

CERERE DE PARTICIPARE

Către Administrația Națională a Penitenciarelor, mun. Chișinău, str. Nicolae Titulescu 35, MD-2032

Stimați domni,

Ca urmare a anunțului/invitației de participare/de preselecție apărut în Buletinul achizițiilor publice și/sau Jurnalul Oficial al Uniunii Europene, nr. ocds-b3wdp1-MD-1754811042445 din 02/09/2025 (ziua/luna/anul), privind aplicarea procedurii pentru atribuirea contractului Scanner pentru bagaje, (denumirea contractului de achiziție publică), noi „Eximotor SA” (denumirea/numele ofertantului/candidatului), am luat cunoștință de condițiile și de cerințele expuse în documentația de atribuire și exprimăm prin prezenta interesul de a participa, în calitate de ofertant/candidat, neavând obiecții la documentația de atribuire.

Data completării 02.09.2025 Cu stimă,

Ofertant/candidat

(semnătura autorizată)



DECLARAȚIE
privind valabilitatea ofertei

Către Administrația Națională a Penitenciarelor, mun. Chișinău, str. Nicolae Titulescu 35, MD-
2032

Stimați domni,

Ne angajăm să menținem oferta valabilă, privind achiziționarea Scanner pentru bagaje, prin procedura de achiziție **Licitatie deschisă**, pentru o durată de 90 (nouăzeci) zile, (durata în litere și cifre), respectiv până la data de 10.12.2025 (ziua/luna/anul), și ea va rămâne obligatorie pentru noi și poate fi acceptată oricând înainte de expirarea perioadei de valabilitate.

Data completării 02.09.2025 Cu stimă,

Ofertant/candidat

(semnătura autorizată)





BANCA:

BC „MAIB” S.A.,
str. 31 august 1989, 127, mun. Chișinău, MD-2012, Republica Moldova
codul fiscal 1002600003778

SCRISOARE DE GARANȚIE BANCARĂ

pentru participare cu ofertă la procedura de atribuire a contractului de achiziție publică
nr. LD2524100178 din 29 august 2025

Către **Administrația Națională a Penitenciarelor**, cu sediul în MD-2032, Republica Moldova, mun. Chișinău, str. Nicolae Titulescu nr. 35, codul fiscal 1006601001012 cu privire la procedura de atribuire a contractului privind Achiziționarea Scanner pentru bagaje, licitația publică nr. ocds-b3wdp1-MD-1754811042445 din 02 septembrie 2025.

Subsemnata **BC „MAIB” S.A.**, cu sediul în mun. Chișinău, MD-2012, str. 31 august 1989, 127, codul fiscal 1002600003778 ne obligăm față de **Administrația Națională a Penitenciarelor**, să plătim suma de **9 000,00 MDL (nouă mii lei 00 bani)**, la prima sa cerere scrisă și fără ca acesta să aibă obligația de a-și motiva cererea respectivă, cu condiția, ca în cererea sa autoritatea contractantă să specifice că suma cerută de ea și datorată ei este din cauza existenței uneia sau mai multora dintre situațiile următoare:

1. Ofertantul **“Eximotor” S.A.** codul fiscal 1002600034712, își retrace sau modifică oferta în perioada de valabilitate a acesteia;
Prezenta ofertă rămâne valabilă pentru perioada de timp specificată în Anexa nr. 2 Anunțul de Participare, începând cu data-limită pentru depunerea ofertei, în conformitate cu Anexa nr. 2 Anunțul de Participare, și rămâne obligatorie și poate fi acceptată în orice moment până la expirarea acestei perioade;
2. Oferta sa fiind stabilită câștigătoare, ofertantul **“Eximotor” S.A.**, nu a constituit garanția de bună execuție;
3. Oferta sa fiind stabilită câștigătoare, ofertantul **“Eximotor” S.A.** a refuzat să semneze contractul de achiziție publică de bunuri/servicii;
4. nu se execută vreo condiție, specificată în documentația de atribuire înainte de semnarea contractului de achiziție publică de bunuri/servicii.

Orice litigiu apărut pe parcursul realizării prezentei garanții va fi soluționat pe calea negocierilor. În cazul când părțile nu vor soluționa litigiile apărute prin negocieri, acestea vor fi soluționate în conformitate cu legislația Republicii Moldova.

Prezenta garanție intră în vigoare la data de **02 septembrie 2025** și este valabilă până la data de **10 decembrie 2025** inclusiv.

Digitally signed by Bivol Ghenadie
Date: 2025.08.29 14:09:53 EEST
Reason: MoldSign Signature
Location: Moldova

MOLDOVA EUROPEANĂ



Ghenadie Bivol,

Director Relații Clienți Corporativi
BC “MAIB” S.A.

Emiterea prezentei Garanții poate
fi verificată pe pagina web a băncii www.maib.md,
compartimentul Garanții bancare



I. Specificații tehnice

Numărul procedurii de achiziție nr. ocds-b3wdp1-MD-1754811042445 din 02.09.2025

Obiectul achiziției: **Scanner pentru bagaje**

Denumirea bunurilor/serviciilor	Denumirea modelului bunului/serviciului	Țara de origine	Produ-cătorul	Specificarea tehnică deplină solicitată de către autoritatea contractantă	Specificarea tehnică deplină propusă de către ofertant	Standar de referință
1	2	3	4	5	6	7
Bunuri/servicii						
Lot. 5						
Scanner pentru bagaje	Scanner pentru bagaje CX6040BC	China	NUCTECH Company Limited,	Conform caietului de sarcini	- Principiu de lucru: cu raze x; - în set cu: 2 mese cu role cu lungimea de 40-60 cm pentru atașare la intrare și ieșire în/ din camera tunelului; monitor LCD cu dimensiuni de 19-24 inch și rezoluție de 1920x1080; sursă de alimentare de rezervă; AI software; - putere generator: 140-180 kV; - modalitate de răcire a generatorului: cu ulei dielectric, cu aer forțat; - nivel admisibil al scurgerilor de radiații în afara instalației: nu mai mult de 0.1 mR/oră; - penetrare oțel: 38 mm; - dimensiuni tunel: 61 cm x 42 cm; - dimensiuni totale: lungime 166 cm, lățime 80 cm, înălțime (fără monitor) 129 cm; - direcție mișcare bandă transportatoare: bidirecțională, cu viteză de 20 cm/s;	



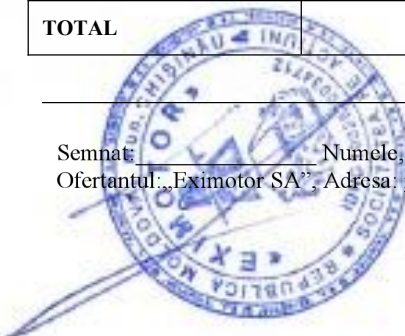


"EXIMOTOR" SA

Rețea de magazine auto

					- greutate maximală admisă pe banda transportatoare: 160 kg; - funcțional: imagine în cel puțin 3 culori, alb și negru, organic/ neorganic, pseudo color, monocrom reversibil, număr atomic al materialului, îmbunătățire calitate imagine, manipulare cu imaginea în timp real, arhivare automată a imaginii, salvare imagine, diagnosticare în timp real, contorizare număr bagaje, mărire imagine cu 64x, scanare continua, detectare cu utilizarea AI; - butoane E-Stop incastrate în carcasă; - cu posibilitatea conectării prin rețea; - sistem de operare: Windows/ Linux; - limbaj configurare/ operare: multilingv (engleza – obligatoriu); - alimentare: 100–240 VAC (-15% ~ +10%), 50/60 Hz ±3 Hz; consum 0,8 kVA; - greutate: 360 kg; - temperatură de lucru: 0 C° + 40 C°; - termen de garanție: 24 luni.	
TOTAL						

Semnat: _____ Numele, Prenumele: Socolova Natalia În calitate de: Director
Ofertantul: „Eximotor SA”; Adresa: mun. Chișinău, str. Albișoara 38A, MD2005



Adresa juridică: RM, mun. Chișinău, MD-2024, str. Aerodromului 15/6
Adresa poștală: RM, mun. Chișinău, **MD-2005, str. Albișoara 38A**
tel. 0 22 407-747; fax. 0 22 407-956
e-mail: director@coleso.md
www.coleso.md



c/f 1002600034712
TVA 0603690
BC "ProCredit Bank" SA
c/d 2251130060160201
BIC: PRCBMD22



"EXIMOTOR" SA

Rețea de magazine auto

Anexa nr.23
la Documentația standard nr. _____
din "____" _____ 20____

Specificații de preț

	Numărul procedurii de achiziție nr. ocds-b3wdp1-MD-1754811042445 din 02.09.2025									
	Obiectul de achiziție: Scanner pentru bagaje									
Cod CPV	Denumirea bunurilor/serviciilor	Unitatea de măsură	Cantitatea	Preț unitar (fără TVA)	Preț unitar (cu TVA)	Suma fără TVA	Suma cu TVA	Termenul de livrare/prestare	Clasificație bugetară (IBAN)	Discount %
1	2	3	4	5	6	7	8	9	10	11
	Bunuri/servicii									
38582000-8	Scanner pentru bagaje	set	1	790 000 lei	948 000 lei	790 000 lei	948 000 lei	30.11.2025 mun. Chișinău, str. Bernardazzi, 3		
	TOTAL					790 000 lei	948 000 lei			

Semnat: _____ Numele, Prenumele: Socolova Natalia În calitate de: Director
Ofertantul: „Eximotor SA”, Adresa: mun. Chișinău, str. Albisoara 38A, MD2005

Adresa juridică: RM, mun. Chișinău, MD-2024, str. Aerodromului 15/6
Adresa poștală: RM, mun. Chișinău, MD-2005, str. Albisoara 38A
tel. 0 22 407-747; fax. 0 22 407-956
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c/f 1002600034712
TVA 0603690
BC "ProCredit Bank" SA
c/d 2251130060160201
BIC: PRCBMD22

REPUBLICA



MOLDOVA

CERTIFICAT DE ÎNREGISTRARE

SOCIETATEA PE ACȚIUNI "EXIMOTOR"
ESTE ÎNREGISTRATĂ LA CAMERA ÎNREGISTRĂRII DE STAT

Numărul de indentificare de stat - codul fiscal
1002600034712

Data înregistrării

12.06.1995

Data eliberării

20.01.2005

Iovu Galina, registrator de stat

*Funcția, numele, prenumele persoanei
care a eliberat certificatul*

G. Iovu
semnătură

MD 0011311





I.P. "AGENȚIA SERVICII PUBLICE"

Departamentul înregistrare și licențiere a unităților de drept

Extras

**din Registrul de stat al persoanelor juridice
nr. 166541 din 03.02.2025**



Denumirea completă: **SOCIETATEA PE ACȚIUNI "EXIMOTOR".**

Denumirea prescurtată: **"EXIMOTOR" S.A.**

Forma juridică de organizare: **Societate pe acțiuni.**

Numărul de identificare de stat și codul fiscal: **1002600034712**

Data înregistrării de stat: **12.06.1995**

Sediu: **MD-2024, strada Aerodromului 15, ap. 6, mun. Chișinău, Republica Moldova.**

Genurile de activitate:

1. Comerț cu autoturisme și autovehicule ușoare (sub 3,5 tone);
2. Comerț cu alte autovehicule;
3. Întreținerea și repararea autovehiculelor;
4. Comerț cu ridicata de piese și accesorii pentru autovehicule;
5. Comerț cu amănuntul de piese și accesorii pentru autovehicule;
6. Comerț cu motociclete, piese și accesorii aferente; întreținerea și repararea motocicletelor;
7. Comerț cu ridicata al aparatelor electrice de uz gospodăresc, al aparatelor de radio și televizoarelor;
8. Comerț cu ridicata al altor bunuri de uz gospodăresc;
9. Comerț cu ridicata al mașinilor agricole, echipamentelor și furniturilor;
10. Comerț cu ridicata al mașinilor-unelte;
11. Comerț cu ridicata al mașinilor pentru industria minieră și construcții;
12. Comerț cu ridicata al altor mașini și echipamente;
13. Comerț cu ridicata al deșeurilor și resturilor;
14. Comerț cu ridicata nespecializat;
15. Comerț cu amănuntul în magazine nespecializate, cu vânzare predominantă de produse nealimentare;
16. Repararea mașinilor;
17. Repararea echipamentelor electrice;
18. Repararea și întreținerea altor echipamente de transport;
19. Repararea altor echipamente;
20. Colectarea deșeurilor nepericuloase;
21. Colectarea deșeurilor periculoase;
22. Lucrări de construcții a clădirilor rezidențiale și nerezidențiale;
23. Comerț cu amănuntul al articolelor și aparatelor electrocasnice, în magazine specializate;
24. Comerț cu amănuntul al mobilei, al articolelor de iluminat și al articolelor de uz casnic n.c.a., în magazine specializate;
25. Comerț cu amănuntul al echipamentelor sportive, în magazine specializate;
26. Comerț cu amănuntul al jocurilor și jucăriilor, în magazine specializate;
27. Comerț cu amănuntul al altor bunuri noi, în magazine specializate;
28. Comerț cu amănuntul prin standuri, chioșcuri și piețe al altor produse;
29. Comerț cu amănuntul prin intermediul caselor de comenzi sau prin Internet;
30. Comerț cu amănuntul efectuat în afara magazinelor, standurilor, chioșcurilor și piețelor;
31. Transporturi rutiere de mărfuri;
32. Depozitări;
33. Activități de servicii anexe pentru transporturi terestre;
34. Alte activități poștale și de curier;
35. Alte intermediieri financiare n.c.a.;
36. Închirierea și exploatarea bunurilor imobiliare proprii sau închiriate;
37. Activități de consultanță pentru afaceri și management;
38. Activități ale agențiilor de publicitate;



39. Servicii de reprezentare media;

Capitalul social: **600000 Lei**

Administrator(i): **SOCOLOVA NATALIA.**

Beneficiari efectivi: **SOCOLOVA NATALIA.**

Prezentul extras este eliberat în temeiul art. 34 al Legii nr.220/2007 privind înregistrarea de stat a persoanelor juridice și a întreprinzătorilor individuali și confirmă datele din Registrul de stat la data de 03.02.2025

Specialist coordonator

Aurelia Racu

tel. 022-207839





BC „MOLDINDCONBANK” S.A.

Sucursala „Corporate”

Republica Moldova, MD 2001
mun. Chișinău, str. Tighina, 25
Tel. : (373 22) 62-45-44

Data 19. IUN. 2025

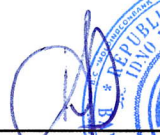
Nr. 41-09/261

Республика Молдова, MD 2001,
мун. Кишинэу, ул. Тигина, 25
Тел. : (373 22) 62-45-44

CERTIFICAT

B.C. „Moldindconbank” S.A. confirmă că "EXIMOTOR" S.A. IDNO 1002600034712 la data de 18.06.2025 deține următoarele conturi bancare:

Nr.	IBAN	Valuta
1	MD38ML000000022512092160	MDL
2	MD38ML000000022512092160	USD
3	MD38ML000000022512092160	EUR
4	MD38ML000000022512092160	RUB


Paulina Danoi

(semnătura reprezentantului Băncii)

(NP)

Director Sucursala

(functia)

Executor - Elena Dumbravanu (12930), Sucursala Corporate
Tel.- 080011111
Data/ora - 18.06.2025 / 17:30
CCF4

DECLARAȚIE

privind confirmarea identității beneficiarilor efectivi și neîncadrarea acestora în situația condamnării pentru participarea la activități ale unei organizații sau grupări criminale, pentru corupție, fraudă și/sau spălare de bani.

Subsemnatul, Socolova Natalia reprezentant împuternicit al „Eximotor SA” (*denumirea operatorului economic*) în calitate de ofertant/ofertant asociat desemnat câștigător în cadrul procedurii de achiziție publică nr. ocds-b3wdp1-MD-1754811042445 din data 02/09/2025, declar pe propria răspundere, sub sancțiunile aplicabile faptei de fals în acte publice, că beneficiarul/beneficiarii efectivi ai operatorului economic în ultimii 5 ani nu au fost condamnați prin hotărâre judecătorească definitivă pentru participarea la activități ale unei organizații sau grupări criminale, pentru corupție, fraudă și/sau spălare de bani.

Numele și prenumele beneficiarului efectiv	IDNP al beneficiarului efectiv
Socolova Natalia	0961303541877

Data completării: 02.09.2025

Semnat: _____

Nume/prenume: Socolova Natalia

Funcția în cadrul persoanei juridice: director

Denumirea persoanei juridice Eximotor SA

IDNO al persoanei juridice 1002600034712





NUCTECH™ CX6040BC

X-RAY INSPECTION SYSTEM

EN



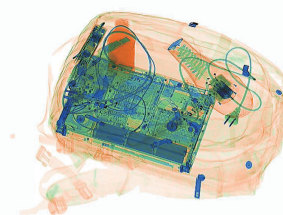
Introduction

The NUCTECH™ CX6040BC X-ray Inspection System comes from the most advanced and best proven CX product platform, and fully inherits and shares improved image quality with a variety of professional image enhancement processing functions, ergonomic and friendly user interface, intelligent networking capabilities and applications, excellent reliability and maintainability.

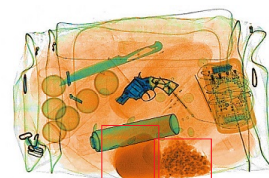
The CX6040BC has a popular tunnel opening of 610mm wide by 420mm high, as well as a modern outlook and compact framework design, and it's the best solution for security and customs requiring screening of hand-held baggage and parcels at airports, rail transportation stations, critical infrastructures and big events, etc.

Technology Features

- World-leading image quality with high wire resolution of 40 AWG and steel penetration up to 38mm
- Explosives and narcotics detections and alarms according to the atomic number signatures.
- Threat Image Projection (TIP) ready X-ray system, providing a practical solution for operator performance monitoring and training, as well as reducing the probability of threats misses effectively
- X-ray leakage around the equipment is close to natural background level, complying with all international safety and health standards
- Ergonomic keyboard and user interface design ensure the efficiency and professionals of baggage screening operating
- High reliable operating and data storage safety are guaranteed by applications of industrial computer, embedded system, and data access strategy and configurations
- Optimized concept of operations, centralized image identify and storage capability implemented by various network applications
- Modular design and constructions, combined with full built-in diagnostic facilities, make the system maintenance more economic and efficient



Advanced material classification:
orange for organic, blue for metal and
green for mixed material



Automatic detection of explosives & drugs

Technical Specifications

General Specifications

Tunnel Dimensions	610mm(W) × 420mm(H)
Conveyor Speed	0.20m/s
Conveyor Height	700mm
Max. Load	160kg

Image Performance

Wire Resolution	40 AWG
Steel Penetration	38mm
Display Resolution	1920 × 1080

Image Processing System

Image Enhancement	Color/BW, negative, high/low penetration, organic /inorganic stripping, general enhancement, multi-absorptivity, and suspect material enhancement, etc.
Material Classification	According to atomic number signatures
ROI & Zoom	Step/stepless zoom, up to 64 times enlargement
Image Recall	Preceding images recallable
Image Storage Capability	Up to 100,000

Miscellaneous Functions

Standard Functions	Time/date display, counters, user management, system-on/X-ray-on timers, power on self test, built-in diagnostic facilities, dual-direction scanning, system log, system standby and training, etc.
Optional Functions	Explosives/narcotics detections, high-density area alert, threat image projection (TIP)

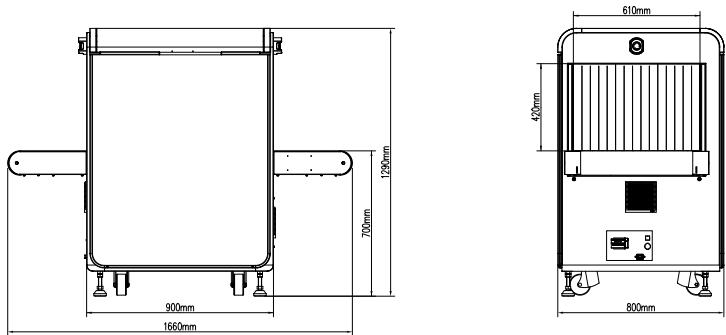
Health and Safety

X-ray Leakage	Less than 1μGy/h (5cm from the housing), complying with all published international standards
Film Safety	Guaranteed for high speed film up to ASA/ISO1600 (33DIN)

Installation Data

Dimensions	1660mm(L) × 800mm(W) × 1290mm(H)
Weight	360kg
Storage Temperature / Humidity	-40°C ~ +60°C / 5% ~ 95% (non-condensing)
Operating Temperature / Humidity	0°C ~ +40°C / 5% ~ 95% (non-condensing)
Power Supply	100VAC ~ 240VAC (-15% ~ +10%), 50Hz/60Hz ±3Hz
Power Consumption	0.8kVA

Note: Image performance specifications are based on test piece complying with CAAC Standard.



NUCTECH COMPANY LIMITED
Address: 2/F Block A, Tongfang Building,
Shuangqinglu, Haidian District,
Beijing 100084, P.R.China
Tel: +8610 50980999
Fax: +8610 62788896

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Design and specifications are subject to change without notice.
Printed in CHINA, Aug. 2024



NUCTECH HAS BEEN AWARDED THE CERTIFICATE OF QUALITY MANAGEMENT SYSTEM (ISO 9001:2015)
NUCTECH HAS BEEN AWARDED THE CERTIFICATE OF ENVIRONMENTAL MANAGEMENT SYSTEM (ISO 14001:2015)
NUCTECH HAS BEEN AWARDED THE CERTIFICATE OF OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM (OHSAS 45001:2018)





MD-2005 mun.Chișinău, str. Albișoara, 38
Tel. (022) 820-770, Email: am@am.gov.md

CONFIRMARE

privind înregistrarea în „Lista producătorilor” de produse
supuse reglementărilor de responsabilitate extinsă a producătorului
(echipamente electrice și electronice)

În scopul plasării pe piață a produselor de echipamente electrice și electronice, în conformitate cu prevederile art. 12 alin. (5) și alin. (14) lit. b) din Legea nr. 209 din 29.07.2016 privind deșeurile, și punctele 46 – 50 din Regulamentul privind deșeurile de echipamente electrice și electronice, aprobat prin Hotărârea Guvernului nr. 212 din 07.03.2018, se emite numărul de înregistrare

MD2024-12-EEE-013

pentru SA EXIMOTOR, IDNO: 1002600034712, cu adresa juridică: mun. Chișinău, str. Aerodromului, nr. 15, of. 6.

Numărul de înregistrare este valabil începînd cu data de 06.12.2024 pînă la data de 06.12.2027.

Director adjunct
Nicolae STRULEA

Digitally signed by Strulea Nicolae
Date: 2024.12.06 11:53:06 EET
Reason: MoldSign Signature
Location: Moldova

MOLDOVA EUROPEANĂ



DECLARAȚIE PE PROPRIA RĂSPUNDERE

Prin prezenta, compania Eximotor S.A., participantă la licitația publică nr. ocde-b3wdp1-MD-1754811042445 din data de 02.09.2025, declară pe propria răspundere următoarele:

În cazul în care vom fi desemnați câștigători ai procedurii de achiziție, ne angajăm să prezentăm la momentul livrării bunurilor Autorizația radiologică pentru importul și furnizarea de surse generatoare de radiații ionizate, emisă de către ANRANR.

Totodată, confirmăm că, potrivit Certificatului de calitate anexat la ofertă, țara de origine a bunurilor propuse este China, la livrare de asemenea se va prezenta certificatul confirmativ cu țara de origine.

De asemenea, facem cunoscut faptul că Eximotor S.A. dispune de personal calificat și autorizat pentru efectuarea lucrărilor de instalare, mentenanță și reparație a bunurilor oferite, asigurând respectarea tuturor cerințelor tehnice și de siguranță.

În plus, declarăm că prețul ofertei include toate serviciile necesare instalării, punerii în funcțiune și instruirii utilizatorilor în ceea ce privește exploatarea corespunzătoare a bunurilor furnizate.

Eximotor SA,
director,
Socoloia Natalia

Data: 02.09.2025





同方威视技术股份有限公司
NUCTECH COMPANY LIMITED

AUTHORIZED RESELLER DECLARATION

We, the undersigned,

NUCTECH COMPANY LIMITED

2/F Block A, Tongfang Building, Shuangqinglu, Haidian District, Beijing, P.R. China

hereby declare and confirm that:

Eximotor S.A.

Republic of Moldova, Chisinau, Albisoara 38A

is an authorized reseller of NUCTECH products in the Republic of Moldova.

As an authorized reseller, Eximotor S.A. is entitled to promote, offer, and deliver NUCTECH equipment, including but not limited to X-ray Inspection Systems (Model CX6040BC), as well as to provide related services such as installation, commissioning, maintenance, and user training, in accordance with NUCTECH's standards and requirements.

This declaration is issued upon the request of Eximotor S.A. in order to serve as official confirmation of their reseller status for participation in public procurement procedures and other legal or commercial purposes within the Republic of Moldova.

This authorization letter shall be valid from the date on which it is issued and expire on December 31, 2025.

Place and date of issue: Beijing, China, Sep 01, 2025

Signed for and on behalf of:

NUCTECH COMPANY LIMITED

同方威视技术股份有限公司
NUCTECH COMPANY LIMITED

CERTIFICATE

No.

21/32304527

CERTIFICATE OF CONFORMITY

LGAi-Technological Center, S.A. CERTIFIES that the documentation included in the Construction Technical file for the compliance of EC marking of:

X-ray Inspection System

Brand: NUCTECH

Model: CX6040BC

Serial number: N/A

Manufactured and delivered to market by:

NUCTECH COMPANY LIMITED

2/F Block A, Tongfang Building, Shuangqinglu, Haidian District, Beijing PRC

Is in compliance with the Safety of Machinery Directive 2006/42/EC, and tested according to EN 60204-1:2018, EN ISO 12100:2010, EN 61010-2-091:2021, EN 61010-1: 2010/A1:2019, EN 61000-6-2:2019, EN 61000-6-4:2019, as described in:

Evaluation report N°: 21/32304526

Confirms that the listed equipment (not included in Annex IV the Machine Directive) complies with the requirements of the directives as well as with Annex VII paragraphs of the Machinery Directive, referring only to the Technical File supplied to LGAi Technological Center, S.A. for its evaluation.

The CE mark as shown below can be used, under the responsibility of the manufacturer, after completion of an EC Declaration of Conformity and compliance with all relevant EC Directives.



Bellaterra, 4th August, 2021

Applus⁺
LGAi Technological Center S.A.
Josep Prat Solergibert
Country Manager

CX Series X-ray Inspection System

Operation Manual



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Radiation Protection Statement

The radiation protection indices of the CX series X-ray inspection system comply with the relevant international and domestic radiation protection standards. The system is safety to human body and environments.

The CX series X-ray inspection system complies with the ISO1600 (33DIN) film safety requirements.

Precautions

To ensure safe and efficient use of the system, please read this manual carefully before using or maintaining the equipment.

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Contents

Contents	i
Preface	vii
Part I Operation Safety	1
1 Safety Signs.....	3
2 Safety Precautions.....	5
Part II Operator's Manual.....	11
3 Quick Start	13
3.1 Power-on.....	13
3.2 Login	14
3.3 Inspection	14
3.4 Logout	14
3.5 Shutdown.....	15
4 Controls and Indicators.....	17
4.1 Emergency Stop Switches and Indicators.....	17
4.1.1 Emergency Stop Switch	17
4.1.2 Power-on Indicator.....	18
4.1.3 X-ray On Indicator	19
4.1.4 Other Indicators.....	19
4.2 Operation Keyboard E04.....	21
4.3 System Status Panel.....	26
5 Switching On and Off.....	31
5.1 Power-on.....	31
5.2 Login	33
5.3 Logout	36
5.4 Shutdown.....	37
6 Inspection.....	39
6.1 Placing Items	39
6.2 Scanning Items	40

6.3 Generating Emendation Tables.....	42
7 Image Processing	44
7.1 Image Processing Function	44
7.2 Image Enhancement Processing	44
7.2.1 Edge Enhancement.....	45
7.2.2 Sharpening	45
7.2.3 General Enhancement	46
7.2.4 Smoothing.....	47
7.2.5 High Penetration	47
7.2.6 General Penetration.....	48
7.2.7 Low Penetration	49
7.2.8 Thin Object Inspection.....	49
7.2.9 Multi-absorptivity	50
7.2.10 Fading	51
7.2.11 Colorize.....	51
7.2.12 Black-and-White (B/W).....	52
7.2.13 Organic Stripping.....	52
7.2.14 Mineral Striping	53
7.2.15 Organic Stripping+.....	54
7.2.16 Mineral Stripping+	54
7.2.17 Organic Materials Only	55
7.2.18 Suspicious Organic Materials Enhancement Z7/Z8/Z9.....	56
7.2.19 Negative	58
7.3 Image Zoom-in.....	58
7.3.1 Globally Zooming in Images	58
7.3.2 Partially Zooming in Images.....	59
7.4 Image Recalling.....	60
7.5 Image Marking	61
7.5.1 Marking Images with the Operation Keyboard.....	61
7.5.2 Marking Images with Mouse (Optional).....	62
8 Image Management	65
8.1 Saving Images	65
8.1.1 Automatically Saving Images	65
8.1.2 Manually Saving Images.....	66
8.2 Querying Images	68
8.3 Opening Images.....	73
8.4 Locking Images	74
8.5 Unlocking Images.....	76
8.6 Displaying the Newest Image.....	76
9 User Management.....	79
9.1 Modifying User Information	79

10 TIP Operation*	83
11 Routine Maintenance	85
11.1 Clearing the Equipment Surfaces	85
11.2 Clearing the Photoelectric Sensor	86
11.3 Cleaning the Monitor	86
11.4 Checking the Conveyor	87
11.5 Checking the Lead Curtains at the Entrance and Exit of the Tunnel	87
11.6 Checking X-ray On and Power-on Indicators	87
11.7 Checking Emergency Stop Switches	87
12 Common Troubleshooting	89
12.1 Key Switch Indicator Not On and Equipment Startup Failure	89
12.2 No Image Output on Screen	90
12.3 Conveyor Startup Failure	91
12.4 The Equipment Is Automatically Shut Down During Operation	92
Part III Administrator's Manual	93
13 User Management	95
13.1 Account Management	95
13.1.1 Adding a User	95
13.1.2 Editing Users	100
13.1.3 Deleting Users	101
13.1.4 Freezing Users	102
13.2 User Group Management	103
13.2.1 Adding User Group	104
13.2.2 Editing User Group	105
13.2.3 Deleting User Group	105
13.3 Role-based Permission Management	106
13.3.1 Adding a User Role	107
13.3.2 Editing User Role Name	108
13.3.3 Deleting a User Role	108
13.4 Other Settings	109
13.4.1 Default Login Setting	109
13.4.2 Default Login User	110
13.4.3 User Switch Alert Time	110
13.4.4 Auto Logoff Time	110
14 Image Management	113
14.1 Querying Images	113
14.2 Exporting Images	116
14.3 Adding Images for Training *	118
14.4 Printing Images	119
14.4.1 Printing Images on the Image Management Interface	119

14.4.2 Printing Images with Screen Functions.....	121
14.5 Browsing Images.....	122
15 Log Management	123
15.1 Querying Startup Information	123
15.2 Querying Login Information	126
15.3 Querying Actions.....	128
15.4 Querying Events.....	129
15.5 Querying the X-ray Generator.....	131
15.6 Querying the Drum Motor.....	133
16 TIP Management*	137
16.1 TIP.....	137
16.1.1 TIP Examination Items Management	137
16.1.2 TIP Gallery Management	143
16.1.3 TIP Examination Querying	144
16.1.4 TIP Prompt Information Management.....	145
16.2 Disabling TIP.....	146
17 Training*	149
18 System Setting	153
18.1 Key Settings	153
18.2 Counter Settings	156
18.3 Display Settings.....	158
18.3.1 Function Introduction.....	158
18.3.2 Color Tone Settings.....	160
18.3.3 Default Imaging Settings.....	160
18.3.4 Setting Image Flip Directions	162
18.3.5 System Status Panel	162
18.3.6 Setting the Maximum Zoom-in Times	162
18.4 Scan Settings	163
18.5 Operate Image Settings	165
18.6 Auxiliary Detection Settings.....	166
18.7 Storage Settings.....	168
18.7.1 Automatically Saving Images	168
18.7.2 Manually Saving Images.....	171
18.8 Printer Settings	173
18.9 Network Settings	174
18.10 System Time Settings	174
18.11 Extensions Management.....	175
18.11.1 Exporting Keys.....	175
18.11.2 Inputting Serial Number Manually.....	177
19 About.....	179

19.1 Basic System Information	179
Appendix.....	182
Figures	184
Tables	191

Preface

Purpose

This manual will guide you to proper maintenance of the CX series X-ray inspection system. Please make sure that you read this manual carefully before you use the equipment.

Audience

This manual is intended for the following users:

- Operators of the CX series X-ray inspection system
- Administrators of the CX series X-ray inspection system

Maintenance staff of the CX series X-ray inspection system may refer to this manual as well.

Overview

The contents are arranged as follows:

- Part I Operation Safety;
- Part II Operator's Manual;
- Part III Administrator's Manual.

Conventions

Symbol	Description
--------	-------------

 Note	Provides necessary and supplementary annotations for the described contents.
 Caution	Reminds users of issues that require attention. Improper operation could lead to reduced accuracy of inspection results or damage to the equipment.
 Warning	Warns users of possible physical hurts that could be caused by improper operation.
 Question	Asks about the intention of an operation and asks operators to make a judgment.
 Error	Prompts operators of an improper operation.
* Optional	Accessories or functions marked * are options which are not part of the standard equipment of your unit.

Environmental Protection

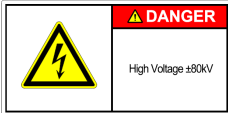
According to the No. 36 "Notice on the Exemption Management of Users of Cabinet X-ray Luggage Inspection Equipment in Public Places" released by the Ministry of Environmental Protection of the People's Republic of China on May 29, 2015, this product doesn't need to apply for the "Radiation Safety Permit".

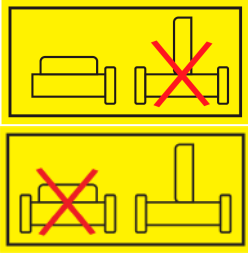
Part I Operation Safety

1 Safety Signs

For the meaning and location of safety signs of the CX series X-ray inspection system, please see Table 1-1.

Table 1-1 Meanings of Safety Signs

Meaning	Symbol	Location
High voltage (the symbol may vary with equipment)(English)		Outer surface of the X-ray generator
Electric shock		Outer surface of the AC power supply
Forklift location		Forklift access point on the outer covering panel
Ionizing radiation		Outer surface of the X-ray generator
Warning: No operating for untrained persons		Outer surface of the L-shaped detector box
Film Safety		Entrance of the inspection tunnel

Meaning	Symbol	Location
Placement of item (the symbol may vary with equipment)		Entrance of the inspection tunnel
Protection earthing		Grounding bolt in the frame
Protection earthing (PE)		Earthing points of electric components
Power Supply		Below the power on indicator
X-ray on		Below the X-ray on indicator
Keep hands away		Entrance of the inspection tunnel

2 Safety Precautions



Caution:

Prior to operating the CX series X-ray inspection system, operators should be trained on radiation protection in accordance with local laws and regulations.



Caution:

When necessary, you should report the installation and operation of the CX series X-ray inspection system to local authorities and perform radiation protection inspections. The dose rate on the surface of the equipment must be checked regularly.



Caution:

Prior to operating the CX series X-ray inspection system, operators should be trained on radiation protection regulations and requirements.



Caution:

If the X-ray generator has not been operated for long, it should first be regenerated at the prompt of the operation inspection system (OIS). The ignorance of this rule may lead to shortening of its service life.

Caution:

Users should post the operation guide in the eye-catching position of the equipment and strictly follow it.



Caution:

The working environment of the CX series X-ray inspection system should be free of conductive dusts and chemical gasses.



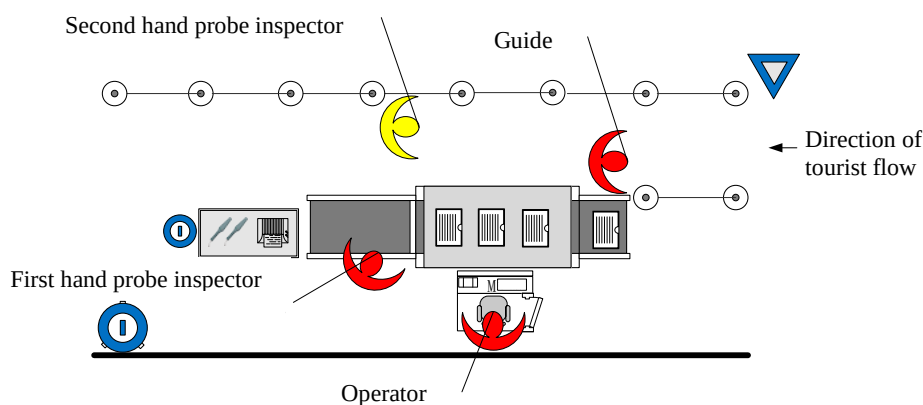
Caution:

Operators should be trained to use the equipment.



Caution:

The operator should place the console on the two sides of the equipment outer covering panel, as shown in the following figure:



Caution:

Before powering on the equipment, make sure the local mains voltage meets the requirement of the equipment and that the capacity of the local power supply is not smaller than the power supply required by the equipment. For details, see the power parameters of the CX series X-ray inspection system.



Caution:

The power supply to the equipment should be properly earthed. The equipment should be used only when the earthing conditions are met.



Caution:

To install or replace any component, contact Nuctech maintenance personnel or local customer service at the telephone number shown on the cover.



Caution:

If any external cable, the conveyor, any lead curtain, or any indicator is damaged, immediately stop using the equipment and contact our local customer service.



Caution:

Operators are not allowed to remove the outer covering panel to access the inner components of the equipment, which should be performed by professional service technician.



Caution:

The equipment should work with human presence.



Caution:

The equipment should not be used to inspect human beings (or any other live animals).



Caution:

Items for inspection should be placed on the conveyor or roller conveyor as indicated on the sign at the entrance of the tunnel.



Caution:

When the conveyor starts to move, make sure that the items do not pile up or stack inside the tunnel, and that the items do not fall down from the conveyor.



Caution:

During inspection, liquid should be kept out of the equipment. If liquid flows in, immediately switch off the equipment and clean it.



Caution:

While the equipment is working, do not cover the ventilation openings of the outer covering panel to ensure proper heating of the equipment.



Caution:

To ensure safety, switch off the system before cleaning and maintaining the system.

Pre-inspection

Step 1 Before powering on the equipment, check the following items: Whether the power cable is properly connected, whether the power supply is properly earthed; whether the emergency stop switches on the outer covering panel can be pressed and recovered; whether the keys and the emergency stop switch on the operation keyboard work properly.

The power position is as shown below (power position may vary with products):





Figure 2-1 Power Position

Caution:

In case the cable cover is damaged, the emergency stop switch does not work, or the keys of the operation keyboard cannot be pressed down smoothly, stop using the equipment and contact the local customer service.

Step 2 Check the lead curtains at the entrance and exit of the equipment tunnel, and there should be no tears or missing segments.



Caution:

In case the lead curtain has larger gaps or is severely damaged, stop using the equipment and contact the local customer service department.

Step 3 Check the conveyor of the equipment. There should be no damages and a proper distance is kept between the edges of the conveyor and the conveyor panels on both sides.



Caution:

If the conveyor belt drifts from the central line of the tunnel to one side (with the edges of the conveyor into the conveyor panel) or the belt tension is not large enough (the surface of the conveyor is slackening), adjust the conveyor belt under instructions of professional technicians.

Step 4 Check for remaining items in the equipment tunnel and, if found, remove them from the tunnel.

Part II Operator's Manual

3 Quick Start

About this Chapter

This chapter introduces:

- Power-on
- Login
- Inspection
- Logout
- Shutdown



Warning

Prior to equipment operation, you should read Part I "Operation Safety" of this manual.

3.1 Power-on

Step 1 Plug the power cable connector of the equipment into the mains outlet, and make sure power supply is normal.

Step 2 Insert the key into the key switch on the upper left corner of the operation keyboard, and turn the key to the right to position ON, at the same time, the key switch indicator lights up.

Step 3 Press the power button on the operation keyboard and the equipment is powered on. The power-on indicator (the green indicator on the right side of the power button) lights up, and the post indicator (the orange indicator on the right side of the power button) flashes. The power-on indicators on both sides of the equipment tunnel light up.

Step 4 The OIS is started and enter the main window, popping up a window says "the system will emit X-ray, please clear the equipment tunnel first!", at this time press Belt runs key to clean the tunnel. Then Click "OK", the X-ray generator is started for pre-heating. After the preheating, the system will automatically generate emendation table. When the "system state" icon shows Ready, OIS can work correctly.

3.2 Login

If login authentication is configured, you need to type your user name and password through the keyboard or soft keyboard to log in to the system, you can also log in to the system by swiping card.

If you do not have a user name and password assigned by the system administrator, use the following factory default user name and password for operators:

User name: U1; password: 123456.

To change the password, see Section 9.1.

3.3 Inspection

Step 1 After the operator logs in, the system status panel prompts "Ready", indicating that the system is ready for inspection.

Step 2 Press  or . The conveyor starts to move. Place the items to be inspected in the middle of the conveyor. The items enter the tunnel along with the conveyor.

Step 3 When you see the image of the inspected item, press the image processing keys on the operation keyboard to process the image.

Step 4 After the inspected items move out of the equipment tunnel along with the conveyor, press  to stop the conveyor. The inspection is completed and you can remove the inspected item or make further inspections.

3.4 Logout

Step 1 To log off the operator, right-click on the navigation view in the lower right corner of the screen or press  on the operation keyboard.

Step 2 Choose Logoff\Lock from the main menu to log off.

3.5 Shutdown



Caution:

Turn the key switch to position "OFF", and the post indicator flashes. After all the indicators on the operation keyboard are off, withdraw the power cable plug from the mains outlet.

Step 1 After completing inspection, press  to stop the conveyor.

Step 2 Turn the key switch to the left to position "OFF", the key switch indicator goes off, and the power-off process starts.

Step 3 The post indicator on the operation keyboard flashes and the system starts to save data. About 50 seconds later, all the indicators on the operation keyboard are off and the power-off process finishes, and then the equipment power supply can be disconnected.

Step 4 Withdraw the key from the key switch and keep it properly.

4 Controls and Indicators

About this Chapter

This chapter introduces:

- Emergency Stop Switches and Indicators
- Functions of the operation keyboard
- System Status Panel

4.1 Emergency Stop Switches and Indicators

4.1.1 Emergency Stop Switch



Figure 4-1 Emergency Stop Switch

Emergency stop switches are installed at the entrance and exit of the equipment tunnel and on the operation keyboard.

In case of an emergency, press any emergency stop switch to immediately stop X-ray emitting and conveyor moving.



Caution:

Emergency stop switches can be locked. To unlock an emergency stop switch, turn the red button clockwise until it bumps up.

4.1.2 Power-on Indicator



Power-on
indicator



Figure 4-2 Power-on indicator

Power-on indicators, with indications in the vicinity of the indicators, are installed at the entrance and exit of the equipment tunnel and on the operation keyboard (Indicators may vary with products).

When the equipment is powered on, all the power-on indicators light up.

4.1.3 X-ray On Indicator



Figure 4-3 X-ray On Indicator

X-ray on indicators, with indications in the vicinity of the indicators, are installed at the entrance and exit of the equipment tunnel and on the operation keyboard (Indicators may vary with products).

When X-rays are emitted, all the X-ray on indicators light up.

4.1.4 Other Indicators

Alarm Indicator



Figure 4-4 Alarm Indicator

Alarm Indicator is installed above the exit of the equipment tunnel. When the luggage is classified as "Detained ", all the alarm indicators light up.

Reset button



Figure 4-5 Reset button

Reset buttons are installed on both sides of the exit of the equipment tunnel. When the luggage is classified as "suspicious", the unpacking operator checks the package and presses the reset button to continue the operation.

4.2 Operation Keyboard E04

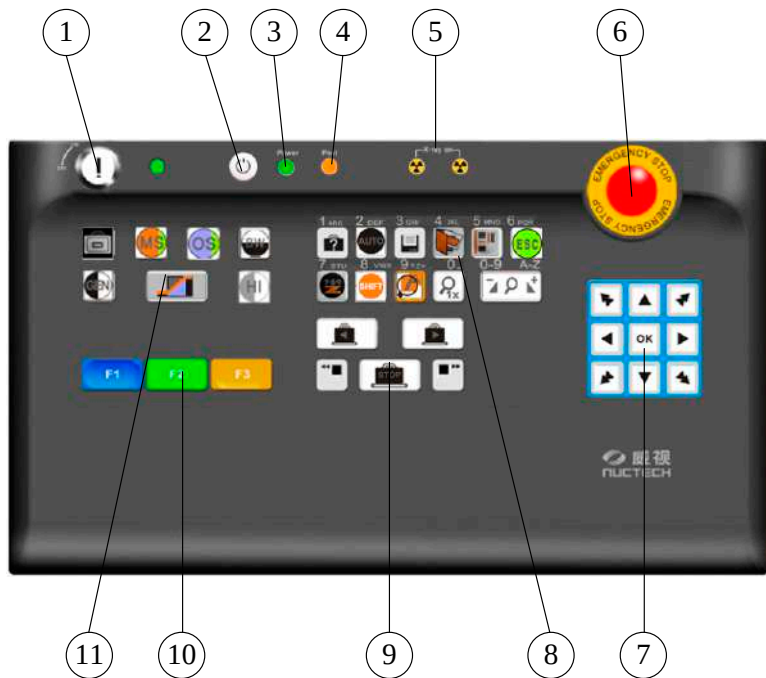


Figure 4-6 Operation Keyboard E04

1 Key switch



The key switch can connect or disconnect the equipment safety interlock switch and is used to prevent non-operators from operating the equipment.

- Before power-on, insert the key and turn it to the right to position "ON", and the green indicator lights up.
- Before power-off, turn the key to the left to position "OFF", and the green indicator goes off.
- Disconnect system power supply and shut down the system.



Caution:

The key can be withdrawn only when it is in position "OFF".

2 Power-on Button



When the key switch is in position "ON" and the key switch indicator is on, press the power button to power on the system, at the same time the power-on indicator lights up.

3 Power-on Indicator



When the system is powered on, the green power-on indicator (on the right side of the power button) on the operation keyboard lights up.

4 Post Indicator



After power-on, the system performs self-test and the orange post indicator (on the right side of the power button) flashes. The system is ready for inspection when the post indicator goes off.

5 X-ray On Indicator



When X-rays are emitted, both red X-ray on indicators light up. When X-ray emitting stops, X-ray on indicators go off. The left indicator indicates that the X-ray generator receives an X-ray emitting command and the right indicator indicates the X-ray generator emits X-rays.

6 Emergency Stop Switch



In case of an emergency, press any emergency stop switch to stop X-ray emitting and conveyor moving. The emergency stop switches can be locked. To unlock a switch, turn the red button clockwise until it bumps up.

7 Navigation Keys



There are nine navigation keys pointing upward, downward, leftward, rightward, upper left, lower left, upper right, lower right, and OK respectively.

- In menu mode, press the up and down keys to move the focus; the left key is used to exit the menu, and the right key is used to select an item.
- In dialog mode, the upper left key is used to move the focus forward, the lower left key is used to move the focus backward, the upper left key is used to exit the dialog without any changes, and the lower left or OK key is used to make confirmation.
- In input mode, the left key is used to delete the content previously entered, and the right key is used to recover the content previously entered; in the list box, press the up or down key to change the options or options to be.
- In the main display area, if the image is in its original size, press either one of the upward, downward, leftward,

rightward, upper left, lower left, upper right, and lower right keys, then one of the eight overlapping areas (the area composed of four small sections with this key as the center as shown in the following figure) on the screen is enlarged one time; if the image is not in its original size, press these keys to expand the image area.

- In the partial zoom-in mode, press the upward, downward, leftward, rightward, upper left, lower left, upper right, or lower right key to partially expand the image area.

8 Functional Keys



This key can be used together with other keys to implement different image processing functions. For example, Shift + MS implements mineral stripping, Shift + OS implements organic stripping, and Shift + HI implements general penetration. In addition, Press "Shift" + "menu" to display the shortcut menu. To use combined keys, press the "Shift" key and press the other key after the indicator lights up.



With the Automatic Drug/Explosive Detection Alarm or Insufficient Penetration Alarm function enabled, the AUTO key is used to enable or disable these functions in real time. Hold down the "AUTO" key and the system starts automatic detection. If a suspicious item is found, a flashing frame in a different color is displayed on the image of the item to call your attention.



If you find a suspicious item when viewing images, press the "mark" key immediately after you see the whole image of the item on the screen. There are two cases:

- If the suspicious item is inserted automatically by the system, a prompt is displayed on the main interface, a green flashing frame is marked on the suspicious item, the suspicious item and the green flash frame is automatically removed after three seconds, and press the operation keyboard "STOP" key to clear the text message.
- If the suspicious item is not inserted by the system, an "image selection (marking)" interface is displayed. Mark the image as prompted.



The current image operation key can implement the following functions through system menu settings (with the specific function varies with menu settings):

- Manually saving the current image on the displayed image selection (operation) interface.
- Printing the current image.



The image manager key is used to enter the image management interface.



The Menu key is used to enter the system menu.



- The image processing state reset key is used to recover the default image processing state.
- In zoom-in mode, press the key to exit the current mode.



The Z789 key is used to enable, disable, and switch between Z7/8/9. The first press starts the Z7 function, the second press switches from Z7 to Z8, the third press switches from Z8 to Z9, and the fourth press closes the function.

For this key's display effect, please refer to the section "7.2.18 Suspicious Organic Enhancement Z7/Z8/Z9" in this manual.



The partial zoom-in key is used to enable/disable the partial zoom-in function. The first press enables the function, where the part of the image around the cursor is enlarged one time; the second press enlarges the part of the image around the cursor two times; the third press enlarges the part of the image around the cursor three times; the fourth press disables the function.

For this key's display effect, please refer to the section "7.3.2 Partially Zooming in Images" in this manual.



The zoom exit key is used to exit the zoom-in mode to display the original image.



Functions of the zoom keys:

- Zooming in/out an image globally, adjusting zoom-in times.
- Switching between input modes when it is required to input text. Press Decrease key to switch to digit mode. The first press on the Increase key switches to lowercase input mode, the second press switches to uppercase input mode.

For this key's display effect, please refer to the section "7.3.1 Globally Zooming in Images" in this manual.



For the two Image Recall keys, when there is no image on the screen, press the leftward key to display the previous image or press the rightward key to display the new image.

9 Transfer Control Keys



The transfer control keys are used to control the moving of the conveyor.

- In mono-direction scan mode, press the key pointing to the moving direction of the conveyor to start inspection.



Hold down the key pointing the opposite direction to roll back the conveyor and release the key to stop rolling back. Two modes can be pre-set according to user requirements.

- In bi-direction scan mode, the two keys represent different scanning directions.
- In character input mode, the “STOP” key functions as space function.
- In check box settings, press the “STOP” key to select or deselect a check box. In list box settings, press the “STOP” key to select or deselect a list item.

10 User-Defined Functional Keys



- The functional keys can be configured with the Priority Keys function.
- The “F1” key is used to execute the selected operation on a dialog box.
- The “F2” key is used to cancel the selected operation on a dialog box.
- The "edge enhancement", "sharpening", and "smoothing" image processing functions can be enabled through the user-defined functional keys. For details, refer to "19.1 Priority Key Settings" in this manual.

For functional key settings, please refer to the section "19.1 Key Settings" in this manual.

11 Image Processing Keys



The complementary color key is used to enter/exit the complementary color state. The first press enters the Negative state and the second press exits the state.

For the display effect of the key, please refer to the section "7.2.1 Complementary Color" in this manual.



The multi-absorptivity key is used to enable/disable the multi-absorptivity function. Press the leftward key to decrease the level of multi-absorptivity, press the rightward key to increase the level of multi-absorptivity.

For the display effect of the key, please refer to the section "7.2.9 Multi-absorptivity" in this manual.



The high penetration key is used to enable/disable the high penetration function. The first press enables the function and the second press disables the function.

For the display effect of the key, please refer to the section "7.2.5 High Penetration" in this manual.



The black-and-white (B/W) key is used to enter/exit the black-and-white image state. The first press enters the black-and-white image state and the second press exits the state.

For the display effect of the key, please refer to the section "7.2.12 Black-and-White (B/W)" in this manual.



The mineral stripping key is used to enable/disable the mineral stripping function. The first press enables the function and the second press disables the function.

For the display effect of the key, please refer to the section "7.2.14 Mineral Stripping" in this manual.



The organic stripping key is used to enable/disable the organic stripping function. The first press enables the function and the second press disables the function.

For the display effect of the key, please refer to the section "7.2.13 Organic Stripping" in this manual.



The Super Enhancement key is used to enable/disable the super enhancement function. The first press enables the function and the second press disables the function.

For the display effect of the key, please refer to the section "7.2.3 General Enhancement" in this manual.

4.3 System Status Panel

Main Interface of the System

The CX series X-ray inspection system enters the OIS main interface, as shown in Figure 4-7 and Figure 4-8.

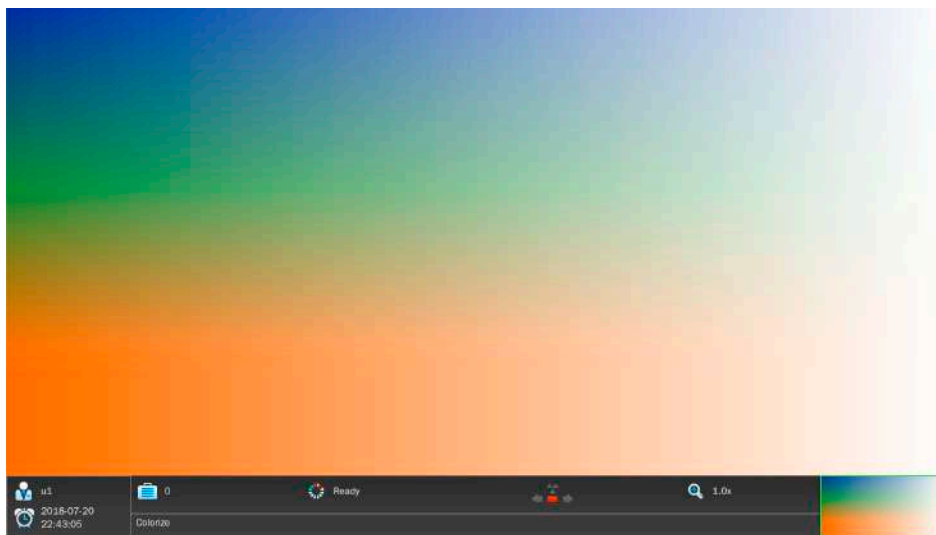


Figure 4-7 OIS Main Interface (single-view)

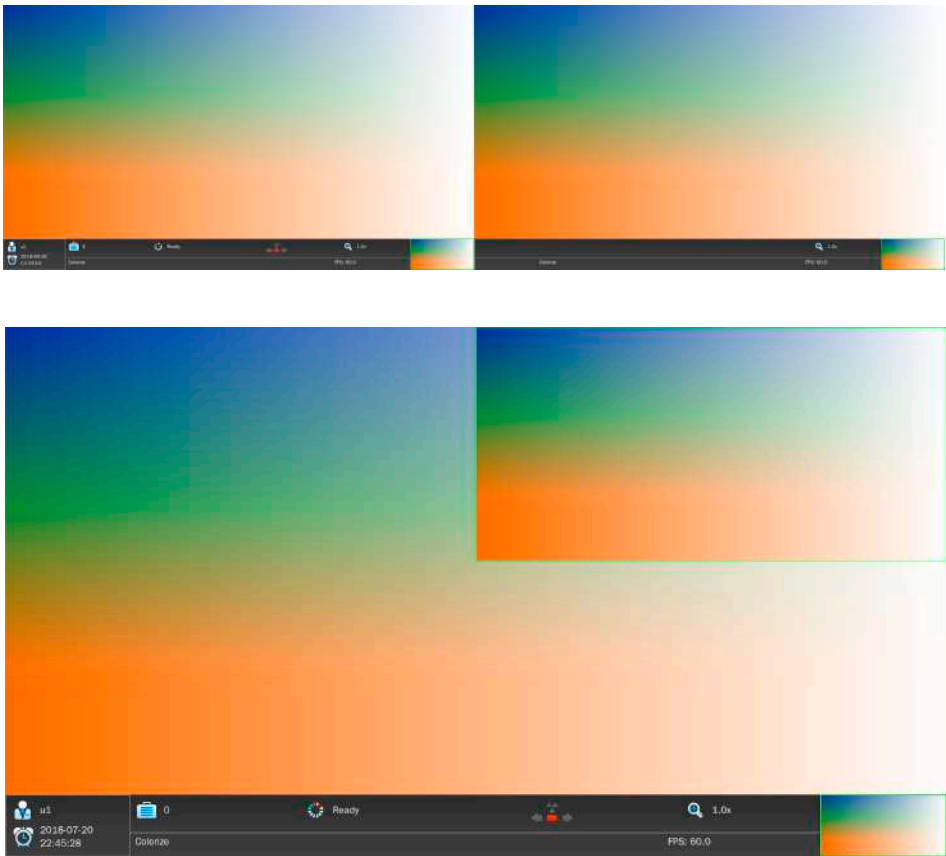


Figure 4-8 OIS Main Interface (dual-view)

The color area in the upper part of the main interface is the image display area. When an inspected item moves into the inspection tunnel, the image of the item is displayed in the area and moves along with the real object. The system status panel lies under the image display area and displays the summary information of the equipment.



Note:

Figure 4-8 image above shows the main interface for dual-view products. On the left is the main interface, while on the right is another view of the interface. The image below shows the main interface for single-view products.

Table 4-1 shows the functions of status panel.

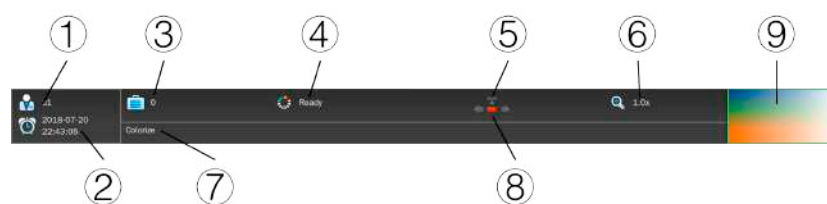


Figure 4-9 System status panel

Table 4-1 Status panel of the system

1 User name	Displays the user name of the current login user.
2 System time	Displays the current time of the operating system in the mm/dd/yyyy hh:mm:ss format. For system time settings, please refer to section "18.11 System Time Settings."
3 Luggage counter	Display the temporary counter from startup to present or the total counter according to the system settings. The system is configurable. For counter settings, please refer to section "10.2 Counter Settings."
4 System status	Displays the current status of the equipment. There are eleven statuses including ready, waiting, emitting ready, scanning, continuous scan, rewind, training*, image browsing, error, diagnosis and tunnel emptying. The system status is described as follows: Ready: An operator has logged into the system, the conveyor does not move, and the system is ready for inspection; Waiting: When the system is ready, the conveyor moves in the scanning direction; Emitting ready: The photoelectric sensor detects that the inspected item is already in the tunnel; Scanning: X-rays are emitted to scan the inspected item; Continuous scan: The conveyor is moving; the X-ray generator emits X-rays; Rewind: In mono-direction scan mode, the conveyor is moving in the opposite direction of scanning; Training*: The training function is enabled through system settings and is being executed; Image browsing: The queried image is opened and displayed on the screen. Diagnosis: After startup, the system does self-diagnosis and generates the emendation table. Error: The abnormal parts are collected to prompt the operator.
5 X-ray emitting indicator	When X-rays are emitted, the indicator turns red to warn operators of X-ray emission.
6 Image zoom-in indicator	Indicates the ratio of the current image size to the original size. For image zoom-in operations, please refer to section "7.3 Image Zoom-in."

7 Image processing status	Displays the processing mode of the current image. If more than one processing modes are involved, use a plus sign between modes. For description on image processing, please refer to section "7.2 Image Enhancement Processing."
8 Conveyor status	Current status of the conveyor. Displays the current status of the conveyor with a red icon.
9 Navigation view	Displays the global view of the current screen.

Main Menu

Right-click on the navigation view in the lower right corner of the screen or press on the operation keyboard  to display the main menu, as shown in Figure 4-10.

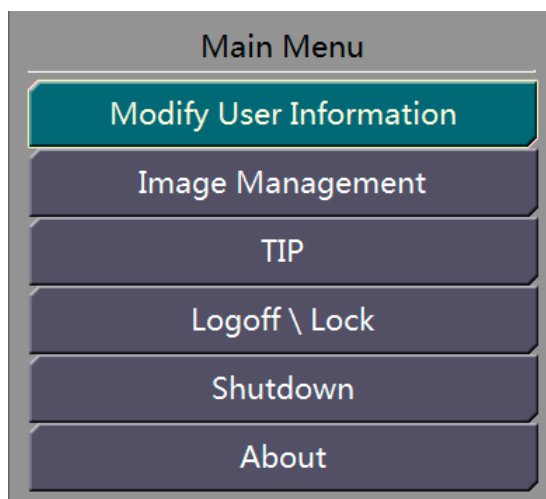


Figure 4-10 Main Menu Interface for Operators



Note:

The menu commands available on the main menu vary for system administrators, operators, and maintainers. Figure 4-10 shows the main menu interface for operators. TIP menu is available only by enabling TIP function.

5 Switching On and Off

About this Chapter

This chapter introduces:

- Power-on
- Login
- Logout
- Shutdown

5.1 Power-on



Caution:

If the equipment is equipped with an uninterruptible power supply (UPS), make sure that the UPS is turned on before starting the equipment.



Caution:

When the system stops working for a long time, it takes long to pre-heat the X-ray generator. Please wait until a prompt appears.



Caution:

If any emergency stop switch is locked during startup, the conveyor does not move.

Step 1 Insert the key into the key switch in the upper left corner of the operation keyboard and turn the key to the right to position "ON", at the same time the key switch indicator lights up.



Step 2 Press the power button (silver) on the operation keyboard to start the equipment. The power-on indicators on the operation keyboard and the equipment light up simultaneously.



Step 3 The post indicator on the operation keyboard flashes, indicating that the system starts self-test.



Note:

If the conveyor or X-ray generator fails during equipment startup, press any emergency stop switch to switch off the conveyor or X-ray generator.

Step 4 When the self-test completes, the OIS starts for X-ray generator pre-heating. During pre-heating, a dialog box is displayed, as shown in Figure 5-1. Select a tunnel emptying mode as prompted and Click “OK” to continue.



Figure 5-1 Prompt for Emptying the Tunnel

Select a tunnel emptying mode with any of the following methods:

-  : Click either of the keys, or press the conveyor control key on the operation keyboard  . The conveyor moves a half cycle in the specified direction and then stops.
- When the items in the tunnel are emptied, click the key  or press  on the operation keyboard. The conveyor stops moving.

Step 5 The X-ray generator is preheated with the duration varying with the interval between startup and power-off of the equipment. For pre-heating durations, refer to the following table.

Table 5-1 Pre-heating Duration of the X-ray Generator

Interval Between Startup and Closing	Warm-up time
$0 \leq X < 3$ days	5 seconds
$3 \text{ days} \leq X < 30 \text{ days}$	6 minutes
$30 \text{ days} \leq X < 90 \text{ days}$	12 minutes
≥ 90 days	60 minutes

Step 6 When the pre-heating process completes, the login interface is displayed.



Note:

During pre-heating, you can gradually increase the working voltage of the X-ray generator to ensure its proper working and prolong its life.

5.2 Login

Step 1 If automatic login with the default account is configured, you automatically log into the system and the system is ready.

Step 2 If login authentication is configured, the login interface is displayed, as shown in the following figure.



Figure 5-2 System Login Interface

Step 3 You can enter your user name and password with any of the following methods:

Method 1: Enter the user name and password through the operation keyboard.

Before entering the user name, press  to select an input mode.

If you select digit mode, press the digit keys on the operation keyboard.

If you select letter mode, press keys as indicated in the following table:

Table 5-2 Letter Input through Keys on the Operation Keyboard

Key	Single Press	Double Presses	Triple Presses
1	A	B	C
2	D	E	F
3	G	H	I
4	J	K	L
5	M	N	O
6	P	Q	R
7	S	T	U
8	V	W	X
9	Y	Z	

To enter a letter, quickly press the corresponding digit key the specified times until you see the letter. If the interval between two presses is too long, you may enter two or more letters.

After entering the user name, click on the password field or press  on the operation keyboard to move the cursor to the password field. Then enter the password through the operation keyboard.

Method 2: Enter the user name and password through the soft keyboard (optional)

Select the Soft Keyboard check box to display the soft keyboard. Click the buttons on the soft keyboard to enter the user name and password.

If you do not have a user name and password assigned by the system administrator, use the following factory default user name and password for operators:

User name: U1; password: 123456.

**Caution:**

Be sure to change and save the initial password of the equipment after first login. The new password takes effect the next time you log in.

**Notes:**

The password you enter is echoed with asterisks (*) for security.

Step 4 After you log into the system successfully, the system become ready, as shown in Figure 5-3.

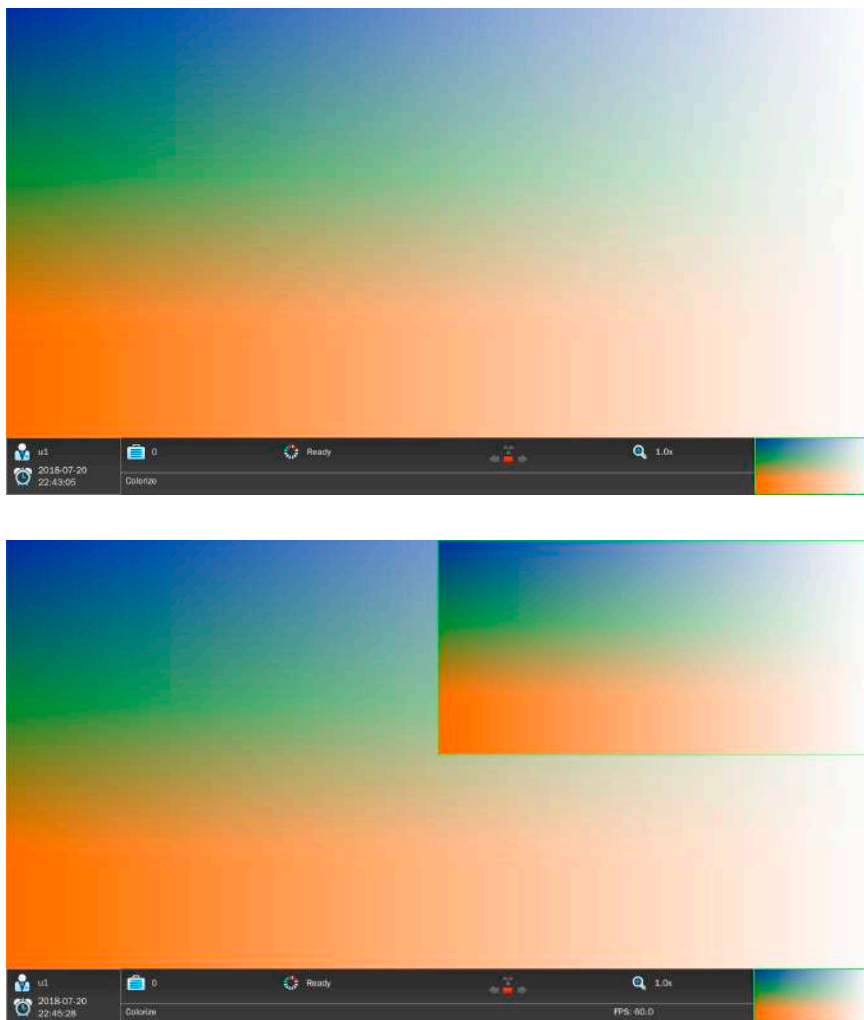


Figure 5-3 System Ready after Successful Login

(The image above is single-view, and the image below is dual-view with single display)

5.3 Logout



Caution:

It is recommended that the current operator logs off before leaving and the next operator who takes over the work log in again.



Note:

When you power off the equipment, the current operator automatically logs off. Therefore, logoff operation is unnecessary in this case.

Step 1 Right-click on the navigation view in the lower right corner of the screen, or



click on the operation keyboard, the main menu is displayed, as shown in the following figure.

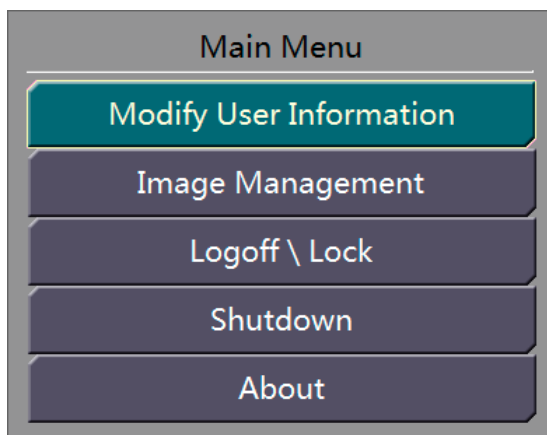


Figure 5-4 Main Menu Interface



Note:

The menu commands available on the main menu vary for system administrators, operators, and maintainers. Figure 5-4 shows the main menu interface for operators. Choose Logoff\Lock menu to display a dialog box.

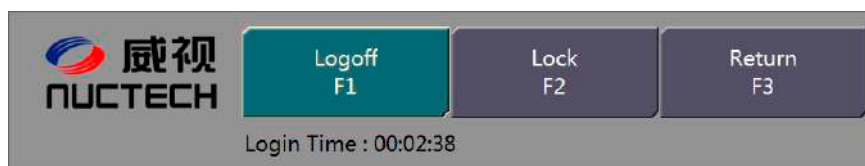


Figure 5-5 Prompt for Logoff/Lock

Step 2 Click “Logoff” or press “F1” on the operation keyboard to display a dialog box.

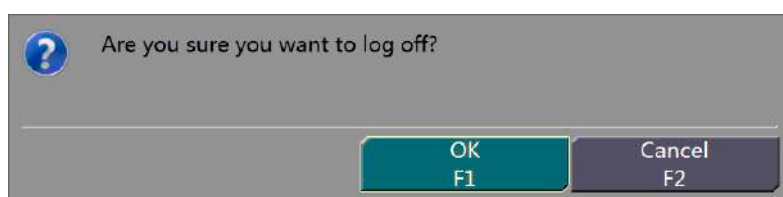


Figure 5-6 Prompt for Logoff

Step 3 Click “OK” or press “F1” on the operation keyboard to log off the current operator.

Step 4 To cancel the current operation, click “Cancel” or press “F2” on the operation keyboard.

Step 5 After successful logoff, the login dialog box is displayed again for login by another operator.

5.4 Shutdown



Caution:

Before you switch off the system, make sure that all items are scanned and no items are left in the equipment tunnel.

Step 1 Make sure the conveyor stops.

Step 2 Turn the key on the operation keyboard to the left to position "OFF", the indicator on the right side of the key switch goes off and the equipment starts the shutdown process.



Caution:

It takes time for the system to save data and exit the operating system. Before the process is completed, do not cut off the power supply to the equipment.

Step 3 The post indicator on the operation keyboard flashes, indicating that the system is saving data.

Step 4 About 50 seconds later, the post indicator on the operation keyboard goes off and the shutdown process completes. Then you can withdraw the power supply plug from the mains outlet.



Caution:

If the equipment is equipped with a UPS, you can turn off the UPS after the post indicator goes off.

Step 5 After the equipment is powered off, withdraw the key and keep it properly.

6 Inspection

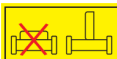
About this Chapter

This chapter introduces:

- Placing Items
- Scanning Items
- Generating Emendation Tables

6.1 Placing Items

Place the inspected item steadily in the middle of the conveyor according to

"Placement of item  " at the entrance of the equipment.



Note:

Thin, dirty, or damaged packaging items need to be prosecuted in the appropriate plastic container to be checked.



Caution:

The inspected item must be put outside the lead protection curtain. Do not put hands into the inspection tunnel.



Caution:

Ensure that the items are not piled up or stacked inside the tunnel, if the items are piled up or stacked, immediately stop the operation of conveyor.



Figure 6-1 Placing Items

**Note:**

The left figure shows the item placement for T-type and B-type equipment, the right figure shows the item placement for S-type equipment. D-type dual-view equipment supports both modes of placement.

6.2 Scanning Items

Function Introduction

When an inspected item enters the tunnel along with the conveyor, the image of the item is displayed on the screen and moves along with the real object. Inspected items are displayed in different colors according to their contents. You can identify the content of an inspected item according to the color, gray level, and shape of its image.

Operation Procedure

Step 1 Press  on the operation keyboard. The corresponding indicator lights up and the conveyor starts to move, sending the inspected item into the tunnel. When the inspected object is scanned in the tunnel, the beam-on indicator lights up, and the system will show the scanned image on the display by way of scroll. The single-view image is as shown in Figure 6-2, the double-view image is as shown in Figure 6-3. The dual-view product can respectively show two views on two displays. It can also simultaneously show two views on the primary display. You can switch between the two display modes.

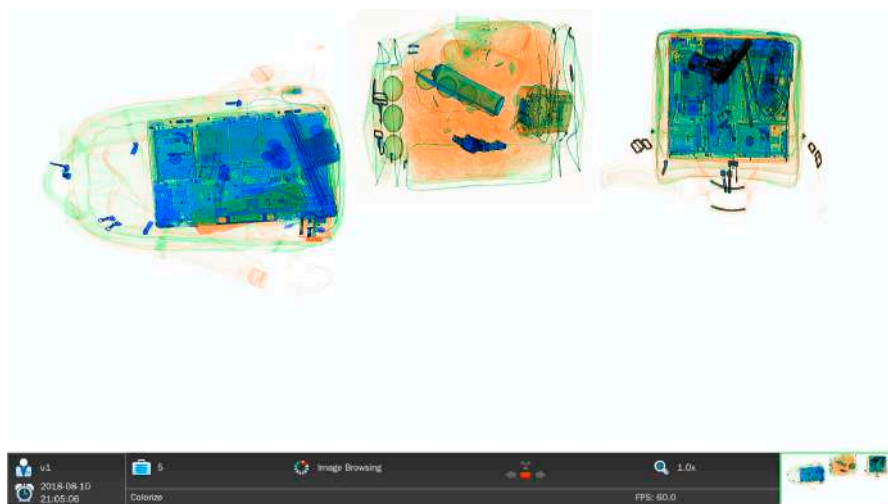


Figure 6-2 Single-view Scanned Image Diagram

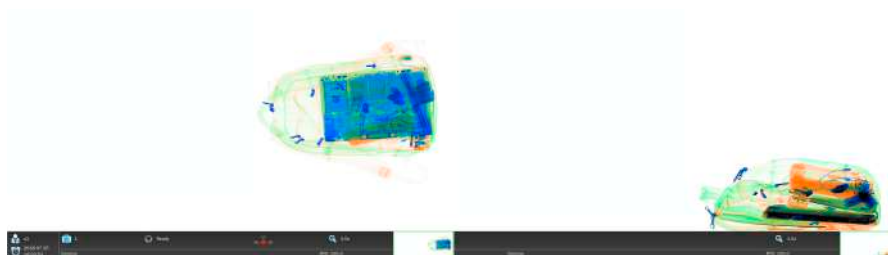


Figure 6-3 Dual-view Scanned Image Diagram



Note:

The figure above shows two views on the primary display. The figure below shows two views on two displays.



Note:

The  key points to the moving direction of the equipment conveyor. If the conveyor moves from right to left, press  to start scanning or press the opposite key to stop the conveyor.



Note:

In bi-direction scan mode, press  on the operation keyboard to start scanning.

Step 2 Request the inspected item to be put on the conveyor as instructed at the entrance of the equipment to ensure proper image generation.

Step 3 Press  on the operation keyboard to stop the conveyor, when the image displayed on the screen stops moving.

Step 4 Press , , or  on the keyboard or another image processing key to process the image in the specified mode and display the image.

6.3 Generating Emendation Tables

Function Introduction

When the equipment continuously scans closely placed items (with clearance less than 20 cm), minor parameter changes of the X-ray generator can cause poor image quality. In this case, an emendation table should be generated to improve image quality.

Operation Procedure

Step 1 Right-click on the image display area or press the  and  on the operation keyboard to display the shortcut menu.

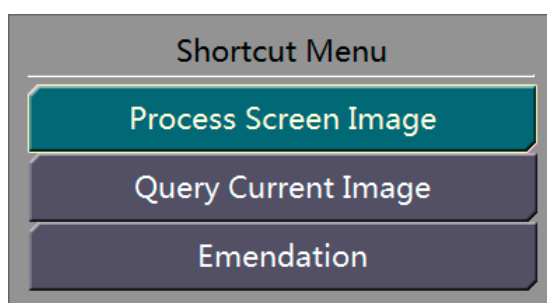


Figure 6-4 Shortcut Menu

Step 2 Choose Emendation, and the tunnel emptying dialog box is displayed. Click “OK”, and the system generates emendation tables, which takes 3 to 4 seconds.

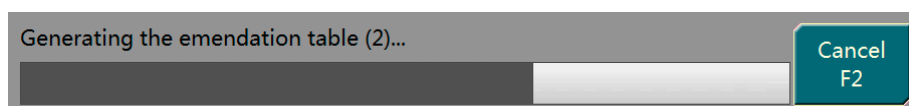


Figure 6-5 Progress Bar Indicator of Generating Emendation Tables

7 Image Processing

About this Chapter

This chapter introduces:

- Image Processing Function
- Image Enhancement Processing
- Image Zoom-in
- Image Recalling
- Image Marking

7.1 Image Processing Function

Function Introduction

To ensure that operators can more easily observe the image, the system sets up 19 kinds of image processing functions and six kinds of pseudo-color schemes.

Operation of the keyboard keys through the definition of image processing functions can be defined in the operation of the keyboard image processing function keys on the keypad. When the operator observes the image, you can operate the keyboard by clicking the appropriate button, call the image processing functions.

7.2 Image Enhancement Processing



Note:

This chapter introduces image processing functions and sample images. For the instructions on image processing, see section “4.2 Operation Keyboard E04.”

7.2.1 Edge Enhancement

Compared with the original image, the edge enhancement function enhanced the edge, especially the weak edge of the image, making the structural outline of the image much clearer.

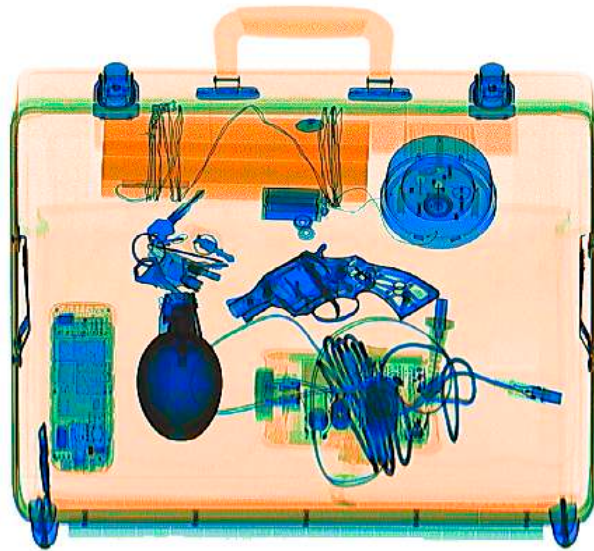


Figure 7-1 Original Image



Figure 7-2 Edge enhancement

7.2.2 Sharpening

The processing effect is between the original image and the edge enhancement. To some extent the edge of the image is sharpened and the image as a whole appears

to be quite smooth.



Figure 7-3 Sharpening

7.2.3 General Enhancement

The general enhancement function enables the images of penetrable objects (such as clothes and silk threads) and impenetrable objects (such as thick metal sheets and frozen objects) to be clearly displayed on the screen. With this function, even low-density objects (such as clothes) between metal sheets are clearly visible.

As a comprehensive image processing tool, general enhancement calculates the contrast of each piece of an image and makes statistics. Thus, it determines the best contrast of each point of the image, and the best detail and edge information.

Figure 7-4 shows an image displayed with the general enhancement function.



Figure 7-4 General Enhancement

7.2.4 Smoothing

Noise in the image is filtered out so that the image looks very smooth and soft.



Figure 7-5 Smoothing

7.2.5 High Penetration

High penetration is used to increase the contrast of the dark areas of an image. Impenetrable objects with high X-ray absorptivity are displayed as dark areas. These objects (such as lead and steel sheets) usually have higher density or are thick.

High penetration enables detailed analysis of the dark areas of an image to identify dangerous items inside impenetrable objects while hiding or weakening penetrable objects.

Figure 7-6 shows an image displayed with a high penetration function.

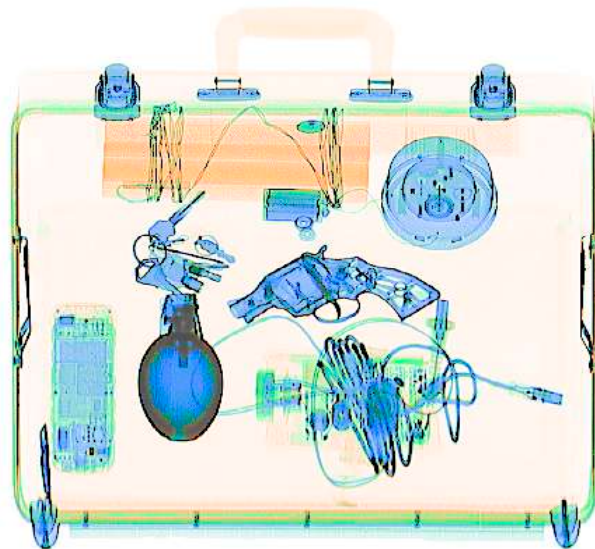


Figure 7-6 High Penetration

7.2.6 General Penetration

The general penetration function enhanced the effect of high penetration, is suitable for displaying the penetrability of equipment.

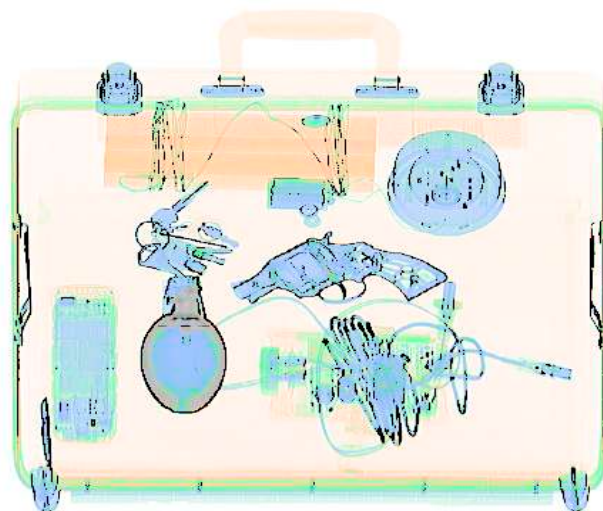


Figure 7-7 General penetration

7.2.7 Low Penetration

Low penetration is used to increase the contrast of the light areas of an image. Penetrable objects with low X-ray absorptivity are displayed as light areas. These objects (such as clothes and paper) usually have lower density or are thin.

Low penetration enables detailed analysis of the light areas of an image to easily identify penetrable objects while displaying objects with high absorptivity in black.

Figure 7-8 shows an image displayed with the low penetration function.



Figure 7-8 Low penetration

7.2.8 Thin Object Inspection

Thin object inspection function enhanced the effect of low penetration, is suitable for viewing thin objects such as envelope and paper. Only CX5030T provides this function for now.

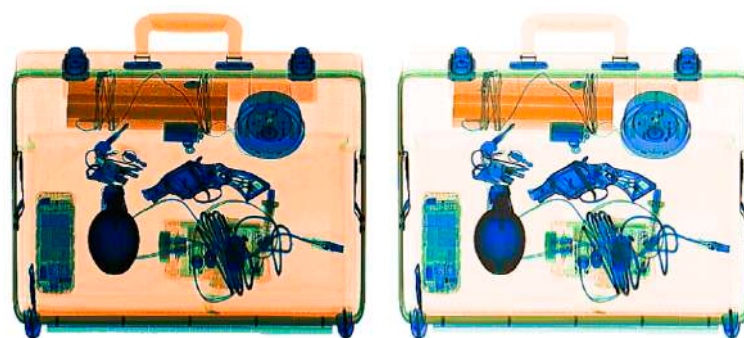


Figure 7-9 Thin Object Inspection

7.2.9 Multi-absorptivity

This function supports multiple absorptivity levels between which you can switch to view the details of the objects in an image. By default, 50 absorptivity levels are supported, that is $-25 \sim +25$.

Multi-absorptivity is used to display the details of objects made of different materials in an image. Multi-absorptivity maintains a certain contrast outside absorptivity levels. Therefore, you have an overview of the inspected item at any absorptivity level.



(a) +10 level

(b) -10 level

Figure 7-10 Multi-absorptivity

7.2.10 Fading

The Fading function is used for automatic brightness scanning of object image in a periodic and dynamic manner. It continuously changes the gray level of image to achieve the vivid change of object image from light to dark and from dark to light, so that the operators have a more intuitive understanding of the structural outline of objects.

7.2.11 Colorize

Gray images show the X-ray absorptivity of objects only. Color images show both the X-ray absorptivity and the material of objects. Inspected items are classified into organic materials, mixed materials, and inorganic materials according to the materials of the items. Organic materials, mixed materials, and inorganic materials are displayed in orange, green, and blue respectively in the image for easy identification of dangerous objects.



Note:

In the image, different colors indicate the materials of objects, and the lightness indicates the thickness and density of objects. Table 7-1 lists the mapping between color and material. Different from their chemical meanings, the meanings of organic materials, mixed materials, and inorganic materials are based on effective atomic number.

Table 7-1 Mapping between Material and Color

Category	Effective Atomic Number	Color	Typical material
Organic material	Lower than 10		Compounds of light elements such as hydrogen, carbon, nitrogen, and oxygen, including most explosives (such as nitroglycerin), plastic (such as polypropylene), paper, cloth, food, wood and water.
Mixed material	Between 10 and 18		Medium-mass metal elements (such as aluminum) and salt
Inorganic material	Higher than 18		Heavy metal elements (such as titanium, chrome, silver, nickel, iron, copper, zinc, and lead)

7.2.12 Black-and-White (B/W)

All objects are displayed on levels of 256 lightness (gray levels) from black to white, with the lightness of a point on an image indicating the X-ray absorptivity of the point on the real object.

Objects with high absorptivity are displayed in black or dark gray. These objects (such as lead and steel sheets) usually have higher density or are thick. Objects with low absorptivity are displayed in white or lightly. These objects (such as clothes and paper) usually have lower density or are thin.

Figure 7-11 shows an image displayed with the black-and-white function.

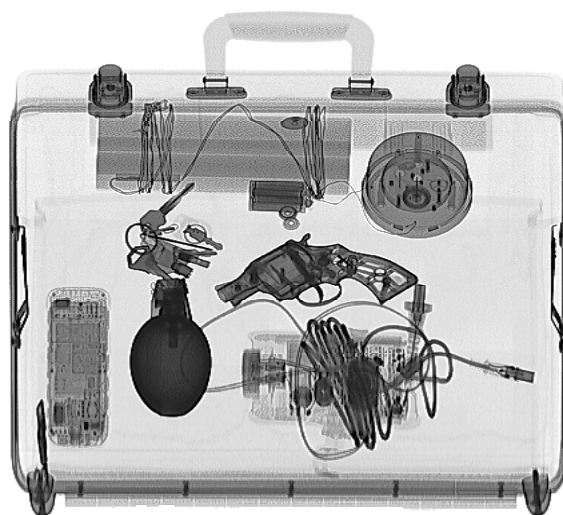


Figure 7-11 Black-and-White (B/W)

7.2.13 Organic Stripping

Organic stripping is used to inspect inorganic materials and mixed materials. Generally, contraband metal instruments such as knives and daggers are called inorganic materials. Mixtures of contraband metal instruments and commodities such as clothes and foods make it difficult for identification.

With this function, the organic material areas in a color image are displayed in light gray, and the other objects (inorganic materials and mixed materials) are displayed in material-specific colors. Thus, inorganic materials and mixed materials are easily identifiable.

Figure 7-12 shows an image displayed with the organic stripping function.

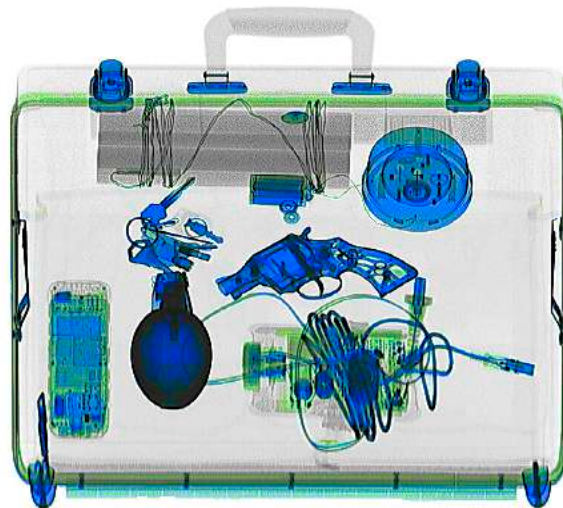


Figure 7-12 Organic stripping

7.2.14 Mineral Stripping

This function is used to inspect organic materials and mixed materials. Generally, dangerous objects (such as drugs and explosives) and commodities (such as clothes and foods) are called organic materials. Mixtures of knives and metal electrical appliance with these organic materials are called mixed materials.

With this function, the inorganic material areas in a color image are displayed in light gray, and the other objects (organic materials and mixed materials) are displayed in material-specific colors. Thus, organic materials and mixed materials are easily identifiable.

Figure 7-13 shows an image displayed with the mineral stripping function.

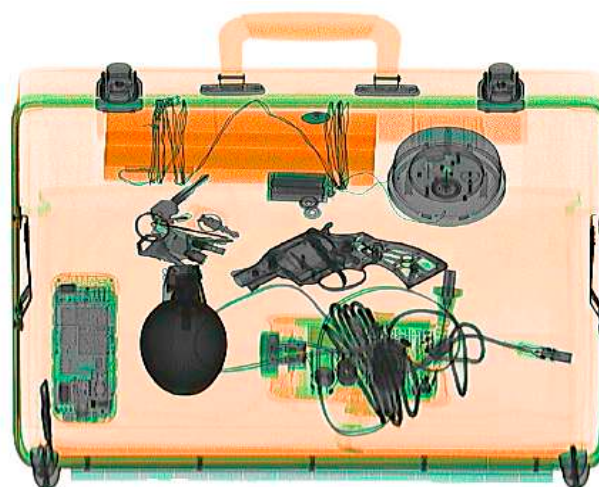


Figure 7-13 Mineral stripping

7.2.15 Organic Stripping+

This function is used to inspect metal objects (such as contraband objects like knives and daggers) in inspected items.

With this function, the organic material areas in a color image are displayed in light gray, inorganic materials are displayed in different colors, mixed materials with organic materials filtered are displayed in different colors. Thus, the organic materials in a color image is stripped so that the inorganic materials (such as thin steel sheets, parts, and knives) hidden behind the organic materials are easily identifiable.

Figure 7-14 shows an image displayed with the organic stripping+ function.



Figure 7-14 Organic Stripping+

7.2.16 Mineral Striping+

This function is used to inspect organic materials (such as dangerous objects like drugs and explosives) in inspected items.

With this function, the inorganic material areas in a color image are displayed in light gray, organic materials in different colors, mixed materials with inorganic materials filtered in different colors. Thus, the inorganic materials in a color image is stripped so that the organic materials (such as explosives and drugs) hidden behind the inorganic materials are easily identifiable.

Figure 7-15 shows an image displayed with the mineral stripping+ function.



Figure 7-15 Mineral Stripping+

7.2.17 Organic Materials Only

This function is used to inspect organic materials (such as dangerous objects like drugs and explosives) in inspected items. With this function, the mixed and inorganic material areas in a color image is displayed in light gray, organic materials are displayed in different colors.

An image displayed with the Organic Materials Only function is shown as Figure 7-16.



Figure 7-16 Organic Materials Only

7.2.18 Suspicious Organic Materials Enhancement Z7/Z8/Z9

The effective atomic numbers Z_{eff} of explosives and drugs is in the range of [7,9] are centralized, as listed in Table 7-2.

Table 7-2 Effective Atomic Numbers of Explosives and Drugs

Effective Atomic Numbers Z_{eff}	Material
7	Water and plastic explosives
8	Impure drugs or explosives
9	Pure drugs

The enhanced display of suspicious items is used to highlight organic materials with Z_{eff} equal to 7, 8, or 9. With this function, you can view organic materials with Z_{eff} as 7, 8, or 9 respectively. The organic material areas in an image with the specified Z_{eff} are displayed in red and other areas are displayed in gray. Thus, suspicious explosives and drugs are easily identifiable.

The following three figures show three images displayed with the Suspicious Organic Materials Enhancement function. The figure clearly shows the amphetamine grains in a bag displayed with the Z9 function:

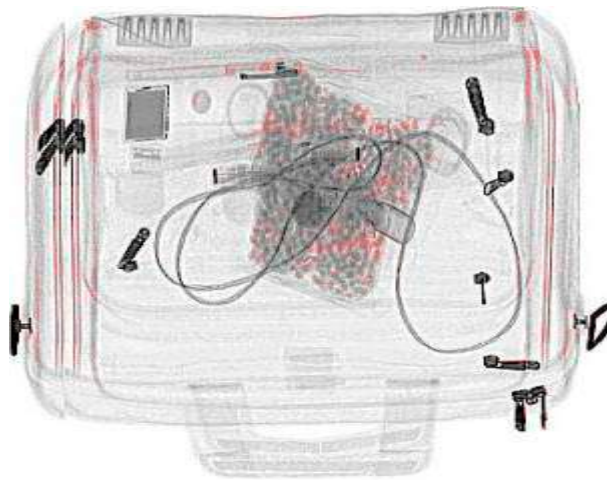


Figure 7-17 Suspicious Organic Materials Enhancement (Z7)

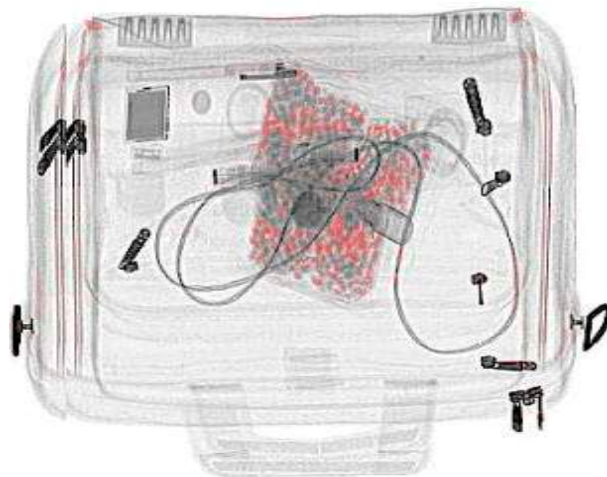


Figure 7-18 Suspicious Organic Materials Enhancement (Z8)

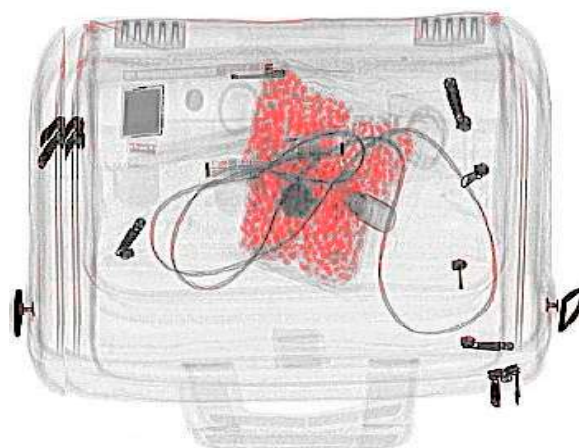


Figure 7-19 Suspicious Organic Materials Enhancement (Z9)

7.2.19 Negative

The negative function is used to inspect tiny high-density thread-shaped objects (such as metal threads). Images displayed with this function look like films of photos. The basic colors of the images remain unchanged, objects with high absorptivity appear light, and objects with low absorptivity are in black.

The following figure shows an image displayed with the negative function.



Figure 7-20 Negative

7.3 Image Zoom-in

7.3.1 Globally Zooming in Images

Function Introduction

The global zoom-in function is used to clearly display an image. This function zooms in an entire image so that you can view every detail of the image.

When users view the image by pressing the upward, downward, leftward, rightward, upper left, lower left, upper right, or lower right navigation key, the image is automatically enlarged one time, then moves in the specified direction, see section 4.2.7 or 4.3.7 for details.



Note:

The global zoom-in function enlarges an image up to 64 times. When zooming in an image, you can drag the image or press navigation keys to move focus.

Operation Procedure

Step 1 Press  on the operation keyboard to zoom in the screen image.

Step 2 A single press on the zoom-in key (right) enlarges the image 1.2 times. A single press on the zoom-out key (left) reduces the image 1.2 times.

Step 3 Press  to exit the zoom-in status.

7.3.2 Partially Zooming in Images

Function Introduction

The partial zoom-in function is used to zoom in a certain part of an image to view tiny objects. This function partially zooms in an image so that you can identify the details.

Operation Procedure

Step 1 Press  on the operation keyboard. And press navigation keys to locate the image part to zoom in. The part of the image is enlarged one time, as shown in the following figure.

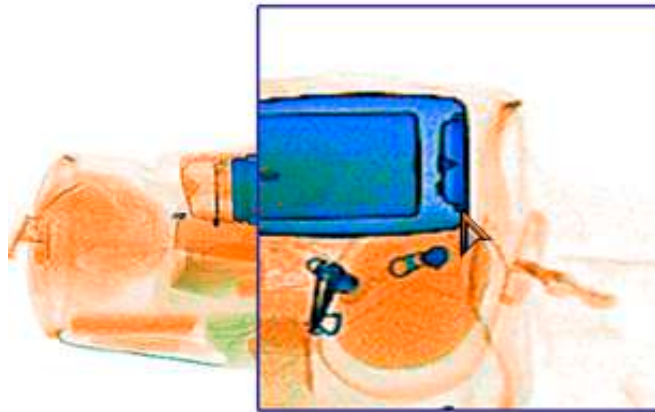


Figure 7-21 Image Two Times of the Original Size

Step 2 Press Partial zoom-in again, and the part of the image is enlarged three times.



Figure 7-22 Image Three Times of the Original Size



Note:

The partial zoom-in function can enlarge an image to three times of its original size at most. To view a tiny object more clearly, use the global zoom-in function and drag the image.

7.4 Image Recalling

Function Introduction

The recall function is used to redisplay an image that has scrolled across the

screen.

This function allows you to recall all the previous scan images in turn.



Note:

This function is used no matter whether scanning is in process without impact on scanning. When a new scan image is generated, recalling automatically stops and the new image is displayed on the screen. To maintain uninterrupted recalling, stop scanning before starting the recall function.

Operation Procedure

Press or hold down  the leftward navigation key continuously to recall images. Images are displayed on the screen in the opposite direction of scanning.



Note:

In bi-direction scan mode, images are recalled from two directions respectively, because the inspected items enter the tunnel from different directions.



Note:

Recalling will not impact the current image processing, even when the zoom-in or multi-image processing function is used.

7.5 Image Marking

7.5.1 Marking Images with the Operation Keyboard

Function Introduction

This function is used to mark a suspicious image with the operation keyboard. The system marks the image file for query or further unpacking inspection.

Operation Procedure

Step 1 Press  on the operation keyboard when finding a suspicious image. An interface is displayed, as shown in the following figure.

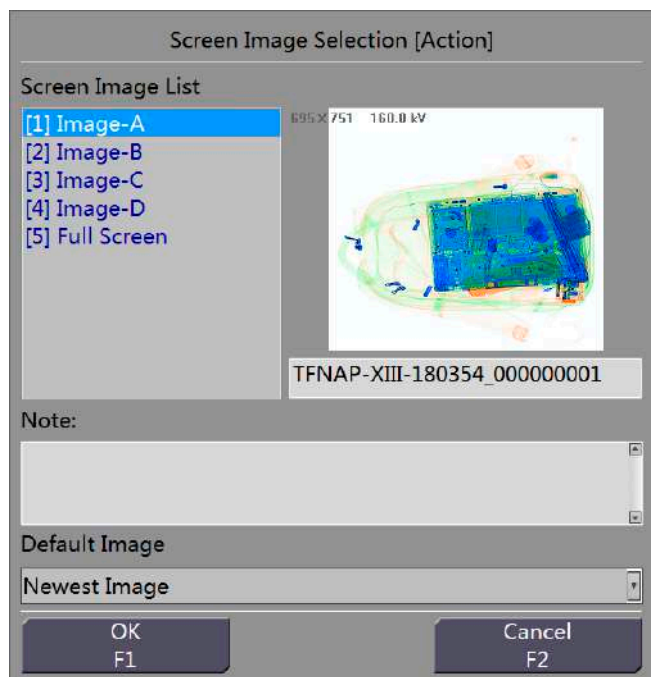


Figure 7-23 Image Marking Interface

The operation is similar to manual image saving. For details, please refer to the section "8.1.2 Operation procedure".

Step 2 Press navigation keys on the operation keyboard to select the image to mark. To cancel the marking, click "Cancel" or press "F2" on the operation keyboard. To confirm the marking, Click "OK" or press "F1" on the operation keyboard.

7.5.2 Marking Images with Mouse (Optional)

Function Introduction

This function is used to mark a suspicious image with mouse. The system marks the image file for query or further unpacking inspection.

Operation Procedure

Step 1 Place the mouse pointer on the center of the suspicious image.

Step 2 Double-click the center of the image, and an image marking frame appears around the mouse cursor.

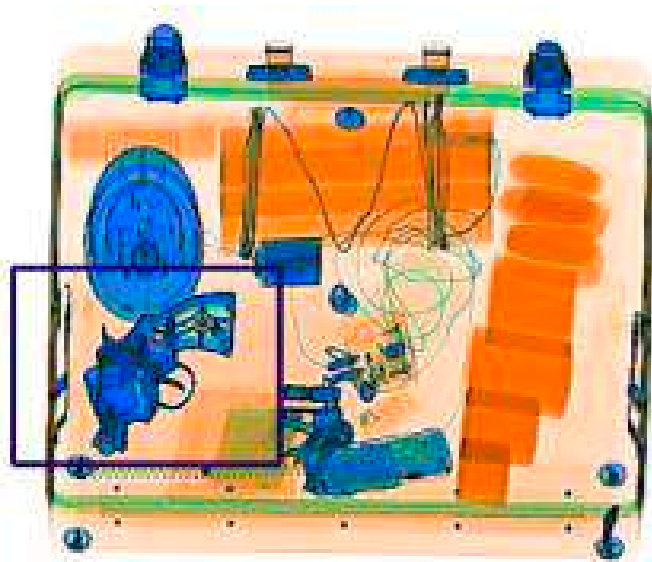


Figure 7-24 Marking an Image with Mouse



Note:

Image marking applies to the current scan image, but not to recalled images or queried historical images.

8 Image Management

About this Chapter

This chapter introduces:

- Saving Images
- Querying Images
- Opening Images
- Locking Images
- Unlocking Images
- Displaying the Newest Image

8.1 Saving Images

8.1.1 Automatically Saving Images

All scanned images can be stored on the hard disk. The images on the hard disk are automatically deleted in batches when their size reaches a preset limit, in order to leave space for new images. Automatic deletion starts from the oldest unlocked images.



Note:

The images scanned by the equipment are named in the format of "equipment number + date + image SN".

8.1.2 Manually Saving Images

Function Introduction

All the scanned images are stored on the hard disk of the current equipment. Image files are stored in image inspection sequence.

The manual saving function is used to save the current image in a location different from that for automatically saved images. Manually saved images and automatically saved images are stored separately. Manually saved images are less in quantity and are easy to query.

Operation Procedure

- Right-click on the current image to display a menu, as shown in the following figure.

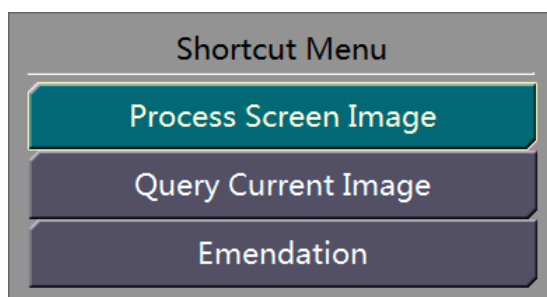


Figure 8-1 Shortcut Menu for Operators

- Choose Process Screen Image or press  on the operation keyboard to display an interface, as shown in the following figure.

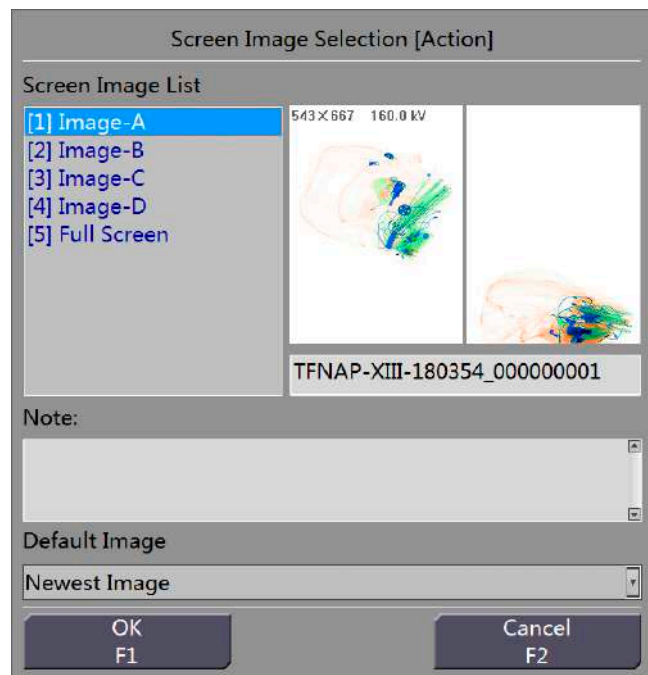


Figure 8-2 Screen Image Processing Interface



Note:

The figure above shows a single-view device; the figure below shows a dual-view device.

Screen Image List: Select the image you want to save. An image usually includes only one inspected item, but may include two or more closely placed items that are identified as one item. The selected Image –A can be previewed in the right pane.

Default Image: Select the type of images that may need to be manually saved from Newest Image and Current Image.

Newest Image: If this item is selected, the newest image is manually saved by default.

Current Image: If this item is selected, you are asked to select an image around the mouse pointer for manual saving.

Full Screen Image: If this item is selected, the full screen image is manually saved by default.

- Press navigation keys on the operation keyboard to select the image to save. To cancel the saving, click “Cancel” or press “F2” on the operation keyboard. To confirm the saving, Click “OK” or press “F1” on the operation keyboard. A dialog box as shown in the following figure is displayed, prompting the success of image saving.
- The image name can be changed by entering a different name in the box displaying "THS 00000001-100000001". The default name that comes with the system will be used if no change is made.

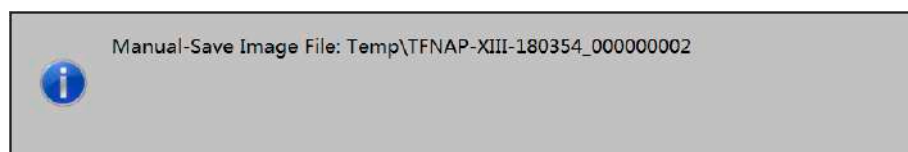


Figure 8-3 Prompt for Successful Manual Saving

8.2 Querying Images

Function Introduction

This function is used to query, lock, and unlock the currently scanned image during image inspection.

Operation Procedure

Step 1 Right-click on the current image to display a menu, as shown in the following figure.

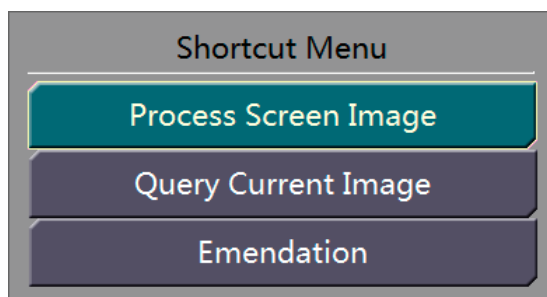


Figure 8-4 Shortcut Menu for Querying Current Image

Step 2 Choose Query Current Image to display the Image Management interface.

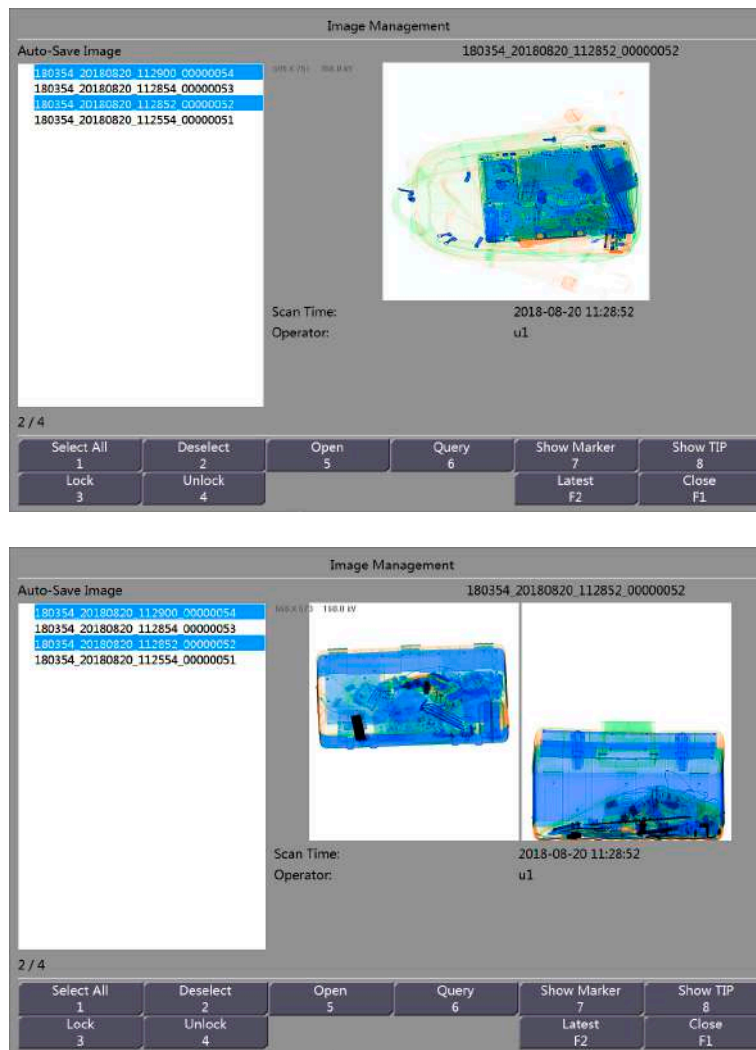


Figure 8-5 Image Management Interface



Note:

The figure above shows a single-view device; the figure below shows a dual-view device.

Class: It specifies the class of the queried image. The selected file can be previewed in the right pane.

Scan Time: It specifies the scanning and saving time of the selected image.

Operator: It specifies the user name of the operator that scans the image.



Note:

The default image class in current image querying is Temporary Image.

Step 3 Select the image file to query. To query the detail of the file or process the file, click “Query” on the Image Management interface or press “6PQR” on the operation keyboard to display the Query interface.

A screenshot of the 'Query' dialog box. It has a title bar 'Query'. Below it is a 'Class List' section with a list box containing 'Auto-Save Image' (highlighted in blue), 'Manual-Save Image', and 'Temporary Image'. Below the list box are two dropdown menus: 'User' with 'u1' selected and 'Time Range' with 'Current Login' selected. Below these are three checkboxes: 'Locked Image Only', 'Marked Image Only', and 'Miss TIP Image Only', all of which are currently unchecked. At the bottom are two buttons: 'OK' with 'F1' below it, and 'Cancel' with 'F2' below it.

Figure 8-6 Image Querying Interface

Class List: Select the class of the image to query.

User: Select the user name of the operator that generates the image. An operator can only query images generated by the operator's user account.

Time Range: Select the time range during which the image is generated. The optional time ranges include Current Login, One Day, One Week, and Custom. If you select Custom, the Select Time Range Interface is displayed.

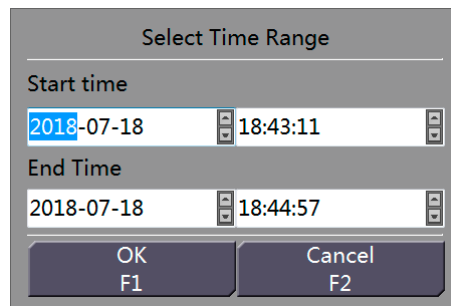


Figure 8-7 Time Range Selecting Interface

Change the start time and end time to define the time range during which the image is generated. After confirmation, click “OK” or press “F1” on the operation keyboard to return to the Query interface.

Locked Image Only: If the image to query is in the locked image list, select this check box.

Marked Image Only: If the image to query is in the marked image list, select this check box.

Missed TIP Image Only: Let the operator see if the image to query is in the missed TIP image list, if yes, select this check box. (Only when the TIP function is enabled)



Note:

If the image class is Auto-Save Image or Manual-Save Image, the Locked Image Only and Marked Image Only check boxes are displayed on the interface. Select one or both check boxes as required.

Step 4 After the selection, click “OK” or press “F1” on the operation keyboard to return to the Image Management interface. The class of image to query is displayed, See the figure below.

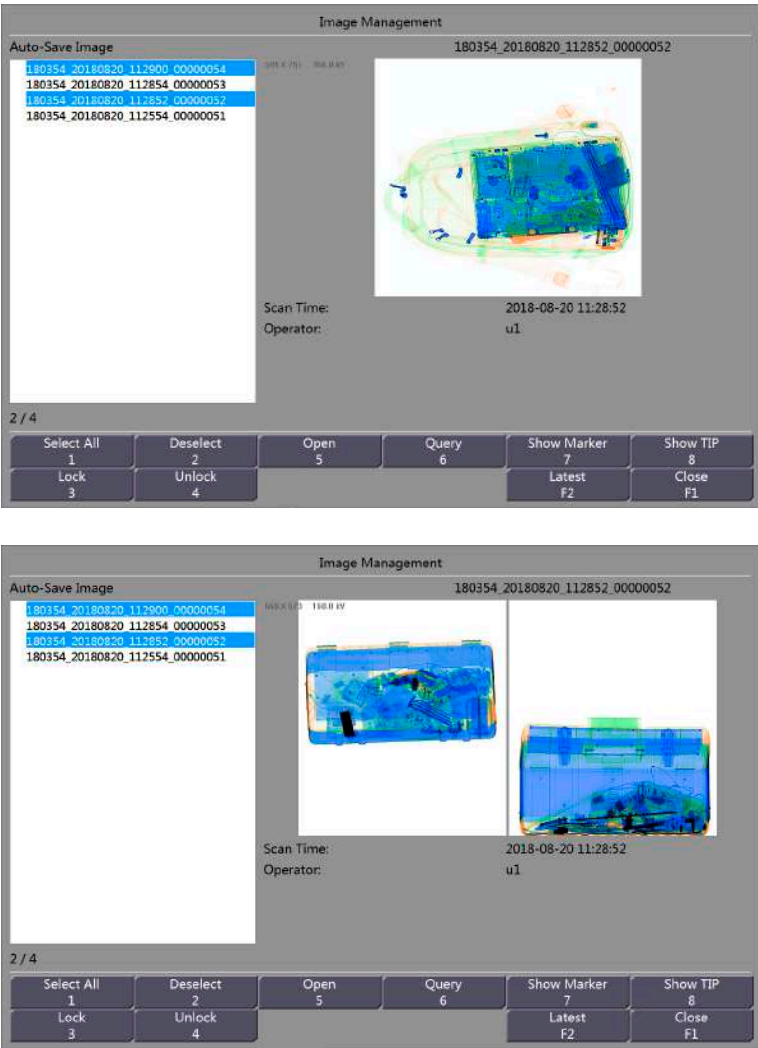


Figure 8-8 Image Querying Result



Note:

The figure above shows a single-view device; the figure below shows a dual-view device.

Step 5 Select the image to query, and click “Open” or press 5 MNO on the operation keyboard to query the detail. The selected image is displayed in full screen mode and Image Browsing is displayed on the system status bar.



Note:

By default, scan images are displayed without additional information. To display additional information, select the following options.

Show TIP*: If this option is selected, TIP is displayed in the preview.

Show Mark: If this option is selected, a mark frame is displayed in the preview.

8.3 Opening Images

Function Introduction

This function is used to open the queried image file to display the image on the screen.



Note:

This function is used to open one or more files.

Operation Procedure

Step 1 In the current display screen, right-click, or click  +  on the operation keyboard to display the shortcut menu, click on Query Current Image and enter Image Management interface.

Step 2 Select the image to open.

Step 3 Click “Open” or press 5 MNO on the operation keyboard to display the selected image on the screen.

Step 4 If several images are selected, press the leftward or rightward key on the operation keyboard to browse images one by one.



Caution:

Up to 256 images can be opened simultaneously. If you select more than 256 images, only the first 256 images are displayed with a prompt, as shown in the following figure:

Click “OK” or press the Increase key on the operation keyboard to close the dialog box; Select fewer files for opening.

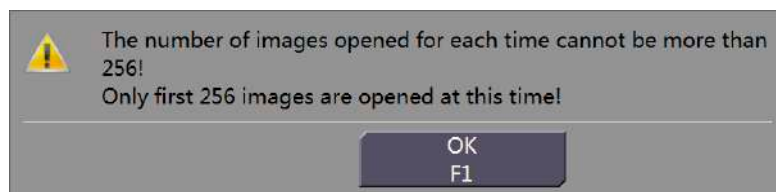


Figure 8-9 Prompt for Image File Quantity for Opening Exceeding Limit

8.4 Locking Images

Function Introduction

To prevent some images being deleted automatically, you can lock images. Automatic deletion starts from unlocked images but saves locked images.

Operation Procedure

Step 1 In the current display screen, right-click, or click  +  on the operation keyboard to display the shortcut menu, click on Query Current Image and enter Image Management interface.

Step 2 Select the image to lock from the image list. To select several images, click the images one by one or select the images with the keyboard. To select all the image files in the current image list, click Select All or press 1 ABC on the operation keyboard. To select most files from the list, select the files not to be locked, and then click Deselect or press 2 DEF on the operation keyboard.

Step 3 Click Lock or press 3 GHI on the operation keyboard. The icon of lock appears before the selected file, as shown in the following figure.

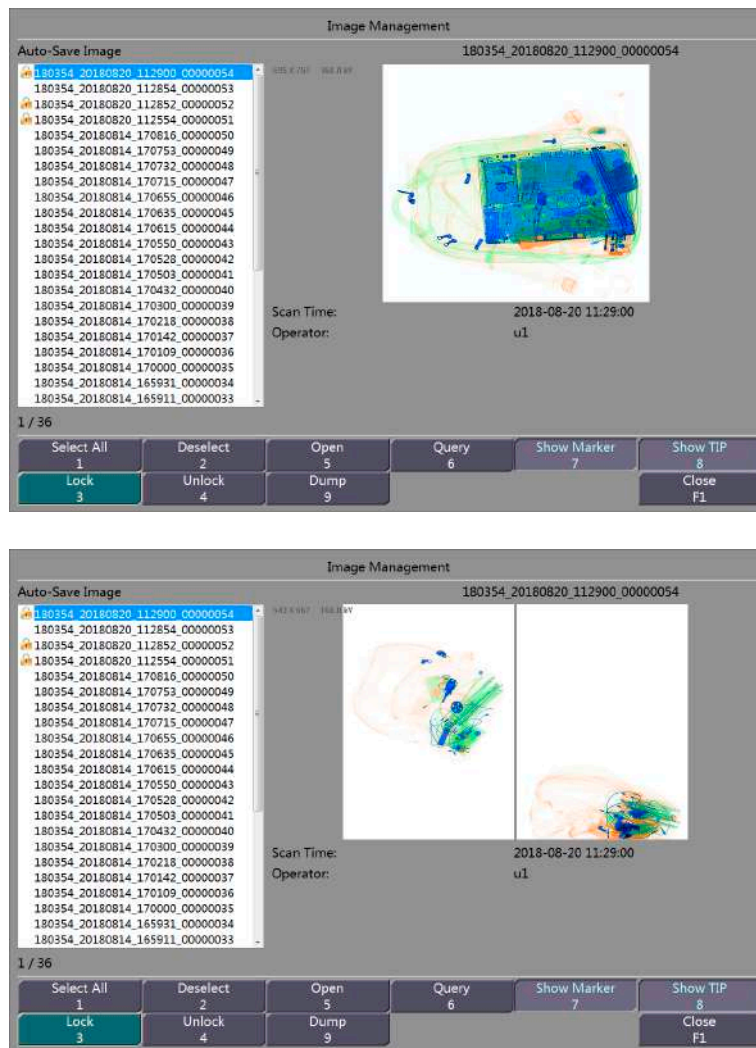


Figure 8-10 Locking Image Interface in Image Management



Note:

The figure above shows a single-view device; the figure below shows a dual-view device.



Note:

By default, 256 images are locked at most.

If the files locked exceed the maximum limit, a prompt is displayed as shown in the following figure.

Click “OK” or press the Increase key on the operation keyboard to close the dialog box; Select fewer files for locking.

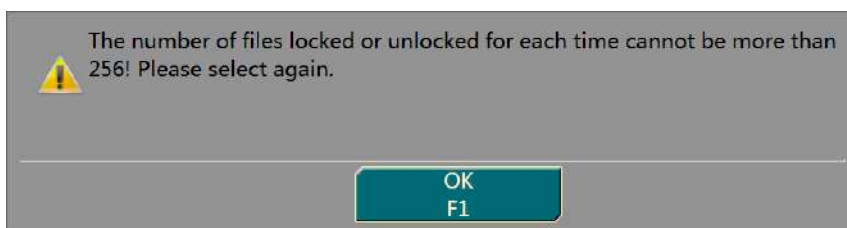


Figure 8-11 Prompt for Images Locked Exceeding Limit

8.5 Unlocking Images

Function Introduction

This function is used to unlock images.

Operation Procedure

Step 1 In the current display screen, right-click, or click  +  on the operation keyboard to display the shortcut menu, click on Query Current Image and enter Image Management interface.

Step 2 Select the files to be unlocked.

Step 3 Click Unlock or press 4 JKL on the operation keyboard, the selected files will be unlocked. The icon of lock before the selected file disappears in the file list.

8.6 Displaying the Newest Image

Function Introduction

This function is used to redisplay the newest image after opening or recalling. This function is also used after you log in to recall the last image displayed after the last time you log off or close the system.

Operation Procedure

Step 1 In the current display screen, right-click, or click  +  on the operation keyboard to display the shortcut menu, click on Query Current Image and enter Image Management interface.

Step 2 Click Latest or press “F2” on the operation keyboard. The newest scan image is displayed.

9 User Management

About this Chapter

This chapter introduces:

- Modifying User Information

9.1 Modifying User Information

Function Introduction

This function is used to change your user name, password, and description.

An operator can only modify its own user information.

Operation Procedure

- Choose Modify User Information from the main menu as shown in Figure 4-10 and press the Increase key on the operation keyboard to display the Edit User interface.

The 'Edit User' interface is a form with the following fields and controls:

- User ID: 101
- Card ID: [Empty] [Manage]
- User Name: system
- User's full name: Administrator
- Old Password: [Empty]
- New Password: [Empty]
- Confirm Password: [Empty] [Reset]
- User Role: [Empty]
- System Group: [Empty] [Dropdown Arrow]
- User Group: Ungrouped [Dropdown Arrow]
- Description: [Empty]
- Frozen: [Empty] [Checkbox]
- Buttons: OK F1, Cancel F2

Figure 9-1 User Editing Interface

- On the Edit User interface, you can change your user name, password, and description, where user ID is generated automatically by the system.

User Name: To change the current user name, press  on the operation keyboard to select an input mode and enter the new user name as described in "Logging In".

Old Password: To change your password, you need to enter your current password here. Place the cursor on this field and enter your current password. If an incorrect password is entered, a prompt is displayed.

The prompt displays a yellow warning triangle icon and the text: "Incorrect old password! Please check and enter again." Below the text is an "OK F1" button.

Figure 9-2 Prompt for Incorrect Password

New Password: To change your current password, enter a new password here.

Passwords can use number or letters and the letters are not case-sensitive. The password is a digit string including up to 16 digits.

Confirm Password: Enter the new password again here, which should match the above password. In case of mismatch, a prompt is displayed.

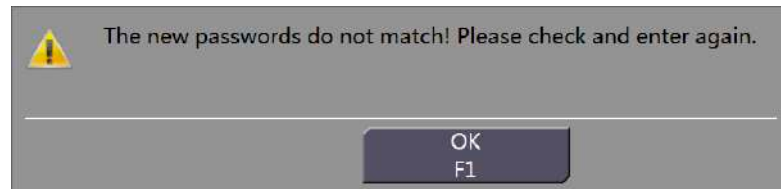


Figure 9-3 Prompt for Password Mismatch

Member Of: This value cannot be modified.

Description: Select an input mode and enter the user description with the operation keyboard. The user description includes up to 128 characters. The field can be null.

- To exit editing or modifying during the previous operation, click “Cancel” or press “F2” on the operation keyboard.
- After editing or modifying, Click “OK” or press “F1” on the operation keyboard to save your modification and exit the interface.

10 TIP Operation*

Function Introduction

Based on parameters set by the administrator, the system automatically projects complete luggage images containing contraband objects into inspected items, or automatically projects images of contraband objects into the scanned image of inspected items. As with normal image, TIP image will be automatically saved by the system.

From the statistical reports of the system, administrators can see the operators' working performance, and get to know about the operators' level of identifying images and efficiency.

Find Suspicious Items

If an operator identifies a dangerous object, he/she can press  on the operation keyboard or double-click the suspicious object after the conveyor stops moving. If the dangerous object is injected by the system, a dialog box is displayed as follows.

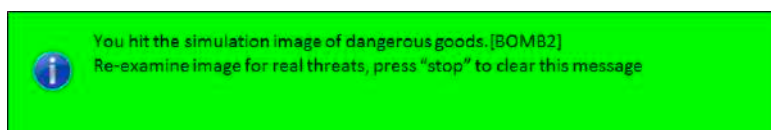


Figure 10-1 Prompt for TIP

Not Found Suspicious Item

If the operator fails to identify the image of the dangerous object projected by the system, a dialog box is displayed as follows.

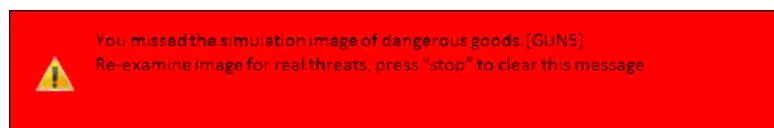


Figure 10-2 Prompt for TIP Identification Failure

The above operations of the operator are saved in TIP database and can be queried on the TIP Examination Query interface.

If an operator marks an image that is not a projected image of a dangerous object, a mark dialog box is displayed, and the operator shall further check the inspected item.

TIP Image Injection Failure

If an operator identifies that a dangerous object is injected outside the parcel, a dialog box is displayed as follows.

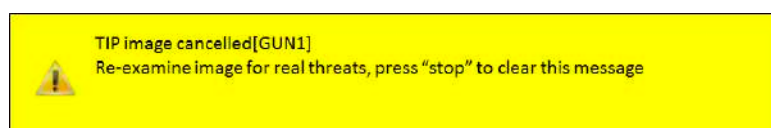


Figure 10-3 TIP Image Injection Failure

Wrong Judgments

If an operator identifies a dangerous object, he/she can press  on the operation keyboard or double-click the suspicious object after the conveyor stops moving. If the dangerous object is not injected by the system, a dialog box is displayed as follows.

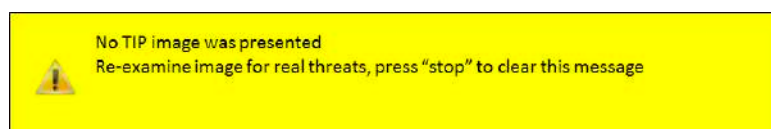


Figure 10-4 Wrong Judgments

11 Routine Maintenance

About this Chapter

Routine maintenance refers to the necessary maintenance performed to prevent system faults. Routine maintenance is important to the proper use and operation of the system. This chapter introduces the following routine maintenance items:

- Clearing the Equipment Surfaces
- Clearing the Photoelectric Sensor
- Cleaning the Monitor
- Checking the Conveyor
- Checking the Lead Curtains at the Entrance and Exit of the Tunnel
- Checking X-ray on and power-on indicators
- Checking Emergency Stop Switches

11.1 Clearing the Equipment Surfaces

When the equipment works for long, the equipment surface will be covered with dust and all kinds of dirt. In order to ensure normal operation of equipment, you need to clean equipment surfaces periodically.

Cleaning equipment surfaces need to use the slightly damp towel.

Clean the equipment's outer covering panel and column.



Caution:

Before cleaning the equipment, switch off the equipment and withdraw the power cable plug from the mains outlet to ensure safety.

11.2 Clearing the Photoelectric Sensor

The photoelectric sensor ② is sheltered or blocked. When the conveyor belt ③ starts to move, the equipment immediately emits X-rays. If the check on system settings shows that Continuous Scan is not enabled, the reason may be that the photoelectric sensor is sheltered or blocked.

Switch off the equipment, withdraw the key from the operation keyboard, and take the key with you. Check the status of the photoelectric sensor. The photoelectric sensor is installed on the inner side of the tunnel ①, as shown in Figure 11-1. Check whether the photoelectric sensor is blocked. Gently wipe the surface of the photoelectric sensor with a slightly damp cotton ball.

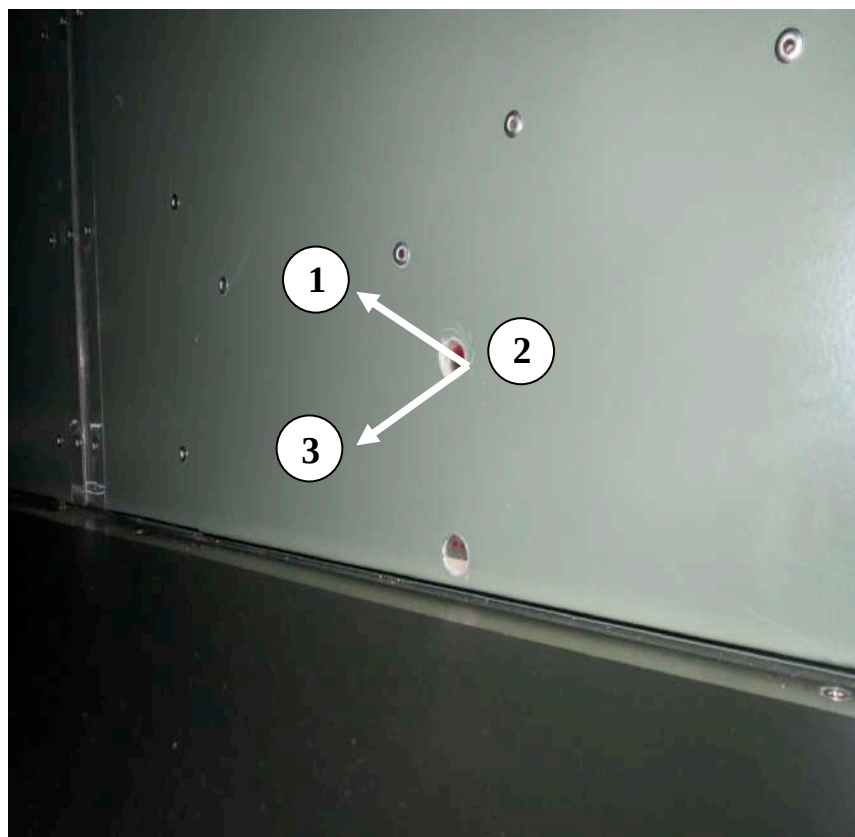


Figure 11-1 Photoelectric Sensor

11.3 Cleaning the Monitor

When the equipment works for long, dust or fingerprint will collect on the surface of the monitor, degrading the clarity of screen images. In this case, power off the monitor, clean the monitor screen with a special cleanser for monitors, and adjust the lightness of the monitor.

11.4 Checking the Conveyor

When the equipment works for long, the conveyor may drift from central line of the tunnel. If the motor is exposed, the conveyor should be adjusted. Contact professional maintenance personnel to adjust the conveyor.

11.5 Checking the Lead Curtains at the Entrance and Exit of the Tunnel

If there are obvious tears and damages, or missing segments between lead curtains, contact professional maintenance personnel to replace or supplement it.



Caution:

Operators must wear gloves to adjust lead curtains.

11.6 Checking X-ray On and Power-on Indicators

If any X-ray on or power-on indicator is not on when the equipment is working, contact professional maintenance personnel to replace it.



Note:

The system administrators and maintainers can also check the status of the X-ray on indicator through the diagnosis program.

11.7 Checking Emergency Stop Switches

The emergency stop switches on the outer covering panel and the operation keyboard of the equipment are important safety components. If any switch is found loose or damaged on the cover, immediately stop using the equipment and request the professional maintenance personnel to repair or replace it. Do NOT use the equipment until the repair is completed.



Note:

To check whether an emergency stop switch works properly, press the emergency stop switch. The motor should stop rotating, the X-ray generator stops emitting

X-rays, and a prompt is displayed on the screen, indicating that an emergency stop switch is pressed.

12 Common Troubleshooting

About this Chapter

This chapter introduces solutions to:

- Key Switch Indicator Not On and Equipment Startup Failure
- No Image Output on Screen
- Conveyor Startup Failure
- The Equipment Is Shut Down Automatically During Operation

12.1 Key Switch Indicator Not On and Equipment Startup Failure

Symptom

Turn the key switch on the operation keyboard to start the system. The key switch indicator on the right does not light up and the equipment cannot be powered on.

Diagnosis

The power cable plug of the equipment is not well connected.

The control cable on the operation keyboard is not well connected.

The air circuit breaker or the fuses at the power supply side is broken.

Solution

Step 1 Check whether the power cable plug of the equipment is inserted in the mains outlet and whether the power supply is normal. If the plug is loose, insert it again.

Step 2 Check whether the control cable is well connected to the operation keyboard. If not, insert it again and fasten the screws.

Step 3 Turn the key switch on the operation keyboard. If the key switch indicator on the right lights up and the equipment starts up, it indicates that the fault is cleared. Otherwise, perform the following steps.

Step 4 Remove the outer covering panel where the air circuit breaker and fuses are installed, and check whether the air circuit breaker is closed and fuses are in the normal state. If the fuse is blown, replace the fuse with one of the same capacity.

Step 5 Turn the key switch on the operation keyboard again. If the indicator on the right lights up and the equipment starts up, it indicates that the fault is cleared.



Note:

If the fault remains after the previous operation, contact the professional maintenance personnel.

12.2 No Image Output on Screen

Symptom

After the equipment is started up, no image is displayed on the screen.

Diagnosis

The monitor is not powered on.

The monitor is not connected.

Solution

Step 1 Check whether the monitor is powered on. If not, power it on and the power-on indicator should light up.

Step 2 Check whether the cable connector of the monitor is well connected. If not, insert the connector again and fasten the screws.

Step 3 If an image is displayed on the screen, it indicates that the fault is cleared.



Note:

If the fault remains after the previous operation, contact the professional maintenance personnel.

12.3 Conveyor Startup Failure

Symptom

Press  or . The conveyor does not move.

Diagnosis

The emergency stop switch is pressed or the safety interlock switch is triggered.

Solution

Step 1 Check whether the system status panel prompts that emergency stop switch is pressed. If so, perform the following steps.

Step 2 Check the emergency stop switches on the outer covering panel and the operation keyboard. If any switch is pressed, turn it clockwise to reset.

Step 3 Check the prompt on the system status panel. If the prompt indicating that the emergency stop switch is pressed is not displayed, press  or  again and the conveyor should start to move. If the prompt remains, perform the following steps.

Step 4 Check various covering panels of the equipment. If any covering panel is loose, fasten it.

Step 5 Check the prompt on the system status panel. If the prompt indicating that the emergency stop switch is pressed is not displayed, press  or  again and the conveyor should start to move.



Note:

If the fault remains after the previous operation, contact the professional maintenance personnel.

12.4 The Equipment Is Automatically Shut Down During Operation

Symptom

The monitor suddenly turns to black screen in equipment operation, and the power-on indicator of the equipment goes off.

Diagnosis

External power supply of the equipment is loose, the circuit breaker trips or the fuse is blown.

Solution

Step 1 Check whether the external power plug of the equipment is well connected to the mains outlet, if not, tighten them, and enforce some anti-loosen measures to the power plug.

Step 2 If there is no exception on the external power supply of the equipment, check if the circuit breaker trips or the fuse is blown by opening the outer covering panel where the air circuit breaker and fuses are installed.



Note:

If the fault remains after the previous operation, contact the professional maintenance personnel.

Part III Administrator's Manual

13 User Management

About this Chapter

This chapter introduces:

- Account Management
- Group Management
- Role-based Permission Management
- Other Settings

13.1 Account Management

13.1.1 Adding a User

Function Introduction

An operator must have a user name and password to use the system. This function is used to set user name, password, and operation permissions for a new user.

Operation Procedure

Step 1 Choose User Management in the main menu to display the User Management interface, as shown in Figure 13-1.

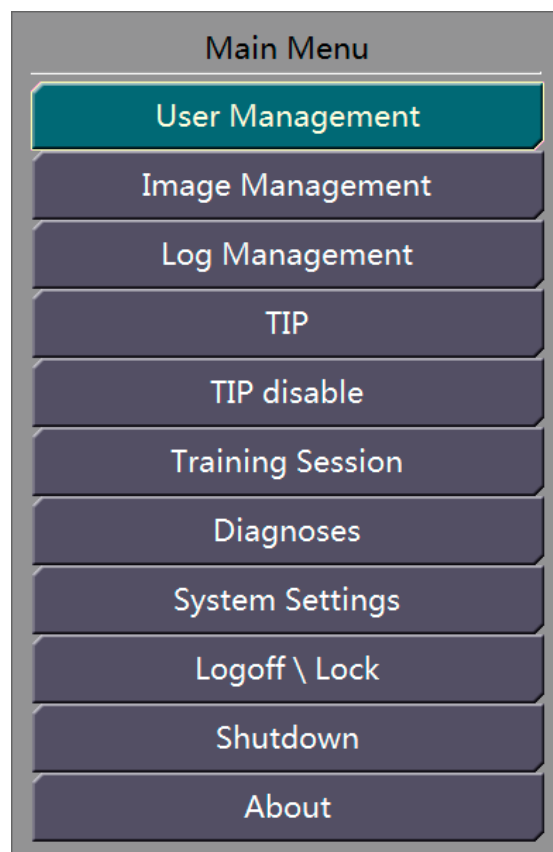


Figure 13-1 Main Menu

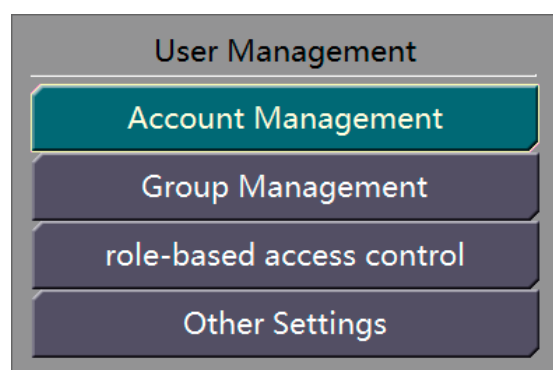
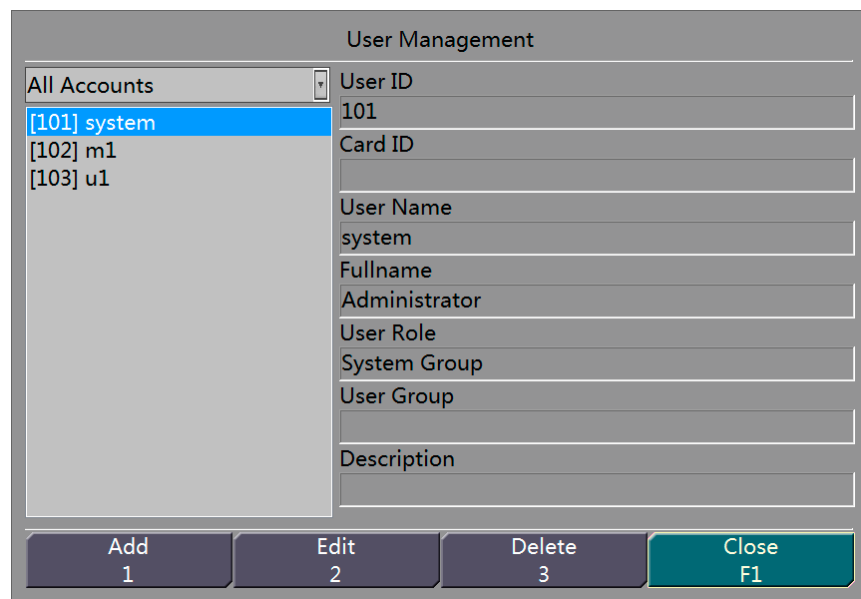


Figure 13-2 User Management Menu

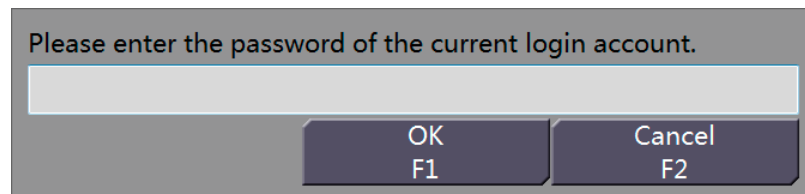


The screenshot shows a 'User Management' window. On the left, there is a list of accounts under the heading 'All Accounts'. The list contains three entries: '[101] system' (highlighted in blue), '[102] m1', and '[103] u1'. On the right, there are several input fields for user details: 'User ID' (containing '101'), 'Card ID' (empty), 'User Name' (containing 'system'), 'Fullname' (containing 'Administrator'), 'User Role' (empty), 'System Group' (empty), 'User Group' (empty), and 'Description' (empty). At the bottom of the window, there are four buttons: 'Add 1', 'Edit 2', 'Delete 3', and 'Close F1'.

Figure 13-3 User Management Interface

A list of all users in the current system is displayed in the pane on the left part.
Information of the currently selected user is displayed on the right part.

Step 2 Click “Add” to display a dialog box, as shown in Figure 13-4.



The screenshot shows a dialog box with the title 'Please enter the password of the current login account.' Below the title is a text input field. At the bottom of the dialog box, there are two buttons: 'OK F1' and 'Cancel F2'.

Figure 13-4 Prompt for Entering Password

To protect user information, you are asked to enter a password with administrator's permission.

Step 3 After entering the password in Figure 13-4, Click “OK” or press “F1” on the operation keyboard to display a dialog box.

New User

User ID

104

Card ID

Manage

User Name

User's full name

Old Password

New Password

.....

Confirm Password

.....

User Role

Operation Group

...

User Group

Ungrouped

Description

Frozen

☐

OK

F1

Cancel

F2

Figure 13-5 New User Interface

Step 4 Enter user ID in the User ID field, use numbers of up to 9 digits only.

Step 5 Enter user name in the User Name field, where numbers, letters (a-z, A-Z), "-", "_", Chinese and space are supported. The English section is case sensitive.

The card may be associated with the user. After associating with the card, the user can then log into the system by swiping the card on the login screen. The card number can be associated as follows:

Click

Manage

 button after the card number, and the Card Management interface pops up.

Card Management

Associated

Dissociate

Card ID is

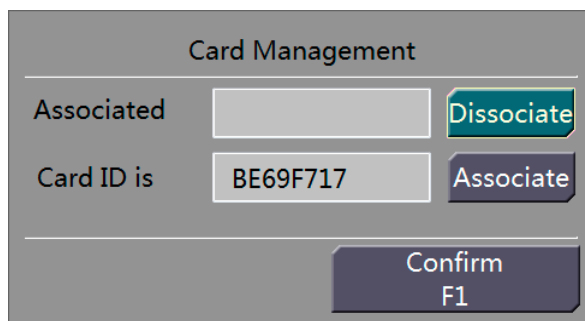
Associate

Confirm

F1

Figure 13-6 Card Management Interface

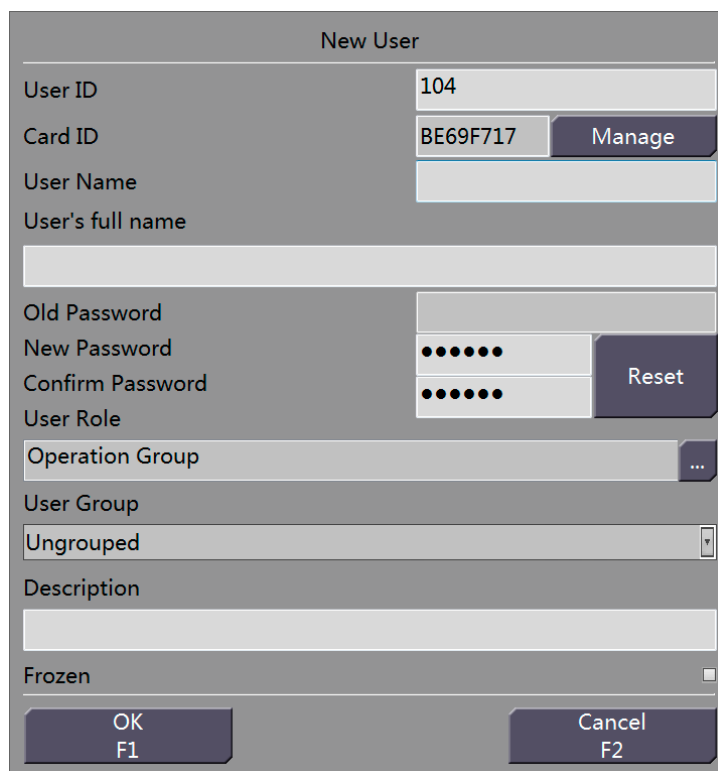
Swipe the card after the card reader is connected, and the card number will be read into the "Read Card Number" field.



The Card Management interface is a dialog box with a title bar. It contains two rows of controls. The first row has a label 'Associated' followed by an empty text field and a green 'Dissociate' button. The second row has a label 'Card ID is' followed by a text field containing 'BE69F717' and a blue 'Associate' button. At the bottom right, there is a large blue button labeled 'Confirm' with 'F1' below it.

Figure 13-7 Read Card Number

Click "Associate" button and the system will automatically jump back to the New User interface, the card is successfully associated with the user.



The New User interface is a dialog box with a title bar. It contains several fields and buttons. The 'User ID' field contains '104'. The 'Card ID' field contains 'BE69F717' and has a blue 'Manage' button to its right. Below these are 'User Name' and 'User's full name' fields. The 'Old Password' field is empty. The 'New Password' and 'Confirm Password' fields are masked with dots. To the right of these password fields is a blue 'Reset' button. Below the passwords is the 'User Role' field. The 'Operation Group' field has a dropdown arrow. The 'User Group' field is a dropdown menu currently showing 'Ungrouped'. The 'Description' field is empty. The 'Frozen' checkbox is unchecked. At the bottom, there are two buttons: 'OK' with 'F1' below it, and 'Cancel' with 'F2' below it.

Figure 13-8 Card Associated with User

If you want to disassociate the card with the user, click  on the Card

Management interface, and then the system will automatically jump back to the New User interface. In this case, the Card Number field is empty, the card is successfully disassociated with the user.

The screenshot shows a 'New User' management window. It contains the following fields and controls:

- User ID:** A text field containing the value '104'.
- Card ID:** An empty text field next to a 'Manage' button.
- User Name:** An empty text field.
- User's full name:** An empty text field.
- Old Password:** An empty text field.
- New Password:** A text field with masked characters (dots).
- Confirm Password:** A text field with masked characters (dots).
- User Role:** An empty text field.
- Operation Group:** A dropdown menu with an ellipsis button.
- User Group:** A dropdown menu currently showing 'Ungrouped'.
- Description:** An empty text area.
- Frozen:** A checkbox that is currently unchecked.
- Buttons:** 'Manage' (next to Card ID), 'Reset' (next to password fields), 'OK F1' (bottom left), and 'Cancel F2' (bottom right).

Figure 13-9 Card Disassociated with User

Step 6 Enter a new user name and leave the New Password and Confirm Password fields unchanged. Then the new user can log in to the system using the initial password 123456 to change password on the Edit User interface.

Step 7 After settings, Click “OK” or press “F1” on the operation keyboard.

13.1.2 Editing Users

Function Introduction

This function is used to change the full name of a user, change the group of a user and user role, freeze a user, or change the password of a user in case the old password is lost.

Users in the admin group can edit the user's full name, password, user role,

membership, description, and frozen of users in other groups of the system.

Operation Procedure

Step 1 Select the user to edit from the user list shown in Figure 13-3 and click “Edit” to display the Edit User interface, as shown in Figure 13-10.

The 'Edit User' interface is a form with the following fields and controls:

- User ID:** Text field containing '101'.
- Card ID:** Text field.
- User Name:** Text field containing 'system'.
- User's full name:** Text field containing 'Administrator'.
- Old Password:** Text field.
- New Password:** Text field.
- Confirm Password:** Text field.
- User Role:** Text field.
- System Group:** Text field with a dropdown arrow.
- User Group:** Text field containing 'Ungrouped'.
- Description:** Text field.
- Frozen:** Checkbox.
- Buttons:** 'Manage' (next to Card ID), 'Reset' (next to password fields), 'OK F1' (bottom left), and 'Cancel F2' (bottom right).

Figure 13-10 User Editing Interface

Step 2 After editing, Click “OK” or press “F1” on the operation keyboard.



Note:

A user can change its password on the Edit User interface. The administrator can reset the password to initial password or change it to the user's desired password.

13.1.3 Deleting Users

Function Introduction

This function is used to delete a user, who will not use the equipment for long.



Note:

By default, only users in the system group and admin group have the permission of deleting users. Users in other groups are not authorized to do so.



Note:

Double check before deleting a user because the process is irreversible.

Operation Procedure

Step 1 Select the user to delete from the user list shown in Figure 13-3 and click “Delete”.

Step 2 A dialog box is displayed, as shown in Figure 13-11. To delete the user, Click “OK” or press “F1” on the operation keyboard. To cancel the operation and return to the Account Management interface, click “Cancel” or press “F2” on the operation keyboard.

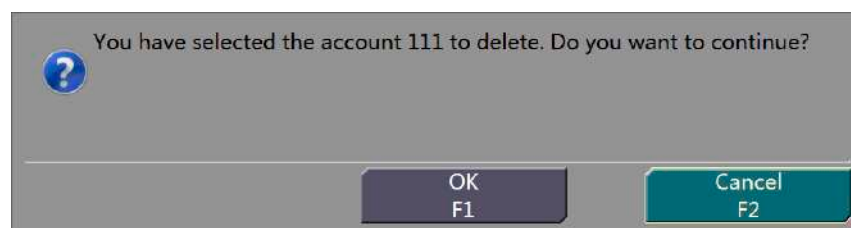


Figure 13-11 Prompt for Deleting User

13.1.4 Freezing Users

Function Introduction

This function is used to "freeze" the currently edited user, who will not use the equipment for some time, to ensure equipment security. After being frozen, the user cannot log into the system until it is reactivated by the administrator.

Operation Procedure

Step 1 Select the user to freeze from the user list shown in Figure 13-3.

Step 2 Click “Edit” to display a dialog box, as shown in Figure 13-10.

Step 3 Select the Frozen check box in Figure 13-10.

Step 4 Click “OK” or press “F1” on the operation keyboard to freeze the user.

After being frozen, the user cannot log in to the system. If the user tries to type the user name and password on the login interface, a dialog box is displayed, as shown in Figure 13-12.

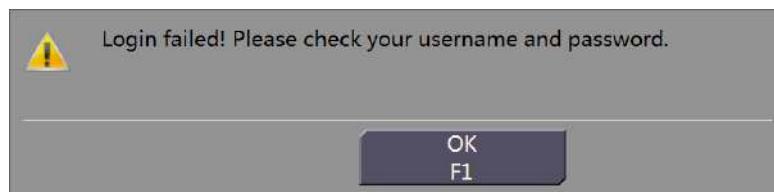


Figure 13-12 Prompt for Login Failure

13.2 User Group Management

Function Introduction

To facilitate the management of local users and the network users synchronized from the hierarchical management system, the user group is divided into local user groups and network user groups, and they all have ungrouped groups come with the system. Users of local user groups can add, edit and delete self-built user groups, but cannot edit and delete ungrouped users. Administrators can not add, edit and delete network groups.

Choose Group Management from the User Management menu to display the Group Management interface, as shown in Figure 13-13.

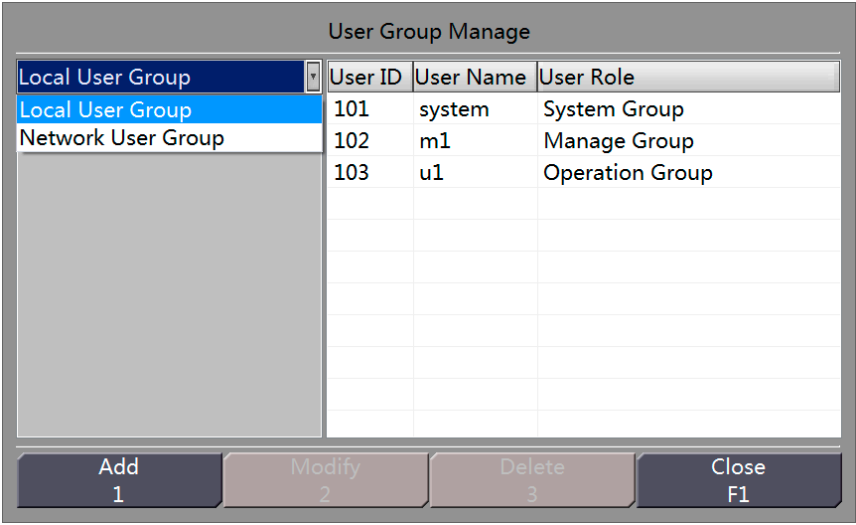


Figure 13-13 Interface for Managing User Group

The administrator can create new groups as required.

13.2.1 Adding User Group

Function Introduction

This function is used to create a new group according to the need of business.

Operation Procedure

Step 1 Click “Add” in the interface shown in Figure 13-13 to display a dialog box, as shown in Figure 13-14.

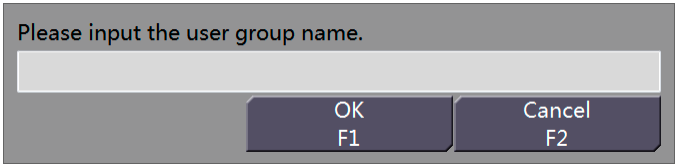


Figure 13-14 Interface for Adding User Group

Step 2 Enter the name of the new group in the Name field. The group name is a digit string including up to 16 digits and cannot be null.

Step 3 After the settings, Click “OK”.

13.2.2 Editing User Group

Function Introduction

This function is used to modify the group name of groups as required.

Operation Procedure

Step 1 Click “Edit” in the interface shown in Figure 13-13 to display a dialog box, as shown in Figure 13-15.

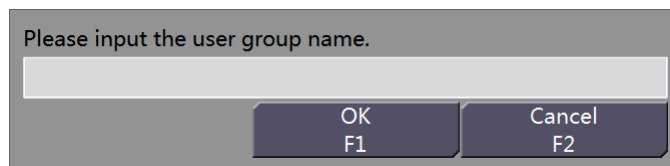
A screenshot of a software dialog box. The title bar is grey and contains the text "Please input the user group name." in a small, dark font. Below the title bar is a white rectangular text input field. At the bottom right of the dialog box are two buttons. The first button is dark grey with the text "OK" in white, and "F1" in a smaller white font below it. The second button is also dark grey with the text "Cancel" in white, and "F2" in a smaller white font below it.

Figure 13-15 Interface for Editing User Group

Step 2 Enter the new name of the user group in the Name field.

Step 3 After the settings, Click “OK”.

13.2.3 Deleting User Group

Function Introduction

This function is used to delete a user group that will not be used for long.

Operation Procedure

Select the group to delete from the User Group List in the interface shown in Figure 13-13 and click “Delete”. The users under this group are automatically assigned to ungrouped group.



Caution:

The default ungrouped group cannot be edited or deleted.

13.3 Role-based Permission Management

Function Introduction

The administrator can assign permissions to user groups as required. Different groups can have identical or different permissions. The default user role has system group, management group, operation group. You can also add new user roles as required.

Choose Role-based Permission Management from the User Management menu to display the Role-based Permission Management interface, as shown in Figure 13-16.

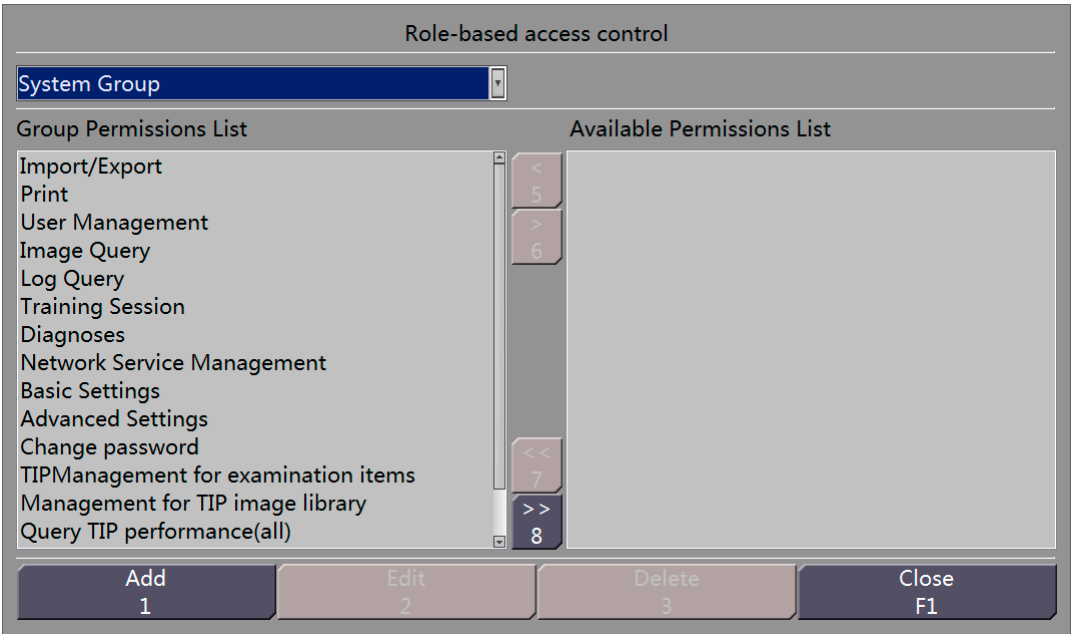


Figure 13-16 Role-based Permission Management Interface

Operation Procedure

Step 1 Select the user role to modify from the drop list in Role-based Permission Management Interface.

Step 2 Modify the permissions.

- To add a permission, select the permission from the Available Permissions List on the right part of the interface shown in Figure 13-16 and click  to add it to the Existing Group Permissions List on the left.
- To delete a permission, select the permission from the Existing Group Permissions List on the left part of the interface shown in Figure 13-16, and click .



Note:

To add or delete all permissions, click  or .

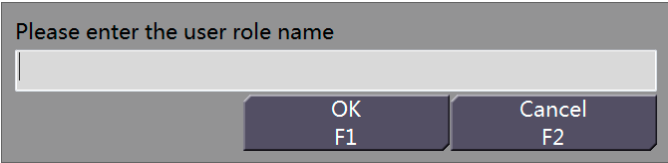
13.3.1 Adding a User Role

Function Introduction

Administrators can add user roles as necessary, edit and delete the user roles they've created.

Operation Procedure

Step 1 In the "User Rights Management" interface, click "Add" button or press 1 on the keyboard to bring up the following interface.



A dialog box with a title bar that says "Please enter the user role name". Below the title bar is a text input field. At the bottom right of the dialog box are two buttons: "OK" with "F1" below it, and "Cancel" with "F2" below it.

Figure 13-17 Entering User Role Name

Step 2 Enter the user role name as prompted. After that, Click "OK". If you want to cancel, click "Cancel" button.

User role name allows up to 30 digits, you can enter numbers, letters (case insensitive) and "-", "_", the role name cannot be null.

If the entered user role name repeats with an existing user, the prompt "The user role already exists" will pop up.

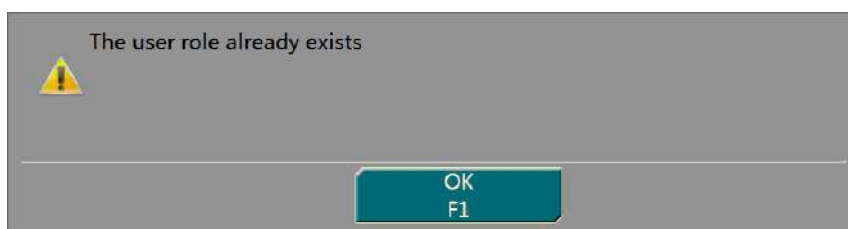


Figure 13-18 The User Role Already Exists

13.3.2 Editing User Role Name

Function Introduction

You can change the "role name" of a user role according to management needs.

Operation Procedure

Step 1 Select the role name you want to edit in the user group list on the left of the interface in Figure 13-16. Click "Edit" button to bring up the dialog box as shown in Figure 13-19.

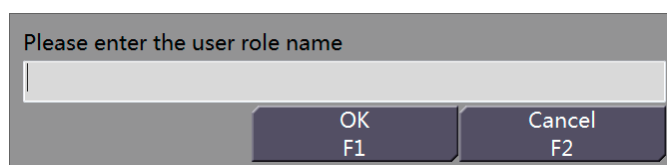


Figure 13-19 Interface for Editing User Role Name

Step 2 Enter the new user role name as prompted.

Step 3 After that, Click "OK".

13.3.3 Deleting a User Role

Function Introduction

This function is used to delete a user role that will not be used for long.

Operation Procedure

Step 1 Select the user role name you want to delete in the user group list on the left of the interface in Figure 13-9. Click "Delete" button to bring up the prompt box for confirming the deletion.

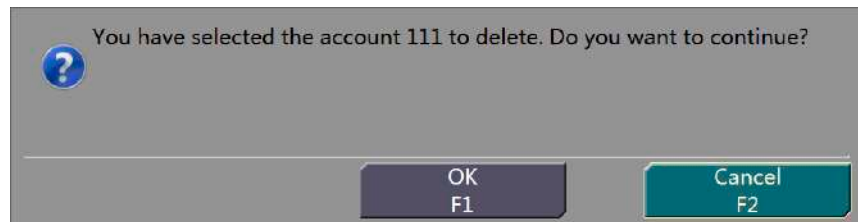


Figure 13-20 Prompt Box for Confirming to Delete the User Role

Click "OK" button to delete the user role name, otherwise click "Cancel" button. After deleting the user role name, the role of the user will be automatically changed to the operator.



Caution:

The "system group", "management group" and "operation group" that come with the system cannot be edited and deleted.

13.4 Other Settings

Function Introduction

This function is used to set the basic information such as Default Login User, User Switch Alert Time and Auto Logoff Time for default login.

13.4.1 Default Login Setting

On the User Management interface, click Other Settings to display the Other Settings dialog box, as shown in Figure 13-21.

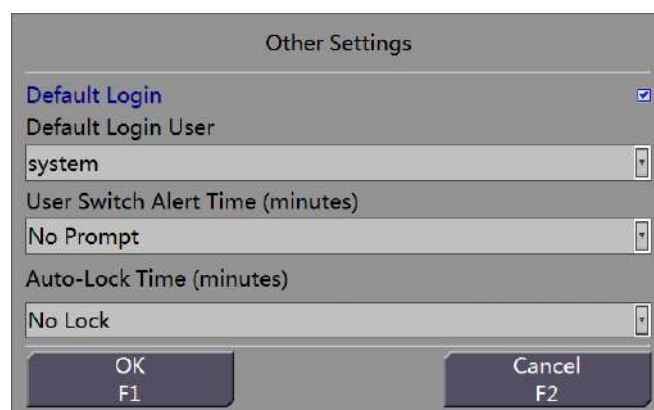


Figure 13-21 Other Settings Dialog Box

If this function is enabled and select default login user, you automatically log into the system as the default user after the system starts. If this function is not enabled, the login interface is displayed after startup, and you need to enter your user name and password to log in.

13.4.2 Default Login User

If you enable default login, you can select the default login user here. It is recommended that you select U1.

13.4.3 User Switch Alert Time

You can set a period of 10 minutes to 120 minutes so that the system can remind operators to shift work.

13.4.4 Auto Logoff Time

To prevent misoperation on the equipment, you can set a timeout so that the user is log off and return to login interface when the system does not operate for some time. The period ranges from 5 minutes to 60 minutes. When the time is due, the system logs off to the login screen.



Figure 13-22 System Automatically Logoff Interface

Enter your user name and password in the login interface to successfully log into the system.

14 Image Management

About this Chapter

This chapter introduces:

- Querying Images
- Exporting Images
- Adding Images for Training *
- Printing Images
- Browsing Images

14.1 Querying Images

Function Introduction

To perform the following operations on an image, you need first to query the image:

- Dumping the image to an USB storage device
- Printing Images
- Editing and saving the image
- Adding the image to the demonstration image library for training*

Operation Procedure

Step 1 Choose Image Management from the main menu in Figure 14-1 to display the Image Management interface, as shown in the following figure.

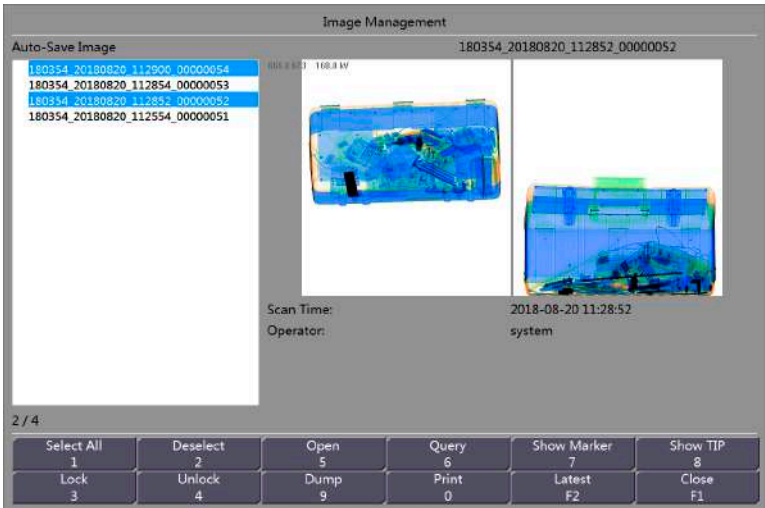


Figure 14-1 Image Management Interface

Or press 4 key (Image Management key) to pop up the above image management interface above directly.



Note:

By default, auto-save images are displayed on the Image Management interface.

Step 2 Click “Query” on the Image Management interface to display a dialog box, as shown in Figure 14-2.

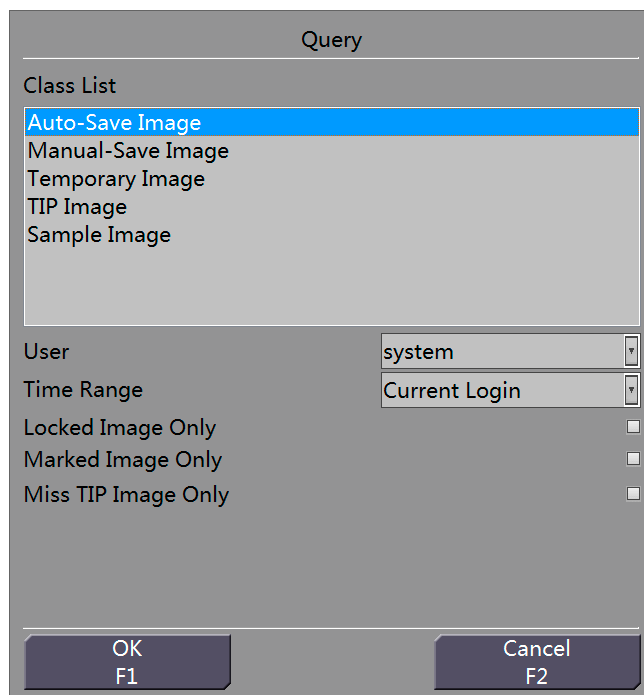


Figure 14-2 Image Querying Interface

Step 3 Select the class of image to query from the Class List on the interface shown in Figure 14-2.



Note:

For Auto-Save Image and Manual-Save Image classes, the Locked Image Only, Marked Image Only and Miss TIP Image Only check boxes are displayed on the interface. The three check boxes can be checked individually or in combination to increase the query conditions.

Step 4 After the selection, Click “OK” or press “F1” on the operation keyboard. The image class to query is displayed on the Image Management interface. Figure 14-3 shows the Image Management interface displaying sample images.

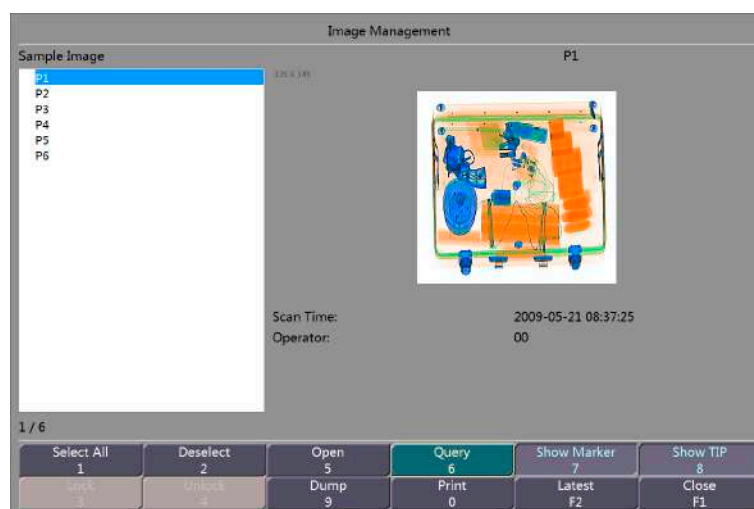


Figure 14-3 Image Management Interface Displaying Sample Images

Step 5 Select an image from the list on the left part and its preview is displayed on the right part. The scan time and operator of the image are displayed below the preview.

14.2 Exporting Images

Function Introduction

This function is used to dump the images on the hard disk to a portable storage device.

The equipment number, operating voltage, operator, and scan time of images can be dumped.

Operation Procedure

Step 1 Query the images to dump.

Step 2 Select one or more images to dump from the image list.

Step 3 Click “Dump” to display the “Image Dump dialog” box, as shown in Figure 14-4.

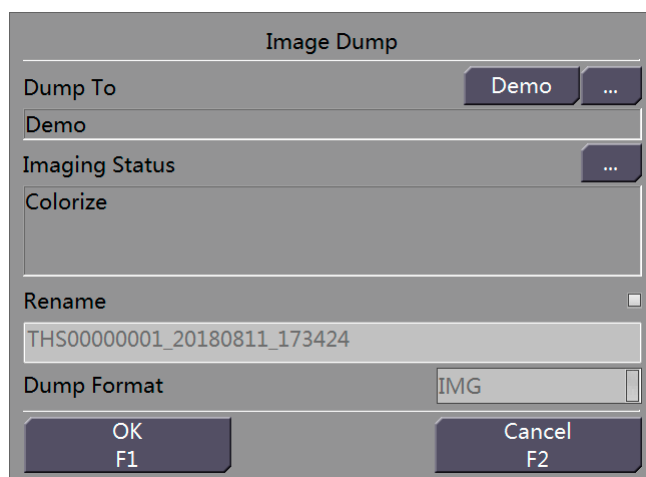


Figure 14-4 Image Dumping Interface

Step 4 Connect a portable storage device to the USB and click  on the right of “Dump To” to display the “Select Folder” dialog box, as shown in Figure 14-5.

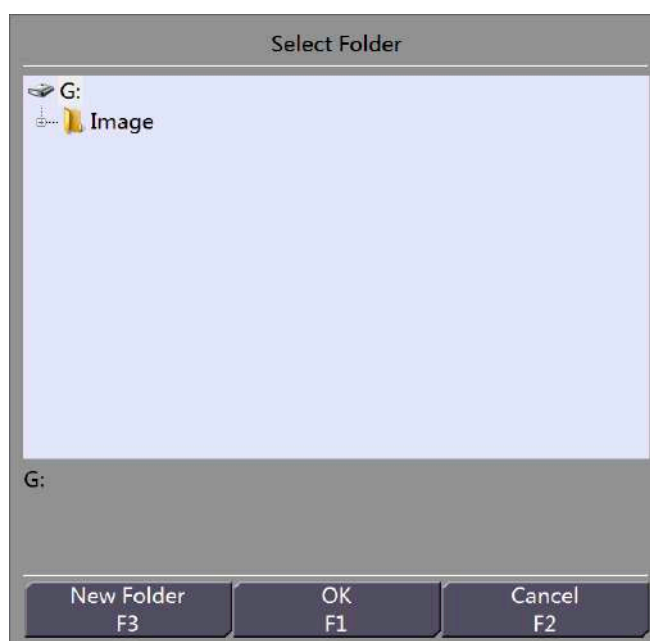


Figure 14-5 Folder Selection Interface

Step 5 Select a folder, or click “New Folder” under the drive volume or a certain folder to create a folder for the images.

Step 6 Click  on the right of Imaging Status to display the Please select the imaging status interface, as shown in Figure 14-6. After image processing, Click “OK”.

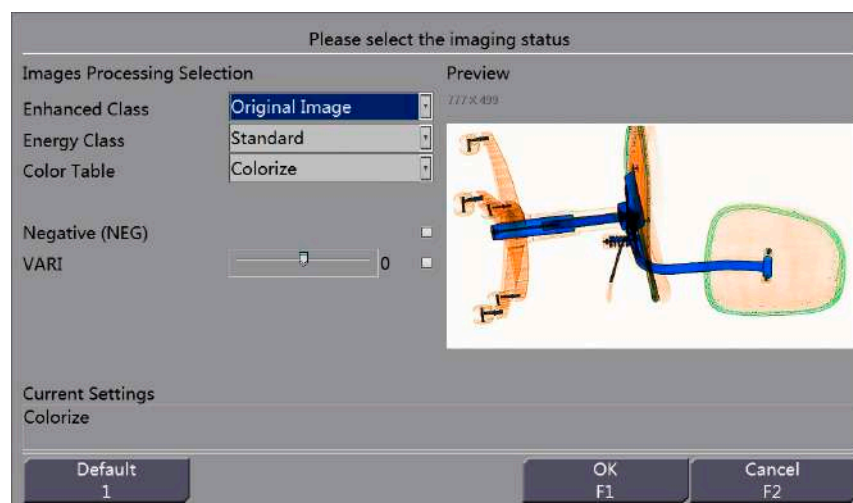


Figure 14-6 Imaging Status Interface

Step 7 To rename the images, select the Rename check box.

Step 8 Select the dump format from IMG, BMP, PNG, JPG, GIF and TIFF.

Step 9 Click “OK” to display a progress bar.

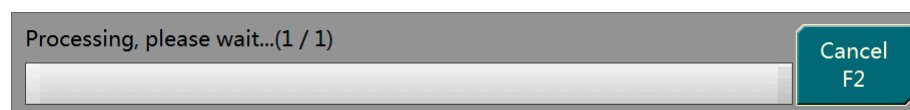


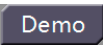
Figure 14-7 Image Dumping Progress Bar

14.3 Adding Images for Training *

Function Introduction

This function is used to train operators on effectively identifying dangerous and contraband objects. The training does not require starting the conveyor or X-ray generator. The system can simulate the scanning process and display a series of scan images on the screen. The training function can work with the TIP function to project images for training in those of dangerous or contraband objects. Operators are required to identify the dangerous or contraband objects within specified time, or they are considered failed to identify images.

To make the images for training vivid and effective, only real scan images can be added to the training image library.

You can select one or more scan images and click  to add them to the training image library.

Operation Procedure

Step 1 Query the images to dump.

Step 2 Select one or more images to dump from the image list.

Step 3 Click “Dump” to display the Image Dump dialog box, as shown in Figure 14-4.

Step 4 Click  to display the storage path of images for training.

Step 5 The other dumping operations and settings are identical with those in Step 3 in section 14.2.

14.4 Printing Images

14.4.1 Printing Images on the Image Management Interface

Function Introduction

If a printer is installed on the equipment, you can select one or more images on the Image Management interface and print them.

Operation Procedure

Step 1 Query the images to print on the Image management interface.

Step 2 Select the images to print from the image list.



Note:

Click “Select All” to select all images in the image list.

Step 3 Click “Print” to display a dialog box, as shown in Figure 14-8. To print the images, click “OK”; otherwise, click “Cancel”.

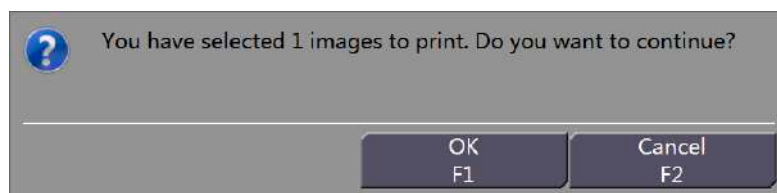


Figure 14-8 Prompt for Image Printing

Step 4 If you Click “OK”, the Printer Settings dialog box is displayed, as shown in Figure 14-9. Select the printer connected to the equipment or the default printer. Select the Do not show this dialog again when printing check box so that the dialog box is not displayed next time.

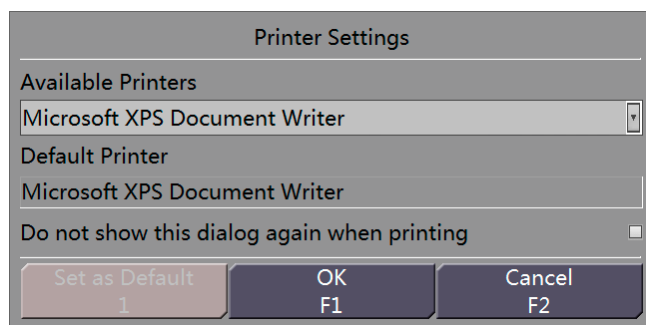


Figure 14-9 Printer Settings

Step 5 Click “OK” to print the images.



Note:

If the system is not connected to the printer, the system prompted "No printer is currently connected to your system".

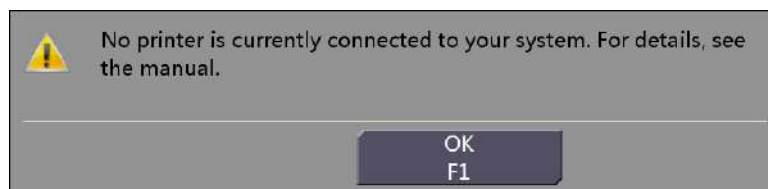


Figure 14-10 Prompt for No Printer Connected to the System

14.4.2 Printing Images with Screen Functions

Function Introduction

If a printer is installed on the equipment, you can select one or more images on the screen and print them with screen functions.

Operation Procedure

Step 1 Press  on the operation keyboard or right-click on the image inspection interface and choose Process Screen Image from the shortcut menu as shown in Figure 14-11.

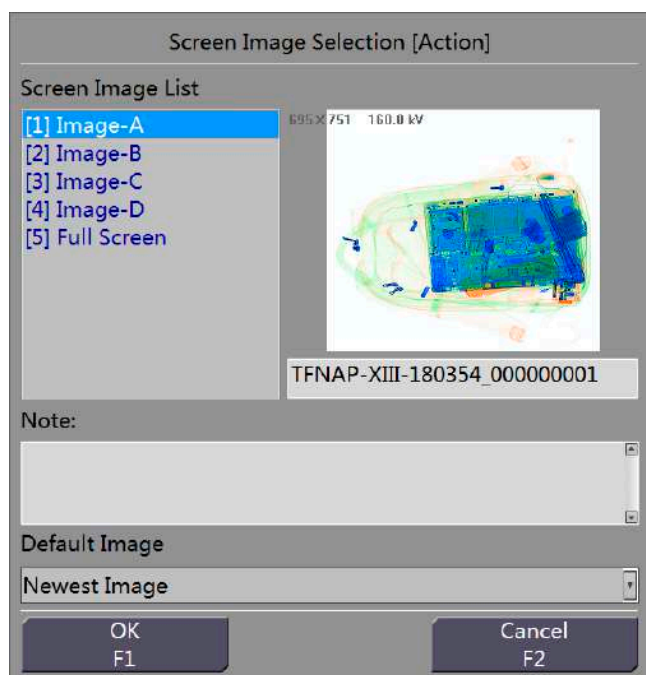


Figure 14-11 Screen Image Selection Interface

Step 2 Select the images to print, and Click “OK” or press “F1” on the operation keyboard.

Step 3 The Printer Settings dialog box is displayed. The following steps are identical with the steps from step 4 in Section 14.4.1 "Printing Images on the Image Management Interface."

14.5 Browsing Images

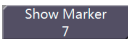
Function Introduction

This function is used to quickly query or view historical images on the Image Management interface.

Operation Procedure

Step 1 Query the images to browse on the Image Management interface, as shown in 14-12.

Step 2 Click an image file name in the list, and the image can be previewed on the right part.

Step 3 Click  and  to display image mark and TIP image in the preview.

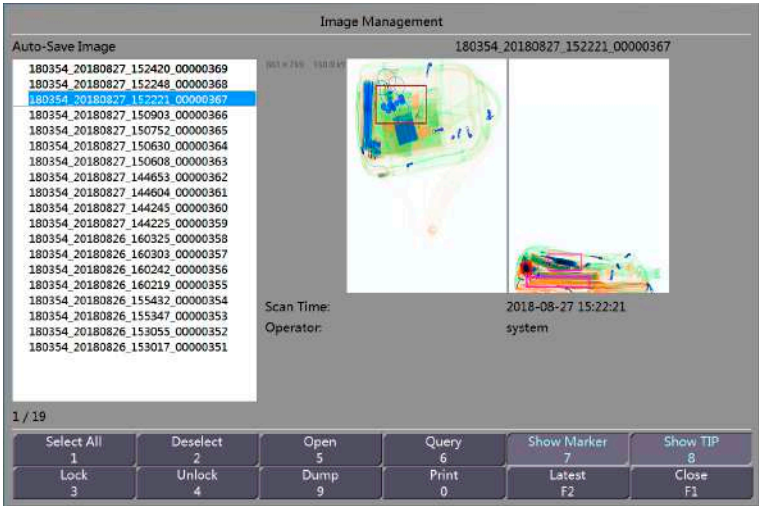


Figure 14-12 Image Management Interface

15 Log Management

About this Chapter

This chapter introduces:

- Querying Startup Information
- Querying Login Information
- Querying Actions
- Querying Events
- Querying the X-ray generator
- Querying the Drum Motor

15.1 Querying Startup Information

Function Introduction

This function is used to query the startup statistics of the equipment to learn about the running status of the equipment.

Operation Procedure

Step 1 Click on the main menu in Figure 14-1 and choose Log management to display the Log management menu, as shown in Figure 15-1.

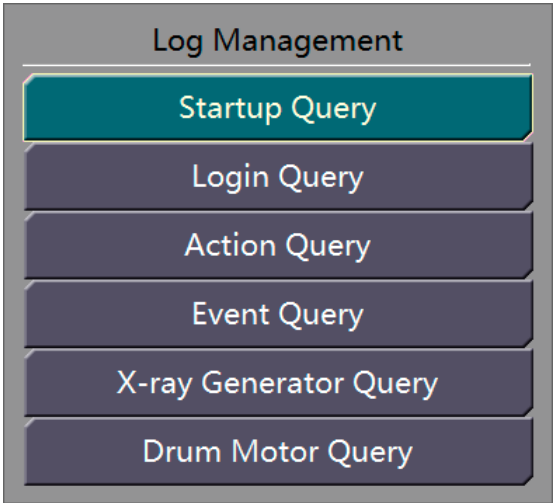


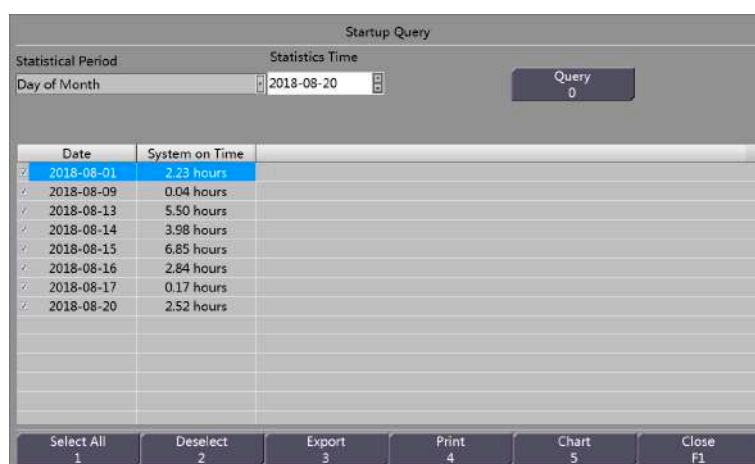
Figure 15-1 Log Management Interface

Step 2 Choose Startup Query to display the Startup Query interface, as shown in Figure 15-2.



Figure 15-2 Startup Query Interface

Step 3 Enter query conditions on the interface. Statistics can be made daily, weekly, monthly, or quarterly. After setting query conditions, click “Query”, as shown in Figure 15-3.

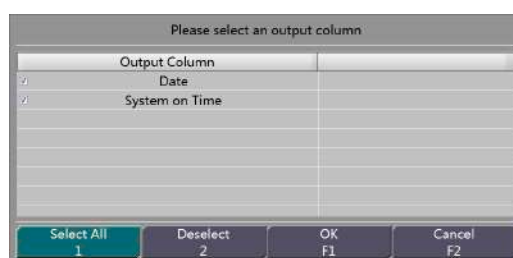


The screenshot shows a 'Startup Query' window. At the top, there are fields for 'Statistical Period' (Day of Month) and 'Statistics Time' (2018-08-20). A 'Query' button with the value '0' is on the right. Below these is a table with two columns: 'Date' and 'System on Time'. The table contains several rows of data, with the first row highlighted in blue. At the bottom, there are buttons for 'Select All', 'Deselect', 'Export', 'Print', 'Chart', and 'Close'.

Date	System on Time
2018-08-01	2.23 hours
2018-08-09	0.04 hours
2018-08-13	5.50 hours
2018-08-14	3.98 hours
2018-08-15	6.85 hours
2018-08-16	2.84 hours
2018-08-17	0.17 hours
2018-08-20	2.52 hours

Figure 15-3 Result of Startup Query

Step 4 Select records from the query result and click “Export” to display an interface, as shown in Figure 15-4.



The screenshot shows a 'Please select an output column' dialog box. It has a table with two columns: 'Output Column' and an empty column. The table contains two rows: 'Date' and 'System on Time'. Both rows have a checkmark in the first column. At the bottom, there are buttons for 'Select All', 'Deselect', 'OK', and 'Cancel'.

Output Column	
Date	
System on Time	

Figure 15-4 Startup Information Export Interface

Select the columns to export and Click “OK”.

Step 5 The power on logs can be displayed in a line chart or column chart to provide an intuitive view of the running status of the equipment, as shown in Figure 15-5 and Figure 15-6.

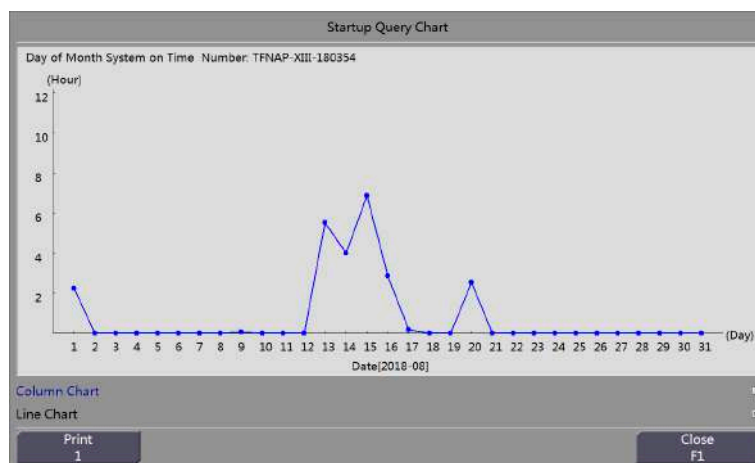


Figure 15-5 Startup Information Displayed in a Line Chart

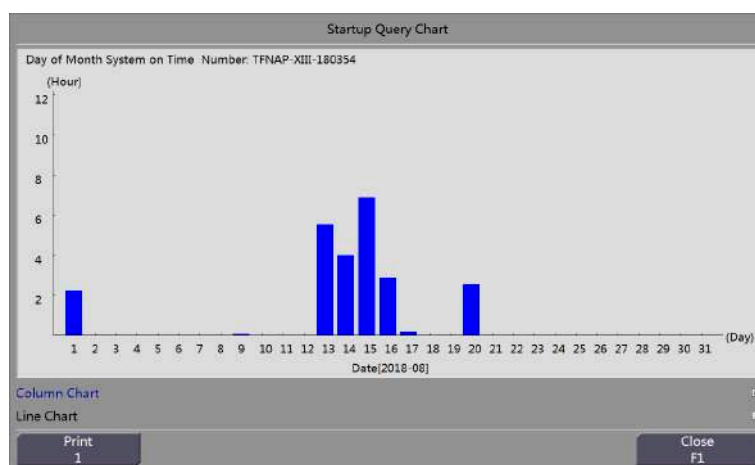


Figure 15-6 Startup Information Displayed in a Column Chart

Step 6 After the querying, click “Close”.

15.2 Querying Login Information

Function Introduction

This function is used to make statistics of the login operations of operators. A log record is kept for each login operation, indicating the login time, logoff time, and work time. This information provides an overview of the equipment usage by operators.

Operation Procedure

Step 1 Choose Log Management from the main menu in Figure 14-1 to display the Log Management interface, as shown in Figure 15-1. Choose Login Query from the Log Management menu to display the Login Query interface, as shown in Figure 15-7.

Figure 15-7 Login Query Interface

Step 2 Enter query conditions on the interface. Statistics can be made daily, weekly, monthly, or quarterly by user or group. After setting query conditions, click “Query”, as shown in Figure 15-8.

User Name	Login time	Logoff Time	Work Time
system	2018-08-20 12:34:24	2018-08-20 12:34:34	0.00 hours
system	2018-08-20 12:43:45	2018-08-20 12:47:42	0.07 hours

Figure 15-8 Result of Login Query

Step 3 Select records from the query result and click “Export” to export them, as shown in Figure 15-9.

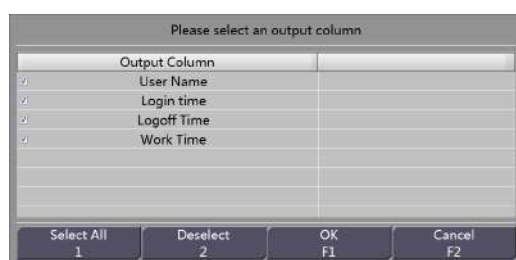


Figure 15-9 Login Information Export Interface

Step 4 Select the columns to export and Click “OK”.

Step 5 After the querying, click “Close”.

15.3 Querying Actions

Function Introduction

This function is used to make statistics of operator-specific actions in the specified period in terms of login count, luggage count, and mark count.

Operation Procedure

Step 1 Choose Log Management from the main menu in Figure 14-1 to display the Log Management interface, as shown in Figure 15-1. Choose Action Query from the Log Management menu to display the Action Query interface, as shown in Figure 15-10.

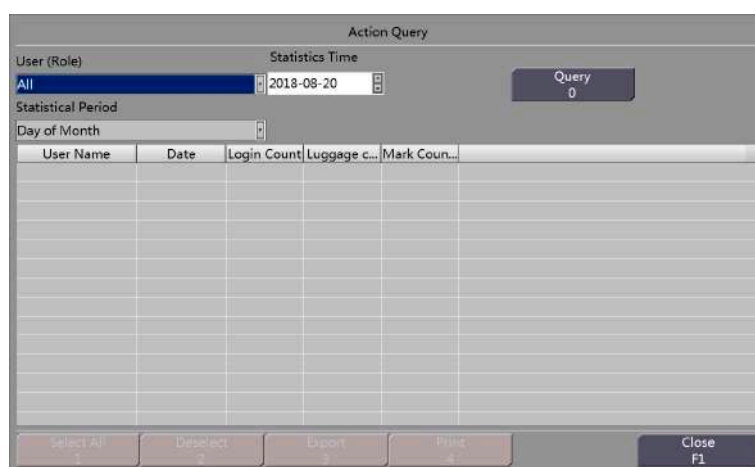


Figure 15-10 Action Querying Interface

Step 2 Enter query conditions on the interface and click “Query”, as shown in Figure 15-11.

The screenshot shows the 'Action Query' window. At the top, there are filters for 'User (Role)' set to 'All', 'Statistics Time' set to '2018-08-20', and a 'Day of Month' dropdown. A 'Query' button is on the right. Below these is a table with the following data:

User Name	Date	Login Count	Luggage c...	Mark Coun...
system	2018-08-20	2	0	0

At the bottom, there are buttons for 'Select All 1', 'Deselect 2', 'Export 3', 'Print 4', and 'Close F1'.

Figure 15-11 Result of Action Query

Step 3 Select records from the result and click “Export” to export them, as described in Step 3 of section 15.2.

Step 4 After the querying, click “Close”.

15.4 Querying Events

Function Introduction

This function is used to make statistics of operator-related events occurring in the specified period in terms of action time, event type, and description.

Operation Procedure

Step 1 Choose Log Management from the main menu in Figure 15-1 to display the Log Management interface, as shown in Figure 15-1. Choose Event Query from the Log Management menu to display the Event Query interface, as shown in Figure 15-12.

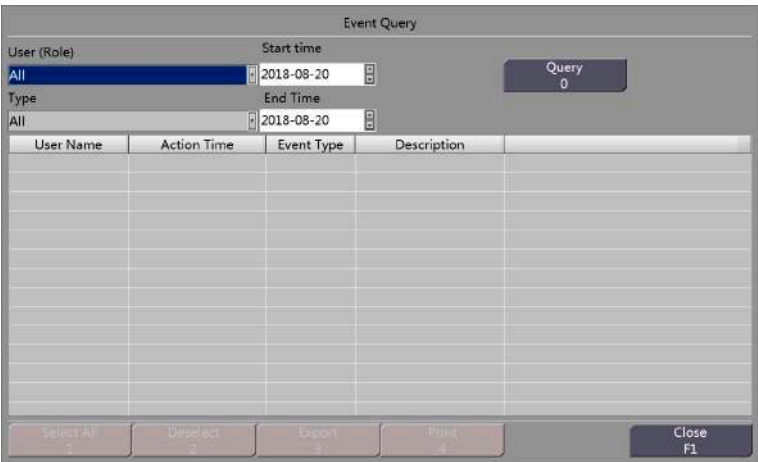


Figure 15-12 Event Querying Interface

Step 2 Enter query conditions on the interface. Type includes user management, import, export, print, and others. After setting query conditions, click “Query”, as shown in Figure 15-13.

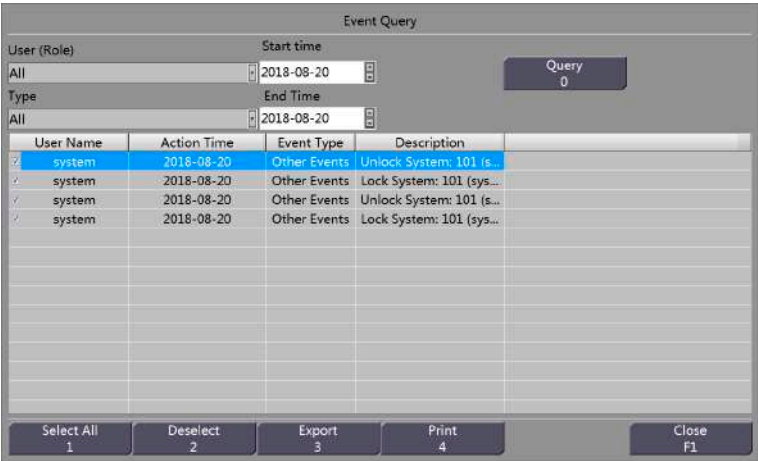


Figure 15-13 Result of Event Query

Step 3 Select records from the result and click “Export” to export them, as described in Step 4 of section 15.1.

Step 4 After the querying, click “Close”.

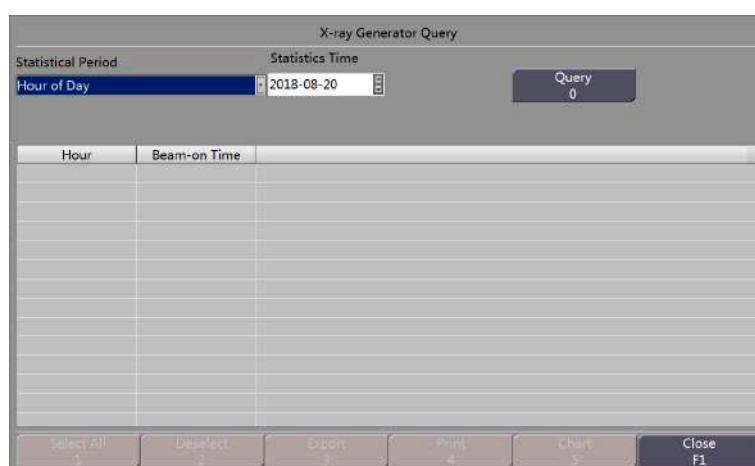
15.5 Querying the X-ray Generator

Function Introduction

This function is used to query the service time of X-ray generators in the specified period to provide an overview of the running status of the equipment.

Operation Procedure

Step 1 Choose Log Management from the main menu in Figure 14-1 to display the Log Management interface, as shown in Figure 15-1. Choose X-ray Generator Query from the Log Management menu to display the X-ray Generator Query interface, as shown in Figure 15-14.



Hour	Beam-on Time

Figure 15-14 X-Ray Generator Query Interface

Step 2 Enter query conditions on the interface and click “Query”, as shown in Figure 15-15.



Figure 15-15 Result of X-ray Generator Query

Step 3 Select records from the result and click “Export” to export them. You can refer to the previous section.

Step 4 The selected records can be displayed in a line chart or column chart to provide an intuitive view of the running status of the equipment, as shown in Figure 15-16 and Figure 15-17.

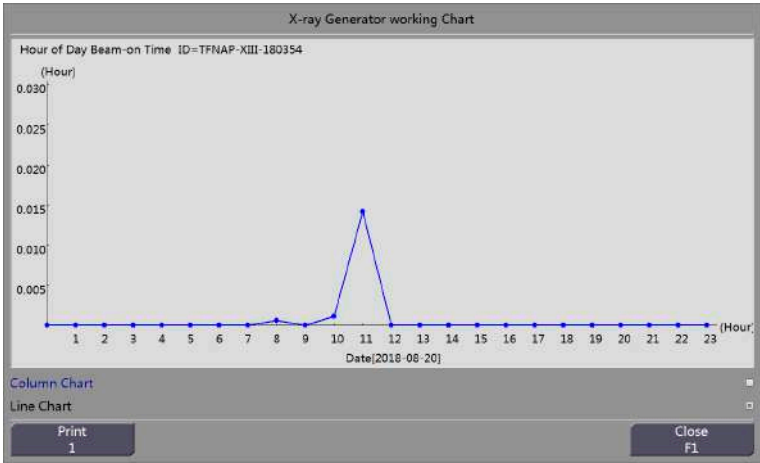


Figure 15-16 X-Ray Generator Working Chart (Line Chart)

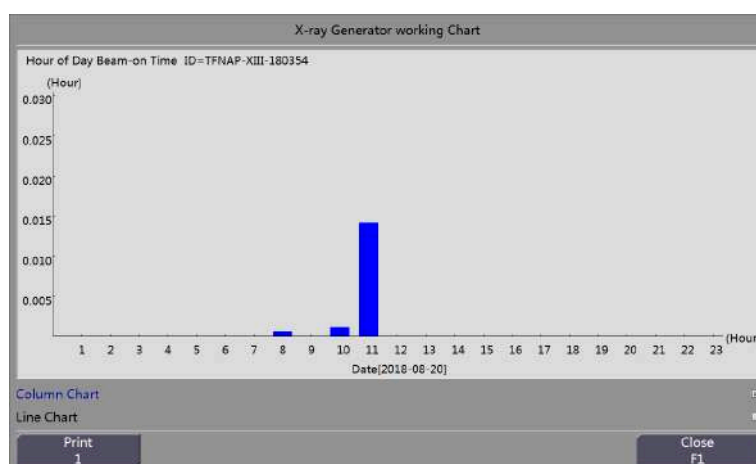


Figure 15-17 X-Ray Generator Working Chart (Column Chart)

Step 5 After the querying, click “Close”.

15.6 Querying the Drum Motor

Function Introduction

This function is used to query the service time of the drum motor in the specified period to provide an overview of the running status of the equipment.

Operation Procedure

Step 1 Choose Log Management from the main menu in Figure 14-1 to display the Log Management interface, as shown in Figure 15-1. Choose Drum Motor Query from the Log Management menu to display the Drum Motor Query interface, as shown in Figure 15-18.



Figure 15-18 Drum Motor Query Interface

Step 2 Enter query conditions on the interface and click “Query”, as shown in Figure 15-19.



Figure 15-19 Result of Drum Motor Query

Step 3 Select records from the result and click “Export” to export them, as described in Step 4 of section 15.1.

Step 4 The selected records can be displayed in a line chart or column chart to provide an intuitive view of the running status of the equipment, as shown in Figure 15-20 and Figure 15-21.

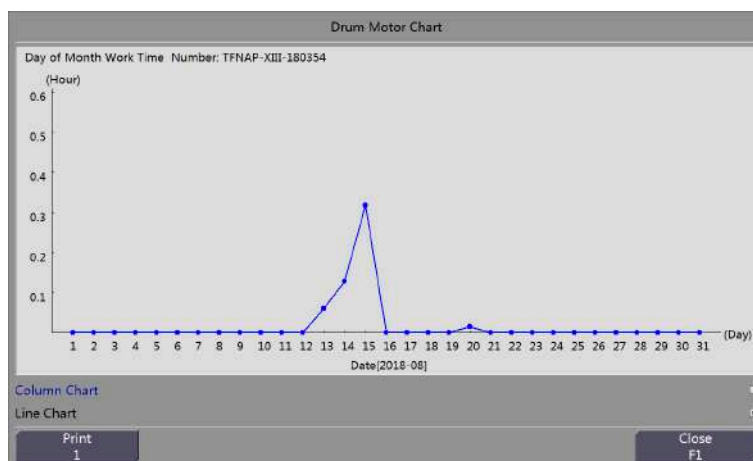


Figure 15-20 Drum Motor Working Chart (Line Chart)

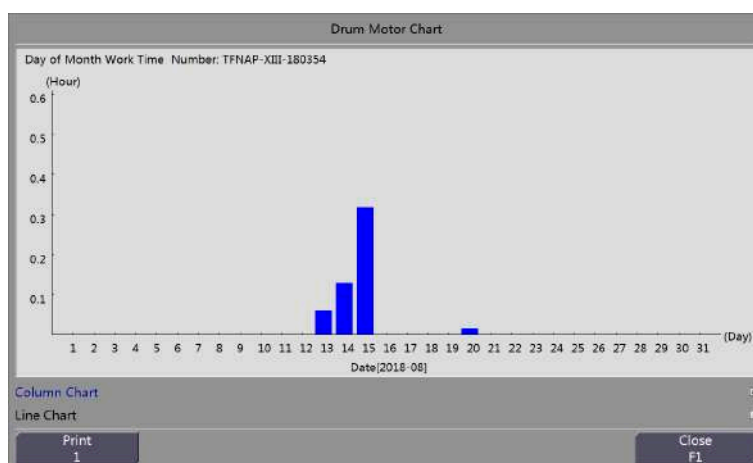


Figure 15-21 Drum Motor Working Chart (Column Chart)

Step 5 After the querying, click “Close”.

16 TIP Management*

About this Chapter

This chapter introduces:

- TIP
- Disabling TIP

16.1 TIP

16.1.1 TIP Examination Items Management

Function Introduction

Operators seldom detect dangerous objects in their routine inspections so they should be trained on effectively identifying such objects.

The TIP function is used to project images of dangerous objects in scanned images to simulate the presence of dangerous objects.

This function is designed to test operators' ability to identify dangerous objects and make them vigilant.

New TIP Examination Item

Step 1 Choose TIP from the main menu in Figure 13-1 to display the TIP menu interface, as shown in Figure 16-1.

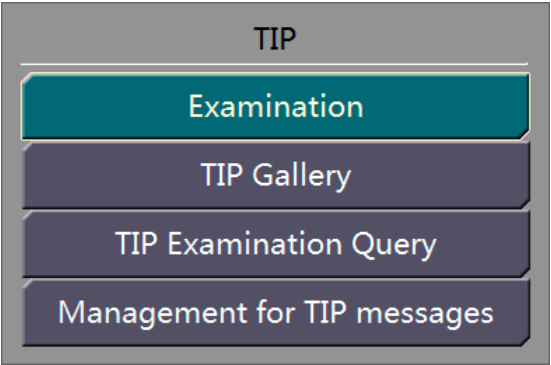


Figure 16-1 TIP Interface

Step 2 Choose Examination to display an interface, as shown in Figure 16-2.

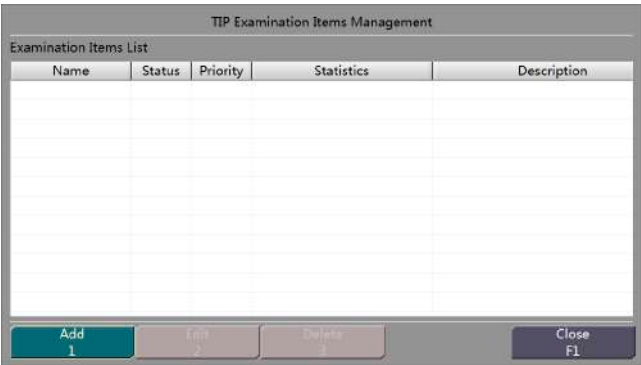


Figure 16-2 TIP Examination Items Management

Step 3 Click “Add” to display the New TIP Examination Item interface, as shown in Figure 16-3. Enter the required information.

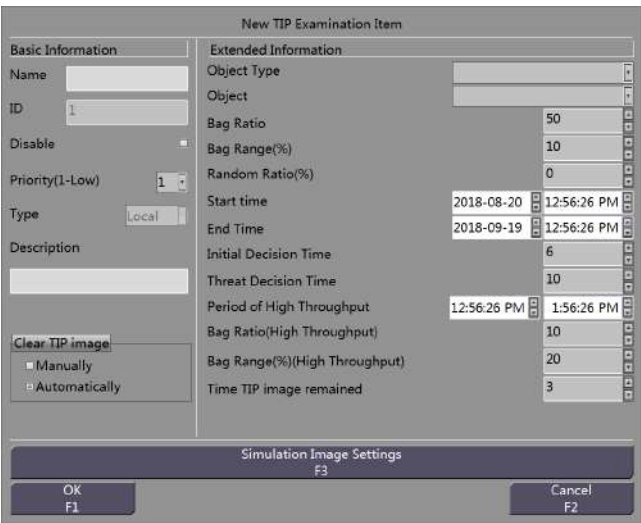


Figure 16-3 New TIP Examination Item Interface

Basic Information

Name: Enter the name of the new examination item through the operation keyboard. If the entered name is duplicated with the name of the existing TIP examination item, the prompt is displayed and re-enter the name of the exam.

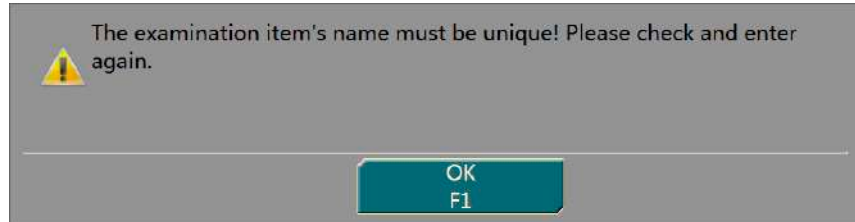


Figure 16-4 Prompt for Repeated Examination Item Name

ID: The system automatically allocates an ID to the examination item and this ID should be kept unchanged.

Disable: Set whether to disable the examination item during inspection. If you do not want to use the examination item for long, select the Disable check box.

Priority: Assign a priority level to the examination item from level 1 to level 10 in descending order. Examination items at higher priority levels are enabled preferably. If conditions for enabling the examination items at the highest priority level are not met, those at the second highest priority level are enabled; if conditions for enabling the examination items at the second highest priority level are still not met, those at the third highest priority level are enabled, and so on.

Type: The system defaults a type, which should be kept unchanged.

Description: Enter a brief description of the examination item.

TIP remove method: manual TIP remove and automatic TIP remove. Manual remove means using the space bar to delete TIP, automatic remove means deleting TIP automatically based on the set time.

The extended information includes the following items:

Object Type: The object type includes user, user role name, equipment and group. If you set the object type to Equipment, all operators logging into the equipment are examined. If you set the object type to User Group, users in the group are examined. If you set the object type to User, User Role or User Group, the Object field is checked.

Object: If you set the object type to user, user role or user group, you should further specify the user name, role name or group name.

Injection Freq.: Set the reference number of images actually inspected in each TIP examination. The value ranges from 2 to 10000.

Floating Range: Set the range which the system can automatically adjust according to the actual image condition on the basis of inject interval. The minimum setting is 0, and the maximum setting is 100. For example, if the insert interval is set to 50 and the float range is set to 5, the image of a threat object is injected by priority in every 45 to 55 images of inspected items.

Random Injection Rate (%): Set the range which the system can automatically adjust according to the actual image condition on the basis of inject interval and float range. The minimum setting is 0, and the maximum setting is 50.

Start Time: Set the start time of TIP as required.

End Time: Set the end time of TIP as required.

Decision time1(s): Set the time from an injected image appears on the screen to it is identified by the operator in the case of continuous scanning. If the operator fails to mark the image within the period, the system considers a decision failure. The value ranges from 0 second to 8 seconds.

Decision time2(s): Set the time from an injected image appears on the screen to it is identified by the operator. If the operator fails to mark the image within the period, the system considers a decision failure. The value ranges from 0 second to 30 seconds.

Peak period: The managers can set the peak period according to management requirements. The default value is one hour starting from the current time.

Peak insert frequency: set the reference value of the quantity of actual images inserted for threat object detection each time the system performs threat object insert in the peak period. The value ranges from 2 to 10000.

Peak float range: set the range which the system can automatically adjust according to the actual image condition on the basis of the peak insert frequency in the peak period. The minimum value is 0 and the maximum value is 100.

Automatic TIP remove time: the set range is 1-30s.

Simulation Image Settings

Step 4 Click “Simulation Image Settings” in Figure 16-3 or press “F3” key to display an interface, as shown in Figure 16-5.



Figure 16-5 Simulation Image Settings Interface

The Working Gallery Settings on the left part of the interface lists the images of dangerous objects and related parameters. There are two types of dangerous objects: Bags and Objects. Bags refer to bags containing dangerous objects and objects refer to individual dangerous objects. Select the image file for TIP examination as required.

The selected image of the dangerous object can be previewed on the right part.

Set Weights: Set the weight according to the desired appearance frequency of the images of dangerous objects in TIP examinations. That is, set a larger weight value for a higher frequency, vice versa. In practice, the system checks whether the real images meet TIP conditions, and properly inserts the selected dangerous objects into a real image, and then the system performs TIP according to the weight value only when the conditions are met. The total weight of all folders is 100; otherwise it will pop up adjustment tips, as shown in the following figure.

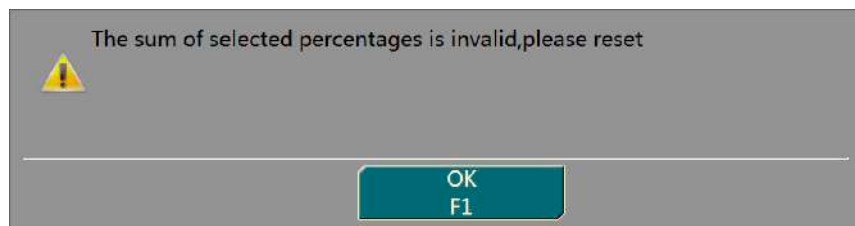


Figure 16-6 Prompt for Adjusting TIP Image Ratio



Note:

Only the folders can set the weight, but not the images.

Update: refresh the interface.

Step 5 After image selection and weight setting, click “Close” to return to the New TIP Examination Item interface. After confirmation, click “OK” to add a TIP examination item or click “Cancel” to cancel the operation.

Editing TIP Examination Items

Select the examination item to edit from the examination item list on the TIP Examination Items Management interface and click “Edit” to display the Edit TIP Examination Item interface, as shown in Figure 16-7.

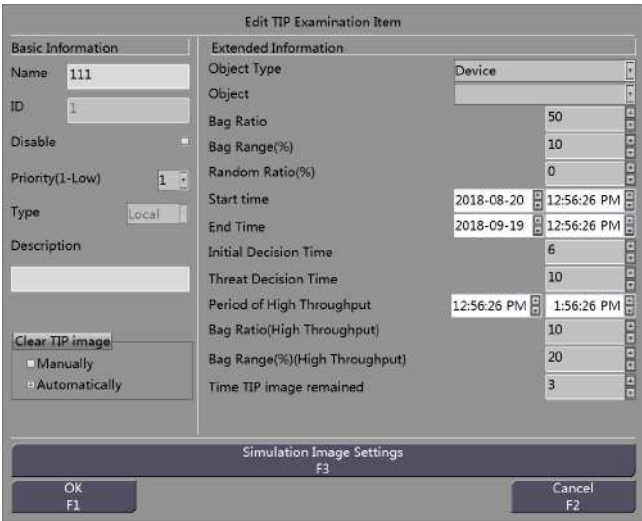


Figure 16-7 TIP Examination Item Editing Interface

The content of the Edit TIP Examination Item interface is identical with that of the New TIP Examination Item interface. See section “New TIP Examination Item.”

Deleting a TIP Examination Item

Step 1 Select the examination item to delete from the examination item list on the TIP Examination Items Management interface and click “Delete”. If the examination item is being executed, a dialog box is displayed, as shown in Figure 16-8.

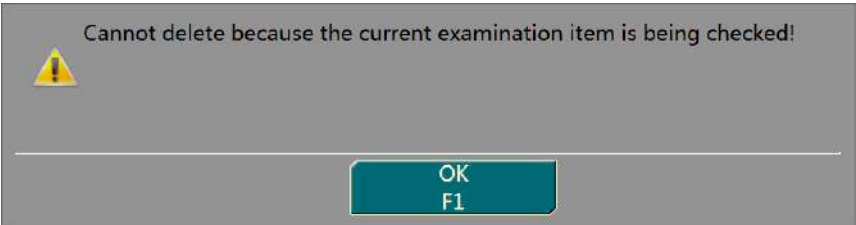


Figure 16-8 Prompt for Failure to Delete an Examination Item

Step 2 If the examination item is not being executed, a dialog box is displayed, as shown in the figure. Click “OK” or Cancel as required, as shown in Figure 16-9.

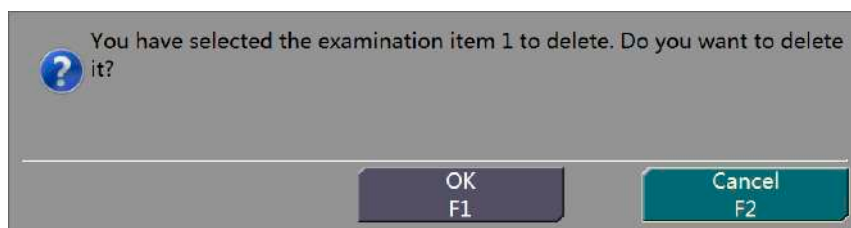


Figure 16-9 Prompt for Deleting an Examination Item

Step 3 After all the settings on the TIP Examination Items Management interface, click “Close”.

With the previous TIP parameter settings, the system performs automatic TIP in inspections or training.

16.1.2 TIP Gallery Management

Function Introduction

The TIP gallery stores the images of all dangerous objects by type. Images in the TIP gallery are selected for TIP. The TIP Gallery interface also supports browsing, importing, and exporting images of the dangerous objects.

Operation Procedure

On the interface shown in Figure 16-1, choose TIP Gallery to display the TIP Gallery Management interface, as shown in Figure 16-10. There are two types of TIP images: inspected items (BAG) and individual objects (OBJECT). Each type is further divided into sub-types, such as BOMBS, GUNS, and KNIFE. Images are displayed under sub-types such as BAGS. Select an image, and its preview and name are displayed on the right part.

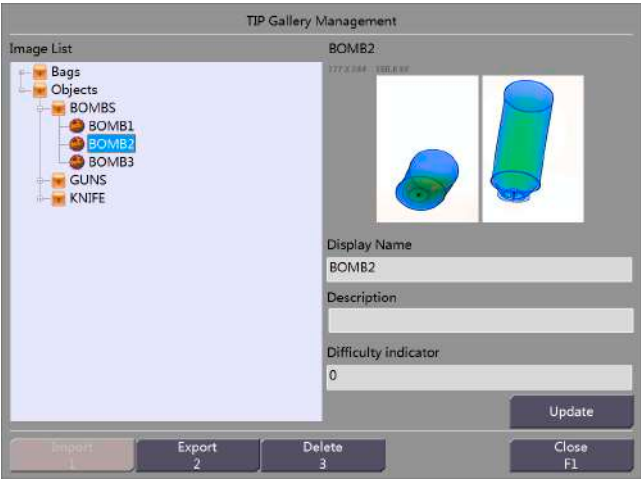


Figure 16-10 TIP Gallery Management Interface

Import: To import images from a USB storage device, click “Import”, select a folder on the USB storage device, and Click “OK” or press “F1” on the operation keyboard. An import progress bar is displayed. When the progress bar disappears, the import is completed.



Note:

The import operation applies to folders only.

Export: Select sub-types or images from the image list, and click “Export” to export the images to a USB storage device.

Delete: Select sub-types or images from the image list, and click “Delete” to delete them.

After the settings, click “Close”.

16.1.3 TIP Examination Querying

Function Introduction

This function is used to provide multiple user-specific reports, including: TIP login query, daily detail report, decision conclusion summary, decision conclusion detail, TIP decision summary report, TIP data operation report, examination item operation log, TIP login query, TIP category count log, as shown in Figure 16-11. This function is used to query user-specific TIP examination logs generated in the specified period. It provides information about operators' vigilance and ability to identify images.

Operation Procedure

Step 1 On the interface shown in Figure 16-1, choose TIP Examination Query to display the TIP Examination Query interface, as shown in Figure 16-11.

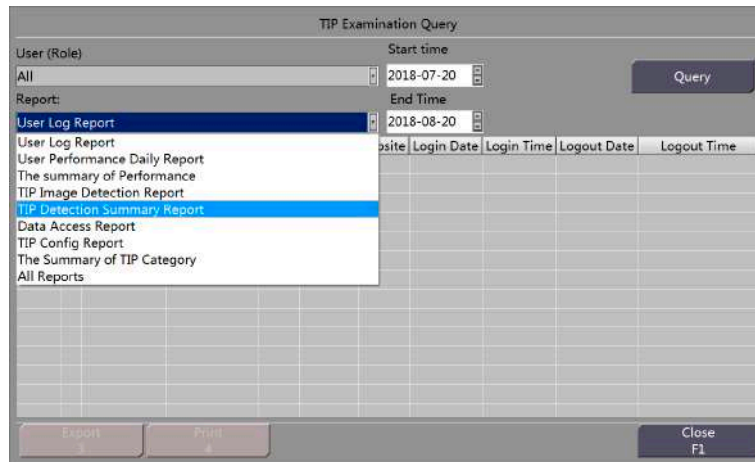


Figure 16-11 TIP Examination Querying Interface

Step 2 On this interface, select the report type, determine the User (group) and query time, and click "Query".

Step 3 Select records from the result and click "Export" to export them, as described in Step 4 of section 15.1.

After the querying, click "Close".

16.1.4 TIP Prompt Information Management

Function Introduction

Users can set personalized prompt information as required.

Operation Procedure

Step 1 On the interface shown in Figure 16-1, choose TIP prompt information management to display the TIP Prompt Information Management interface, as shown in Figure 16-12. There are four types of prompt information: identification information, missed information, error identification information and insertion failure information.

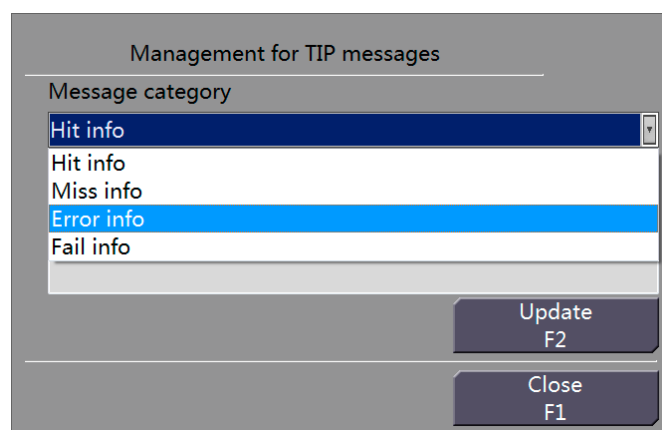


Figure 16-12 TIP Prompt Information Management

Step 2 Select one type of information, click "Update", the interface shown in Figure 16-13 will pop up. Input the prompt information as needed and then click "Close" to finish the information setting.

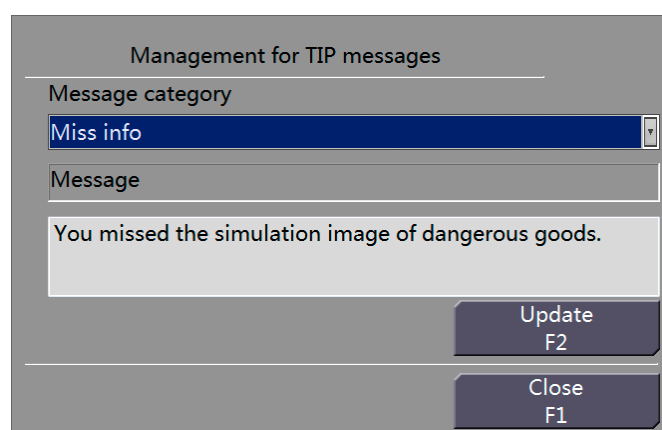


Figure 16-13 TIP Prompt Information Update Interface

16.2 Disabling TIP

Function Introduction

Users can disable TIP through this menu.

Operation Procedure

Step 1 In the main menu shown in Figure 13-1, click "Disable TIP" to bring up the interface for restarting software, as shown in Figure 16-14. Click "OK", and the software restarts.

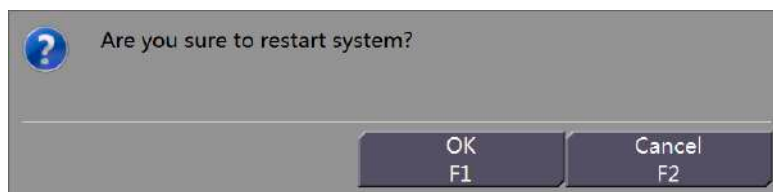


Figure 16-14 Interface for Restarting TIP Software

Step 2 After the software restarts, the main interface of the system is as shown in Figure 16-15. You can click "Enable TIP" to enable TIP.

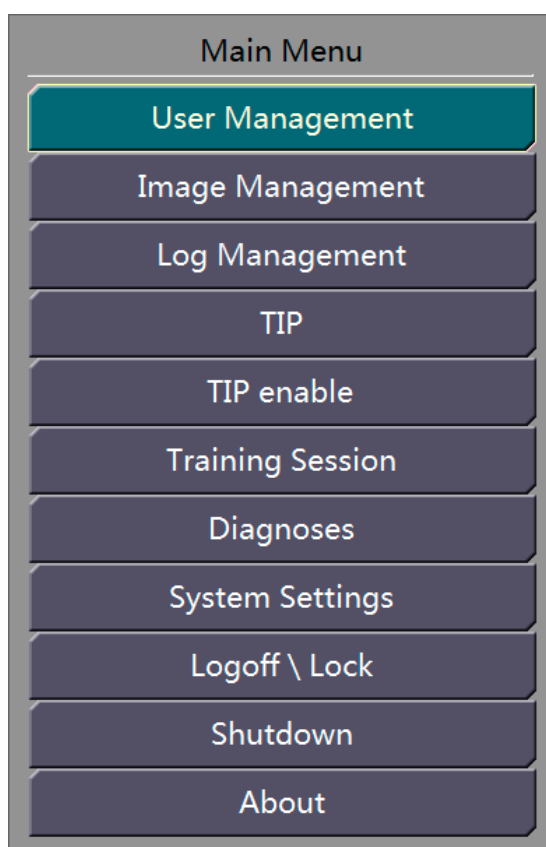


Figure 16-15 Main Interface after TIP is Enabled

17 Training*

About this Chapter

This chapter introduces the training and demonstration function.

Function Introduction

The system administrator can start the training function to train operators on image identification.

This function is used to train and examine operators' ability to identify dangerous and contraband objects. The training does not require the equipment conveyor and the X-ray generator to be started. During simulated object scanning, the scan images stored on the hard disk of the industrial computer are displayed on the screen.

Operation Procedure

Step 1 Choose Training from the main menu in Figure 14-1 to display the Training Session interface, as shown in Figure 17-1.



Figure 17-1 Training Session Interface

An image list is displayed on the left part of the interface, listing the available

image files for training.

The selected file can be previewed on the right part of the interface.

Step 2 Simulation Interval: Set the interval at which images are displayed. Select the Analog Interval time bar, set the time interval, such as "1", "2" or some other intervals that the administrator deems appropriate. The simulation interval ranges from 0 to 120 seconds.

Step 3 Circular Simulation: If this check box is selected, images in the image list are displayed circularly. If this check box is not selected, the training session finishes after the last image in the image list is displayed.

Step 4 If the image list for the current training session includes images that are inapplicable to the training, select the images and click "Delete" or press "4 JKL" on the operation keyboard to delete them from the image list.

Step 5 If all the images in the image list for the current training session are inapplicable to the training, click "Empty" or press "5 MNO" on the operation keyboard to clear the image list.

Step 6 To create or add images to the image list for training, choose "Image Management" or press "3 GHI" on the operation keyboard to display the Image Management interface.

Step 7 After the settings, click "OK" or press "F1" on the operation keyboard to save the settings but do not apply them immediately. To cancel the settings, click "Cancel".

Step 8 After the settings, click "Start" or press 1 on the operation keyboard to immediately start a training session. It shows in the system status panel, as shown in Figure 17-2.



Figure 17-2 System Status Panel Indicating Ready for Training

Step 9 When the training interface is displayed, the operator can press  or  on the operation keyboard to start training.

Step 10 The images selected for training are displayed at the preset simulation interval for identification by the operator.

Step 11 With the TIP function enabled for the current training session, if the operator identifies a dangerous object in an image, he/she can press  or double-click on the image area (optional).



Caution:

Records are kept on the operations of operators in each training session for user-based TIP statistics. The administrator can query the statistics on the TIP Examination Query interface.

Step 12 To stop the current training session, press  on the operation keyboard to stop image displaying. Right-click on the image display area or press  and  on the operation keyboard to display a shortcut menu, as shown in Figure 17-3. Choose Quit Training Session or click “Stop” on the Training Session interface as shown in Figure 17-1 to quit the training session.

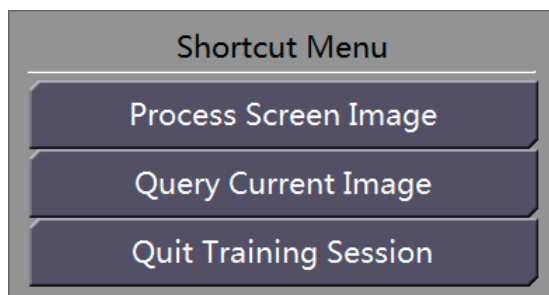


Figure 17-3 Shortcut Menu

18 System Setting

About this Chapter

This chapter introduces:

- Key Settings
- Counter Settings
- Display Settings
- Scan Settings
- Operate Image Settings
- Auxiliary Detection Settings
- Storage Settings
- Printer Settings
- Network Settings
- System Time Settings
- Extensions Management

18.1 Key Settings

Function Introduction

On the Priority Keys interface, you can define the mapping between imaging functions and keys on the operation keyboard for easy access to these functions.



Note:

The Key Settings function applies to the current user only, but not to the other users.

Operation Procedure

Step 1 Choose System Settings from the main menu in Figure 14-1 to display the System Settings interface, as shown in Figure 18-1.

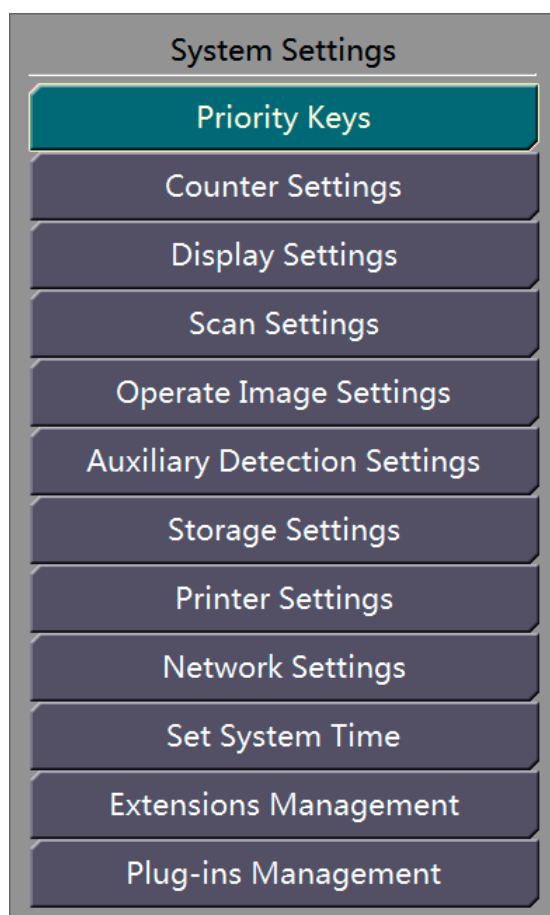


Figure 18-1 System Settings Interface

Step 2 Choose Priority Keys to display the Definable Keys interface, as shown in Figure 18-2.



Figure 18-2 Definable Keys Interface



Note:

The image above is a new version, and the image below is an old version.

Step 3 On the Definable Keys interface, select the imaging function for priority key setting and select a shortcut key from the Available Keys list. The shortcut keys in the list are numbered in the same order as shown on the operation keyboard.

After associating all the keys in the Available Keys list with imaging functions, you can define combined keys using the SHIFT key. To perform a function with combined keys, press SHIFT and press another key when the SHIFT indicator lights up.

Step 4 To set extended press, select the Extended Press check box.

Step 5 To restore the system defaults, click “Defaults”.

Step 6 To set combined keys, click “Advanced” to display an interface, as shown in Figure 18-3.

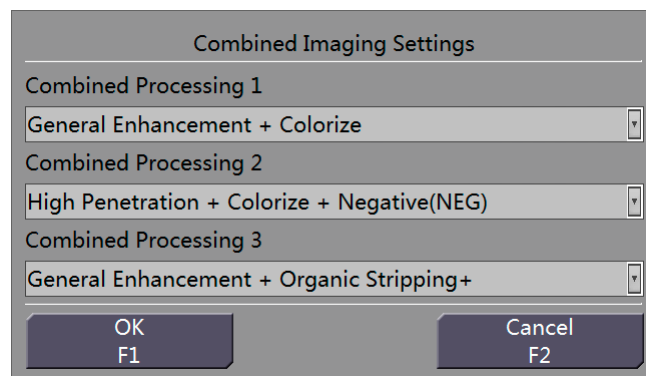


Figure 18-3 Combined Imaging Settings

Step 7 Select the desired corresponding combination of image processing functions from the drop-down list in the Combined Imaging Settings dialog box.

Step 8 After the settings, click “OK” or press “F1” on the operation keyboard. Finish the image combination process.

18.2 Counter Settings

Function Introduction

To know and write down the counter checked, you can look up the Inspected Item Counter in the status field, or look up in the Counter Settings interface.

Total Counter in the counter settings refers to the total inspected item counter by using the equipment. The Total Counter cannot restore the original status.

Temporary Counter in the counter settings refers to the inspected item counter by the current login user.

To reset the inspected item counter in the status field, you can operate by the counter settings.

By this function, you can set the counter functions.



Note:

If the inspected items are too close to each other, the result in the counter is not the accurate count of the actual inspected items. To get the accurate count of the

inspected items, when placing the inspected items on the conveyor, ensure that the distance between items is more than 20cm.



Note:

The settings and changes made through the function of counter settings apply to the current login user only.

Operation Procedure

Step 1 Click “Counter Settings” in the System Settings of main menu in Figure 14-1 to display the interface, as shown in Figure 18-4.



Figure 18-4 Counter Settings Interface

Step 2 Select Reset Temporary Counter when Login. The temporary counter will be reset automatically.

Step 3 In the Panel Display, you can set displaying the temporary counter or total counter.

Step 4 By Reset, you can reset the counter. Once you click “Reset”, a dialog box will prompt as shown in Figure 18-5, click “OK” to complete the setting of reset.

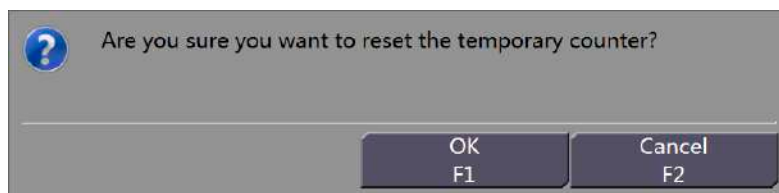


Figure 18-5 Prompt Box for Reset Counter

Step 5 During the previous operation, click “Cancel” or press “F2” on the operation keyboard to exit the current interface.

Step 6 After completing all the settings, click “OK” or press “F1” on the operation keyboard to save and apply the settings, and exit the interface.

18.3 Display Settings

18.3.1 Function Introduction

When setting the scan of the equipment image, scan the display result of the image in the scan interface. The setting choice includes Material Color Tone Settings, Default Imaging Settings, and some settings of image display interface.

According to the difference between the features of most common inspected items and the features of prohibited and dangerous items, choose the suitable material color tone settings. The characteristics of every setting can refer to the Description in the interface of the material color tone settings.

The default imaging settings configured with appropriate image processing functions will be the default image processing scheme for the current operator at login.



Note:

The settings and changes made through the function of display settings apply to the current login user only.

Operation Procedure

Step 1 Move the cursor to select the System Settings item in the main menu (Figure 14-1), and press the Increase key on the operation keyboard. System Settings pops up, as shown in Figure 18-6.

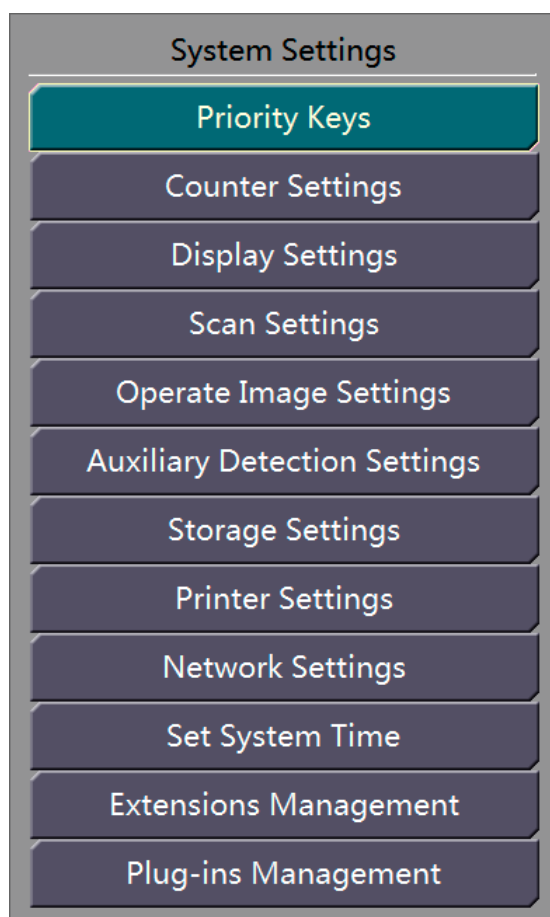


Figure 18-6 Menu of System Settings

Step 2 In the System Settings, choose Display Settings. Press the Increase key on the operation keyboard to display the Display Settings interface, as shown in Figure 18-7.

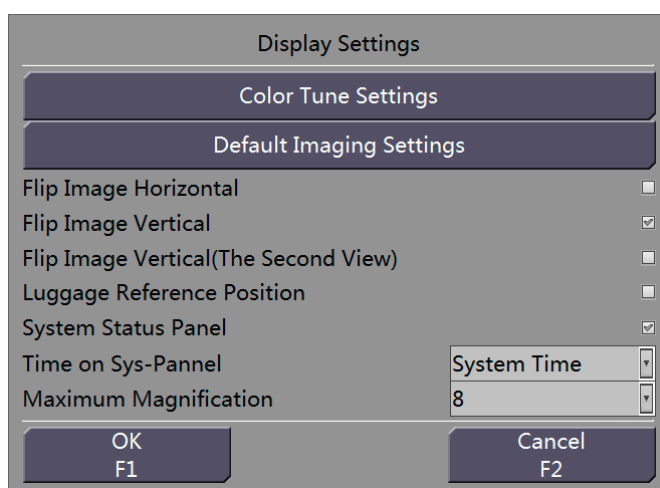


Figure 18-7 Interface of Display Settings

18.3.2 Color Tone Settings

Step 1 Select Color Tone Settings or press the Increase key on the operation keyboard to display the Material Color Tone Settings interface, as shown in Figure 18-8. Select one tone from the Select Material Color Tone list box. Preview at the right of the interface displays the image effects of the selected tone, and the Description area below describes the expected effects of the selected tone in details.

Step 2 Click “OK” or press “F1” on the operation keyboard, and the selected tone takes effect, or click “Cancel” or press “F2” on the operation keyboard to cancel the previous settings. The system returns to the interface of Figure 18-6.

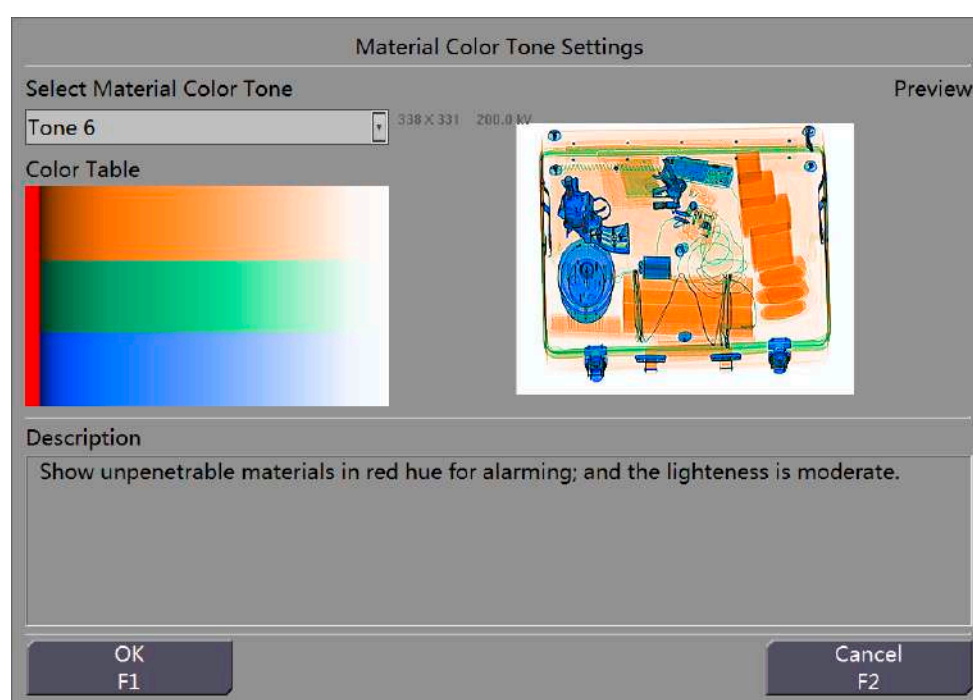


Figure 18-8 Interface of Material Color Tone Settings

18.3.3 Default Imaging Settings

Step 1 To change and set the imaging settings of the current scan image to the default imaging settings, choose Default Imaging Settings on the interface of Figure 10-6 or press the Increase key on the operation keyboard to display the Set Default Imaging Status interface, as shown in Figure 18-9.

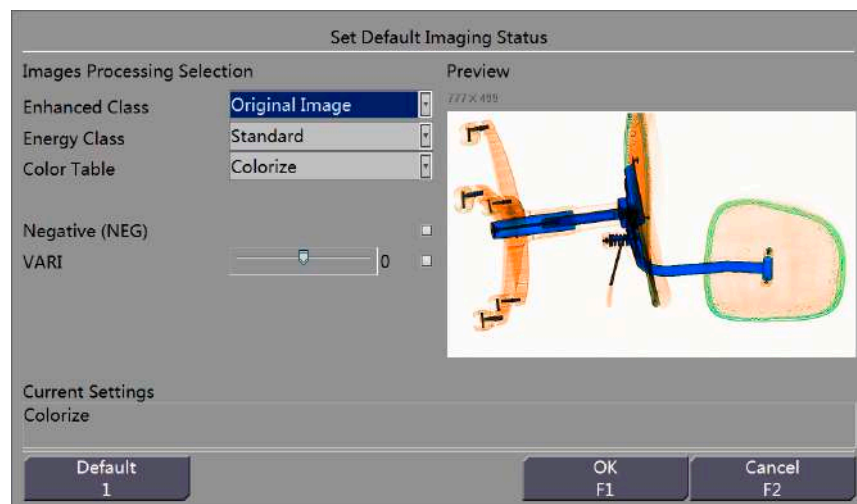


Figure 18-9 Interface of Default Imaging Settings

Step 2 Complete the settings of all parameter values in the Images Processing Selections, and Preview at the right of the interface displays the effect image. You can make personalized settings or changes to your habits of identifying the image.

Enhanced class includes: original image, edge enhancement, general enhancement, sharpening and smoothing.

Energy class includes: standard exchange, high penetration, low penetration, thin object inspection and general penetration.

Color table includes: colorize, B/W, organic stripping, mineral stripping, organic stripping+, mineral stripping+, Z7, Z8, Z9, Organic Materials Only, None.

Pseudo color scheme includes mist, grape, oasis, sunset, ocean and pavonine. Select the suitable schemes.

Negative: choose the negative color check box, and you can set the negative color image to the default image.

Multi-absorptivity: by the control of the horizontal navigation keys, choose the position of the slider in the multi-absorptivity, and you can set the multi-absorptivity image to the default image.

To restore the default imaging settings, click Default or press 1 on the operation keyboard.

During the previous operation, click “Cancel” or press “F2” on the operation keyboard to exit the current interface.

Step 3 After completing all the settings, click “OK” or press “F1” on the operation keyboard to save and apply the settings, and exit the interface.

18.3.4 Setting Image Flip Directions

Step 1 Flip image horizontal: this function is used when the moving direction of the image on the screen disaccords with that of the conveyor. By this function, the scan image on the screen flips in the direction of horizontal, and flips the direction of the screen image. That is, the direction of the original screen image is from the left to the right. This function changes the direction from the right to the left.

Step 2 Flip image vertical: when the inspected item on the conveyor is opposite to the scan image you see on the screen, that is, the inspected item is placed on the side that is far away from you, and you will see the image in the lower part of the screen. To change the display status, you can select the function of Flip Image Vertical for the convenience of watching the image. By this function, the position of the inspected item placed on the right or left side of the conveyor flips vertically with the images in the upper or lower part of the screen.

18.3.5 System Status Panel

Select the System Status Panel check box to display the system status panel after login, or deselect the check box to set not to display.

18.3.6 Setting the Maximum Zoom-in Times

Set the maximum global zoom-in times of the images. The setting range is between 2 and 64 times. Place the cursor in this field and select the maximum global zoom-in times by the upward and downward navigation keys.

Step 1 During the previous operation, click “Cancel” or press “F2” on the operation keyboard to exit the current interface.

Step 2 After completing all the settings, click “OK” or press “F1” on the operation keyboard to save and apply the settings, and exit the interface.

18.4 Scan Settings

Function Introduction

This function is used to set scanning parameters of the equipment according to field conditions to facilitate equipment use and image identification.

Operation Procedure

Step 1 On the interface shown in Figure 18-1, choose Scan Settings or press the Increase key on the operation keyboard to display the Scan Settings interface, as shown in Figure 18-10.

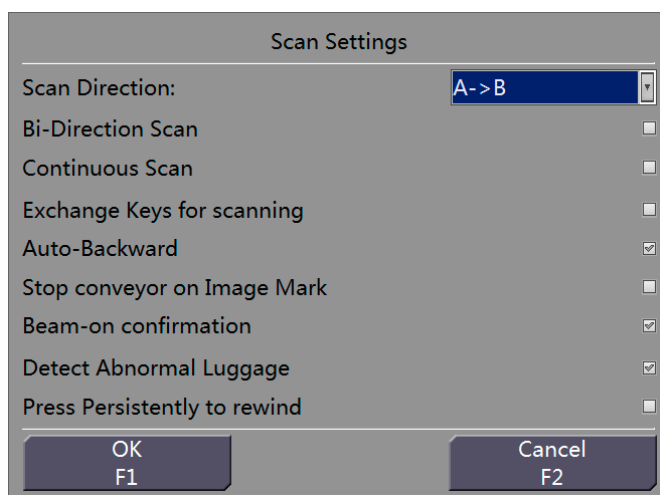


Figure 18-10 Scan Settings Interface

Scan Direction: The motor is installed at end A and the turning roller is installed at end B. In mono-direction scan mode, you can select A→B or B→A to change the scan direction.



Caution:

Bi-Direction Scan and Scan Direction are exclusive. If you select Bi-Direction Scan, Scan Direction becomes non-editable.

Bi-Direction Scan: In bi-direction scan mode, the inspected item can be scanned and displayed when it enters the tunnel along with the conveyor in either direction. Select the Bi-Direction Scan check box to enable bi-direction scan.

Continuous Scan: In non-continuous scan mode, the X-ray generator does not emit X-rays until the inspected item enters the tunnel and blocks out the photoelectric sensor, which perceives objects. Objects must meet certain conditions to be perceived by the photoelectric sensor. Thin objects like letter paper can hardly be detected by the photoelectric sensor. To inspect such objects in batches, enable the Continuous Scan function. With this function, when the conveyor starts to move, the X-ray generator immediately emits X-rays for scanning. Signals of the photoelectric sensor are shielded. Select the function or press  on the operation keyboard to enable the function.



Caution:

In continuous scan mode, the X-ray generator keeps emitting X-rays at the cost of shortened service life. Therefore, this function should be used only when necessary.

Exchange Keys for scanning: If the  and  keys on the operation keyboard are inconsistent with actual moving direction of the conveyor, select Exchange Keys for scanning to exchange keys (this option should be used along with the Flip Image Horizontal function in Display Settings). Select the check box for the function or press  on the operation keyboard to enable the function.

Auto-Backward: If you press  to stop scanning, you need to press  again to restart the conveyor for scanning. To display a complete image, the system automatically rewinds the conveyor and then makes it move forward. Thus the currently inspected item is rescanned. If this function is disabled, a black band appears on the image of the inspected items. Select the check box for the function or press  on the operation keyboard to enable the function.



Caution:

- Continuous Scan and Auto-Backward are exclusive.
 - If the Auto-Backward function is enabled, the inspected items on the rear end of the conveyor should be prevented from falling.
-

Stop conveyor on Image Mark: If this function is enabled, the conveyor and the screen image stop moving when the operator presses the mark key to mark a suspicious object. The status remains until the operator makes a decision. Select the check box for the function or press  on the operation keyboard to enable the function.

Beam-on confirmation: If this function is enabled, the login operator is prompted to empty the tunnel before X-rays are emitted.

Detect Abnormal Luggage: If this function is enabled, a prompt pop up if the photoelectric sensor detects an object entering or leaving the tunnel while the conveyor stays stably, as shown in Figure 18-11.

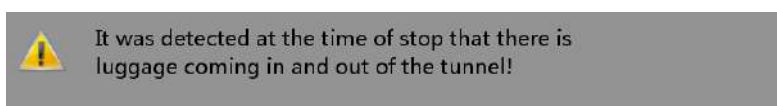


Figure 18-11 Prompt for Abnormal Infrared Signal while the Conveyor Staying Stably

Step 2 During the previous operation, click “Cancel” or press “F2” on the operation keyboard to exit the interface.

Step 3 After completing all the settings, click “OK” or press “F1” on the operation keyboard to save and apply the settings, and exit the interface.

18.5 Operate Image Settings

Function Introduction

This function is used to define related functions on the  key of the operation keyboard to implement fast screen image processing with combined functions.

Operation Procedure

Step 1 Choose System Settings > Operate Image Settings or press the Increase key on the operation keyboard to display an interface, as shown in Figure 18-12.

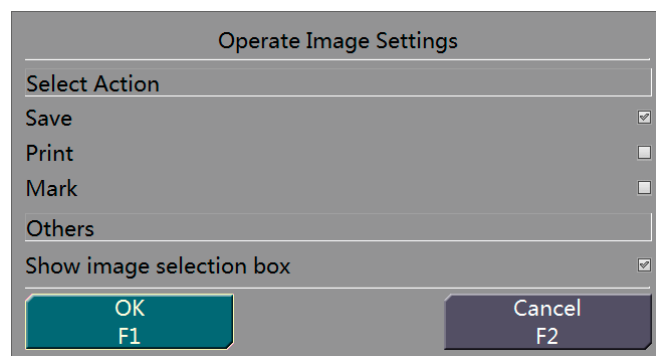


Figure 18-12 Operate Image Settings Interface

The following actions can be set: saving, printing, marking, and image selection.

When identifying a suspicious image, the operator can press  to complete all the four functions at a time.

Step 2 After settings, click “OK” to save the settings and exit the interface.

18.6 Auxiliary Detection Settings

Function Introduction

This function is used to set automatic detection of explosives, drugs, and other impenetrable objects and set the alerting mode.

Operation Procedure

Step 1 Choose System Settings > Auxiliary Detection Settings or press the Increase key on the operation keyboard to display an interface, as shown in Figure 18-13.

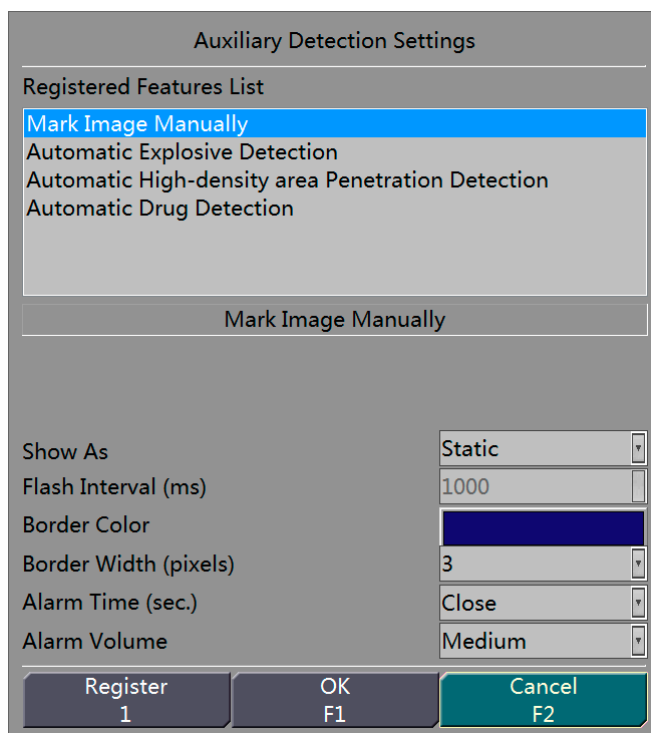


Figure 18-13 Auxiliary Detection Settings Interface

Step 2 The Registered Features List shows the authorized auxiliary detection functions. For more auxiliary detection functions (optional), contact the equipment supplier. If more auxiliary detection functions are available, enter the previous interface and click “Register” to display the Extensions Management interface. For details, see section "19.11 Extensions Management."

Step 3 Select Explosive Auxiliary Detection from the Registered Features List and set parameters on the right part of the interface.

Enable: To enable the selected function, select the Enable check box.

Auto-Stop: To stop the conveyor when an explosive is identified, select the Auto-Stop check box.

Show As: Set the display mode of the alert box from Static and Flash.

Flash Interval (ms): If the display mode is set to Flash, set a flash interval from 250 ms to 4,000 ms.

Border Color: Select the border color of the alert box from the color list.

Border Width (pixels): Set the border width of the alert box from 1 to 6.

Properly set the previous parameters to achieve the best visual effect.

If an alarm device is installed, you can set whether to enable alarm on the interface.

Alarm Time (sec.): Set whether to enable alarm. If you enable alarm, you need to set the alarm time from 1 second to 32 seconds.

Alarm Volume: Set the alarm volume to Low, Medium, or High.

Properly set the previous parameters to achieve the best visual effect.

Step 4 The settings of Auxiliary Impenetrable Detection, Auxiliary Drugs Detection, and Auxiliary Currency Detection are similar.

Step 5 During the previous operation, click “Cancel” or press “F2” on the operation keyboard to exit the current interface.

Step 6 After completing all the settings, click “OK” or press “F1” on the operation keyboard to save and apply the settings, and exit the interface.

18.7 Storage Settings

Function Introduction

18.7.1 Automatically Saving Images

Organize the automatically saved images, set the capacity and alert threshold for saved images.

Operation Procedure

Step 1 Choose System Settings > Storage Settings to display an interface as shown in Figure 18-14.

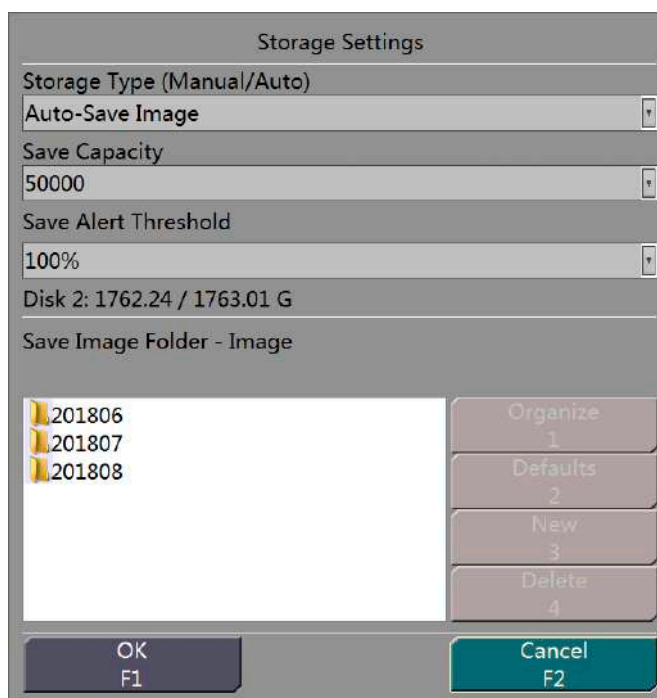


Figure 18-14 Storage Settings Interface

Step 2 Set the Auto-Save Capacity and Auto-Save Alert Threshold. Auto-Save Capacity ranges from 50000 to 1000000. Auto-Save Alert Threshold ranges from 50% to 100%.

When you press the forward key to scan the parcel after the D drive storage capacity reaches the set alert threshold, the system will check and pop up a warning prompt. The system will check once at startup if you click the Run key, if the alert threshold is not reached, it will check once every hour; if the alert threshold is reached, the warning prompt will be displayed every time the Run key is pressed.

After the system finds that the D drive capacity exceeds the alert threshold, press the Run key to pop up the warning prompt.



Figure 18-15 Alert Threshold Prompt

Click “OK” button or press the “F1” key to cancel the prompt, and the belt

continues to run to scan the parcel and generate images.

Organize the saved files with the "Organize" button, open the "Saved Image File Management" window, as shown in Figure 18-16.

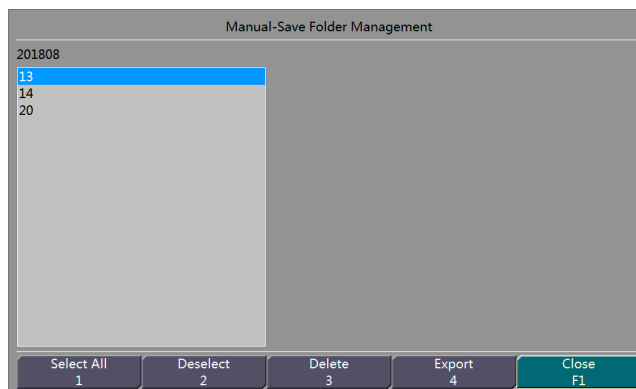


Figure 18-16 Saved Image Folder Management Window

Step 3 Place the cursor at the list to be deleted on the left, click "Delete" button, the prompt is as shown below. Click "OK" or press "F1" to delete images, otherwise click "Cancel" or press "F2" to cancel the deletion.

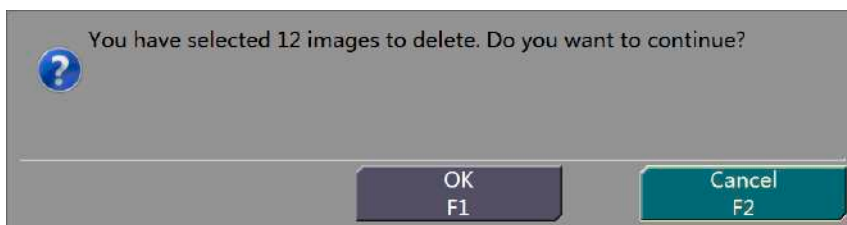


Figure 18-17 Deletion Confirmation Prompt Box

Step 4 When exporting images, select the list to be exported on the left side and click "Export" button to enter the "Image Dump" interface. Refer to "14.2 Step 3" for image exporting.

Step 5 After all the settings, Click "OK" or press "F1" on the operation keyboard.

**Note:**

The Organize function can only organize images saved within a month. The Organize function can be used to delete and export images. The "Delete" function can delete one or more days of images each time, while the Export function can export all the images of the month.

18.7.2 Manually Saving Images

This function is used to set the path for manual image saving, the capacity of images, and the alert threshold.

Operation Procedure

Step 1 Choose System Settings > Storage Settings to display an interface as shown in Figure 18-14. Set the "Storage Type" to "Manual Save" and enter the interface as shown in Figure 18-18.

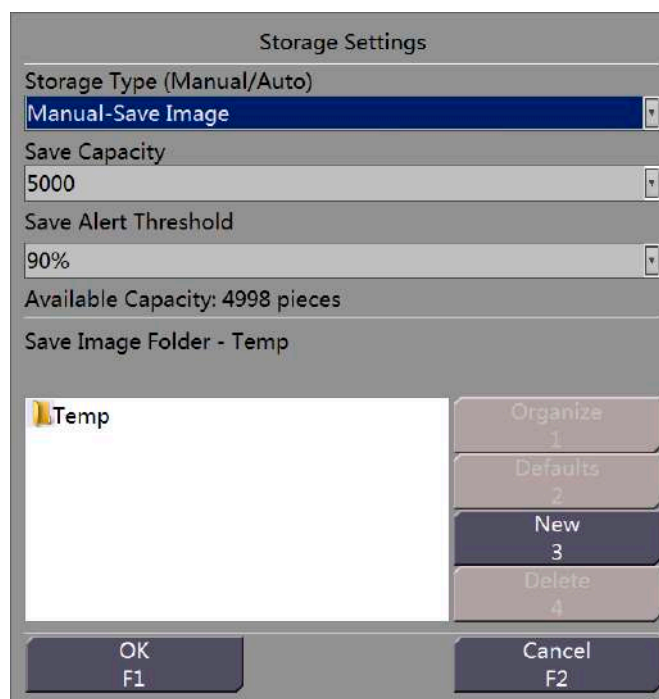


Figure 18-18 Storage Settings Interface

Step 2 Set the Manual-Save Capacity and Manual-Save Alert Threshold. Manual-Save Capacity ranges from 1,000 to 10,000. Manual-Save Alert Threshold ranges from 50% to 100%.

Manual-save capacity refers to the maximum number of images that can be saved manually. Once the number is exceeded, if you try to manually save another image, the system will report failure and pop up the storage failure prompt.

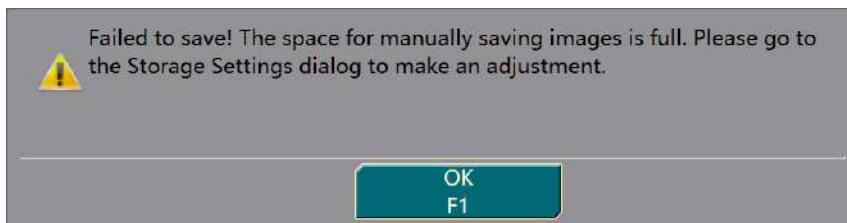


Figure 18-19 Storage Failure Prompt

Once the alert threshold is set, when the number of manually saved images reaches Manual-Save Capacity*Manual-Save Alert Threshold, if you try to manually save another image, the following threshold alert prompt will appear.



Figure 18-20 Threshold Alert Prompt

Step 3 Manu-Save Image Folder: Click “New” to create a folder, as shown in Figure 18-21.

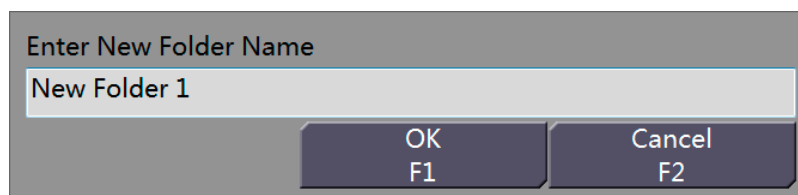


Figure 18-21 New Folder Interface for Manual Saving

Step 4 If there are two or more manual-save image folders, select a non-default folder and click “Defaults” to set the folder as the default folder.

Step 5 To organize manual-save image folders, click “Organize” to display an interface, as shown in Figure 18-18. On the interface, you can export or delete folders. After that, click “Close” to return to the interface shown in Figure 18-16.



Figure 18-22 Manual-Save Folder Management Interface

Step 6 After all the settings, Click “OK” or press “F1” on the operation keyboard.

18.8 Printer Settings

Function Introduction

This function is used to set the default printer.

Operation Procedure

Step 1 Choose System Settings > Printer Settings to display an interface, as shown in Figure 18-23.

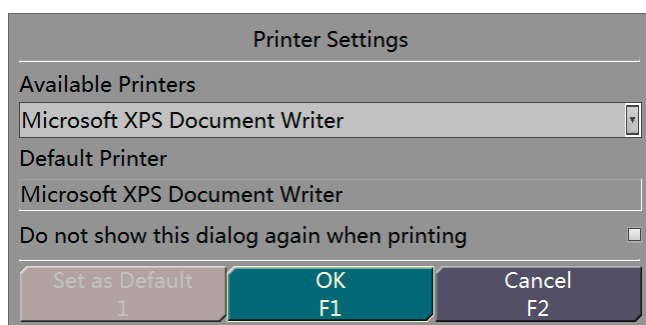


Figure 18-23 Printer Settings Interface

Step 2 When a printer is installed, it is added to the Available Printers list. Select the printer to set.

Step 3 To skip printer selection in printing, select do not show this dialog again when printing.

Step 4 Click “OK” or press “F1” on the operation keyboard

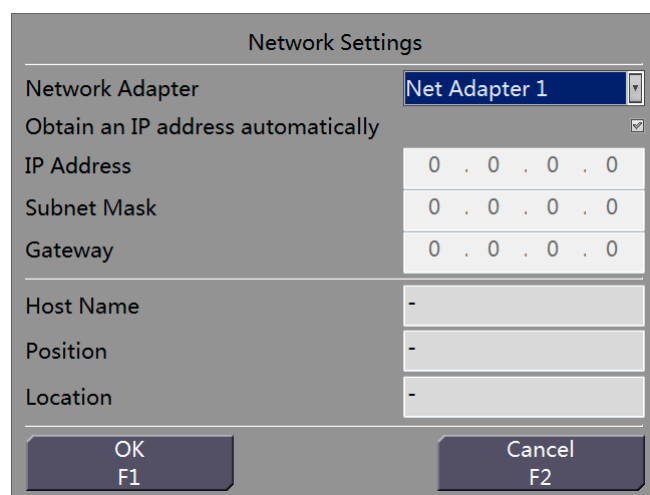
18.9 Network Settings

Function Introduction

This function is used to set network parameters for each of the devices connected to the network.

Operation Procedure

Step 1 Choose System Settings > Network Settings to display an interface, as shown in Figure 18-24.

The image shows a 'Network Settings' dialog box. At the top, it says 'Network Settings'. Below that, there's a dropdown menu for 'Network Adapter' with 'Net Adapter 1' selected. A checkbox labeled 'Obtain an IP address automatically' is checked. Below this are three rows for 'IP Address', 'Subnet Mask', and 'Gateway', each with a text input field containing '0 . 0 . 0 . 0'. Below these are three more rows for 'Host Name', 'Position', and 'Location', each with a text input field containing a hyphen. At the bottom, there are two buttons: 'OK' with 'F1' below it, and 'Cancel' with 'F2' below it.

Network Settings	
Network Adapter	Net Adapter 1
Obtain an IP address automatically	☒
IP Address	0 . 0 . 0 . 0
Subnet Mask	0 . 0 . 0 . 0
Gateway	0 . 0 . 0 . 0
Host Name	-
Position	-
Location	-
OK F1 Cancel F2	

Figure 18-24 Network Settings Interface

Step 2 On the interface, set network parameters according to the information provided by the local network administrator. Then Click “OK” or press “F1” on the operation keyboard.

18.10 System Time Settings

Function Introduction

This function is used to set or change the system time.

Operation Procedure

Step 1 Choose System Settings > Set System Time to display an interface, as shown in Figure 18-25.

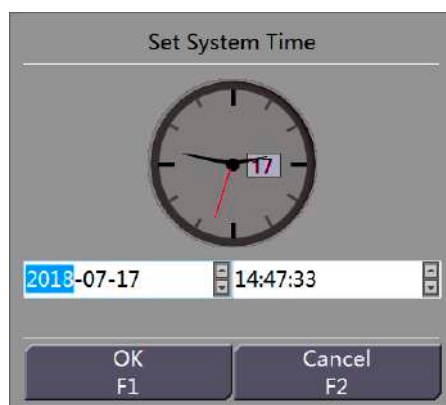


Figure 18-25 System Time Settings Interface

Step 2 Set or change the system time on the interface.

Step 3 After confirmation, click “OK” to apply the new time. Finish the setting of system time at the same time.

18.11 Extensions Management

Function Introduction

This function is used to manage optional functions such as advanced auxiliary detection. These advanced optional functions should be enabled with this function.

Operation Procedure

This function can be enabled through key file export/import or manual input.

18.11.1 Exporting Keys

Step 1 Choose System Settings > Extensions Management to display an interface, as shown in Figure 18-26. The following extensions can be managed: automatic explosive detection, automatic drug detection, automatic currency detection, and impenetrable detection.

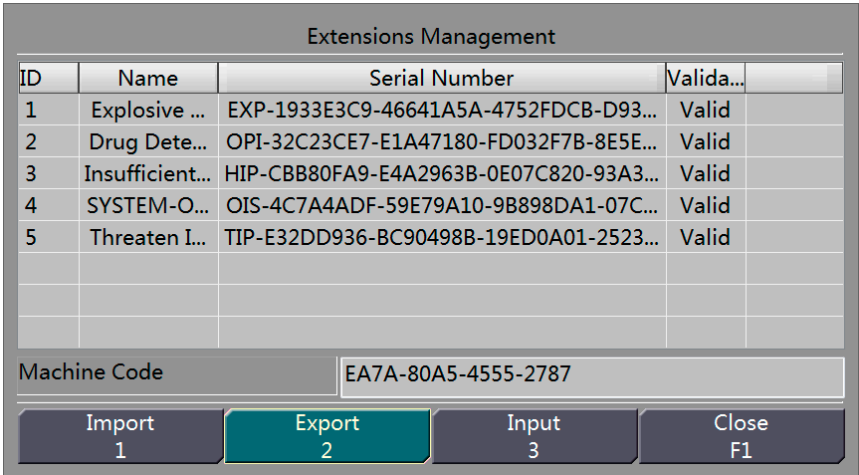


Figure 18-26 Extensions Management Interface

Step 2 Connect a USB storage device to the equipment and click “Export” to display an interface, as shown in Figure 18-27.

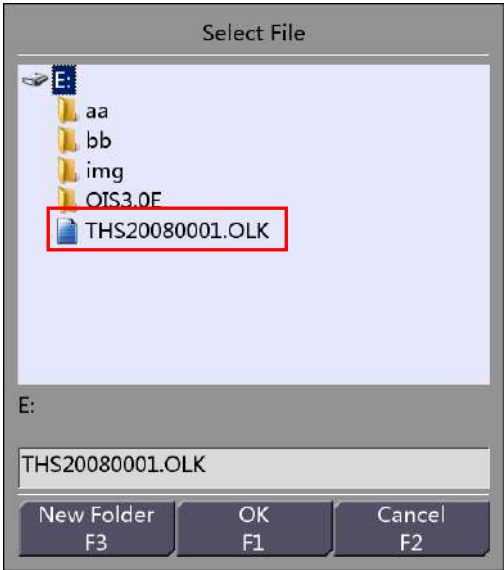


Figure 18-27 Export Interface of Extensions Management

Step 3 Give the exported key file to the equipment supplier, who will generate a key for enabling functions.

Step 4 After obtaining the key for enabling advanced functions, connect the USB storage device storing the key to the equipment. Enter the Extensions Management interface and click “Import”. The system automatically verifies the key and, if it is correct, enables the corresponding function, as shown in Figure 18-28.

Extensions Management				
ID	Name	Serial Number	Valida...	
1	Explosive ...	EXP-22336DF2-32C07269-C2B67AE5-6C6...	Valid	
2	Drug Dete...	OPI-D08D3805-109133DB-AEEFCD4E-15A...	Valid	
3	Insufficient...	HIP-9B037620-0DB1484A-7144A692-C2B6...	Valid	
4	SYSTEM-O...	OIS-24A5C719-EDB3EED8-902EACEE-748...	Valid	
5	Threaten I...	TIP-E7A2C53D-E5539FA3-7F73A313-772E...	Valid	
Machine Code		BCA3-676B-26B1-0835		
Import 1		Export 2	Input 3	Close F1

Figure 18-28 Function Enabling Interface of Extensions Management

18.11.2 Inputting Serial Number Manually

Step 1 Enter the Extensions Management interface, write down the machine code shown on the interface, and give it to the equipment supplier;

Step 2 The equipment supplier gives a serial number to the operator. The operator clicks “Input” to display an interface, as shown in Figure 18-29.

Please enter a serial number	
OK F1	Cancel F2

Figure 18-29 Serial Number Input Interface

Step 3 The Operator inputs the serial number with the operation keyboard. If the serial number is correct, the system enables the corresponding function; otherwise, the system does not enable the function.

Step 4 Click “Close”.

19 About

19.1 Basic System Information

Function Introduction

The About interface shows the current software name, version, device type, device ID, and hardware information.

Operation Procedure

Step 1 Choose About or press  on the operation keyboard to display the main menu, as shown in Figure 19-1.

Step 2 In the main menu, choose About or press the Increase key on the operation keyboard, to display the About interface, as shown in Figure 19-2.

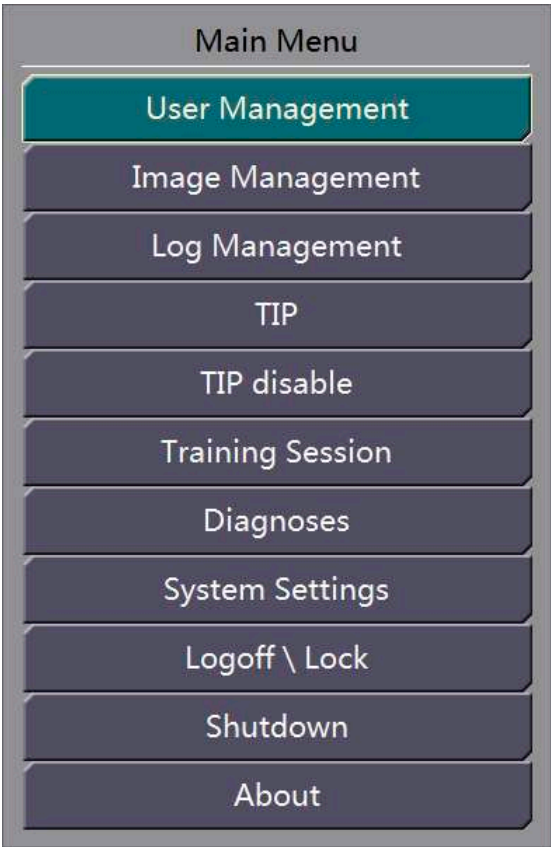


Figure 19-1 Interface of Operator Main Menu

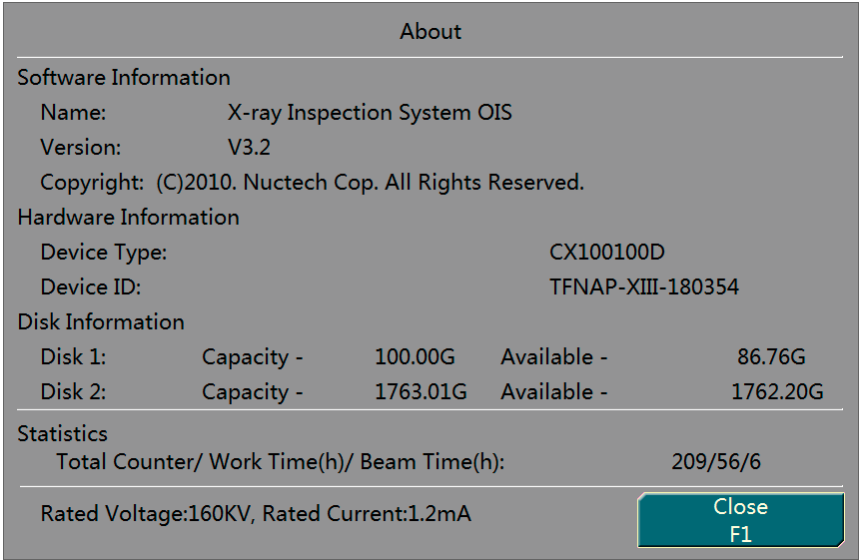


Figure 19-2 Main Interface of System Basic Information

Basic System Information

Software information, name: displaying the full spelling of the system software.

Software information, version: displaying the software version used by the current equipment.

Software information, copyright: displaying the copyright of the current software.

Hardware information, device type: displaying the current device type.

Hardware information, device ID: displaying the current device ID.

Disk information, disk 1: displaying the total capacity of part 1 and the available capacity of the system hardware.

Disk information, disk 2: displaying the total capacity of part 2 and the available capacity of the system hardware.

Run Statistics: Displays the total counters, run time and beam emitting time.

Last line: Shows rated voltage and rated current.

Close: to close the current interface, click “Close” or press “F1” on the operation keyboard.

Appendix

Terms



Note:

The following terms are quoted from GB 15208.1-2005 Micro-Dose X-Ray Security Inspection System and other related standards.

C

Operation keyboard	operation keyboard	It provides a man-machine interface for the equipment.
--------------------	--------------------	--

D

Effective Atomic Number	Effective atomic number	For elementary substances, it is the atomic number, for compounds or complexes, it is the atomic number of the elementary substances with identical attenuation features.
-------------------------	-------------------------	---

H

Mixed material	Mixed Material	It refers to substances with the effective atomic number between 10 and 18.
----------------	----------------	---

S

Scanning decision time	Scanning decision time	It refers to the period from when a dangerous object appears on a scanned image to when the operator identifies the image. If the operator fails to identify the image within the period, the system considers that a decision fails.
------------------------	------------------------	---

T

Stop decision time	stop decision time	It refers to the period from when an image appears on the screen to when the image is identified by the operator when the conveyor stops.
--------------------	--------------------	---

TIP assessment	TIP assessment	It examines operator's ability to identify images of contraband objects from images of normal luggage.
----------------	----------------	--

TIP system	TIP system	It is also known as the contraband object injection system, which automatically injects complete luggage images (combined image) containing contraband objects in inspected items, or automatically injects images (partially injected images) of contraband objects in X-ray images of inspected items. Inspectors are not told of the injection in the whole process.
W		
Inorganic material	Inorganic Material	It refers to substances with the effective atomic number larger than 18.
X		
System status field	the system status field	It refers to the information field below the image display area.
Y		
Operation inspection system	operation inspection system	It inspects luggage images, generates X-ray images, and marks the images.
Organic material	organic material	It refers to substances with the effective atomic number smaller than 10.
Z		
Auto-backward	auto-backward	Press the forward button when the system is in ready state, if there is luggage in the equipment tunnel, the system enters auto-backward state (conveyor is rewound, the X-ray generator is turned off, and no images are displayed).

Figures

Figure 2-1 Power Position	9
Figure 4-1 Emergency Stop Switch	17
Figure 4-2 Power-on indicator	18
Figure 4-3 X-ray On Indicator	19
Figure 4-4 Alarm Indicator	20
Figure 4-5 Reset button	20
Figure 4-6 Operation Keyboard E04	21
Figure 4-7 OIS Main Interface (single-view)	26
Figure 4-8 OIS Main Interface (dual-view)	27
Figure 4-9 System status panel	28
Figure 4-10 Main Menu Interface for Operators	29
Figure 5-1 Prompt for Emptying the Tunnel.....	32
Figure 5-2 System Login Interface	33
Figure 5-3 System Ready after Successful Login.....	35
Figure 5-4 Main Menu Interface.....	36
Figure 5-5 Prompt for Logoff/Lock.....	37
Figure 5-6 Prompt for Logoff	37
Figure 6-1 Placing Items.....	40
Figure 6-2 Single-view Scanned Image Diagram	41
Figure 6-3 Dual-view Scanned Image Diagram	41
Figure 6-4 Shortcut Menu.....	43
Figure 6-5 Progress Bar Indicator of Generating Emendation Tables	43
Figure 7-1 Original Image	45
Figure 7-2 Edge enhancement	45
Figure 7-3 Sharpening	46

Figure 7-4 General Enhancement	47
Figure 7-5 Smoothing	47
Figure 7-6 High Penetration.....	48
Figure 7-7 General penetration	48
Figure 7-8 Low penetration	49
Figure 7-9 Thin Object Inspection.....	50
Figure 7-10 Multi-absorptivity	50
Figure 7-11 Black-and-White (B/W)	52
Figure 7-12 Organic stripping.....	53
Figure 7-13 Mineral striping	53
Figure 7-14 Organic Stripping+	54
Figure 7-15 Mineral Striping+	55
Figure 7-16 Organic Materials Only	56
Figure 7-17 Suspicious Organic Materials Enhancement (Z7)	57
Figure 7-18 Suspicious Organic Materials Enhancement (Z8).....	57
Figure 7-19 Suspicious Organic Materials Enhancement (Z9).....	57
Figure 7-20 Negative	58
Figure 7-21 Image Two Times of the Original Size.....	60
Figure 7-22 Image Three Times of the Original Size.....	60
Figure 7-23 Image Marking Interface	62
Figure 7-24 Marking an Image with Mouse	63
Figure 8-1 Shortcut Menu for Operators.....	66
Figure 8-2 Screen Image Processing Interface.....	67
Figure 8-3 Prompt for Successful Manual Saving	68
Figure 8-4 Shortcut Menu for Querying Current Image	68
Figure 8-5 Image Management Interface	69
Figure 8-6 Image Querying Interface.....	70
Figure 8-7 Time Range Selecting Interface	71
Figure 8-8 Image Querying Result	72
Figure 8-9 Prompt for Image File Quantity for Opening Exceeding Limit	74
Figure 8-10 Locking Image Interface in Image Management.....	75
Figure 8-11 Prompt for Images Locked Exceeding Limit	76
Figure 9-1 User Editing Interface	80
Figure 9-2 Prompt for Incorrect Password.....	80

Figure 9-3 Prompt for Password Mismatch	81
Figure 10-1 Prompt for TIP	83
Figure 10-2 Prompt for TIP Identification Failure.....	84
Figure 10-3 TIP Image Injection Failure	84
Figure 10-4 Wrong Judgments.....	84
Figure 11-1 Photoelectric Sensor.....	86
Figure 13-1 Main Menu.....	96
Figure 13-2 User Management Menu	96
Figure 13-3 User Management Interface	97
Figure 13-4 Prompt for Entering Password	97
Figure 13-5 New User Interface	98
Figure 13-6 Card Management Interface.....	99
Figure 13-7 Read Card Number.....	99
Figure 13-8 Card Associated with User.....	99
Figure 13-9 Card Disassociated with User	100
Figure 13-10 User Editing Interface	101
Figure 13-11 Prompt for Deleting User	102
Figure 13-12 Prompt for Login Failure	103
Figure 13-13 Interface for Managing User Group.....	104
Figure 13-14 Interface for Adding User Group	104
Figure 13-15 Interface for Editing User Group	105
Figure 13-16 Role-based Permission Management Interface	106
Figure 13-17 Entering User Role Name	107
Figure 13-18 The User Role Already Exists.....	108
Figure 13-19 Interface for Editing User Role Name.....	108
Figure 13-20 Prompt Box for Confirming to Delete the User Role.....	109
Figure 13-21 Other Settings Dialog Box	110
Figure 13-22 System Automatically Logoff Interface	111
Figure 14-1 Image Management Interface.....	114
Figure 14-2 Image Querying Interface	115
Figure 14-3 Image Management Interface Displaying Sample Images	116
Figure 14-5 Folder Selection Interface	117
Figure 14-6 Imaging Status Interface	118
Figure 14-7 Image Dumping Progress Bar	118

Figure 14-8 Prompt for Image Printing.....	120
Figure 14-9 Printer Settings.....	120
Figure 14-10 Prompt for No Printer Connected to the System	120
Figure 14-11 Screen Image Selection Interface	121
Figure 14-12 Image Management Interface.....	122
Figure 15-1 Log Management Interface	124
Figure 15-2 Startup Query Interface	124
Figure 15-3 Result of Startup Query.....	125
Figure 15-4 Startup Information Export Interface	125
Figure 15-5 Startup Information Displayed in a Line Chart	126
Figure 15-6 Startup Information Displayed in a Column Chart.....	126
Figure 15-7 Login Query Interface	127
Figure 15-8 Result of Login Query.....	127
Figure 15-9 Login Information Export Interface	128
Figure 15-10 Action Querying Interface.....	128
Figure 15-11 Result of Action Query.....	129
Figure 15-12 Event Querying Interface	130
Figure 15-13 Result of Event Query	130
Figure 15-14 X-Ray Generator Query Interface	131
Figure 15-15 Result of X-ray Generator Query	132
Figure 15-16 X-Ray Generator Working Chart (Line Chart).....	132
Figure 15-17 X-Ray Generator Working Chart (Column Chart)	133
Figure 15-18 Drum Motor Query Interface	134
Figure 15-19 Result of Drum Motor Query	134
Figure 15-20 Drum Motor Working Chart (Line Chart)	135
Figure 15-21 Drum Motor Working Chart (Column Chart).....	135
Figure 16-1 TIP Interface.....	138
Figure 16-2 TIP Examination Items Management	138
Figure 16-3 New TIP Examination Item Interface.....	138
Figure 16-4 Prompt for Repeated Examination Item Name	139
Figure 16-5 Simulation Image Settings Interface	141
Figure 16-6 Prompt for Adjusting TIP Image Ratio.....	141
Figure 16-7 TIP Examination Item Editing Interface	142
Figure 16-8 Prompt for Failure to Delete an Examination Item	142

Figure 16-9 Prompt for Deleting an Examination Item	143
Figure 16-10 TIP Gallery Management Interface	144
Figure 16-11 TIP Examination Querying Interface	145
Figure 16-12 TIP Prompt Information Management	146
Figure 16-13 TIP Prompt Information Update Interface	146
Figure 16-14 Interface for Restarting TIP Software	147
Figure 16-15 Main Interface after TIP is Enabled	147
Figure 17-1 Training Session Interface.....	149
Figure 17-2 System Status Panel Indicating Ready for Training.....	150
Figure 17-3 Shortcut Menu.....	151
Figure 18-1 System Settings Interface.....	154
Figure 18-2 Definable Keys Interface	155
Figure 18-3 Combined Imaging Settings.....	156
Figure 18-4 Counter Settings Interface.....	157
Figure 18-5 Prompt Box for Reset Counter	157
Figure 18-6 Menu of System Settings	159
Figure 18-7 Interface of Display Settings.....	159
Figure 18-8 Interface of Material Color Tone Settings.....	160
Figure 18-9 Interface of Default Imaging Settings	161
Figure 18-10 Scan Settings Interface.....	163
Figure 18-11 Prompt for Abnormal Infrared Signal while the Conveyor Staying Stably	165
Figure 18-12 Operate Image Settings Interface	166
Figure 18-13 Auxiliary Detection Settings Interface	167
Figure 18-14 Storage Settings Interface	169
Figure 18-15 Alert Threshold Prompt.....	169
Figure 18-16 Saved Image Folder Management Window	170
Figure 18-17 Deletion Confirmation Prompt Box	170
Figure 18-18 Storage Settings Interface	171
Figure 18-19 Storage Failure Prompt	172
Figure 18-20 Threshold Alert Prompt.....	172
Figure 18-21 New Folder Interface for Manual Saving.....	172
Figure 18-22 Manual-Save Folder Management Interface	173
Figure 18-23 Printer Settings Interface.....	173
Figure 18-24 Network Settings Interface.....	174

Figure 18-25 System Time Settings Interface.....	175
Figure 18-26 Extensions Management Interface	176
Figure 18-27 Export Interface of Extensions Management	176
Figure 18-28 Function Enabling Interface of Extensions Management.....	177
Figure 18-29 Serial Number Input Interface.....	177
Figure 19-1 Interface of Operator Main Menu	180
Figure 19-2 Main Interface of System Basic Information	180

Tables

Table 1-1 Meanings of Safety Signs	3
Table 4-1 Status panel of the system.....	28
Table 5-1 Pre-heating Duration of the X-ray Generator	33
Table 5-2 Letter Input through Keys on the Operation Keyboard.....	34
Table 7-1 Mapping between Material and Color	51
Table 7-2 Effective Atomic Numbers of Explosives and Drugs	56