Production Test Systems

Mobile Radio – Automotive – RF/AF Tests

ROHDE&SCHWARZ

Production test systems

The long-standing experience of Rohde & Schwarz in automated testing and a range of first-class products from our own development and production are ideal prerequisites for high-performance, future-oriented system solutions for functional and final tests.

Our production test systems, supplied as turnkey systems if desired by the customer, can be categorized in three fields of application:

◆ Test systems for the production of mobile phones
◆ Infotainment test systems for the automobile industry
◆ Test systems for other RF and AF applications

The quality of our systems is the result of:

◆ Know-how: technological leadership in many fields of communication measurements and numerous reference installations worldwide
◆ Equipment technology: a wide variety of our own products including the most powerful components on the world market
◆ System platform: our Test System Versatile Platform TSVP is the most versatile and compact platform known to us. Based on cPCI/PXI, it is fully compatible with the industry standard
◆ Software: a combination of established standard tools, such as TestStand from National Instruments, and our own optimized device drivers ensure maximum performance as well as great ease of operation and maintenance

The systems presented here are a selection of the solutions that can be implemented on the basis of our components with reasonable engineering effort. Even if your particular test problem is not covered by the solutions shown here, it's worth talking to us.

Based on cPCI/PXI, the TSVP system platform features outstanding flexibility. Up to 31 slots and the sophisticated bus concept allow practically any measurement, switching and control task to be implemented in a minimum of space.

Mobile radio test systems

Productivity can be so easy: Test Systems TS 71xx

The TS 71xx system family ensures maximum test throughput for your mobile phone production. These neatly designed systems, which consist of the flexibly configurable TSVP system core and one or more Universal Radio Communication Testers CMU 200, feature unrivalled test performance in a minimum of space. The universal configurability of the TSVP allows not only the tests and measurements to the specific mobile radio standards (performed by the CMU 200) to be integrated in a TS 71xx system, but also all other electrical test and measurement functions required on the production line.

Depending on your specific requirements, we will either install the turnkey systems in your production line, or supply the systems with comprehensive documentation and software-supported interfaces for installation by your own test experts.

◆ TS 7100 for all common cellular phone standards
◆ TS 7160 for DUTs with Bluetooth™ interface
◆ For all production steps, such as module tests, functional tests, RF adjustment, acoustic, display and keypad tests
◆ Comprehensive test library for immediate use or customization
◆ All hardware and software modules are based on industry standards

The TS 7100 comes in a high-profile 19" rack freely accessible from the rear (as shown here), or alternatively in a low-profile rack that allows components to be inserted on both sides.

In the simplest case, the Bluetooth Production Test System only consists of the CMU 200 tester and the TSVP system platform.

Our DUT fixtures can be upgraded to self-contained small test stations, in which the mobile phone can be subjected to all tests – whether RF, acoustic, electrical or optical display inspection – in a one-stop test run.

Infotainment test systems for the automobile industry

The increasing importance of modern entertainment and communication electronics in vehicles calls for new and complex test strategies in automobile manufacturing – a challenge that we have taken up in close cooperation with renowned automobile manufacturers.
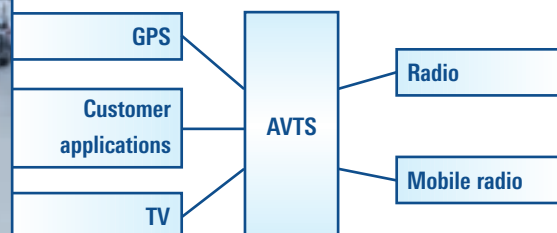
AVTS for the complete infotainment test

Our integrated Automotive Verification Test System AVTS covers all tests required in connection with infotainment components in cars. It allows the functionality of all the entertainment and communication electronics to be tested on the production line.

◆ Sound broadcasting: AM and FM (DAB in preparation)
◆ TV: PAL, NTSC, SECAM (DVB-T in preparation)
◆ Mobile radio: GSM, AMPS, CDMA, TDMA (UMTS in preparation)
◆ GPS navigation system
◆ Audio tests (loudspeakers and noise sources)
◆ *Bluetooth* radio network (in preparation)

All test signals are simultaneously applied to a transmitting antenna connected to the AVTS and extending along the entire production line so that the tests can be carried out at any place on the conveyor belt under the same conditions. The test results are available for the production computer via the universal interface of the AVTS.

For vehicles equipped with a communication bus, the control elements of the infotainment components can be remote-controlled by the AVTS, and the tests automated to a very high degree.

GPS — Customer applications — TV — AVTS — Radio — Mobile radio

Test systems for other RF and AF applications

The TSVP system platform is ideally suited for developing test applications for electronics production. The two systems shown here demonstrate the whole range of possibilities.

Functional and final test of business telephones

Fully automatic functional testing of a telephone in production is a complex task, which comprises stimulation of the device under test (DUT), electrical and acoustic tests, as well as optical inspection of the display elements.

The test system provides the following functions:

◆ AF and acoustic test
◆ Simulation of various telecommunication interfaces
◆ Simulation of add-on modules
◆ Actuating control keys via artificial fingers
◆ Optical inspection of display and LEDs

All functions are implemented on a single TSVP using Rohde & Schwarz modules, commercial off-the-shelf modules and customer-specific plug-ins.
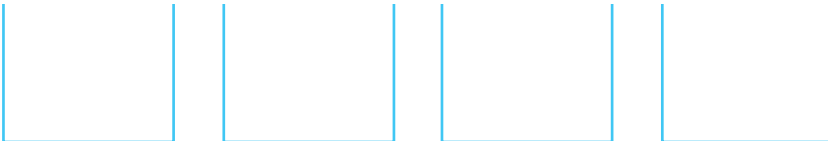
Extreme Temperature Tester E-Line

E-Line is a shielded test environment for smaller DUTs with radio interface (mobile phones, *Bluetooth* modules, wireless access systems, etc), which can be tested in batches of up to 12 DUTs under temperature stress.

◆ Savings of up to 80% on investments compared to single test solutions
◆ Simultaneous testing of different types of DUT (e.g. mobile phones and *Bluetooth* components, or mobile phones to different standards))
◆ Wide temperature range from –40 °C to +80 °C
◆ Easy combination with any other test systems (e.g. TS 7100)
◆ System software based on TestStand

Fax Reply

I would like to receive more information on production test solutions in the following areas:

- ❏ Testing of mobile phones
- ❏ Testing of infotainment components in cars
- ❏ Special test solutions for the following application(s):

Name: _____

Company / Department: _____

Position: _____

Address: _____

_____

_____

_____

Telephone: _____

Fax: _____

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