

**REPEATER**  
WITH TRINARY DISPLAY  
MODULE

**INSTALLATION MANUAL**

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PLEASE READ CAREFULLY BEFORE PROCEEDING WITH  
INSTALLATION

CUSTOMER:

SITE:

ANOTHER INOVATIVE QUALITY PRODUCT FROM BARTRONICS

## PART 1 SETTING UP

Make sure you have all the necessary tools, including all the necessary cabling (3-4 core 0.2mm wire for minimum wiring), concrete drills, screws, two-way tape, or anything suitable to mount the repeater. The repeater would need to be mounted as high as possible so a high enough ladder would be recommended. Check the area to be installed for necessary space for a power supply (220/13.8v) or some other forms of power supply e.g. Solar panel and battery charger. A reasonable technical knowledge is also required to wire and program the repeater receiver/transmitter.

### LIMITATIONS

A maximum of **two hundred and forty two** (242) individual transmitters can be programmed to be repeated through a **single repeater**. When expanding beyond the maximum number of programmed codes, an additional repeater will have to be installed. If installing an additional repeater the new repeater must be fitted at least 2-meters apart from the older installation.

## PART 2 SETTING SITE CODE

To set the site code you can code any of the following transmitters, **Hand held transmitters, long range transmitters, clock point transmitters, etc.** Setting the site code is set only on dipswitches **1-4 (do not leave as supplied from factory)**. Make sure **all dipswitches** on the transmitters have the **same setting for dipswitches 1-4**. (This applies to any new installation when any transmitter/s needs to be repeated over a long distance (+1km) to any receiver).

### Pro-guard series

It won't be necessary to re-code the site code or point code of clock point transmitters, if a Pro-guard system is already installed. If the repeater is to support the Pro-guard point transmitters only then leave the existing settings used. When programming additional Hand held transmitters e.g. (single panic transmitter) to work with the repeater and a Pro-guard system, make sure the site codes of the Hand held transmitters is the same as the clock point transmitters site codes on dipswitches 1-5.

Note: When ordering any repeater you must specify what equipment will be used for the repeater, E.g. Pro-guard type or normal type transmitters.

## PART 9 TESTING THE REPEATER

Once all wiring, programming of site codes and all individual codes have been entered, you are now ready to test the repeater. Simply press any transmitter already programmed and the L.E.D. display will show you the individual code of the transmitter. This code will then be repeated to your additional wired-up receiver. When the code is repeated the status L.E.D. comes on and the internal relay will pull in for ½ second. If any other transmitter/s is pressed that is also already programmed the repeater will store this code display the code and repeat the code as well. If any transmitter fails to repeat, then either the repeater is jammed by other radio frequencies, another transmitter is transmitting continuously. These faults will show up on the Field strength, L.E.D. by flashing rapidly. If no interference shows, then transmitter code was not programmed into the repeater correctly.

### Defaults of repeater settings.

(These settings should be kept as default)

There is a 10-second delay before the same code will be repeated if the same transmitter is activated continuously. This built in setting is to prevent lock-ups if two or more repeaters are used in the same area.

To set the repeaters to repeat if any transmitter is activated continuously follow these steps below: (only if using one repeater)

- ◆ Remove the positive supply or negative supply to the repeater.
- ◆ Keep your finger on the “**mode**” button.
- ◆ Re-apply the power supply while still keeping your finger on the “**mode**” button and then release the button after 2-seconds or so.
- ◆ The repeater is now programmed to repeat continuously once any pre-programmed transmitter is activated continuously.

Any questions or queries please phone:  
Bartronics (011) 624 2637

## L.E.D DISPLAY

This three-digit display will display the code of the pre-programmed transmitter. A list of all the codes that will be displayed is available from Bartronics on request.

## PART 6 PROGRAMMING THE SITE CODE

With the repeater now wired up and you have selected your site code and the individual code, you need to program these codes into the repeaters memory.

- ◆ With the repeater in front of you and the transmitter in your hand you need to press **both** the “**insert** and **remove**” buttons in on the repeater, then press the transmitter button to teach the repeater the site code (dipswitches 1-4). If ever you reprogram the site code with a different site code the already programmed site code will be over written by the new code.

## PART 7 PROGRAMMING THE INDIVIDUAL CODE

Now that the repeater knows the site code, you need to program the individual code (dipswitches 5-9).

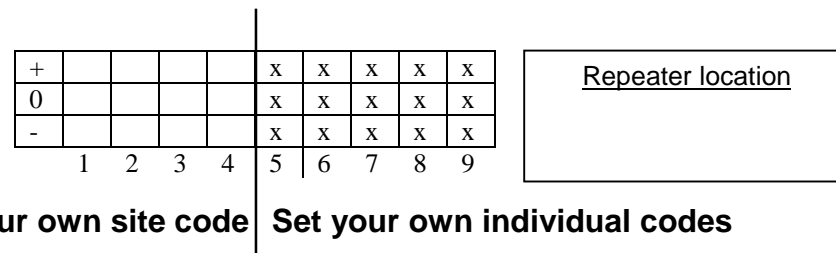
- ◆ Press the “**insert**” button and then press the transmitter button to teach the code to the repeater. The L.E.D display will acknowledge this code. To teach new transmitters (new individual codes) to the repeater you only have to repeat part 7, making sure the site code is the same through out all the transmitters that will be programmed.

## PART 8 REMOVING INDIVIDUAL CODES

When any transmitter individual code is to be removed from the repeater or the wrong code was programmed, you will need the transmitter to be removed and program as follows:

- ◆ Press the “**remove**” button and then press the transmitter to remove that code from the repeater. The L.E.D display will acknowledge the code removed.

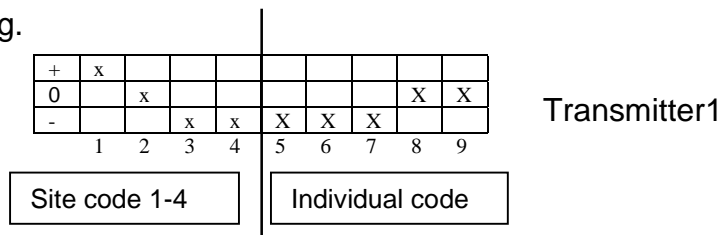
Use the diagram below to record the site code and location where the repeater is fitted. You will need this info for future reference when programming new transmitters through the repeater.



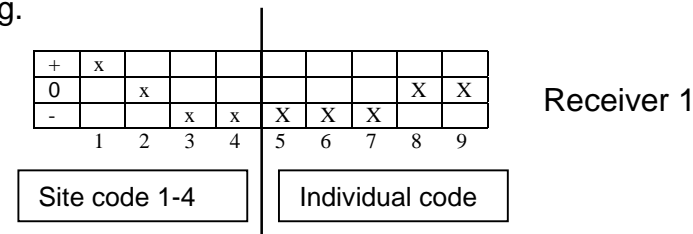
## PART 3 SETTING INDIVIDUAL CODES.

Before any type of transmitter can be programmed to repeat over any long distance/s, individualised coding per transmitter must be done, as one would normally code a transmitter to a receiver. Any codes may be chosen for dipswitches 5-9. Make sure the receiver on the other side of the repeater also has the same code as the transmitter.

e.g.



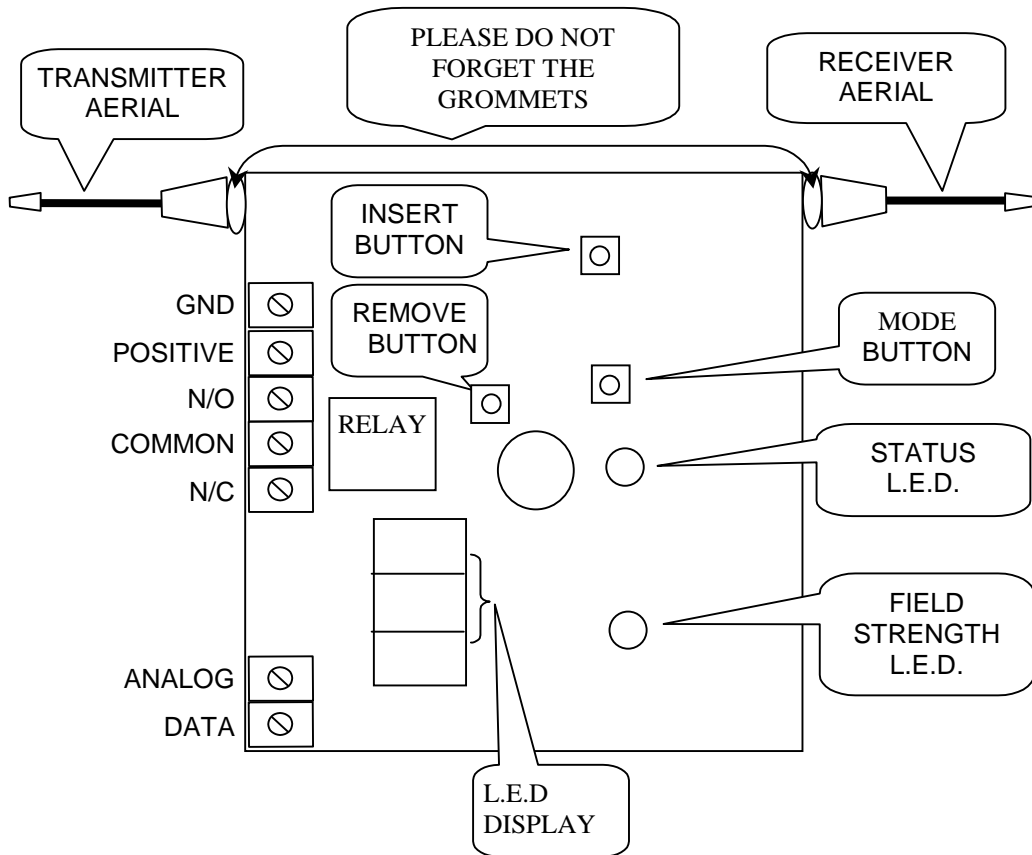
e.g.



**NOTE:** The site code for any transmitter must always stay the same for the repeater you want to program. If you program any other site code into the repeater other than the one previously used you will overwrite all the other site codes, from the transmitters already programmed in the repeater to repeat.

## PART 4 INSTALLATION OF REPEATER

Installing the repeater must be done as high as possible when a long distance for repeating to another repeater/receiver is required. The repeater must also be protected from nature's elements and not within reach of public or unauthorised persons. When mounting the repeater remember to keep the aerials in a vertical position for maximum range. To wire up the repeater a minimum of two wires is required; namely positive and negative. The power supply to the repeater must not exceed 14DC volts. A power source from a Solar panel with a battery and charger should be sufficient enough to power the repeater in places where there is no 220AC supply. The following is a detailed drawing of the repeater:



## PART 5 WIRING DIAGRAM

### GND

Connect this terminal to your negative or ground supply from your power source.

### POSITIVE

Connect this terminal to your positive or +12volt supply from your power source. The positive supply must not exceed 14 volts. And must be protected by a 1amp fuse.

### N/O

This terminal is connected to the n/o point on the internal relay. The relay contacts have a maximum switch over current of 2amps.

### COM

This terminal is connected to the common point of the internal relay. The relay contacts have a maximum switch over current of 2amps.

### N/C

This terminal is connected to the n/c point on the internal relay. The relay contacts have a maximum switch over current of 2amps.

### ANALOG

This terminal is for factory use only!

### DATA

This terminal would connect to a Digital receiver or Pro-guard data in signal. This terminal does not need a connection for repeating purposes.

### INSERT, REMOVE AND MODE BUTTONS

These buttons are for programming site codes, programming individual codes and also for removing codes from the repeater. (See part 6)

### STATUS L.E.D.

This L.E.D will only come on when the system acknowledges any pre-programmed code and when the internal relay activates.

### FIELD STRENGTH L.E.D

This L.E.D comes on when the repeater receiver sees any transmission. This L.E.D always comes on whether a transmitter is pre-programmed or not.