

# New Generation Explorer Handheld XRF



EXPLORER 5000 Alloy Analyzer

Rapid | Accurate | Non-destructive





## EXPLORER 5000

Rapid and accurate on-site analysis of alloy kinds and elements

Based on ten-year research and development experience in Handheld X-Ray Fluorescence, Skyray Instruments 5th generation EXPLORER handheld XRF adopts photoelectron, microelectronics and semiconductor technology to deliver results in less than 2 seconds. EXPLORER 5000 handheld alloy analyzer is the first to use large high-resolution LCD and the new digital signal processor. The minimum detection limits make its performance equal to Desktop XRF. Small and lightweight, EXPLORER can analyze any sample large or small, on the factory floor or in the field.

### » Application Field

- Precious metal alloy
- Iron and steel smelting
- Aerospace industry
- Boiler pressure vessel
- Machinery manufacturing and processing
- Waste metal recycling





# New Generation Handheld XRF

## EXPLORER 5000 Handheld Alloy Analyzer

EXPLORER 5000 can make accurate and nondestructive detection on a variety of precious metal alloys, low alloy steel, stainless steel, tool steel, chrome / molybdenum steel, nickel alloys, cobalt alloys, nickel / cobalt-resistant alloys, titanium, copper alloy, bronze, zinc alloy, tungsten alloy, etc. You can identify material composition and alloy grade in two seconds. Rapid detection on aluminum and magnesium alloy grades allows to make reliable identification and confirmation of the material (PMI) for quick and reliable Quality Control.



Raw materials testing

### Reliable identification of materials

Rapid identification of materials plays a crucial role in the process of alloy manufacturing . EXPLORER 5000 XRF quick and nondestructive elemental detection can effectively prevent the mix of raw material and avoid unnecessary loss.



Quality assurance and control

### Quality control in industrial production

EXPLORER 5000 quick and nondestructive elemental analysis is widely applied in quality control and manufacturing process of aerospace, steel smelting, boiler industry and other high-tech industries where it is important to ensure top quality of materials.

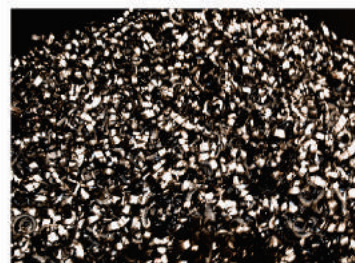


### Waste metals recycling and reuse

EXPLORER 5000 is a powerful tool to make metal and steel identification in waste metals recycling industry. EXPLORER 5000 can make on-site detection and rapid classification of scrap metals and steels



Quality control on industrial products

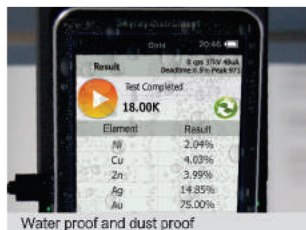


Waste and old metals recycling



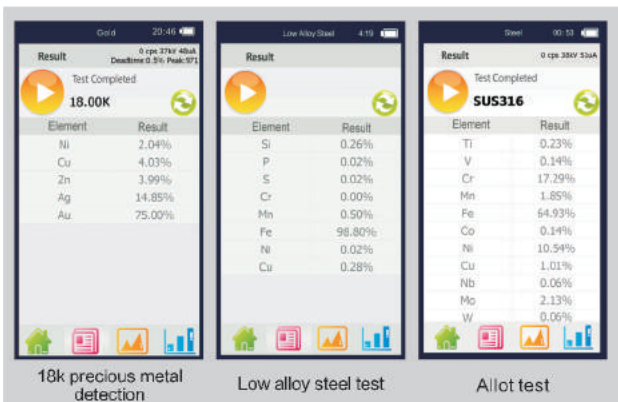
## » Advantages

### Easy Operation



- Lightweight and ergonomic design is more convenient to use in the field, heavy duty travel case ensures safe transportation of the instrument
- 5 inch high-definition screen with 360 degree rotation displays results clearly at low visibility conditions
- Waterproof and dustproof design, Explorer XRF can be used in harsh environments.
- Avoid sample preparation and directly measure raw materials in the field or in the lab with Portable table stand.

### Best Performance



- Rapid nondestructive detection and quick measurement with results within two seconds. With performance similar to most benchtop XRF Models, Explorer XRF sets a new standard for Handheld XRF Analyzers
- Fast analysis of Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Ga, Ge, Zr, Nb, Mo, Ru, Rh, Pd, Ag, In, Sn, Sb, Hf, Ta, W, Re, Pt, Au, Pb, Bi, Mg, Al, Si, P, S. Other elements can be easily added as per customers application
- Detect the light elements without helium gas

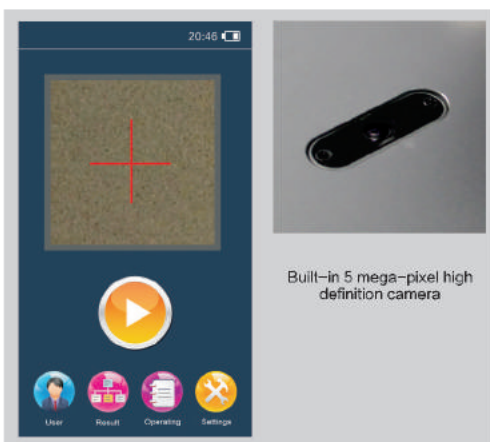
### Extended Battery Life

- Rechargeable 9000mAh lithium battery with up to 12 hours work time on a single charge
- Optional 27000mAh lithium battery with up to 3 days work time on a single charge

# New Generation Handheld XRF

## EXPLORER 5000

### Higher Configuration



- Benchtop XRF accuracy is possible thanks to four core components: Miniature X-ray tube, SDD or optional Fast-SDD detector, digital signal processor and multichannel intelligent analysis module
- Skyray patented digital multi-channel technology features up to 500K CPS (spectral counts per second)
- Automatic collimators and filters make Explorer able to analyze different applications and ensure Explorer can meet many testing requirements
- Users can observe samples position at any time thanks to built-in 5 mega-pixels HD camera

### User Protection



- Multi-color warning system lets the user know the status of the instrument: Green light for power on/stand by, red flashing LED while testing, yellow flashing in case of malfunction
- Multiple safety protection features:
  - a: X-Ray tube shuts off automatically without sample
  - b: Thick Steel Structure with heavy Lead coating prevents any X-Ray leaking
  - c: Rubber Shield prevents X-Ray scattering
- Manual Security Interlock blocks software control of the instrument

### Intelligent Software

- EXPLORER XRF analyzer comes with our newest software which simplifies user training and operation. Unlike other Handheld XRF Spectrometers, Explorers easy-to-use interface allows anyone to operate the instrument
- The software features two user modes:
  - Operator mode-simplifies operation with one step testing for quick day-to-day testing by inexperienced staff.
  - Expert mode – for experienced users looking for in-depth analysis and advanced features





» Accessories



Heavy Duty Travelling Case

2700mAh Battery



Portable Bluetooth Printer

Car Charger



Optional Table Stand



Analytical Method	Energy dispersive X ray fluorescence analytical Method
Elemental Range	Atomic number from 12 to 92 [elements from magnesium(Mg) to uranium (U)] can be measured
Simultaneous elements	Simultaneous analysis 40 elements
Microcomputer	CPU: 1G ; system memory: 1G ; maximum support 32G
Content range	ppm ~ 99.99%
Detection time	1 ~ 60 seconds
PDA	GPS, WIFI, Bluetooth
Power supply	Rechargeable lithium battery, standard 9000mAh, optional 27000mAh 110V ~ 220V universal adapter for recharging
Detection range	Solid, liquid, powder
Detector	SDD detector or Fast-SDD detector (optional)
Detector resolution	128eV
Excitation source	50KV/200uA- silver target end window integrated miniature X ray tube and high voltage power supply
Collimator and filter	Collimator diameters are 4.0mm and 2.0mm, 6 filters with automatic switching function
Video system	500W pixel high resolution camera
Display screen	5 inch transfective LCD touch screen
Detection limit	The minimum detection limits ~ 5 ppm
Convenience of application	Intelligent curve matching
Data transmission	Digital multi-channel technology, SPI data transmission, waterproof mini USB
Operating ambient humidity	≤90%
Operating environmental temperature	-20°C ~ +50°C
Dimensions	244mm ( Length ) x 90mm ( Width ) x 330mm ( Height )
Instrument weight	1.7Kg



# Skyray Instruments



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Spectroscopy

Chromatography

Mass Spectrometry

Skyray Instruments specializes in the R&D, manufacturing and sales of analytical and measuring instruments in Spectroscopy, Chromatography and Mass Spectroscopy fields. Our Products include X-ray Fluorescence Spectrometry, Atomic Absorption Spectrometry, Gas Chromatography, Inductively Coupled Plasma Spectrometry, Mass Spectrometry and many others.

Skyray has been providing customers around the world with reliable and affordable Scientific Instruments for more than 20 years