

The most important thing we build is trust

### A Software-Defined Radio test platform with capability for Production and Depot-level testing of Ground and Airborne Radio systems

#### Flexible Configuration

- Micro ATE configurations with built-in signal switching for total test automation
- General purpose instrument configurations with high performance front panel oscilloscope and DMM connections
- Multiple signal generation and measurement channels available

#### Broadband Frequency Coverage

- DC to 2.6 GHz standard
- 90 MHz instantaneous bandwidth standard

#### Software Defined Radio Ready

- Powerful and expandable real-time baseband processing power

#### Robust Packaging

- MIL-PRF-28800F Class 3
- Rack mount option

#### Advanced Software Capabilities

- State-of-the-art and highly intuitive touch-screen based user interface

The Cobham 7215 Configurable Automated Test Set provides software defined radio (SDR) manufacturers and users with the premier synthetic instrument platform for production and depot-level tests today, while providing future-proof support for next generation radio systems.

Baseline standard features like very wide, high performance, 90 MHz instantaneous digitization and signal generation bandwidths, excellent phase noise performance across a 2.6 GHz range of operation with fast hopping capability, coupled with impressive real-time processing power and state-of-the-art data transport mechanisms make the 7215 platform truly unique. The 7215 is the result of applying decades of experience in developing test instrumentation for both military and commercial communication products. It combines innovative design and Cobham patented technologies with valued feedback from our customers to remain their test solution provider of choice.



# 7215 Configurable Automated Test Set

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Figure 1: The 7215 takes the place of an entire suite of test equipment

## Comprehensive “ATE-in-a-Box” Test Solution

The 7215 is a complete radio test system in a single package with a built-in signal switching capabilities for fully automated testing. The 7215 provides the functionality of many traditional instruments in a dramatically reduced footprint, and for a fraction of the cost when compared to traditional “rack and stack” ATE systems. Standard instrumentation functions include:

RF Signal Generator	Power Meter
RF Measurement Receiver	Digital Oscilloscope
Spectrum Analyzer	Digital Multimeter
Audio Generator	Distortion Meter
Audio Analyzer	Frequency Counter
SINAD Meter	Frequency Reference
Bit Error Rate (BER) Analyzer	Signal Switching Matrix

## User Interface

With a 12.1 inch high resolution touch screen based user interface, the 7215 provides the most advanced and user friendly operator interface in the industry. It’s highly intuitive design is a result of extensive research and development focused on user experience, graphical design and content depiction, and modern user interface techniques applied to the unique needs of test instrumentation and its operating environments.



Figure 2: State-of-the-Art Touch-Screen User Interface

The modern and highly intuitive Graphical User Interface (GUI) provides access to all stimulus and measurement capabilities of the hardware and software. This functionality includes tester configuration, test automation programming, data analysis and archiving, calibration, system diagnostics and manual operations.

## Industry Standards

Unless they add significant value for our customers, Cobham prefers to avoid proprietary components and interfaces. That is why the 7215 was developed to leverage a broad number of open industry standards for both hardware and software components.



Figure 3: LXI Class B compliant with IEEE 1588 synchronization of better than 50 ns over Ethernet

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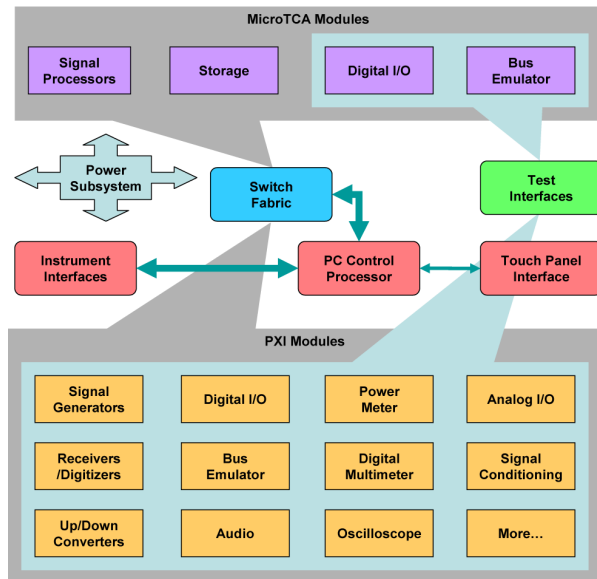


Figure 4: 7215 Hardware Architecture

## Unique Test Capabilities

Software-Defined Radios (SDR) employ a radio communications technology that is based on software defined communication protocols. This provides an efficient means of building multi-mode, multi-band, and multifunction radios that can be drastically changed with a simple software download. This means testing SDR radios can be quite complex; especially when a single radio can support voice and data communications, frequency hopping, and even utilize non Radio Frequency (RF) communication protocols (Ethernet, USB, RS-232, etc.) that require operation verification.

The 7215 is a single-package test system with the advanced test capabilities and design flexibility capable of testing complex, ever-changing SDR radios.

## Signal Modulation

With 90 MHz of instantaneous signal generation bandwidth, along with a 400 MB ARB memory, the 7215 can generate a wide range of analog and complex digital signals. Analog AM and FM signal parameters can be set using the touch-screen menus. Digital modulations, such as FSK, PSK, or QAM, can be created externally with a waveform creation software tool and stored in the 7215's internal memory.

## Signal Demodulation and Analysis

Analog signal analysis, such as AM and FM, is easily performed using the many standard instruments accessible from the touch-screen user interface. These instruments include, for example, the frequency counter, SINAD meter, Distortion Meter, and Oscilloscope.

Digital signal analysis, especially with software-defined radios, is often a much customized task. SDR manufacturers often use proprietary waveforms

and require specialized, custom tests to ensure proper radio operation. The 7215 was designed to meet these types of test requirements.

The base 7215 configuration includes instrumentation for analog signal analysis. Digital analysis tools, however, are optional and are custom designed by Cobham to meet the specific test requirements of each end user.

Examples of Customized Analysis Tests on the 7215:

- EVM
- Constellation/Trajectory Analysis
- Eye Diagram
- BER
- Frequency Agile Waveform – Power Drop Out Test

Visit with your Cobham AvComm representative to learn more about the analysis tools listed above as well as other custom analysis tools available on the 7215.

## 7215 PRODUCT SPECIFICATIONS

### CONTACT FACTORY FOR DETAILED SPECIFICATIONS

Export Control: This product is controlled for export under the International Traffic in Arms Regulations (ITAR). A license from the U.S. Department of State is required prior to the export of this product from the United States.

Export Warning: Cobham's military products are controlled for export under the International Traffic in Arms Regulations (ITAR) and may not be sold or proposed or offered for sale to certain countries including: Belarus, Burma, China, Cuba, Haiti, Iran, Liberia, Libya, North Korea, Somalia, Syria, Sudan, and Vietnam. See ITAR 126.1 for complete information.

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