



PORTABLE INSTRUMENTS FOR DIAGNOSTICS,
TUNING AND REPAIRS OF COMMUNICATION EQUIPMEN



MULTIFUNCTIONALITY
WITH NO LOSS
OF QUALITY



RELIABILITY



ABOUT THE COMPANY

The «Kontour ETC» has been engaged in engineering and production of proprietary equipment since 2003. This equipment is designed for overall maintenance, quick tuning and repairs of communication devices, first of all radio stations – both portable and fixed.

Over 13 years our products have become widely recognized in Russia and earned much positive feedback from leading experts in communications from major companies like PJSC “Gazprom”, JSCo “RZD”, Vnukovo and Sheremetyevo Airports and others. We design and produce our instruments using our own resources and also provide their quick delivery. Our equipment is highly competitive and offers a good price/functionality ratio.



SOME OF THE MAIN ADVANTAGES OF OUR PRODUCTS:



MULTIFUNCTIONALITY

Our equipment is capable of replacing a whole complex of instruments required for maintenance of communications equipment.



RELIABILITY

The instruments have high mechanical and electrical reliability due to the use of advanced materials and technologies.



MOBILITY

Small size and weight make our equipment highly mobile and suitable for field use.



ACCURACY

The measurement precision is achieved by digital processing of signals.



PRICE

A unique price/quality ratio. Other instruments with similar functionality are far more expensive.



WARRANTY

The two-year service warranty is valid for all countries and performed on a prompt basis.



R S T - 4 3 0

RST-430 Radio-Communication Service Tester is designed for maintenance and repair of FM and AM radio stations operating in the HF and VHF bands. It is a multipurpose radio measuring device for maintenance of communication equipment in indoor and field conditions.



FUNCTIONS:

- HF generator;
- LF generator;
- frequency meter;
- power meter;
- dummy load;
- modulation meter;
- non-linear distortion factor meter;
- AC voltmeter.



MEASURED PARAMETERS:

- transmitter carrier power;
- transmitter frequency;
- ringing frequency;
- transmitter frequency deviation;
- sensitivity of transmitter modulation input;
- non-linear distortion factor of transmitter modulation characteristics;
- receiver sensitivity, including the signal-to-noise and distortion ratio (SINAD);
- receiver output voltage;
- receiver selectivity;
- receiver non-linear distortion factor;
- noise suppressor threshold.

MAIN ADVANTAGES:

1. 8 IN 1

Multifunctionality and ability to replace a whole instrument complex for radio station maintenance.

2. PRICE

Leader in price/quality ratio. Similar equipment is far more expensive.

3. MOBILITY

Small size and weight make this equipment highly mobile and suitable for field use.

4. AUTOMATIC MEASUREMENTS

It is possible to perform measurements in automatic mode and save the measurement results.

5. BATTERY POWER SOURCE

The item can be supplied with a power source that can support autonomous operation.

6. DIGITAL DEVICE

It has all the advantages of a digital device.



RST-430 / CHARACTERISTICS

HF GENERATOR

Band	1.6... 470 MHz
Carrier setting error	< 10 ⁻⁶ *
Deviation in FM mode	0.1 ... 20 kHz (step 10 Hz)
Deviation setting error	< 10%
Output signal level (step 1 dBm)	-60 (-80)... -126 dBm
Level setting intrinsic error	< 3 dB
Auxiliary error	< 0.1 μV
Amplitude modulation	0...100%
QAM setting error	< 10%
Modulation signal frequency (step 1 Hz)	20 Hz ... 20 kHz

LF GENERATOR

Frequency band (step 1 Hz)	20 Hz ... 20 kHz
Frequency instability	< 0.2 Hz
Output signal level (step 10 mV)	0 ... 2 V
Setting error	< (0.01+0.03·U) V
Distortion factor	< 0.3 %

MODULATION METER

FM deviation	0.1 ... 20 kHz
Error	< (0.1+0.1·D) kHz
Modulation rate	0...100%
Error	< 10%

FREQUENCY METER

LF	10 Hz ... 100 kHz
HF	1.6... 470 MHz
Reference generator instability	< 10 ⁻⁶ *



NON-LINEAR DISTORTION FACTOR METER

Frequency band	20 Hz ... 10 kHz
Limits	1... 50%
Error	$< (5+5 \cdot K_{mst}) \%$

OSCILLOSCOPE

AC VOLTMETER

Range	0.02 ... 20 V
Frequency band	20 Hz ... 20 kHz
Error	$< (0.02+0.03 \cdot U) V$

POWER METER

Level	0.5 ... 20 W (up to 50 W - w/ external attenuator FAD-2, up to 100 W - w/ FAD-3, by agreement with the Customer) Note that when using the FAD type fix attenuators or analogs for measuring parameters of radio transmitter with the output power above 20 W, the power value measured by the device must be multiplied by the attenuation (fading) ratio of the attenuator by the formula $R_{att}=10$ to the power of $R_{att}, dB/10$)
Error	$< [10+(P_k/P_{mst})] \%$

- *If necessary, the reference generator with stability up to 5×10^{-7} can be installed.
- The results can be saved in a non-volatile RAM.
- It is possible to deliver the device with a power supply that provides at least 4 hours of battery life.
- One of the power supply options is a solar battery.
- Overall dimension are no more than 270 × 160 × 270 mm.
- Weight of the device is no more than 8 kg.



S V G - 5

SVG-5 digital combo set can replace a whole complex of instruments required for measuring low-frequency signals.

FUNCTIONS:

- sine wave generator;
- broadband RMS voltmeter;
- narrowband (selective) RMS voltmeter;
- frequency meter;
- waveform monitor;
- spectrum analyzer.





PURPOSE:

- measurement of root-mean-square AC voltage and frequency of single-ended or differential signals;
- measurement of AC voltage frequency of single-ended or differential signals;
- generation of sine waves;
- visual examination of freeform signals;
- signal spectrum analysis.

MAIN ADVANTAGES:

① **MULTIFUNCTIONALITY**

One device combines the functions of six devices.

② **MOBILITY**

Small weight and size.

③ **PRICE**

An optimal price to quality ratio.

④ **ACCURACY**

The measurement precision is achieved by digital processing of signals.

⑤ **RELIABILITY**

The instrument has high mechanical and electrical reliability due to the use of advanced materials and technologies.





SVG - 5 / CHARACTERISTICS

SINE WAVE GENERATOR

Frequency range	300 Hz ... 2.5 MHz
Step	1 Hz, 10 Hz, 100 Hz, 1 kHz, 10 kHz
Relative frequency instability	$\pm 1 \cdot 10^{-5} \%$
Frequency setting error	$\pm 4 \cdot 10^{-5} \%$ ± 1 Hz
Output signal level at characteristic impedance termination	-40 dB... +14 dB (8 mV ... 3.88 V)
Output signal level setting step	1 mV, 10 mV, 100 mV, 1 V (0.1 dB, 1 dB, 10 dB)
Single-ended output impedance	50 Ohm
Differential output impedance	100 Ohm
Level setting relative error	$\pm 5\%$

BROADBAND RMS VOLTMETER

Measured signal level range	-50 dB ... +14 dB (2.5 mV ... 3.88 V)
Input signal frequency range	300 Hz ... 2.5 MHz
Level measurement relative error	$< \pm 10 \%$
Single-ended input impedance	50 Ohm, 75 Ohm, 100 Ohm, 600 Ohm, 1 MOhm
Differential input impedance	100 Ohm, 150 Ohm, 200 Ohm, 1200 Ohm, 1 MOhm

FREQUENCY METER

Measured frequency range	30 Hz ... 2.5 MHz
Measured signal level range	15 mV ... 3.88 V
Level measurement relative error	$\pm 3.5 \cdot 10^{-4} \%$





NARROWBAND (SELECTIVE) RMS VOLTMETER

Measured signal level range	-50 dB... +14 dB (2.5 mV ... 3.88 V)
Input signal frequency range	300 Hz ... 2.5 MHz
Level measurement relative error	± 5%
Frequency bandwidth at -3 dB	40 Hz, 100 Hz, 1.7 kHz
Single-ended input impedance	50 Ohm
Differential input impedance	100 Ohm

Note: in the frequency range less than 2.5 MHz SVG-5 replaces any other device in its category.

- Real-time clock is included.
- Saves settings – 10 modes.
- Saves measurement data of voltmeter – 128 measurements.
- It is ready for using in 0.5 hours.
- The time of the continuous operation is 8 hours.
- The device is powered by AC mains 220 B ±10%, 50 Hz ±2%.
- The maximum power consumption – 40 VA.
- For the level of 0 dB the value of 0.775 V is accepted.

SPECTRUM ANALYZER

Maximum frequency	4 MHz
Scale division interval	5 kHz, 50 kHz, 400 kHz
Dynamic range	60 dB

WAVEFORM MONITOR

Amplitude scanning range	10 μV...100 V
Time scanning range	5 ns... 1 s
Input signal frequency range	300 Hz ... 2.5 MHz
Number of channels	1

- MTBF is no less than 18 000 hours.
- Average service life of 8 years.
- Unit dimensions are no more than 360 x 380 x 140 mm.
- Weight of the device is no more than 6 kg.
- Weight of the device with a transport case is no more than 11 kg.
- The warranty period is 24 months.



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