Easing the Migration from ASI to IP

How Paradise Modems Saved a Broadcaster Money and Rack Space

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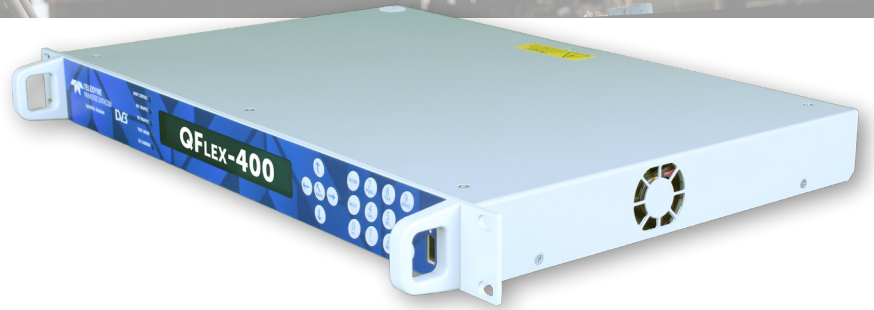
Introduction

The Asynchronous Serial Interface, ASI, has been a standard for carrying broadcast digital video for decades, and many broadcasters have large investments in ASI equipment. It is increasingly common for companies to want to either transition away from ASI completely and over to MPEG4 encapsulated in IP, or to want to run IP traffic in addition to ASI traffic. This was the case recently with a large North American sports broadcaster that we worked with.

The Challenge of Change

As is usual in the industry, our customer passes each channel of sporting video through the transmission chain to a satellite modem, up to the satellite, then back down and on to the studio. Each channel of multiplexed video content uses a single channel on the satellite up-link and is transmitted and received with a single ASI-capable satellite modem pair. This is illustrated below.
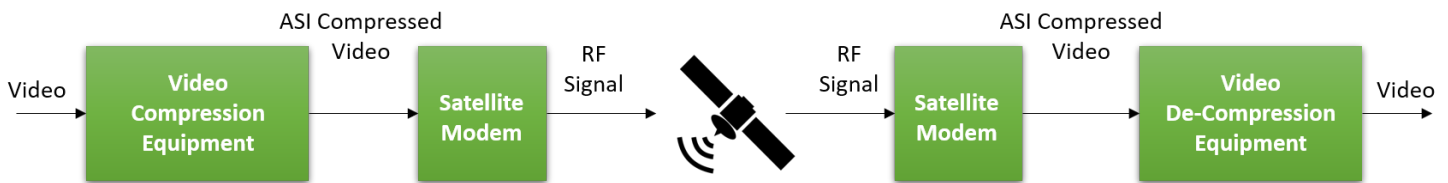

As the world moves more and more towards IP-centric traffic, the picture will be similar except the satellite modem will be required to deal solely with IP traffic. Most commercial modems have already made that transition, and no longer support ASI. However, the move from ASI to IP will be painful for many broadcasters who have a huge investment in ASI equipment and corresponding modems, for whom starting over will be extremely costly. The obvious solution is to transition gradually and run ASI and IP equipment simultaneously. This already happens in many cases, as broadcast trucks often want to transmit and receive data for e-mail, data transfer, admin and other purposes. A typical setup often looks like the picture below.
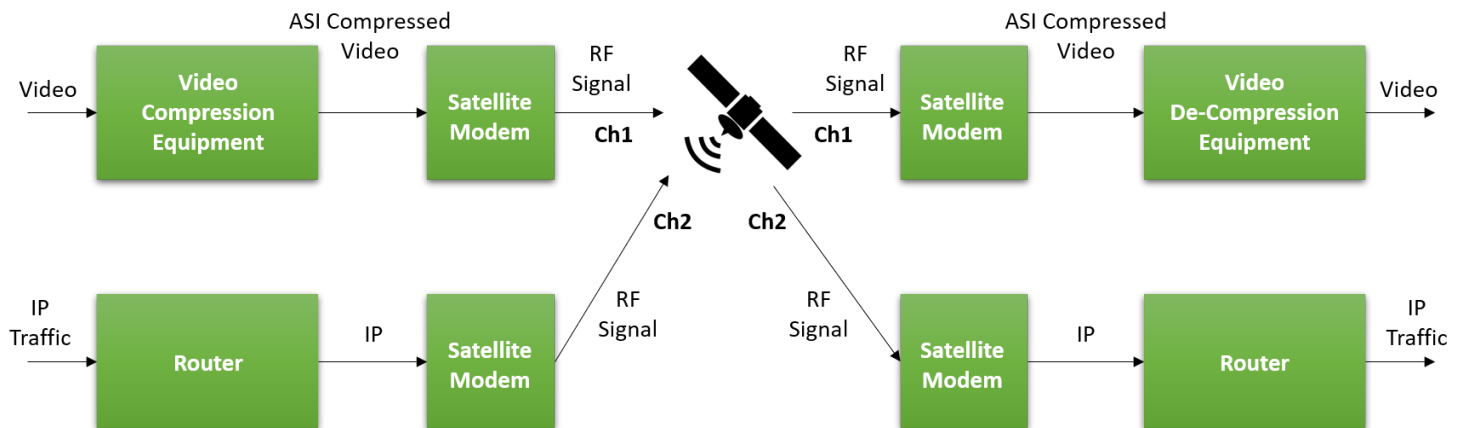

This approach solves the problem – ASI and IP are both transmitted, live video of the event is successfully received, and the management and other IP traffic is exchanged as required. However, the cost of this solution is high – precious equipment rack space is taken up with double the number of modems, it requires two expensive satellite up-link channels to operate, and two different kinds of modems must be inventoried, managed, supported and tracked. Additional satellite channels also use up additional power amplifier capacity, reducing available power for each individual channel.

Embracing the Change, Painlessly

This is a common problem, and one that we have helped several large network customers with. Paradise QFlex-400 modems are unique in their ability to transmit ASI and IP traffic together simultaneously in the same modem, onto the same satellite channel. Using a feature called VCM, or variable coding and modulation, the Modem can transmit and receive up to 2 ASI channels, or one ASI channel plus IP, allowing seamless migration to IP and greater flexibility. A typical setup looks like the picture below.

QFlex-400 Rear Panel

4x ASI Ports

IP/Ethernet Ports
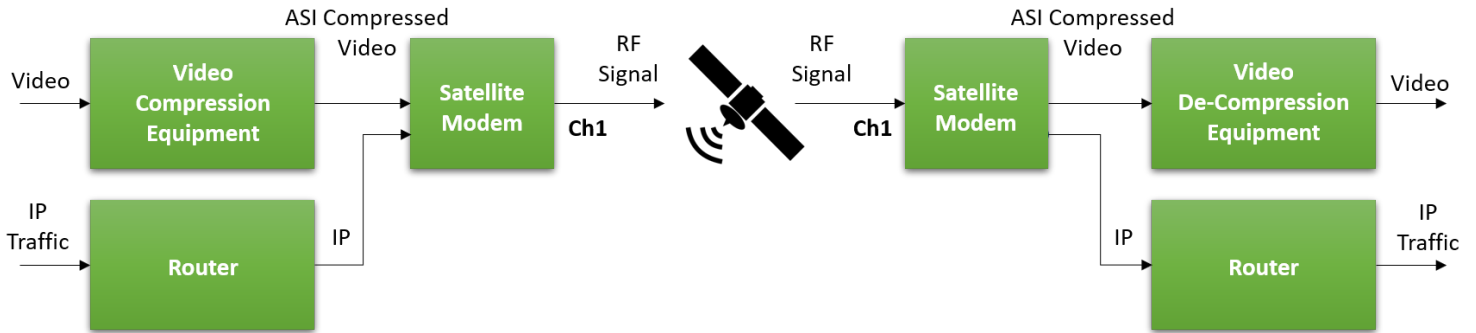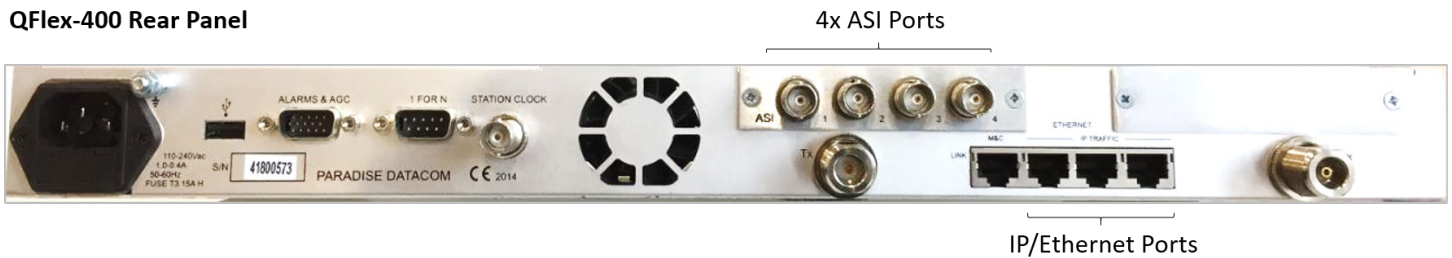
The QFlex-400 is a fully capable ASI compatible modem, and deployable with legacy ASI equipment. It is also a fully capable IP modem, which will be usable as the network becomes entirely IP-focused. However, it eases the transition phase perfectly, allowing rack space to be minimized, satellite OpEX to be minimized, transmit amplifier power to be optimized, and the headache of deploying and managing multiple modem types eased.

With over 50 trucks to worry about, using an ASI/IP modem saved our customer CapEx and OpEx, as well as simplifying their network operations. Overall, it was a win/win for both companies.

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