

## Tieline Takes Fryslân Wireless

By Richard Mooi

**LEEWARDEN, Netherlands** The regional broadcaster Omrop Fryslân has been using the Tieline Commander G3 wireless codec for live reporting for quite a while.

The 19-inch rack unit, built into a brand-new OB van, is connected via a UMTS digital router. Reporters on location no longer have to depend on an analog POTS connection.

The conversion of the Commander G3 to UMTS (Universal Mobile Telecommunications System) was the result of a successful experiment.

### Bright idea

Because the Commander G3 also has a network connection, a technician with Omrop Fryslân had the bright idea of connecting a UMTS router to it.

The Omrop Fryslân mission is to broadcast regional news and events, and it already had some experience with a Tieline codec using ADSL broadband Internet. For outside broadcasts with a lot of music, a much higher bit-rate is achievable via Internet.

The maximum achievable bandwidth for a POTS connection is 28.8 kbps. Via ADSL, the radio transmitter usually uses 64 kbps to connect to the studio in Leeuwarden, the provincial capital of Friesland.

According to technician Martin Wijbenga, the Tieline codecs are very stable via Internet and thus emerged the idea of trying out the network connection using a UMTS router.

A local electronics shop was able to supply a Linksys router, a very affordable UMTS router, then fitted with the UMTS card of a Dutch UMTS/GSM provider. To general amazement, especially that of the technicians, a successful and reliable live

connection was possible using the UMTS network.

After that it was simply a case of typing in the IP address of the G3 codec in the studio and routing the data stream to the correct port.

### Completely self-sufficient

The Leeuwarden studio IP number is available via speed dial, so reporters can make a connection by pressing one button only.

It is even possible to increase the bandwidth to 38 kbps via UMTS. In comparison, an analog line can achieve 28.8 kbps, and when using the Tieline music algorithm, the audio quality is even better.

There is one disadvantage, however. The province of Friesland is sparsely populated and does not have full UMTS coverage. Consequently, in some more remote areas, it is necessary to use a plain old telephone service.

Omrop Fryslân has built the Commander G3 into two OB vans and its reporters are now completely self-sufficient



Home for a New Tieline Commander G3 Codec

on the road.

In the meantime, elaborate tests with the European master distributor, You/Com Audiocommunicatie in Delft, have shown that HSDPA, the successor of UMTS, can achieve an even higher bit-rate and with even less delay.

During a demo at a parking lot, a UMTS/HSDPA (High-Speed Downlink Packet Access) module was inserted into the portable Commander G3. The Commander became a transmitter/receiver and high-quality live reporting was possible.

**Fast rollout**

Previously, it was necessary to use a portable FM modulated reporter set. But the reach was only a couple of hundred meters. For a connection to the studio, you either needed a retransmitter or an OB van.

Then, either via ISDN or a second transmitter, you could make a connection to the studio. This is not only time-consuming but also requires a technician to accompany the reporter to set up these connections.

The fast rollout of UMTS/HSDPA networks in the whole of Europe will ensure that this application is within the reach of all radio broadcasters.

Moreover, it gives the reporter an enormous amount of freedom. Now, it is just as easy to make a connection to the studio with your portable Tieline Commander G3 as it is with your mobile phone.

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