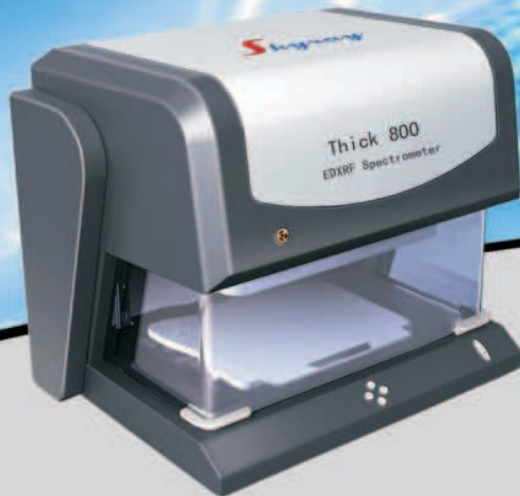


Thick 800

Plating Thickness Analysis Expert



Electro-plating → Ornament processing → Precious metal



Thick 800

X-ray Fluorescence Spectrometer



Plating Thickness Analysis Expert

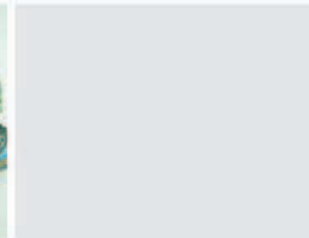
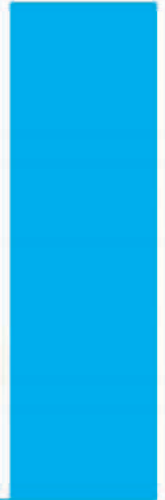
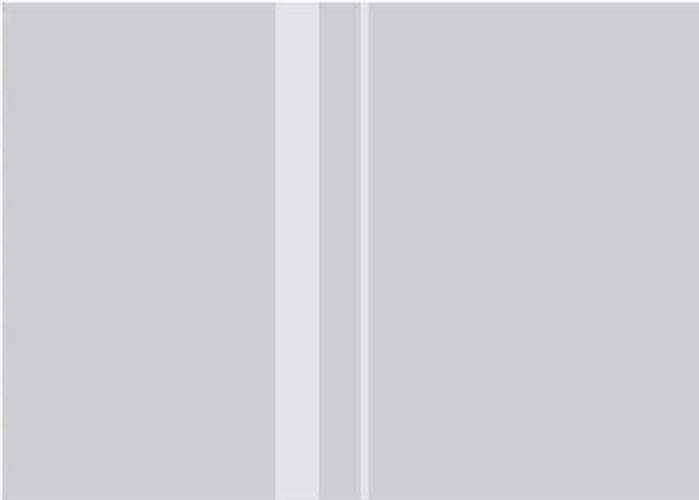
Skyray Instrument Inc. has dedicated 15 years to the development, production and sales of X-ray Fluorescence Spectrometers. Its products are widely used in fields such as plating thickness, precious metals (Au, Ag, Pt, Pd, etc), electronic and electric, cement, and steel industries. They are also applied in commodity inspection, scientific study, and RoHS detection.

Rapid Accurate Non-destructive

▶▶ Thick 800 is tailor-made for rapid and non-destructive detection of plating thickness and elemental content in large-size devices. Different from EDX600B, Thick 800 adopts the top lightening structure, 3-D movable sample platform and laser positioning system, which enables the possibility of the point-by-point detection of plating thickness and elemental content on large-size parts.

- ▶ Thick 800 is equipped with top lightening structure, 3-D movable sample platform, double-laser positioning system, and open sample chamber.
- ▶ The up-and-down movable glass shield cap helps prevent the leakage of X-rays.
- ▶ Thick 800 has the state-of-the-art outlook, structure and color design
- ▶ A set of functional software is also fully supplied.





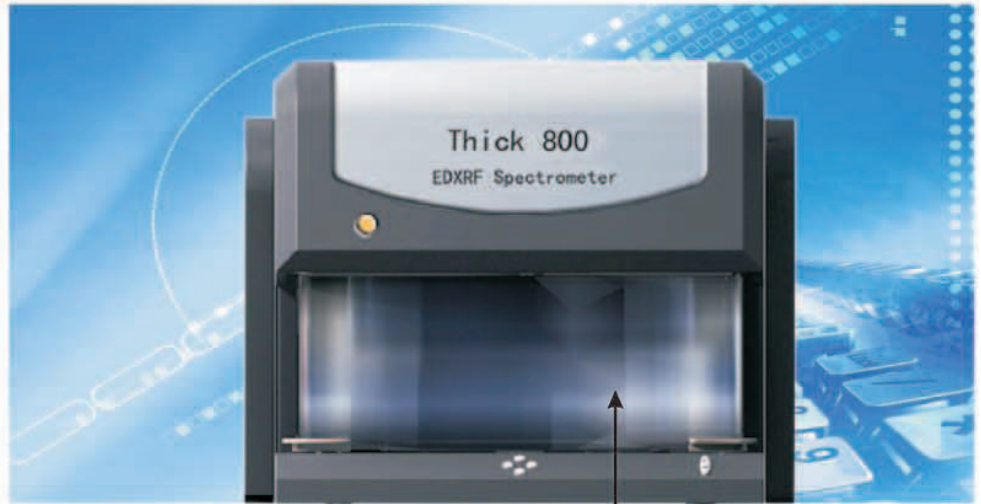
Application fields :

Electro-plating **Ornament processing** **Precious metal**

- ✓ Elemental content detection of precious metals like Au, Pt, Ag and ornaments
- ✓ Metal plating thickness analysis and elemental detection of plating and electroplating solution.
- ✓ Mainly used in precious metal, ornament processing, banks, ornament sale and detection, and electroplating industries.

Thick 800

X-ray Fluorescence Spectrometer



Up-and-down movable glass shield cap, preventing the leakage of X-rays



3-D movable sample platform and double-laser positioning system

Technical specifications:

- Analysis range: (K) ~ (U)
- Many layers can be analyzed at a time
- The detection limit of thickness can reach $0.01 \mu\text{m}$
- More than 5 plating layers can be analyzed simultaneously
- Independent matrix effect correction models: most advanced thickness analysis method
- Repeatability is up to $0.01 \mu\text{m}$
- Stability is lower than $0.1 \mu\text{m}$
- Ambient temperature: $15^{\circ}\text{C} \sim 30^{\circ}\text{C}$
- Input voltage: $220 \pm 5\text{V}/50\text{HZ}$ (AC purified regulation power supply is suggested)





Specific for plating thickness and elemental content detection of large-sized parts



Top lightening structure and open sample chamber.



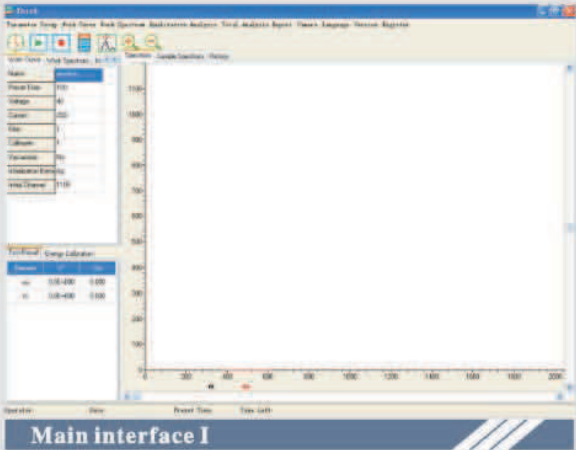
Configurations:

- ✔ Open sample chamber
- ✔ 3-D movement is realized by 2-D movable platform and up-and-down movement of detector and X-ray tube.
- ✔ Double-laser positioning system
- ✔ Automatic collimator switch
- ✔ Glass shield cap
- ✔ Proportional detector
- ✔ Electronic circuit for signal detection
- ✔ High and low voltage power supply
- ✔ Electro-cooling Si-PIN semiconductor detector instead of liquid nitrogen cooling one
- ✔ X-ray tube
- ✔ PC and ink-jet printer
- ✔ Area: 517mm X 352mm X 150mm
- ✔ Size: 648mm X 490mm X 544mm

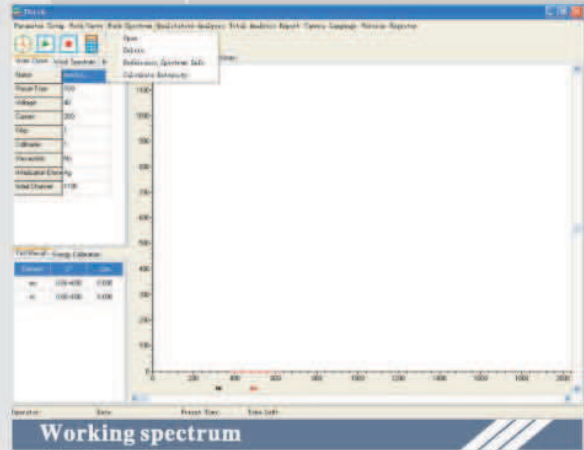




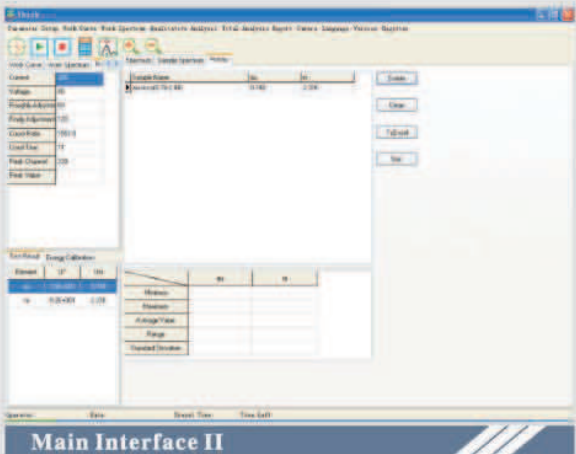
➔ Fully functional software



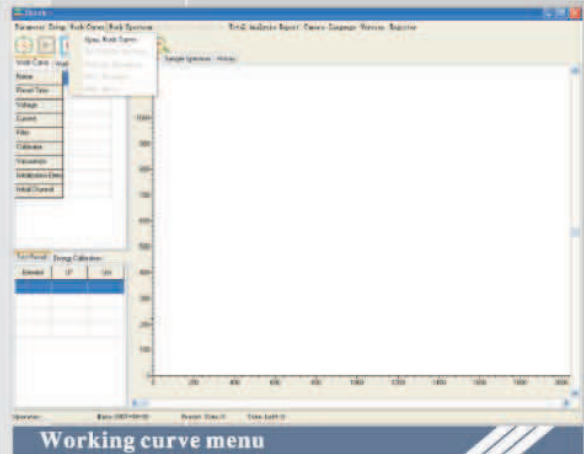
Main interface I



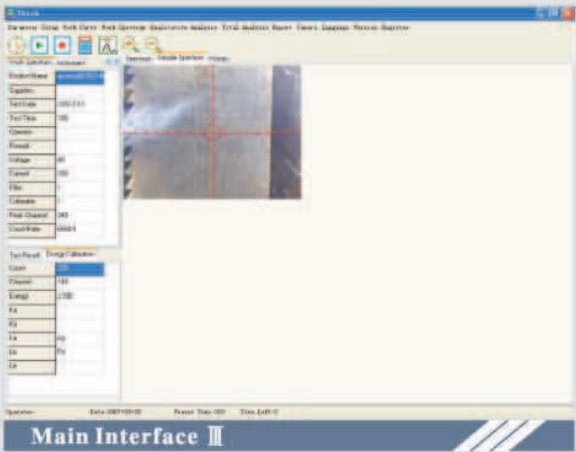
Working spectrum



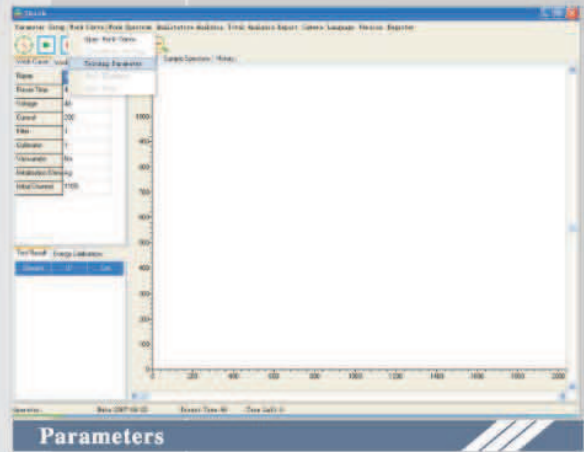
Main Interface II



Working curve menu

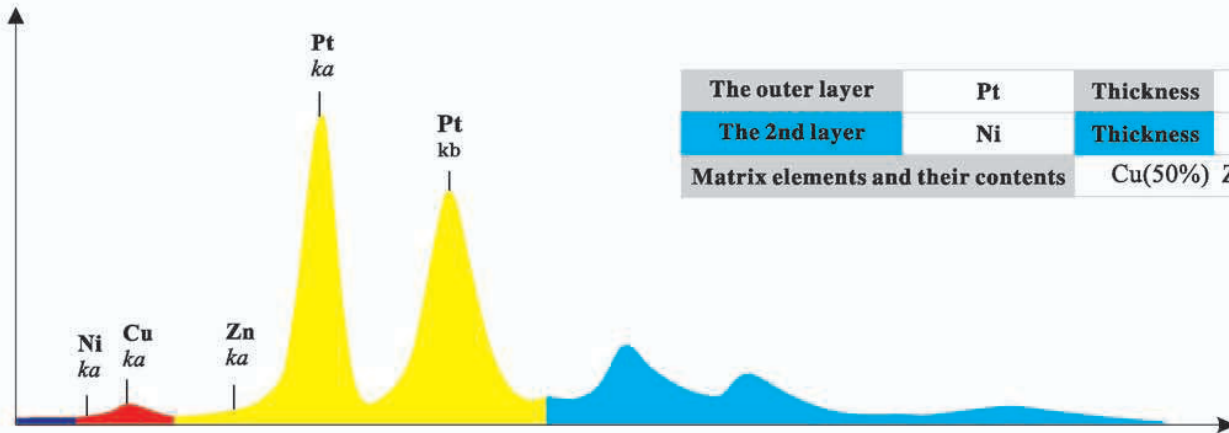


Main Interface III

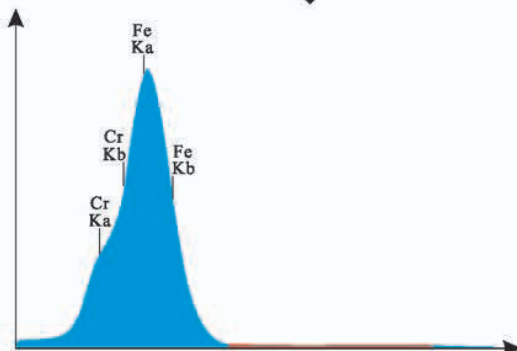
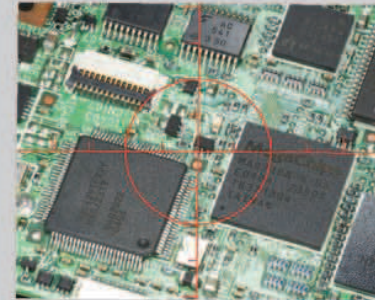


Parameters

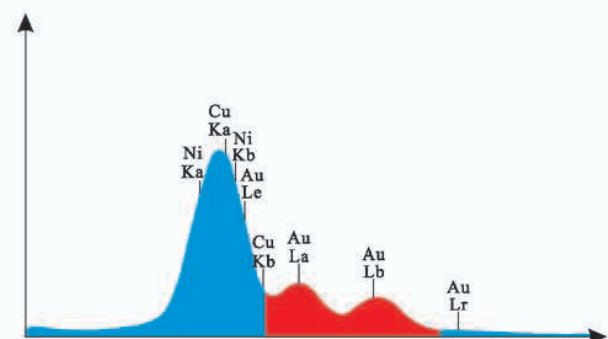
Example of plating test and its results



| | | | |
|------------------------------------|-----------------|-----------|--------------------|
| The outer layer | Pt | Thickness | 0.26 μm |
| The 2nd layer | Ni | Thickness | 4.71 μm |
| Matrix elements and their contents | Cu(50%) Zn(50%) | | |



Plating spectrum of watch crust



Plating spectrum of electronic industry

| | | | |
|---------------|----|-----------|--------------------|
| Matrix | Fe | | |
| The 1st layer | Cr | Thickness | 1.74 μm |

| | | | |
|--------------|-------------|--------------|-------------------|
| Tested parts | Watch crust | High voltage | 40 kV |
| Test time | 300s | Tube current | 500 μA |

| | | | |
|---------------|----|-----------|--------------------|
| Matrix | Cu | | |
| The 1st layer | Au | Thickness | 1.02 μm |
| The 1st layer | Ni | Thickness | 6.05 μm |

| | | | |
|--------------|----------------------|--------------|-------------------|
| Tested parts | Connected to plug-in | High voltage | 40 kV |
| Test time | 20s | Tube current | 500 μA |