

Testing advantage

- Fast nondestructive testing. Fast alloy analysis in 1-2 seconds. Testing for 10 seconds achieves a similar precision to the lab.
- Professional analysis software with hundreds of built-in alloys in Grade Library. Intuitive user interface.
- Many modes including “quantitative analysis (in ppm or %)” and “qualitative mode”. In-built multi-calibration methods to calibrate and accommodate deviation caused by different geometries.
- Unique adjustable basic parameterised technology. Customers can easily create more precise alloy analysis modes by themselves.
- Has dynamic matching information function. Test results, sample number and matching information are displayed simultaneously.

Technology specification

Model	The 4 th generation EDX analyzer-Genius XRF series
Measurable range	Mg to U
Processor and RAM	CPU: 667MHz RAM:256M Maximum expanded storage: 32G Standard configuration: 2G , for storage of large amounts of data.
Content range	ppm~99.99%
Testing time	3-30 seconds
GPS、WIFI	Built-in system of GPS & WIFI
Battery time	Re-chargeable lithium battery, with capacity of 7800mAH, continuously providing 8 working hours ; Equipped with wide voltage (110V-220V) general adapter
Testing object	Solid, liquid , powder
Detector	25mm ² 0.3mil,SDD detector
Detector resolution	Minimum resolution:139eV
Excitation source	Target: Ag High voltage: 5-40kv Tube current: 1-100 uA
Collimator and filter	Collimator kinds: 2 (4.0 mm and 2.0mm diameter) Filter types: 6 Automatic switch: YES
Video system	HD CMOS camera
Screen	TFT-LCD touch screen resolution 640*480
Detection limit	Detection limit: ppm level
Safety	Self-contained password manager mode
Gas charging system	Optional: Helium charging at ordinary pressure
Operational environment	Humidity ≤90% Temperature -20℃ ~+50℃
Size	234×306×82mm (L×H×W)
Weight	Net weight:1.6kg Battery weight: 0.3kg

Rapid | Accurate | Non-destructive



The Genius Handheld XRF Analyser



Precious Metal RoHS Alloys/PMI Mining Soils & more

Super small,light,beautiful, safe, convenient,long standby time, waterproof, precise and fast

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 Press date:2011.7.26

The ISO 9001:2008 international quality certification system is adopted by our company



Genius XRF

Handheld Analyzer

The new generation Genius XRF series are designed to meet the needs of on-site X-ray analysis in the field in a wide range of applications. The Genius is small, light and well balanced with a newly designed easier to use user interface featuring more powerful hardware enabling faster testing with increased accuracy and precision than ever before with quicker and easier access to results. The new hardware configuration including the digital multi-channel technology significantly improve the detection limit, stability and increase its field application.

Performance Advantage

01 Perfect performance as desktop

The three main core technologies, low power integrated miniature X-ray tube, large area beryllium window electric cooling SDD detector (the best in the world) and the miniature digital signal multi-channel processor significantly reduce testing time and deviation and increase the detection precision to a level of performance similar to the desktop.

02 Small, light and easy to use

Small, light, easy to carry ... perfect for field work. Can carry out on-site and in-situ analysis anytime and anywhere.

03 Non-destructive detection

No marking or destruction of samples

04 Fast detection

Within a few seconds the Genius can test a sample and for example identify the grade of an alloy. However, testing for 10 seconds is enough to produce a result of similar in precision to a lab.

05 Light element detection

The Genius can ordinarily detect the light elements starting from Mg without the use of a gas purge. However, the Genius also incorporates a helium gas purge system to further improve detection should it be required.

06 HD camera for more accurate testing

Built-in HD camera as standard enabling easier sample alignment to the exact test point for increased precision.

07 Direct testing

The Genius can test objects directly with no need for sample preparation. Various kinds of samples can be tested including electronic products, alloys, geological and mining, soil, rock, residues, small solid particles, liquid sediments and so on.

08 Easy deviation calibration

Testing couldn't be more simple. With multiple testing modes, free adding of modes and the Automatic Matching Test function, tests can be carried out at the one click of a button or pull of the trigger. Also, built-in intensity calibration methods calibrate and take into account the deviation caused by different sample geometry and inhomogeneous structure density.

09 Professional, easy to use software

Brand new software interface and core designed for easier quicker operation and access to results. The combination of both FP and EC software means it is more stable and has wider applications fields than ever before.

10 Improved efficiency

Employing a combination of automatically selectable collimators with filters, the Genius has a wider range of collimator-filter combinations increasing its performance and widening its capability.

11 Faster data transmission

Incorporating a new Embedded Windows CE system, HD touch screen (res. 640x480), digital multi-channel technology and SPI data transmission, the data transmission and processing ability is significantly improved mastering testing data in every environment.

12 Radiation protection, care for health

Triple safety protection function and an automatic sensor automatically switch off X-ray production within 1-2 seconds when no sample is present, preventing accidental exposure. With no X-ray leakage when operating the radiation level is far lower than the international safety standard (can be combined with a desktop test stand with closable lid).

13 Last lasting power

Lithium ion batteries with maximum capacity of 7800 mAh can continuously operate for 8 hours, 2 times longer than previous generations. Equipped with a wide voltage ac and 12 V adapter and charger to ensure you can test anywhere anytime time.

14 Warning Indicators

Equipped with a light warning system, a green LED lights to indicate the power is on and a flashing red LED when testing to prevent mistaken operation and accidental exposure to X-rays.

15 Durable design

The instrument is designed to be waterproof and dust-proof and continuously operate under high temperature and humidity. The carry case is manufactured of high strength military grade material which are moisture-proof, shockproof and pressure resistant.



Applications

Metal & Alloy Testing

Within seconds quickly verify material type, quality and identify the grade of material

- Scrap metal recycling
- Positive material identification (PMI)
- Goods-in QA/QC
- Manufacturing QA/QC

RoHS, Toys and Consumer goods

With increasingly tighter control on standards of goods, determine products comply with regulations by measuring the content of hazardous elements like lead and cadmium down to parts per million level

- Toys
- Jewellery, ornaments
- Electronics & consumer goods
- RoHS compliance screening
- Packing materials

Mining Exploration & Mineral

Fast and accurate on-site analysis of mined, geological or ore samples

- Geochemical analysis
- Drill core and cuttings
- Grade control

Environmental Analysis

With the increase in focus on contamination prevention and remediation, the Genius can provide immediate on-site laboratory quality feedback

- Lead paint testing
- Soil and sediment
- Waste materials and sludge

Precious Metals

Very quickly quantify the exact content of precious metals in items and protecting your business against costly valuation mistakes

- Jewellery,
- Gold bars, gold dust
- Gold, silver, platinum, palladium

Additional Applications

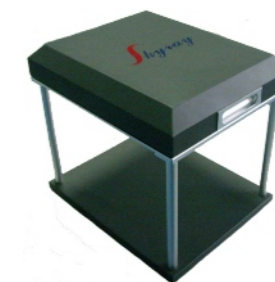
- Catalytic converters (precious metal analysis)
- Coating and plating thickness analysis
- Pigments
- Historical document verification
- Plating Solution Analysis
- Qualitative analysis

Optional Extras

Sample Cups

Test-Stand

Sturdy frame enabling the Genius to be quickly clipped into place providing a stable and safe platform for more routine and convenient testing of samples.

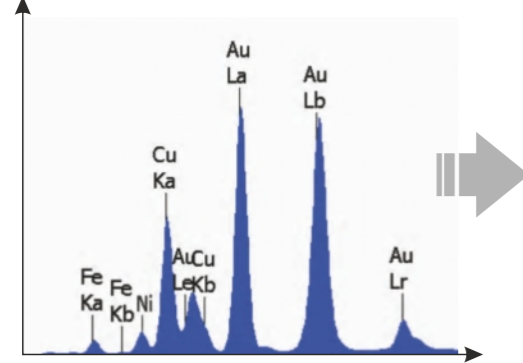


Analysis Advantage

Whether quantitative or qualitative is required, the Genius is accurate, precise and reliable.

Genius 1000 - Precious Metals Analysis

Spectral analysis

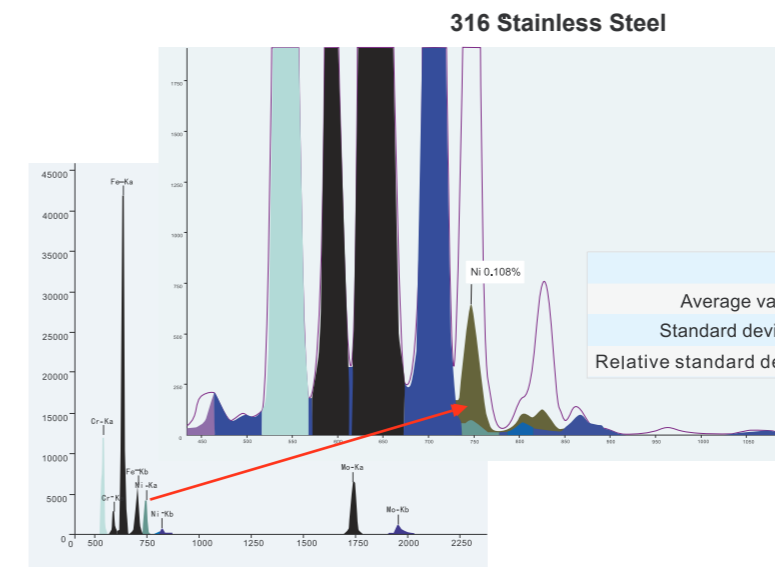


Element	Intensity	Content
Au	0.484258	74.492227
Cu	0.196015	15.420389
Ni	0.122583	6.225294
Fe	0.090834	1.902314
Zn	0.080972	1.535448
Ag	0.012456	0.316642

Major constituents of this jewellery are:
Au, Zn, Ni, Ag and Cu; Au content is 74.492%. 18k gold

Genius 5000 - Alloys Analysis

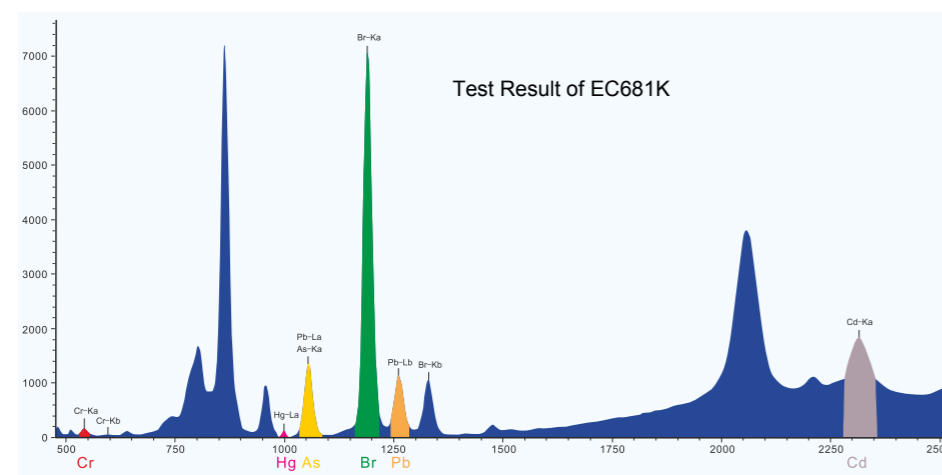
Spectral View for Qualitative Analysis



Measurement precision of the main elements in 304 stainless steel tested for just 10 seconds.

	Cr	Mn	Ni	Cu	Mo
Average value	18.232	0.926	8.072	1.236	0.288
Standard deviation	0.072	0.055	0.086	0.043	0.008
Relative standard deviation (%)	0.395	5.936	1.067	3.506	2.693

Genius 3000 - Hazardous Substance Testing

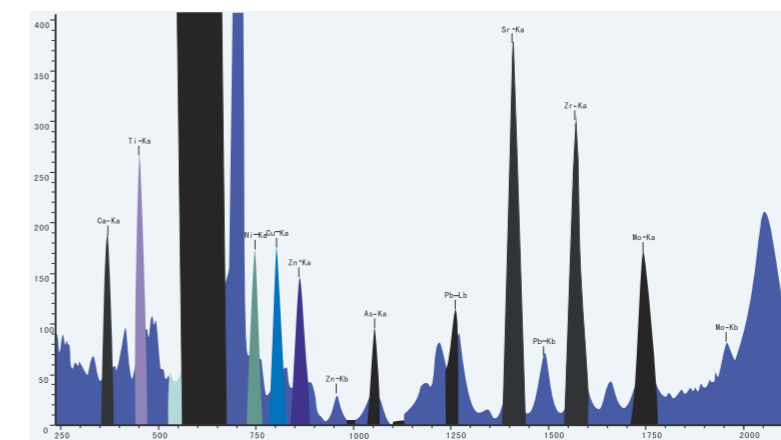


Test Result of EC681K

Content Unit	ppm	EC681K					
Number	Working Curve	As	Br	Cd	Cr	Hg	Pb
1	PE	30.5568	775.628	140.4	24.194	103.15	100.973
2	PE	30.4782	770.526	140.08	24.764	100.52	99.2205
3	PE	31.5777	766.347	135.44	24.294	98.674	102.973
4	PE	29.9576	769.997	136.38	25.216	100.2	100.845
5	PE	30.3706	769.872	133.74	24.216	101.08	102.973
6	PE	30.6149	771.922	134.2	23.975	100.79	103.976
7	PE	30.391	771.009	135.32	24.5	100.99	101.487
8	PE	30.3195	768.284	136.61	25.167	99.502	99.5987
9	PE	30.6208	769.656	135.56	24.196	103.65	97.705
10	PE	30.8942	768.275	133.53	24.699	98.026	103.761
True value		29.1	770	137	23.7	98	100
Average value		30.5781	770.152	136.13	24.522	100.66	101.351
Standard Deviation S _n		0.40532	2.363	2.2759	0.4059	1.6701	1.9819
Triple S _n Value		1.21595	7.08901	6.8276	1.2178	5.0104	5.94569
Range R _{ppm}		1.62	9.28	6.87	1.24	5.62	6.27
Relative Standard Deviation		1.33%	0.31%	1.67%	1.66%	1.66%	1.96%
Testing Deviation ε (%)		5.08%	0.02%	-0.64%	3.47%	2.71%	1.35%

Genius 7000 - Minerals Analysis

Spectrum of a polymetallic sample



Genius 9000 - Soils Analysis

Measuring precision of main elements in GBW07425 testing for 30 seconds

Sample	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Se	Sb	Hg	Pb	Cd
07425_1	3811	73	52	566	2.95	10	26	25	63	6	0	1	0	26	0
07425_2	4056	72	54	541	2.95	9	28	18	72	5	0	0	0	28	0
07425_3	3724	68	45	555	2.92	11	28	25	69	8	0	1	0	20	0
07425_4	3980	51	65	602	2.94	12	29	27	70	7	0	0	0	26	0
07425_5	4036	62	51	580	2.95	10	28	29	75	5	0	0	0	27	0
07425_6	4044	75	55	564	2.95	14	25	16	64	5	0	0	0	25	0
07425_7	3794	63	58	575	2.97	14	30	26	70	5	0	0	0	24	0
Average value	3939	65	55	570	3	12	28	24	70	6	0	0	0	25	0
Standard deviation	144	9	7	21	0	2	2	5	4	1	0	0	0	3	0
RSD/%	3.64	13.14	12.28	3.72	0.51	17.71	5.98	22.32	5.19	22.79	0.00	244.95	0.00	11.31	0.00