

EDX3000 XRF

Software Manual

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- Part I Installation and Uninstallation
- Part II Functions and Operations
- Part III Calibration



Part I Installation and Uninstallation

1.1 Installation



1. Double click on the icon window.





2. Click *Next* to continue and choose an installation directory.

elect Destination Location		-
Where should EDXRF_USB_EN be i	nstalled?	
Setup will install EDXRF_US	SB_EN into the following fo	lder.
To continue, click Next. If you would	like to select a different fo	der, click Browse.
D:\Program Files\Skyray Instrument	Inc\EDXRF_USB_EN	Browse
At least 38.5 MB of free disk space is	required.	

3. Click *Next* to continue.

elect Start Menu Folder	
Where should Setup place the pl	rogram's shortcuts?
Setup will create the pro	ogram's shortcuts in the following Start Menu folder.
To continue, click Next. If you we	ould like to select a different folder, click Browse.
EDXRF_USB_EN	Browse

4. Click Next to create a desktop icon and a quick launch icon.

Setup - EDXRF_USB_EN		
Select Additional Tasks Which additional tasks should be perform	ned?	
Select the additional tasks you would like EDXRF_USB_EN, then click Next.	e Setup to perform while installing	
Additional icons:		
Create a desktop icon		
Create a Quick Launch icon		
	C Back Next >	Cancel
		Cancer

5. Click *Install* to continue with the installation.

Setup is now ready to begin installing t	DXRF_USB_EN on y	our computer.	(
Click Install to continue with the installa change any settings.	ation, or click Back if y	ou want to review or	
Destination location: D:\Program Files\Skyray Instrume Start Menu folder: EDXRF_USB_EN Additional tasks: Additional icons: Create a desktop icon	nt Inc\EDXRF_USB_I	EN	

6. Extracting files...



7. Choose an installation directory for the BDE.

e Borland Database Engine will ectory:	be installed/upgraded in	the following
\\Program Files\Common Files\B	orland Shared\BDE	Browse

8. Check Launch EDXRF_USB_EN and then click Finish to complete the installation.



1.2 Uninstallation

1. Find *EDXRF_USB_EN* from the *Start* menu in the lower left corner of the desktop, and then click *Uninstall EDXRF_USB_EN*, shown as below.



2. A message appears as below.

EDXRF_	USB_EN Uninstall
?	Are you sure you want to completely remove EDXRF_USB_EN and all of its components?
2	<u>Y</u> es <u>No</u>



3. Uninstalling...

型 EDXRF_USB_EN. doc - Microsoft	't Word	- 2 ×
: 文件 (E) 编辑 (E) 视图 (E) 插入 (E)	格式(四) 工具(四) 表格(A) 窗口(图) 帮助(图)	键入需要帮助的问题 · ×
	Image: Solution of the solution	
	Uninstaling EDXRF	
		a A A
6页 2节 8/39 位置:	2.5厘米 1 行 2 列 录制 修订 扩展 改写 英语(使国) 🛄 🔭	
11/1/26 🕑 🦉 🖸 🖓 👛 📢	Yindows Explorer 🔹 🌈 Delphi 7 🛛 🔮 用户手册 doc - M 🔮 EDKRF_USB_EN. doc 👘 Uninstall	🖮 🛛 🕻 📢 💆 🧐 16:12

4. Uninstallation succeeds.





Part II Functions and Operations



Double click on the icon EDXRF_USB_EN to

to present the main interface of the software.



2.1 Brief Introduction and Basic Operations

2.1.1 Menu Bar

The menu bar contains *Main, View, Curve, Spectrum, Report* and *Help.*
 Main
 <u>View</u>
 <u>Curve</u>
 Spectrum
 Report
 Help

2.1.1.1 Main

ain	
Setup I:	nstrumental Parameter
<u>O</u> ptimiz	ation
<u>C</u> olor S	etting
<u>P</u> reset (measurement time
Testing	organization <u>I</u> nformation
Tested	organization infor <u>M</u> ation
Log In	
Mo <u>d</u> ify 1	Password
Exit(x)	

1) Setup Instrumental Parameter: adjusts the instrument parameters.

© WindowsXP/2000	Rh is plating layer or not C Rh is allay element Image: C Rh is plating layer Image: D Rh is plating layer	
Choose EPP Address 378 278 278	Adjust CountRate C Do not adjust countrate Adjust countrate automatic 6000 3 %	Confirm
Voltage: 40 + F Current: 120 + T Amplification: 60 + (Amplification: 94 + (Adjust High Voltage Or Current Code JA G Adjust Voltage G Adjust current Roughly) G Amplification(Roughly) Fine)	Adjust

1. Voltage: controls the high voltage value (max. ≤ 50).

2.Current: controls the current of the x-ray tube (max. ≤ 1000).

3. Roughhly: adjusts the element peak on a large scale.

4. Fine: adjusts the element peak on a small scale. (Note: as magnification increases, the peak moves right; otherwise left)

5. Rh is plating layer or not: That Rh is plating layer means the plating layer of the sample is element Rh. On the contrary, *Not* indicates the sample contains element Rh.

6. Adjust CountRate: chooses whether to adjust count rate. If selected, the count rate will be adjusted according to the preset value automatically during testing. Set the adjustable range in the



back percentage box.

2) Preset MeasureMent Time: setup the sample measurement time.

Inpu	t Test Time:(0-99999)
100	Seconds

3) Testing Organizationinformation: types in the actual information of the organization who does this test.

Company	-		
company.	1		
Address:			
	-		
Telephone:	ļ		

4) Tested Organizatoninformation: types in the actual information of the organization whose sample will be tested.

Tested Organiza Testing Organization	tioninformat Tested Organize	tion		×
Company:				
		ок	Cancel	Modify

5) Color setting: setup colors.

Color Setting	X
Background color	
Spectrum color	
Rule color	
₩ <u>0</u> K	X Cancel

6) Log In: allows the user (includes User and Administrator) to log in.

.og In	Log In
User: User	User: 🛛 🗐 🗸
Password:	Password:
V OK X Cancel	V OK X Cancel

7) Modify Password





2.1.1.2 View



- 1) Hide ROI: hides or shows the selected region in the spectrum display area.
- 2) Hide PKL: hides or shows the peak labels in the spectrum display area.
- 3) Show Alynalysis Info: hides or shows the spectrum information in the spectrum display area.

2.1.1.3 Curve

rve	
<u>N</u> ew	
<u>O</u> pen	
<u>D</u> elete/r	ename
Interest	ing <u>E</u> lements
Edit E <u>f</u> f	ect Element
Edit <u>C</u> on	centration & Intensity
Display	<u>W</u> ork Curve
Set up <u>P</u>	KL.
Energy C	alibration
E <u>l</u> ement 3	Identification
Set up <u>R</u>	DI
Calculat	e Area of ROI

1) New: creates a new work curve simply by typing a name for the new curve and

then click OK.

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Name	Date
	2010-2-1
Descriptioin	

2) Open: opens an already existing work curve (highlight a curve and its corresponding interest elements will show in the table on the right).

ID	Name	Date	Describe	^	Eleme
155	Pt(Ornaments)	2004-12-19			Ni
157	Ag	2004-12-19			Cu
160	Au(Raw material)	2004-12-19			Zn
164	Pd(Raw material)	2006-1-11			Pd
165	Pd(Ornament)	2006-1-11			Ag
			>		Pt

3) Delete/rename:

delete: selects a curve and click *Delete* to remove it.

rename: double clicking on a curve name can modify the name.

ID	Name	Date	Describe	^	+: Delet
151	Au(K)	2004-12-19		8	- 10000
154	Pt(Raw material)	2004-12-19			
155	Pt(Ornaments)	2004-12-19		1	
157	Ag	2004-12-19			n Exit
160	Au(Raw material)	2004-12-19			
164	Pd(Raw material)	2006-1-11			
165	Pd(Ornament)	2006-1-11			

4)Interesting Elements: selects the elements we want to measure from the periodic table.

11	Mg 12		Int	ter	est	in	g E	lle	me	nt	s	Al 13	Si 14	Р 15	S 16	Cl 17	Ar 18
K 19	Ca 20	Sc 21	Ti 22	V 23	Cr .24	Mn 25	Fe 26	Co 27	Ni 28	Cu 29	Zn 30	Ga 31	Ge 32	As 33	Se 34	Br 35	Kr 36
RБ 37	Sr 38	Y 39	Zr 40	NЬ 41	Mo 42	Тс 43	Ru 44	Rh 45	Pd 46	Ag 47	Cd 48	ln 49	Sn 50	Sb 51	Te 52	1 53	Xe 54
Cs 55	Ba 56	×	Hf 72	Ta 73	W 74	Re 75	0s 76	lr 77	Pt 78	Au 79	Hg 80	TI 81	РЬ 82	Bi 83	Po 84	At 85	Bn 86
Fr 87	Ra 88	**				2					1844	¥					
							Se	lect	∋d		÷	N	ot S	elec	ted		
*	51-7 anth	1 an	La 57	Ce 58	Pr 59	Nd 60	Pm 61	Sm 62	ed Eu 63	Gd 64	Tb .65	Dy 66	ot Si Ho 67	elec Er 68	Tm 69	¥Ь 70	Lu 71

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5) Edit Effect Element: if there are elements interactions among the interest elements, check them out in the below window.

element)Ir 141	Cu	Zn	Fu	Ag	FL	re
Ni						
Cu						
Zn						
Pd						
Ag						
Pt						
	j,			J		>

6) Edit Concentration and Intensity: enters the content for each spectrum and the intensity will be calculated out automatically. (This will be used in making a



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curve and detailed in Part III Calibration.)

Jame	Efftect 🔼	SpecName	Content	Intensity	Select 🛆	
Cu		▶ pd05	97.85	4581.769	True	
Zn		pd07	92.36	4451.817	True	
Pd		pd08	90.1	4360.097	True	🛟 In
Ag	_	pd01	99.96	4661.276	True	
Pt		pd-pt20%	80	3632.83	True	
Fe		pd-fe	90	4360.047	True	
Co		pd-co	90	4360.047	True	
Rh		pd-ni	90	4360.047	True	±5D
Os		pd-zn	90	4360.047	True	
Ir		pd-ru	90	4360.047	True	
Ru		pd-rh	90	4360.047	True	
Au		pd-au	90	4360.047	True	
	~				~	

7) Display work Curve: displays work curve after the content entered. (detailed in Part III Calibration.)



8) Set up pkl: used to determine the locations of elements displayed in the spectrum. (detailed in Part III Calibration.)

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Peak element	[
Line Name	Ka	•

9) Energy Calibration: after peak identification, clicking this and moving the menu on spectrum will show element for the current channel.

10) Element Identification : views the display range of each element by pressing the Left/Right button.



11) Set up ROI: selects a region we are interested in from the spectrum display area. (Note: one more click on the highlight region will just complete the selection.)

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(1		
🗄 🖉 ED	XRF_Ana	alyser	EN																		
Main	⊻ie	w	Curv	re	Spec	trum		Repor	t	Help											
0	19 🖋	^ <u>∕</u> _ ₹⁄₂	nev Second		open ‡	€ 185		⊿⊾ =	9 Y	》登	۵	₽.	= 8::	9	督会	3 [» h ?	j i		
Θ	B		Pt	esetTi	ime 1	00 s													UsedT	ime	0 s
	· 🌃	-																			A
	· 🐹		1	N.																	A
Spec	trum El	ement	Ī		201			Į	Ag												
Ka	Ni			Spects	rum Gra	phic	Histo	ty													
Kb	Cu			-	1														Elemen		
La Lb Lr Le	Zn Ag Au			- 30000_ - -															KaKEV: KbKEV: LaKEV: LbKEV:		
CurNa	me Aur		-																		
CurTy	_{pe} Inser	2 L		-																	
Ready	True			-																	
Channe	1 1032																				
Energy	-39.84	1200			-																
Elemer	ut 220			10000_				8													
	,					1050			T 1100' '	111	111	50' ' '	111	' l ₁₂₀	9 , ,	<u></u>	· · / 125	so' ' '	1	' ₁₃₀	6 -
SKE T	States -	12 1 11	12 14	•																	

12) Calculate Area of ROI: click this to display the area of the interest region we built, shown as below.



2.1.1.4 Spectrum

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pe	ctrum
100	ave
ç)pen
Ī	<u>]</u> elete
ł	verage option
2	qualitative analyse
(<u>u</u> alitative analyse parameter
Ģ	Quali <u>t</u> ative report
2	Sa <u>v</u> e Graphic
Ī	og Spectrum
2	Spectrum In <u>f</u> ormation
0	Calculate <u>I</u> ntensity
F	Reference Spectrum <u>1</u>
F	Reference Spectrum <u>2</u>

- $1)\$ Save: saves the spectrum of the sample that has been tested.
- 2) Open: opens a saved sample spectrum.
- 3) Delete: deletes a saved sample spectrum.

4) Qualitative analyse Parameter: changes the number of qualitatively analysed elements in the display area by adjusting this parameter.

Qualitativ	e analyse parameter	
peak width		15
peak high	IJ	13
Peak/Back	Г	1.3
peak offset		10
🔽 Peak Exclud	e	
	OK Defau	lt

5) qualitative analyse result: lists the elements already qualitatively analysed.

qualitativ	ve analyse re	esult 🛛
Element	LineType	
Ag	K	
In	К	
J		

6) Save Graphic: saves a sample spectrum graphic.

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7) Log Spectrum: displays the spectrum after logarithm.

8) Spectrum Information: displays such information on the current spectrum as name, voltage, and current.

Items\Spectrum	Spectrum Now	
Name	test	
Voltage	40	
Current	120	
TubeMode	0	
UsedTime	10	
Date	2010-2-1	

9) Calculate Intensity: click this to let the current spectrum involved in the work curve production.

10) Reference Spectrum1/Reference Spectrum2: adds the first/second virtual spectrum.

2.1.1.5 Report

ports	
Setup	printer parameter
Print	Spectrum
Repor	t <u>C</u> ontent
<u>V</u> ideo	Source
Video	Format

- 1) Setup printer parameter: makes settings about the printer
- 2) Print Spectrum: prints the current spectrum.
- 3) Report Content: prints the current measurement result.
- 4) Video Source: makes basic settings about video source.

 Automatic Gain Control 	
Exposure:	1/30 [s]
<u>G</u> ain:	
Imag <mark>e</mark> Mirror	
Mirror <u>H</u> orizontal	
Mirror <u>V</u> ertical	
Anti Flicker	Image Enhancement
⊂ <u>O</u> ff	✓ Low Light Boost
C 50 Hz (European)	
<u>60 Hz (North America)</u>	I <u>C</u> olor Boost

5) Video Source: scale the view size of the sample.

Resolution	Pixel D	epth (bits) and	Compression	Size (bytes)
- 32	20 x 240		RGB 24	230400

2.1.1.6 Help



1) About



2.1.2 Tool Bar

ØØ% ½½ 🕎 🗒 🗒 🗰 📨 🗛 🖼 🌾 🖄 🕼 🌘 🏠 📓 🖉 🖉 👘



²² The information on the testing and tested organizations.

Show/Hide Interest Area: shows or hides the selected area in spectrum display area.

🥍 Show/Hide Peak Label: shows or hides the peak labels in spectrum display area.

Shows or hides the spectrum analysis information.

🞽 New Work Curve: builds a new work curve.

ች Delete Work Curve: deletes or modify an already existing work curve.

• Open Work Curve: opens an already existing work curve.

Edit Interest Element: selects the element to be analysed from the periodic table.

Edit Content and Intensity: edits the concentration and intensity for the interest elements.

🖾 Display Work Curve: displays the current work curve.



Peak Lable: identifies peaks for the elements.

Energy Calibration: after peak identification, click on this to establish energy calibration.

Save Spectrum: saves the spectrum of the sample already anlysed.



Delete Spectrum: deletes a saved sample spectrum.

Open Spectrum: opens a saved sample spectrum.

Intensity Calculation: lets the current spectrum involved in work curve

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Pause/Continue: applicable only during testing. (It indicates Pause when testing and can be pressed to pause the measurement, and one more press to continue the testing.)

2.1.3 Measurement Information Column

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Spectr	um Element	Spectr	um Element
Name	test	Ka	
Date	2010-2-1	Kb	
Time	10	La	
TT - 14	40	Lb	
VOID	40	Lr	
Current	83	Le	
CurName	test	CurName	test
CurType	Linear	CurType	Linear
Ready	False	Ready	False
Channel	18	Channel	70
Energy	557.95000	Energy	461.70000
Element	0	Element	21

Spectrum: the information on the current spectral line, such as Name, Date, Time, Voltage, Current, and etc..

CurName: the name of the current curve.

CurType: The type selected when the curve being built.

Ready: judges whether the curve is completed. If not, *False* will be displayed. Energy: displays the real-time channel numbers when the cursor moving on the spectrum graphic.



2.1.4 Spectrum Graphic



2.1.5 Sample View



2.2 Measurement Procedure

1. Check the connections of the line power cord and data lines before power on the instrument.

2. Preheat must be carried out every day after the instrument turned on for about 30 minutes. How to preheat: place an iron sheet in the sample chamber, and then click *Start*.

3. The sample measurement can start after preheat.

First, build a new curve or open an existing one. (Note: New curve procedure will be detailed in Part III Calibration.)

ID	Name	Date	Describe	^	Eleme	nt
154	Pt(Raw material)	2004-12-19			▶ Ni	
155	Pt(Ornaments)	2004-12-19			Cu	1
157	Ag	2004-12-19			Zn	
160	Au(Raw material)	2004-12-19			Ag	
164	Pd(Raw material)	2006-1-11		-		
•)	🗈 Open		≥ ? H	[elp		

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Date	2010.2.1
-	2010-2-1
-	
	-1

Enter the name and measurement times (can test several times), and then click OK.

E EDXR	F Analyser	
Main	View	Curve Spectrum Report Help
 	- % */4 =/4	
Θ	· 🖹	Fresetime to s
•	•	
•	· 🜌	
Spectru	um Element	Ag
Ka	Ni 📐	Spectrum Graphic History
Kb	Cu	
La	Zn	30000
Lb I+	Ag	Aa
Le		
CurNama		
CurTurne	Insert	
Ready	True	
Channel	1014	
Energy	-52.73700	
Element	173	
al de		

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After the measurement completed, click the button 🔳 on the left to display the *Result* window.

🛄 Result				
Sample Name test		□ Weight g		
Element	content	Print sample graphic		
Nickel	16.017	Print spectrum graphic		
Copper	20.097	Save report to file		
Zinc	10.406	Save Report		
Silver	53.480			
		Print Report		
		<u>✓ 0</u> K		
✓ Karat		X Cancel		

There are two report saving forms: Save Report and Print Report. Save Report: saves the report in the form of Excel file.



Print Report: prints out the report via a printer.



Part III Calibration

3.1 New Work Curve

Clicking *New* from the *Curve* menu opens the *New Work Curve* dialog box. Enter a name for the new curve to be built and click OK.

Hein	RF_Analyser	EN Curve	Spectrum	Report	Help
	21 en 20 % *A */s . B	<u>N</u> ew <u>O</u> pen <u>D</u> elete	/rename	<u>R</u> eport	A A
-		Intere Edit H Edit Q Displa	esting <u>E</u> lements Iffect Element Concentration & ay <u>W</u> ork Curve	Intensity	
Spect Name Date	rum Element	Set up Energy E <u>l</u> emer) <u>P</u> KL / Calibration nt Identificatio	'n	
Time Volt		Set up C <u>a</u> lcul) <u>R</u> OI Late Area of ROI		
Net	v Vork Curv	e			X
	Name	1	Date 2010-2-1		
	Descriptioi	1		-	

3.2 Instrument Configuration

VOK

Click *Setup Instrumental Parameter* from *Main* menu to setup parameters for the new curve.

X Cancel

? Help

Main	⊻iew	<u>C</u> urve	Spectrum	<u>R</u> eport	Help
Setup	Instrument	al Parameter	# 38 M	4 -3	1 1
<u>O</u> ptim	nization				1
Color	Setting		USI		
<u>P</u> rese	t measuremen	nt time			
Testi	ng organiza	tion <u>I</u> nformati	ion		
Teste	d organizat:	ion infor <u>M</u> atio	on		
Log I	n				
Mo <u>d</u> if	y Password		mbic U.	t ours l	
0.856	999) 1999			story	

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Adjust High Voltage Or	Current Code
Select System C Windows98/Me © WindowsXP/2000	Rh is plating layer or not C Rh is allay element Image: Second state st
Choose EPP Address • 378 C 278	Adjust CountRate C Do not adjust countrate Adjust countrate automatic 6000 3 % Confirm
Voltage: 40 + KV Current: 120 + UA Amplification: 60 + (Re	Adjust High Voltage Or Current Code Adjust Voltage Adjust current Oughly) Amplification(Roughly) Amplification(Asympto)
Amplification: 120 (Fi	Adjust

Click Adjust to apply the changes before Exit.

If necessary, click Optimization from Main menu to setup the optimization values, shown as below.

E	Opti	mizatio	n							\mathbf{X}
	No	Dec	Au01	Au02	Au03	Au04	Au05	Au06	Au07	^
	11	cont	0	0	0	0	0	0	0	
	22	size	0	0	0	0	0	0	0	
<))))))		🗸 ок				X Cancel]	>	×



3.3 Interest Element Editing

Main	<u>⊻</u> iew	Curve	Spectrum	<u>R</u> eport	Help
0 8	0 🐕 🖌	<u>N</u> ew			1 🏠 👔
Ø	· 🖹	<u>D</u> elete	/rename		
	F.F.	Intere	sting <u>E</u> lements		
78		Edit E	<u>f</u> fect Element		
- E	· 😿	Edit C	oncentration &	Intensity	
		Displa	y <u>W</u> ork Curve		
Spect	rum Element	Set up	<u>P</u> KL		
Name	Ag	Energy	Calibration		
Date	2010-2-1	Elemen	t Identificatio	n	_
Time	10	Set up	ROI		
Volt	40	Calcul	ate Area of ROI		

Click Interesting Elements from the Curve menu.

Then Choose Interesting Elements dialog box appears, shown as below.



Choose interest elements from the periodic table.



3.4 Parameters Setting-up and Spectrum Scanning

Setup the measurement date, place the standard sample of pure element, click on the *Start* button, and then input a valid sample name.

Please input the na	me of new sample in the container.
Name	Date 2010-2-1
Description	
Times 1	





3.5 Peak Identification and Energy Calibration

Open the virtual spectrum of Ag. Click *Set up PKL* from the *Curve* menu. Right click on the highest position of the Ka peak to display the *Build Peak Label* dialog box, in which enters the name for the peak label.

Peak element	Γ
Line Name	Ka 🔹

Click OK to present the following window.

EDER.	F_Analyser_El	N 🗖 🗖 🔀
Main	<u>V</u> iew <u>C</u> u	urve <u>S</u> pectrum <u>R</u> eport <u>H</u> elp
0 D	🧏 🖌 🔢	25 25 25 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Θ	· 🕒	PresetTime 10 s UsedTime 10 s
. 🏤		
•	· 💹	
Spectru	um Element	Ag
Ka	Ag 📐	Spectrum Graphic History
Kb	Os	
La	Ir	
Lb	Pt	
Lr	Au	
CurName	Pd(Raw material)	
CurType	Insert	
Ready	True	
Channel	1304	
Energy	258.35000	
Element	12	
1		
	E State	
	$+ \oplus + + + + + + + + + + + + + + + + + +$	

To identify peaks for the other elements in the same way.



3.6 Intensity Calculation Methods and Boundaries Definition

Spect	rum E	lement	
Ka	Ni	~	
Kb	Cu		
La	Zn	1000	
Lb	Ag		
Lr			
Le		~	

In the interest element editing area, right click on the first element Ni to display the following options.



Click Intensity Calculate Methods.

 Multi-element spectrum fitting
⊂ Pure-element specgtrum fitting
Pure <u>S</u> pectrum

Click OK. Specify the intensity calculation methods for the other elements in the same way. After that, define the left and right boundaries for each element. Steps:



Clicking *Reference Spectrum 1* from the *Spectrum* menu presents the following dialog box. Choose the pure spectrum of the element to be boundary defined, and then click

Name	Date	Property	Description	
au14	2007-4-3	H		
au17	2007-4-3	H		
au20	2007-4-3	H		
au21	2007-4-3	H		
au23	2007-4-3	H		
au24	2007-4-3	H		
blank	2010-2-1			
cu	2007-4-2	H		
fe	2007-4-2	H		
ni	2007-4-2	H		
pd	2007-4-2	H		

Right click on the spectrum graphic and then select Unlock spec12 from the drop-down menu

presented.

OK.



Then move the selected area in the small spectrum graphic area.



Define the boundaries according to the peak of the pure spectrum. In the interest element editing area, right click on the first element and then choose Peak Left/Right from the options.



Move the mouse in the spectrum graphic area to define the left and right boundaries. Define boundaries for all the interest elements.

1. EDXR	F_Analyser_E		×
Main	<u>V</u> iew <u>C</u>	urve <u>S</u> pectrum <u>R</u> eport <u>H</u> elp	
09	MA 1/2	1997 1999 1997 1997 1997 1997 1997 1997	
0		PresetTime 10 s UsedTime 10	s
· 🔳			
Spectru	um Element	Cu Pt	
Ka	Ni 🔼 Cu	Spectrum Graphic History	
Kb	Cu Ag		
La	Zn		
L0 Ir	Ag	33000_	
Le			
CurName	Ag		
CurType	Insert		
Ready	False	22000	
Channel	462		
Energy	-36.39900		
Element	2		
	-	NIP NIP 0 	



3.7 Spectrum Analysis Information

Right click on the interest element area and then select *Show Spetrum Analyze* to present *Spectrum Analysis Information* window.

Spect	rum Element	
Ka	Ni 🔨 Cu Sr	oectrum Graphic
Къ	🗌 🚺 Intensity Calcu	late <u>M</u> ethods
La	Peak Left/Right	
Lb	Back Left/Right	
Lr	<u> </u>	ght
I.e.	Spectrum <u>A</u> nalyz	e
Le	Show Spetrum An	alyze

	Element F	eakLeft	PeakRight	Peak/Ba	k BkLeft	BkRight	RLeft	RRight	Mode	FitSpe	c 🔥
•	Ni	367	389	False	-1	-1	366	394	Many Sp	ec	
ĺ	Cu	395	423	False	-1	-1	395	423	Many Sp	ec	
	Zn	424	452	False	-1	-1	424	452	Many Sp	ec	
	Ag	1084	1126	False	-1	-1	1084	1126	Spec Fi	t A	g 🗸 🗸
											>
	CurveID	MainE	1em FitE1e	ment	RLeft	RRight	BLeft	Bright	IsPB	Date	~
	157	Ni	C	u	395	423	-1	-1	False		
	157	Ni	A	g	1084	1126	-1	-1	False		-
			- W	40 V.							~
	CurveID	MainE	lem FitEle	ment	RLeft	RRight	BLeft	Bright	IsPB	Date	
	CurveID 151	MainE Ni	lem FitEle C	ment u	RLeft 395	RRight 423	BLeft -1	Bright -1	IsPB False	Date	
	CurveID 151 151	MainE Ni Ni	lem FitEle C A	ment u u	RLeft 395 475	RRight 423 595	BLeft -1 -1	Bright -1 -1	IsPB False False	Date	
	CurveID 151 151 151	MainE Ni Ni Cu	lem FitEle C A	ment u u u	RLeft 395 475 366	RRight 423 595 394	BLeft -1 -1 -1	Bright -1 -1 -1	IsPB False False False	Date	

Intensity Calculation Method:

1) For Net area or Gross area method, RLeft and RRight remain -1.

2) For Multi-element spectrum fitting method, RLeft and RRight are respectively their PeakLeft and PeakRight.

	PeakLeft	PeakRight	Peak/Back	BkLeft	BkRight	RLeft	RRight	Mode	FitSpec	1
Mi	367	389	False	-1	-1	367	389	Many Sp	ec	
Cu	395	423	False	-1	-1	395	423	Many Sp	ec	
Zn	424	452	False	-1	-1	424	452	Many Sp	ec	
Ag	1084	1126	False	-1	-1	1084	1126	Spec Fit	Ag	
									1	>
Curve	ID MainI	lem FitEle	ment R	Left	RRight	BLeft	Bright	IsPB	Date	
157	Ci	ı N	i 3	66	394	-1	-1	False		8
157	Cu	ı Z	n 4	24 🛛 🛛	52	-1	-1	False		-
										1
Curve	ID Main	lem FitEle	ment R	Left	RRight	BLeft	Bright	IsPB	Date	
	Cı	ı N	ii 3	66	394	-1	-1	False		
157	Cu	ı Z	n 4	24	452	-1	-1	False		
157 157	10 SURE 13		g 10)84	1126	-1	-1	False		
157 157 157	Ci	i A	0		1.000	20	3333	0.0000000000000000000000000000000000000		

3.8 Involve in Intensity Calculation

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According to the curve to be built, open the corresponding sample spectra which will be involved in the calculation. Select Calculate Intensity from the Spectrum menu to open the following window, and then click Join Work Curve. No less than 2 sample spectra should be involved.

1120		
Element	Intensity	Join Work Curve
Ni	5.500	
Cu	90.855	🗙 Exit
Zn	186.238	
Ag	504.610	

3.9 Edit Content and Intensity

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Clicking *Edit Content &Intensity* from the Curve menu presents the following screen.

Ed	it Conte	ent and	Intens	sity				
				* Double	click one line to	change chose	en status.	
Π	Name	Efftect	<u> </u>	SpecName	Content	Intensity	Select	
Þ	Ni			bd-d2	S.	1.127	True	
	Cu			ag01		0	True	
	Zn			ag05		1.946	True	才 Insert
	Ag			ag07		0	True	
				ag08		4.896	True	
				ag10		10.824	True	
				ag11		0	True	
				ag13		49.688	True	+ Delete
				00		2.143	True	
<		d	××				>	
				OK		? Help		

Enter the concentration value (*Content*) for each interest element of the standard sample.

If some interest elements are not included in the standard sample, set their *Content*

to 0.

Name	Efftect	^	SpecName	Content	Intensity	Select	
Ni			bd-d2	0	1.127	True	
Cu			ag01	0	0	True	
Zn		Ĩ	ag05	ol	1.946	True	‡ ∑Inse
Ag			ag07		0	True	
			ag08		4.896	True	
			ag10		10.824	True	
			ag11		0	True	
			ag13		49.688	True 🔜	+ Dele
			00		2.143	True	
	>	~ ~				×	

lit Conte	ent and I	Intens	ity				
			* Double	click one line to	change chose	en status.	
Name	Efftect		SpecName	Content	Intensity	Select	
Ni		-	bd-d2	92.227	4147.46	True	
Cu			ag01	99.96	4405.302	True	
Zn			ag05	97.85	4381.831	True	⊅ Inser
Ag			ag07	92.36	4451.279	True	
			ag08	90.1	4360.102	True	
			ag10	80.27	3959.91	True	
			ag11	74.9	4071.323	True	
			ag13	55.63	3174.846	True	+: Delet
			00	90.22	4335.956	True	- 10 000
		~	No.			×	
	0					>	
		-	OK	1	? Help		

3.10 Display Work Curve

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Click Display Work Curve from the Curve menu, and then select Insert from Curve Type and element from *Element to be normalized*.





Select an element from the work curve display column, then the corresponding work curve will be displayed on the right. (Note: all the cures tend on the rise.) If the curve between the midpoint and other point presents a downward trend, you need to check if there is any error in editing of concentration and intensity, selection of curve type and normalization element, or omission of concentration and intensity of any element.



Lastly, click OK to finish the calibration.

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