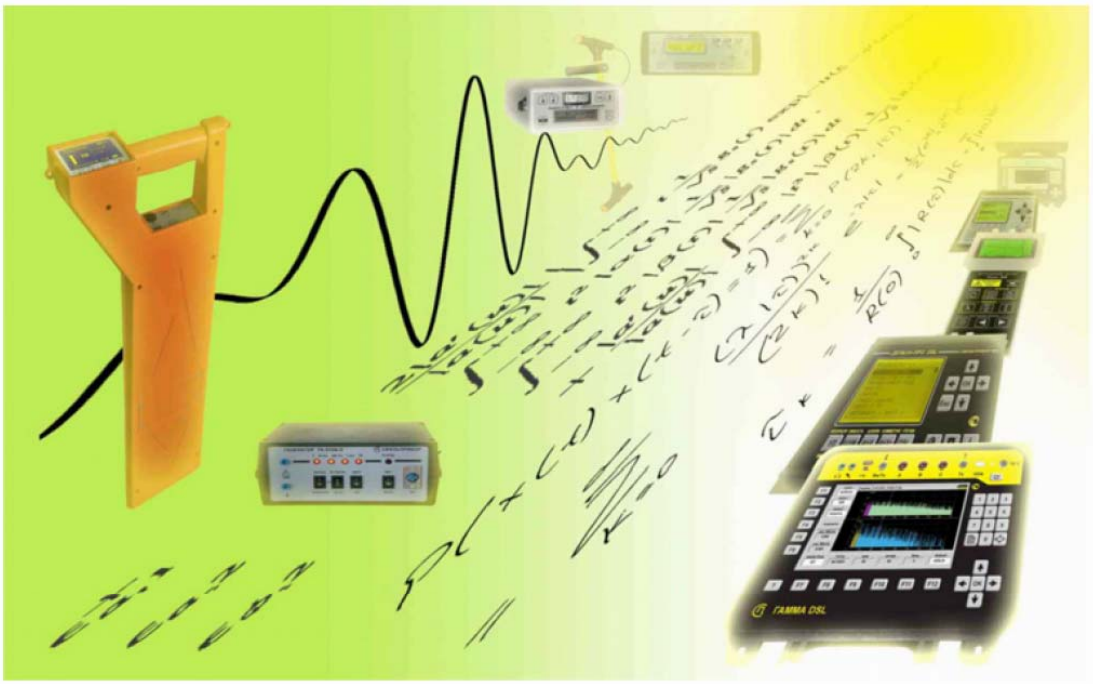
SVPRIBOR



THE TECHNICAL CATALOGUE

FIBER LINES	OTDR, OPTIC TESTER
COOPER LINES	BRIDGE/RFL, TDR, CABLEMETER
xDSL, Ethernet, E1	ANALYZER @ FAULT LOCATOR
CABLES AND PIPES	TRACE / FAULT LOCATOR

FOR 20 YEARS WE PRODUCE THE INSTRUMENTS FOR YOU!

OTDR @ OPTIC TESTER

ADSL/ADSL2+, xDSL, Eternet

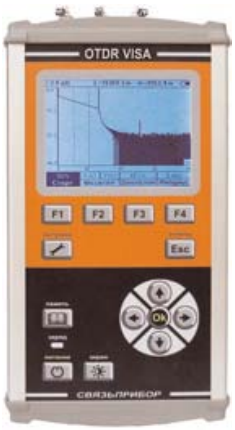
BRIDGE/RFL + TDR

TRACE / FAULT LOCATORS

OTDR

INSTRUMENT	TECHNICAL SPECIFICATIONS
OTDR GAMMA LITE 	Fiber tipe: Singlemode Optical Connector: FC / PC Wavelength, nm: 1310±20 / 1550±20 Dynamic range, dB: 32 / 30 Attenuation Dead zone, m: 10 Event Dead zone, m: 3 Pulse width, ns: 8÷20 000 Measured distances, km: 5, 10, 25, 50, 75, 100, 160 Loss resolution, dB: 0,001 Linearity, dB/dB: 0,05 Sampling points: Up to 64 000 Sampling Resolution, m: 0,2 ÷ 50 - Color screen TFT 680x480 - TouchScreen - Quick start - PC link USB-port - Support mouse and external Flash memory - Standard format Bellcore - Forming and Analysis of reports - Li-Ion accumulator battery - 226x125x44 mm Ethernet analyzer, IP Test (*Ping, IPTV*), USB-host (*flash*, *mouse*) One-touch measuring, Smart Marker, Test Station **OPTION: VFL**
OTDR GAMMA LUXE 	Fiber tipe: Singlemode Optical Connector: FC or PC Wavelength, nm: 1310±20 / 1550±20 Dynamic range, dB: 34 / 32 Attenuation Dead zone, m: 8 Event Dead zone, m: 3 Pulse width, ns: 6÷20 000 Measured distances, km: 5, 10, 25, 50, 75, 100, 160 Loss resolution, dB: 0,001 Linearity, dB/dB: 0,05 Sampling points: Up to 80 000 Sampling Resolution, m: 0,2 ÷ 20 - Color screen TFT 800x480 - Touch Screen - Quick start - PC link USB-port - Support mouse and external Flash memory - Standard format Bellcore - Forming and Analysis of reports - Li-Ion accumulator battery - 270×240×120 mm. Ethernet analyzer, IP Test (*Ping, IPTV*) One-touch measuring, Smart Marker, Test Station **OPTIONS: VFL, PM (optic power meter)** TDR, VDSL analyzer

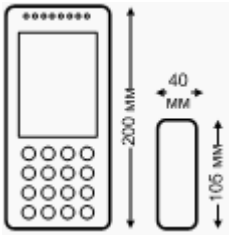
OTDR @ TESTER

INSTRUMENT	TECHNICAL SPECIFICATIONS
OTDR VISA 	OTDR with optic power meter (LUX M) Fiber tipe: Singlemode Optical Connector: FC or PC Wavelength, nm: 1310±20 / 1550±20 Measured distances: 1,5; 3; 5; 10; 20; 40; 80; 160 Pulse width, ns: 4 ÷ 20 000 Sampling Resolution, m: 0,4 ÷ 50 Dynamic range, Dead zone: M0, M1, M2 Module / Dynamic range, dB / Dead zone, m (Event / Attenuation) M0: 37/35 — 1,5 / 5 M1: 33/31 — 2 / 6 M2: 27/25 — 3 / 10 Optic power meter (LUX M): Fiber tipe: Singlemode Optical Connector: FC or PC Wavelength, nm: 1310±20 / 1550±20 Measured range: +6 ÷ -70 dBm Measuring units: dBm, mWt, dB **OPTIONS: VFL** **LUX M (Optic Power Meter)** **LUX S (Optic Light Source)**
VISA 1310 / 1550 / 1625 	OTDR VISA 1 Wavelength : 1310 / 1550 / 1625 nm (PON) Fiber tipe: Singlemode Optical Connector: FC or PC Wavelength, nm: 1310±20 / 1550±20 Measured distances: 1,5; 3; 5; 10; 20; 40; 80; 160 Pulse width, ns: 4 ÷ 20 000 Sampling Resolution, m: 0,4 ÷ 50 Dynamic range, Dead zone: M0, M1, M2 (1310/1550) Module / Dynamic range, dB / Dead zone, m (Event / Attenuation) M0: 39 / 37 / 39 — 1,5 / 5 M1: 35 / 33 / 35 — 2 / 6 M2: 29 / 27 — 3 / 10 **OPTION: VFL**
OTDR VISA USB 	OTDR VISA USB: 2 Wavelength 1310 и 1550 nm TECHNICAL SPECIFICATIONS – OTDR VISA VISA 1310 USB, VISA 1550 USB, VISA 1625 USB: 1 Wavelength 1310 / 1550 / 1625 nm (PON) TECHNICAL SPECIFICATIONS – VISA 1310 / 1550 / 1625 - USB feed - Always ready - Standard format Bellcore - Forming and Analysis of reports - 125x80x45 mm **NO OPTIONS**

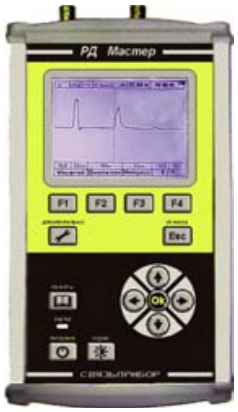
ADSL/ADSL2+ / xDSL

INSTRUMENT	TECHNICAL SPECIFICATIONS
GAMMA DSL 	▪ Color TFT display 800x480 ▪ PC communication through USB ▪ Support mouse and external Flash memory ▪ Touch Screen ▪ Quick start DSL measurements : ▪ frequency measurements ADSL/ADSL2+, xDSL ▪ Bit Rate Potential (BRP) with loss analyzer ▪ monitoring of the noise and velocity ▪ Masks List, Fault Definition Build in modem for DSLAM: ▪ Bit Rate rate and quality of ADSL channel ▪ monitoring of (BRP) TDR with power pulse and high resolution for the cables with the great attenuation Bridge for the measurement insulation resistance, loop, ohmic asymmetry, electrical capacity for all type cable **OPTION: far end generator**
ALFA DSL 	ADSL Test + RFL (Resistance Fault Locator) + TDR **Test of ADSL/ADSL2/ADSL2+ line (with DSLAM) :** ▪ SNR (signal-noice ratio) ▪ Insertion Loss ▪ Bitrate (BRP) Downstream and Upstream ▪ Spectrum Annex A & Annex B **Fault location:** ▪ Insulation fault (RFL) ▪ Shot (RFL, TDR) ▪ Open (TDR, RFL) ▪ Bad matching of the line (TDR) ▪ Bad connections with reflection (TDR) **Measuring:** ▪ Insulation resistance (BRIDGE) ▪ Electrical capacity (BRIDGE) ▪ Loop resistance and ohmic asymmetry (BRIDGE) ▪ Voltage on line Insulation resistance 1 kOhм – 50 GOhm ± 2% Electrical capacity 0,1 – 2000 nF ± 2% Loop resistance 0 – 10 kOhm ± 0,1% Test voltage 400 V, 180 V Fault insulation located 0 – 20 MOhm Accuracy of fault location 0,1%+1m Voltage measurement 0 – 300 V

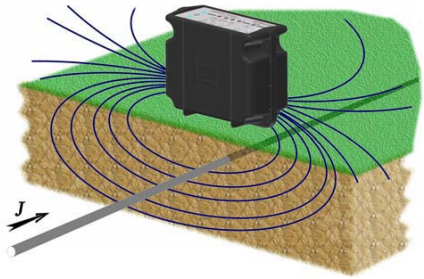
Ethernet / E1 ANALIZERS

INSTRUMENT	TECHNICAL SPECIFICATIONS
ATLAN **Gigabit Ethernet ANALIZER** 	▪ TEST in ETHERNET LAN standard RFC-2544 (2 modules) ▪ Cooper interface 10/100/1000 Mbit/s, ▪ Optic interface 1000 Mbit/s ▪ Fault locator function for cooper cable ▪ LCD 320x240 ▪ Quick start ▪ PC link USB-port
AT-E1 **ANALIZER E1**  	**Anilyzer of E1 channel:** ▪ 42 000 calculation of errors number ▪ indication of the emergency conditions ▪ measurement of the frequency and level ▪ displaying of the input signal shape (oscilloscope) ▪ measurement of the jitter -saving and displaying of the data ▪ display LCD 320x240 ▪ Quick start ▪ PC link USB-port ▪ chock-resistant and water-resistant aluminum case Impedance, 120 Ohm / >4 кОм Gate, dB 0, 6, 12, 24, 30, 36, 43 Frequency 2048000 ± 6000 Hz Test 2^N-1 (N = 6, 7, 9, 10, 11, 15, 20, 23) Mistakes Code, Bit, FAS, MFAS, CRC, E-bit FAULT LOS, AIS, LOF, LOM, RAI, MRAI KM 10^{-1} – 10^{-10} Range of mistakes 0 – 999999999 Jitter Measuring: 20 Hz - 900 Hz 10 TI 900 Hz - 18 кHz 9/Fj TI 18 кHz - 50 кHz 0.5 TI 50 кHz - 100 кHz 0.4 TI

BRIDGES / RFL + TDR

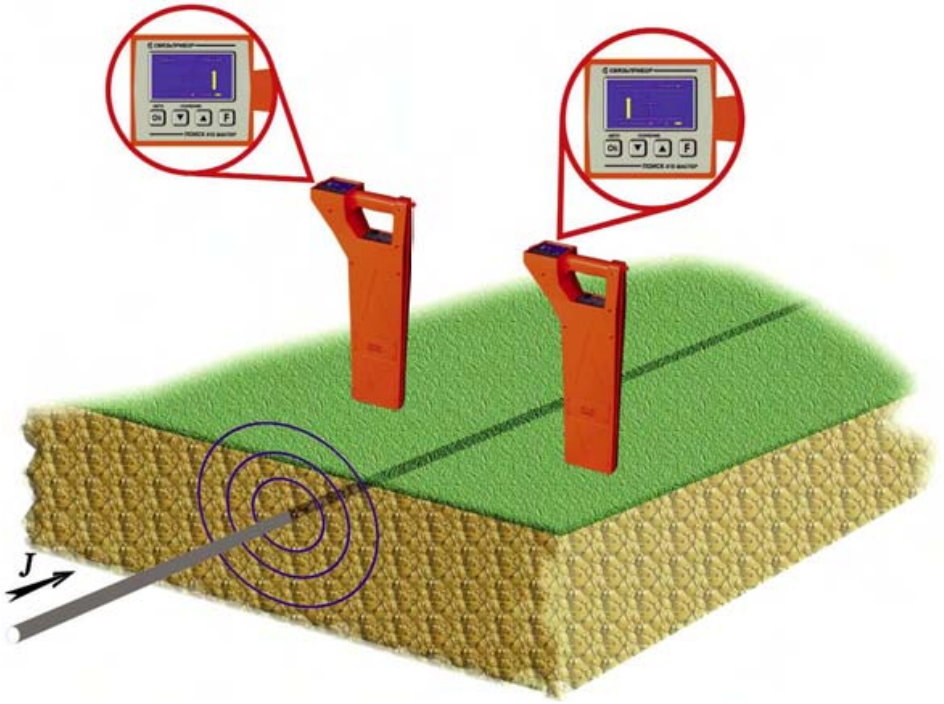
INSTRUMENT	TECHNICAL SPECIFICATIONS
ALFA 	**TDR for all type cables**: telecom, power, etc - faults, splices, length, crosstalk. **RFL** (Resistance Fault Locator) for all type telecom cables, low voltage power cables. **Measuring Bridge.** Memory of characteristics is 50 working cables, 35 000 pairs of scheduled measurements, 1000 traces. **Fault location (RFL):** Test voltage 400 V, 180 V Fault insulation located 0 – 20 MOhm Accuracy of fault location 0,1%+1m **Measuring Bridge:** Insulation resistance 1 kOhм – 50 GOhm ± 2% Electrical capacity 0,1 – 2000 nF ± 2% Loop resistance 0 – 10 kOhm ± 0,1% Voltage measurement 0 – 300 V
TDR GAMMA 	**TDR for all type cables**: telecom, power, etc - faults, splices, length, crosstalk. ▪ Color TFT display 800x480. ▪ PC communication through USB or Ethernet. ▪ Touch Screen ▪ Quick start Range of measuring: 130 m ÷ 130 km Maximal resolution 0,2 m Overlapping attenuation 80 dB Adjusted amplitude of measuring pulse 6 – 18 V Measuring pulse duration 16 ÷ 50 000 ns Range of VF (Velocity Factor) 0,143÷1 with step 0,001
TDR MASTER 	**TDR for all type cables**: telecom, power, etc - faults, splices, length, crosstalk. High characteristics with simple use. ▪ LCD display 320x240 ▪ Multifunctional menu ▪ PC communication through USB Range of measuring: 50 m ÷ 30 km Maximal resolution 0,2 m Overlapping attenuation 96 dB Amplitude of measuring pulse 12 V Measuring pulse duration 8 ÷ 16 000 ns Range of VF (Velocity Factor) 0,143÷1 with step 0,001

TRACE / FAULT LOCATOR

INSTRUMENT	TECHNICAL SPECIFICATIONS
410 MASTER **TRACE / FAULT LOCATOR** 	▪ **410 Master** devices are equipped by the dynamic low temperature OLED-display with high britness and contrast ▪ Master version displays the map of investigated district and cable location. Such mode is called «**Cable map**» and contains a clear graphical information, which is very convenient for quick locating of the trace ▪ «**Spectrum**» - energie spectrum for the power cable locating without generator; broadband spectrum for pipes and underground communications locating with «life sound» ▪ «**2F** » - faults locating by double-frequencies amplutude method ▪ «**Alien Generator**» - working with any «alien» generator (from 200 Hz up to 4 kHz) Working frequencies 6562,5 / 2187,5 / 273,5 Hz Passband in «SPECTRUM» mode 10 ÷ 20 000 Hz Maximal trace depth that can be defined 6 m Accuracy of locating 10 sm Locating of insulation resistance fault 0 – 100 kOhm Powering Ni-Mh 4 units, 2,3 A/h Time of continuous working (not less) 13 h Size / Weigth (with battery) 257 x 88 x 685 mm / 1,9 kg
FL 410 Master ***Fault locator*** 	▪ The dynamic low temperature OLED-display ▪ Working frequencies 273,5 ± 0,5 Hz ▪ Passband at level of -3 dB 2,5 Hz ▪ Locating of insulation resistance fault 0 – 1 MOhm ▪ Size 138 x 68 x 187 mm ▪ Weigth (with battery) 0,65 kg
Transmitter 410 Master 	▪ build-in accumulator for the 8 hours of continuous working ▪ build-in inductor for contactless connection under the working conditions ▪ auto matching with the line ▪ auto tunning of the power ▪ working on two frequencies simultaneously

WHERE TO DIG? INNOVATIVE METHODS

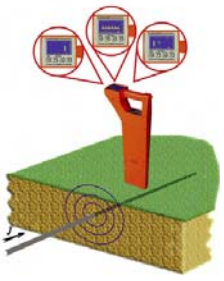
410 Master devices are equipped by the dynamic low-temperature OLED-display with high brightness and contrast. «Master» version displays the map of investigated district and cable location. Such mode is called «cable map» and contains a clear graphical information, which is very convenient for quick locating of the trace.



The cable location is designated by the arrow on the picture. If the measuring device is on the left cables side, then the cable is displayed on the right side. And vice versa. At came closer to the cable the sound signal becomes louder, the arrow becomes bigger and closer to cross on the displays center. The cross defines a cable location with high accuracy (as at «at minimum» locating). At this moment the depth of cable location is defined without errors of measurement device positioning.

The arrow displayed shows the signal value and blinks at the pause. If a capture zone takes an «alien» cable, the arrow changes its direction back and give a sound (control «friend-or-foe»).

Faults location



Besides of tradition faults locating methods in Poisk-310/410 devices is applied a unique double- frequencies method. Advantages: for fault locating on any cable segment it is no need to continuously investigate the trace. To define if there is fault on the segment or not, you should to compare indications at the beginning and at the end of the cable. To find the exact fault place you should to find the point with spasmodic indications changes.

The measuring device is not pass the defect on the cable, even if it bypass the segment (length up to 300 m). There appears a possibility to divide the cable on segments and quickly locate a faulted one. It makes the work more easy. The new double-frequencies method on the city cables is more sensitive and convenient than the tradition one.

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