

# Spectrum Management

## Keysight Technologies and X-COM Systems

### Achieve higher returns from your network with more efficient bandwidth allocation

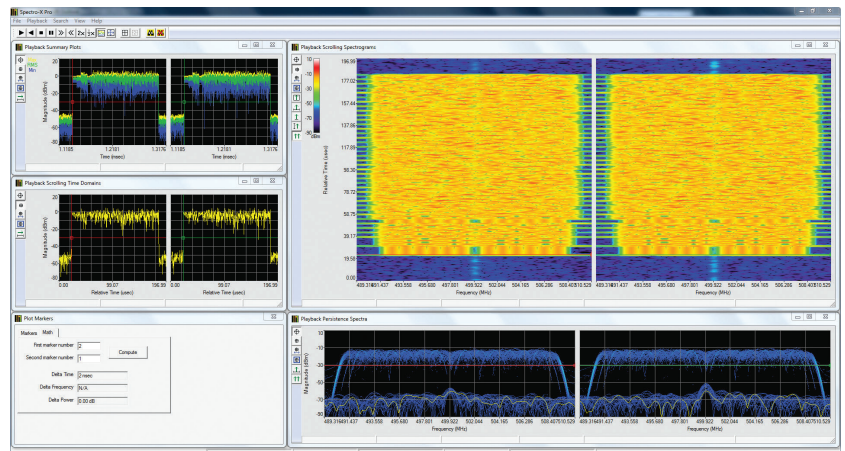
Bandwidth is the currency of data and voice communications and to maximize Return on Investment (ROI) network operators must use spectrum management tools to allocate their bandwidth efficiently. Users must adhere to strict spectral masks so that the network operator can predict usage, allocate resources and charge correctly.

A spectrum management tool that uses a signal analyzer with limited memory can only record network activity over a very short period of time. The random snapshot that results can easily miss users who are violating the bandwidth rules. These can include users whose transmitted spectrum does not roll off steeply enough, whose power levels are causing adjacent channel interference, who are unauthorized or who are accessing a bandwidth slot at the wrong time.

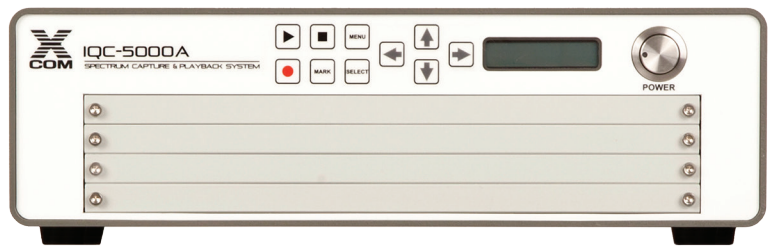
A new spectrum management solution from X-COM and Keysight Technologies allows network operators to simultaneously monitor and record two bandwidth allocations over an extended period of time, up to days. The solution combines Keysight PXA signal analyzers with an X-COM IQC5000A dual-channel spectrum recorder and playback system. When used in conjunction with the X-COM suite of software analysis tools, network operators can search for carriers of interest and identify bandwidth allocation or power level violations that can lead to loss of revenue.

The Keysight PXA signal analyzer acts as the microwave or RF front end, pre-selector and down converter, presenting digital I & Q sample streams to the X-COM IQC5000A. The signal analyzer's superior noise floor, SFDR, amplitude and phase flatness over the span bandwidth ensures a very high fidelity signal, which the IQC5000A then stores in either its internal solid state memory blades or an external, attached disk array. The result is a high fidelity, gap-free recording of the spectrum.

- Spectrum management solution
- Allows efficient bandwidth allocation
- Network operators can maximize their bandwidth ROI
- Long duration storage of network data, up to days
- Interfaces to Keysight PXA, MXA and EXA signal analyzers
- Achieve higher return on network investment



# Spectrum Management



The X-COM IQC5000A can capture and record simultaneously two spans, each with a 40 MHz bandwidth. In addition, the X-COM IQC control software can implement captures based on time of day or externally generated trigger signals that can facilitate monitoring based on the occurrence of network specific events.

The time period over which the capture bandwidth is recorded is only dependent on the size of the internal blade memory and any disk arrays connected to the IQ-C5000A. Using a 16 TB disk array, 88 hours of capture time is possible at a 10 MHz band width and over 15 hours at the full 40 MHz capture bandwidth. Captured files can be transferred to a laptop or workstation via the IQC5000A's PCIe interfaces.

The spectrum management solution allows network operators to record network activity over an extended period of time allowing the identification of errant users who are violating the bandwidth allocation rules and causing loss of revenue to the operator. With a spectrum management solution from Keysight and X-COM you can achieve higher return on your network investments.

## System Components

### Keysight Technologies

N9030A	PXA signal analyzer
--------	---------------------

### X-COM Systems

IQC5000A	Spectrum capture & playback system
IQC5000A-042	Adds second channel recording and playback
IQC5000A-BLD	Solid state, internal memory blade (2 TB max, 0.5 TB per blade)
IQC5000A-RIF	External data pack interface adapter
IQC5000A-R16	16 TB external disk storage unit (8 TB also available)

To learn how this solution can address your specific needs please contact Keysight's solutions partner, X-COM

[www.keysight.com/find/xcom](http://www.keysight.com/find/xcom)



Keysight & Solutions Partners  
Extending our solutions to meet your needs

Keysight and its Solutions Partners work together to help customers meet their unique challenges, in design, manufacturing, installation or support. To learn more about the program, our partners and solutions go to

[www.keysight.com/find/solutionspartner](http://www.keysight.com/find/solutionspartner)

X-COM Systems designs RF signal recording, analysis and playback solutions for system design, signal simulation and test applications.

[www.xcomsystems.com](http://www.xcomsystems.com)

For information on Keysight Technologies' products, applications and services, go to

[www.keysight.com](http://www.keysight.com)

© Keysight Technologies, 2013-2014  
Published in USA, August 3, 2014  
5990-9089EN