

CheetahXD NETWORK TRACKER PLUS

**ANALOG DOCSIS® DATA & QAM VIDEO NETWORK
MONITORING**



- GIS Mapping Solution for Network Tracker Plus
- QAM Constellation with Zoom
- Micro-reflection and Frequency Response Group Delay Graphics
- RF Spectrum and DOCSIS Channel Graphics
- Digital Channel Status and Alarm Reporting
- Analog Channel Status and Alarm Reporting

The Network Tracker Plus is a revolutionary device that can be installed at any mission critical or end of line location in a HFC broadband network.

It provides complete suite of CheetahXD advanced network performance monitoring including; RF, analog, DOCSIS data, and DOCSIS QAM video monitoring. Coupling this with the CheetahLynx Controller with Windows enables a CATV operator to substantially improve their network quality assurance program. Furthermore, the Network Tracker Plus and CheetahLynx controller can be run as a stand alone solution, or integrated with CheetahXD, the premiere network performance management system. Combining these provides the CATV operator with a complete solution for optical transmission, CATV powering, RF coaxial transmission and end of line.

It is a strand or pedestal mounted network test and monitor agent capable of a wide range of programmed network quality assurance tasks. The Network Tracker Plus can be creatively used to improve network quality & reliability, to enable a quality assurance program, and to achieve workforce automation. Network Tracker Plus allows the CATV operator to complete on-demand or scheduled system analysis at any location from the office to the consumer.

The following is a partial list of some of the Network Tracker applications:

- Network Tracker Plus units can be installed at end of line locations to automate the semi-annual FCC proof of performance test process.
- Network Tracker Plus can be used for proactive monitoring of mission critical locations within the network such as high value neighborhoods, highly dense population centers, and network trouble spots.
- Network Tracker Plus can be used as a 24-hour monitor for difficult customer network or content troubleshooting issues.
- CATV operators can use Network Tracker Plus as a workforce quality assurance tool installed beyond a work area to eliminate inadvertent workforce caused outages.
- Network Tracker Plus installed at key system health points, such as longest

coaxial feeder cable, longest optical link, fiber service areas, and other locations can provide long-term system analysis and scorecards.

- Using Network Tracker Plus PoE (Power over Ethernet) ports for a wide range of institutional network purposes. Close circuit television networks, wireless access points, emergency call boxes are just some of the devices that can be integrated from to the PoE ports.

The Network Tracker Plus provides a full suite of testing and reporting on DOCSIS data and QAM video. With this advanced functionality, the operator can complete a full analysis of digital video quality.

It provides the following key metrics through the proprietary CheetahXD eCMM+ module:

- Digital QAM (quadrature amplitude modulation) constellation diagram with a zoom feature allowing detailed visual analysis of all digital carriers.
- Downstream micro-reflection analysis, which can be an early warning mechanism for structural integrity problems in the HFC plant.
- MER (modulation error ratio), EVM (error vector magnitude), pre-BER (bit error ratio), post-BER, pre-CER (codeword error ratio), post-CER, symbol analysis, bit analysis, sync analysis and much more.
- CheetahXD GIS mapping application for location tracking of each Network Tracker, including color coded alarms and much more.
- Configurable alarm and measurement parameters coupled with CheetahXD and CheetahLynx web service presentation layer and customized reporting.
- Group Delay and Frequency Response alarmable measurements and graphs.

CheetahXD Network Tracker Plus Specifications

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Cheetah Professional Services is always available to assist in the engineering, furnish and installation of a Cheetah Network Tracker solution. The Cheetah team provides operators training solutions for engineering and technical support. This service ensures that CATV operators will have the knowledge, experience and know how to create a positive return on investment by adding this valuable tool to their quality assurance program.

General Details	
DOCSIS:	Version 1.0, 1.1, 2.0, 3.0
DOCSIS Monitoring Protocol:	SNMP v1, v2, v3
RF Interface:	External
Operating Temperature:	-40°C to +75°C
Temperature Measurement Accuracy:	± 2°C
Humidity:	10% to 90% (non-condensing)
EMI/EMC:	FCC Part 15 Class A, CE EN50022 Class A

RF Transmit/Receive	
Tx Frequency Range:	5 to 42 MHz
Tx Output Power:	
32 and 64 QAM:	+8 to +54 dBmV
8 and 16 QAM:	+8 to +55 dBmV
QPSK:	+8 to +58 dBmV
S-CDMA:	+8 to +53 dBmV
Rx Frequency Range:	88 MHz to 1 GHz
Rx Input Level:	-15 to +15 dBmV

Power Input	
Input Voltage with RF:	40 to 100 VAC
AC Power Measurement Accuracy:	± 3%
Power Consumption:	24 Watts -10 to 50

RF Measurements	
RF Level Input:	0 to +50 dBmV
RF Level Accuracy:	± 1.5 dB
Dynamic Range:	80 dB
Analog Measurement RBW:	200 kHz
Digital RBW:	± 2°C
Weight (Fully Loaded):	6.6 lbs
Analog Measurement:	50-860 Mhz
Digital Measurement:	50-1000 Mhz
Dimensions:	Depth 4", Height 9", Width 11.5"

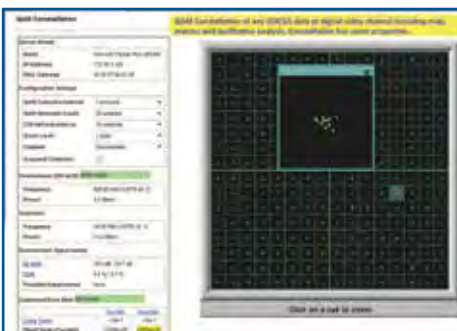
Measurements	
Digital DOCSIS Carrier and QAM Video:	Analog Video/Audio
<ul style="list-style-type: none"> • Modulation Error Rate • Bit Error Rate • Error Vector Magnitude • Codeword Error Rate • QAM Constellation • Down Stream Micro-reflections • RF Spectrum Tilt • Normalized Frequency Response • Group Delay • Frequency Response • QAM lock • FEC lock • Qam Quality Indicator (QQI) • Constellation Analysis 	<ul style="list-style-type: none"> • Analog RF carrier levels • Visual / Aural Level Separation • RF Spectrum Tilt • Normalized Frequency Response



CheetahXD GIS Mapping Solution with Travel Route Planner



Complete RF analog and digital spectrum analysis



Complete analog and digital channel by channel monitoring and alarming



Complete digital, DOCSIS, QAM constellation diagram