

Preventative Maintenance

One of the keys to quicker, more trouble - free implementation of 64 QAM upstream is a good consistent preventative maintenance program. This includes a regimen of system sweeping, reverse spectrum monitoring, end-of-line tests and leakage monitoring. Additionally, before turning up the 64 QAM service, some specific tests should be performed to “certify” that each node is ready, including field tests and reverse spectrum monitoring over time.

Good Engineering Practices

Good engineering practices recommend that forward and reverse system sweeping be scheduled on a yearly basis. This testing will reveal alignment issues, connection problems and locations where the plant has been damaged. A consistent test program will decrease the likelihood of outages.

End-of-Line Testing

End-of-line tests are fairly comprehensive, and provide an important data point on the fitness of a node for 64 QAM signal carriage. These tests typically include: signal levels, 24 hour variation, C/N, hum, 2nd/3rd order distortion, MER, linear distortions, BER (pre and post FEC), VoIP RTP tests, and upstream testing of a 64 QAM signal constellation, MER, and linear distortions.

Reverse Spectrum Monitoring

Reverse spectrum monitoring is now a staple of network health, and the speed of the analysis is a critical concern here, as transient ingress and impulse noise can have a devastating effect on services. Another important consideration is the ability of the monitoring equipment to provide feedback to the field technical staff for upstream level verification, alignment and upstream spectrum ingress/ noise troubleshooting. The ability to perform a node certification with practical reporting is also important, with alarm summaries that show the number of alarms over a specific time frame, or indicating the “worst offenders” by alarm level over a specified period.



64 QAM

Leakage Monitoring

Another fundamental test requirement is leakage monitoring. An automated system enables minimal tech involvement in detecting and locating leaks, enabling a more productive, concentrated focus on fixing them quickly. With all trucks equipped with economical GPS enabled detectors, and a server that maps leak locations and even prints work orders, the ordeal of leakage control gets significantly simpler and less costly. Typically implementing this system provides an improved perspective on the leakage condition of the plant (it's not as good as you think) but enables a logical progression through fixing the worst leaks first, and a gradual improvement in overall plant condition – leading to higher quality, and more robustness for carrying 64 QAM upstream signals.

What Trilithic Products Can Do for You

Trilithic is pleased to provide best-in-class products for all of these tests, enabling productive plant maintenance and keeping the door open for new services that are very likely to be beyond the reach of networks where recommended practices are not followed. This calls for progressive yet consistent methods for system sweeping, reverse spectrum monitoring, end-of-line testing and leakage monitoring. Our products have been evolving with network technology, offering better and better tools to help maintain the network and solve problems quickly. If you haven't looked at Trilithic products lately – look again.