooling down.

To exit the Service Menu turn off the TV and immediately turn it back with the power button again after turning it off (very quickly). You have about 3 seconds to avoid a lamp restart.

To change a data item for an input you must press [TV/Video] on the remote to select that input while you are on the data item if you are not on that input and in the proper mode [PRO, VIVID...] without an image from that device on the screen it will not allow you to make the change. Once you have changed the proper data item you must save it before proceeding to the next input or mode or the change will be lost. Note: Sometimes an input will change its signal type (720p to 480i) from a device without your asking it to so make sure your changes took. The following list is only a small subset of the values in the service menu. Go to the correct category first and then move up to the correct item name to change a value. All of these values can be tested correctly without saving them. Only store a value when you are sure of the change because going back requires you to enter the original value manually.

Several of the following items should be tuned to your set with test patterns. These include brightness, picture and gray scale. Gray scale is very difficult to adjust without test equipment and should be avoided unless you have some test equipment.

I would use the THX Optimizer patterns to set picture and brightness. These can be found on Monsters Inc. and Star Wars II along with many other of the newer THX certified

DVD's. Increase UPIC only as high as the color of gray remains constant. Adjust UBRT per the instructions on THX Optimizer. These settings will need to be revisited if you adjust the gray scale.

The method I used to adjust gray scale is only going to be valid on these sets because I used red, green and blue ratios based on my set which uses very similar devices. I also did the final cleanup by eye balling it based on my experience of looking at D65. Unless we can figure out how to turn off the panels in these sets it will be very difficult to accurately adjust the gray scale.

I used an AEMC CA813 light meter, AVIA colored filters and the gray ramp on THX Optimizer. I adjusted the drives and cuts until the brightest square on the right and the next to dimmest square on the right measured in the following ratios. Blue is 6.84% of Green, Red is 61.8% of Green. I then tweaked the red drive a little after looking at some gray ramps on DVE on D-VHS. This resulted in a very nice looking gray instead of the too blue neutral or too red warm we started with.

[Link To More Info On Gray Scale Calibration](#)

I would use a resolution pattern if you want to see what the sharpness and enhancement changes are doing. The color decoder changes should be viewed with color bars. THX Optimizer includes a resolution pattern along with color bars on the same display. A resolution pattern with closely spaced vertical and horizontal lines would be better. AVIA's 200 TVL pattern is a very good resolution pattern. DVE has one with color and b&w information that is also useful.

The user sharpness setting (USHP) is interactive with several other service menu values (SHF0, MVLS, MHLC). The set will appear too soft if you use a 0 value for USHP without changing the other service menu values to the values listed. You may also prefer more enhancement than a value 0 for USHP offers after all of the other values are changed.

User Menu:

Mild - Off (improves resolution)

Advanced Video - Cinemotion, Reality (1), Clarity (1) (slight improvement in resolution)

White Balance - Increase blue bias to ~75%, Decrease blue gain to ~60% (improves gray scale XBR version only)

Service Menu:

All Resolutions & Inputs (Composite, Component, DVI, 480i, 480p, 720p, 1080i)

DCP-User (Category)

UPIC changed from 46 to 58 (default picture level matches input signal level)
UBRT changed from 31 to 37 (default brightness level matches input signal level)
USHP changed from 36 to 0 (default sharpness 12/28/03)

DCP-ADJ1 (Category)

RDRV changed from 140 to 131 (gray scale adjustment for high level red signal WE version only 12/28/03)
GDRV no change 140 (gray scale adjustment for high level green signal WE version only 12/28/03)
BDRV changed from 140 to 102 (gray scale adjustment for high level blue signal WE version only 12/28/03)
RCUT no change 255 (gray scale adjustment for low level red signal WE version only 12/28/03)
GCUT changed from 255 to 242 (gray scale adjustment for low level green signal WE version only 12/28/03)
BCUT no change 255 (gray scale adjustment for low level blue signal WE version only 12/28/03)

DCP-ADJ2 (Category)

SHF0 changed from various values to 15 (reduces enhancement and improves frequency response 12/28/03)

480i (Composite, Component, S-Video)

MID5 (Category)

MVLS changed from a 1 to a 0 (improves resolution)
MHLC changed from a 3 to a 1 (improves resolution)

480p (Component)

MID5 (Category)

MVLS changed from a 1 to a 0 (improves resolution)
MHLC changed from a 3 to a 1 (improves resolution)

1080i/720p (DVI)

MID5 (Category)

MHLC changed from a 3 to a 1 (improves resolution)

DCP-User (Category)

UBOF changed from 35 to 30 (corrects black level error between SD and HD)
AXIS changed from 2 to 0 (corrects color decoder red push)

1080i/720p (Component)

DCP-User (Category)

AXIS changed from 2 to 0 (corrects color decoder red push 12/28/03)

MID5 (Category)

MHLC changed from a 2 to a 1 (improves resolution 12/28/03)

Other Service Menu Adjustments That May Be Useful But Are Not Normally Necessary (12/31/03):

DCP-ADJ1 (Category)

SPIC (Sub Picture, can be used to increase overall picture brightness)

DCP-ADJ2 (Category)

SHOF (Input specific sharpness offset. This can be used to tweak an individual inputs sharpness)

DCP-User (Category)

UCOL (User Menu Default Color. This can be used to set default color level in user menu)

UHUE (User Menu Default Hue. This can be used to set default hue level in user menu)

UPOF (Input specific picture offset. This can be used to tweak an individual inputs picture level)

UCOF (Input specific color offset. This can be used to tweak an individual inputs color level)

UHOF (Input specific hue offset. This can be used to tweak an individual inputs hue level)

UGAM (User gamma adjustment)

RYB (Red level for color decoder)

RYR (Red hue for color decoder)

GYB (Green level for color decoder)

GYR (Green hue for color decoder)

MID1 (Category) BE CAREFUL WITH THESE THEY CAN RENDER YOUR SET USELESS

DHPH (Horizontal position)

DVPH (Vehicle position)
MDHS (Horizontal size)
MDVS (Vertical size)

Step-By-Step Procedure To Implement GWIII Tweaks (AT YOUR OWN RISK. I WAS NOT ABLE TO TEST THIS, BUT I BELIEVE IT TO BE CORRECT):

Preparation: All devices (HD, DVD...) must be on and hooked to the TV. You will need some type of setup disk. I prefer THX Optimizer like that found on Star Wars II and Avia and will refer to them exclusively. You will need something to record the original settings. Allow plenty of time (hours) to do this. Rushing this is a bad idea. I also prefer to do this in the evening when you can control lighting and reflections. Review how your set looks currently using the THX Optimizer Video setup. You may even want to attempt to adjust the user menu to see what the various settings do before starting this. I would review several scenes in the Star Wars II movie for future reference. Note the sabotage scene and the dying woman's clothing, the scene where we first see Yoda and note the detail in peoples hair and clothing, the bounty hunter scene where she shoots the rifle in the dark and note the detail in her vehicle, and the scene where OB1 is falling with the city streets below him note the detail of the streets and buildings.

BE CAREFUL NOT TO PUSH THE 3 OR 6 BUTTON BY MISTAKE WHILE IN THE SERVICE MENU

REMEMBER TO SWITCH YOUR DVD PLAYER IN AND OUT OF PROGRESSIVE TO TWEAK BOTH 480I & 480P MODES ON EACH SERVICE MENU PARAMETER

KF-XXWE610 OWNERS READ PAGES 68, 69, 70 AND 71 IN YOUR USER MANUAL.

KDF-XXXBR950 OWNERS READ PAGES 87, 88, 89, 90 AND 91 IN YOUR USER MANUAL.

1. Press the TV/Video button on your remote to select an input.
2. Press the Menu button.
3. In the Video menu select the Pro mode.
4. Press the Menu button.
5. Repeat step 1 to 4 for each input on your TV and make certain they are all set to Pro mode.
6. Press the Menu button.
7. Highlight Pro Mode.
8. Press reset on your remote.
9. Select the DVD player with TV/Video button.
10. Turn all of your sources (HD, DVD...) on and set the DVD player output to interlaced using component cables, turn all enhancements off and set all picture controls to their neutral position on the DVD player.
11. Press the Menu button and make sure you are in Pro mode.
12. Turn Mild Off.
13. Go to the Advanced Video Settings, select Cinemotion, set Reality to 1 and Clarity to 1.
14. Power the set off and execute the next step in 3 seconds or less.

15. Press Display 5 Vol+ Power on the remote to enter the service menu.
16. Select the DVD player with TV/Video button (it must be on) with the THX Optimizer setup display showing the frequency ramp and color bars on the screen.
17. Press 2 until you see DCP-ADJ2 in the upper left corner.
18. Press 1 or 4 until you see SHF0 below DCP-ADJ2 in the upper left corner.
19. Record all of the information on the screen for this input and parameter.
20. Make sure you are on the correct parameter and then press 3 until the value (the second number from the left on the top line) is 15.
21. Press Mute Enter (Write should appear in red for a few seconds if you do this correctly) to save this change. This is not reversible except by you manually changing the value back and saving it again so be sure.
22. Press TV/Video or change the devices output resolution (720p to 1080i) to move to the next device/resolution. Go to step 19 if the value for SHF0 is not 15 (Do this for all of your devices).
23. Press TV/Video to select your next 480i or 480p device (DVD, Cable...)
24. Press 2 until you see MID5 in the upper left corner.
25. Press 1 or 4 until you see MVLS below MID5 in the upper left corner.
26. Record all of the information on the screen for this input and parameter.
27. Make sure you are on the correct parameter and then press 6 until the value (the second number from the left on the top line) is zero.
28. Press Mute Enter (Write should appear in red for a few seconds if you do this correctly) to save this change.
29. Press TV/Video to select the next 480i or 480p device. Go to step 26 if the value for MVLS is not 0 (Do this for all of your 480i or 480p devices).
30. Press 1 or 4 until you see MHLC below MID5 in the upper left corner.
31. Record all of the information on the screen for this input and parameter.
32. Make sure you are on the correct parameter and then press 6 until the value (the second number from the left on the top line) is 1.
33. Press Mute Enter (Write should appear in red for a few seconds if you do this correctly) to save this change.
34. Press TV/Video or change the devices output resolution (720p to 1080i) to move to the next device/resolution. Go to step 31 if the value for MHLC is not 1 (Do this for all of your devices).
35. Press TV/Video until you are on the DVD input.
36. Press 2 until you see DCP-USER in the upper left corner of the screen.
37. Press 1 or 4 until you see UPIC below DCP-USER in the upper left corner of the screen.
38. Record all of the information on the screen for this input and parameter.
39. Display the contrast/picture setup display from THX Optimizer.
40. Adjust UPIC (user menu picture) by pressing the 3 button until the color shifts or some of the squares disappear. Press the 6 button until the color is even and all squares are visible if you saw the color shift or squares disappear.
41. Press Mute Enter (Write should appear in red for a few seconds if you do this correctly) to save this change.
42. Press 1 or 4 until you see UBRT below DCP-USER.
43. Record all of the information on the screen for this input and parameter.

44. Display the brightness (next) setup display from THX Optimizer.
45. Adjust UBRT (user menu brightness) by pressing the 3 button until the drop shadow appears behind THX. Press the 6 button until the drop shadow disappears or the last square is barely visible (This is best done in normal lighting for watching movies).
46. Press Mute Enter (Write should appear in red for a few seconds if you do this correctly) to save this change.
47. Go back to step 37 and to verify the picture setting until nothing changes in UPIC and UBRT.
48. Press 1 or 4 until you see USHP below DCP-USER.
49. Record all of the information on the screen for this input and parameter.
50. Display the sharpness color bar (next) setup display from THX Optimizer. I prefer Avia's sharpness pattern for this if you have it.
51. Adjust USHP (user menu sharpness) by pressing the 3 button until the sweep pattern looks enhanced or uneven. Press the 6 button until the sweep pattern looks sharp, but without enhancement. Do the same thing with Avia, but note the thickness of the crossing lines. The optimal sharpness on Avia is when the corresponding vertical and horizontal lines are the same thickness. No ringing (shadows) should be present on the vertical or horizontal lines either.
52. Press Mute Enter (Write should appear in red for a few seconds if you do this correctly) to save this change.
53. Display the THX Optimizer sharpness setup screen or Avia horizontal crossed gray ramp. This screen contains a gray scale ramp. Note the color of the gray squares in the ramp. They should be the same color of gray. D65 should not have a color in it. It should look gray with no tinge of color. An overcast day is what it tends to look like. Any shift off D65 will tend to have a tint to it.
54. Skip to step 57 if you want to avoid complex changes to the gray scale.
55. You can use a light meter to adjust your gray scale like I described above or you can try the user menu values I came up with for the XBR set or the service menu values for the WE. Be sure to record your original values before doing this. Your goal is to have an even color of gray at all levels. Sorry, but this is too complex to make an easy procedure for.
56. Go back to step 37 if you changed anything on gray scale.
57. If you skipped the complex color temperature adjustment go to the user menu and pick the color temperature that makes the gray ramp look as close to gray as possible (warm is usually the best). Go back to step 37 if you changed anything on gray scale.
58. Quickly power the TV off and on to exit the service menu.
59. Take a break. You deserve it.
60. Spend some time reviewing the recommended scenes from Star Wars II. You should see improved resolution and possibly colors if you adjusted the gray scale. You may also want to tweak the color and tint a little if you have color filters and color bars. My experience with these sets is it that they are very close on DVD's without it though. I would also do some comparisons with the DVD player in progressive and interlaced mode to see which looks best.
61. Reverse these changes if you don't like them or continue with tweaking the HD or other inputs if you do.
62. Power the set off and execute the next step in 3 seconds or less.

63. Press Display 5 Vol+ Power on the remote to enter the service menu.
64. Select the HD input with TV/Video button (it must be on).
65. Press 2 until you see DCP-USER in the upper left corner.
66. Press 1 or 4 until you see AXIS below DCP-USER in the upper left corner.
67. Record all of the information on the screen for this input and parameter.
68. Make sure you are on the correct parameter and then press 6 until the value (the second number from the left on the top line) is zero.
69. Press Mute Enter (Write should appear in red for a few seconds if you do this correctly) to save this change.
70. Press TV/Video or change the devices output resolution (720p to 1080i) to move to the next device/resolution. Go to step 67 if the value for AXIS is not 0 (Do this for all of your devices).
71. Jump to step 78 if you have no DVI input or other input with brightness level problems.
72. Select the DVI input or input with brightness level problems with the TV/Video button (it must be on).
73. Press 1 or 4 until you see UBOF below DCP-USER in the upper left corner.
74. Record all of the information on the screen for this input and parameter.
75. Make sure you are on the correct parameter and then press 3 or 6 until the blacks look correct. This is best done with dark scenes or test material like DVE on D-VHS.
76. Go back to step 73 to adjust UBOF for the other inputs. Make sure it does not interfere with the setting you are changing does not change your reference source (DVD player) by verifying the brightness level on it after you finish the other input.
77. Press Mute Enter (Write should appear in red for a few seconds if you do this correctly) to save this change.
78. Quickly power the TV off and on to exit the service menu.
79. Press the Menu button.
80. Highlight Pro Mode.
81. Press reset on your remote.
82. Select the DVD player with TV/Video button.
83. Press the Menu button and make sure you are in Pro mode.
84. Turn Mild Off.
85. Go to the Advanced Video Settings, select Cinemotion, set Reality to 1 and Clarity to 1.
86. Verify that your set is properly adjusted by reviewing the THX Optimizer calibration screens.
87. You may find it useful to experiment with Cinema Black in the User Menu if you own the XBR version of this TV. You may prefer this on in low light situations. It may also extend the life of blub when on.

You should be finished calibrating your set. You can always revisit different settings in the service menu later. Your set is now setup so that when you hit reset on the remote in the user menu with Pro highlighted it will return to all of these values except for Mild Off, Cinemotion and Warm color temperature if you chose to use warm. I would compare the DVD player's performance in progressive and interlaced. Some player's will perform better than others in different output modes.

Edit (12/28/03):

Today I spent about 6 hours working on raah's 50" GWIII WE set. This set had a Dish 501 PVR, Panasonic progressive DVD player and a D-VHS deck.

I was not able to bring the 480p input up to being close to the 480i quality. It had terrible enhancement on closely spaced horizontal lines. I would not recommend using a 480p (progressive) DVD player at this time. This might be different with a DVI input, but I doubt it. (Update: This appears to be a problem with a specific player and not a general problem with the TV).

I was able to make significant improvements in the video quality of 480i and HD inputs. The 480i inputs benefited from the above tweaks and looked as good as my GWII in the end. The HD inputs once tweaked looked just like my GWII and worse than the GWIII XBR.

We did tweak the gray scale using a system similar to the SMART system, but based on measurements from my GWII. The results were excellent. The gray scale while not perfectly even was better than my set.

The gamma looked good so I left it alone.

The contrast ratio on this set measured 360:1. A little short of a filter tweaked GWII, but still better than an untweaked GWII. This set is very bright and needs significant room lighting to offset the high black level.

Edit - 12/29/03

Added more information on how to enter the service menu and make these changes.

Edit 12/30/03

Added step-by-step instructions.

Edit 12/31/03

Corrected error in instructions for SHF0. Removed warning about 480p players based on a comment from someone with a different player that had no problems. Added brightness level adjustment for inputs other than DVI to procedure. Added other service menu adjustments that people may find useful.

Edit - 1/2/04

Added some geometry adjustments for the more adventurous.

Edit - 1/5/04

Added reality and clarity settings for DRC to step-by-step procedure. Added reference to user manual.

Edit - 1/6/04

Added a section on GWIII best practices.

Edit - 1/29/04

Added more step at the end to press reset review settings.

Edit - 3/10/04

Removed comment about recommending Faroudja players and added Denon DVD-3800 to the recommended list. I currently prefer the 3800 to the XP30.

Edit - 3/28/04

Added a final step to explore the use of Cinema Black on the XBR version of these sets.

Edit - 5/20/04

Added some comments about PAL to best practices.

Last edited by umr on 04-20-04 at 11:02 AM