

Technician Bulletin

Issue 12 2010 – 7.6.10



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Introduction

In this edition, we will go over the equipment requirements and trouble-shooting tips to view DIRECTV's new 3D programming including customer education, available or upcoming channels and supported customer equipment.

Any comments or questions about this document should be sent to: fieldopstraining@directv.com

DIRECTV 3D Programming

How DIRECTV 3D Works:

DIRECTV uses Seamless Integration; seamless integration refers to the handshake between the DIRECTV receiver and 3D TV through the HDMI cable that allows auto-switching to 3D. Handshaking utilizes EDID communications protocols; EDID stands for Extended Display Information Data. The source device checks the display's HDMI port for the presence of an EDID prom (programmable read-only memory) and uses the information inside to optimize the output video and / or audio format.

Important note: *The initial launch of 3D TV on DIRECTV will have very specific minimum requirements; as the development of 3D rolls out these requirements may change with limited advanced notice.*

DIRECTV 3D Technology:

DIRECTV will broadcast left and right images that the 3D TV will combine. When any guide or user interface popup such as the info screen is displayed, the video is converted (flattened) into 2D. Current HDMI cables are compatible. HDCP will be enforced, and the TV must pass the 1080p / 24 test. Component and composite outputs are disabled because they do not support 3D. As of this time, HDMI must be connected directly to the 3DTV. Active HDMI switchers do not properly pass the new 3D HDMI data. New A/V receivers labeled as "3D ready" may not properly pass the DIRECTV specific packets. Support will not be offered by DIRECTV unless the TV is connected directly to the HR2x.

3D Required Equipment:

A 3D TV – Go to <http://www.directv.com/DTVAPP/content/hd/3d> for a complete updated list of the 3D TV's which are tested and approved for use with DIRECTV receivers and 3D programming with all necessary adaptors or emitters.

DIRECTV 3D TV requirements:

The 3D TV must be able to pass a 1080p / 24 frames per second test.
The 3D TV must properly identify that it supports DIRECTV's 3D protocol
The 3D TV must have an HDMI port



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Supported 3D TV's as of 6-30-10

Panasonic Models:

TC-P50VT25	TC-P58VT25	TC-P54VT25	TC-P65VT25
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Samsung Models:

LN46C750R2F	PN58C8000YF	UN46C8000XF	PN50C7000YF	PN63C8000YF
LN55C750R2F	PN63C7000YF	UN46C9000ZF	PN50C8000YF	UN40C7000WF
UN55C7000WF	PN58C7000YF	UN46C7000WF	UN55C8000XF	UN55C9000ZF

Mitsubishi Models: All models require the 3DA-1 Adapter from Mitsubishi

L65-A90	WD-60737	WD-65735	WD-65837	WD-73735	WD-73837	WD-82738	WD-60735
L75-A81	WD-60738	WD-65736	WD-65838	WD-73736	WD-73838	WD-82837	WD-65638
L75-A91	WD-60C8	WD-65737	WD-65C8	WD-73737	WD-73C8	WD-82838	WD-65835
WD-57833	WD-60C9	WD-65738	WD-65C9	WD-73738	WD-73C9	WD-73638	WD-82737
WD-60638	WD-60C10	WD-65833	WD-65C10	WD-73833	WD-73C10	WD-73835	

Sony Models

The following models require IR emitter model TMR-BR100:

KDL-40HX800	KDL-46HX800	KDL-55HX800	XBR-52HX909	XBR-46HX909
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The following models do not require the IR emitter:

XBR-60LX900 XBR-52LX900

- Supported 3D televisions may also need a firmware upgrade. Please check with your television manufacturer to ensure you have the latest firmware version for your 3D-HD television model.
- Active Glasses: presently 3D TV manufacturers may not sell the 3D glasses with the 3D TV's; these glasses may need to be purchased separately. The 3D glasses from the movie theater are not active glasses and will not work.
- HDMI Cable Category 1 & 2 will pass 3D video from the DIRECTV receiver to the compliant and tested 3D TV. Current DIRECTV HDMI cables are 3D compatible.
- DIRECTV receivers H21, H23, H24, HR21, HR22, HR23, HR24, R22 w/HD access are compatible.
- The H20 and HR20 **DO NOT** Support 3D.

Known Issues and What to Do:

- **AV system issues:** For DIRECTV receivers which are connected to an AV system by way of the HDMI cable, the AV unit may not allow VSI (*Virtual Socket Interface, protocol established to maintain reliable communications within a high speed data stream*) data packets to pass. To alleviate this potential problem, it is advised to have the DIRECTV receiver directly connected to the 3D TV.
- **Seamless integration not working:** In the event that a customer's 3D TV and DIRECTV receiver do not communicate properly, then a customer could see a side by side picture rather than a 3D image. The customer will then need to manually change their TV to the 3D mode using the TV's user manual instructions. Note: *customers will have to manually switch out of 3D mode when viewing non-3D programming.*



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- **HR20 receivers recorded but cannot view 3D content:** HR20 receivers **DO NOT** support 3D content viewing even though a program is listed in the guide; however the HR20 can be used to download 3D content to be viewed by a 3D ready receiver within a Whole-Home DVR (Connected Home) network. To view the recorded content, you must use a 3D compliant receiver and TV using the Connected Home MRV.
- **R22 must have HD access to work with 3D:** R22 receivers will **NOT** show the 3D content in the guide until the receiver has the HD access added.
- **H20 receiver will not show 3D channels in guide:** H20 receivers will **NOT** show the 3D channels in the guide because they are not 3D compatible
- **3D channels grayed out in guide:** Receiver's guide will show the 3D channels "Grayed" out if the receiver is not connected to a supported 3D TV.
- **Customer gets black screen when attempting to play 3D content:** The proper HDMI input source is not selected on the TV. Using the component / composite connections produces a black screen when end users attempts to view 3D content; HDMI must be used to view 3D.

Additional Trouble-shooting, OSD's, and 3D Customer Education:

- **Resolution cannot be changed**
Customer is attempting to change the resolution during playback
- **Resolution not supported**
This 3D program is broadcast in (xxxx resolution). Your 3D TV does not support this resolution. 3D programs must be played in their native resolution.
- **This program cannot be viewed because this TV is not 3D capable.**
This program cannot be viewed because this customers TV is not 3D capable.
- **Black Screen, No Video, No OSD, No Banner**
Customer may be attempting to view program using the component cable connection, switch to HDMI.
- **Split screen video**
TV needs to be manually configured to 3D mode (TV does not support DTV VSI). There may be 3 or 4 3D mode options on the TV that the customer should cycle through. Contact TV manufacturer / see TV manual. Note: *After watching 3D programs, the customer must manually switch the TV out of 3D mode to watch non-3D programs.*
- **3D Program is not in 3D**
OSD / graphic on screen, Press BACK on the remote or wait for the UI to time out to clear the graphic. Customer Education: When there is graphics (such as OSD, Channel Banner or Trick play bar), the receiver takes the video out of 3D mode.
- **Channel grayed out in guide**
HR20 connected to a supported 3D TV via HDMI; when attempting to view the program, user will get *"The receiver you have connected to your 3D TV is not 3D capable. Please call Customer Service at 1-800-531-5000 and reference error code ***.* Customer Education: HR20 is not capable of displaying 3D programs. The customer will have the option to upgrade to a 3D capable receiver with the error code provided if the customer calls customer service and gives the provided error code.
- **Blurry picture or double images**
Receiver and TV are in 3D mode, however customer is not wearing the 3D glasses or the 3D Glasses are not turned on. Turn on the 3D glasses. Change or charge the batteries in the 3D glasses.
- **No closed caption**
3D programs do not have Closed Captioning at this time.
- **Video is scrambled or severely distorted**
Customer had manually switched their 3D TV to 3D mode and is now trying to watch non-3D programs, manually switch the TV out of 3D mode.



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3D Guide Changes:

A 3D category and Icon have been introduced to the guide, search and play list. The 3D Icon will be at the end of any 3D programming guide listings similar to the HD1080p Icon.

Whole-Home DVR (Connected Home) and 3D:

3D content can be recorded on 3D capable receivers within a Whole-Home DVR network or downloaded but not played on an HR20 receiver. If a recording is scheduled on a receiver that does not have a 3D compliant TV connected, the following OSD is displayed. *"This program is not playable on this TV. Would you like to download it anyway?"*

Currently Available or Upcoming 3D Channels: (check

<http://www.directv.com/DTVAPP/content/hd/3d> for new or upcoming channel additions)

- Channel 103 n3D™ Powered by Panasonic
- Channel 104 DIRECTV Cinema in 3D (PPV)
- Channel 105 DIRECTV on Demand in 3D
- Channel 106 ESPN3D DIRECTV

DIRECTV 3D costs: The 3D content is available to all customers with HD access at no additional cost; all 3D content is HD. DIRECTV Cinema 3D PPV programming will cost an additional \$1.00.

Reminders and Updates:

BBC Usage:

- All HD and HD DVR DIRECTV receivers not on SWiM require BBC's (except H23 and HR23) even when HD programming is not in use.
- For any customer using the Ka band, the channels are scattered between satellites and channels and are moved between satellites for maintenance and capacity reasons.
- For MPEG4 markets – they can be moved at any time from 99 to 103 or from A band to B band.
- The Engineering direction for installations is that any customer with a KA ODU should have a good signal on 99, 101 and 103 satellites as they will move channels without notice.
- It is possible for a customer who does not subscribe to HD in a MEG4 local market to work without a B-Band if it is not currently necessary for the local channels; however this is temporary. If the customer decides to upgrade to HD and the BBC's are not installed, a service call will be generated.
- To reduce potential future service: ON NON SWIM HOME VISITS:
Please have the techs check the below test channels on service, upgrades, and movers to verify the customers have BBC's as required. (They don't have to get behind the receivers but just verify the BBC test channels on each HD capable receiver.)

9506	Satellite 99 Ka B-Band Odd (18v)
9507	Satellite 99 Ka B-Band Even (13v)
9510	Satellite 103 Ka B-Band Odd (13v)
9511	Satellite 103 Ka B-Band Even (18v)

H20-600 ECO stickers:

The H20-600 has an ECO Sticker indicating what engineering rework has been completed. The current ECO sticker is not labeled in the same fashion as the past ECO2.0 or ECO3.0 stickers. PCN0535e has been assigned to ECO4. All H20-600 with PCN0535e stickers have ECO4 applied to them.



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ISS Update:

Why does ISS ask how you aligned/dithered your dish when requesting a waiver due to inclement weather?

A common question techs have when calling into ISS is “why does a tech that has completed countless installs over the past few days, weeks or even years need to describe how the dish was aligned.” Please remember that when an ISS agent is asking this question it’s not because they are challenging your ability to properly install and align the ODU, they’re simply trying to ensure that the proper procedures were followed per DIRECTV standards so that they know the only reason that the receiver is failing IV is because of the inclement weather. By properly describing how you aligned/dithered the ODU you’re validating that your install was done properly and the weather is the only reason that the receiver is failing IV.

Field Customer-Affecting Issues (CAI)

As of 6.29.2010

Notes & Reminders:

- All escalations should be accompanied by an FPR.
- FPR Link: FPR@directv.com
- Report escalations (Engineering & Technical Issues) to Greg Rowe (GJRowe@Directv.com).
- HSP / O&O personnel should refer to the DWS for all pertinent documents prior to any escalations.
- **The ISS department is available to support technicians in the field every day, 6 a.m. to 9 p.m. Mountain Time.** Call them with questions at 1-800-778-3431.
- **All Caller ID capable IRD's:** Do not swap IRD for CID if system test says: **Phone line “Ok”**

STANDARD IRD's

- D series, R15 / 16 and H20 IRD's: The Blue (mini-guide) and Yellow (TV Options) remote control buttons may not work on some channels. Example: News & Sports MIX channels, The Weather Channel, Sports channels that have ScoreGuide functionality (RSN, 700's, ESPN, etc). Downloads are rolling out to resolve.
- H20's, D10-200, D11-800, R15 / 16 (not on HR2x, R22, H21, H23) – Caller ID OSD does not appear, but the call shows up in the logs. This can occur on channels with Interactive applications. Example: News & Sports MIX channels, The Weather Channel, Sports channels that have ScoreGuide functionality (RSN, 700's, ESPN, etc).
- D10, D11, D12 – After a receiver reboot, the “Favorites” list will revert back to “All Channels.”
- D12-500 – Receiver Will Not Turn On: There is a known issue with the power supply on this specific receiver. The customer may see the power light come on, but the receiver itself is completely non-responsive. This only impacts the D12-500.



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- D12-100. Wavy lines appear on entire screen when using the RF / Coax video output. Use Composite (Yellow) connection or S-Video connection. If the customer's TV does not have composite or S-Video input and has to use the RF / Coax Video input, then be sure to change the 3/4 switch on the back of the receiver to "4". To view DIRECTV, they must also tune to Channel 4 on their TV. If the customer has a local channel 4 and wishes to watch this channel using their Analog Off-Air antenna, then they should power off the D12-100. STB Eng is aware of this issue.

DVR's

- H20's, D10-200, D11-800, R15 / 16 (not on HR2x, R22, H21, H23) – Caller ID OSD does not appear, but the call shows up in the logs. This can occur on channels with Interactive applications. Example: News & Sports MIX channels, The Weather Channel, Sports channels that have ScoreGuide functionality (RSN, 700's, ESPN, etc).
- R and HR2x IRD's: Black screen or immediate "Delete Yes / No", on playback of recordings. What to do: Troubleshoot for signal issues such as weather that may have been present during the recording. Check all transponders / satellites on both tuners for signal strength as the issue could be due to LNB failure or missing BBC on a single tuner. R22 and HRs will display an OSD for a brief period before being replaced by the delete yes / no message. This OSD will identify the cause of the bad recording which you can use to troubleshoot the issue further. You may need the customer to playback the recording several times to see the OSD. If no signal issues or OSD is found, tell the customer you will escalate the issue to our Engineering team, obtain the following items and then escalate via the FPR process using the check-list below: Program: Title: Date and Time of recording: Channel number: Specify whether customer gets immediate "delete yes or no" OSD or if the recording plays only black.
- D series, R15 / 16 and H20 IRD's: The Blue (mini-guide) and Yellow (TV Options) remote control buttons may not work on some channels. Example: News & Sports MIX channels, The Weather Channel, Sports channels that have ScoreGuide functionality (RSN, 700's, ESPN, etc). Downloads are rolling out to resolve.
- R15 / R16 – Recording icons may randomly appear in the guide, even though recordings have not been scheduled. Recording icons may show in the guide for shows NOT scheduled to record. Customers may think they missed a recording.
- R15 / R16 – Recording issues: The DVR may record programs at the wrong time, record programs that are not scheduled to record, or start recording immediately rather than at a selected program's time.
- HRxx and Rxx receivers may experience a screen saver appearing during live programming. An unexpected screen saver may be the result of a signal quality issue to the receiver. This may also occur if there have been no key presses on the remote control or front panel for 120 minutes AND the receiver is receiving a Top Movie "PUSH" title AND the receiver is either recording another program in the background or is set to single-tuner mode. When the screen saver appears, the receiver will lose the ability to rewind live TV unless a key on the remote or front panel is pressed within 2 minutes of the screen saver appearing. Engineering is aware of the issue and is investigating.



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- DIRECTV Cinema / Premium Movie Channel future recordings – Customers are unable to set future recordings for some PPV and Premium Channel New Release Movie titles. Customers will be able to watch the movie real time from the channel they selected to view, but may be redirected to DOD Channel 9981 if they attempt to set a future recording. Engineering is working to resolve. No Service Calls, ERPs or Case Management Escalations.
- H2x/HR2x/R22: 3D Programming and Panasonic TV's and possibly other 3D TV's. Receiver may be slow to respond or unresponsive when viewing 3D content. The TV's IR emitter interferes with the remote's IR so the remote should only be used in RF mode.
- R22-100 – During boot up, the IRD may get stuck on Step 1 of 2 Checking Satellite Settings.

HIGH DEFINITION IRD's

- H20-100/600 IRD's (SWDL x4138) – Channel changing is abnormally slow on SWiM installs. Customers may see a black screen and notice a delay of up to 20 seconds when randomly changing channels.
- D, R15/16 and H20 IRD's: The Blue (mini-guide) and Yellow (TV Options) remote control buttons may not work on some channels. Example: News & Sports MIX channels, The Weather Channel, Sports channels that have Score Guide functionality (RSN, 700's, ESPN etc) Downloads are rolling out to resolve, check DORIS for details.
- H20 100/600: IRDs – Captioning may not be appearing on channels with Interactive applications. Example: News & Sports MIX channels, The Weather Channel, Sports channels that have Score Guide functionality (RSN, 700's, ESPN etc)
- H20's, D10-200, D11-800, R15/16 (not on HR2x, R22, H21, H23) – Caller ID OSD does not appear, but the call shows up in the logs. This can occur on channels with Interactive applications. Example: News & Sports MIX channels, The Weather Channel, Sports channels that have Score Guide functionality (RSN, 700's, ESPN etc).
- H2x/HR2x/R22: 3D Programming and Panasonic TV's and possibly other 3D TV's. Receiver may be slow to respond or unresponsive when viewing 3D content. The TV's IR emitter interferes with the remote's IR so the remote should only be used in RF mode.
- H21 or H23 – During boot up, the IRD will get stuck on Step 1 of 2 Checking Satellite Settings.
- H20-100/600 – Unable to change resolution while on interactive (Score Guide) channels. What to do: Pressing the "Exit" button on the remote control while on a sports channel will exit Score Guide and allow customer to change resolution on the IRD.



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HIGH DEFINITION DVR's

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- HR2x (mostly seen on HR23-700) – Customers may experience intermittent remote control issues. This is related to issues with the remote not working when set to IR mode. Advise customer on how to use RF mode.
- HR2x/R22 – Video background intermittently flashes through screen saver when playback is paused or Sonic channel song title is showing.
- HR20-100 – Customers may see a Grey screen on their local channels. Advise the customer they can wait 10 seconds then use pause/play/rewind to see video. Escalate channel information via the FPR process. FPR will escalate for possible broadcast issue.
- R and HR2x IRD's: Black screen or immediate "Delete Yes/No", on playback of recordings. What to do: Troubleshoot for signal issues such as weather that may have been present during the recording. Check all transponders / satellites on both tuners for signal strength as the issue could be due to LNB failure or missing BBC on a single tuner. R22 and HRs will display an OSD for a brief period before being replaced by the delete yes/no message. This OSD will identify the cause of the bad recording which you can use to troubleshoot the issue further. You may need the customer to playback the recording several times to see the OSD. If no signal issues or OSD is found, tell the customer you will escalate the issue to our Engineering team, obtain the following items and then escalate to the FPR using the check-list below: Program: Title: Date and Time of recording: Channel number: Specify whether customer gets immediate "delete yes or no" OSD or if the recording plays only black.
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- H2x/HR2x/R22: 3D Programming and Panasonic TV's and possibly other 3D TV's. Receiver may be slow to respond or unresponsive when viewing 3D content. The TV's IR emitter interferes with the remote's IR so the remote should only be used in RF mode.
- HR20-XXX IRDs – Whole-Home DVR customers may experience an inability to see any recorded PPV programs on receivers.

