Information to the User

Read this document prior to installation!

USA - Federal Communications Commission (FCC)

This device complies with Part 15 of FCC Rules. Operation of the device is subject to the following two conditions (1) This device may not cause harmful interference, and (2) this device must accept any interference that may cause undesired operation.

Caution

This equipment has been designed, constructed, and tested for compliance with FCC Rules that regulate intentional readers. Any change or modification not expressly approved by electronic data manufacturing limited may void FCC certification and the user's authority to operate this equipment.

EDiT Race Reader Control Unit

Introduction

The EDiT Race Reader Control Unit is part of the EDiT Race Reader System. It is designed to give hands-free reading and collection of data from NLIS approved animal electronic identification devices. No line of sight or restraint of animals is necessary.

The reader "decodes" the signal received from the electronic identification device on the animal. The reader delivers the signal in a format that is compatible with EID-capable weigh scales or computer programs.

The race reader control unit is designed solely for use with the EDiT Antenna. It is enclosed in a rugged waterproof and dustproof casing designed to withstand outdoor handling.

Features

"Tag Read" light
Glows green for three seconds when a tag is read.

"Power On" light
Glows red when a 12V DC supply is attached. A flashing light indicates low voltage and the reader will not function correctly.

COM connector

POWER connector

ANTENNA connectors

Power Supply

The reader depends on a clean high quality 12V DC power supply to function correctly. A power supply of less than 12V DC will significantly affect performance. When the power supply is connected the "Power On" light will glow. When the voltage supply is not adequate the light will flash indicating that the power supply needs changing.

Do NOT connect the reader to a battery in a running vehicle or an automotive battery charger. The voltage and current supplied may damage the reader and would void the warranty.

The power connector is fitted with an inline fuse that protects the reader against inappropriate voltage fluctuations and incorrect battery terminal polarity.

Communication Connector

Use the 3m cable supplied to connect the reader to the weigh scale or computer. If the cable supplied is not long enough, an additional serial cable of up to 7m may be added without affecting performance.

Accessories

1 x plastic mounting bracket with fittings
1 x Allflex ISO output test tag
1 x 3m power cable
1 x 3m communication cable

Locating the Reader

When in use the reader should always be mounted on the bracket provided. Securely mount the control unit bracket in a convenient place so it;

- does not to interfere with animal and operator movements
- is within reach of the COM, POWER and ANTENNA cables
- allows the power cable to be connected with the battery positioned in a suitable location
- the "Tag Read" and "Power On" lights are clearly visible.

Cable Management

Route cables where they cannot be damaged by animals, or crushed and stretched by moving parts such as gates or headbail mechanisms. If in doubt place cables inside protective hose or piping. Secure using cable ties.

Dust caps should be screwed in place when any of the connectors are not attached to external cables.

Getting Started

Make sure that the cables are securely connected in the following order.

COM Connect to weigh scale indicator or computer

ANTENNA If using a single antenna connect to ANTENNA 1.
Only use ANTENNA 2 if a dual antenna arrangement is installed.

> **BEFORE connecting the power cable set the crush up exactly as you expect it to be when tagged animals are to be read: headbail closed, inspection gates as required etc.**

POWER Connect to a fully charged 12V DC battery, i.e.

Connect the RED clip to the POSITIVE terminal.
Connect the BLACK clip to the NEGATIVE terminal.

If the clips are connected incorrectly the inline fuse will blow and will have to be replaced before proceeding. **Do not change the fuse rating** (1.6 amp).

The "Power On" indicator will glow red indicating that sufficient voltage is being supplied. The light will flash if there is insufficient voltage. The reader will not function correctly and the battery needs to be changed before proceeding.

Check that the reader is functioning correctly.

Once power and antenna cables are correctly attached the system is ready to read tags.

Bring the test tag provided into the area directly in front of the antenna (see antenna instructions for expected read area diagram). The green light will glow when the tag is read successfully. The light stays on for three seconds after a successful read.

If a weigh scale indicator or computer is attached and correctly set-up, (see the instruction manual of the scales indicator or computer) the display will indicate the number of the identification device.

If the tag is not read successfully when introduced into the read area (green light is not glowing), disconnect the power for a few moments and then try again. This will allow the system to recalibrate.

Any time that the antenna is moved or the crush set-up is changed the reader needs to be recalibrated.

Cleaning

The reader is designed to withstand dust and water. Clean using household detergents and cold running water.

Do not use abrasive cleaners or solvents as these may damage the reader and void the warranty.

The EDiT Antenna

Introduction

The EDiT Antenna is part of the EDiT Race Reader System. The race reader system identifies and reads electronic devices on individual animals, allowing for accurate traceability and management of stock.

The EDiT Race Reader Control Unit powers the antenna and transfers the data received from electronic eartags into a weigh scale indicator or a computer.

Robust construction materials and design allow the antenna to be fitted on the inside of the crush without structural modification.

> The performance of your antenna will be optimised if you follow the instructions in this manual.

DRILL HERE ONLY
Drill holes in the antenna in the designated drill zones only. These zones have been designed to maintain the structural integrity and performance of the antenna. Drilling in other areas will damage the internal components of the antenna and void the warranty.

Accessories
4 x 60mm Saddle Brackets
9 x 75mm Hex Bolts
9 x 120mm Hex Bolts
9 x Hex Nuts
9 x 32mm Flat Washers
9 x Spring Washers
1 x 800mm Packing Strip
1 x 8.1mm Drill Bit
10 x Cable Ties

Positioning of the EDiT Antenna

Use the following guidelines to ensure the antenna is installed correctly.

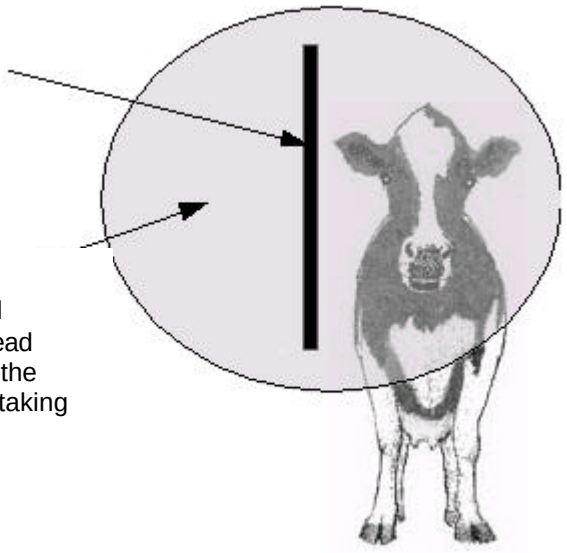
Mount the antenna flush with the inside of the crush.

Eliminate any animal injury or bruising, and damage to the antenna by ensuring the entire length of the antenna is sitting tightly against the side of the crush.

- **Use at least four mounting points.**

The antenna must have a minimum of four attachment points securing it to the crush. These points must be as close as possible to the corners of the antenna to minimise warping.

- **Antenna height and animal size**
  The positioning of the antenna is important to obtain an effective read. The diagram below shows the shape of the antenna read zone (grey) in relation to the size of the animal.



Read Area
The size of the animal passing through the read area will differ. Adjust the height of the antenna taking this into account.

The antenna should be mounted approximately 200 - 400mm from the front of the crush and the bottom of the antenna should be 500 - 700mm from the floor of the crush. These measurements are only a guideline. Adjust the position of your antenna to suit the size of the animals that you are managing.

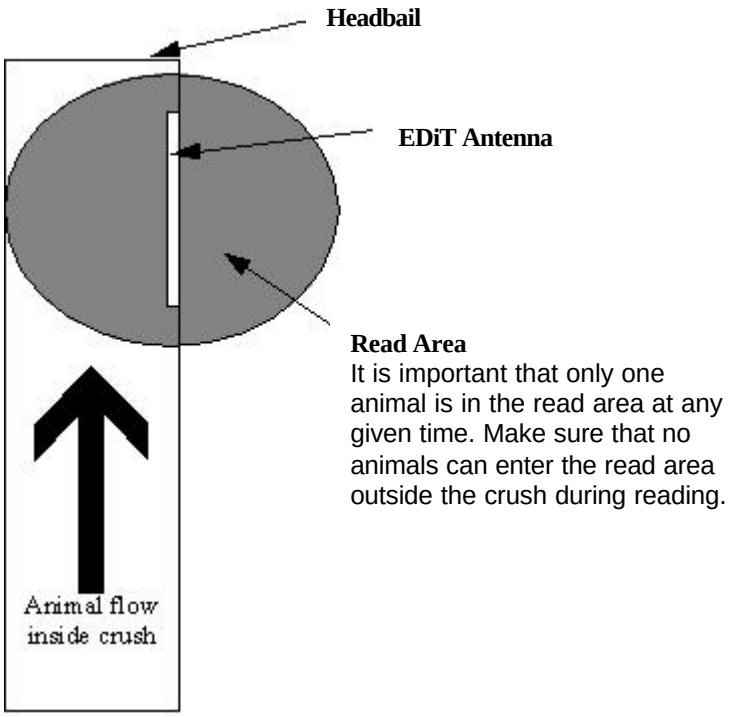
- **Off-side (right hand side) ear tag positioning on cattle**
  All animals electronically tagged under NLIS guidelines have the electronic tag in the off-side ear. If you wish to use the off-side of the crush for drafting you must have the cable routed so that it is not stretched when the gate is opened.

- **Crush Design**
  The read distance can be affected by crush design. Inspection gates behind the antenna may affect the read performance - the best results may be achieved by leaving them open. Once the best set-up is determined, metal parts near the antenna read zone must not be subsequently moved after powering up the reader.

  Sheet metal on the side of the crush may have to be removed if it is within 200mm of the antenna. Removing sheet metal reduces interference affecting read distance.

- **Read Area of the EDiT Antenna**

The antenna read area is shown by the grey area in the diagram below.



Fitting Instructions

Mount the antenna on the off-side (right hand side) of the crush.

Mounting the EDiT Antenna using saddle brackets

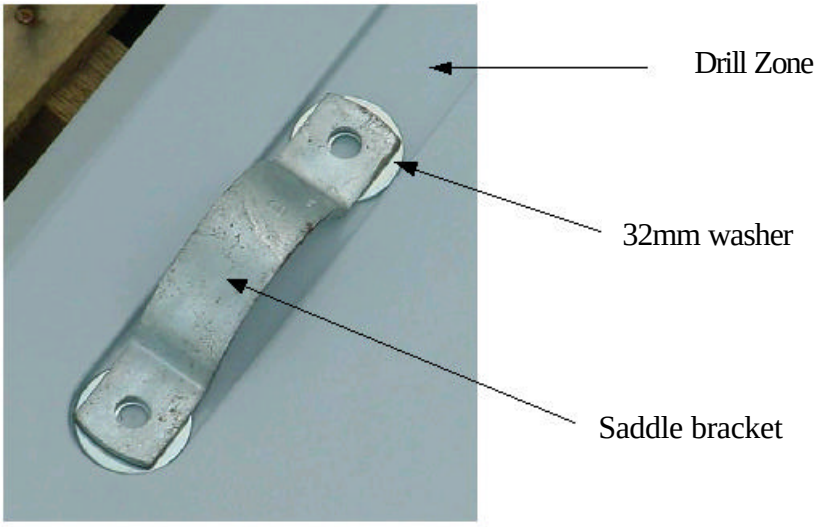
When securing the antenna to round pipe, use the saddle brackets provided.

1. Decide on position, keep in mind the following:
   - the antenna must sit flush with the cattle crush
   - there are at least four securing points
   - the antenna height and animal size
   - the position of the cable from the antenna to the reader.
   - the crush design.

2. To mark the drill holes hold the antenna on the outside of the crush in the position that you have decided on (see below).

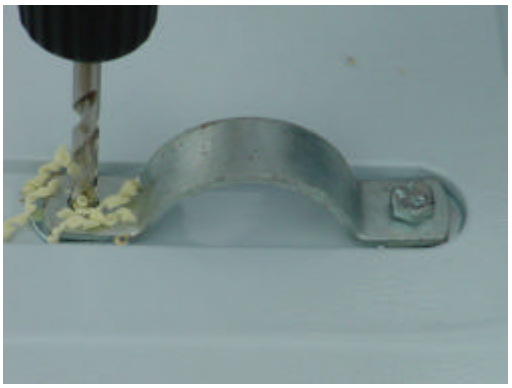
3. Place the saddle bracket on the pipe so it faces the front of the antenna. Mark the centre point for the top hole only. Do the same for each bracket.

4. Mark the centre point for the other hole using the saddle bracket. Using a 32mm washer mark the centre of the drill zone for the second hole.



5. Check that the drilling points are correct before drilling into the antenna.

6. Drill the holes using the drill bit provided.



7. Attach the antenna to the inside of the crush using the 32mm washers (against the antenna), bolts, saddle brackets, spring washers (against the saddle brackets) and nuts provided.

8. If the pipe is too small use the packing provided to create a tight fit around the pipe.

> When securing the antenna to the crush, tighten the bolts enough to eliminate any lateral movement that may be caused by jostling animals. If you over tighten the bolts you may damage the antenna and void the warranty.

Mounting the EDiT Antenna without saddle brackets.

The antenna can be directly attached to the crush by bolting it to any plywood or pipe work. This method of mounting is recommended if the pipe work or steel is not suitable for the saddle brackets provided.

1. Decide on position, keeping in mind these points:
   - the antenna must sit flush with the cattle crush
   - there are at least four securing points
   - the antenna height and animal size
   - the position of the cable from the antenna to the reader
   - the crush design

2. Hold the antenna on the inside of the crush in the position that you have decided on.

3. Mark the centre point where you need to drill using the washers to accurately locate the centre of the drilling zone.

4. Check that the drilling points are correct before drilling into the antenna.

5. Drill the holes using the drill bit provided.

6. Attach the antenna to the inside of the crush using the washers (against the antenna), nuts, spring washers (against the crush material) and bolts provided.

> When securing the antenna to the crush, tighten the bolts enough to eliminate any lateral movement that may be caused by jostling animals. If you over tighten the bolts you may damage the antenna and void the warranty.

Cable Management

Route cables so that they will not be damaged by animals, or crushed or stretched by moving parts such as gates or headbail mechanisms. If in doubt place the cable inside protective hose or piping. Secure using the cable ties provided.

Replace the cable dust cap after use.

Cleaning your EDiT Antenna

Clean your antenna with running water and a scrubbing brush. This will remove any dirt or manure but will not damage the antenna.

> Do not use any cleaning solvents on the antenna as this may damage both internal and external materials and void the warranty.

Opposing EDiT Antennae

In order to use the EDiT Race Reader Control Unit with a pair of antennae, it is important to set up both antennae in exactly the way described below. Any other installation could result in poor operation and non-compliance.

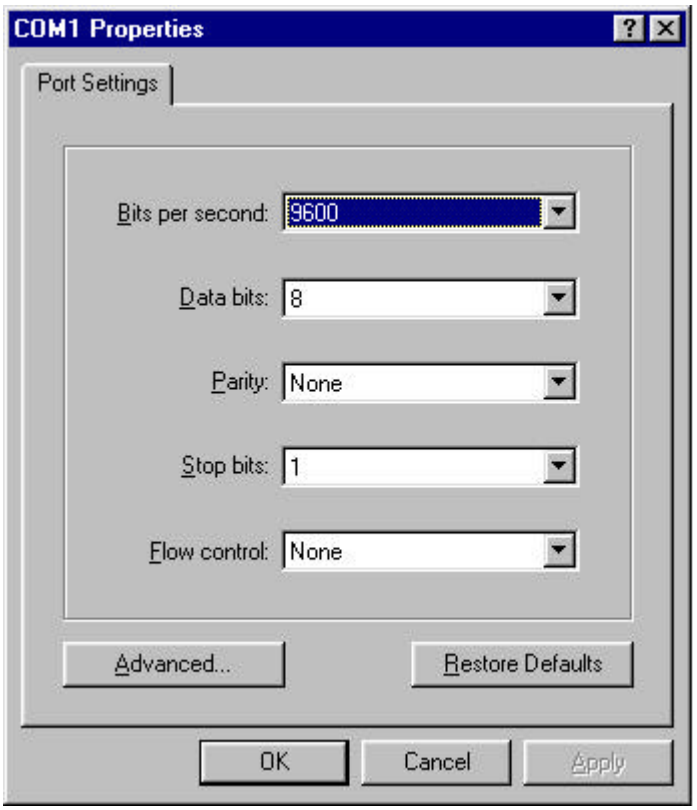
Opposing antennae are effective if noise is a problem with a single antenna.

Positioning of the EDiT Antennae

Position both antennae temporarily inside your race, so that the fronts are facing each other. The spacing between the antennae should be around 700 or 800 mm. It is important that the antennae are exactly opposite from each other and that the tuning is correct.
In order to get the tuning correct:

1. Connect **both** antennae to the EDiT race reader and power it up.

2. Connect the EDiT race reader via the RS232 connection to a PC or Laptop. On the PC run a hyper terminal with following settings:



3. Type **AT** <CR> at the terminal. A list of numbers will be returned:

   AT,154, 158, 161,....

AT, 16, 194

Observe the tuning value in the second row (e.g. 16, 194 in the example). The first number should be 16 ± 8.

If the tuning value is too high, you might have to add a tuning link on the back of an antenna. To do so, switch off power and screw on the provided links. Start with one link and check the tuning again. If the value is still not right add another link to the other antenna.

If the tuning value remains at 0 (or 1), check that the antennae are connected to the reader correctly, are facing each other correctly and that all cables and connectors are undamaged.

Check also the red LED on the reader. If this LED is flashing the battery voltage is low. Use a fully charged battery instead.

Fitting instructions

After you have successfully tuned the antennae, you can now mount them permanently. Follow the fitting instructions given for the single EDiT antenna in this manual. Make sure that the antennae are mounted exact opposite from each other.