

Monitoring and coverage measurement systems

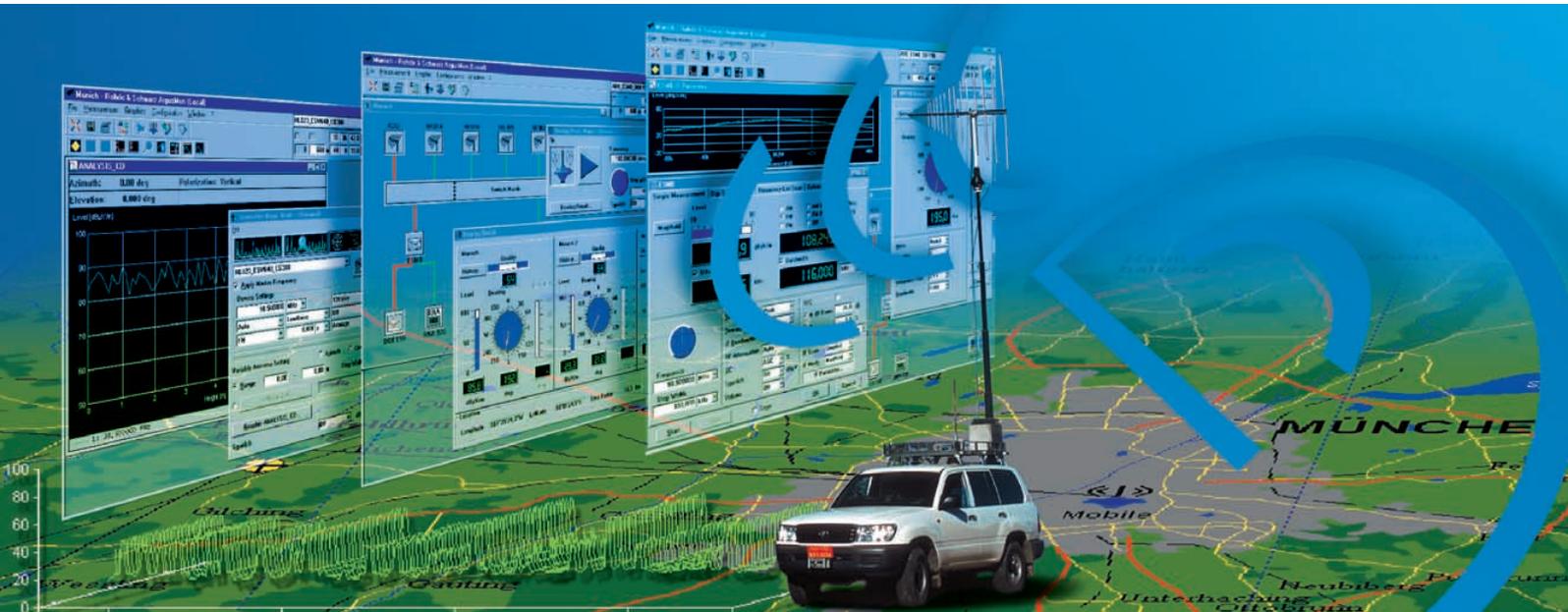
Complete product line
from a single source

Photo 43336/2

Rohde & Schwarz has given serious attention to the customers' requirements for the supply of complex systems from one source and has therefore developed some system instruments in addition to the extensive range of standard units, which form the core of monitoring [1] and coverage measurement systems [2]. These system instruments are also of interest for other applications.

System Process Controllers
SPCx

Thanks to most up-to-date top-quality components, the **SPCx system process controller family** represents the state of the art in controller technology. The devices can optionally be adapted to practically all user requirements.

Three basic models are available for a wide variety of applications:

- The **19" SPCR model** possesses an extremely robust design and has a special electromagnetic shielding for installation in system racks. It is suitable for stationary, transportable and mobile systems.
- The **SPCT model** is accommodated in a tower and designed for stationary systems with no exacting requirements concerning EMC or in applications where low space requirements are of minor importance.

- The robust **SPCN notebook** is ideal for systems where space is at a premium, e.g. in small vehicles or in transportable systems.

GSM Communication Unit GC127

The **GSM Communication Unit GC127** (FIG 1) combined to a router transmits data or audio signals via a GSM network. Consequently, mobile or transportable stations can be remote-controlled without requiring a telephone or any other links.

Station Monitoring Unit SA129

The **Station Monitoring Unit SA129** has extensive features for monitoring a distant station. Various sensors are available for monitoring the opening of windows or doors, temperature, relative

► humidity, smoke detection and power supply. The sensor messages are automatically transmitted by telephone to the station monitoring unit at the central station and output to an LCD display or printer or displayed by a light or acoustic signal. The remote-controlled system can be reinitialized by interrupting the power supply, the system process controller being shut down beforehand to prevent data loss.

RF Switch Units ZS 127 x

The universal family of **RF Switch Units ZS 127 x** has been developed for stationary, transportable and mobile systems. The units can dynamically switch different receive antennas to a receiver and can be manually operated at the front panel or by means of software, e.g. ArgusMon [3], via an RS-232-C interface.

The **ZS 127** (FIG 2) is fitted with a 1-out-of-6 RF switch, which covers the frequency range from DC to 3 GHz (optionally to 26.5 GHz). The model can optionally be equipped with a 1-out-of-8 or 1-out-of-12 RF switch in the frequency range up to 3 GHz.

The **ZS 127 A1** has a 1-out-of-8 RF switch and can be controlled in addition via a TTL control line from a Rohde & Schwarz receiver, for example.

The **ZS 127 AT** has the same functionality as the ZS 127 A1. In addition, the unused inputs are terminated into 50 Ω , which is often necessary when connecting multicouplers or power dividers. The model can be equipped with a 1-out-of-12 RF switch as an option.

The **RF Switch Unit ZS 127 Z1** (FIG 3) designed for outdoor use is fitted with a 1-out-of-2 RF switch, which covers the frequency range from DC to 3 GHz. In addition, the unit can be installed as

a detached RF switch at a maximum distance of 15 meters. It can also be controlled by the Antenna Control Units GB 127 x.

Antenna Control Units GB 127 x

The universal **Antenna Control Units GB 127 x** have been developed for stationary, transportable and mobile systems. They can control antenna rotators, adjustable-height masts and RF switches. The core of the new family is formed by the **Antenna Control Units GB 127 S and GB 127 M**. They can be operated via the front panel or by means of the ArgusMon software [3] via an RS-232-C interface.

The **GB 127 S** (FIG 4) is a universal antenna control unit mainly designed for stationary systems. Normally, it is used in conjunction with the compact **Rotator Control Unit RD 127** (FIG 5), which contains the RF switch and an

electronic control system for the connection of various antenna rotators. The RD 127 may vary in configuration, from one or two 1-out-of-2 RF switches to one 1-out-of-8 RF switch for different frequency ranges. The great benefit of this rotator control unit is that it can be installed on the mast close to the antennas. Consequently, the RF cables need not be laid from each antenna to the station; only one RF cable and a control line to the GB 127 S are required, which can be up to 120 meters in length.

If it is not necessary to control the antenna rotators, the **RF Switch Unit ZS 129 A2** is the optimum solution (FIG 6). It is designed for outdoor use and fitted with a 1-out-of-8 RF switch, which covers the frequency range from DC to 3 GHz.

The **Antenna Control Unit GB 127 M** is primarily designed for mobile and transportable systems. It differs from the GB 127 S only by the additional electronic control system for the antenna rotators. The **RF Switch Unit ZS 129 A4** (FIG 7) is ideal for installation on the roof of a vehicle. It has two 1-out-of-3 RF switches and is significantly smaller than the ZS 129 A2. The maximum control cable length is 10 meters.

The two antenna control units can also control the RF Switch Unit ZS 129 A5. This unit is installed in a rack within the station or vehicle. It can accommodate various RF switches, power dividers and filters.

The product line is regularly completed and extended because customer satisfaction is of utmost importance to Rohde & Schwarz: the supply of complete systems from one source.

Jörg Pfitzner

More details, data sheets and technical information at www.argus.rohde-schwarz.com or www.rohde-schwarz.com (search for the type designation)

REFERENCES

- [1] Spectrum monitoring and management system for Sri Lanka – Electromagnetic waves do not stop at frontiers ... News from Rohde & Schwarz (2000) No. 168, pp 40–42
- [2] Coverage Measurements System ARGUS-FMTV – Optimum use of frequency thanks to reliable forecasts in planning. News from Rohde & Schwarz (2001) No. 170, pp 30–33
- [3] Spectrum Monitoring Software ARGUS 4.0 – New software generation for spectrum monitoring systems. News from Rohde & Schwarz (2000) No. 167, pp 18–20

Selection of system instruments

References



Photo 43247

FIG 1
GSM Communi-
cation Unit
GC 127



Technical information GSM
Communication Unit GC 127



Photo 43651/2

FIG 2
RF Switch Unit
ZS 127



Data sheet RF Switch Unit
ZS 127x



Photo 43668

FIG 3
RF Switch Unit ZS127Z1



Technical information System
Process Controller SPCx



Photo 43650/2

FIG 4
Antenna
Control Unit
GB 127 S



Data sheet Antenna Control
Unit GB 127x



Photo 43670

FIG 5
Rotator Control Unit RD 127



Photo 43669

FIG 6
RF Switch Unit ZS 129A2



Photo 43671

FIG 7
RF Switch Unit ZS 129A4