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APPENDIX I
OF
TEST REPORT T140704_F

USER MANUAL

FCC ID:	2ACXQ-MDR-3021AT
Manufacturer:	Sato Vicinity Pty Ltd
Test Sample:	RFID Read-Write Reader
Model Number:	MDR-3021AT
Serial Number:	Production Prototype
Date:	8th September 2014

User Manual

MDR-3021AT

Desktop Reader-Writer

Document Number: 79-70-001-DOC
Version 1.1
Last Changed: 08 September 2014

Contents

➢ Please read this document before proceeding

Please ensure you read and understand this document before using Sato Vicinity's Reader. If you have any questions, comment or suggestions about the User Manual please contact Sato Vicinity

➢ Important Information

Installation Environment

For indoor use only. Install Sato Vicinity's Readers within the temperature and humidity range according to the product specification.

The environment must not contain corrosive, flammable or explosive agents or be subject to rapid changes in temperature, to direct vibration or shock.

Installation

Sato Vicinity's RFID reader-writers communicate with data carriers (RFID inlets, labels and tags) using the 13.56 MHz High Frequency (HF) band. Some industrial devices can generate unwanted noise which may degrade communication. Make sure that other equipment is properly installed, grounded and at a reasonable distance.

Wireless communication can be degraded by high-voltage and high-current lines and other sources of strong electric and magnetic fields. Installation in such locations should be avoided.

Maintenance

All Sato Vicinity's RFID readers-writers are low maintenance equipment. Except for externally accessible fuses there are no user-serviceable parts in any Reader. There is no requirement to remove the cover of the Reader.

!	Removal of the Reader cover by unauthorised personnel will void the product warranty

Do not attempt to clean internally. Periodic cleaning of external case parts with a damp cloth is advisable. Turn off the Reader before cleaning. Do not use solvents of any kind!

	In order to avoid electric shock do not remove the Reader cover or attempt to repair. The reader must be maintained by authorised, qualified and service-trained personnel only

	For disposal purposes Readers should be treated as industrial waste.

This symbol on the Reader or on its packaging indicates that this Reader shall not be treated as household waste. Instead it shall be disposed of at an appropriate collection point for the recycling of electrical and electronic equipment. By ensuring this reader is disposed off correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this Reader, please contact your local city office, your household waste disposal service or the Sato Vicinity regional sales office.

1. Introduction

Thank you for your recent purchase of a Sato Vicinity RFID reader-writer.

This User Manual will provide you with information to rapidly adopt Sato Vicinity's PJM technology to your needs, install the Reader hardware and Reader Manager Software and get the Reader running.
Refer to the Reader Manager User Manual (40-01-006-DOC) for a description of the various tools and advanced options available in Reader Manager. Programming is covered in the Programmer Guide (40-01-000-DOC).

1.1 Regulation and Standards

RFID equipment is subject to national and international regulations.

The FCC regards RFID equipment as low-power transmitting devices and, therefore, does not require users of RFID devices to obtain a license to operate them.

FCC Radio Frequency Interference Statement (USA)

These devices comply with Part 15 of the FCC rules. Operation is subject to the following two conditions:

1. These devices may not cause harmful interference.
2. These devices must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limit for a Class A digital device and intentional radiator, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. 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. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at their own expense

- **FCC ID: 2ACXQ-MDR-3021AT**

!	**Any changes or modifications to the equipment that are not expressly approved by the party responsible for compliance could void the user's authority granted under FCC Rules to operate this equipment.**

CE Declaration of Conformity (European Union) see Appendix item 6.2

This equipment has been declared as compliant in accordance with R&TTE EU Council Directive 1999/5/EC and displays the CE mark accordingly. Products with CE marking comply with EMC Directive (89/336/EEC amended by 93/68/EEC) issued by the Commission of the European Community.

This apparatus complies with ETSI EN 301 489-1 RF common mode immunity requirements on Ethernet Port with shielded CAT5 Ethernet Cable

- **Appendix 7.1: 079-00-000-DOC EU Declaration Version 1.1**

! WARNINIG	This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures

ACMA Declaration of Conformity (Australia) see Appendix item 6.3

This product complies with the Australian Communications and Media Authority (ACMA) Radiocommunications regulations and carries the C-Tick mark accordingly.

N15661

- **Appendix 7.2 : 079-00-001-DOC Australian Declaration Version 1.0**

! WARNINIG	This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures

ISO/IEC 18000 – 3 Mode 2 (Air Interface at 13.56 MHz) Compliance

Sato Vicinity's Readers comply with the ISO/IEC 18000 Part 3 Mode 2 (Information technology – Radio frequency identification for item management. Part 3: Parameters for air interface communications at 13.56 MHz) published in August, 2004

1.2 Warranty

Sato Vicinity's products are warranted against defects in design, materials and workmanship for a period of 1 year from the date of purchase by the original owner

Any liability with respect to components including purchased or free issued items and other materials used in the manufacture of products are covered by, and limited to, any warranty provided by the original manufacturer

1.3 Limitation of Liability

Sato Vicinity's warranty excludes products that have been improperly installed or maintained, modified or misused. Notification of claims must occur within the warranty period.

End-users should contact the company from whom they purchased the products for replacement, repair or refund.

If you purchased the Reader directly from Sato Vicinity, contact Sato Vicinity for a Return Merchandise Authorization Number (RMA) before shipment

1.4 Changes in Product Family, Specifications and User Manuals

This document is subject to change without notice in future editions. Sato Vicinity reserves the rights to change its product design, specifications and product range

1.5 Meaning of Alert Symbols and Signal Words

	Notes and Tips. Application Notes
!	This part of the Manual requires your attention
	In order to avoid electric shock follow the instructions provided
! CAUTION	Indicates a potentially hazardous situation which, if not avoided, will result in minor or moderate injury. Can cause property damage.
! WARNINIG	Indicates a potentially hazardous situation which, if not avoided, will result in minor or moderate injury, or may result in serious injury or death. Can cause significant property damage.

1.6 Glossary of Terms and Abbreviations

D/C	Date Code (month/year)
HF	High Frequency
LED	Light Emitting Diode
MLC	Machine Level Control
OEM Label	Original Equipment Manufacture label is located on the back of the equipment. It includes the Model Number, P/N, D/C, S/N and MLC
PJM™	Phase Jitter Modulation or PJM™ is a registered Trade Mark of Sato Vicinity
PJM StackTag®	Registered Trade Mark for Sato Vicinity's StackTag tags
P/N	Part Number
RMA	Return Merchandise Authorisation
Reader	Sato Vicinity's RFID reader/writer
Reader Manger	Graphical user application for Windows/Linux which provides a platform for testing, demonstrations and application development
ReaderServer	Embedded application that provides the standard Application Programmer Interface to serve end-user applications. This application runs on the Reader
RFID	Radio Frequency Identification
RFID iInlet	A RFID device comprising a microchip and a printed antenna (copper/aluminium/conductive inks) on a flexible substrate (PET plastic film)
RFID Label	RFID inlet with adhesive backing (sticky label)
RFID Tag	Generic name for RFID inlet and label
RFID reader	Device for reading and writing to RFID tags
S/N	Serial Number
LAN	Local Area Network

2 Product Overview

The MDR-3021AT Desktop Reader is a low power encoding device designed to issue individual tagged items with ease and accuracy. The read area of the single axis internal antenna is clearly defined on the surface of the device to enable accurate tag placement and readability. Integrated shielding prevents the accidental programming of adjacent or nearby tags, ensuring that only the tag within the read range of the reader is encoded. The reader is supplied with Reader Manager software that provides a platform for reader setup, configuration, demonstrations, testing and application development. The MDR-3021AT offers connection to a PC via Ethernet or USB and is simple to set up and use, straight out of the box.

The MDR-3021AT Desktop Reader is suitable for all RFID applicable environments, including healthcare, where other sensitive equipment may be nearby. Its low power design reduces interference with the operation of any nearby equipment and is safe to use around organic material. It is suitable for applications where medium to large sized tagged items need to be encoded individually with accuracy, speed and precision. Intended use of Sato Vicinity's MDR-3021AT RFID Reader is to read and write information to Sato Vicinity StackTags®.

The communication protocol used by the Reader is compliant with ISO/IEC 18000 - 3 Mode 2 (Air Interface at 13.56 MHz).

2.1 MDR-3021AT

- Desktop reader-writer
- Single-axis antenna
- 2 Communication channels

MDR-3021AT Reader

3 Getting Started

3.1 Unpacking and Inspection

When you receive your Reader, inspect it for any obvious damage that may have occurred during shipment. If there is damage, notify the shipping carrier and the supplier of the equipment or Sato Vicinity if purchased directly from Sato Vicinity

Until you have checked the Reader, save the shipping carton and packaging materials in the event the unit has to be returned.

Included with the MDR-3021AT should be the following components:

- Reader-writer
- Power adaptor - (12VDC output)
- Quick Start Guide & Test Results sheet
- Reader Manager CD-ROM

The CD-ROM will contain the following 4 files:

Autorun.inf	Will automatically launch the *Reader Manager-Install.exe*
Documentation Folder	Contains various PDF documents including User Manuals & Programmer information
CD-ReadMe,txt	Text file describing all the files on the CD
Reader Manager-Install.exe	The GUI application for configuration and demonstration of all readers

A power cable is not included with the Reader. End-users should purchase a power cable suitable for the country of use

Ethernet cable is not included with the Reader. Sato Vicinity recommends CAT5 Ethernet cable.

An RFID tag will be required for Hardware Functionality and Communication Testing

! CAUTION Only power cables and adaptors that are compliant with the regulations in the country of use may be connected to Sato Vicinity's equipment.

! USB cable should be USB 2.0, screened & no longer than 3m

! As shielded cables (USB and Ethernet) are generally required in order to comply with EMC emissions limits, only shielded communication cables should be used.

3.2 Before You Begin

3.2.1 Installation Environment

Sato Vicinity's Readers are designed to operate in indoor environments where temperature and humidity are controlled unless other conditions are specified for customised Readers.

For standard Readers the temperature range is from +10^{o}C to +45^{o}C. The humidity range is from 10% to 80% (non-condensing humidity).

Install the Readers within the temperature and humidity ranges according to the product specification

The environment must not contain corrosive, flammable or explosive agents o conductive dust or be subject to rapid changes in temperature, excess or direct vibration or shock.

! WARNINIG	Do not operate this Reader in an environment which contains flammable or explosives gases or fumes.

Sato Vicinity's RFID Readers communicate with data carriers (RFID inlets, labels and tags) using the 13.56 MHz High Frequency (HF) band. Some industrial devices can generate unwanted noise which may degrade communication. Make sure that other equipment is properly installed, grounded and are at a reasonable distance.

Wireless communication can be degraded by high-voltage and high-current lines and other sources of strong electric and magnetic fields. Installation in such locations should be avoided.

	In order to avoid electric shock do not remove the Reader cover or attempt to repair. Sato Vicinity's reader-writers are to be maintained by authorised, qualified and service-trained personnel only.

!	Removal of the Reader cover by unauthorised personnel will void the product warranty.

3.2.2 Working with Tags

	◊ Single-axis Readers are tag orientation sensitive. ◊ Reading and writing speeds depend on reader-tag communication speeds and channel numbers (communication protocol), amount of information to be read and/or written and number of tags presented at a time. The additional number of tags and information to be read and especially written slow down read-write communication. Please consult Sato Vicinity or your support organisation regarding these issues for your specific application. ◊ Please note that tags and Readers can be incompatible with each other. Bigger tags can typically work with all types of Readers. Smaller tags require higher field strengths to communicate with a Reader and as a result they may not communicate with some Readers or have to be closer to a Reader antenna to function. Please consult Sato Vicinity or your support organisation regarding these issues for your specific application.

3.2.3 Installation Requirements

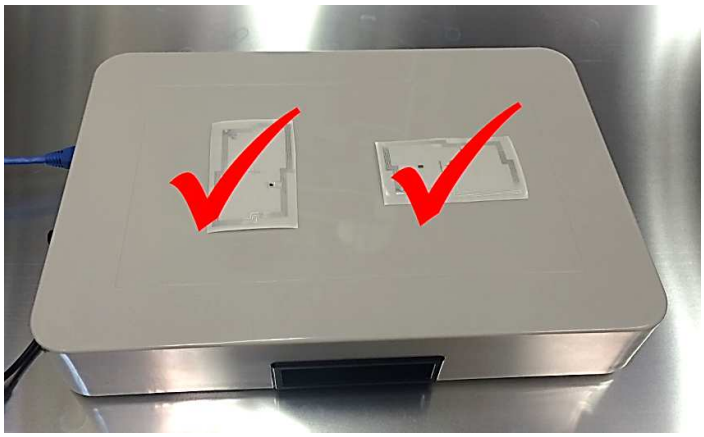
The MDR-3021AT is a stand-alone peripheral desktop device that does not require special installation or tuning of an internal antenna.

Power supply requirements:

Mains input:	110 - 240 VAC @ 50/60 Hz
Low voltage input (MDR-3021AT):	12 VDC @ 2.5A

3.2.4 Tag to Reader Orientation

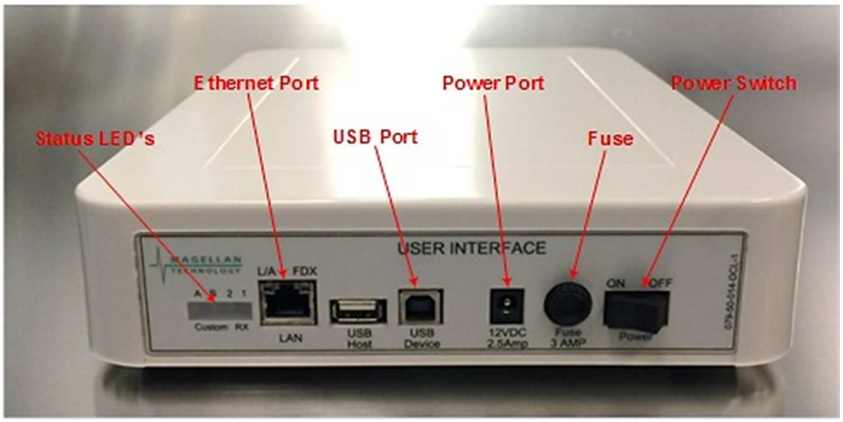
As the MDR-3021AT is a single axis reader the RFID tags should always be presented facing the Reader surface to ensure optimum performance. Although the tags may still work at some angle depending upon the distance between the tag and the Reader & the type of tag used this is not how the MDR-3021AT reader was designed to work.



Correct Tag Orientation

Incorrect Tag Orientation

3.3 Hardware Installation



MDR-3021AT User Interface Panel

Step 1. Connect a low voltage power pack to the Reader

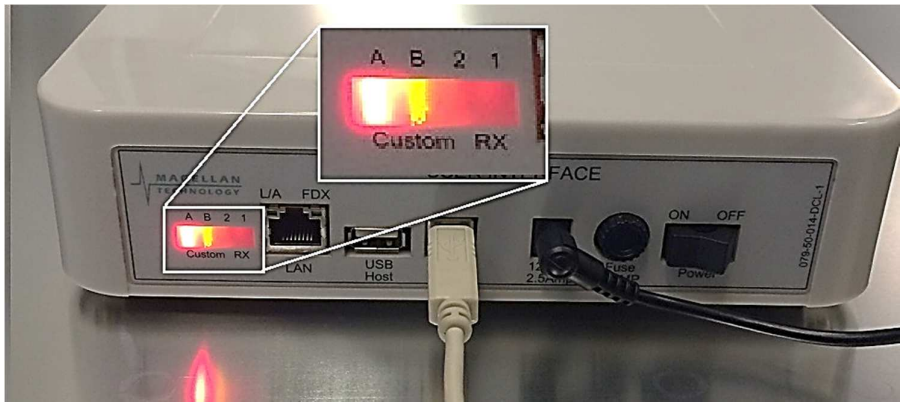
The connection to the power source is realized via a low voltage power pack.

MDR-3021AT with power connected

Step 2. Plug the power supply into AC power mains. LEDs will come on

When power is applied to an MDR-3021AT Reader the LEDs on the unit should operate as follows:

- The red LED “A” and green LED “B” will immediately illuminate then both LEDs will go off after approximately 9 seconds.



MDR-3021AT with red & green LED’s illuminated

- The red LED will come on again after approximately 1 minute indicating that the reader is in an operational mode
- Once the reader is in an operational mode the red LED will remain lit
- The LED’s are controlled by the MDR-3021AT Reader software

Step 3. Test the Reader with a known working RFID tag. The green LED will light when an RFID tag is successfully read.

3.3.1 Connecting a Reader to a Computer using USB

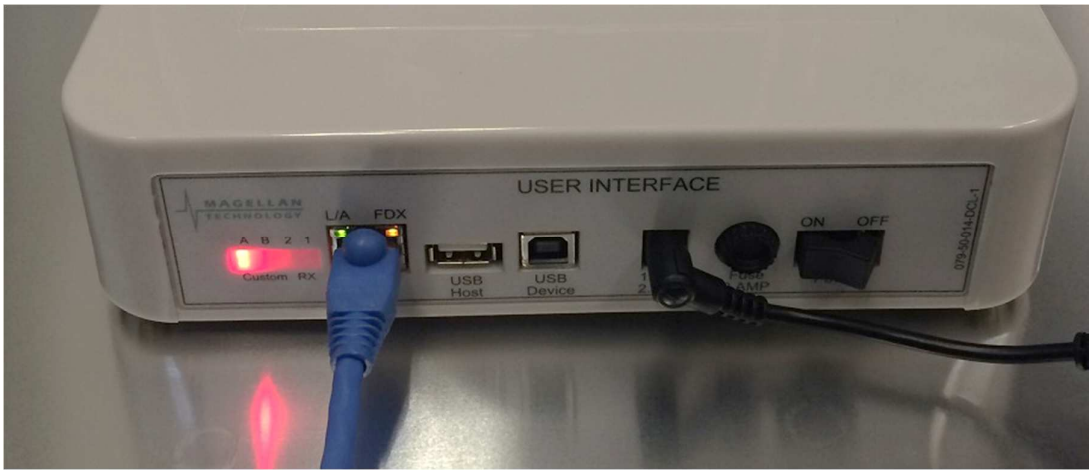
Connect the MDR-3021AT Reader to a host computer using a USB data communication cable by plugging the USB cable into the MDR-3021AT “USB Device” port and the host computer USB port. Switch the reader on. It can take up to 4 minutes for windows to load the drivers for the reader on some computers. Once the driver has loaded the reader will be listed in Network adapters as “Linux USB Ethernet/RNDIS Gadget”.

Windows operating systems may occasionally load the incorrect USB drivers for the reader. If you experience an issue with the incorrect driver loading refer to Magellan Technology Technical Bulletin 0009 (TB-0009)

MDR-3021AT with power & USB cables connected

3.3.2 Connecting a Reader to a Computer using Ethernet

Any number of Readers can be connected to a local network using an Ethernet hub/switch. Plug the Ethernet communication cable into the MDR-3021AT's RJ45 socket (Ethernet port) and Ethernet Hub (Do not use a cross over cable). All readers on the local area network (LAN) will be accessible by all PC's on the same LAN.



MDR-3021AT with power & Ethernet cables connected

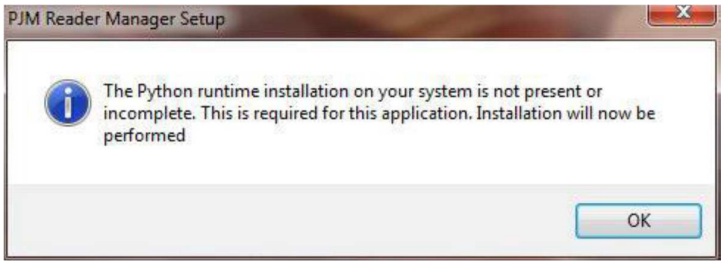
3.4 Reader Manager Software Installation

Reader Manager is a graphical application for Windows. It provides a platform for reader setup, configuration, demonstrations, testing and application development. When it is run, Reader Manager can connect to a single reader at one time, it can switch between multiple readers. Multiple copies of Reader Manager can be run, each of which can be connected to a different reader. The program provides a set of *tools*, each of which runs in a particular demonstration, test or diagnostic window, all windows can be resized. This will be saved, so the next time you run the Reader Manager, all windows will retain the size you set previously. The position of the application on the Windows desktop is also retained.

3.4.1 Software Installation and Functionality Test

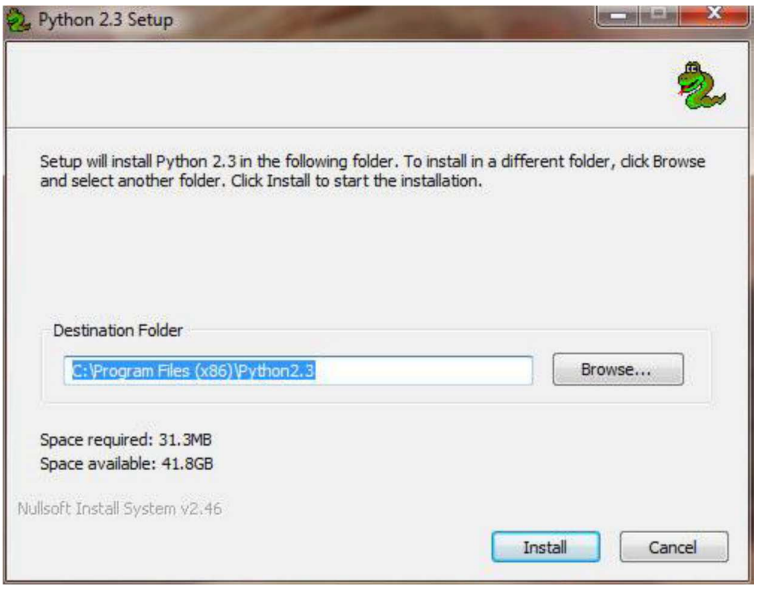
Step 1. Insert the CD supplied with the reader into the CD-ROM.

The installer should start automatically, if it does not simply open the CD directory and run the *Reader Manager-Install.exe*. This contains the Python interpreter, support libraries and the application itself. Python is the development language used by Reader Manager.
The installer looks on the system to determine which components are already present. Ticks will appear next to the items that are not currently installed. The Python interpreter and libraries will automatically install if required. In this case, the following window is shown: Click *"OK"*



PJM Reader Manager Setup Python runtime installation popup

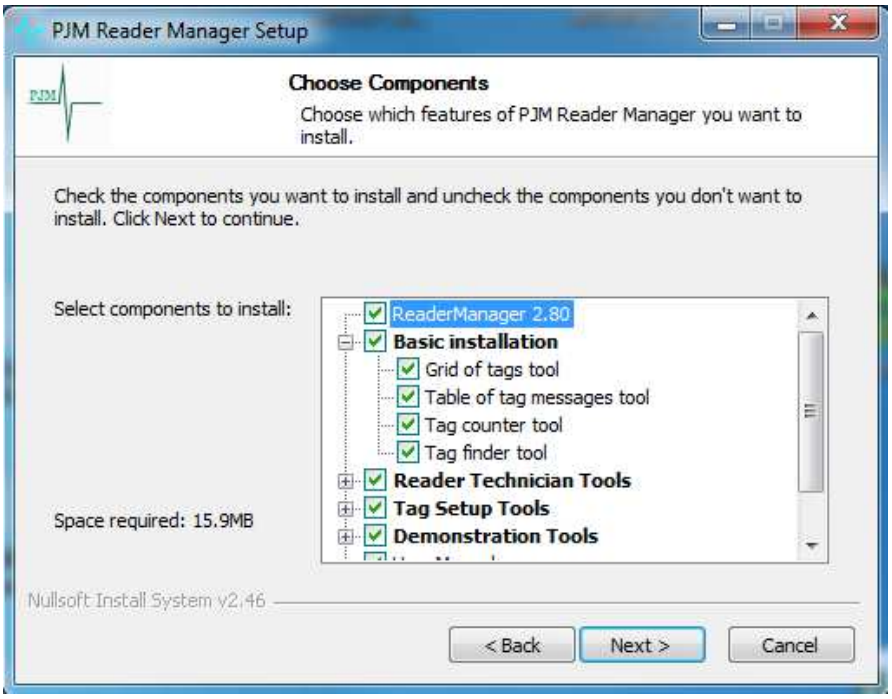
You will be prompted for the directory to install the Python system as shown below. In most cases, the default directory is the best choice. Click *"Install"*



Python installation Destination folder selection window

You will be presented with the license agreement. Click "*I Agree"* to continue to the component selection window (shown below).

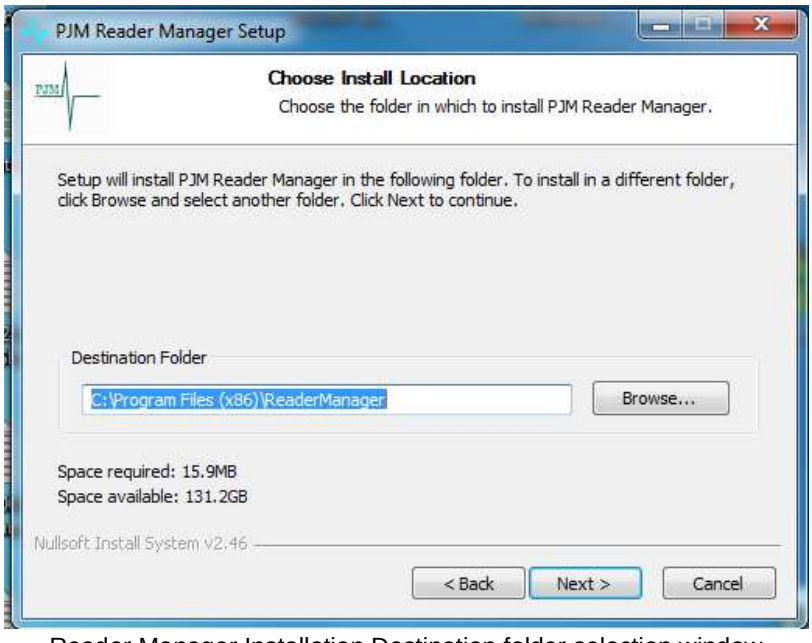
By default the installer will install only a basic set of tools. The user will be limited to only viewing tags and reader messages. This is a safe default, as it prevents users from using tools or demonstrations and disrupting operating readers. Users who require more functionality should enable the checkboxes as needed. Once you have made your selections click *"Next >"*



Reader Manager Setup window

If the installer finds that Reader Manager has already been installed with the current version, you can force a reinstall by manually ticking the checkbox “Next” to the application.

You will be prompted for the directory to install Reader Manager. The default location is the best choice but you may change the location as required, click *“Next >”*



Reader Manager Installation Destination folder selection window

You are prompted for the Start menu folder. The default is PJM Reader Manager, we recommend not changing this (as shown below). Click *"Install"*

Should the installation fail, click the *Show Details* button. Highlight the installation detail text and press the right mouse button to select *Copy Details to Clipboard*. Paste the details into an Email and Email this to your technical support contact.

Reader Manager Start Menu selection window

3.4.2 Connecting to a Reader

A Reader provides Ethernet and USB device interfaces to allow for client connection. The USB interface uses TCP/IP networking over USB as the protocol. This allows you to connect to a reader as if it was a normal network. So all the usual services, such as telnet and FTP are available.

Step 1. Ensure the reader is switched on with the communication cable connected

When a Reader is connected to a network for the first time using either an Ethernet cable or connected to a host computer using a USB cable, the Reader is identified by its Model Name-Serial Number (recommended to keep the serial number as a reference).

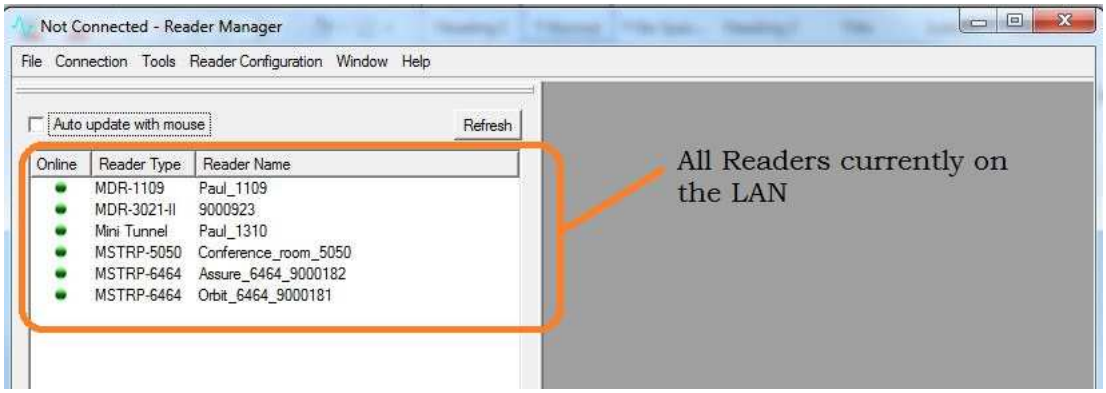
	➂ Customers can replace or add additional information to the Model Name-Serial Number such as a physical location or customer ID number. Refer to section 3.4.4 Changing the Reader's System Configuration of this User Manual. ➂ Subsequently when a customer re-starts the Reader the new name will appear on the list of readers in the Connection menu. ➂ Tip: If you want to use the new name immediately, simply switch the reader off then on again to view the new name on the Connection menu list.

When a Reader is connected to a host computer for the first time using a USB cable, the drivers should automatically load, if they do not (Perhaps due to an older Windows OS) the *Found New Hardware Wizard* will appear, perform the following steps.

1. In *Found New Hardware Wizard* tick "*Yes*", *this time only* to search for software and press "*Next*".
2. In What do you want wizard to do? tick "Install" the software automatically and press "Next".
3. Wait while the wizard installs the software: Linux USB Ethernet/RNDIS Gadget. Ignore other message and press "Continue anyway".
4. Press "*Finish*".
5. Open the *Connection* menu to see a list of Readers and the new Reader identified by Model Name-Serial Number on the list.
6. If you cannot find the new Reader on the list simply unplug the USB cable and plug it again into the Reader USB device port. This time you should be able to see the Reader's Model Name-Serial Number.

Step 2. Start Reader Manager to view Readers found on the LAN

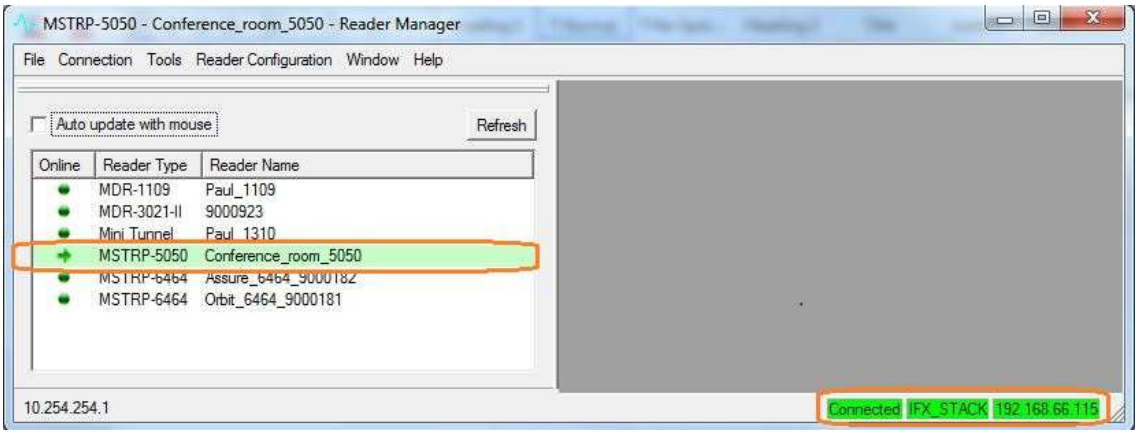
Reader Manager will use network broadcasts to look for active readers via USB and Ethernet. All readers found on the LAN will be listed in the Dynamic Reader List as shown in the image below.



Dynamic Reader List in Reader Manager

Step 3. Connecting to the desired Reader from the *Dynamic Reader List*

Locate the desired reader in the Dynamic Reader List & move your mouse pointer over any field of the reader & double click your left mouse button. You will notice that the green status bubble to the left of the reader turns into a green arrow & the IP address of the reader will be displayed in the bottom right corner of the Reader Manager window.

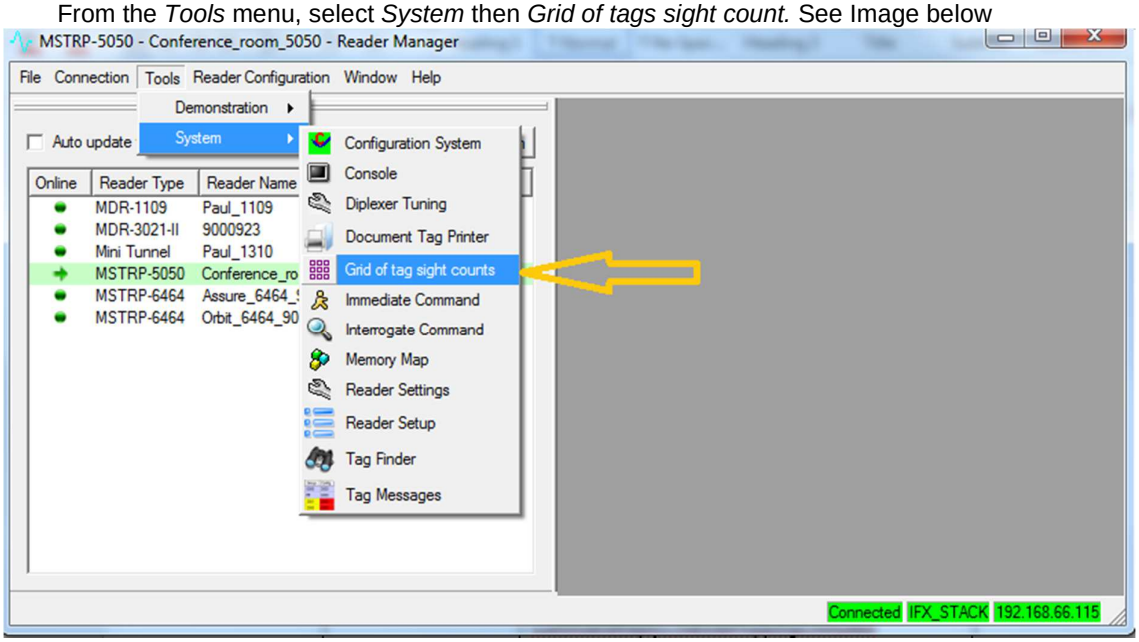


Dynamic Reader List with reader connected

To setup static IP address connections to readers refer to the Reader Manager User Manual (40-01-006-DOC).

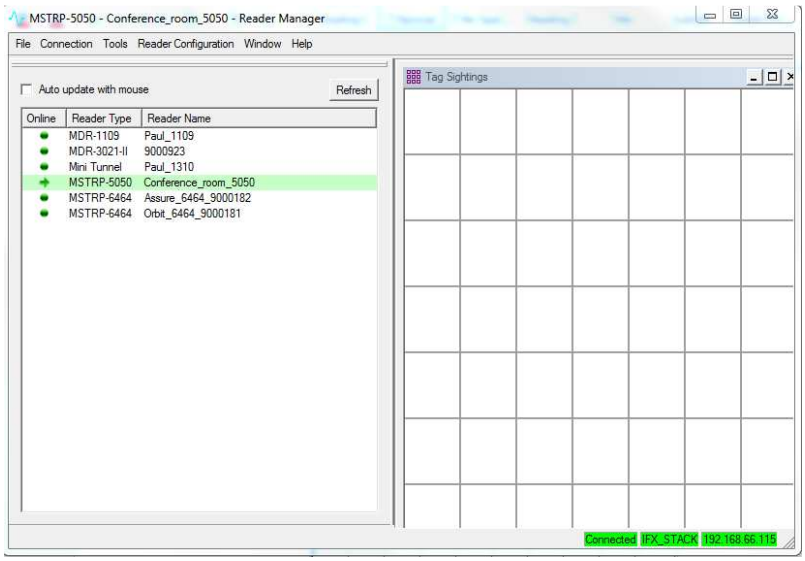
3.4.3 Communication Test

From the *Tools* menu, select *System* then *Grid of tags sight count.* See Image below



Grid of tag sight counts tool selection

The Grid of tags will now be visible in the right panel of the Reader Manager window as shown in the image below

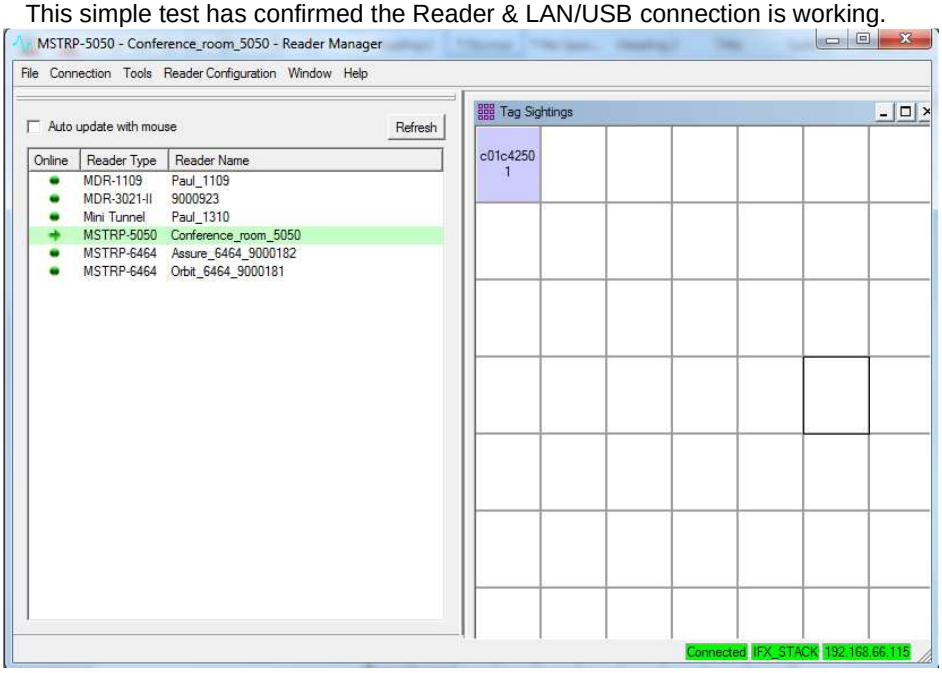


Reader Manager with Tag Sightings window open

Place a tag on the Reader. The first square in the grid should change from white to blue and display the tag's ID number and the number of times the tag was sighted, should be one (1). An example of this is shown below.

The Addition of more tags will cause more squares to progressively populate with the tag's ID number and the number of times the tag was sighted. Removing a tag will cause the tag to "Expire" turning the relevant square on the grid to turn dark grey (the data will be preserved). Placing the same tag back on the reader will cause the relevant square to change from grey back to blue & the tag count to increment to two (2), with each successive tag removal & replacement the count will increment by one (1).

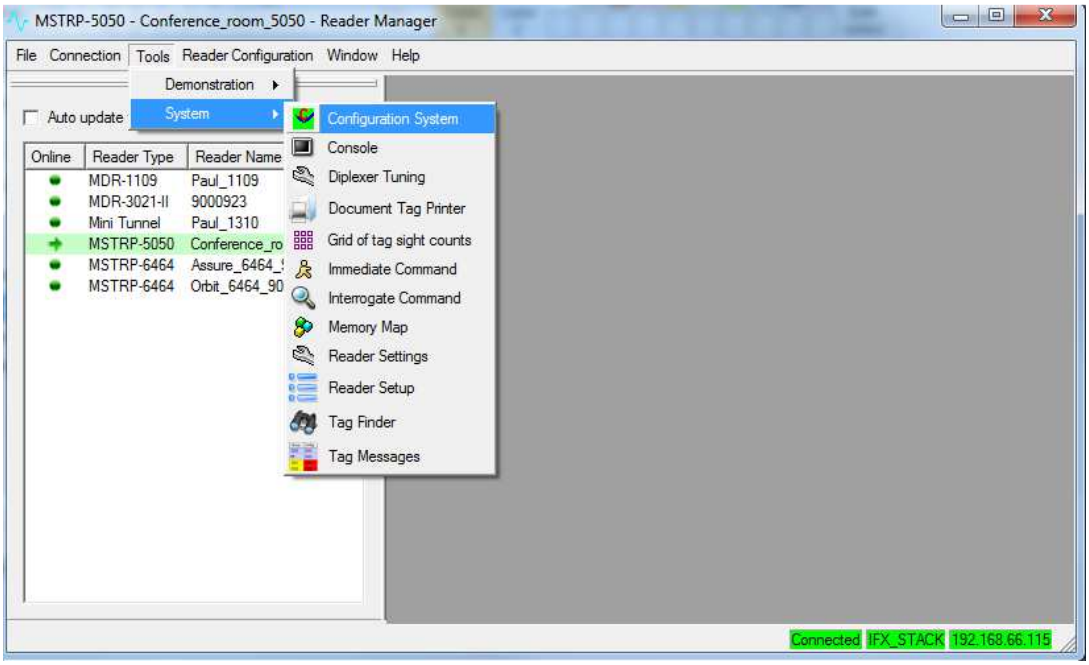
This simple test has confirmed the Reader & LAN/USB connection is working.



Tag Sightings window showing 1 tag on the reader

3.4.4 Changing the Reader System Configuration

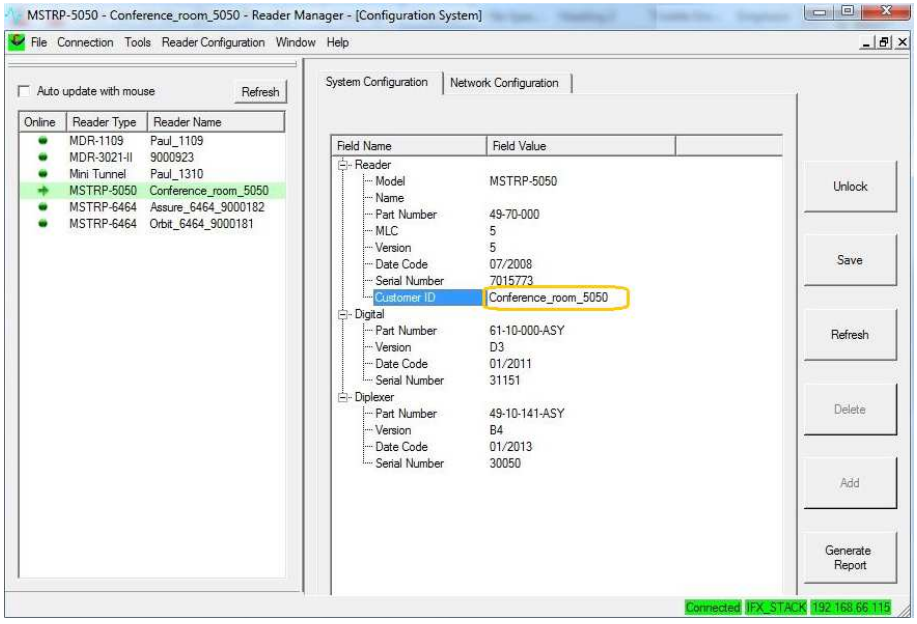
Ensure the Reader is connected as described above. From the Tools menu, select System then Configuration System as shown below. The Configuration System window will open.



Configuration System tool selection

The user configurable field is the *Customer ID,* you can enter the name you would like the Reader to be identified *as (This is useful in a large reader networks where you may need to manage many readers)*. The name entered in the *Customer ID* field is the name that will appear on the Reader Manager *Connection* menu for that reader. Power cycle the reader for the change to be reflected in Reader Manager.

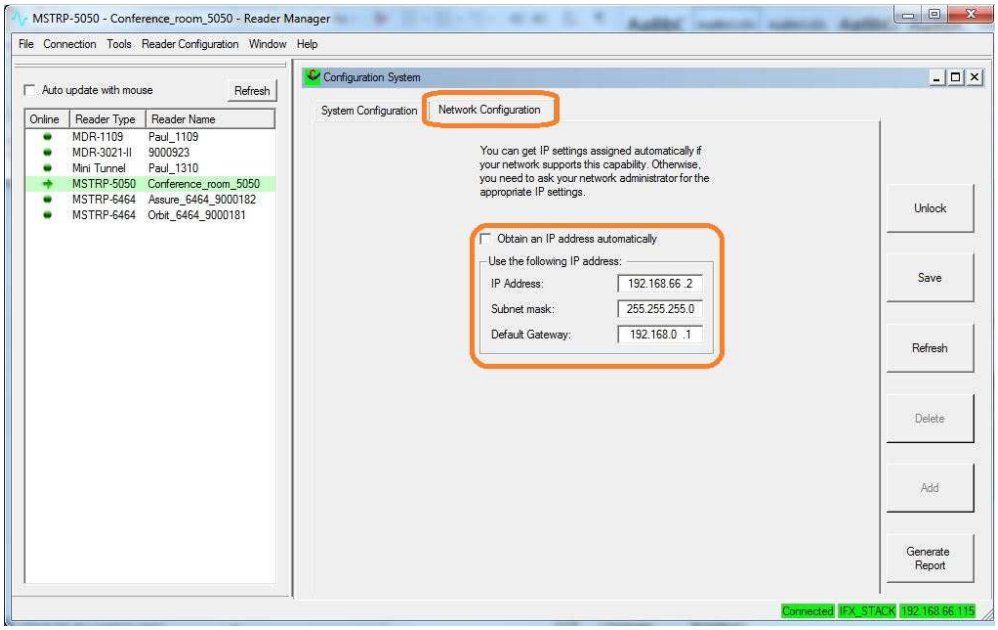
Once you have entered the desires reader name press the "Enter" key on your keyboard then Click the "*Save"* button to the right to save your changes to the reader.



System Configuration window

3.4.5 Changing the Reader's Network Setup

Ensure the Reader is connected as described above. From the Tools menu, select System then Configuration System as shown at 3.3.4 above. The Configuration System window will open. Select the *"Network Configuration*" tab as shown below. By default the reader is set to obtain an IP address from a DHCP server. If this is not desired un-tick the "Obtain an IP address automatically" check box and enter the required IP Address, Subnet mask & Default Gateway. Press the "Enter" key on your keyboard then Click the "*Save"* button to the right to save your changes to the reader. Power cycle the reader for the change to take effect.



Configuration System "Network Configuration" window

!	③ Ensure the IP address allocated to the reader is recorded for future reference. Applying a label to the reader showing the allocated IP address is ideal. ③ Tip: If you make an error in the reader Network configuration the reader may no longer be visible on the network (wrong IP range for example). If this happens you can connect to the reader using a USB cable & correct the issue

4. Troubleshooting

Issue	Cause	Solution
No Power – All LED's are off	Power cable not connected	Ensure the power cable is connected correctly to both the mains power and to the Reader
	Power Cable faulty	Replace the cable
	Power Adaptor faulty	Replace the power adaptor
	Reader Faulty	Contact your local supplier for support
	Fuse blown	Replace fuse with an equivalent 5 x 20mm 3A 250VAC rated fuse
Absence of the flashing green LED's during tag reading	Incorrectly orientated tag/tags	Ensure tag/tags are oriented correctly for the Reader (see Tag-to-Reader/Tag-to-Antenna Orientation).
	Faulty tag/tags	Replace tag/tags. Do not use tags with a black dot or black square or black X marking (faulty tags).
	The *Powering Field* is off	Ensure the powering field is on. Go to *Tools> System>Reader Setting.* Tick the *Powering Field* box.
	Reader faulty	Contact your local supplier for support
	The tag type is incompatible with the reader	Use the appropriate tag type for the reader, contact your local supplier to help with tag compatibility information
Cannot find and connect to the reader as the reader is not shown on the *Dynamic Reader List*	USB or Ethernet connection is not functioning	Ensure the Ethernet/USB cable is working correctly, try using an alternative cable. Power cycle the Reader & restart the host computer.
	The reader is not connected	Ensure the Ethernet/USB cable is connected properly to both the reader & host computer
	Invalid Network configuration	The computer IP address on the computer running Reader Manager must be in the same subnet as the reader
	USB drivers still loading	USB connected readers may take some time to negotiate an address. Check the *Network Connections* window in the *Control Panel* to confirm that a connection has been established
	Reader faulty	Contact your local supplier for support

5. Document Revision History

Version	Date	Person	Change
Ver 1.0	22 Aug 2014	Steve Antonio	Initial Release of 79-70-001-DOC
Ver 1.1	09 Sep 2014	Steve Antonio	Document Review

6. Appendix

6.1 MDR-3021AT Product Specification

Electrical	
Operating Frequency	13.56 MHz
ISO/IEC Compliance	ISO/IEC 18000-3 Mode 2
Command Data Rate	424 kbit/s
Reply Data Rate	106 kbit/s per channel
Number of Reply Channels	2
Number of Axes	1
Operating Range	Marked read/write area
Power Supply	12 VDC
DC Power Supply Connector	2.5 mm DC centre pin positive
Power Consumption	18W
Performance	
Identification rate	Up to 150 tags/s
Host	
Host Interface	USB, Ethernet
Minimum Host Requirements	Windows XP SP2 / 500 MHz CPU / 128 MB RAM
Environmental	
Operating Environment	Indoor use
Temperature Range	+10°C to +45°C ambient
Humidity	10% to 80% (non-condensing)
Reader Placement	Can be placed next to each other
Mechanical	
External Dimensions: (L x W x H)	320 x 220 x 58 mm
Net Weight	3 kg
Net Volume	0.006 m3
Certifications	
USA	FCC ID: 2ACXQ-MDR-3021AT
Europe (CE Mark)	See: Product Certification File: Document 079-00-002-DOC attached
Australia	See: Product Certification File: Document 079-00-003-DOC attached
Other Features	
Operation	Powerful processing platform allowing for stand-alone reader operation
Calibration and Tuning	No manual calibration or tuning required
Shielding Methods	Field Cancellation

6.2 EU Declaration of Conformity

DECLARATION OF CONFORMITY

According to the R&TTE Directive 1999/5/EC and EMF Directive 1999/519/EC

Supplier/Manufacturer's Name:	Sato Vicinity Pty Ltd
Supplier's Address:	8 Guihen Street, Annandale NSW 2038 Telephone: +61 2 9562 9800, Fax: +61 2 9518 7620
ABN:	87 166 705 5004
Product Name:	RFID Terminal
Product Model:	MDR-3021-II MDR-3021AT
Purpose:	Use of Radio Spectrum

The product is in compliance with the essential requirements of Article 3 of the R&TTE Directive:

- Health and safety requirements pursuant to Article 3(1)a

Standard	**Test Report**	**Test Report issued by**	**Regarding**
EN 60950-1 (2001)	T61117_S	EMC Technologies	Safety
EN 50364 (2001)	T61109M	EMC Technologies	EMF

- Protection requirements concerning EMC Article 3(1)b

Standard	**Test Report**	**Test Report issued by**	**Regarding**
EN 301 489-1 (v1.6.1)	T140606_E T61109_E	EMC Technologies	EMC
EN 301 489-3 (v1.4.1)	T140606_E T61109_E	EMC Technologies	EMC
EN 61000-3-2 (2000)	T61109_E	EMC Technologies	Harmonics
EN 61000-3-3 (1995)	T61109_E	EMC Technologies	Flicker

- Measures for the efficient use of the RF Spectrum Article 3(2)

Standard	**Test Report**	**Test Report issued by**	**Regarding**
EN 300 330-1 (v1.3.1)	T140606_E	EMC Technologies	EMC
EN 300 330-2 (v1.3.1)	T140606_E	EMC Technologies	EMC

Year in which CE mark first affixed: 2014

Product Certification File: Document 079-00-002-DOC

As manufacturer, we declare under our sole responsibility that the equipment follows the provisions of the Directives stated above.

Graham Murdoch — (Name of authorized officer)

Chief Engineer — (Title of authorized officer)

---------- (Signature of authorised officer)

4 July 2014 (Date of issue)

Australia (Place)

6.3 Australian Declaration of Conformity

DECLARATION OF CONFORMITY

According to the RadioCommunications Act

Supplier/Manufacturer's Name:	Sato Vicinity Pty Ltd
Supplier's Address:	8 Guihen Street, Annandale NSW 2038
	Telephone: +61 2 9562 9800, Fax: +61 2 9518 7620
ABN:	87 166 705 5004
Product Name:	RFID Terminal
Product Model:	MDR-3021-II
	MDR-3021AT
Purpose:	Use of Radio Spectrum

The following Standards have been applied:

Standard	Test Report	Test Report issued by	Regarding
AS/NZS CISPR 22 (2006)	T140606_E	EMC Technologies	EMC-emissions
AS/NZS 4268 (2012)	T140606	EMC Technologies	Radio
ARPANSA Radiation Protection	NA	MC Technologies	SAR

Year in which C-Tick mark first affixed: 2014

Product Certification File: Document 079-00-003-DOC

Supplementary Information:

- The product complies with the standards listed above.

As manufacturer, we declare under our sole responsibility that the equipment complies with the requirements for EMC, EMR, and radio transmission as required by the RadioCommunications Act.

Graham Murdoch
(Name of authorized officer)

Chief Engineer
(Title of authorized officer)

4 July 2014
(Date of issue)

Graham Murdoch

(Signature of authorised officer)