

Volunteer Satellite Distributors

www.volsatdist.com

Authorized Motorola Satellite Receiver Distributor

61A Parris Ave, Nashville, TN

TN: 800-726-1298

IN: 888-592-3030

VA: 888-844-1040

DSR920 Installation / Troubleshooting Guide

This is not intended to replace the manual that came with the receiver but to be used as a supplement to it.

1

The Preliminaries: If you are replacing an existing IRD with a 4DTV, first position the dish to what the satellite guides call G10 or G0 (some older receivers may still be calling this satellite G9 or T3) before you disconnect your old receiver. Disconnect your old unit then connect the 4DTV receiver.

Remove your Videocipher Module from the old unit and install it into your 4DTV. Do not remove or insert with either receiver plugged into an electrical outlet.

Connect the Motor, Sensor, Polarizer wires and LNB cables and the UHF antenna to the terminals on the rear panel of the 4DTV receiver. It may be necessary to refer to the DSR920 Operator's Guide that came with your 4DTV for the correct locations of these wires.

Connect power to the 4DTV receiver and turn it on. The 4DTV will go through a "warmup" process before it actually powers completely up. When 12:00 is displayed on the front panel of the receiver press the POWER button. Refer to the Troubleshooting section if the receiver fails to come out of the warmup cycle.

2

Factory Reset: Before you do anything, we recommend you reset the receiver to the factory defaults. This is just a good practice when installing the 4DTV receiver. Press **OPTIONS 6, 7, 7, 8**, then select **7 (RESET TO FACTORY DEFAULTS)**. The receiver will ask you confirm the selection then will reset and go through the "warmup" process again.

3

IPG Option: Press **OPTIONS 6, 4, 1**, Use the **ARROW** key and move the yellow cursor to **YES** on the line for **ALLOW DISH MOVING FOR UPDATES**. This allows the dish to move automatically between 2am and 5am each day for IPG Updates.

Dish Settings: Press **2 (CHANGE DISH SETTINGS)** then **1 (SELECT ACTUATOR)**. If you are standing behind your dish and the actuator is on the East side of the pole, choose **LINEAR/WEST**, if your actuator is on the West side of the pole, choose **LINEAR/EAST**. (Typically if you are East of Denver Colorado you will select **Linear/West**).

Select LNB: Press **2** or **ARROW DOWN (LNB TYPE)**, the default setting is **C-Band and Ku-Band LNBS** but if your system is different you will need to change this to match your configuration. Use the **LEFT** and/or **RIGHT ARROWS** to select your LNB type.

FEEDHORN POLARIZATION typically is **STANDARD**. If you are not sure leave it in standard mode. If later you find your feedhorn is rotated, press **4 (FEEDHORN POLARIZATION)**, to change to **ROTATED**, Nor should you have to change option **3 (ADJUST LNB OFFSET)**. Press **GO BACK**.

4

Setting Limits: Press **3 (SET LIMITS)** to get to the East/West limits screen. The dish position will show you are currently at 5000. This is the preferred dish position for Go. If the dish is not at GO or if you installed a new actuator at the same time as this receiver, you may want to move the dish to G0 then do another Factory Reset to put 5000 at the G0 position. At this point you will only be able to move the dish while you are setting the limits.

Now you have a choice. If you knowledgeable about satellite locations proceed to #5 below to set the limits as you are programming the satellites. If when you move the dish and it goes the opposite direction than you intended, reverse the M1 and M2 motor wires on the rear panel.

East Limit: Press **1 (EAST LIMIT)** tap the **LEFT ARROW** key to move the dish, stop when you see the "*Physical limit of the dish has been reached*" message, press **ENTER** then move the dish about 10 counts west then press **ENTER** again. Later after you have the Eastern most satellite programmed into your 4dtv receiver, you should come back and relocate the East limit to a setting that is 10 counts East of this satellite

West Limit: Press **2 (WEST LIMIT)** tap the **RIGHT ARROW** key to move the dish, stop when you see the "*Physical limit of the dish has been reached*" message, press **ENTER** then move the dish about 10 counts East then press **ENTER** again. Later after you have the Western most satellite programmed into your 4dtv receiver, you should come back and relocate the West limit to a setting that is 10 counts West of this satellite. Proceed to #6.

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You can set your limits as you program the satellites by switching back and forth between the **Program Satellite Screen** and the **Set Limits screen**. Press **3** to get to the **Program Satellites screen** then program the satellites as you proceed.

6

Programming Satellites: Press **4 (PROGRAM SATELLITES)** to bring up the list of satellites. You currently are on the location you set previously with your old receiver as the location of G0, the only Cband satellites not shown correctly in the factory default mode is G0 (G9), GB (G7), T6, T7, W7 (C1) and F1. These will appear as the receiver "maps" in a few steps later. At this time let's program G9 at the G0 location then we'll "map" the 4DTV. Remember, G9 will change to G0 during the "Mapping" process. Use the **ARROW** keys on the remote control to position the yellow cursor over the G9 tile then press **ENTER**.

You are now shown the Satellite Adjustment screen. When you are locating a previously unstored satellite the 4DTV will always put itself on channel 1. You should change to a known channel on the satellite you are locating. Use the **CHAN UP** or **DOWN** keys to select a target channel or just type in the channel number then press **ENTER**. There is an "in the clear channel" on 24 (The Outdoor Channel) or you can also use channel 15 (Showtime West) as a target channel. If you use channel 15 and you have subscribed to Showtime, you should get a picture, if not, you will get a black screen and a pop-up message identifying the channel as Showtime West.

Use the **DOWN ARROW** to select **DISH POSITION**. Watching the **SIGNAL STRENGTH** indicator, use the **LEFT** or **RIGHT ARROW** keys to move the dish until you locate the strongest signal. The dish should already be close to G0 (if it was left at this position before installation). You can use **AUTO PEAK DISH** to locate the strongest signal. Once you have located the strongest signal available select **AUTO PEAK SKEW** to adjust the skew for maximum picture quality. Repeat the autopeak on a channel on the opposite polarity. When you are satisfied with the satellite settings, save it in memory by pressing **GO BACK, ENTER, VIEW**. You will use this procedure to correctly tune the remaining satellites.

7

Channel Mapping The Receiver: Before Mapping, the 4DTV receiver is basically an analog receiver, The mapping process adds the digital channels. Move the dish to satellite G9 channel 9. You should see a "dot" on the lower right-hand side of the oval above the letters DC on the front panel. Your TV screen should be Gray slate saying: **CANNOT FIND CHANNEL, CONTINUING TO SEARCH**, this is normal, it's suppose to say that. If you do not have either of these, press the **RIGHT** or **LEFT** arrow key then adjust the dish position and/or skew until you see the green dot.

Press **OPTIONS 6, 5**. At the bottom-right of the screen you should notice the number in the box marked **CHANNELS** increasing. The 4DTV is now performing the Channel Mapping. Once the unit has stopped counting (currently there are over 4200 channels) it has completed downloading the channel maps. (This screen is timed to stay visible only for a set period of time. To restore it at any time, press **OPTIONS 6, 5**).

8

Getting The Guide: After the mapping has completed, this would be a good time to call your programmer to have the digital programming and IPG activated. Press **OPTIONS 6, 5**, The unit ID is on line A. This is the number your programmer will need. Watch the **TRIP** counter indicator (left hand side of the screen) to increase when the 4DTV receives the authorizations. Press **VIEW** to close this screen when the process is over. If the VC module is not authorized for programming, you will also need to take a hit on a Videocipher channel for the analog programming to authorize. Press **GUIDE** to download the current IPG. This process will take a few minutes. When the Guide displays, press **VIEW**.

9

Program the Remaining Satellites: Press **OPTIONS 6, 4, 4**. To enter the Program Satellites menu. Select the desired satellite and press **ENTER**, now look at line 1, this is the 4DTV's automatic calculation (best guess) of the location of your satellite selection. See below for an explanation. If you Highlight this then press **ENTER**, the dish will move to this location. Repeat the tuning procedure above if necessary. Refer to the 4DTV Satellite Chart, current paper satellite guide or Lyngsat (www.lyngsat.com) for a list of the satellites and locations. This process can also be preformed after the receiver "maps" if you choose.

If you are familiar with locating satellites you can elect to program the satellites manually, locating each satellite location yourself. If you would like the 4DTV to help you locate the remaining satellites, you can program 3 specific satellites then the 4DTV will give you the correct location of the satellites as you manually program them. The 4DTV will not automatically program satellites. To autolocate the satellites, you need to correctly locate and store at least three satellites, one in the middle of the arc (W1) one furthest East (W2) and West (W7).

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NO DIGITAL LOCK

Some digital channels are a little harder to receive especially the HBO and Cinemax channels on G1.

If you are on a known digital channel but you are instead seeing “**CANNOT FIND CHANNEL, CONTINUING TO SEARCH**”, you will need to do a little extra adjusting to the skew and/or dish position. Press **OPTIONS, 6, 4, 4, ENTER** then look at the Signal Quality (bottom-right) level. This number will probably read 0. Play with the dish position and the skew in small increments to achieve the highest quality. When you are satisfied with the picture or signal reading, press **GO BACK** then **ENTER** to save the adjustments. If this fails read below.

If you still aren't getting a digital signal, there are a few things that can cause this:

The Focal Length. If you are installing the 4DTV on an existing analog system, even if the system is only a few years old, the Focal length may have been good enough to receive an analog channel but it may not be good enough for a digital signal. A slight adjustment may make a big difference.

The LNB. If you are replacing an existing analog receiver on a system, even if the system is only a few years old, an old or higher temperature LNB may have been good enough to receive an analog channel but it may not be good enough for a digital signal. You may need to replace it with a lower temperature LNB. Different brands of LNBs can also be a problem. Each manufacturer has a different set of tolerances they use to make LNBs. Cheap LNBs tend to have a lower tolerance and will not remain stable for a long period of time. If the customer has noticed a lot of sparklies in reds or yellows, replace the LNB and try again.

ACTUATOR LOSES SATELLITE POSITIONS

If you notice you continually have to adjust the satellite position you may have an actuator grounding issue.

This problem has been noticed on some of the “faster counting” actuators. It does not indicate the actuator is bad however. As the actuator turns the sensor sends a county of the rotation back to the receiver. The problem is the sensor moves faster than the receiver can pickup.

Here are three fixes for this situation, the first is the easiest, the second and third is a little harder.

1. Use one of the unused wires in the actuator bundle of wires coming from the dish and secure it to the threaded post on the back of the receiver. Secure the other end to a mounting screw in the actuator motor case. Do not secure it to the terminal strip that has the motor and sensor wires attached to it.
2. Shim the sensor out from the Magnets if it is that type of actuator.
3. Remove one of the magnets.

RECEIVER STAYS IN WARMUP MODE

Sometimes a receiver will stay in the “Warmup” mode. You can try removing and inserting the power cord a few times. Sometimes it works, sometimes it doesn't.

SATELLITE CHART IS MISSING STORED SATELLITES

Static is this receiver's worst enemy. This condition happens when the receiver takes a static hit or it can happen after a power loss.

Unplug the unit from the power source for a few minutes then plug it in again. They should return. If not, repeat the procedure again.

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1. Move the "whip" antenna away from the components by adding a short length of properly terminated 75-ohm coaxial cable. Small changes in the positioning of the antenna can make large changes in performance.

2. Add a 10dB UHF-RF amplifier between the "whip" antenna and the input to the IRD. These small amplifiers are available at most electronics parts suppliers such as Radio Shack. This type of amplifier will boost the signal coming into the receiver and can help to extend the UHF range of the remote control.

3. Use existing antenna or cable wiring in your house to relocate the supplied "whip" antenna or a small set of 'rabbit ears' to a more central location in your home. Combining this with the RF amplifier described above will provide you with maximum range.

PROGRAMMING THE AUDIO VOLUME FUNCTION

To operate the source volume of the receiver via UHF and Infrared (IR). If your TV does not have remote control of volume, or if you would like to be able to control the volume of the receiver from other locations in your home, for whole house audio applications for instance, you can "program" that function into the remote control. The 3-in-1 remote is programmed at the factory to control the volume of your TV. To reprogram the remote control to operate the source volume of the IRD press and hold the **4DTV** button at the top of the remote until the LED light begins to flash. Then key in **1, 0, 0**. You will see the light stop flashing. The volume function of the remote control will now bring up a volume "bar" on the on-screen display of the receiver and allow you to control volume via UHF and IR.

FUTURE SOFTWARE UPGRADES

One of the advantages of the 4DTV receiver is its ability to add software updates after the receiver has been installed. Downloads will occur when the receiver is turned off and will be relatively transparent. Downloads are announced to the customers by electronic messages sent to the receiver telling the customer about the download. The current version of the software is 6D.