

# **USER MANUAL**



**DEU**  
(Data Extending Unit)

**User Manual**

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## Table of Contents

Introduction.....	4
Physical Appearance .....	5
Recommendations for optimum performance .....	6
Extra coverage .....	7
Mounting two DEU s .....	8
Mounting Surfaces .....	9
Mounting Procedure.....	9
FCC Notice.....	11

## *1. Introduction*

The **DEU** (Data Extending Unit) is a versatile combination of both a transmitter and receiver that is designed to extend the range of the **GMU** (Group Monitoring Unit). The DEU's unique design assists in eliminating blind spots (areas where the GMU cannot receive a transmission) between the **Tx** (transmitter) and the GMU.

The **DEU's effectiveness** is its ability to receive weak transmissions that would not otherwise reach the GMU because of poor site locations e.g. toilets, pillars, industrial noise etc, and boost these signals onwards to the GMU. This feat therefore extends the transmission range between the GMU and the Tx and maintains successful communication flow from Tx to GMU. The DEU acts as the bridge between the Tx and the GMU.

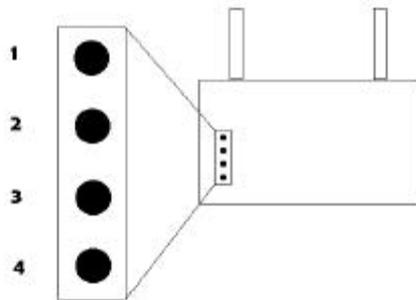
The DEU receives transmissions from any Tx or another DEU (in the case where more than one DEU is used) and transmits the received signal onwards, which in turn can be received by other DEU's or the GMU itself. This maintains that a transmission will successfully reach its destination, the GMU.

The DEU's internal intelligence prevents two DEU's from receiving and transmitting between one another so entering into a loop. This maintains that the true transmission will be received by the GMU.

## 2. *Physical Appearance*

- A **110V AC / 7.5V DC** external power source powers the unit.
- An internal battery offers 4 hours of operation life in the event that external power is removed.
- The faceplate of the **DEU** comprises of 4 **Leds** (light emitting diodes), 2 antennae's for optimum reception and an on/off key switch. The leds are explained as follows appearing on the faceplate from top to bottom:

**(1) Reception** (blinks when receives transmissions)

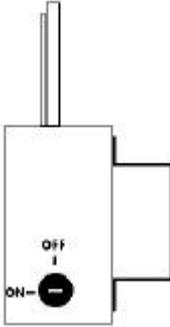


**(2) Transmission** (blinks when transmitting)

**(3) Internal backup battery OK** (steady light)

**(4) External Power OK** (steady light)

- On-Off Key:



**The DEU is switched on and off by turning the On-Off key to the appropriate position, upward for off and sideways for on.**

### *3. Recommendations for optimum performance*

The most important consideration of the **DEU** is its **placement**. It should be mounted in an area, in which the transmission signal is still prominent in order to receive and boost the signal effectively onwards towards the **GMU**.

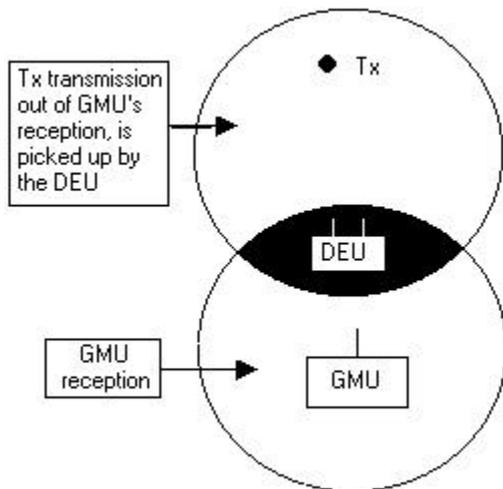
**One)** Try to mount the unit in line of sight of the **GMU**, in the instance where there are many disturbances to the signal strength e.g. walls, obstacles etc.

**Two)** The unit should be mounted **220-250cm** above the floor.

**Three)** Do not mount the **DEU** in a corner.

#### 4. *Extra coverage*

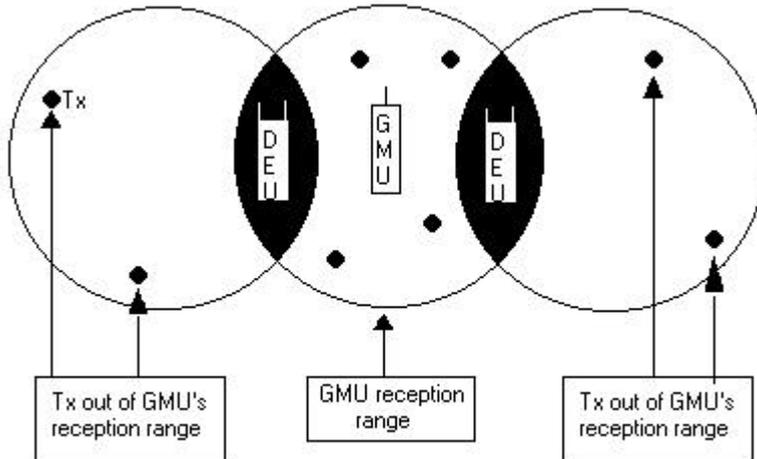
The DEU assists the GMU in its ability to receive transmissions that the GMU may not have received due to site hazards (pillars, toilets etc), thereby providing an extra receptive coverage range for the GMU.



**DEU receives a weak transmission and boosts it forward towards the GMU**

## 5. Mounting two DEU's

- (One) In the event where one DEU does not provide sufficient coverage, a second DEU may be mounted.
- (Two) Attempt to mount the DEU's in line of sight with each other, with the GMU appearing in between them.
- (Three) Try to ensure that each DEU's transmission range is not received by the other DEU.



**Two DEU's receive transmissions from Tx's out of the GMU's reception range and transmits them inwards towards the GMU.**

## 6. *Mounting Surfaces*

Preferably a wall or flat surface with a power outlet within reach (non-metallic surface).

## 7. *Mounting Procedure*

The mounting procedure of the **DEU** is very simple. It dismisses the need for screws, mounting tools etc as well as the responsibility of having to fix the **DEU** in one fixed spot. The mounting procedure offers portability if need be.

There are 3 variables to mounting the **DEU** namely mounting brackets, a black 'velcro' grip and a transparent 'velcro' grip.

### **Mounting brackets**

The backside of the **DEU** has 2 fixed mounting brackets. Stuck permanently on each bracket is a black 'velcro' grip.

### **Black 'velcro' grip**

The black 'velcro' grip offers visible and durable bristles for mating with the transparent 'velcro' grip

### **Transparent 'velcro' grip**

The transparent 'velcro' has a dual function. One side has strong bristles used to fit snugly into the bristles of the black 'velcro'.

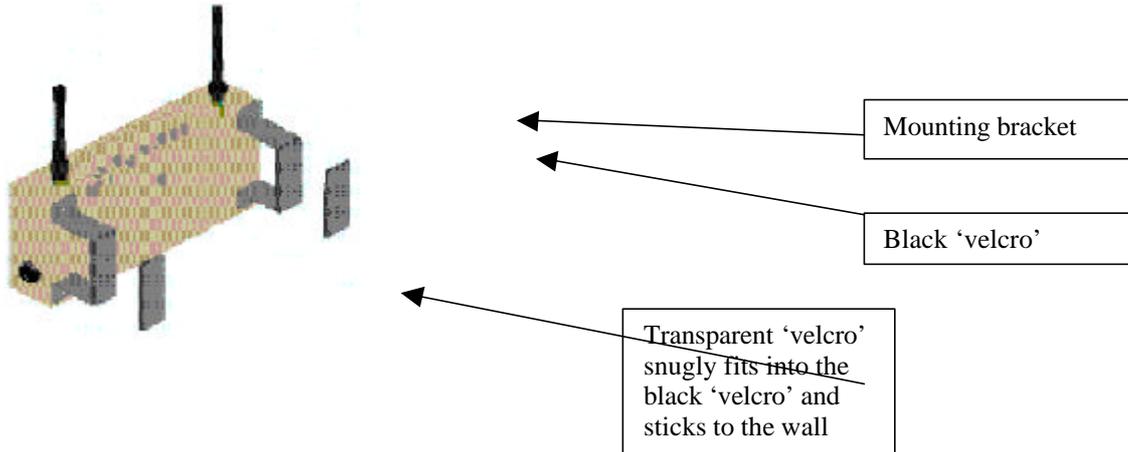
The other side acts like a sticker (to stick the unit physically to the wall).

When a suitable mounting place is found, peel off the strips allowing the sticky side to grip and stick to the wall. The **DEU** is now firmly mounted.

### Moving the DEU to another location

By relieving the grip between the bristles of both 'velcro's, the **DEU** can now be freed to be mounted somewhere else.

Turn the **DEU** onto its faceplate with the brackets facing upwards. Using a spare transparent 'velcro' firmly press the bristles of the two 'velcro's' together. By peeling off the sticky end of the transparent 'velcro', the **DEU** may be mounted else-where.



**Schematic view of the mounting procedure**

## ***FCC Notice***

This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This device generates, uses, and can radiate radio frequency energy and, if installed and used in accordance with the instruction, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

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

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

**CAUTION:** Any changes or modifications to this equipment not expressly approved by Elmo Tech Ltd could void the user's authority to operate the equipment.