

DS1610 "KingStone" HFC Network Management System

Key Benefits

- Proactively monitor broadband networks; detect events before customers are impacted
- 24/7/365 monitoring system notifies the system administrator when an out-of-spec event occurs
- Reduce OPEX by analyzing multiple return and forward paths simultaneously
- Monitor the entire network in real-time



From Deviser, the DS1610 Kingstone monitoring system offers realtime simultaneous signal monitoring and analysis on multiple return and forward paths of HFC networks.

The DS1610 system can capture any transient and ingress noise, and includes data storage, analysis, and 3D comparison; alarm functions; video recording; and other tools aimed at simplifying installation, maintenance, and troubleshooting of HFC networks. Users can log into the monitoring system through any PC, enabling remote access to all US & DS RF metrics. A selection of optional modules customize the system to meet your testing needs.



System Configuration

Standard Configuration	
DS1610	Housing with built-in Local Management Software
	DS1610 Server Software
	DS1610 Client Management Software

Optional Modules	
DS1610-ID	Return Path Monitor Card
DS1615	RF FSK Modulator
DS8831H	Spectrum Analyzer

Software Interface

Real-time Monitoring

3D Monitor

Limit Lines Setup

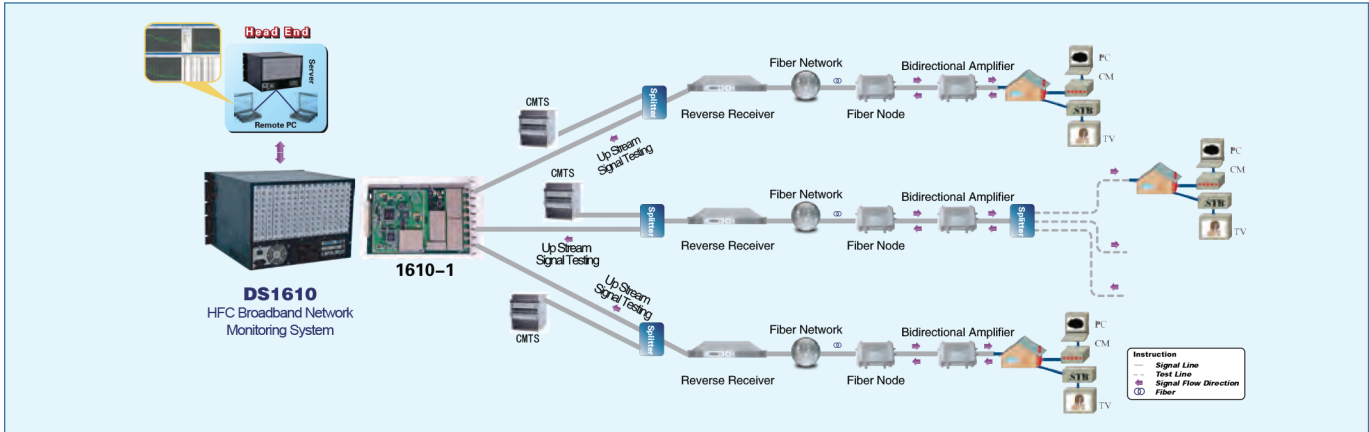
Spectrogram History

Video Timing

Video Replay

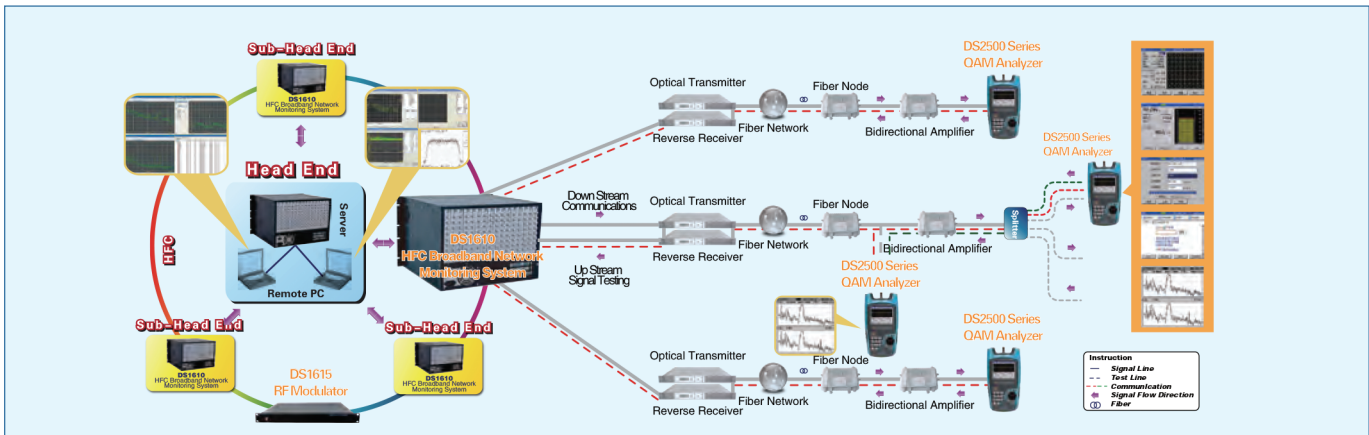
1. Return Path Monitoring Solution

Upstream Cable modem signalling follows HFC networks upstream path. When equipped with the DS1610-ID module for high-density locations, the DS1610 will monitor each US leg of the network in real time - helping capture impairments that may be present, as well as tracking the US laser noise floor up to 200MHz.



2. Return & Forward Path Debugging and Troubleshooting Solution

Deviser's catalogue of broadband maintenance solutions work in tandem to pre-empt and repair service issues. By combining the DS1610-ID module cards, the DS1615 FSK modulator, and the DS2800 field portable spectrum analyzer (or the DS2580C & DS2500Q field signal level meters), field engineers can remotely view HUB or HE US performance, while troubleshooting linear distortions or non-linear events straight from the field.



Specifications

DS1610-1D8/16/24/32	
Frequency	
Range	0.5 MHz ~ 204 MHz
Span	203.5 MHz
Sweep Time	≤1 ms (Full Span)
RBW	30 kHz ~ 300 kHz 1-3 Step
VBW	30 kHz ~ 300 kHz 1-3 Step
Amplitude	
Level	
Max. Safe Input	50dBmV
Displayed Average Noise Level	≤42dBmV, 5MHz ~ 204MHz (no input signal, 0dB attenuation, 300 kHz RBW, 30 kHz VBW, Sampling Demodulation)
Attenuator	
Range	0 dB ~ 30 dB
Step	1 dB
Spurious Responses	
Second Harmonic	< 55dBc for two +20dBmV signals Signal at input mixer
Third Order Intermodulation	<-55 dBc for two +80 dBμV Signals at input mixer with ≥1MHz Separation, Amplifier Off
Display	
Logarithm Scale	0.1 ~ 0.9 dB/div at 0.1 dB Step: 1 ~ 40 dB/div at 1 dB Step
Linear Scale	8 Divisions
Scale Unit	dBm, dBmV, dBμV
Trace Detector	MAX, MIN, Average
Reference Level	-60dBmV ~ +80dBmV
Level Accuracy	Typical ≤±1.5 dB@+20° C
Others	
Working Temperature	0° C ~ +40° C
Storage Temperature	-10° C ~ +50° C
DS1615	
Structure	1U Rack
Power Supply	AC110V/200V/50Hz
RF Frequency	87 MHz ~ 120 MHz
Output	25dBmV ~ 50dBmV, 1dB steps
Modulation Type	FSK (±67 kHz)
Data Baud Rate	38.4 kbps
Port to connect DS1610	RS232

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