

# Botetourt County

## Virginia, USA

---

### Case Study



#### THE CUSTOMER

Botetourt County is an outdoor paradise – with the 4,000 ft Blue Ridge Mountains in the east and national forests making up 22 percent of the County. The same environment that attracts people to the area makes it a demanding place to provide radio communications. There are many hills and valleys and in winter the region experiences extreme weather conditions including rain, snow, heavy ice and lightning.

#### SITUATION

Botetourt County was using a low band conventional system. However, the rugged landscape meant that upgrading a conventional system or moving to a trunked system would require many sites to get the coverage required and it would be costly to install.

#### RESPONSE

The option of a Quasi-Sync system was investigated. The high performance of TaitNet QS2 significantly reduces maintenance. It uses high stability oscillators to maintain a very stable transmitter frequency.

With traditional simulcast systems transmitter frequencies drift over time so regular maintenance is required at each site to avoid distorted audio signals in areas where coverage overlaps.

TaitNet QS digital signal processing-based Line Equalizer Modules route audio to each transmitter, analyze the characteristics of a neighboring transmitter and automatically adapt their own signals to match.

**“Areas like Botetourt are an example of where Quasi-Sync comes into its own.”**

**We estimate we improved coverage from about 50 percent of the County to more than 97 percent.”**

Wes Podboy - Project Manager  
Durham Communications

**OUTCOME**

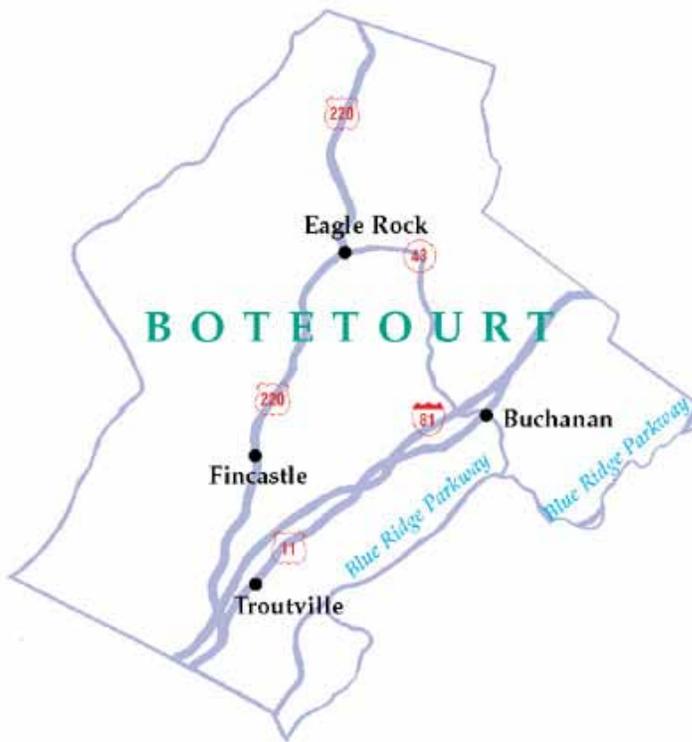
The four-site seven-channel system is used by three main agencies in the county - the sheriff's department, fire and rescue ambulance and the school district's 90-strong bus fleet.

Each group has its own channel to ensure privacy and channel space without overlap. At the same time, a single common channel there is one channel common to all radios on the system so that the groups can co-ordinate in an emergency.

Local authorities in Botetourt County, Virginia now have improved radio coverage with their new Tait Quasi-Sync System.

**MORE INFORMATION**

For news, product specifications, comprehensive technical information and contact details of your nearest Tait service facility, please visit [www.taitradio.com](http://www.taitradio.com)



**ABOVE:** Map of Botetourt County

**CUSTOMER PROFILE**

Three Agencies operating in a rugged and varied landscape.

**APPLICATIONS**

- ▶ TaitNet QS2 simulcast

**BUSINESS BENEFITS**

- ▶ Wide coverage in a rugged environment
- ▶ Shared emergency communication
- ▶ High audio quality
- ▶ Reliable communications
- ▶ Minimized spectrum costs
- ▶ Advanced computer technology greatly reducing servicing
- ▶ Simple installation

**PRODUCTS USED**

- ▶ Four-site, seven channel TaitNet QS Simulcast system

Tait is a global leader in designing, delivering and managing innovative communication solutions that help utilities and public safety organizations to keep the lights on and communities safe.

The word Tait and the Tait logo are trademarks of Tait Limited. Tait is an ISO 9001: 2008 and ISO 14001: 2004 certified supplier.