The Broadband Signal Analyzer and Recorder (BSA) quickly and accurately records, demodulates and analyzes advanced broadband and frequency agile communications and radar signals.

- Analyze communications and radar signals with instantaneous bandwidths up to 600 MHz and hop rates to 500,000 hops per second
- Capture up to 150 seconds of full bandwidth signals for detailed review, analysis and storage (150 minutes with optional RAID configuration)
- Extended recording times using digital down conversion with tuning
- Measure time, frequency and modulation signal parameters quickly, accurately and simultaneously with a single instrument
- Demodulate continuous, burst and hopped signals (FSK, MSK, ASK, OOK, PSK, QAM, AM, SSB, FM, and PM) into analog data and digital bit streams
- Characterize broadband next generation communications and radar signals with digital precision and repeatability using advanced BSA analysis software
- Capture transmission faults with this real time RF recorder and pre-trigger mode
- Simultaneously display frequency, waterfall, time, modulation (AM, FM, PM), and symbol plots

The Aeroflex Broadband Signal Analyzer and Recorder (BSA) series provides the widest bandwidth and deepest memory RF/baseband signal analyzers available. The BSA combines broadband RF downconverters, wide bandwidth high dynamic range ADCs and very deep high speed memory with powerful DSP-based signal analysis software. The new F-Series BSA provides enhanced performance and capabilities, with dual-Xeon processors, gigabit Ethernet, deeper memory, larger removable disk storage, fast memory to disk transfers, and RAID options. The BSA instruments have bandwidths of up to 600 MHz and full bandwidth signal memory configurations up to 150 seconds (to 150 minutes with optional RAID). The bandwidth, memory depth and dynamic range make the BSA an essential tool for broadband satellite, broadband wireless network, agile radio, jammer, and radar test. The DSP software analyzes both real time signal inputs and signals captured into BSA signal memory. Digital acquisition and processing achieve the highest fidelity, accuracy and repeatability. Signals recorded into memory can be saved to multiple medias; internal or removable hard drives, DVD-RW drives, and RAID systems. Recorded signals can be imported into Aeroflex's Broadband Signal Generators and played back. Powerful and flexible data visualization allows simultaneous plotting of the signal in frequency, time and modulation domains. Measurement and analysis software packages include digital spectrum analysis, channelized signal power and ACPR, demodulation and analysis (PSK/QAM, FSK/MSK, OOK and ASK, AM, FM, and PM), NPR, radar pulse parameters, signal-specific agile radio and SATCOM signal analysis. Robust PSK and QAM (burst and continuous) signal demodulation includes measurements of EVM, eye diagrams, symbol rate, and carrier frequency, along with symbols written to files. Radar and agile radio analysis includes rise and fall time, pulse width, pulse repetition interval, carrier frequency, modulation on pulse, and bits. Parameters for each hop or burst are written to an ASCII-format file for incorporation into reports and use in further analysis. The multi-threaded analysis software allows simultaneous analysis of signals with multiple analysis functions, providing tight correlation of time, frequency and modulation measurements on the same signal space. Parameters can be either plotted on strip charts, analyzed in real time or saved to disk. Integrated strip charts display statistics on all measurements (min, max, mean and standard deviation).
Select bandwidth, dynamic range, signal memory depths, and options to match your most demanding signal acquisition, analysis and recording applications (example configurations shown).

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Bandwidth</th>
<th>RF Range (Hz)</th>
<th>SFDR (typical)</th>
<th>Recording Time (max)</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS35020F</td>
<td>86 MHz</td>
<td>Baseband</td>
<td>65 dB</td>
<td>88 sec (solid state)</td>
<td>High data rate PSK/QAM demodulator test, satellite transponder monitoring, agile radio test, RF environment capture, radar test, jammer test, military radio test, MIL SATCOM test, UHF/VHF radio test, cellular test, DVB/HDTV test, WLAN band monitoring, UNII test, link monitoring, drive test</td>
</tr>
<tr>
<td>CS35020F-R</td>
<td>64 MHz</td>
<td>Baseband</td>
<td>65 dB</td>
<td>&gt;150 min (stream to RAID)</td>
<td></td>
</tr>
<tr>
<td>CS35020F-RF</td>
<td>60 MHz</td>
<td>2 MHz to 18 GHz</td>
<td>58 dB</td>
<td>88 sec (solid state)</td>
<td></td>
</tr>
<tr>
<td>CS35020F-RF-R</td>
<td>42 MHz</td>
<td>2 MHz to 18 GHz</td>
<td>58 dB</td>
<td>&gt;150 min (stream to RAID)</td>
<td></td>
</tr>
<tr>
<td>CS35040F</td>
<td>160 MHz</td>
<td>Baseband</td>
<td>50 dB</td>
<td>75 sec (solid state)</td>
<td></td>
</tr>
<tr>
<td>CS35040F-R</td>
<td>100 MHz</td>
<td>Baseband</td>
<td>50 dB</td>
<td>&gt;120 min (stream to RAID)</td>
<td></td>
</tr>
<tr>
<td>CS35040F-RF</td>
<td>120 MHz</td>
<td>Baseband</td>
<td>50 dB</td>
<td>75 sec (solid state)</td>
<td></td>
</tr>
<tr>
<td>CS35080F</td>
<td>295 MHz</td>
<td>Baseband</td>
<td>50 dB</td>
<td>40 sec (solid state)</td>
<td></td>
</tr>
<tr>
<td>CS35080F-RF</td>
<td>255 MHz</td>
<td>10 MHz to 18 GHz</td>
<td>45 dB</td>
<td>40 sec (solid state)</td>
<td></td>
</tr>
<tr>
<td>CS35150F</td>
<td>600 MHz</td>
<td>Baseband</td>
<td>50 dB</td>
<td>20 sec (solid state)</td>
<td></td>
</tr>
<tr>
<td>CS35150F-RF</td>
<td>400 MHz</td>
<td>10 MHz to 18 GHz</td>
<td>45 dB</td>
<td>20 sec (solid state)</td>
<td></td>
</tr>
</tbody>
</table>

**Broadband Signal Analyzer Software**

Powerful software to analyze the most demanding broadband signals with digital speed and precision. Advanced software features and DSP based analysis modules provide the latest tools to measure and characterize signals captured in BSA hardware or loaded from stored signal files.

**BSA Software Features**
- Frequency spectrum
- Time analysis
- Modulation analysis
- Real time and capture analysis
- Simultaneous parametric analysis
- Frequency banded analysis
- Parameter logging and display

**Software Analysis Modules**
- Channel power measurements
- PSK/QAM demodulation
- ASK/OOK demodulation
- FSK/MSK demodulation
- AM, FM, PM, SSB demodulation
- Radar analysis
- Radio / SATCOM specific analysis (e.g. SINCGARS, DAMA, etc.)
- Multi-domain analysis of burst and frequency hopped signals
- Modulation specific (Gain/Phase)
- Customer specified

**All Models Include**
- Dual high speed Xeon processors with 4 GB system memory, dual-giga-bit Ethernet, internal system hard drive, removable 73 GB data drive, DVD-R/W, USB, video, keyboard, and monitor ports, and powerful BSA control and analysis software.

**Broadband Signal Analyzer Options**
- Data Memory: 4 GB to 28 GB
- RAID Storage or Input Streaming: 500 GB to 2 TB
- Downconverter Options: Tunable or fixed, Up to 40 GHz in bands
- Sample Clock Option: Low phase noise
- Input Options: Precision programmable attenuators, High speed attenuators, Anti-aliasing filters, High sensitivity
- Multiple Channel Options: 1 to 8 coherent or independent I/Q baseband
- Disk Storage Options: Fixed and removable drives, 146 & 300 GB hard drives, RAID up to 2 TB
- Multiple/Mixed Signal Options: RF, baseband, digital, I/Q
- Remote Control Option: Software control via 100/1000baseT Ethernet
- Data Input Options: Broadband analog, High speed digital (LVDS, DECL, PECL, TTL)

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Our passion for performance is defined by three attributes represented by these three icons:

- Solution-minded
- Performance-driven
- Customer-focused

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