



impro®

**MODEL NUMBER:**

XTT901-1-0-GB-XX XTT902-1-0-GB-XX XTT903-1-0-GB-XX  
XTT904-1-0-GB-XX XTT905-1-0-GB-XX XTT906-1-0-GB-XX  
XTT907-1-0-GB-XX XTT908-1-0-GB-XX XTT909-1-0-GB-XX

# ANTENNA READERS

## ImproX 125 kHz Antenna Readers INSTALLATION MANUAL

### SPECIFICATIONS

#### Working Environment

XTT901, XTT906, XTT908.....	Designed to work in an indoor or outdoor environment similar to IP66. The Antenna Readers are, therefore, sealed (potted) against water.
XTT902, XTT903, XTT904, XTT907 .....	Designed to work in an indoor or outdoor environment similar to IP53. The Antenna Readers are, therefore, sealed (potted) against water.
XTT905 .....	Designed to work in an indoor or protected outdoor environment similar to IP42. The Antenna Reader is, therefore, not sealed against water.
XTT909 .....	The IP rating for this Antenna Reader is equivalent to the selected Cabinet's rating.

#### Buzzer

Volume and Tone.....	Single tone, 4-step adjustable volume.
----------------------	--

*NOTE: The ImproX MMA (XTT901) does not include a buzzer.*

#### Keypad

XTT904 and XTT907.....	12 Alphanumeric keys.
XTT905 .....	12 Numeric keys.

#### Status Indicators

Status LED.....	Bi-coloured Red or Green (externally visible).
-----------------	--

# INSTALLATION INFORMATION

## Accessories

---

Find the following when unpacking the Antenna Reader:

### XTT901 to XTT904 and XTT907

- Either an ImproX MMA Antenna Reader (XTT901-1-0-GB-XX) housed in a Dark Grey, ABS Plastic housing. The ImproX MMA consists of a Front Cover and a Backing Plate. The Front Cover (including the potted electronic components) assembly includes 8 m (26 ft) of 4-core, 0.5 mm solid strand Communications Cable.
- Or an ImproX MA Antenna Reader (XTT902-1-0-GB-XX) housed in a Dark Grey, ABS Plastic housing. The ImproX MA consists of a Front Cover and a Backing Plate (the Backing Plate is attached with a Self-tapping Screw (M2 x 6 mm)).
- Or an ImproX MHA Antenna Reader (XTT903-1-0-GB-XX) housed in a Zinc alloy die-cast housing. The ImproX MHA consists of a Front Cover and a Backing Plate (the Backing Plate is attached with a Hexagonal Screw (M3 x 8 mm)).
- Or an ImproX KHA Antenna Reader (XTT904-1-0-GB-XX) housed in a Zinc alloy die-cast housing. The ImproX KHA consists of a Front Cover and a Backing Plate (the Backing Plate is attached with a Hexagonal Screw (M3 x 8 mm)).
- Or an ImproX KA Antenna Reader XTT907-1-0-GB-XX housed in a Dark Grey, ABS Plastic housing. The ImproX KA consists of a Front Cover and a Backing Plate (the Backing Plate is attached with a Self-tapping Screw (M3 x 8 mm)).
- An Allen Key (2 mm) (XTT903-1-0-GB-XX and XTT904-1-0-GB-XX models only).
- Four Brass Wood Screws (3.5 mm x 25 mm).
- Four Wall Plugs (7 mm).
- An extra Serial Number Label.

### XTT905

- An ImproX KMA Antenna Reader housed in a Black, ABS Plastic housing. The ImproX KMA consists of a Front Cover and a Mounting Bracket (the Mounting Bracket is attached with a Self-tapping Screw (M2 x 6 mm)).
- Two Counter-sunk Self-tapping Screws (M2 x 6 mm).
- Two Counter-sunk Self-tapping Screws (2.9 mm x 25 mm).
- Two Wall Plugs (5 mm).
- An extra Serial Number Label.

### XTT906 and XTT908

- Either an ImproX RA Antenna Reader (XTT906-1-0-GB-XX) housed in PVC sheathing. The ImproX RA includes 8 m (26 ft) of 4-core cable.
- Or an ImproX DPA Antenna Reader (XTT908-1-0-GB-XX) housed in a Black, ABS Plastic housing. The ImproX DPA includes 8 m (26 ft) of 4-core, 0.5 mm Solid Strand Communications Cable.
- A Piezo-electric, External Drive Buzzer.

- A bi-colour Red or Green, White Diffused Lens, Hi-bright, 5 mm, 2-Terminal LED (XTT906-1-0-GB-XX model only).
- An extra Serial Number Label.

## **XTT909**

- 10 ImproX CA Antenna Reader printed circuit board assemblies.
- An extra Serial Number Label.

## **General**

---

Remember the following when installing the Antenna Reader:

### **Antenna Reader Distance**

The ideal cable distance between the Terminal, Controller or Receiver and its Antenna Reader ranges between 2 m to 16 m (7 ft to 53 ft). Achieve this by using a good quality shielded multi-strand 3-pair twisted cable. The cross-sectional area of the cable must not be less than 0.2 mm<sup>2</sup> (0.0003 in<sup>2</sup>).

### **Cable Specifications**

The cable specifications should be similar to the following:

Conductor Resistance:	< 2 ohms.
Capacitance, Core to Earth:	< 160 pF/m.
Capacitance, Core to Core:	< 100 pF/m.

### **Distance between Antenna Readers from the SAME Terminal, Controller or Receiver**

To avoid mutual interference, install the Antenna Readers no closer than 150 mm (6 in) apart.

### **Distance between Antenna Readers from DIFFERENT Terminals, Controllers or Receivers**

To avoid mutual interference, install the Antenna Readers no closer than 500 mm (20 in) apart.

## **Mounting the Antenna Readers**

---

**CAUTION:** Make certain that you mount the Antenna Reader on a vibration-free surface.

Select the mounting position of the Antenna Reader, considering accessibility, routing of wires and visibility of the externally visible LED.

### **XTT901 to XTT905, XTT907 and XTT908**

Secure the Antenna Reader to the mounting surface, using two suitable screws and wall plugs, nuts and bolts, rivets or double-sided adhesive tape.

*NOTE: The Wiegand Door Entry Panel is designed for mounting in a user supplied enclosure. The Reader has 4 mounting holes, drilled to 4 mm in diameter. The mounting holes accommodate M3 bolts and nuts.*

## XTT906

Secure the ImproX RA in the mounting surface, using a suitable filling agent.

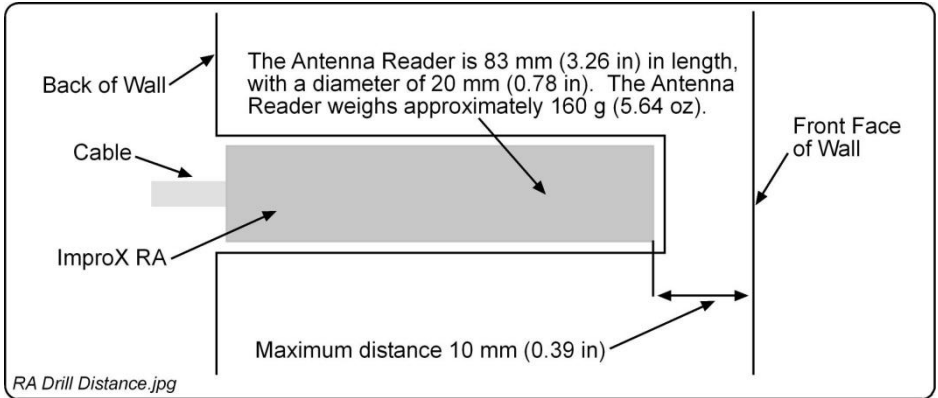


Figure 1: Mounting the ImproX RA

## XTT909

**WARNING: DO NOT MOUNT THE IMPROX CA IN THE SAME ELECTRICAL JUNCTION BOX AS THE MAINS ELECTRICAL SUPPLY.**

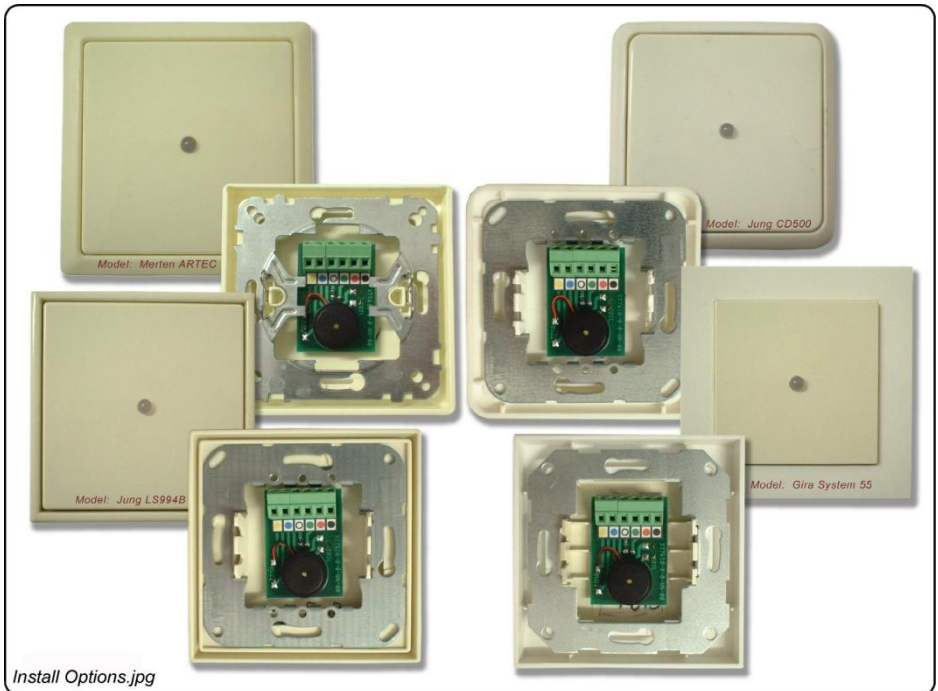


Figure 2: Electrical Conduit Blanking Plate Options

The ImproX CA is approved for use with the following Electrical Conduit Blanking Plates (specific to the European Market):

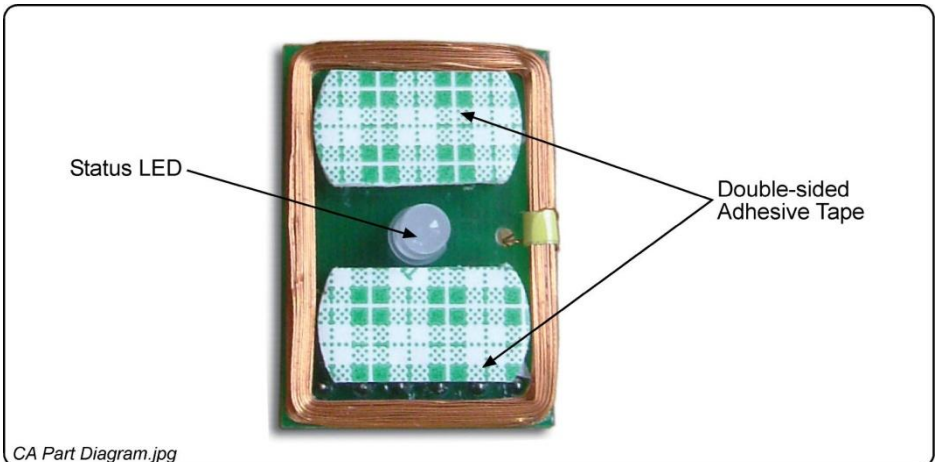
- Jung LS994B.
- Jung CD500.
- Merten ARTEC.
- Gira System 55.

### **Housing the ImproX CA**

1. Drill a 5 mm hole in the centre of your chosen Electrical Conduit Blanking Plate, to accommodate the Status LED.
2. Remove the paper covering from the double-sided adhesive tape.

*NOTE: Place general purpose Silicone Sealer around the base of the Status LED for added waterproofing.*

3. Push the Status LED through the hole, in the Blanking Plate, from back to front.
4. Firmly press the ImproX CA to the back of the Electrical Conduit Blanking Plate.



**Figure 3: ImproX CA Part Diagram**

Blank Space

# Connecting the ImproX Antenna Readers

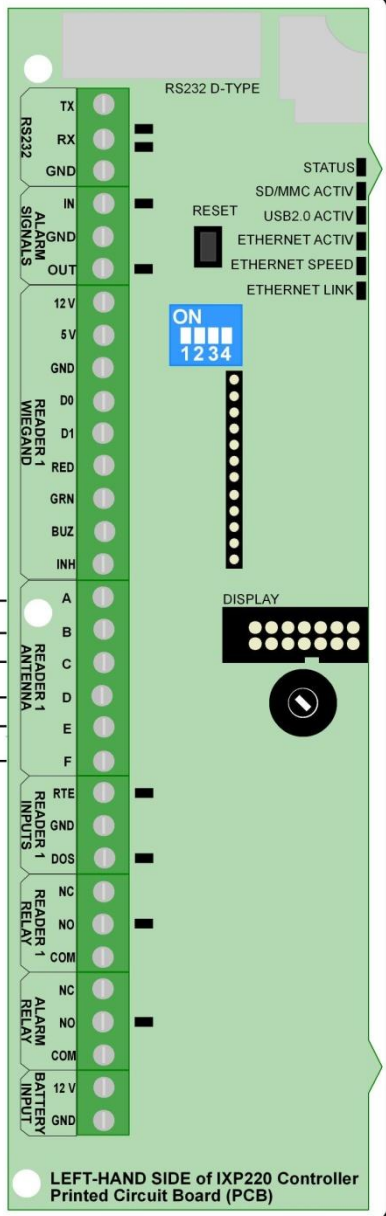
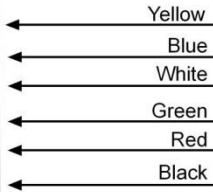
Figure 4 to Figure 8 show detailed connection diagrams for the Antenna Readers:

**NOTE:** Connection details remain the same for the majority of the ImproX Antenna Readers. Note, however that the ImproX MMA only uses connections C, D, E and F.

**NOTE:** When using the ImproX RA or the ImproX DPA, connect the Buzzer using the A and B Terminals.

**NOTE:** Connection details remain the same for Reader 2 Antenna.

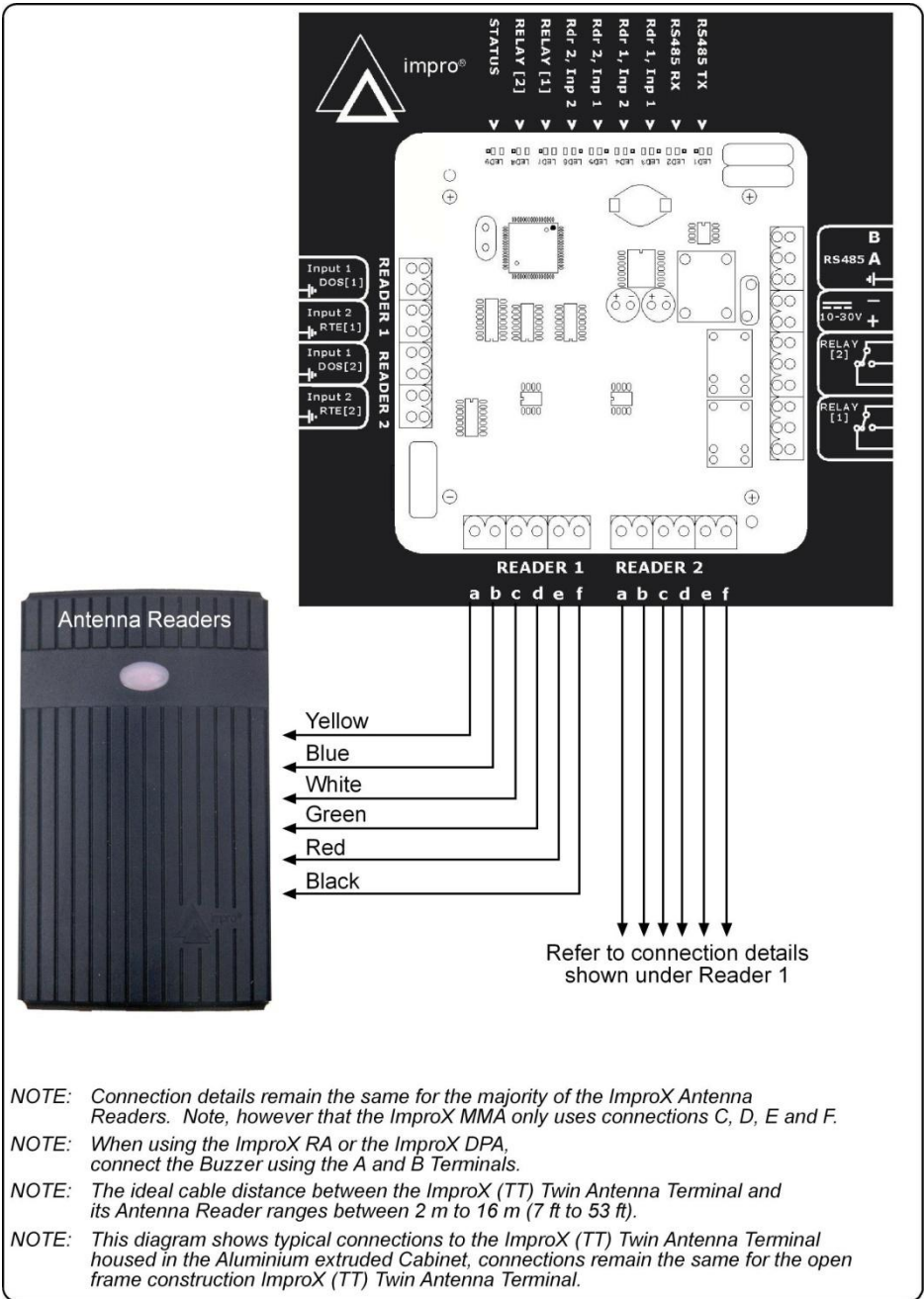
**NOTE:** The ideal cable distance between the IXP220 Controller and its Antenna Reader ranges between 2 m to 16 m (7 ft to 53 ft).



IXP220 Ant Connections.jpg

LEFT-HAND SIDE of IXP220 Controller Printed Circuit Board (PCB)

**Figure 4: ImproX Antenna Reader Connected to the IXP220 Controller**



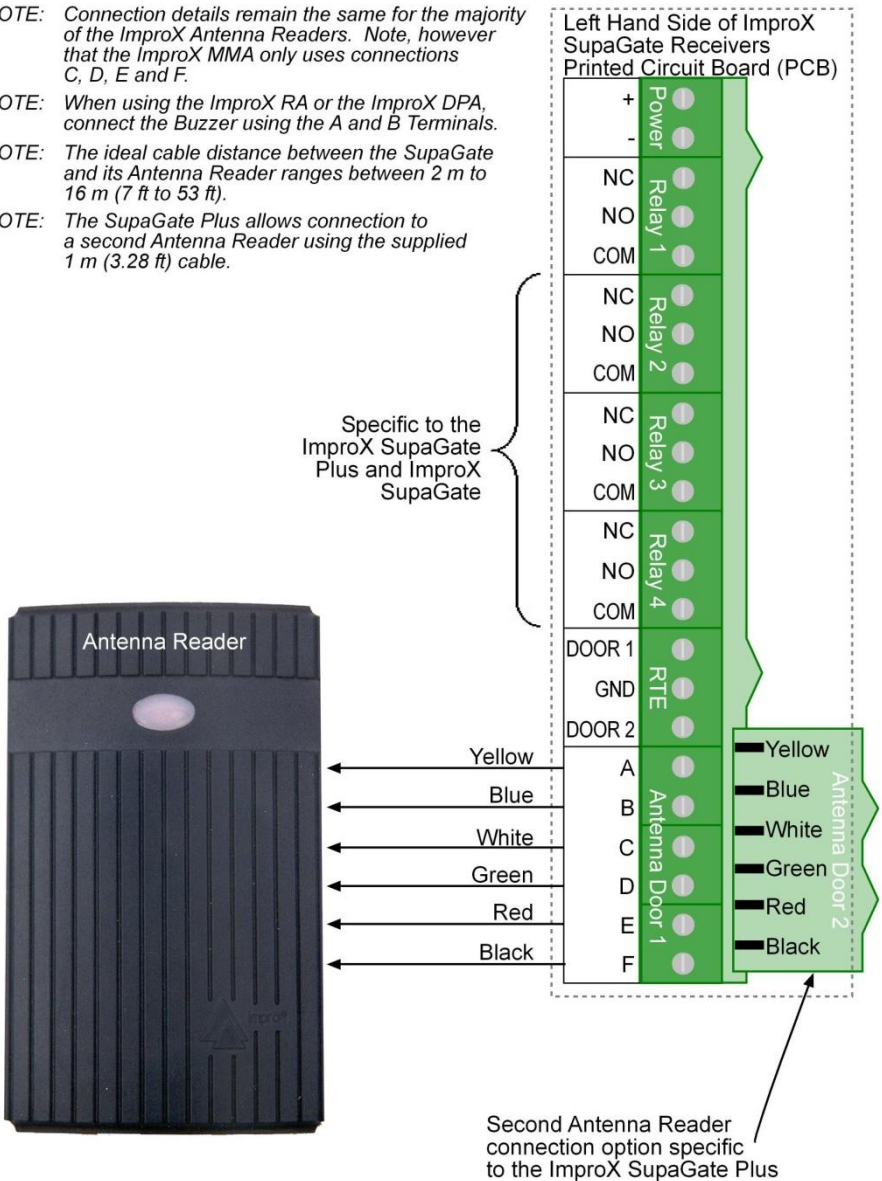
**Figure 5: ImproX Antenna Reader Connected to the ImproX TT**

NOTE: Connection details remain the same for the majority of the ImproX Antenna Readers. Note, however that the ImproX MMA only uses connections C, D, E and F.

NOTE: When using the ImproX RA or the ImproX DPA, connect the Buzzer using the A and B Terminals.

NOTE: The ideal cable distance between the SupaGate and its Antenna Reader ranges between 2 m to 16 m (7 ft to 53 ft).

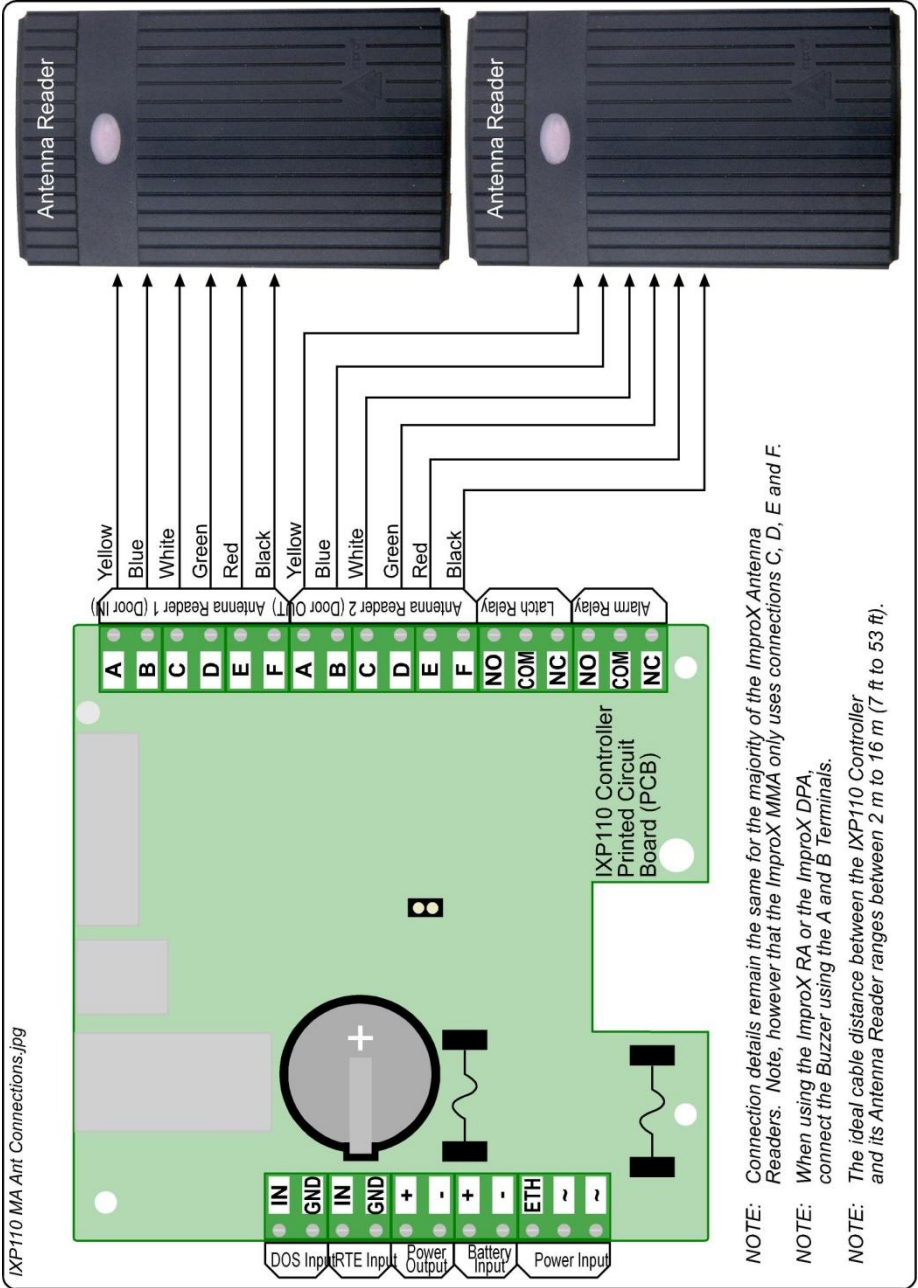
NOTE: The SupaGate Plus allows connection to a second Antenna Reader using the supplied 1 m (3.28 ft) cable.



SupaGate Ant Connection.jpg

Figure 6: ImproX Antenna Reader Connected to the SupaGate Receiver



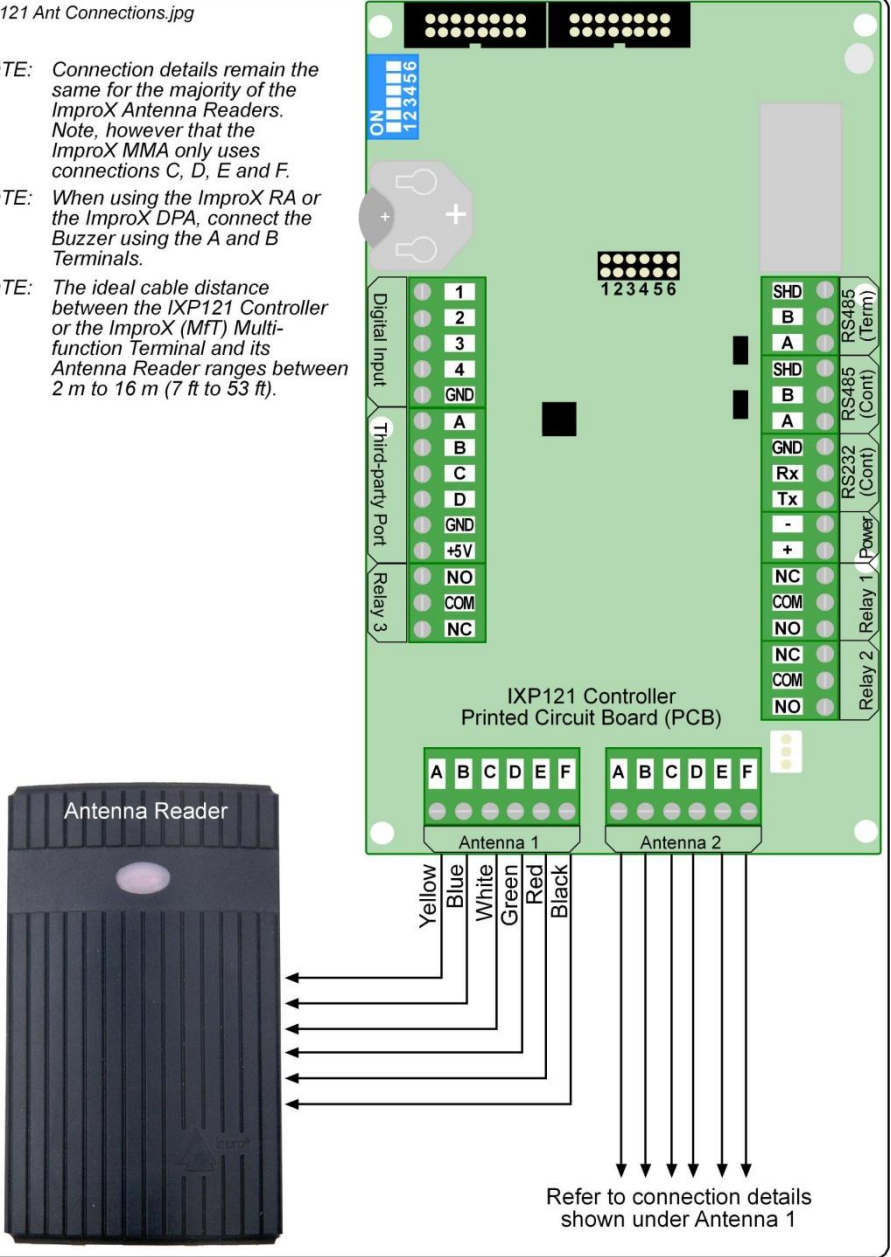


**Figure 7: ImproX Antenna Reader Connected to the IXP110Controller**

**NOTE:** Connection details remain the same for the majority of the ImproX Antenna Readers. Note, however that the ImproX MMA only uses connections C, D, E and F.

**NOTE:** When using the ImproX RA or the ImproX DPA, connect the Buzzer using the A and B Terminals.

**NOTE:** The ideal cable distance between the IXP121 Controller or the ImproX (MFT) Multi-function Terminal and its Antenna Reader ranges between 2 m to 16 m (7 ft to 53 ft).



**Figure 8: ImproX Antenna Reader Connected to the IXP121 Controller or the ImproX Mft**

*NOTE: On powering up, the Antenna Reader's Status LED will illuminate solid Red. The Antenna Reader will not read Tags until configured in the Software.*

## **Serial Number Label**

---

1. Once the Antenna Reader is installed, sketch a rough site plan.
2. Attach the Antenna Reader's loose Serial Number Label and the Controller, Terminal or Receiver's Fixed Address Label, to the sketched site plan in the position of the Antenna Reader.

The Antenna Reader does not have its own Fixed Address. When connected to a Controller, Terminal or Receiver the Antenna Reader is assigned one of the available Fixed Addresses.

The Serial Number Label identifies the type of Antenna Reader, and the Fixed Address Label (shipped with the Controller, Terminal or Receiver) identifies the Fixed Addresses. Both these labels should be attached to the site plan to assist in identifying the hardware once an Auto-ID is performed.

## **GUARANTEE OR WARRANTY**

This product conforms to our Guarantee or Warranty details placed on our Web Site, to read further please go to [www.impro.net](http://www.impro.net).

### **USER NOTES**



This manual applies to the ImproX 125 kHz Antenna Readers, XTT901-1-0-GB-00, XTT902-1-0-GB-01, XTT903-1-0-GB-00, XTT904-1-0-GB-03, XTT905-1-0-GB-01, XTT906-1-0-GB-00, XTT907-1-0-GB-01, XTT908-1-0-GB-01 and XTT909-1-0-GB-00 (The last two digits of the Impro stock code indicate the issue status of the product).

XTT301-0-0-GB-11	Issue 12	Sep 2008	ImproX Antenna Readers\English Manuals\ LATEST ISSUE\AntRdrs-insm-en-12.docx
------------------	----------	-------------	---