

# US TV in Europe

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One of the most frequently asked questions in Europe is: "Can you receive TV from the USA?"

The typical answer is, "No, the US satellites are below the horizon and even so don't have any beams pointed to Europe."

But, is this answer really correct?

To find out the truth we paid a visit to Diego Fernando Sanchez Rosende in Tenerife. Tenerife geographically belongs to Africa but politically the Canary Islands, of which the largest is Tenerife, belong to Spain which is in Europe. Is it possible to receive US TV here?

Diego shows us a 1.8-meter dish that he bought used and told us, "About a year ago I discovered that I can receive the ECHOSTAR/RAINBOW satellites at 298.5° east

(61.5° west). I can receive the Dish Network promotional channel on 12.456 GHz." By the time we came to see this for ourselves, it became clear that Dish Network in the course of transitioning over to HDTV has not been transmitting any MPEG-2 signals from this transponder since August of 2008. "I can receive four transponders but all four of them are modulated in Turbo Code", explains Diego. This is a proprietary technology used by Dish Network.

How is it possible to receive US satellites in Tenerife? Diego has a theory: "We are located in an extreme westerly position, in other words, relatively close to the USA." The elevation of the dish that can receive ECHOSTAR is a comfortable 31°, not low on the horizon at all. Add to that Diego's location on Tenerife is at an altitude of 800m and plus there is very little industrial pollution on the island. "Tenerife has very little atmospheric attenuation", comments Diego. This may explain why he has such

a strong signal. His best reception is on the vertical beam in the high band. "These are the transponders I can receive with a continuously strong signal: 12.456 GHz, 12.486 GHz, 12.515 GHz and 12.546 GHz. These are most likely transponders from the east coast beam."

■ **Diego Fernando Sanchez Rosende on the roof of his home in the southwestern corner of the island of Tenerife giving the "thumbs up" sign: he can receive two American satellites! With the 3.1-meter prime focus dish to the left he receives AMAZONAS signals from South America and with the 1.8-meter offset dish to the right he receives ECHOSTAR/RAINBOW from North America. Other dishes on his roof include a 1.0-meter antenna for HOTBIRD and ASTRA 1 (on the back of the roof), another 1.8-meter dish for reception of NSS 806 at 319.5° east (40.5° west), as well as a 0.8-meter antenna in the foreground for HISPASAT at 330° east (30° west) plus one more 1.35-meter dish that Diego uses for tests such as C-band reception.**

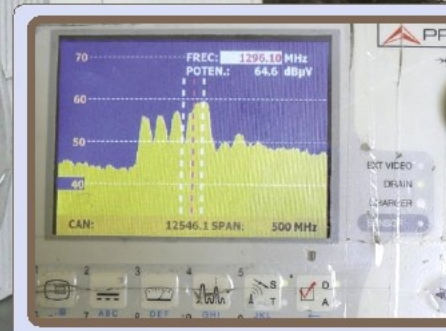
Diego shows us the spectrum of the ECHOSTAR satellite on his Promax signal analyzer: "This peak at 12.567 is particularly strong but ECHOSTAR is not responsible for this." The AMAZONAS bird at 299.0° east (61.0° west) transmits a data signal on a European beam. It's not hard at all to receive this transponder in Europe but Diego, who by now was extremely excited, wanted to know exactly what was going on. In addition to the 1.8-meter antenna, he also has a 3.1-meter prime focus dish. He turned his larger dish to this satellite position and was able to confirm, "Even here the spectrum shows a large number of transponders."

Unfortunately, the signal strength is not good enough to decode a TV signal. Diego contemplates, "If I were to erect a 5.0-meter antenna and point it to AMAZONAS I would then be able to get those signals with a receiver." Almost all of the channels on AMAZONAS are encoded; he would have to acquire a proper card from South America. "The best transponders to receive are in the low band and with horizontal polarization", Diego says as he provides a suggestion for other DXers. He dreams of the day when he can erect a 10-meter antenna: "That would let me easily receive both satellites!"

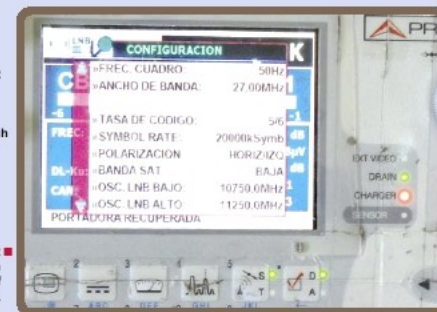
Our visit to Diego in Tenerife gave us these conclusions: with a proper receiver and activated card from Dish Network it would be possible to receive four HDTV transponders consistently and with sufficient signal strength. A larger diameter dish would produce more transponders.

For the AMAZONAS satellite, a larger dish would permit the reception of all the transponders. Diego recommends that other DXers living in Spain, Portugal, Great Britain, Ireland and western France should simply give it a try. If you already can receive INTELSAT 9 at 302° east (58° west), you're most of the way to ECHOSTAR. Keep in mind that ECHOSTAR transmits in circular polarization and AMAZONAS in linear polarization.

Of course, installing a large satellite antenna is not practical for everyone in Europe. For many a 1.8-meter dish is already stretching the limits and naturally it would help if your location doesn't have too much atmospheric attenuation. But then there's the other side of the coin: can satellite enthusiasts on the American east coast with larger dishes receive European satellites? TELE-satellite would love to hear from you!



■ The Promax spectrum analyzer shows the four ECHOSTAR transponders that Diego can receive with a consistently high signal level.



■ ECHOSTAR transmits with a symbolrate of 2000.