

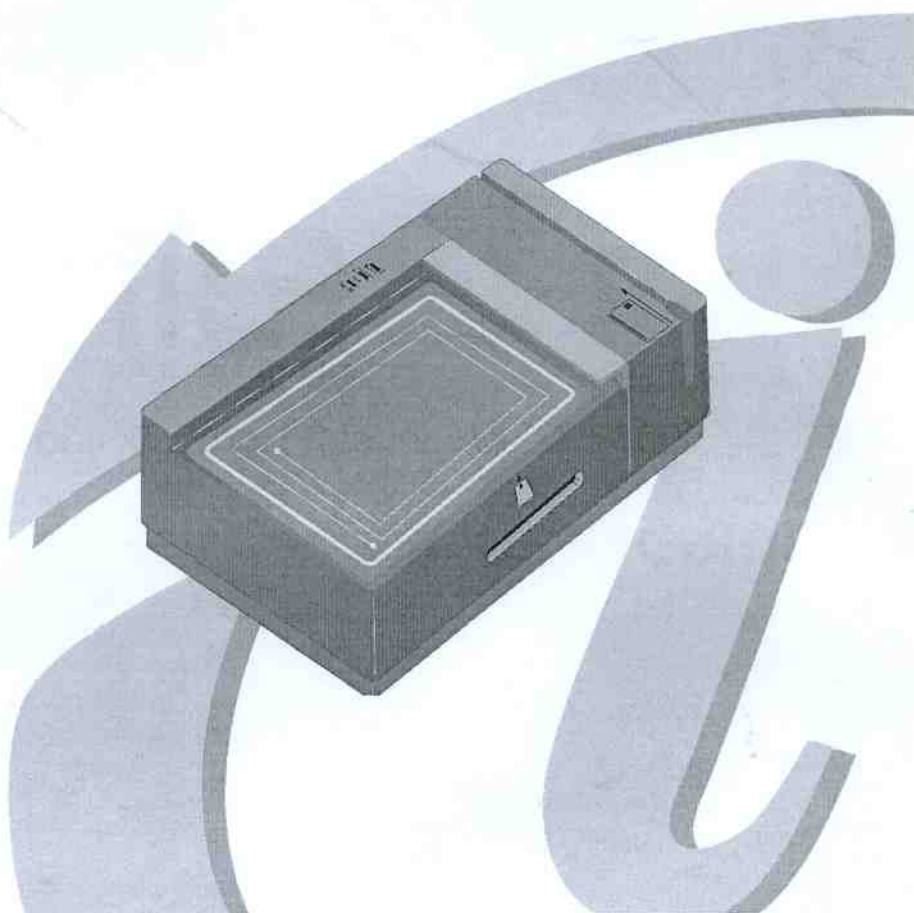
# IRIS

Bringing Solutions to Life

Electronic Passport Reader AXESS F1000

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## USER GUIDE



Thank you for purchasing IRIS' Electronic Passport Reader, AXESS F1000.

The AXESS F1000 is consists of an intelligent combination advanced security and contactless radio frequency (RF) communication which prevents abuse from unauthorised third parties, allows multiplicity in terms of the number of electronic passports and contactless cards used and is highly resistant to environmental variables.

The AXESS F1000 is equipped with an MRZ (Machine Readable Zone) scanner that is used to swipe and decode BAC (Basic Access Control) enhanced electronic passports to gain access to personal information stored within the passport. This procedure provides protection against unauthorised skimming of passport holder's information and prevents identity fraud by unauthorised individuals.

The AXESS F1000 is fast and reliable, is compatible with Operating Systems such as Microsoft® Windows® XP or Windows® 2000 and is compliant with the International Civil Aviation Organisation's standards. Furthermore, setting up the unit is a breeze and very low maintenance is needed to ensure that the AXESS F1000 is performing at its optimum level.

We hope that you receive satisfaction from the use of the AXESS F1000 which we have pledged to provide you with to fulfil all your security needs of protecting important, national security dependent, national identity documents.

This Manual will provide you, as concisely as possible, with all the information you need to know to successfully setup, operate and make the best out of your AXESS F1000 device.

For first time users to the AXESS F1000, we recommend that you have a look at some of the Precautions and Features of the AXESS F1000 to gain an overview to the product.

## PREFACE



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Please read the Terms and Conditions and User Guide for safe and efficient use and the LIMITED WARRANTY terms listed on separate sheet and obtainable upon request before you use this product.

Congratulations on your purchase of IRIS' Electronic Passport Reader, AXESS F1000. For first time users, it is recommended that you read the following Health and Safety Precautions before attempting to use the AXESS F1000 product.

- ☐ The AXESS F1000 is Electrostatic Discharge (ESD) sensitive. Exercise caution when using this product.
- ☐ Do not drop the reader.
- ☐ Do not install the reader in an outdoor environment.
- ☐ Do not expose the reader to sources of extreme moisture and avoid handling it with wet hands.
- ☐ Do not place or expose the reader under direct sun light.
- ☐ Do not install the reader in an environment close to metallic objects or materials.
- ☐ Do not put magnets or metals on top of the reader.
- ☐ Do not service or repair the reader by non-IRIS certified technical expert.
- ☐ Do not open the reader by yourself or non-IRIS certified technical expert.

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

- ☐ This device may not cause harmful interference, and
- ☐ This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

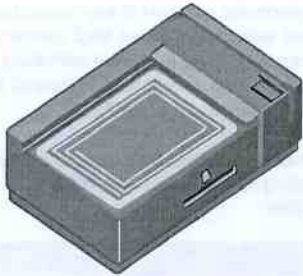
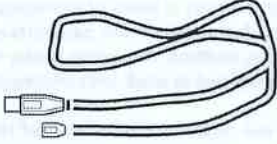
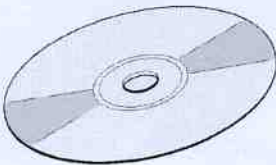
Consult the dealer or an experienced radio/TV technician for help.

## PRECAUTIONS



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## In Your AXESS F1000 Package

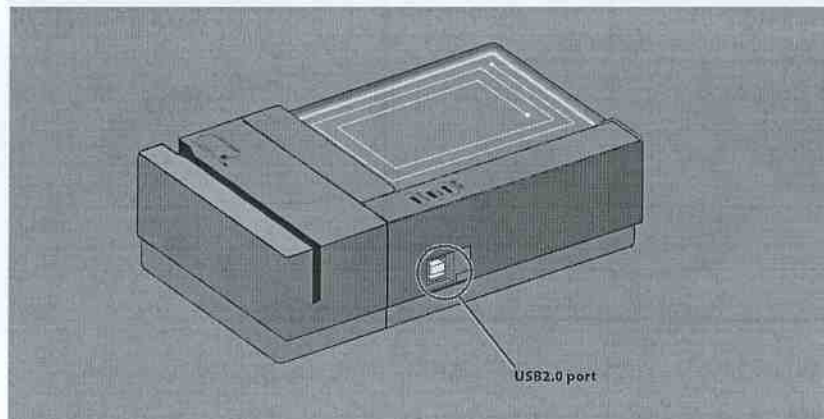
IRIS AXESS F1000 Electronic Passport Reader	USB 2.0 Cable
	
Product CD (where this document is stored)	
	

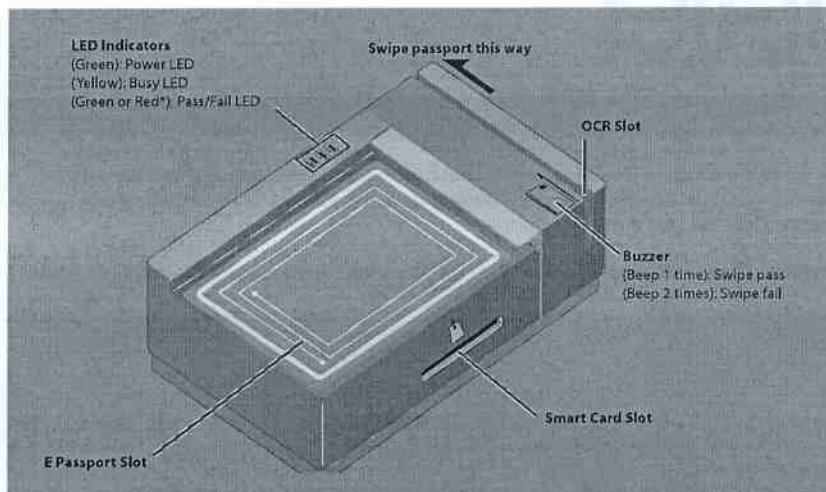
## Overview of the AXESS F1000 Reader

The IRIS AXESS F1000 is specifically designed to read electronic passport in any orientation with good results in levels of interoperability. Designed with an integrated MRZ scanner, AXESS F1000 is ideal for electronic passports with Open Access and those protected with Basic Access Control. In addition, the reader is easy to set up with no tuning or calibration required and has been developed to work with minimum hardware maintenance and supervision.

In fact, our confidence in the AXESS F1000 has been based on the reader's accomplishment of being one of the only two readers among over 50 reading devices to achieve 100% interoperability levels in Berlin's Interoperability Test 2006.

## Key Features of the AXESS F1000 Reader





\* User Configurable

## PRODUCT INTRODUCTION

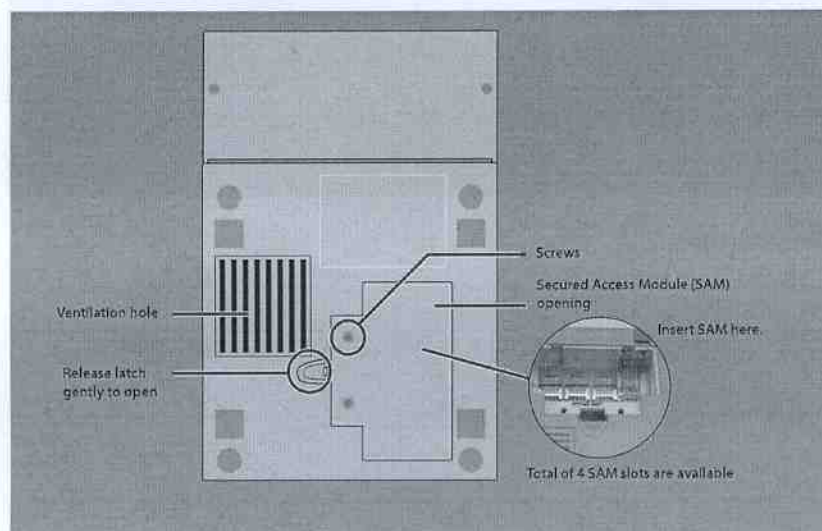
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## Ensuring Your Security

To achieve the highest level of security for our customers, we have designed an ingenious concept of using SAM (Secure Access Module) card (s), of which up to a maximum of four may be inserted into the SAM slot at any one time.

For instructions on how to insert the SAM card, kindly refer to the following illustration below:



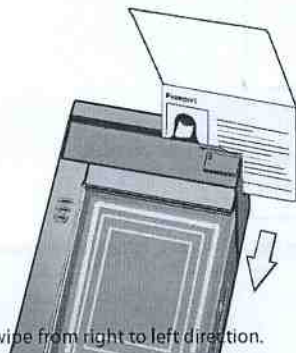
# PRODUCT INTRODUCTION

Type: **U** Country: **SE** Card: **069061** Pass: **0611** / **17** **069061**  
 P **UTO** **L898902C**  
 Name: **UTO**  
 Surname: **ERIKSSON**  
 Given Name: **FRIEDRICH**  
**ANNA MARIA**  
 Nationality: **UTOPIAN**  
 UTOPIAN  
 Date of Birth: **06AUG/ADUT69**  
 Sex: **F** **IZENTH**  
 Issued At: **Place of Birth: 06AUG/ADUT69** Personal No: **ZE184226B**  
 Date of Birth: **06AUG/ADUT69**  
**24 JUN/JUN69** **PASPORTORICE**  
 Date of Expiry: **06AUG/ADUT69**  
**23 JUN/JUN94** **Minor Signature: 06AUG/ADUT69**  
*(Signature)*

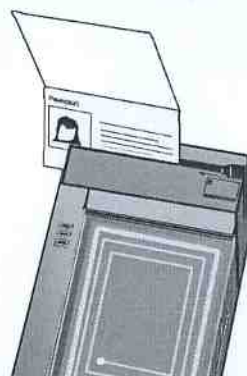
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## Reading an Electronic Passport Using the AXESS F1000 Reader

1. Open the passport and insert the document at the right hand end of the OCR slot with the MRZ data facing the operator.



2. Swipe from right to left direction.



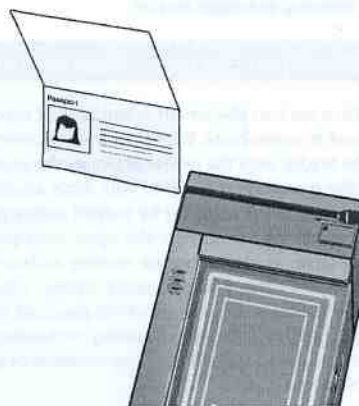
3. Continue swipe, at a steady speed, along the slot.

4. Ensure swipe action continues to the end of the slot before lifting the document.

5. If the Machine Readable Zone (MRZ) of the passport has been read correctly, the reader will produce one (1) beep. However, if this is not the case, failure to read the MRZ portion will be indicated by the sound of three (3) beeps.

6. Repeat Steps 2 to 4 if the first swipe is unsuccessful.

7. If the electronic passport is enabled with the Basic Access Control (BAC) feature and has been swiped (steps 1 to 5), proceed to place the passport on the surface of the reader to activate reading information from the passport.



Please refer to the segment below for directions and possible orientations of the passport when placing it on the reader.



### Placing an Electronic Passport on the AXESS F1000 Reader

There are two placement orientation of which the electronic passport can be read: closed-book or open-book. With closed-book orientation, the passport is placed on the surface of the reader until the reader activates the reading process. However, it is important to note that if the passport is protected with Basic Access Control (BAC) scheme, it is a pre-requisite that the MRZ of the passport be swiped before placing the passport on the reader. Similar to the closed-book orientation, the open-book passport is opened and the data page, as opposed to the cover, is placed on the reading surface of the reader. The reason for enabling both closed-book and open-book passport reading is because some passports may contain a security mesh on the back or front cover of the passport. The security mesh acts as a preventive mechanism for unauthorised eavesdropping or skimming of the information within the passport chip by unauthorised individuals. One example of such passport with this feature is United State's e-Passport.



RF area to communicate with the embedded chip.



The general location of the security mesh which is sandwiched between the layers of the front cover.

If the reading of the passport is unsuccessful, it is recommended that the passport book's orientation is switched.

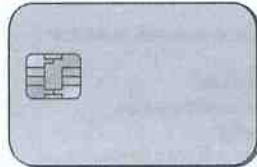
### Additional Features of the AXESS F1000 Reader

Although the main feature of the AXESS F1000 is to swipe and read electronic passports, the AXESS F1000 also has a range of other features which complements and completes this product offering.

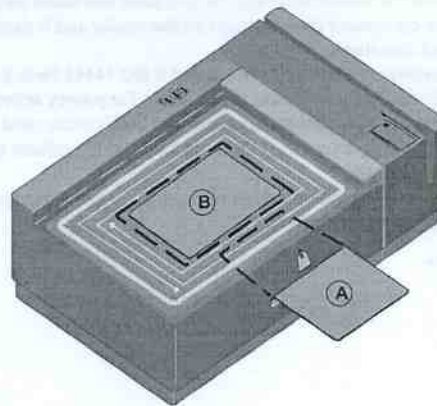
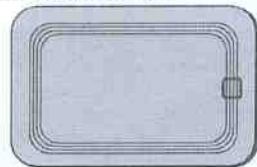
By placing a contactless card or more popularly known as a Mifare® card onto the surface of the reader, the information stored within the card may be read and displayed on the computer's screen equipped with the necessary software application. Alternatively, a contact card may produce the same results when it is inserted into the Contact Smart Card Slot at the side of the reader.

IRIS' AXESS F1000 is indeed uniquely designed to combine multiple technologies into a single compact unit to be utilised for various applications as well as to open up possibilities for future expansion.

A: Contact Card



B: Contactless Card



PRODUCT INTRODUCTION

## Applications

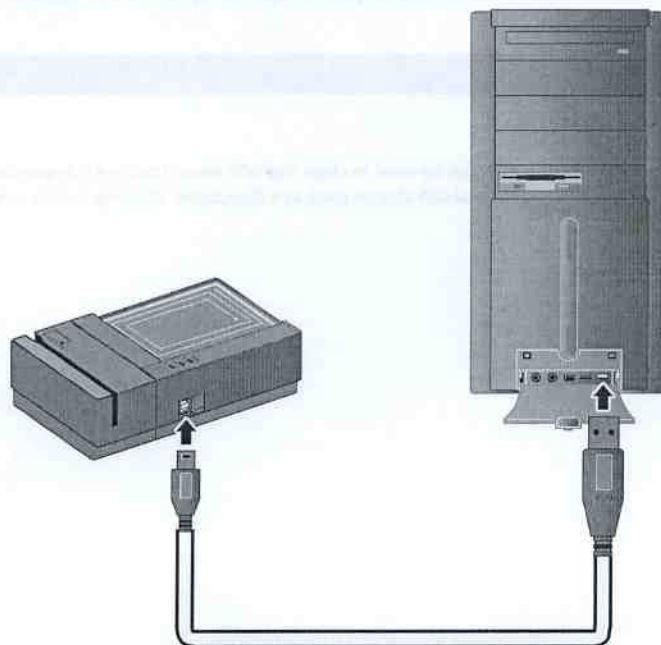
- ☐ Passport Issuance
- ☐ Airline Ticketing
- ☐ Border Control
- ☐ Check-in for Airlines
- ☐ Banks (Identity Verification)
- ☐ General Identity Verification

## Features and Benefits

- ☐ Accepts all travel documents conforming to international standard sizes from ID-1 sized contact & contactless cards to ID-3 sized electronic passports.
- ☐ Easy placement of e-passport on the reader and is easily supports the e-passport in an open-book condition.
- ☐ Provides contactless interface and is ISO 14443 Parts 2, 3, and 4 compliant
- ☐ LED indicators for Power status, Radio Frequency activity status, and reading status.
- ☐ Supports transparent commands for both contact and contactless chips.
- ☐ Optional Software Development Kit (SDK) is available convenience in software development.
- ☐ USB powered.
- ☐ Firmware can be upgraded through In-System Programming, if necessary.
- ☐ IRIS Proprietary Interface.

## Setting Up The AXESS F1000 Reader

- Connect the reader to the PC using the supplied USB 2.0 cable.
- Connect one side to reader and the end to the PC.
- The Red LED on the reader will turn on, indicating the reader has been powered up.







## Firmware maintenance

Firmware maintenance can be done through In System Programming (ISP), where upgrades can be carried out on-site.

## Preventative maintenance

### ☐ OCR and MSR head cleaning

Cleaning cards are available which can be used to clean the OCR head. The card is impregnated with an approved cleaning agent and can also be used as a disposable cleaning pad to remove dirt from the reader.

Alternatively, you may call the IRIS Help Line at +603 8996 0446, between 0900 to 1700 hours, GMT +8. Helpline is available from Mondays to Fridays, excluding Malaysia public holidays and company shut down.

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## TECHNICAL SUPPORT INFORMATION

Complies To	ISO 14443, Type A and B, Part 2 - 4	
Special Features	Designed to read e-passports in any orientation and with good interoperability.	
<b>RF Interface</b>		
Carrier, Fc	13.56 MHz +/- 7 kHz	
RF Field Strength	Between 1.5Am-1 to 7.5Am-1, software controllable	
Sub-carrier frequency	Fc / 16 (~847.5 kHz)	
Baud Rate	106, 212, 424, 848 kbps*	
Modulation	Type A	Type B
Modulation Index	100%	10% - 14% Software adjustable
Bit Coding (Transmit)	Modified Miller	NRZ-L
Bit Coding (Received)	Manchester (106 kbps) NRZ-L (> 106 kbps)	NRZ-L
<b>Initialization, Anti-collision and protocol</b>		
Frame size	64 bytes, 128 bytes, 256 bytes	
Anti-collision	Bit collision detection, triple cascade level	Time slot protocol
Initialization	REQA QUPA Anti-collision Select HLTA De-select RATS PPS	REQB QUPB Slot-Marker HLTB De-select
Mifare Commands	Supported	
Protocol Command	R (ACK) R (NAK) S (WTX) S (De-select)	
Adjustments	FWI, SFGI	SOF, EOF, FWI
Supported Features	CID	CID, AFI
<b>Electrical Specifications</b>		
Processor	8 bit micro-controller	
Memory	NVRAM 32 kB, 4 kB EEPROM	
Host Interface	USB 2.0 Full-Speed	

Contact Card Interface	1 ID-1 full size card slot with security lock 4 ID-0 SIM sized card slots Complies to ISO 7816, Part 1 - 3 Support 5V and 3V cards Features Protocol Type Selection (PTS) up to 115,200 baud Support card clock frequencies: 3.58 MHz, 4.92 MHz
LED	Red (Power) Yellow (RF Active) Green/ Red (Pass/ Fail)
Power	USB bus powered
<b>Mechanical</b>	
Material	ABS plastic material casing
Dimension W x D x H (mm)	117 x 183 x 53
Weight	580 g approx.
<b>Environment</b>	
Operating Temperature	0°C to 50°C
<b>Software</b>	
PC USB Driver	USB 2.0 driver for Win XP, Win 2000
Support Firmware Upgrades	In-System Programming

\* Data rate is subject to the specific silicon and inlay design. Performance with Passport with built-in anti-skimming feature may not achieve the best specification.

OCR Reader Specifications	
Data Source	<input type="checkbox"/> Machine Readable Passports (MRP) 2 lines of 44 characters <input type="checkbox"/> Machine Readable Passports (MRP) 2 lines of 44 characters 2 lines of 36 (size II) characters <input type="checkbox"/> Machine Readable Travel Cards 2 lines of 36 (size II) characters 3 lines of 30 (size I) characters
Data Standards	<input type="checkbox"/> Conforming to ICAO Document 9303 IATA Recommended Practice 1720a
Data Output	Standard ASCII
Media Thickness	1.25 mm
Swipe Velocity	10- 40 cm/sec
Response Time	0.9 – 1.4 seconds
Read Direction	Right to left

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IRIS Corporation Berhad ("IRIS") warrants that this "Product" is free from defects in material and workmanship that result in Product failure during normal usage, according to the following terms and conditions:

1. The limited warranty for the Product extends for one (1) years beginning on the date of the purchase of the Product.
2. The warranty is valid only if original proof of purchase issued to the original purchaser for the product, specifying the purchase date is presented with the Product to be repaired or replaced.
3. The limited warranty extends only to the original purchaser ("Consumer") of the Product and is not assignable or transferable to any subsequent purchaser/end-user.
4. If this Product was purchased from a Dealer or Reseller or Distributor, please return it to the Dealer or Reseller or Distributor from whom it was purchased, should this Product need any warranty service.
5. During the limited warranty period, IRIS will repair, or replace, at IRIS' sole option, any defective parts, or any parts that will not properly operate for their intended use with new or refurbished replacement items if such repair or replacement is needed because of product malfunction or failure during normal usage. No charge will be made to the Consumer for any such parts. IRIS will also pay for the labour charges incurred by IRIS in repairing or replacing the defective parts. The limited warranty does not cover any cosmetic defects. IRIS shall not be liable for any other losses or damages. These remedies are the Consumer's exclusive remedies for breach of warranty.
6. IRIS reserves the right to elect refund, instead of repair or replacement, of the price paid by the Consumer for the Product less a reasonable amount for usage or depreciation, as the case may be.
7. Upon request from IRIS, the Consumer must prove the date of the original purchase of the Product by a dated bill of sale or dated itemized receipt.
8. The Consumer shall bear the cost of shipping the Product to and from IRIS, and other incidental charges that may incur in the course of the freight and delivery.
9. The Consumer shall have no coverage or benefits under this limited warranty if any of the following conditions are applicable:
  - a. The Product has been subjected to abnormal use, abnormal conditions, improper storage, exposure to moisture or dampness, unauthorized modifications, unauthorized connections, unauthorized repair, misuse, neglect, abuse, accident, alteration, improper installation, operated outside the product or component specifications or other acts which are not the fault of IRIS, including damage caused by shipping, or unauthorized service or parts, or the Product has been used in combination with other spare parts or products by other manufacturers or suppliers. Any warranty applicable to software, non-IRIS branded, is provided by the original manufacturer.
  - b. The Product has been damaged from external causes such as but not limited to collision with an object, or from fire, flooding, sand, dirt, windstorm, lightning, earthquake or damage from exposure to weather conditions, an Act of God, or battery leakage, theft, blown fuse, or improper use of any electrical source, damage caused by computer or internet viruses, bugs, worms, Trojan Horses, cancel-bots or damage caused by the connection to other products not recommended for interconnection by IRIS.
  - c. The Product serial number plate or the enhancement data code has been removed, defaced or altered.
  - d. The Product tamper seal(s) has been damaged.
  - e. The defect or damage was caused by third party software problems introduced into the Product.
  - f. The Product has minor imperfections within design specification or that do not materially alter functionality.
  - g. Damages caused by usage that is not in accordance with product instructions, failure to follow product instructions or failure to perform preventive maintenance.
  - h. Damages caused by the combination of IRIS Products with other non-IRIS products, accessories, parts or components.
  - i. Software, including the operating system and software added to the Consumer's product through IRIS factory-integration system, third-party software, or the reloading of software.

- j. Any equipment or components that were not included in Consumer's product as originally sold to Consumer.
  - k. Normal wear and tear.
  - l. Cosmetic damage that does not affect functionality.
10. IRIS does not warrant uninterrupted or error-free operation of the Product. If a problem develops during the limited warranty period, the Consumer shall take the following step-by-step procedure:
- a. The Consumer shall return the Product to the place of purchase for repair or replacement processing.
  - b. The Consumer shall include a return address, daytime phone number and/or fax number, complete description of the problem, proof of purchase (if requested) and service agreement (if applicable). Expenses related to removing the Product from an installation are not covered under this limited warranty.
  - c. The Consumer will be billed for any parts or labor charges not covered by this limited warranty. The Consumer will be responsible for any expenses related to reinstallation of the Product.
  - d. IRIS will repair the Product under the limited warranty within 30 days after receipt of the Product. If IRIS cannot perform repairs covered under this limited warranty within 30 days, or after a reasonable number of attempts to repair the same defect, IRIS at its option, will provide a replacement Product or replace the Products with products of identical type or refund the purchase price of the Product less a reasonable amount for usage.
  - e. If the Product is returned during the limited warranty period, but the problem with the Product is not covered under the terms and conditions of this limited warranty, the Consumer will be notified and given an estimate of the charges the Consumer must pay to have the Product repaired, with all shipping charges billed to the Consumer. If the estimate is refused, the Product will be returned freight collect. If the Product is returned after the expiration of the limited warranty period, IRIS' normal service policies shall apply and the Consumer will be responsible for all shipping charges.
11. IRIS' MAXIMUM LIABILITY UNDER THIS WARRANTY IS LIMITED TO THE PRICE PAID FOR THE PRODUCT. ANY IMPLIED WARRANTY OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE OR USE, SHALL BE LIMITED TO THE DURATION OF THE FOREGOING LIMITED WRITTEN WARRANTY. OTHERWISE, THE FOREGOING LIMITED WARRANTY IS THE CONSUMER'S SOLE AND EXCLUSIVE REMEDY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. IRIS SHALL NOT BE LIABLE FOR SPECIAL, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL OR SPECIAL DAMAGES, HOWSOEVER CAUSED, INCLUDING BUT NOT LIMITED TO LOSS OF ANTICIPATED BENEFITS OR PROFITS, LOSS OF SAVINGS OR REVENUE, LOSS OF DATA, PUNITIVE DAMAGES, LOSS OF USE OF THE PRODUCT OR ANY ASSOCIATED EQUIPMENT, COST OF CAPITAL, COST OF ANY SUBSTITUTE EQUIPMENT OR FACILITIES, DOWNTIME, THE CLAIMS OF ANY THIRD PARTIES, INCLUDING CUSTOMERS, AND INJURY TO PROPERTY, RESULTING FROM THE PURCHASE OR USE OF THE PRODUCT OR ARISING FROM BREACH OF THE WARRANTY, BREACH OF CONTRACT, NEGLIGENCE, STRICT TORT, OR ANY OTHER LEGAL OR EQUITABLE THEORY, EVEN IF IRIS KNEW OF THE LIKELIHOOD OF SUCH DAMAGES. IRIS SHALL NOT BE LIABLE FOR DELAY IN RENDERING SERVICE UNDER THE LIMITED WARRANTY, OR LOSS OF USE DURING THE PERIOD THAT THE PRODUCT IS BEING REPAIRED.
12. This is the entire warranty between IRIS and the Consumer, and supersedes all prior and contemporaneous agreements or understandings, oral or written, relating to the Product, and no representation, promise or condition not contained herein shall modify these terms. If any term of this Limited Warranty is illegal or unenforceable, the legality and enforceability of the remaining provisions shall not be affected or impaired. This Limited Warranty shall be interpreted according to Malaysian law.

Questions concerning this limited warranty may be directed to:

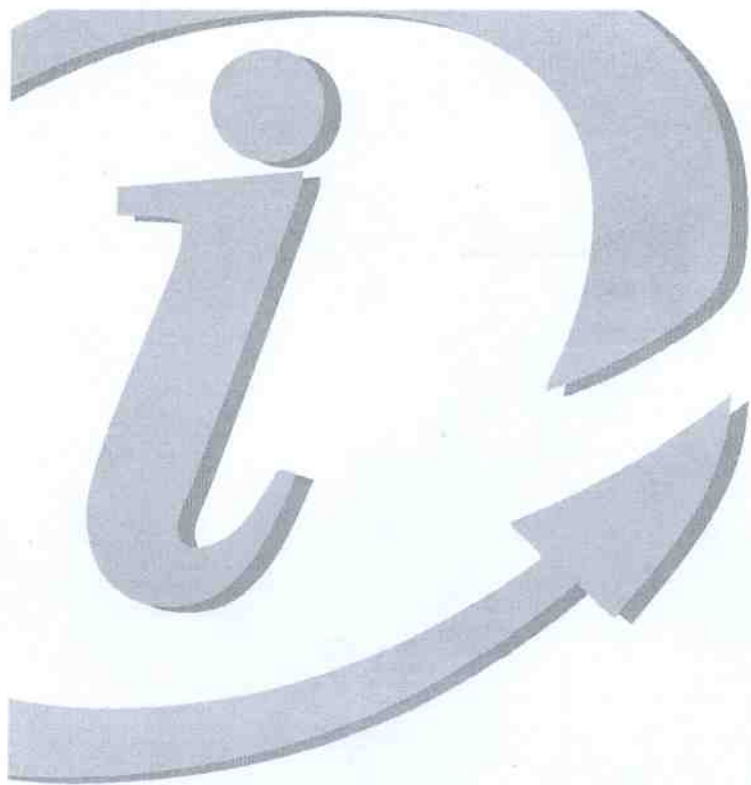
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# **IRIS**

**Bringing Solutions to Life**

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