



## Reporting Modes

**Identec Ltd**  
Mercantile Road  
Rainton Bridge Industrial Estate  
Houghton-le-Spring  
County Durham  
England  
DH4 5PH

Tel: +44 (0) 191 584 4084  
Fax: +44 (0) 191 584 9077

Web Site: [www.identec.co.uk](http://www.identec.co.uk)  
E-mail: [info@identec.co.uk](mailto:info@identec.co.uk)

This manual is provided for information purposes only. All information included in this manual is subject to change without notice. Identec is not responsible for any damages, direct or indirect, arising from or related to the use of this manual or associated product.

© Copyright 2010 Identec Limited. All rights reserved.  
Printed in the United Kingdom.

This manual may be reproduced by Identec customers for the purpose of assisting with the installation of **Cyphertag**<sup>®</sup> equipment. Reproduction in any form, physical or electronic, of all or part of this manual for any other purpose requires the written permission of Identec Ltd.

Trademark Notice:

**Cyphertag**<sup>®</sup> is a registered trademark of Identec Ltd.  
Cryptag<sup>®</sup> is a registered trademark of Identec Ltd.  
Census<sup>®</sup> is a registered trademark of Identec Ltd.  
Cliptag<sup>®</sup> is a registered trademark of Identec Ltd.  
Identec<sup>®</sup> is a registered trademark of Identec Ltd.

Patents:

Patents in the UK and other countries protect **Cyphertag**<sup>®</sup> systems.

Registered Designs

Various design aspects of the RV1 and RVR1 loop controllers and associated equipment are registered.

## WARNING NOTICE

This product uses radio frequency signals, and is therefore subject to possible interference. Any application should bear this in mind, and in particular it should not be possible for personal safety to be jeopardised by a failure to read.

This **Cyphertag**<sup>®</sup> loop controller neither uses nor generates hazardous voltages. You should not connect any such voltage to it.



See Appendix A

## CONTENTS

<b>Chapter 1</b>	<b>Cyphertag® Loop Controller</b>	<b>3</b>
1.1	Overview	3
1.2	The RV1/RVR1 loop controller	3
<b>Chapter 2</b>	<b>Timers</b>	<b>4</b>
2.1	Tags	4
2.1.1	Reader Timeout	4
2.1.2	Tag Lockout time	4
2.2	Reporting Modes	4
<b>Chapter 3</b>	<b>Single Reporting Mode</b>	<b>5</b>
3.1	Inward	5
3.2	Outward	5
3.3	Inward/Outward	6
3.4	Continuous	6
3.5	Truth Table	7
<b>Chapter 4</b>	<b>Dual Reporting Mode</b>	<b>8</b>
4.1	Inward Twin	8
4.2	Outward Twin	9
4.3	Inward/Outward Twin	9
4.4	Continuous Twin	10
4.5	Truth Table	11
<b>Chapter 5</b>	<b>Directional Reporting Mode</b>	<b>12</b>
5.1	Control Mode	13
5.2	Enhanced Control	13
5.3	Anti-passback control	14
5.4	Safety	14
5.5	Enhanced Tracking	15
5.6	Truth Table	16
5.7	Control Mode Special States Truth table	17
<b>Appendix A</b>	<b>Approvals</b>	<b>18</b>

## 1.0 **Cyphertag**<sup>®</sup> Overview

### 1.1 Overview

**Cyphertag**<sup>®</sup> is a high-performance tag identification system, offering fast long range multiple reading with optional direction sensing from the RV1 and RVR1 Loop Controllers (herein after referred to as the RV1 for clarity). The shorter-range mullion reader REV1 and mid-range RELV1 units complement the RV1.

### 1.2 *The RV1 Loop Controller*

A **Cyphertag**<sup>®</sup> loop controller, when combined with suitable aerials, identifies tags (sometimes referred to as tokens or cards) using low frequency radio signals. It transmits to the tag at 125 kHz and detects the tag's response which is centred on 4MHz.

The RV1 loop controller is configurable; this is normally done in the factory. Configuration controls the operating mode, output format and timings and relay function and timings etc. Many configuration parameters can be adjusted on site using a menu based display.

The RV1 readers can be configured to support multiple aerial loops and multiple data outputs up to a maximum of 16 loops and 16 data outputs. (RVR1 units support a maximum of 4 loops and 4 data outputs) the reader are given the designation RV1 (X-Y) where the X is the number of loops and Y the number of data outputs.

Aerials can be configurable in size since they consist of a single loop of 20-amp copper wire. An aerial interface unit (AVR1) provides the interface between the RV1 and the loop aerial plus other features such as a tag read and tuning indicators. In most installations, the loop aerial can be used as the transmit and receive aerial. However, in some installations it is advantageous to separate the TX and RX functions. This can be done using AVR2 or AVR3 receivers in addition to the AVR1 units.

Aerials are also available in preformed and tuned configurations, for example the stanchion (ASV-01) which includes the aerial interface unit AVR1.

All aerials controlled by a single RV1 are synchronised, eliminating possible problems when aerials are placed near to each other. In **Cyphertag**<sup>®</sup> the general principle is that a tag is read by the nearest aerial. This is useful when controlled doors are located near each other.

**Cyphertag**<sup>®</sup> uses sophisticated digital processing techniques to minimise the effect of external interference (noise).

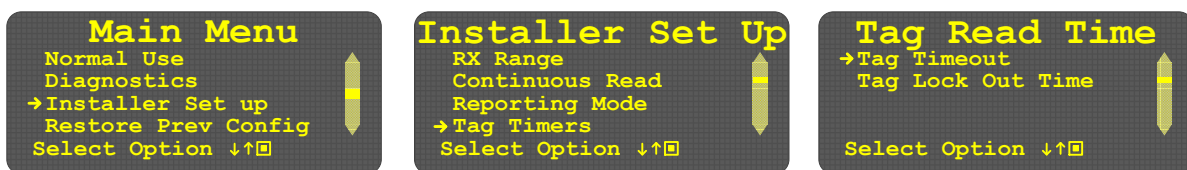
## 2.0 Timers

### 2.1 Tags

Every **Cyphertag**<sup>®</sup> tag (TV1 ... TVx) has a built-in timer which puts the tag to sleep for 2 seconds after it has been successfully read. If the tag moves to a different aerial, it will immediately come out of sleep mode to be detected. All reader timers MUST therefore be set to a minimum of 2 seconds to prevent miscellaneous reports.

#### 2.1.1 Tag Timeout

'Timeout' is the most important timer to set correctly. Failure to do so will result in miscellaneous reports from the various reporting modes. This timer basically tells the reader how long to keep tracking the tag before it is deemed to have left the detection zone. Setting this too low will result in tags being lost in direction sensing modes, setting it too high can result in the reader's buffer overflowing in mass-evacuation scenarios. The time is set as follows:

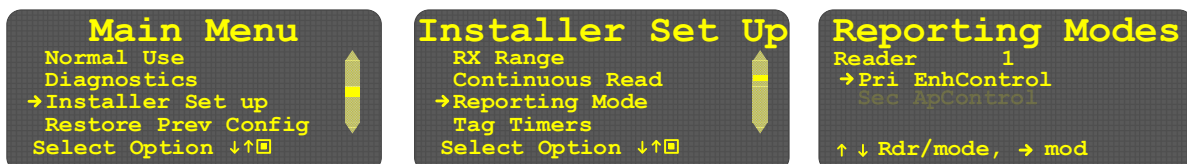


#### 2.1.2 Tag Lockout Time

This is only used in Control mode as an additional timer allowing the tag to be read and re-reported on the original aerial. See Control mode for full details

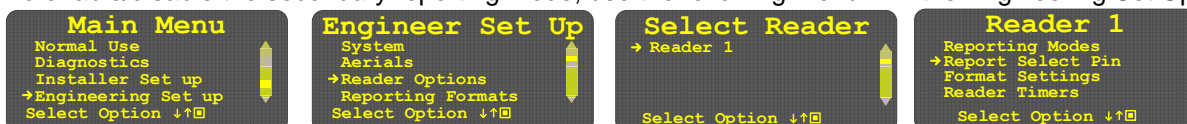
## 2.2 Reporting modes

The **Cyphertag**<sup>®</sup> reader has 14 default pre-defined reporting modes which are user selectable which can be changed using the following menu.



The reader has the ability to have two reporting modes which can be selected using an auxiliary input. The advantage is that the reader could be operating in a directional reporting mode during normal working hours but in the event of an emergency, could switch to an alternative reporting mode.

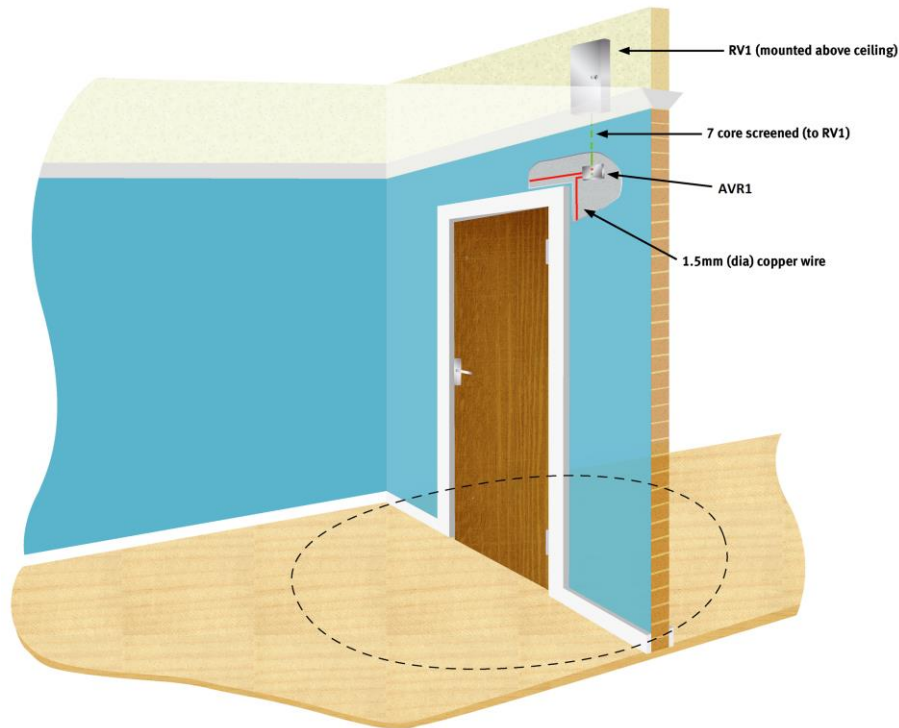
To enable/disable the secondary reporting mode, use the following menu: - In the Engineering Set Up



### 3.0 Single reporting modes

*(Inward, Outward, In-out, Continuous)*

Single reporting modes are generally used on a single door which does not require direction sensing. A typical configuration would be as follows - an aerial is installed around the door creating a single detection zone. All reports from these reporting modes will be on channel A.



### 3.1 Inward

#### Reader Type – RV1 (1-1)

#### Typical use

This version of the software has numerous applications including but not limited to: -

- Access control, car parking access, vehicle tagging, article tagging.

#### Operation

- Tags detected within the reading zone A will be reported on channel A of the reader.
- If a tag remains in the detection zone, as long as the “timeout” set on the reader is above 2 seconds, the tag will not be reported again
- In order for the tag to be re-reported, it must be removed for the duration of the timeout before being re-presented.

### 3.2 Outward

#### Reader Type - RV1 (1-1)

#### Typical use

This version of the software has numerous applications including but not limited to: -

- Article tagging.

#### Operation

- Tags will only be reported once they have left reading zone A for the duration of the “Timeout”

### 3.3 Inward and Outward

#### Reader Type - RV1 (1-1)

##### Typical use

This version of the software has numerous applications including but not limited to: -

- Continuous monitoring/sampling of all tags within the detection zone of the reader. This could be used to indicate the total number of keys within a secure cabinet. If keys are added or removed the reader will report the unique identity of the tag and a flag to indicate those keys entering or leaving the zone. Battery life considerations again mean that tags will only be monitored at intervals of many seconds, and the time-out has to be extended accordingly.
- As with Continuous reporting mode (3.4), this mode can be used to provide additional information to an access control systems that would benefit from knowing exactly which tags are present. Compared with Continuous mode there are fewer messages to handle, with the RV1 doing ALL of the processing. The disadvantage of using Inward/Outward reporting is that some information is lost if a tag disappears for less than the time-out, and Outward reports are always delayed.

##### Operation

- Tags detected within the reading zone A will be reported on channel A of the reader.
- An additional report is sent when the tag leaves the detection zone for longer than the "timeout" period on channel A.

### 3.4 Continuous

#### Reader Type - RV1 (1-1)

##### Typical use

This version of the software has numerous applications including but not limited to: -

- Asset and people monitoring.
- Computer operator monitoring. When the user sits at a desk, the tag is continuously reported until the user leaves. This enables the screens to be locked when they are not present and automatically logs the user in when they are. Care is needed to preserve the battery life of the tag.
- Continuous is also used (at full speed) when the reader is connected to a system which has the ability to use all of this information. One example is a people counting system which correlates information from optical sensors with details of which tags are present. Normally **Cyphertag**<sup>®</sup> readers process the tag information and present it in a simplified form. Continuous reading mode makes all of the information available.

##### Operation

- A tag detected within reading zone A will be continuously reported on channel A until it is removed from the zone.
- Care must be taken to ensure the "timeout" is set correctly as the reader will continue to report the tag during the period regardless if it is present or not.

### 3.5 Single reporting mode truth table

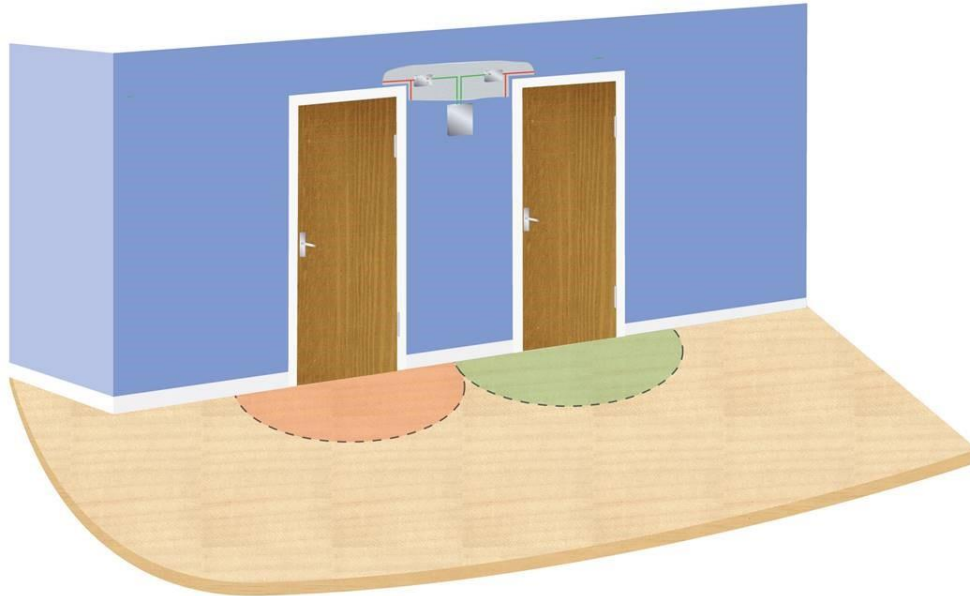
Tag movement	Inward		Outward		In/Out		Continuous	
	Channel A	Channel B	Channel A	Channel B	Channel A	Channel B	Channel A	Channel B
Aerial A	Report A	N/A	-	N/A	Report A	N/A	Report A	N/A
Timed out A	-	N/A	Report A	N/A	Report A	N/A	Report A	N/A
Aerial A	Report A	N/A	-	N/A	Report A	N/A	Report A	N/A
Left in Aerial A	-	N/A	-	N/A	-	N/A	Report A	N/A
Timed out A	-	N/A	Report A	N/A	Report A	N/A	Report A	N/A



#### 4.0 Dual reporting modes

*(Inward twin, Outward Twin, In-out twin, Continuous twin)*

It is possible to have situation where doors need to be controlled individually which are within 10M of one another. It is more cost effective to do this using a dual type reporting mode which allows the reader to treat each location separately.



#### 4.1 Inward Twin

**Reader Type - RV1 (2-2)**

##### **Typical use**

This version of the firmware is used to control two independent locations using a single reader. This version of the software has numerous applications including but not limited to: -

- Access control, car parking, vehicle access and article tagging

##### **Operation**

- Tags detected within the reading zone A will be reported on channel A of the reader.
- Tags detected within the reading zone B will be reported on channel B of the reader.
- In order for the tag to be re-reported, it must be removed for the duration of the “timeout” before being re-presented.
- Each location has its own timers and therefore a tag can move between the aerials and still operate as described above. Useful when doors are close to one another.

## 4.2 Outward Twin

### Reader Type - RV1 (2-2)

#### Typical use

A RV1 (2-2) reader is often a more cost-effective solution when two doors need large aerial loops. It is also the preferred solution when two readers have to be so close that their reading zones will overlap considerably. This version of the firmware is used to control two independent locations using a single reader. This version of the software has numerous applications including but not limited to: -

- Article tagging

#### Operation

- Tags detected with reading zone A will be reported on channel A of the reader when it has left the zone for longer than the "timeout" period.
- Tags detected with reading zone B will be reported on channel B of the reader when it has left the zone for longer than the "timeout" period.
- Each location has its own timers and therefore a tag can move between the aeriels and still operate as described above. Useful when doors are close to one another.

## 4.3 Inward and Outward Twin

### Reader Type - RV1 (2-2)

#### Typical use

A RV1 (2-2) reader is often a more cost-effective solution when two doors need large aerial loops. It is also the preferred solution when two readers have to be so close that their reading zones will overlap considerably. This version of the firmware is used to control two independent locations using a single reader. This version of the software has numerous applications including but not limited to: -

- Continuous monitoring/sampling of all tags within the detection zone of the reader could be used to indicate the total number of keys within the secure cabinet. If keys are added or removed the reader will report the unique identity of the tag and a flag to indicate those keys entering or leaving the zone. Battery life considerations again mean that tags will only be monitored at intervals of many seconds, and the time-out has to be extended accordingly.
- As with Continuous reporting mode (4.4), this mode can be used to provide additional information to the access control systems that would benefit from knowing exactly which tags are present. Compared with Continuous mode there are fewer messages to handle, with the RVR1 doing ALL of the processing. The disadvantage of using Inward/Outward reporting is that some information is lost if a tag disappears for less than the time-out, and Outward reports are always delayed.

#### Operation

- Tags detected at reading zone A will be immediately reported on channel A and then again after the tag has left the zone for longer than the "timeout" period.
- Tags detected at reading zone B will be immediately reported on channel B and then again after the tag has left the zone for longer than the "timeout" period
- Each location has its own timers and therefore a tag can move between the aeriels and still operate as described above. Useful when doors are close to one another.

## 4.4 Continuous Twin

### Reader Type - RV1 (2-2)

#### Typical use

A RV1 (2-2) reader is often a more cost-effective solution when two doors need large aerial loops. It is also the preferred solution when two readers have to be so close that their reading zones will overlap considerably. This version of the firmware is used to control two independent locations using a single reader. This version of the software has numerous applications including but not limited to: -

- Continuous monitoring/sampling of all tags within the detection zone of the reader. This could be used to indicate the total number of keys within a secure cabinet. If keys are added or removed the reader will report the unique identity of the tag and a flag to indicate those keys entering or leaving the zone. Battery life considerations again mean that tags will only be monitored at intervals of many seconds, and the time-out has to be extended accordingly.
- Continuous is also used (at full speed) when the reader is connected to a system which has the ability to use all of this information. One example is a people counting system which correlates information from optical sensors with details of which tags are present. Normally **Cyphertag**<sup>®</sup> readers process the tag information and present it in a simplified form. Continuous reading mode makes all of the information available.

#### Operation

- A tag detected within reading zone A will be continuously reported on channel A until it is removed from the zone.
- Care must be taken to ensure the "timeout" is set correctly as the reader will continue to report the tag during the period regardless if it is present or not.

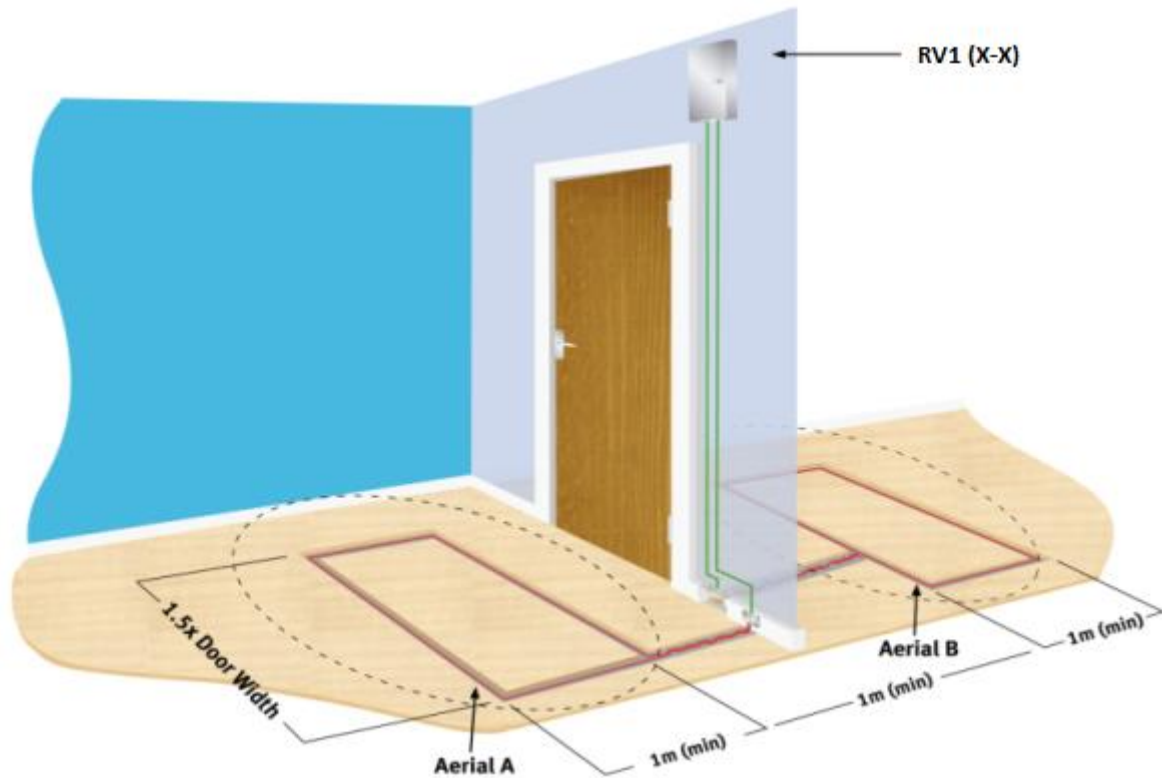
#### 4.5 Dual reporting mode truth table

Tag movement	Inward Twin		Outward Twin		In/Out Twin		Continuous Twin	
	Channel A	Channel B	Channel A	Channel B	Channel A	Channel B	Channel A	Channel B
Aerial A	Report A	-	-	-	Report A	-	Report A	-
Timed out A	-	-	Report A	-	Report A	-	Report A	-
Aerial A	Report A	-	-	-	Report A	-	Report A	-
Left in Aerial A	-	-	-	-	-	-	Report A	-
Timed out A	-	-	Report A	-	Report A	-	Report A	-
Aerial B	-	Report B	-	-	-	Report B	-	Report B
Timed out B	-	-	-	Report B	-	Report B	-	-
Aerial B	-	Report B	-	-	-	Report B	-	Report B
Left in Aerial B	-	-	-	-	-	-	-	Report B
Timed out B	-	-	-	Report B	-	Report B	-	Report B
Aerial A	Report A	-	-	-	Report A	-	Report A	-
Aerial A	-	-	-	-	-	-	Report A	-
Aerial B	-	Report B	-	-	-	Report B	Report A	Report B
Aerial B	-	-	-	-	-	-	Report A	Report B
Timed out A	-	-	Report A	-	Report A	-	Report A	Report B
Aerial B	-	-	-	-	-	-	-	Report B
Timed out B	-	-	-	Report B	-	Report B	-	Report B

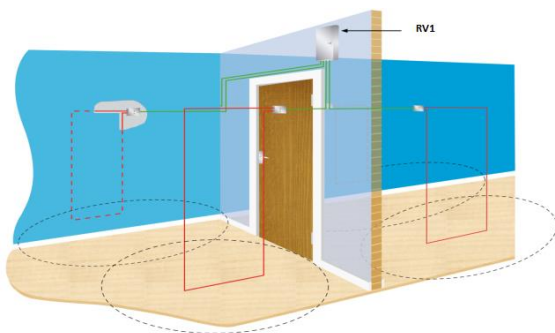
## 5.0 Directional reporting modes

(Control, Enhanced control, Anti-pass back control, Safety, Enhanced tracking)

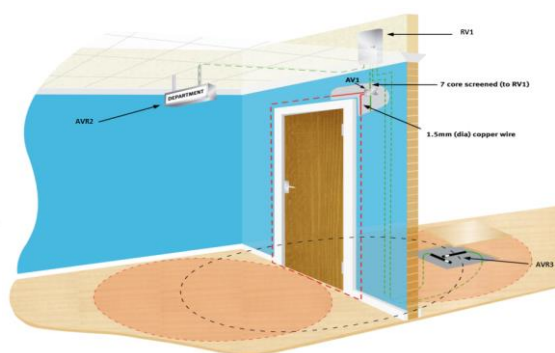
Directional readers create two zones, 'Zone A' and 'Zone B'. Depending on the reporting modes selected, the zones need to be either close together, or for car parking applications, can be many metres apart. In all cases, the "Timeout" defined in the reader is the maximum length of time the reader will continue to track the tag number.



### Alternative configurations



RV1(4-2) – 4 aerials, 2 outputs



RV1(3-2) – Single transmitter with split receivers with  
2 x AVR3 as receiver on channel A  
1 x AVR2 as receiver on channel B

Numerous alternative configurations are available. If in doubt, contact Identec.

## 5.1 Control Mode

### Reader Type - RV1 (2-2)

#### Typical use

Control mode was designed specifically for car parking. The illustration below shows a typical setup of a car park entrance. As the car pulls up to the entrance side, the tag is detected and reported on channel A, as the car drives through the barriers, it will be ignored by the exit aerials for the duration of the "timeout" to prevent it being re-reported as leaving.



#### Operation

- Tags detected within the reading zone A will be reported on channel A of the reader and will be ignored at zone B for the duration of the "timeout" period.
- Tags detected within the reading zone B will be reported on channel B of the reader and will be ignored at zone A for the duration of the "timeout" period.
- Tags can be re-reported if re-presented to the original aerial after the "Lockout" time has expired.

#### Advantages / Disadvantages

Control mode should not be used for applications where the tag may not continue in the direction which it first started. In car parking applications, it is very unlikely that a car will approach the barrier and then move away.

## 5.2 Enhanced Control

### Reader Type - RV1 (2-2)

#### Typical use

Enhanced Control is used to control a locked door, particularly in Roll Call applications, where it is important that tags are reported at the correct zone. The tag is reported immediately when it is first read and will only be reported again if it leaves at the opposite aerial.

#### Operation

- Tags detected within the reading zone 'A' will be reported on Channel A of the reader.
- Tags detected within the reading zone 'B' will be reported on Channel B of the reader.
- If the tag leaves at the opposite side to which it was first read, an additional report on that channel will be sent after the timeout has elapsed.
- If a tag remains in the detection zone, as long as the "timeout" set on the reader is above 2 seconds, the tag will not be reported again
- In order for the tag to be re-reported, it must be removed from the detection filed for the duration of the timeout before being represented.

#### Advantages / Disadvantages

Each tag is always reported at the zone where it was first and last detected, ensuring that a Roll Call will always be correct. Enhanced Control produces an extra report message whenever a user passes normally through the read zones. This will cause the door to be re-opened, giving a potential reduction in the level of security.

## 5.3 Anti-Passback Control

### Reader Type - RV1 (2-2)

#### Typical use

Anti-Passback mode is used to control a locked door, particularly in Roll Call applications, where the tag is immediately reported when it is first read. If the user passes through the door and leaves on the opposite side, no further reports are sent. However, if the user does not pass through the door, the tag is re-reported on the opposite channel to correct its location.

#### Operation

- Tags detected within the reading zone A will be reported on channel A of the reader.
- If the tag leaves at the opposite side to which it was first read, no further reports are sent.
- If the tag leaves at the same side to which it was first read, a correcting report will be sent on the opposite channel.
- If a tag remains in the detection zone, as long as the “timeout” set on the reader is above 2 seconds, the tag will not be reported again
- In order to get the tag re-reported, it must be removed from the detection filed for the duration of the timeout before being represented.

#### Advantages / Disadvantages

The main advantage of anti-passback mode is the ability to give valid information about a tag's location, with a minimum of extra reports. If the user doesn't pass through the doors an extra report is generated to correct the anti-passback state, but this extra report will also cause the door to re-open with a possible loss of security.

## 5.4 Safety

### Reader Type - RV1 (2-2)

#### Typical use

Safety mode is used where there is **no physical barrier** for applications such as Roll Call. In Safety mode, a tag is only reported when it leaves either aerial. The report is on the channel corresponding to the direction in which the tag left the reader, and takes no account of the direction of arrival. The report actually occurs when the tag has been out of the zone for greater than the “timeout” period.

#### Operation

- Tags which leave reading zone A will be reported on channel A of the reader.
- Tags which leave reading zone B will be reported on channel B of the reader.
- If a tag traverses between the aerials with the “timeout” period, no reports will be sent until the tag has left either zone for the “timeout” period.

#### Advantages / Disadvantages

Safety mode will identify the zone where a tag is, because each tag's last report relates to that zone. This simplifies the tracking version of the software.

Safety mode provides no information on where a tag came from, and should not be used where such information is important. If a tag is currently within the zone of a reader this information is also unavailable.

## 5.5 Enhanced Tracking

### Reader Type - RV1 (2-2)

#### Typical use

Enhanced Tracking Mode is used where there is **no physical barrier**, but the location of tags needs to be recorded. Enhanced tracking **MUST** only be used in situations where there are no gaps between the reading zones. Tags passing only one aerial will not be reported. Once a tag traverses between the reading zones, it will be immediately reported in the relevant direction. No further reports are sent unless the tag leaves in the opposite direction.

Used to track the direction of people down a corridor. Users can now change their minds as to which direction they are travelling and the access control system will still know in which area they are located.

#### Operation

- Tags detected within the reading zone A will not be reported
- Tags detected within the reading zone B will not be reported
- Tag which traverse from zone A to zone B will be immediately reported on channel A.
- Tag which traverse from zone B to zone A will be immediately reported on channel B.
- If the tag leaves in the opposite direction to which it was first identified, a correct report will be sent.
- Care must be taken to ensure the “timeout” is set high enough to guarantee the tag does not timeout during extreme cases where it moves from reading zone ‘A’ to ‘B’ and vice versa.

#### Advantages / Disadvantages

Tracking Mode provides a record of whenever a tag passed the reader. It can be used with Anti-Passback systems. With this version, it is **necessary to have overlapping zones**.



### 5.6 Direction reporting mode truth table

Tag movement	Control		Enhanced Control		Anti-passback		Safety		Enhanced Tracking	
	Channel A	Channel B	Channel A	Channel B	Channel A	Channel B	Channel A	Channel B	Channel A	Channel B
Aerial A	Report A	-	Report A	-	Report A	-	-	-	-	-
Timed out A	-	-	-	-	-	Report B	Report A	-	-	-
Aerial B	-	Report B	-	Report B	-	Report B	-	-	-	-
Timed out B	-	-	-	-	Report A	-	-	Report B	-	-
Aerial A	Report A	-	Report A	-	Report A	-	-	-	-	-
Aerial B	-	-	-	-	-	-	-	-	Report A	-
Timed out B	-	-	-	Report B	-	-	-	Report B	-	-
Aerial B	-	Report B	-	Report B	-	Report B	-	-	-	-
Aerial A	-	-	-	-	-	-	-	-	Report A	-
Timed out A	-	-	Report A	-	-	-	Report A	-	-	-
Aerial A	Report A	-	Report A	-	Report A	-	-	-	-	-
Aerial B	-	-	-	-	-	-	-	-	-	Report B
Aerial A	-	-	-	-	-	-	-	-	-	-
Timed out A	-	-	-	-	-	Report B	Report A	-	Report A	-
Aerial B	-	Report B	-	Report B	-	Report B	-	-	-	-
Aerial A	-	-	-	-	-	-	-	-	Report A	-
Aerial B	-	-	-	-	-	-	-	-	-	-
Timed out B	-	-	-	-	Report A	-	-	Report B	-	Report B
Aerial A	Report A	-	Report A	-	Report A	-	-	-	-	-
Aerial B	-	-	-	-	-	-	-	-	Report A	-
Aerial A	-	-	-	-	-	-	-	-	-	-
Aerial B	-	-	-	-	-	-	-	-	-	-
Timed out B	-	-	-	Report B	-	-	-	Report B	-	-
Aerial B	-	Report B	-	Report B	-	Report B	-	-	-	-
Aerial A	-	-	-	-	-	-	-	-	-	Report B
Aerial B	-	-	-	-	-	-	-	-	-	-
Aerial A	-	-	-	-	-	-	-	-	-	-
Timed out A	-	-	Report A	-	-	-	Report A	-	-	-

## 5.7 Special control mode states truth table

Tag movement	Control		Enhanced Control		Anti-passback		Safety		Enhanced Tracking		
	Channel A	Channel B	Channel A	Channel B	Channel A	Channel B	Channel A	Channel B	Channel A	Channel B	
Aerial A	Report A	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aerial A (1)	-	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aerial A (2)	Report A	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aerial B	-	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Timed out B	-	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aerial B	-	Report B	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aerial B (1)	-	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aerial B (2)	-	Report B	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aerial A	-	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Timed out A	-	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aerial A	Report A	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aerial B	-	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aerial B (3)	-	Report B	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Timed out B	-	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aerial B	-	Report B	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aerial A	-	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aerial A (3)	Report A	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Timed out A	-	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

- (1) – Taken out of the zone and back in within the tag timeout
- (2) – Taken out of the zone and back in after tag timeout but before tag lockout
- (3) – Left in the zone until tag lockout

## Appendix A - APPROVALS

The RV1 and associated tags require some form of approval in all countries, as both are intentional emitters of radio frequency. This section describes the status of the product in various countries at the time of writing. For more up to date information contact Identec.

### European Union and other ETSI countries

**APPROVED**

### United States of America

**PENDING**

-----

*In all countries, this product is approved on the basis that it shouldn't cause interference to other equipment, and that it won't be affected by interference. If you make an unauthorised modification you may invalidate this approval and you might be committing a criminal offence.*

### Low Voltage Directive

**Cyphertag**<sup>®</sup> loop controllers have been designed and manufactured in accordance with EN60950, following the provisions of the Low Voltage Directive.

### ISO 9001

Identec's Quality System conforms to ISO 9001