



72.5° Installation & Upgrade Technical Job Aid



72.5° and 101 ° Installation Overview

- 1. Perform and review Site Survey with customer**
 - 1. Identify ODU location for 72.5**
 - 2. Identify ODU location for 101°**
- 2. Assemble and mount ODUs**
- 3. Ground both ODUs to meet NEC requirements**
- 4. Connect IRDs to televisions**
- 5. Connect cables from ODU to multi-switch**
- 6. Connect cables from multi-switch to IRDs**
- 7. Run “Auto configuration” from set up menu on each IRD**
- 8. Check signal strength in the receiver for 72.5° and 101°**
- 9. Check test channels 495 & 496 for satellite confirmation**
- 10. Provide customer education**



Satellite pointing coordinates for 72.5°

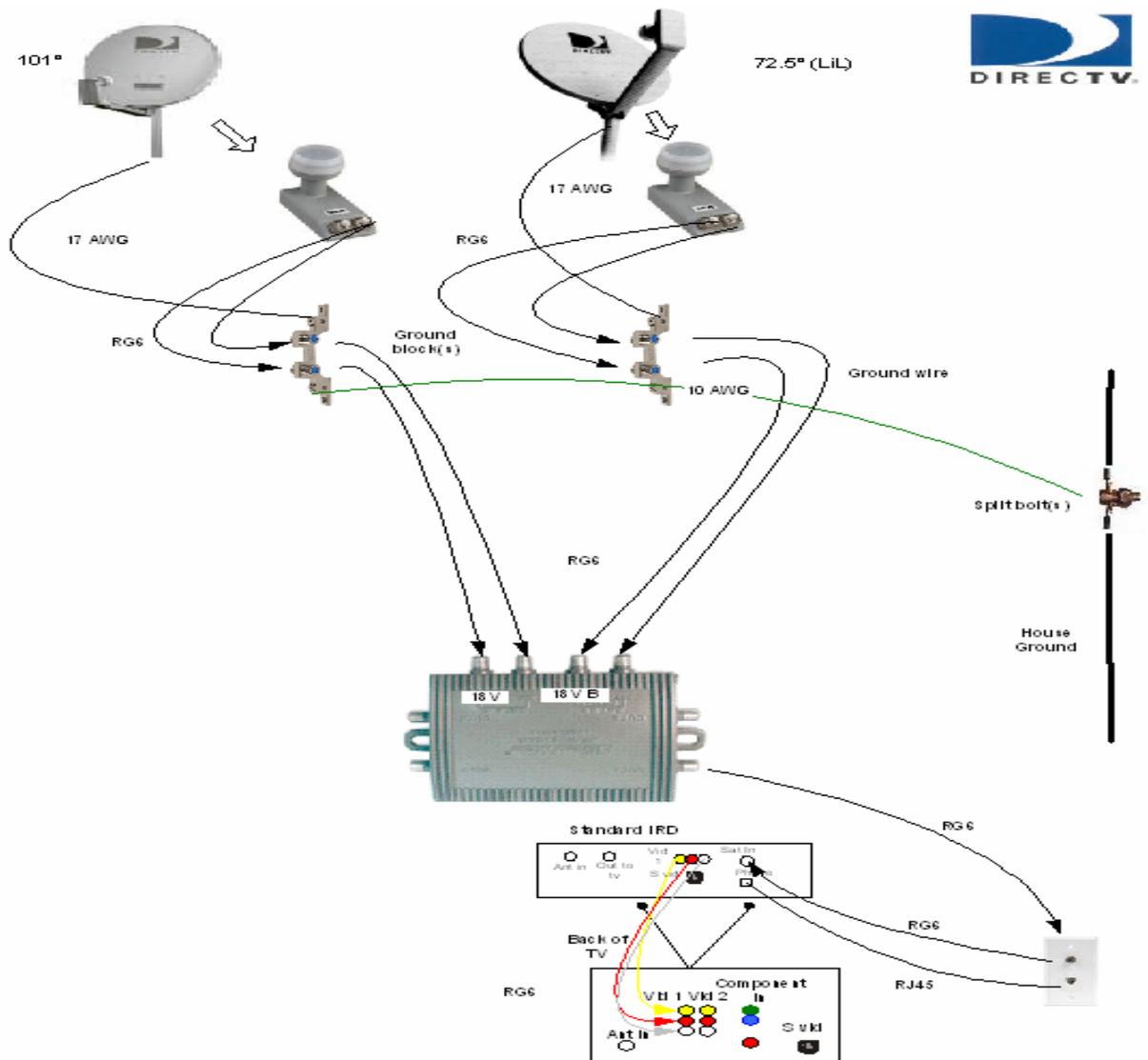
	DMA	Zip Code	72.5 AZ mag.	72.5 EL	101 AZ mag	101 EL	Multi-Sat AZ	Multi-Sat EL	Multi-Sat Tilt
1	Boise, Idaho	83702	110	23	143	37	165	39	96
2	Burlington, VT – Plattsburgh, NY	05401	194	39	242	27	244	27	58
3	Cedar Rapids-Waterloo, Iowa	52401	151	38	242	27	206	38	71
4	Champaign-Springfield-Decatur, Illinois	62701	158	40	211	39	210	40	67
5	Chattanooga, Tenn	37402	161	47	207	46	220	42	60
6	Columbia-Jefferson City, Mo	65205	148	40	193	45	206	42	69
7	Davenport, Iowa (or maybe Illinois)	52801	154	38	196	40	209	37	70
8	Evansville, Ind	47708	158	43	203	44	215	40	65
9	Fort Smith, Ark	72901	141	43	188	48	202	46	69
10	Fort Wayne, Ind	46808	166	40	209	40	220	36	64
11	Lincoln-Hastings, Neb	68508	140	37	180	43	193	41	76
12	Sioux Falls, South Dakota	57103	142	34	182	40	195	38	76
13	Springfield, Mo.	65802	145	41	190	46	204	43	70
14	Traverse City, Mlch	49684	167	37	207	36	218	33	68
15	Johnson City, TN-Bristol, VA/TN-Kingsport, TN (Tri-Cities)	37605	169	47	216	44	227	39	58
16	Waco-Temple-Bryan, Tex.	76702	133	44	184	53	200	50	70
17	Johnstown-Altoona, PA	15901	179	43	222	39	232	34	59
18	Toledo, OH	43604	170	40	211	39	223	35	64
19	Syracuse, NY	13202	187	40	227	35	237	30	59
20	Youngstown, OH	44512	176	41	218	38	229	34	61
21	Greenville-New Bern-Washington, NC	27835	180	48	227	41	237	36	53
22	Charleston, SC	29401	173	50	222	46	234	40	52
23	Peoria-Bloomington, Ill	61602	155	40	199	41	211	38	68
24	Wausau-Rhineland, WI	54403	157	35	197	37	209	34	71



Installation Diagram for 72.5° and 101°

When combining signal from the 72.5° and the 101° you must always use a 4x4 or 4x8 multi-switches

- Both coax cables from the 101° LNB must be connected to the sat A 13V and 18V side.
- Both coax cables from the 72.5° LNB must be connected to the sat B 13V and 18V side.

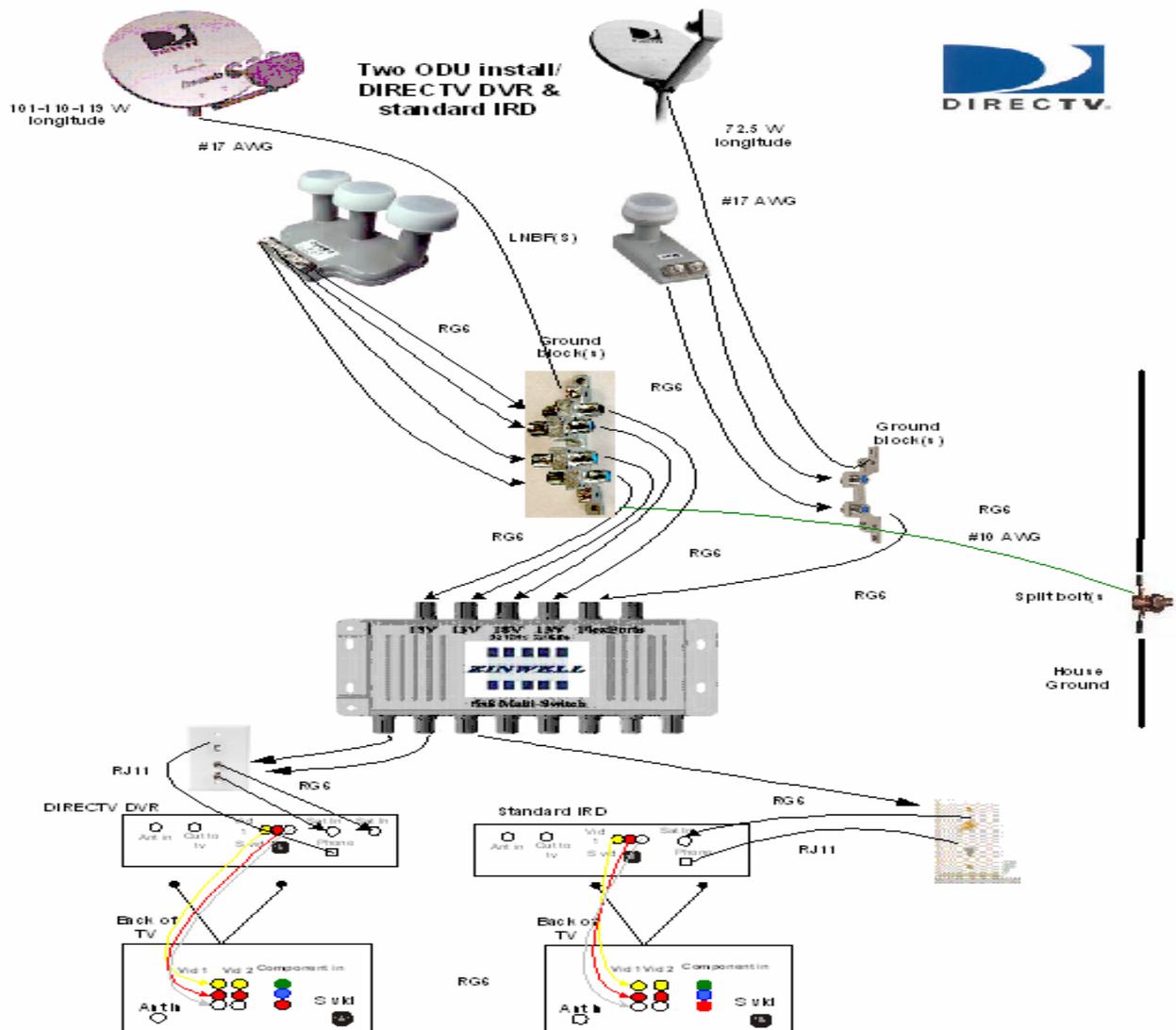




Installation Diagram for 72.5°, 101°, 110° & 119°

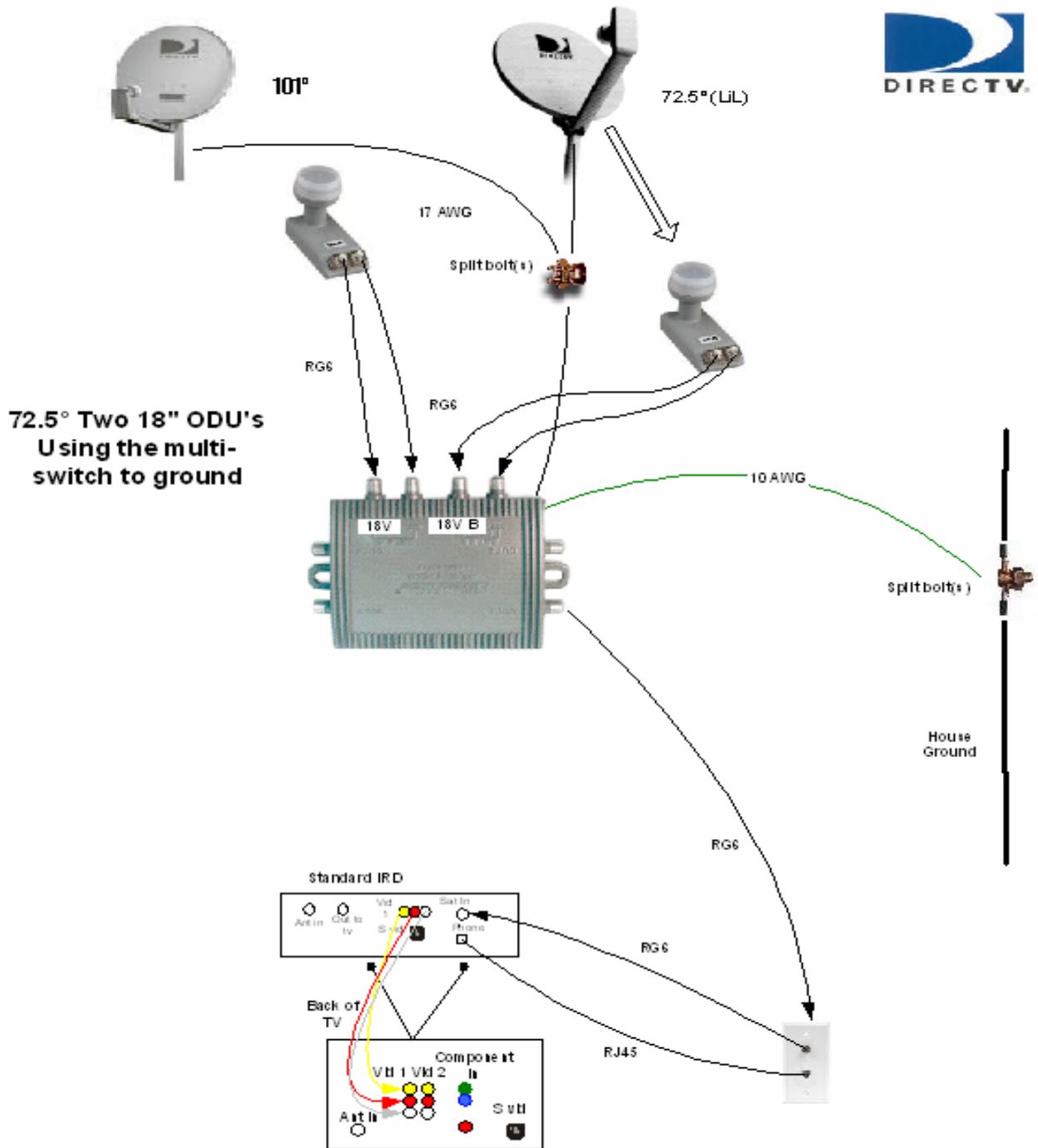
When combining signal from the 72.5°, 101°, 110° & 119° ° you must always use a 6x8

- All four coax cables coming from the 18x20" ODU must be connected to the first four ports on the 6x8
- One coax cables from the 72.5° LNB must be connected to the Flex Port 1 on the 6x8 (only need one cable because each flex port supports both 13v and 18v).



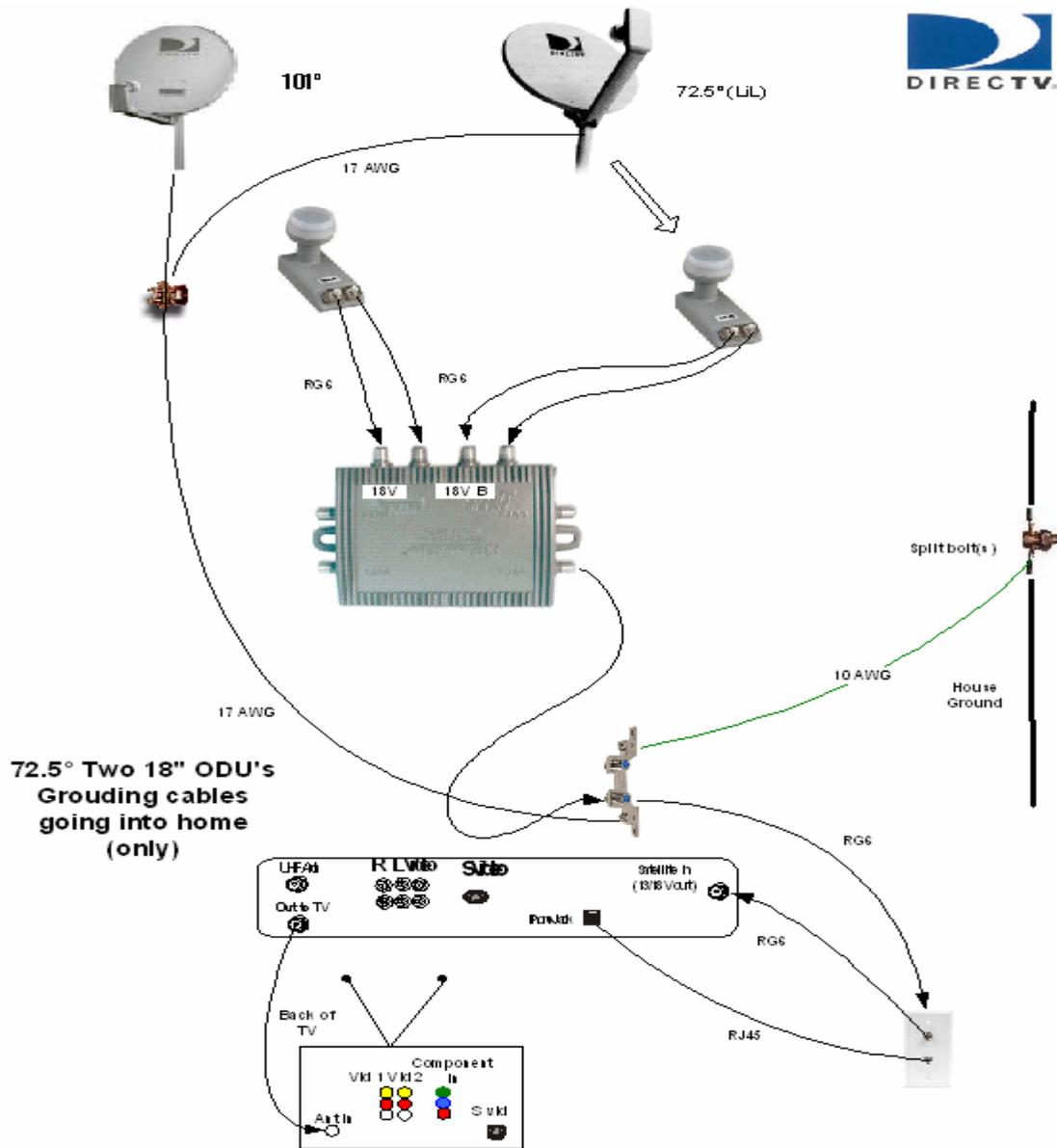


72.5° Two 18" ODU's Multi-Switch Grounding Method



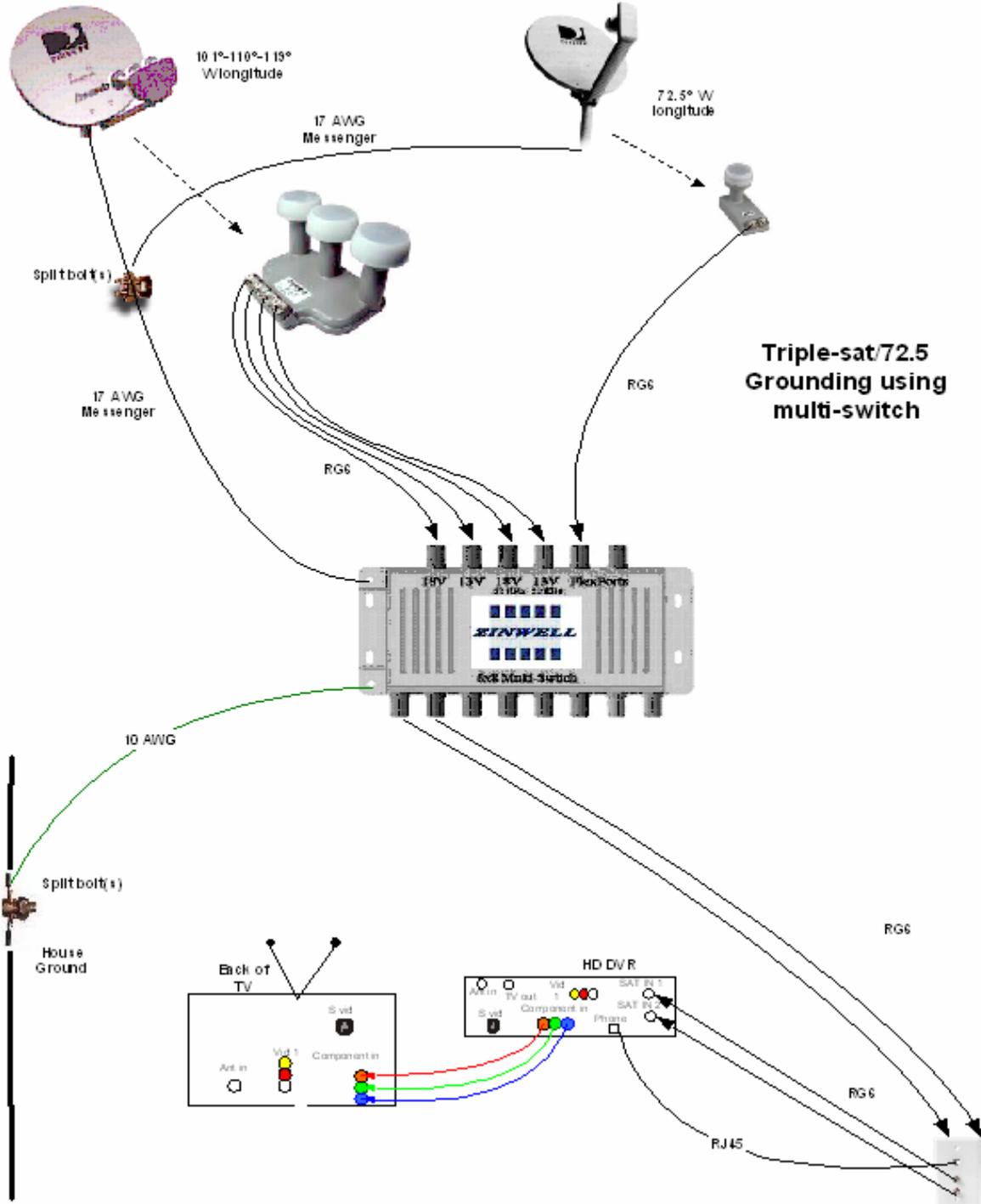


72.5° Two 18" ODU's Grounding Cables after the Multi-Switch Method



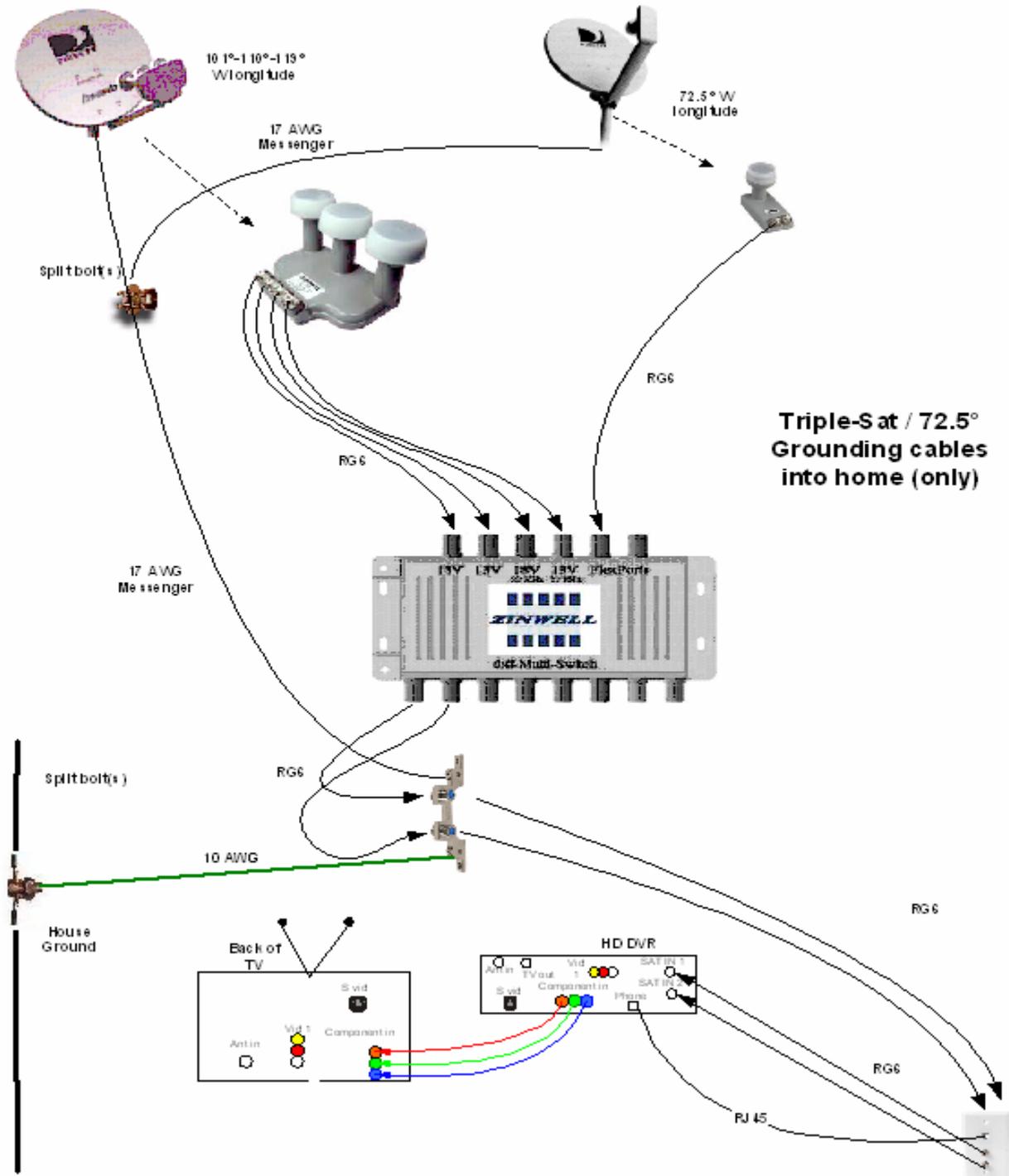


72.5°, 101°, 110° & 119° Multi-switch Grounding method





72.5°, 101°, 110° & 119° Grounding Cables after the Multi-Switch Method





Compatible IRDs for 72.5° and 95° 10/20/2004

Manufacturer	Model Number	HW Type	Compatible Software Version	Comments
072 SOFTWARE DOWNLOAD PLANNED				
DIRECTV	D10 (SUE)	Standard	N/A	Compatible out of carton
PHILIPS	DSX5500	Standard	95	May require download overnight
PHILIPS	DSX5540	Standard	95	May require download overnight
RCA	DRD435RH	Standard	003A 0207	May require download overnight
RCA	DRD455RH	Standard	003A 0207	May require download overnight
RCA	DRD486RH	Standard	003A 0207	May require download overnight
HNS	HAH-SA	Standard	6125.0.100	May require download overnight
HNS	HBH-SA	Standard	6125.0.100	May require download overnight
HNS	SD-HBH	Standard	6325.0.100	May require download overnight
SAMSUNG	SIR-S300W	Standard	1.1.06	May require download overnight must use filter when using 6x8 multi
SAMSUNG	SIR-S310W	Standard	1.1.06	May require download overnight must use filter when using 6x8 multi
DIRECTV	HR10-250	HD-DVR	3.1.5d-01-2-381	Force download via phone line
HNS	HDVR2	DVR	3.1.1d-01-2-151	Force download via phone line
HNS	SD-DVR120	DVR	3.1.1d-01-2-151	Force download via phone line
HNS	SD-DVR40	DVR	3.1.1d-01-2-151	Force download via phone line
HNS	SD-DVR80	DVR	3.1.1d-01-2-151	Force download via phone line
PHILIPS	DSR7000/17	DVR	3.1.1d-01-2-101	Force download via phone line
PHILIPS	DSR704	DVR	3.1.1d-01-2-101	Force download via phone line
PHILIPS	DSR708	DVR	3.1.1d-01-2-101	Force download via phone line
RCA	DVR120	DVR	3.1.1d-01-2-***	Force download via phone line
RCA	DVR39	DVR	3.1.1d-01-2-***	Force download via phone line
RCA	DVR40	DVR	3.1.1d-01-2-***	Force download via phone line



RCA	DVR80	DVR	3.1.1d-01-2-***	Force download via phone line
SAMSUNG	SIR-S4040R	DVR	3.1.1d-01-2-381	Force download via phone line
SAMSUNG	SIR-S4080R	DVR	3.1.1d-01-2-381	Force download via phone line
SAMSUNG	SIR-S4120R	DVR	3.1.1d-01-2-381	Force download via phone line
HNS	HTL-HD	HD	2.01.00	Every 20 minutes over satellite
LG	LSS-3200A	HD	2.01.00	Every 20 minutes over satellite
SONY	SAT-HD300	HD	2.01.00	Every 20 minutes over satellite
SAMSUNG	SIR-TS360	HD	1.2.12	May require download (going out every 30 minutes via satellite) must use filter when using 6x8 multi-switch
RCA	DTC-210	HD	1.0.14	May require download (going out every 30 minutes via satellite) must use filter when using 6x8 multi-switch



AUTO CONFIGURATION PROCESSES TO ACQUIRE 72.5° AND 95°

1) D-10 Auto Configuration

- Press "MENU" on the remote
- Select "Settings"
- Highlight and select "Satellite"
- Highlight and select "Auto detect"
- Press (dash) on the remote 3 times

2) Philips 5500 (series) Auto Configuration

- Press "MENU" on the remote
- Highlight "SETUP" and press OK
- Highlight "DISH TYPE" and press OK
- Highlight "AUTO SELECTION" and press OK
- Press OK to start auto selection, wait for all 19 steps to complete

3) HNS HBH-(series) Auto Configuration

- Press "MENU" on the remote
- Highlight and select "SYSTEM SETUP"
- Highlight "INSTALL" and scroll right
- Highlight and select "AUTO CONFIG"

4) HNS HTL-HD Auto Configuration (72.5 ONLY)

- Press "MENU" on the remote
- Highlight and select "DIRECTV"
- Highlight and select "Initial Setup"
- Highlight and select "Setup Wizard"
- Select "YES"
- Highlight and select "AUTO Detection"
- Select "Start"
- Select "next"
- Select "next"
- The signal strength screen with all found satellites will be displayed

5) RCA DTC-210 Auto Configuration

- Press "MENU" on the remote
- Highlight and select "SYSTEM SETUP"
- Highlight and select "AUTO DETECTION"
- Select "OK"

6) RCA 435RH, 455RH, 486RH Auto Configuration

- Press "MENU" on the remote
- Highlight and select "SYSTEM SETUP"
- Highlight and select "RECEIVER OPTIONS"
- Highlight and select "MULTISWITCH SETUP"
- Select "CONTINUE"
- Select "AUTO DETECT"
- Select "CONTINUE"

7) HD DVR, Auto Configuration



- Press "DIRECTV" on the remote
- Highlight and select "MESSAGES AND SETUP"
- Highlight and select "SETTINGS"
- Highlight and select "SATELLITE & OFF AIR ANTENNA"
- Highlight and select "AUTO DETECT SATELLITE INFORMATION"
- Press "Thumbs Down" 3 times
- Press "ENTER"

8) SAMSUNG S300W, S310W Auto Configuration

- Press "MENU" on the remote
- Highlight and select "SETUP"
- Highlight and select "**Installation**"
- Highlight and select "**SET DISH**"
- Select "AUTO DETECTION"



DVR (telephone) download process

In an effort to avoid interruptions during the software download technicians should communicate to the customer not to use the phone while the download is taking place (approximately 1 hour)

The process for disabling call waiting is as follows:

1. Go into "DIRECTV Central"
2. select "Messages and setup"
3. select "Recorder and phone set up"
4. select "Phone connection"
5. select "Change dialing options"
6. select "Set call waiting prefix"
7. Enter "*70," (this will require the tech to press "clear" "70" and the pause button)
8. select "Accept and test new options"
9. Then follow standard DVR download process

DVR download process

- DVRs may require a download to receive 72.5° and 95° programming at time of installation via the phone line:
- Performing DVR download process
 1. Complete guided setup. (You can skip past the dish setup if necessary). During guided setup it will make 2 calls (one to get a local dial in number and one to test that number).
 2. Manually force a daily call from the phone menu (This will initiate a download that will take about 30-60 minutes on a good phone line.)
 3. Check the system info screen to see if a system restart is pending. This indicates the software was received
 4. Restart the unit, either from the menu or by cycling power.
 5. New software should self install now.
 6. Verify in system info screen.

The correct TiVo Software (3.1.1.d)

It is highly recommended that technicians have some of these units downloaded at the local office prior to going out on the installations—this will save a considerable amount of time.



DVR (satellite) download process

1. Connect the DVR to power and a satellite signal. Make sure the phone is **UNPLUGGED**.
2. Power up the DVR. After booting it will prompt you to begin Satellite Guided Setup.
3. Complete satellite guided setup, including verification of signal source.
4. After the recorder acquires information from the satellite and you are able to watch Live TV, note the time.

NOTE: You will need to wait for 15 minutes (for dual tuner boxes) or 30 minutes (for single tuner boxes) without changing channels, pausing live TV, or switching tuners for the rest of these procedures to work. It's OK to navigate through the menus and complete steps 5 through 8.

5. Go to the System Information page by going to DirecTV Central -> Messages & Setup -> System Information
6. Page down through the System Information page until you see the "Dial-in Configuration Code" setting. It will read "000,TFA=1" The TFA value is not important for these procedures.
7. Change the dial-code to **206** by doing the following:
 - Press Clear, Clear, Enter, Enter, 0.
 - The dialcode reading will change to an entry field.
 - Enter **206** and then press Enter.
 - The dialcode field will change back to a reading, and will read "206 TFA=1".
8. Use the left arrow to get back to Messages & Setup
9. Verify it has been at least 15 or 30 minutes (for dual or single tuner boxes, respectively) since the time you noted in step 4
10. Go back into System Information and check the "Last Status" under "Phone Call" and verify that it says "Finished" due to "no dial tone." If it says "Housekeeping", "Dialing", "Downloading", or anything else to indicate that a call is in progress, verify that your phone line is unplugged, exit out to the Messages & Setup menu, wait a few minutes and then check again. (It is important that you exit out of System Information and re-enter in order to force the display to update. Do not just wait on the System Information page waiting for the value to



change!)

11. Once you have verified the "Finished" No dial tone status, plug in the phone line.

12. Navigate to Messages & Setup -> Recorder and Phone Setup -> Phone Connection. It will force you to go through phone Guided Setup. Enter your area code, go through the first call ("Update Numbers"), select a dial in number, and make your second phone call ("Test Phone Connection").

12.5. As soon as the second phone call finishes, unplug the DVR from phone line.

13. Immediately after the second call finishes (within 10 seconds or so) the recorder should begin a service download from the satellite. If you return to Live TV the program info should show "SW_Update". (On dual-tuner boxes this program will be on the background tuner.) The recording light on the recorder's front panel should be lit and the recording should continue for 5 - 10 minutes.

14. If the Data Recording does not begin after the test call, or if the recording stops after less than a minute, wait a few minutes *WITHOUT CHANGING CHANNELS OR PAUSING LIVE TV* and then reset the dial code on the System Information page to **206**, plug the phone line in again, make another test call, and disconnect the phone line again.

15. Return to Live TV and note the progress of the Software Update recording. The recording of the Service Data Download should be less than 10 minutes.

16. After the recording is finished and you are returned to regular Live TV, go back to the System Information and look at the "Last Status" field for the "Service Data Download". (About 2 pages down from the top)

17. Wait until the Last Status has changed from "Receiving..." or "Processing..." to "Completed". The processing phase should take around 10 minutes.

18. Restart the DVR by navigating to DirecTV Central -> Messages & Setup -> Restart or Reset System -> Restart the Recorder and entering three thumbs down and Enter.

19. After rebooting it should go through a software upgrade and then reboot again.

20. Go to System Information and verify that the software version is 3.1.1d.

21. Plug the DVR back into the phone line

End of Procedures



Samsung Download and Filter Process

The Samsung **SIR- S300W**, **SIR- S310W** (software version 1.1.06) & **TS-360**(software version 1.2.12) software download will happen every 20 minutes via the satellite—the receiver must be connected to 101°

PURPOSE & SCOPE

Use the filter for the Samsung models listed in conjunction with a 6x8 multi-switch, for viewing of 72.5° or 95° programming.

STEP 1

Connect Filter to "Satellite In" on back of the IRD.



Step 2

Hand tighten filter securely



Step 3

Connect coax cable coming from 6x8 multi-switch to the filter on back of IRD



Models Affected



- Use of the filter during the installation of these products is required when used with a 6x8 multi-switch.
- This adaptor is not needed when installing with 4x4 or 4x8 multi-switches.
- These adapters ensure that the proper current levels are maintained when using a 6x8 multi-switch.
- Failure to use this filter may cause unpredictable behavior when using a 6x8 multi-switch.
- **The Filter should be provided by the technician—it is currently not in the carton with the IRD.**



Complete or Factory Resets for 72.5° and 95° Compatible IRDs

(Attempt if auto-configuration is unsuccessful)

D10 Steps:

1. Highlight and select **menu**
2. Highlight and Select **settings**
3. Highlight and Select **setup**
4. Highlight and Select **reset**
5. Highlight and Select **reset everything**
6. Enter three **dashes** (bottom left on remote)
7. The receiver will reboot
8. You will have to turn the receiver back on and redo the guided setup

Phillips 5500 and 5540 Steps:

Enter the **System Diagnostic** screen

1. On the receiver press and hold **INFO** and **RIGHT ARROW** Simultaneously
2. Highlight and press **OK** on factory settings.
3. Highlight and press **OK** on Reset to Factory Defaults (it will take a minute or 2 to reboot)
4. The receiver will reboot and you will have to go through the setup wizard

RCA DRD 435RH, 455RH, 486RH Steps:

Enter the **SERVICE TEST** screen

1. On the receiver press and hold **INFO** and **LEFT ARROW** Simultaneously for 5 seconds
2. Highlight and select **FACTORY DEFAULTS**
3. Select **RESET DEFAULTS**
4. Select **NOW** to power cycle IRD

The reset takes a couple minutes to complete then the IRD will reboot when finished

HNS HAH-SA, HBH-SA, and SD-HBH Steps:

1. Select **MENU**
2. Highlight and select **SYSTEM SETUP**
3. Highlight **PREFERENCES**
4. Scroll over and select **FACTORY DEFAULTS**
5. Select **OK**
6. Select **OK** again

Samsung SIR-300w and SIR 310W Steps:

Enter the **System Diagnostic** screen

1. On the receiver press and hold **MENU** and **RIGHT ARROW**
2. Scroll down and highlight **COMMANDS**
3. Scroll down to **Default Settings**



4. Select **OK** twice
5. The system will reboot

DIRECTV DVR Steps:

1. Press the **DIRECTV** button on the remote.
2. Scroll down and select **Read New Messages & Setup**
3. Scroll down and select **Restart or Reset System**
4. Scroll down and select **Clear and Delete Everything** (*will take about 1 Hour*)
5. Press thumbs down 3 times as instructed and select enter

HNS HTL-HD Steps:

Enter the diagnostics screen

1. On the receiver press and hold **INFO** and **RIGHT ARROW** Simultaneously
2. Highlight and select **NVRAM RESET**
3. Select **YES** when prompted to reset

The reset takes a couple minutes to complete then the IRD will power down when finished.

LG LSS –3200A Steps:

Enter the diagnostics screen

1. On the receiver press and hold **INFO** and **RIGHT ARROW** Simultaneously
2. Highlight and select **NVRAM RESET**
3. Select **YES** when prompted to reset

The reset takes a couple minutes to complete then the IRD will power down when finished.

SONY SAT- HD 300 Steps:

Enter the diagnostics screen

1. On the receiver press and hold **INFO** and **RIGHT ARROW** Simultaneously
2. Highlight and select **NVRAM RESET**
3. Select **YES** when prompted to reset

The reset takes a couple minutes to complete then the IRD will power down when finished

SAMSUNG HD SIR-TS360 Steps:

Enter the **System Diagnostic** screen

1. On the receiver press and hold **MENU** and **RIGHT ARROW**
2. Scroll down and highlight **COMMANDS**
3. Scroll down to **Default Settings**
4. Select **OK** twice
5. The system will reboot



RCA HD D210 Steps:

Enter the **System Diagnostic** screen

1. On the receiver press and hold **MENU** and **RIGHT ARROW** (You may have to press **MENU** and **RIGHT ARROW** twice). The first time the **MENU** will come up the second time **SYSTEM DIAGNOSTIC** will come up.
2. Scroll down and highlight **COMMANDS**
3. Scroll down to **Default Settings**
4. Select **OK** twice
5. The system will reboot



Technician Notes