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.

**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

**System Configuration**

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<th>Standard Configuration</th>
<th>Optional Modules</th>
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**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 DS1610-1D 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 DS1610-1D 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, 30 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 at +20º C

#### Others
- **Working Temperature**: 0º C ~ +40º C
- **Storage Temperature**: -10º C ~ +50º 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