

Distribution Trans-Modulator

Globosat Takes Advantage of NovelSat NS3 Spectral Efficiency Boost Without Replacing Legacy IRDs

“We had an urgent need to improve our satellite efficiency, and we came to the conclusion that NovelSat NS3 technology was the best solution to go with.”

Lourenco Carvano
Director of Technology, Globosat



LOBOSAT

Challenge

Globosat wanted to optimize their satellite broadcast delivery network capacity. But they did not want to replace all the legacy IRDs (Integrated Receiver Decoder) at their nearly 200 remote distribution sites. The new capacity was needed to support expanded HD broadcasts and new channels that Globosat wanted to deliver via satellite.

Goal

Deliver additional live and recorded SD, HD and UHD TV content through the Globosat satellite distribution network to meet growing subscriber demand in Brazil without leasing new satellite bandwidth, and without replacing remote hardware.

Background

With 33 channels, 20 of which transmit content in HD, Globosat leads the Brazilian Pay TV market. Its audience comprises 50 million viewers in 16 million households¹. Prior to the introduction of the solution based on NovelSat NS3, Globosat transmitted satellite signals directly to IRDs that redistributed Globosat content to customers. The remote receivers were limited to satellite transmissions whose spectral efficiency was bound by DVB-S and DVB-S2 standards.

Globosat has been a NovelSat customer for a number of years. A critical milestone, however, that Globosat needed to prepare for was the distribution of the upcoming 2016 Rio Olympics, with a fair share of HD and UHD content to an expected audience of half a billion. In order to expand capacity to deliver the new and sustained content load, most solutions would require additional or new IRDs, additional bandwidth or both. Globosat turned to NovelSat for a unique approach that would require neither.



Solution

NovelSat NS3 is at the core of the NovelSat solution for Globosat. NovelSat NS3 is currently the world's most spectrally efficient satellite waveform, delivering the most transmission throughput per MHz of all the available satellite communications technologies.

For more information, please contact NovelSat at info@novelsat.com

Beyond NovelSat NS3, the uniqueness of the NovelSat capacity optimization solution lies in the NovelSat NS3000 Trans-Modulator: a solution available only from NovelSat. Rather than replace all of their IRDs in nearly 200 remote sites, Globosat was able to take advantage of the efficiency and resilience benefits of NovelSat NS3 by adding a NovelSat Trans-Modulator at each remote site.

The Trans-Modulators receive the optimized NovelSat NS3 signal delivered from NovelSat NS1000 Satellite Modulators at the broadcast hub. The Trans-Modulator then outputs DVB-S and DVB-S2 signals to the IRDs.

Previously, the IRDs would receive only DVB-S or DVB-S2 signals from the network, limiting the number of channels that Globosat could deliver. With the addition of NovelSat modulators at the hub and NovelSat Trans-Modulators, Globosat achieves their goal of offering more content to their customers without increasing the link budget or replacing a lot of remote equipment.

Technology

The existing Globosat distribution network was based on DVB-S and DVB-S2 transmissions. The network was upgraded to include 5 NovelSat NS1000 Satellite Modulators at the broadcast hub transmitting with the NovelSat NS3 waveform – the world's most efficient and reliable satellite transmission technology. NovelSat NS3 is also more

efficient at handling channel impairments including phase noise, non-linearity, jamming and interference for further bandwidth efficiency improvement.

At each of the nearly 200 remote sites in the Globosat distribution network, a NovelSat NS3000 Trans-Modulator was installed to receive the NovelSat NS3 signal. The NovelSat Trans-Modulator provides all the functionality of a NovelSat satellite modem including receive rates as high as 425Mbps per unit, support for both video (ASI) and video over IP plus Over the Air (OTA) software updates which add particular value in networks with hard-to-access remote sites.

In addition, however, it is designed to receive satellite signals modulated using any waveform and output to any other format. In the case of Globosat, the Trans-Modulators receive the optimized NovelSat NS3 signal and output DVB-S and DVB-S2 signals to the legacy IRDs.

Summary

The NovelSat NS3000 Trans-Modulator was the only available equipment with the required flexibility and backward compatibility to enable Globosat to continue to use their vast network of existing IRDs to deliver more SD, HD and UHD content. This was an important factor in keeping down costs while taking advantage of the efficiency benefits of NovelSat NS3.



NovelSat NS3000 Satellite Trans-Modulator Featuring NovelSat NS3 Waveform

¹Source: PTS channels No. 209 March/April 2014. Projection: average of 3.1 people/residence PNAD2012

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