Cricket® QAM Plus with Out-of-Band

QAM RF and MPEG Video Monitoring, Analysis, and Troubleshooting Tool

Cricket® QAM Plus with Out-of-Band (OOB) is a portable QAM video quality and service assurance troubleshooting tool for Cable Operators that need to monitor, analyze, debug, and resolve video quality issues at the network edge. It is designed for use in remote monitoring and troubleshooting applications of the QAM at the hub sites, along the last mile, or at the subscriber premise. The Cricket QAM Plus with OOB offers a "Modulation Analyzer" feature set that is 1GHz HFC cable plant ready. It provides remote real-time RF and MPEG monitoring with a dual-tuner for more monitoring coverage along with the ability to increase Program Availability by notification of RF transport degradation. Integration into IneoQuest's video management system, iVMS®, correlates information from all IneoQuest probes including Cricket QAM Plus with OOB, and notifies the network operations center (NOC) of any problems. Automated alerts allow the operator to be proactive in correcting the quality issue.

OOB CHANNEL OVERVIEW

The Cricket QAM Plus with OOB contains an additional tuner that can demodulate and decode the OOB Channel. The OOB channel is centered at 75.25Mhz as defined by SCTE-155, and it is QPSK modulated. The OOB data channel provides continuous communication from a headend to the Digital Terminals, and it remains active independent of the tuned video channel and irrespective if the received TV channel is analog or digital or whether the Digital Terminal box is turned "on" or "off".

The data on this channel contains Channel map information and:

- Access control and other control information
- Application data
- Application program downloads
- Program guides
- Interactive video services, etc…

RF Spectrum Audit correlates the information from the Cricket QAM Plus with OOB probes into a single dashboard view and exports reports from daily sweeps of all digital carriers to determine:

- The services delivered (Channel MAP info allows IQ to name the services).

- How much bandwidth is being used for which services
- Channel Power levels and other information

KEY FEATURES

- Remote monitoring of up to two QAM RF Channels/MPEG TS Simultaneously

- Modulation support:
    - Annex A, B & C versions available
    - QAM 64 and 256
    - Upstream channel duplexer

- RF Measurements and Analysis
    - RF Power Level
    - MER and EVM
    - Pre-FEC BER and RS correctable count
    - Post RS uncorrectable count
    - Constellation Diagrams
    - Frequency Offset
    - Symbol Rate Offset (in ppm)
    - MDI-MLR

- MPEG Measurements and Analysis
    - Supports SD / HD MPEG over SPTS and MPTS
    - MPEG analysis to the PID level
    - Error detection according to TR 101 290
    - 80 MB triggered TS capture buffer

- Out-of-Band (OOB) Channel Decode & Monitoring
    - Auto Aliasing - name detection from the meta data
    - Application Data Monitoring
    - RF Sweep Test for utilization and resource optimization

- TS & program metrics including CC loss, PID bitrates, and Outages

- Integrates with iVMS® for program correlation through the entire network

- Portable RF Analyzer providing high-end functionality
    - Up to two tuners on a single F connector
    - Dual SAW filters
    - Solid state tuner (no air coils)
    - 1GHz HFC cable plant ready
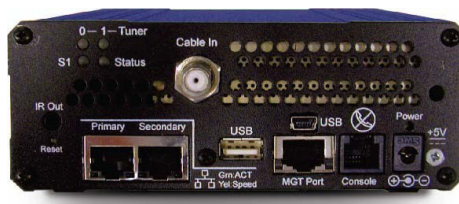
Cricket QAM Plus with OOB offers an 1 GHz RF interface with a Dual Tuner, 10/100Mb Ethernet ports and plug & play USB for connection to any PC.

SPECIFICATIONS

PHYSICAL	
Description	**Specification**
Cricket QAM Plus Dimensions	Width: 5.3" (134.6mm) Height: 2.12" (53.9mm) Depth: 6.7" (170mm)
Power Supply Dimensions	Width: 2.35" (60mm) Height: 1.3" (33mm) Depth: 4.1" (104mm)
Weight	0.79 kg (1.74 lbs) 1.31 kg (2.89 lbs) - with external power supply and power cord

ENVIRONMENTAL	
Description	**Specification**
Operating Temperature	0 to 40°C
Storage Temperature	-20 to 60°C
Environment	Indoor use only in a non-explosive atmosphere. Pollution degree 2
Operating Altitude	2000m maximum
Operating Humidity	80% maximum for temperatures up to 31°C, decreasing linearly to 50% relative humidity at 40°C

POWER CONSUMPTION	
Description	**Specification**
Cricket QAM Plus with OOB, North America / 4CA-00A11QP-001	Cricket QAM Plus with OOB alone is 19 watts = 64.83 Btu/h Cricket QAM Plus with OOB with PS is 25.3 watts = 86.4 Btu/h
Cricket QAM Plus with OOB, North America / 4CA-00011QP-001	Cricket QAM Plus with OOB alone is 19 watts = 64.83 Btu/h Cricket QAM Plus with OOB with PS is 25.3 watts = 86.4 Btu/h

REFERENCE CLOCK AND CALIBRATION	
Description	**Specification**
Internal Reference Clock	25MHz +/- 50ppm accuracy
Calibration	The Cricket requires no periodic calibration adjustments during its lifetime.

POWER AND COOLING	
Description	**Specification**
Power Requirements - External Power Supply	Mains Supply: 100 to 240VAC, 0.6A, 50 to 60Hz, voltage fluctuations up to +/- 10% of the nominal voltage. The power supply contains no user serviceable parts and must not be disassembled.
Power Requirements – Cricket QAM Plus, North America / 3CA-00001QP-001	5 volts DC, 3.7A via external power adapter or Rack Mount Kit
Power Requirements – Cricket QAM Plus, North America / 4CA-00011QP-001	5 volts DC, 3.9A via external power adapter or Rack Mount Kit
Cooling	The Cricket QAM Plus is cooled by forced convection via an internal fan. Allow airflow through the front and rear panels. We recommend at least 2" space at front and rear panels. Cool air to enter connector side and heated exhaust air will exit from IQ logo end of enclosure. Do not cover or stack units. The power supply is cooled by natural convection.