



TOTAL STATION
RTS-820 series



MAIN FEATURES



EDM TECH



RDM5 is a unique and innovative EDM technology of RUIDE, which enables RTS-822R⁵ to deliver an accurate and long non-prism distance range up to 500m within stunningly 0.3s measuring speed. 5km distance with prism can be easily achieved with a high precision of 2mm+2ppm.



PPM
CORRECTION



RTS-820 series is the first total station which is equipped with auto sensor of temperature and pressure. **ATMOsense** system can detect the surrounding temperature and air pressure then calculate the PPM value and correct the distance measuring result in real time.



COMPENSATION



A sophisticated liquid-electronic compensator on 2 axis ensures a stable compensation within a tilt range of 4'.



DATA TRANSFER



RS232

Various options for data transfer are available: SD-card, mini-USB, and RS232. Internal memory is capable to store up to 20,000 points. External storage can be extended to 2GB.

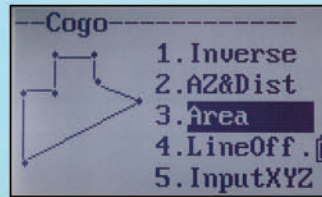


WATER & DUST
RESISTANT

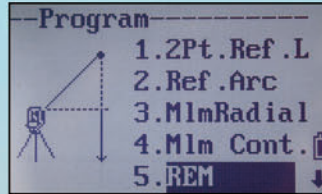
IP65

IP65 outstanding water and dust proof ensures a overall protection to the total station in any tough environments.





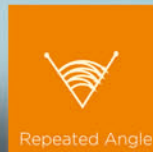
COGO is a suite of programs used in civil engineering for solving coordinate geometry problems. It employs some basic types of elements such as points, spirals, lines, curve, etc. to calculate the inverse, azimuth and distance, area, line and offset.



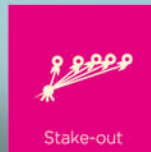
RTS-820 series provides various surveying programs which are usually used in survey job, including 2-point reference line, reference arc, measuring the HD, VD and SD between 2 points, remote elevation measurement, measuring distance and offset values on vertical plane, measuring distance and offset values on the slope plane, and road design.



Instrument Height



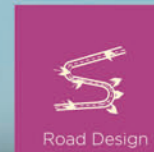
Repeated Angle



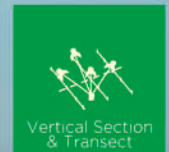
Stake-out



Resection



Road Design



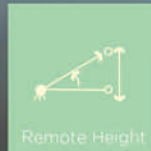
Vertical Section & Tract



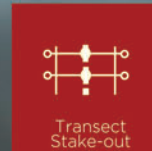
Coordinates



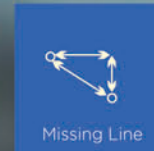
Column Offset



Remote Height



Tract Stake-out



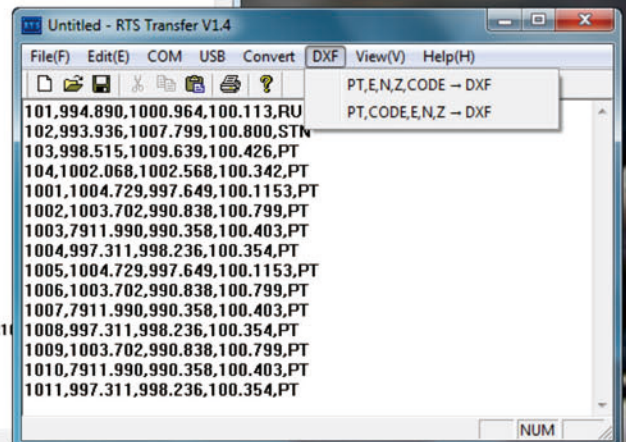
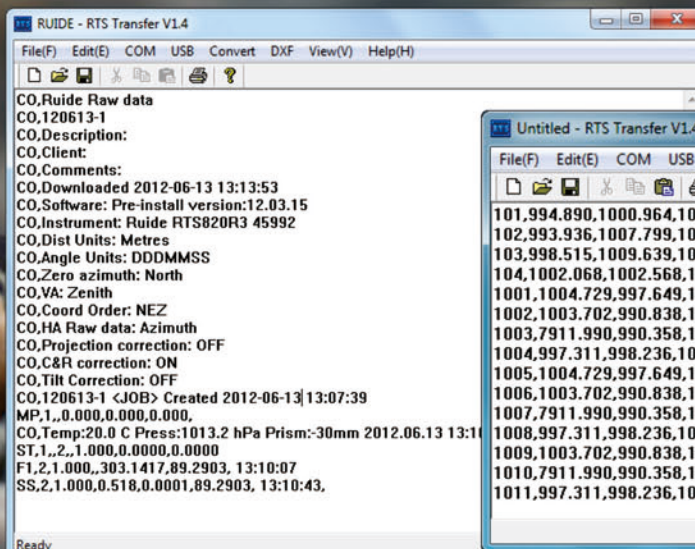
Missing Line

RTS TRANSFER

The transfer software RTS TRANSFER provides a complete and easy-to-use solution for data exchange between the total station and the computer, as well as transferring to DXF format.

Detailed raw data and coordinates data can be downloaded to the computer, and you can also edit and upload coordinates data and road data to the total station.

After you download the coordinates data to the computer, you can post process the data like changing the element order, and convert it to DXF file which can be used in CAD.



SPECIFICATION

RTS-822A
RTS-825A

RTS-822R³
RTS-825R³

RTS-822R⁵
RTS-825R⁵

TELESCOPE			
Length	154mm		
Objective Lens Diameter	Telescope: 45mm	Distance Meter: 50mm	
Magnification	30X		
Image	Erect		
Field of View	1°30'		
Resolving Power	3"		
Mini. Focus	1.0m		
DISTANCE MEASUREMENT			
Single Prism	2000m ^{*1}	5000m ^{*1}	
Non-Prism	N/A	300m ^{*2}	500m ^{*2}
Accuracy -Prism Mode	±(2mm+2ppm x D)m.s.e. ^{*3}		
-Non-Prism Mode	N/A	±(5mm+3ppm x D)m.s.e. ^{*3}	
Measuring Time	Fine: 1.2s, Normal: 0.7s	Fine: 0.7s, Normal: 0.5s	Fine: 0.3s, Normal: 0.2s ^{*4}
Meteorologic Correction	Manual Input	Auto Sensing	
Prism Constant	Manual Input		
ANGLE MEASUREMENT			
Method	Absolute Encoding		
Detecting System	H: 2 sides, V: 2 sides		
Min. Reading	1"/5"		
Accuracy	2"/5"		
Diameter of Circle	79mm		
Vertical Angle 0°	Zenith 0°/Horizontal: 0°		
Unit	360°/400gon/6400mil		
DISPLAY			
Display Unit	Graphic LCD 160 x90 Dots with White Backlight		
No.of Unit	2 sides		
Keyboard	Alphanumeric Key		
TILT CORRECTION			
Tilt Sensor	Single Axis	Dual Axis	
Method	Liquid Electric		
Range	±3'	±4'	
Setting Unit	1"		
LEVEL SENSITIVITY			
Plate Level	30"/2mm		
Circular Level	8'/2mm		
OPTICAL PLUMMET (OPTIONAL: INTERNAL LASER PLUMMET)			
Image	Erect		
Magnification	3X		
Focusing Range	0.3m ~ ∞		
Field of View	5°		
DATA STORAGE & INTERFACE			
Internal Memory	>10,000 points or > 20,000 coordinates		
Data Interface	RS 232	RS 232/SD-card/Mini-USB	
GENERAL			
Laser Class ^{*5} -EDM	Class II	Class IIIA	
-Laser Plummet	Class II		
Working Temperature	-20°C ~ + 50°C		
Battery Type	Rechargeable Ni-H Battery		
Battery Voltage	DC 6V		
Working Time	8h	16h	

*1. Good condition: No haze, visibility about 40km, overcast, no scintillation.

*2. With Kodak Grey Card white side (90% reflectivity).

*3. D stands for distance.

*4. Typically, under good condition, non-prism measuring time may differ according to measuring target, observation situations, and environmental conditions.

*5. According to FDA21 CFR Ch. 1 §.1040.

STANDARD PACKAGE COMPONENTS

Carrying Case X 1
Charger X 1
Battery X 2
Multi-port Cable X 1
User Manual X 1
Plumb X 1
Adjusting Pin X 1
SD-Card X 1 (for RTS-820R⁵)
Mini-USB Cable X 1 (for RTS-820R⁵)

Screw Driver X 1
Wiping Cloth X 1
Lens Cover X 1
Rain Cover X 1
Carrying Belt X 2
Reflecting Sheet X 1
Warranty Card X 1
Transfer Software CD X 1

OPTIONAL ACCESSORIES



Single Prism System
TPS11



Triple Prism System
TPS30



Aluminum Tripod ATS-1

Prism Pole & Prism System TPS107



DEALER

RUIDE

Add: 2/F, NO.24-26, Ke Yun Road, Guangzhou 510665, China

Tel: +86-20-23380691 Fax: +86-20-23380962

E-mail: export@ruideinstrument.com

support@ruideinstrument.com

Established in 1995, RUIDE SURVEYING INSTRUMENT CO., LTD. is an R&D and production-oriented enterprise focusing on technology-intensive mechanical and optical-electrics measuring instruments. Aimed to meet a wide range of precise and cost-effective requirements, RUIDE offers a complete product line of GNSS, total stations, theodolites, handheld distance meter, digital level, auto level, surveying accessories, etc.

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