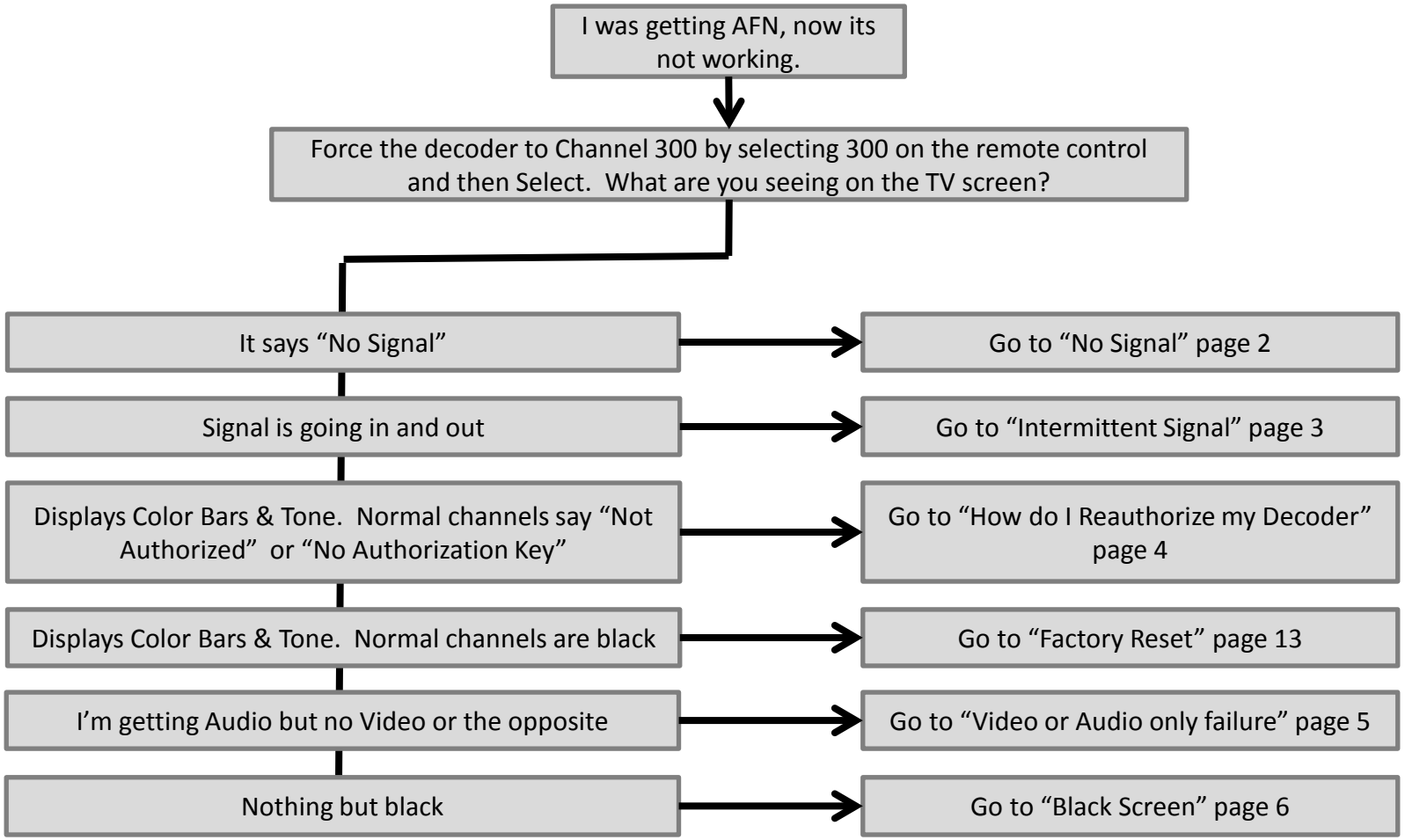
D9234 Decoder Troubleshooting Guide



No Signal

Go to MENU then DISH POINTING

If your Signal Level and Signal Strength is zero, first check the LNB power switch, on the back of the decoder, to make sure it is on. This decoder, because of its age, will sometimes have an LNB Power circuit failure within the decoder. You can troubleshoot this by trying the decoder on a different, working system. This means taking the decoder to a friend or neighbors house to try the decoder there. If the Signal Strength is zero at another location, you can only replace the decoder. These old decoders are not cost effective to repair. If it works on another system or if it is difficult to test because of your situation, check the wire connection issue between your Satellite Dish and Decoder. You can find instructions for this on the “Troubleshooting Coax” page.

If your Signal Strength remains high, 48 or above, and your Signal Quality is zero, first check your settings by following the instructions on the “Settings” page and if they are OK, then you probably need to troubleshoot your Satellite Dish. See “Troubleshooting my Satellite Dish” page in these instructions.

Intermittent Signal

Scientific Atlanta Model 9234

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Go to MENU then DISH POINTING

If your Signal Strength is going up and down more than 3 points, you are probably dealing with a wire connection issue between your Satellite Dish and Decoder and should go to the “Troubleshooting Coax” page.

If your Signal Strength remains high (48 or above) and your Signal Quality (some say C/N Margin) is going up and down more than 3 points you probably need to replace your LNB. See the “LNB” page.

If your Signal Level remains high (48 or above) and your Signal Quality (some say C/N Margin) is zero or near (C/N Margin of 11) you need to troubleshoot your dish. See the “Troubleshooting my Satellite Dish” page.

How do I Reauthorize my Decoder

Is this decoder owned by you?

No

Yes

If the Decoder is Leased you must contact the Leasing Authority for Reauthorization.

If the Decoder is issued from Housing or FMO you normally contact them for Reauthorization. Some housing offices have released the decoders to be reauthorized by the user. If so, follow the owner instructions.

State Department and Unit issued decoders are normally Reauthorized by the user, follow the decoder owner instructions.

Note:
Occasionally a registered decoder will refuse to recognize its "authorization key". The key is part of the satellite signal for all registered decoders. If you know your decoder is authorized, but is saying it is not, go to the "Factory Reset" page.

Owner Instructions:
You will first need to get the TID and UA numbers from the sticker on the back or bottom of the Decoder. The TID is 12 digits and you only want the first 7 digits of the UA number. (The registration form does not accept the hyphen or 8th digit) Go online using Internet Explorer and type box.MyAFN.net into the URL bar. Enter the TID number and the first 7 digits of the UA number. Select the country the decoder is used in and then select the "Next" button. This should open the registration form. (If you are asked for an email address and password, you will not be able to register this decoder. Contact the decoder Helpdesk.) Fill it out the form completely. Retirees and DoD Contractors can put a civilian email address in the Government email box. The form will accept local or APO/FPO/DPO addresses. Make sure you check the "Agree" at the bottom of form before you click "Submit" You will know that the form has been accepted once you see a web page that says "One more step".
Retirees and DoD Contractors that use a civilian email address must take the additional step of sending a copy of their ID card to the AFN help desk at sathelpdma@mail.mil or their registration request will be denied.
After you successfully submit the form, you must go to the email address on the form and click the link to verify access to that email account. Accessing a US Govt. email account verifies your authority to view AFN.

Note: Any question concerning Decoder Registration can be directed to the AFN Helpdesk at sathelpdma@mail.mil. Always include the Decoder UA number with your question. You can also reach the Helpdesk at US (951) 413-2339.

Audio but no Video or Video but no Audio

If you have either Audio or Video, your decoder is receiving both. The issue is either the connections to your Television or the decoder has “locked up” and is no longer sending one or the other to your TV.

How is your Decoder connected to your TV

A/V cables

These are the Yellow/Red/White cables. Yellow is for video. Red and White are for left and right audio. Reseat the affected cable at both ends. If it still does not work, follow to the “Factory Reset” instructions. If that does not resolve the issue, replace your AV Cables.

Out to TV

Disconnect and reseat your cable at both ends. If it still does not work, follow to the “Factory Reset” instructions. If it still does not work, try switching to A/V cables if your television will support those connections. Out to TV requires a modulator circuit inside the decoder and a tuner circuit inside your television to be working correctly. If either has failed your only option is switching to AV cables, these old decoders are no longer cost effective to repair.

I have nothing but black on the TV Screen

The following instructions assumes that your have already checked to make sure the Decoder is plugged in and turned on, the TV is plugged in and turned on, the decoder is still connected to the TV and you have selected the decoder as the source you want to view on the TV. After you have verified all six of these things please continue with this flow chart.

Press the MENU button on the front of the decoder. Is the decoder menu displayed on the Television.

Yes

Go to the "Factory Reset" page and follow the instructions.

No

You may be dealing with a failed decoder. Double check to make sure everything is powered up and connected properly. Make sure you have selected the correct source/input on our television. Try a different cable for connecting the decoder to the TV. If you are using the "Out to TV", try switching to the Yellow/Red/White Audio/Video cables if your television will support these connections. This means you will have to change the source/input selection on your television to view this alternate source. Your last resource is to try your decoder on a different, working system to verify that the decoder has failed. If it has failed, you will need to replace the decoder.

Settings for Europe & Middle East

Go to MENU then RECEIVER STATUS then RECEIVER SETUP

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Frequency Mode: Downlink
Frequency: 11.80420
LO Freq #1: 9.750
LO Freq #2: 10.600
Crossover: 11.700
Polarization: V (fixed)
FEC Rate: 3/4
Symbol Rate: 27.5000
Network ID: 158
Find: OFF

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If any of your settings are wrong. Correct them. Then select exit and you will be prompted to hit the “1” button to save any changes. If you do not have a remote control, you can still save by pushing the “Volume up” and “Volume down” buttons at the same time. If your decoder is still not working, go back to the “No Signal” troubleshooting page and continue troubleshooting.

Settings for Japan, South Korea & Philippines

Go to MENU then RECEIVER STATUS then RECEIVER SETUP

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Frequency Mode: Downlink
Frequency: 12.59
LO Freq #1: 9.750
LO Freq #2: 10.600 or 10.750
Crossover: 11.700
Polarization: V (fixed)
FEC Rate: 3/4
Symbol Rate: 28.0000
Network ID: 18
Find: OFF

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If any of your settings are wrong. Correct them. Then select exit and you will be prompted to hit the “1” button to save any changes. If you do not have a remote control, you can still save by pushing the “Volume up” and “Volume down” buttons at the same time. If your decoder is still not working, go back to the “No Signal” troubleshooting page and continue troubleshooting.

Settings for Africa

Go to MENU then RECEIVER STATUS then RECEIVER SETUP

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Frequency Mode: Downlink
Frequency: 4.1750
LO Freq #1: 5.150
LO Freq #2: 00.000 or N/A
Crossover: 00.000 or N/A
Polarization: H (fixed)
FEC Rate: 3/4
Symbol Rate: 28.0000
Network ID: 3
Find: OFF

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If any of your settings are wrong. Correct them. Then select exit and you will be prompted to hit the “1” button to save any changes. If you do not have a remote control, you can still save by pushing the “Volume up” and “Volume down” buttons at the same time. If your decoder is still not working, go back to the “No Signal” troubleshooting page and continue troubleshooting.

Settings for the Atlantic Ocean Region

Go to MENU then RECEIVER STATUS then RECEIVER SETUP

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Frequency Mode: Downlink
Frequency: 4.1150
LO Freq #1: 5.150
LO Freq #2: 00.000 or N/A
Crossover: 00.000 or N/A
Polarization: H (fixed)
FEC Rate: 2/3
Symbol Rate: 3.6800
Network ID: 6
Find: OFF

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If any of your settings are wrong. Correct them. Then select exit and you will be prompted to hit the “1” button to save any changes. If you do not have a remote control, you can still save by pushing the “Volume up” and “Volume down” buttons at the same time. If your decoder is still not working, go back to the “No Signal” troubleshooting page and continue troubleshooting.

Settings for the Indian Ocean Region

Go to MENU then RECEIVER STATUS then RECEIVER SETUP

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Frequency Mode: Downlink
Frequency: 4.0935
LO Freq #1: 5.150
LO Freq #2: 00.000 or N/A
Crossover: 00.000 or N/A
Polarization: H (fixed)
FEC Rate: 2/3
Symbol Rate: 3.6800
Network ID: 7
Find: OFF

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If any of your settings are wrong. Correct them. Then select exit and you will be prompted to hit the “1” button to save any changes. If you do not have a remote control, you can still save by pushing the “Volume up” and “Volume down” buttons at the same time. If your decoder is still not working, go back to the “No Signal” troubleshooting page and continue troubleshooting.

Settings for the Pacific Ocean Region

Go to MENU then RECEIVER STATUS then RECEIVER SETUP

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Frequency Mode: Downlink
Frequency: 4.1735
LO Freq #1: 5.150
LO Freq #2: 00.000 or N/A
Crossover: 00.000 or N/A
Polarization: H (fixed)
FEC Rate: 2/3
Symbol Rate: 3.6800
Network ID: 5
Find: OFF

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If any of your settings are wrong. Correct them. Then select exit and you will be prompted to hit the “1” button to save any changes. If you do not have a remote control, you can still save by pushing the “Volume up” and “Volume down” buttons at the same time. If your decoder is still not working, go back to the “No Signal” troubleshooting page and continue troubleshooting.

Factory Reset

Before you begin the Factory Reset you should select:
MENU then
RECEIVER STATUS then
RECEIVER SETUP.
Write down all of your settings. You will need them after doing the Factory Reset because this procedure will wipe the decoder memory.
Go to
MENU then
RECEIVER STATUS then
USER SETUP then
FACTORY RESET.
Follow the prompts on the screen.

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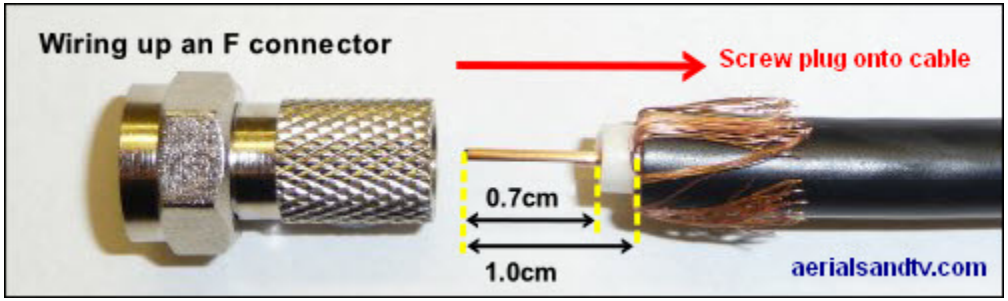
The Factory Reset will take a couple of minutes to complete. When it is done, you will need to turn the decoder back on. It should display “Channel 000, No Signal”. This is because the memory has been wiped. Now select:
MENU then
RECEIVER STATUS then
RECEIVER SETUP.
Now you can restore the settings back to normal using what you wrote down at the beginning of this procedure or go to the Settings page, in these instructions, for your region, so you can input the correct settings to receive AFN. Once the settings are restored, select EXIT and the decoder will prompt you to select “1” for yes to save changes. If you do not have a remote control you can select the “Volume up” and “Volume down” buttons, at the same time, to save your settings.

Troubleshooting Coax



The connection between your Satellite Dish and Decoder is made using Coaxial Cable. Coax is made up of four parts:

1. The outer insulation which is usually made of white plastic (in one photo it is black).
2. The shield which is made of foil and fine braided wires.
3. The inner insulation made of a white plastic.
4. The center wire which is made of copper.

The American style connector uses the center wire of the coax as part of the connector. In European connectors, the center wire is attached to the center pin of the connector with a screw or solder. When inspecting for connection issues, first check to make sure the connector is tightly secured to the cable. If it is loose, if the cable is backing out of the connector or the connector is easily removed from the cable, it needs to be repaired or replaced. Make sure the center wire is in good condition and not bent over. Corrosion will cause most connectors to turn grey and loose their shine. The copper center wire will turn blue. Corroded connections need to be replaced. In some cases there is enough cable available to cut it back and reveal fresh, uncorroded wire and attach a new connector. If not the cable will need to be replaced. If the connector on the LNB is corroded, the LNB will need to be replaced. See the LNB page if you don't know what that is.

Be aware that the round shape of the coax is critical for carrying the high frequency signal from the dish to the decoder. Cables that are flattened, crushed, or kinked must be replaced. Short "flat cables" can be purchased to carry the signal through window sills and doorways so the coax will not be crushed by them.

Other reasons for a disconnect are failed splitters, flat cables, or any other equipment between your dish and decoder. If you have any of these, bypass it temporarily to see if it is the souse of your problem.

In rare cases, a zero signal level is because your decoder is no longer sending power to the dish. If you are using the 9234 model, check the LNB power switch on the back of the decoder to make sure it is on. In all cases, the only way to be sure your decoder is working, is to try it on another system, such as a friend or neighbor, where everything is working. If the decoder works there, it is fine. If it doesn't, you need to troubleshoot or replace your decoder.

Troubleshooting my Satellite Dish

C-band dish

LNB

KU-band dish

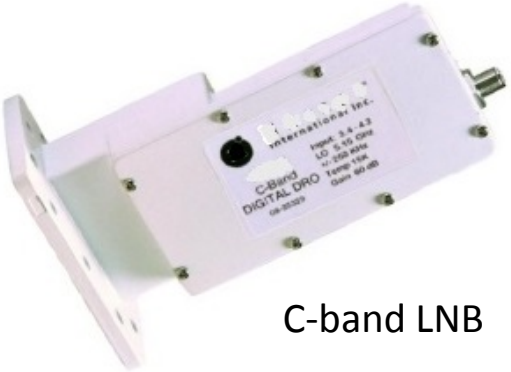
These instructions assume that the dish belongs to you and your have the means to safely access it. If the satellite signal is provided to you, contact the provider for dish issues. If you cannot safely access the dish, hire a professional to do the work. There is no excuse for injuries received while trying to get AFN.

Dish problems are usually one of two things:

1. The dish has moved. Satellite dishes must be pointed very accurately. A fraction of a degree of movement can take you off the satellite. This means your Signal Level can remain high, but the Signal Quality will bottom out. (This confuses many users because they think the only source of signal is from the satellite. But your decoder will show you anything near the frequency range as Signal Level. This means any microwave noise coming off the atmosphere and any noise coming from the LNB. There will always be some of both.)
2. The LNB has failed. LNBs usually fail in a manner that causes it to produce noise that your decoder will read as Signal Level. The noise overcomes the signal from the satellite and causes your Decoder to lose its lock to the satellite signal. LNB replacement instructions are on the LNB page.

So how do you tell if your dish has moved or your LNB has failed. First, look at when and how the system failed. Did it go bad gradually, working sometimes and not at others? This is classic LNB failure, your dish is not continually moving away from and back to the satellite. Did something happen that could have moved the dish, a severe storm, someone playing ball where the dish could be hit. If the failure is not associated with an event that could have moved the dish, suspect the LNB. You do not want to move your dish out of alignment just to find out the LNB has failed. Now you have two problems instead of one. If you suspect the LNB has failed, replace it. Instructions are on the “LNB” page. If you suspect the dish has moved, go to the “Checking Dish Alignment” page.

LNB



C-band LNB

KU-band LNB

These instructions assume that the dish belongs to you and your have the means to safely access it. If the satellite signal is provided to you, contact the provider for dish issues. If you cannot safely access the dish, hire a professional to do the work. There is no excuse for injuries received while trying to get AFN.

If you are in Europe, Middle East, Japan, Korea or Philippines, You are using a KU-Band dish. If you are elsewhere in the world, you are using C-Band. Either way, LNB replacement is easy. Ku-Band LNBs and some C-Band are set in a circular collar and can be rotated in that collar. Make sure you mark or photograph the position of the LNB before you loosen the collar. You will be putting the new LNB in the exact same position as the old one. Open the collar, unscrew the cable from the base of the LNB and you have successfully removed the LNB from the dish. Universal KU-band LNBs are inexpensive and available almost everywhere. AFN is using standard, off-the-shelf equipment. Just make sure your new LNB fits into the collar size you are using and that it has the same number of outputs as the old one.

Japan, South Korea and Philippines: Two varieties of LNBs are sold in the Pacific, some have a Local Oscillator #2 of 10.6 GHz others use 10.75 GHz instead. Either will work, just make sure the L.O. #2 setting on your “Settings” page matches the LNB you install on the dish.

C-band LNBs are more difficult to find, vary greatly and some systems are proprietary. This requires you to find the proper LNB for your dish. You still need to make sure the LNB is mounted in the same position as the old one.

Checking Dish Alignment

C-band dish

KU-band dish

These instructions assume that the dish belongs to you and your have the means to safely access it. If the satellite signal is provided to you, contact the provider for dish issues. If you cannot safely access the dish, hire a professional to do the work. There is no excuse for injuries received while trying to get AFN.

It is easy to test for a slight dish misalignment with a KU-Band dish. This is the type used by our customers in Europe, Middle East, Japan, South Korea and Philippines. Just grab the dish and gently flex it left, right, up and down while watching your signal level and signal quality. If either improves with the movement, then get out the tools and adjust the dish. While watching the Signal Level and Signal Quality, adjust the dish in micro moves, in the direction of improvement until your signal level and quality are maximized. You should not be moving the dish more than a fraction of a millimeter with this procedure. If your dish has moved a lot, use a full dish pointing procedure to correct the problem.

C-band dishes are larger, heavier and the mounting structure is more robust. Double checking the alignment is done the same way as with the smaller dishes, however you will need to use the procedure specified by the manufacturer of the dish. Never try to adjust a C-band dish while the wind is blowing. You can easily be injured or killed by a large dish that is being swung around by the wind. The same bolts that lock the dish in place may also be the only thing keeping the wind from lifting the dish off its mount and turning it into a deadly flying object. READ THE MANUFACTURERS SAFETY INSTRUCTIONS!!! If the job appears to be more than you are qualified to handle, leave it to someone who is qualified!

Dish Pointing

These instructions assume that the dish belongs to you and your have the means to safely access it. If the satellite signal is provided to you, contact the provider for dish issues. If you cannot safely access the dish, hire a professional to do the work. There is no excuse for injuries received while trying to get AFN. C-band dishes are aligned in much the same way, but they are larger and can very dangerous in the wind. Refer to the manufacturer's guide for alignment and safety procedures.

If you are uncertain about which way to point the dish, go to www.dishpointer.com, type the nearest town or city in the location block and click on "GO". The map will orient to your location and then select the correct satellite for your region: Europe and Middle East select "9E EUTELSAT 9A". Japan, South Korea & Philippines select "113E KOREASAT 5". Africa select 0.8W INTELSAT 10-02. Atlantic Ocean region select 34.5W INTELSAT 903. Indian Ocean region select 64.2E INTELSAT 906. Pacific Ocean region select 180E INTELSAT 18. After you select the correct satellite for your location, scroll down and you will see the Elevation, Magnetic Azimuth, and LNB skew. Write them down.

Start with LNB Skew. This is where you rotate the LNB within its mount into the proper position. Many LNBs have marks that will help you do this. Start with the LNB straight up and down. If the skew shows a negative number you will be rotating the LNB clockwise (from the front of the dish). If it is a positive number the rotation will be counter clockwise. If you don't see any marks on the LNB, use the clock method. Zero degrees is 12 O-clock. 30 degrees is at 1 and 11 O-clock. 60 degrees is at 2 and 10. Your compass can also be used to get close by putting the zero marker straight up and eyeballing the proper position for the LNB. This adjustment allows for some slop, so don't worry about being exact.
A compass and the marks on the mount allow you to roughly point the dish in the area of the satellite. Then use micro-moves to adjust the dish to the nearest satellite. While watching the signal level, adjust the dish azimuth and elevation to get the highest reading near your starting point. This will put you on a satellite. If the decoder is not locking onto the signal, you are on the wrong satellite. Adjust the azimuth and elevation to the next satellite on the left or right. This will require very small moves and you will watch your signal level to accomplish this. Adjust the dish to find two to three satellites in one direction and if you do not lock to any of these, go back to the first satellite and try the other direction. When the decoder locks to the signal, you are on the correct satellite. However those in Europe or the Middle East could be on the correct satellite, or the one next door, The Hotbird. If you are on the Hotbird the decoder will give a "Channel not available" indication when you try to view a picture on channel 7. If you get a picture or a "Needs authorization key" indication, you are on the correct satellite. If you are on the Hotbird, adjust the dish so it points to the next satellite to the right. Once you have a lock to the correct satellite, watch the "Signal Quality and make extremely fine adjustments to the dish for the maximum reading you can achieve. Pay attention to the Signal Quality as you tighten the dish down to ensure that you do not move the dish off of the satellite during this process.