# CANTALOUPE SYSTEMS
## Getting started with seed
## February 2005

# CANTALOUPE SYSTEMS
## SEED DEVICE INSTALLATION INSTRUCTIONS

## Parts

**DEVICE & ANTENNA**
1 **seed** device
1 Antenna

**HARDWARE**
1 large o-ring
4 small o-rings
2 washers
2 nuts

**CABLES**
1 MDB Y tap cable
1 DEX cable (3 pronged) with phono plug

## Overview of steps

1. Turn off machine
2. Mount the device
3. Mount the antenna
4. Attach cabling
5. Turn on machine
6. Call Cantaloupe Sytems to verify installation

## Mounting the device



1. Remove the backing from the Velcro patch on the back of the seed device.

2. Mount the seed device in the machine an example is illustrated in the diagram to the left. The seed device should be easily accessible.

3. Plug the phono plug end of the DEX cable into the DEX phono jack of the machine.

4. Tap the male and female connectors of the MDB Y tap cable into the existing MDB cable.

Note: Ensure all the wiring is away from any moving parts of the machine. We recommend using cable ties to route the wires in an organized fashion.
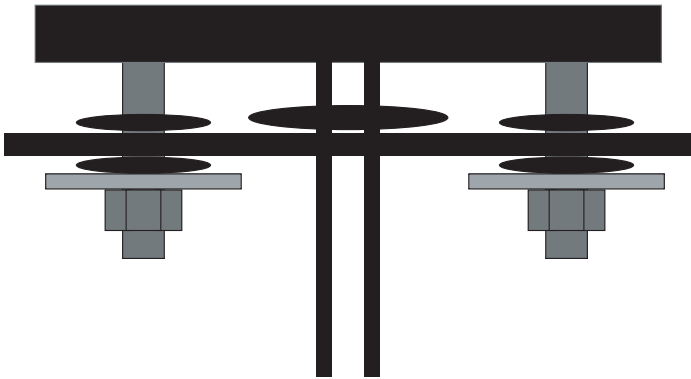
## Mounting the antenna

1.  Position the antenna on top of the machine.  We recommend mounting it on the part of the machine where the vending machine controller is attached to.  We recommend putting it as center and far forward as possible.  The example to the left is mounted on the door.

2.  Using a 1/4" drill bit, drill two holes downwards through the door to accomodate the two mounting bolts protruding from the antenna base.

3.  Drill a larger hole inbetween and in line with the 1/4" holes to accomodate the two antenna cables.  Note:  This center hole must be large enough to be able to thread both cables and their connectors through the door.

Mount the antenna to the machine door as illustrated in the diagram to the left:

4.  Place a small o-ring around each bolt, and the large o-ring around the two antenna wires.

5.  Mount the antenna on the door by threading the two bolts and the two antenna wires through the door.  There should now be o-rings sandwiched between the bottom of the antenna and the top of the machine.

6.  Place a small o-ring and then a washer on each bolt, and then screw in each bolt with a nut.  Make sure the antenna is tightened down securely.

## Finishing up
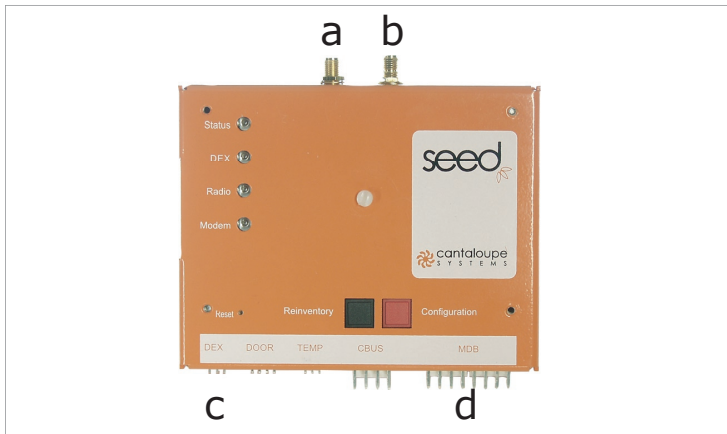
Plug in the cables to the seed device.  Refer to the diagram on the left for reference.

1.  Plug antenna cables in at (a) and (b).  It does not matter which cable is plugged in to a or b.

2.  Plug DEX cable into the device at (c)

3.  Plug MDB cable into the device at (d)

4.  Turn on the machine

5.  Close the machine door

6.  Call Cantaloupe Systems at 510.647.3785 to verify the installation.

# CANTALOUPE SYSTEMS
## SEED DEVICE LED INDICATOR GUIDE

During or after an installation, the LED indicator lights will assist you in diagnosing the status of the device. There are two modes of the device - its **resting state**, and its **configuration state**. The lights will differ in meaning according to what state the device is in.

## HOW TO USE THIS GUIDE

There are two tables, one for resting state and configuration state. Each table will describe the device's state according to what the LED indicators are doing. The symbols in the table represent the following:

●     Solid light
◉     Blinking light
○     Off

## RESTING STATE

The device is perpetually in resting state until a button is pressed.

| | Status | DEX | Radio | Modem |
|---|---|---|---|---|
| ● | Device on | Last DEX successful | n/a | Able to connect to network |
| ◉ | Battery power | DEXing machine | n/a | Modem problem |
| ○ | Device off | Last DEX unsuccessful | n/a | Unable to connect to network |

## CONFIGURATION STATE

Hold the Config button to view the configuration state. Pressing and holding the button any longer than 10 seconds will force the device to DEX and report its data to Cantaloupe Systems (otherwise known as "forcing a DEX").

| | Status | DEX | Radio | Modem |
|---|---|---|---|---|
| ● | n/a | Last DEX successful | n/a | Connected to network |
| ◉ | Door open | DEXing machine | n/a | Connecting/dialing to network |
| ○ | Door closed | Last DEX unsuccessful | n/a | Disconnected from network |

# CANTALOUPE SYSTEMS
## SEED DOOR ADAPTER GUIDE

**To seed device**
4 pin connector

**To VMC**
Male spade
connector

**To door switch**
Female spade
connector
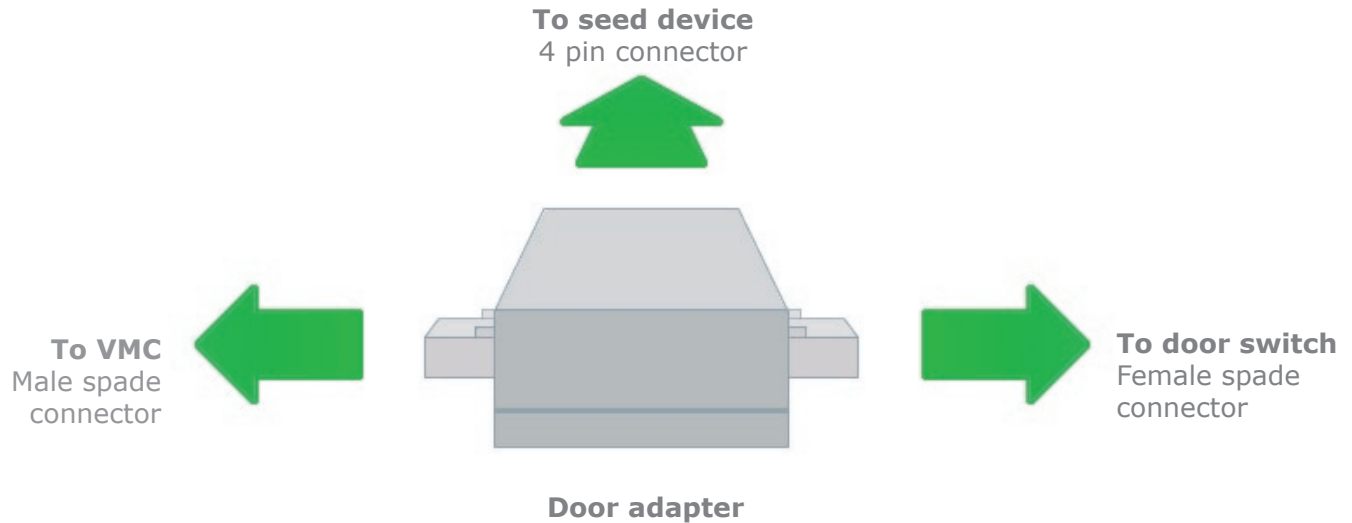
**Door adapter**

## INSTALLING THE DOOR ADAPTER

Before attempting to install the adapter, please ensure that the door switch is in full working order.  To install the adapter, first refer to the diagram above.  Note that the orientation of the adapter is crucial to indicate which cables go to which locations.  Note that the smaller section of the adapter is on the bottom, which means the male spade connectors on the left go to the VMC, the female spade connectors on the right go to the door switch, and the 4 pin connector goes to the seed device.

## 1  CONNECT THE DOOR ADAPTER TO THE VMC

Unplug the wires from the door switch.   In the case of a three-pronged switch, take note of which tabs were originally connected.  Plug the male spade connectors from the door adapter into the female spade connectors attached to the wires coming from the VMC.  Color does not matter.

If you cannot locate any connectors, you will need to splice the wire.  Find the wires leading from the VMC to the door switch, and splice the male spade connector wires into these wires by cutting off the spade connectors (please remember that color does not matter).  Strip the wires from the VMC and the wire from the left side of door adapter, and use wire nuts to connect the wires.

## 2  CONNECT THE DOOR ADAPTER TO THE DOOR SWITCH

Plug the female spade connectors into the door switch, making sure to plug them into the same tabs as you noted in step (1).  Again, please remember that color does not matter.  If you need to splice, take the other side of the wires from step (1) (leading to the door switch), and then attach them to the wires originating from the right side of the door adapter, (labeled "To door switch" in the diagram).

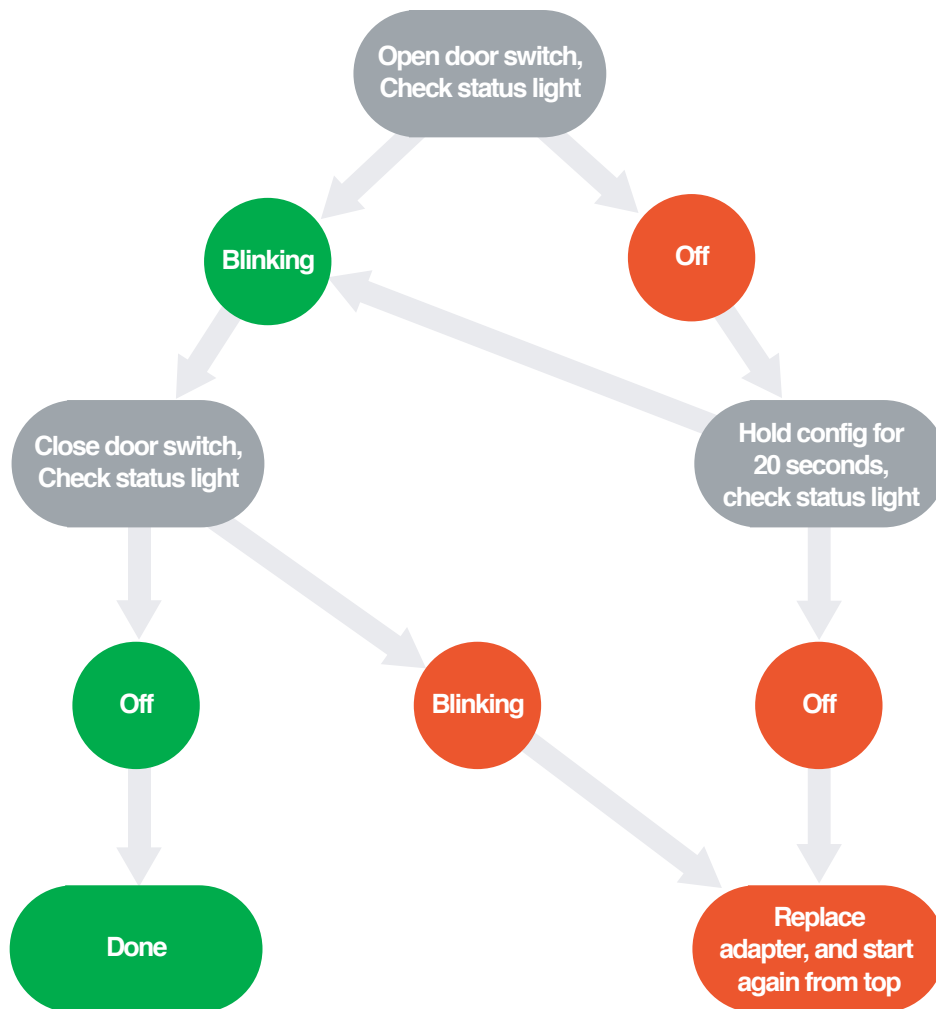## 3  CONNECT THE DOOR ADAPTER TO THE SEED DEVICE

Plug in the 4 pin connector to the seed device at the location indicated by the "DOOR" label on the seed device.

## 4 ENSURE DOOR SWITCH IS FUNCTIONING NORMALLY

Before configuring the door adapter, please ensure again that the door switch on the machine is in full working order, otherwise the adapter will not function properly. Once the door switch has been verified to work, continue onto the next step. If it is not functioning properly, replace the door adapter and repeat steps 1 through 3. If it does not work after that, contact Cantaloupe.

## 5 CONFIGURE THE DOOR ADAPTER

Once the door adapter has been installed into the vending machine and connected to the device, you will now have to ensure the door is being sensed properly. Follow the guide below.

```
                  ┌──────────────────┐
                  │ Open door switch,│
                  │ Check status light│
                  └──────────────────┘
                    ╱              ╲
              (Blinking)          (Off)
                  │                  │
      ┌──────────────────┐   ┌──────────────────┐
      │ Close door switch,│   │ Hold config for │
      │ Check status light│   │ 20 seconds,     │
      └──────────────────┘   │ check status light│
                  │          └──────────────────┘
            (Off)  (Blinking)       (Off)
              │        │              │
          ┌──────┐   → Blinking   → Replace
          │ Done │                  adapter, and start
          └──────┘                  again from top
```

## HOW TO USE THIS GUIDE

The circular states are the device lights (blinking or off), whereas the oval states are actions to perform. Follow the arrows to new states. Once you are "Done" the door adapter has been properly installed. If you reach the "Replace adapter" state, attempt to retry the process using a replacement adapter. If that fails, contact Cantaloupe Systems.
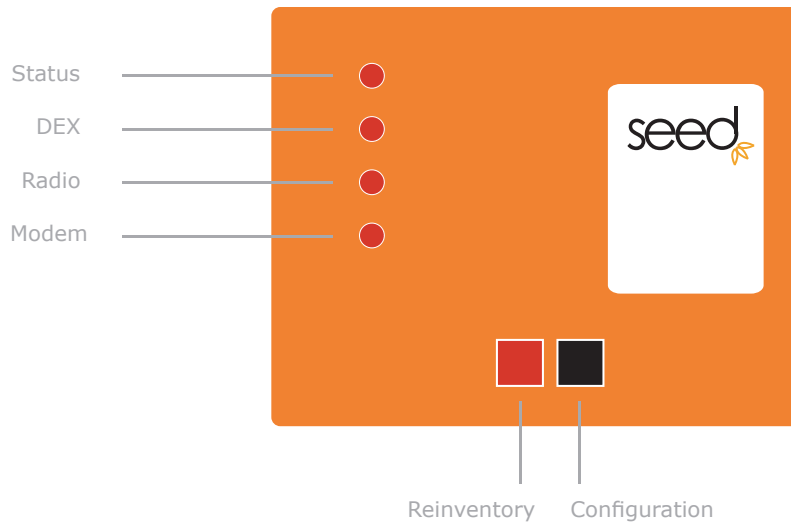
## CONTACTING CANTALOUPE

Office: 510.647.3785
Fax:     510.295.2581

# CANTALOUPE SYSTEMS
## SEED DEVICE GUIDE

Status ———————— ●

DEX ———————— ●

Radio ———————— ●

Modem ———————— ●

seed

Reinventory    Configuration

This guide will teach you how to:
- Reinventory the machine
- Force full DEX files

## REINVENTORY THE MACHINE
To reinventory, or "restock" the machine, simply press the red "reinventory" button once.  The lights will flash, indicating it's been restocked.  If you press the restock button more than once, or if you forget to press the reinventory button, there are tools on the seed website to fix these issues.  *It is important that the reinventory button is pressed when the machine is restocked*, otherwise the inventory levels on the website will not be accurate.

## FORCE FULL DEX FILE
In rare instances, Cantaloupe Systems may ask you to "force a DEX file."  To accomplish this, hold the Configuration button for 10 seconds.  The lights will flash in a sequence to indicate the command has been completed.  Forcing the full DEX file is sometimes necessary to update the system.

# FCC/IC Guidelines

This device contains:
- Siemens GSM module model# MC56 covered under FCC ID: QIPM56 & IC ID:267W-M56
- Maxstream 900MHz ISM band radio module model#: 9XSTREAM covered under FCC ID:OUR9XSTREAM & IC ID: 4214A-9XSTREAM

NOTE: GSM and 900MHz ISM Radios cannot simultaneously transmit.

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

Modifications not expressly approved by Cantaloupe Systems, Inc. could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC/IC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment 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 try 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.

## Safety Information
## Exposure to Radio Frequency Radiation

The radiated output power of the this internal wireless radio is far below the FCC /IC radio frequency exposure limits. Nevertheless, the wireless radio shall be used in such a manner that the radio is 20 cm or further from the human body. The internal wireless radio operates within guidelines found in radio frequency safety standards and recommendations, which reflect the consensus of the scientific community. Cantaloupe Systems, Inc. therefore believes the internal wireless radio is safe for use by consumers. The level of energy emitted is far less than the electromagnetic energy emitted by wireless devices such as mobile phones. However, the use of wireless radios may be restricted in some situations or environments, such as aboard airplanes. If you are unsure of restrictions, you are encouraged to ask for authorization before turning on the wireless radio.