

Trouble Shooting

Symptoms:

Gate Access Control Computer connected to the Facility Computer

"Unable to read from controller (CTS lost)" error message on computer screen

Do Power checks

Do controller (computer mode) checks

A code entered into the keypad at the gate does not appear on the Activity Screen

Do Power checks

Do Keypad checks

A code entered into the keypad at the gate does appear on the Activity Screen, but gate fails to open

Does Customer name appear on right of screen

Do gate checks

"Access Denied Because" message appears on the right of Activity screen

Do "Access Denied Because" message checks

Facility Computer fails to print to Printer.

Do Printer checks

Gate opens when a vehicle is not sensed, or gate fails to open when a vehicle is sensed

Do Vehicle Sense checks

The Gate will not open/close.

Do Gate checks

Gate Access Control Computer connected directly to a printer

Access Control Computer fails to communicate with printer (manual mode only).

Keypad on controller does not beep when a key is pressed.

Do Power checks

Do controller (manual mode) checks

Access Control Computer (controller) beeps 5 times, after a command is entered

into the controller's keypad (manual mode only).

Do controller (manual mode) checks

Do Printer checks.

Check list:

1) Power checks (refer to FIG 3.7, Junction Box Schematic).

1a) Power On Indicator Light above keypad in controller not lit.

Make sure AC/DC power adapter is plugged into wall.

Check voltage from AC/DC power adapter at the Junction box (S/B 9 to 14 volts DC).

Replace AC/DC power adapter.

Check voltage at both ends of 3/4-amp fuse in controller (S/B 9 to 14 volts DC).

Replace fuse if defective.

Replace controller.

1b) No voltage or low voltage at keypads.

Make sure AC/DC power adapter is plugged into wall.

Check voltage from AC/DC power adapter to Junction box (S/B 9 to 14 volts DC).

Check voltage at both ends of 1/4 amp fuse in Junction box (S/B 9 to 14 volts DC).

Replace fuse if defective.

Check voltage at keypads.

IMPORTANT: The voltage between the red (+) and black (-) leads measured at the keypad must be no less than +8.6 volts DC for the keypad to operate properly.

2) Key Pad checks.

2a) Keypad does not beep when a key is pressed.

Remove the receptacle of the cable from the junction box to the controller at the controller headers at J1 for gate 1, J2 for gate 2, J3 for gate 3, or J4 for gate 4 (ref: Figure 3.8).

If keypad still does not beep when a key is pressed.

Replace keypad

If keypad beeps when a key is pressed.

Replace MAX238 interface IC at IC5 for gate 1 and 2, and IC6 for gates 3 and 4.

Replace MAX232 interface IC at IC5a for gates 1 or IC5b for gate 2 or IC6a for gates 3 or IC6b for gate 4.

Replace controller.

2b) Keypad beeps when a key is pressed, but does not communicate to the controller.

Display the Access History.

Press * 0 # # at the keypad.

If the keypad fails to beep on the 2nd # key press, substitute a good keypad (reverse in/out keypad).

If keypad beeps on the 2nd # key press.

Replace original keypad.

If keypad still fails to beep on the 2nd # key press.

Replace MAX238 interface IC at IC5 for gate 1 and 2, and IC6 for gates 3 and 4.

Replace MAX232 interface IC at IC5a for gates 1 or IC5b for gate 2 or IC6a for gates 3 or IC6b for gate 4.

Replace controller.

IMPORTANT: To avoid down time when the interface IC or another controller is not available, simply move the 12 pin AMP receptacle at J1, J2, J3, or J4 from a defective gate to a working gate. If gate 1 is defective move to gate 3 since gate 1 and 2 share the same interface IC, both could have been damaged at the same time. Even though this may correct the problem, you must replace the interface IC or the entire controller. If you don't correct the original problem, you may have intermittent keypad problems, or cause excessive down time if a useable spare channel is needed in the future.

2c) Not all keys beep when pressed.

Replace keypad.

2d) Press and hold any key, if there is not a beep every 3 to 4 seconds.

Replace keypad.

Figure 11.1 shows the voltage readings that should be present at the interface between the controller, keypads and facility computer. It should be noticed that the green and white wires have been disconnected at the Junction Box. Usually when communications between the controller and keypad is lost, one of the voltages will not be correct. Either the driving IC is not supplying the proper voltage, or the receiving IC is forcing the driving voltage to be something other than expected. By determining which voltage is incorrect, you can usually determine whether the controller or keypad is defective.

Additional keypad tests - The following tests will work on newer keypads with serial numbers 41488 and higher. The later version keypads have built in self tests. These self tests will produce beeps/chirps at different intervals illustrating different problems.

If the keypad is producing the following abnormal sound . . .

Test 1. The keypad beeps twice, pauses for 2 seconds, then repeats. This means that the green wire is being held high (positive voltage between the green and

black wires).

Disconnect green wire from keypad, if chirping continues.

Keypad defective.

If chirping stops.

Check/replace MAX-232/238 interface IC's.

Replace controller.

Test 2. Press * 0 # at the keypad, if the keypad chirps twice after a 2 second wait.

Controller failed to respond to keypad's request to send data

Check/replace MAX-232/238 interface IC's.

Replace controller.

Test 3. Press * 0 # at the keypad, the keypad should beep when each key is pressed. If the keypad also chirps immediately after the beep from the # key press, then the keypad is sensing that the white wire is being held high (positive voltage between the white and black wires).

Disconnect white wire and repeat the test.

If the keypad chirps once after the beep from the # key press.

Replace keypad.

If keypad now responds as in test number 2, then.

Check/replace MAX-232/238 interface IC's.

Replace controller.

3) Access Control Computer checks (computer mode) controller connected to facility computer.

3a) Blank screen with "Unable to write to Controller (CTS lost)" message.

Make sure cable from controller to facility computer is secure.

Make sure OUTPUT TO switch is in "Computer" position (UP).

"OUTPUT TO" slide switch (S5 located on printed circuit board inside the controller, to the right of the keypad)

Unplug, then plug in the AC/DC power adapter (This does a Power on Reset).

If possible, connect the Access Control Computer directly to a Serial Printer, and perform controller manual mode tests.

If controller can communicate to Printer.

Replace Serial Card in facility computer.

If controller can not communicate to Printer.

Check IC30 (MAX232 or TSC232) voltages (ref Fig 11.1).

Replace IC30.

Replace controller.

3b) Blank screen with "No serial card found" message.

The Demco system will expect a serial communications card configured for COM 3, IRQ 4. The system can be redirected by a text file called DEMCO.INI to a different port. If the file DEMCO.INI contains COMM-PORT=X, Then the software will be redirected to COM X.

Type DEMCO.INI to the screen, if there is no line COMM-PORT=X, then the software is looking for COM 3, IRQ 4. If this line is in the file, the software will look for COM X.

Set Serial card to COM 3 or COM X.

Serial card defective or missing.

Replace Serial card.

3c) When booting, the computer hangs with the message: "initializing modem ..." on the screen.

COM2 selected on serial card.

Set Serial card to COM3.

3d) When trying to boot floppy disk but hard disk boots instead.

IRQ on serial card incorrectly set to IRQ5.

Set Serial card to IRQ4.

3e) At Activity Screen, the message "Unable to read from Controller." is displayed.

Serial card IRQ set incorrectly.

Set Serial card to IRQ4

4) Access Control Computer (manual mode) checks. Controller connected to serial printer, and "OUTPUT TO" slide switch (SW5) in down position (output to printer)

4a) Keypad on controller does not beep when a key is pressed.

"OUTPUT TO" switch not in "Printer" position.

Unplug, then plug in the AC/DC power adapter (This does a Power on Reset).

Replace controller.

4b) Controller beeps 5 times after entering a command (* "COMMAND NUMBER" #).

Make sure cable from controller to printer is secure.

Do Printer checks.

Unplug, then plug in the AC/DC power adapter (This does a Power on Reset).

Replace controller.

5) Gate checks.

5a) Gate will not open (refer to FIG 11.2, Relay check).

5b) When normally open (N.O.) to common (COM.) wires are shorted at the Junction Box relay output (TS3), the gate should open.

Gate operator malfunction.

5c) When the blue and orange wires of TS4 are shorted, the relay in the junction box should energize and the gate should open.

Check power at Junction Box.

Junction Box relay defective.

5d) When Gate Override Switch is depressed, the light on the switch should light, and the gate should open.

If the gate fails to open, replace Gate Override Switch.

5e) When the photo relay (IC1 to IC4) pin 5 is jumpered to pin 6 the gate should open.

Check continuity of Controller to Junction box cable (pins 11 and 12 of AMP plug at J1, or J2, or J3, or J4) (orange and blue wires).

Note: Older controllers have reed relays, shorting pins 1 or 14 to pin 7 or 8 should open the gate.

5f) When commanded by controller.

Photo/reed relays (IC1, IC3, IC3 or IC4) in controller is defective.
Controller is defective.

5g) Gate will not close (refer to FIG 11.2).

5h) When normally open (N.O.) to common (COM) wires are opened at the Junction Box relay output (TS3).

Gate operator malfunction.

5i) When the blue or orange wire of TS4 is removed.

Junction Box relay defective.

5j) When the blue and orange wires of TS4 are reconnected.

Gate override switch defective.

Photo relays (IC1, IC2, IC3, or IC4) in controller defective.

Replace controller.

6) Vehicle Sense checks.

6a) The gate opens without a vehicle present.

A voltage to the keypad light is being continuously supplied by the vehicle sensing system without a vehicle being present (refer to Figure 3.9).

Vehicle Sense system malfunctioning.

IC23 switch 1 is in the "off" position.

6b) The gate will not open with a vehicle present. The message "there was no vehicle sensed" is displayed on the Activity Screen.

If 12 to 24 AC or DC is not present at keypad light when vehicle is in front of gate.

Check Vehicle Sense Relay in gate operator (refer to Figure 3.9).

Replace keypad.

7) Printer checks.

Check printer to controller cable.

Printer must be turned "ON".

Printer must be "ON LINE" and/or "SELECTED".

Printer defective.

8) "Access Denied Because" message checks

"of a holiday shutdown"

The controller is intentionally inhibiting the gate from opening because of a holiday shutdown (See Clock options in chapter 8 for more details)
"there was no vehicle sensed"

There was not a vehicle at the gate or the Vehicle Sense system has failed (Do Vehicle Sense checks)

"the Time Zone limits were exceeded"

The time of day that the access code was entered into the keypad was outside the limits set by option 7 "MODIFY TIME ZONES" (see chapter 8 for more details)

"there were not enough digits in code"

The access code must be 4, 5, 6, or 7 digits long

"the Code contained more than 7 digits"

The customer entered more than 7 digits into the keypad

"the Space Code does not exist"

The code entered at the keypad does not match any code stored in the controller (use option 4 "Examine All Access Codes" from the MAIN OPTIONS MENU to display all codes)

"the Customer Code does not exist"

The last 2 digits of the code entered at the keypad does not match any Space Code stored in the controller (use option 4 "Examine All Access Codes" from the MAIN OPTIONS MENU to display all codes)

"access is temporarily inhibited"

Means that an access code with a valid Space Code but an invalid Customer Code has been entered more than three times. The first and second time an access code with the same valid Space Code but an invalid Customer Code was entered, the "ACCESS DENIED BECAUSE" message was "the Customer Code does not exist". The third and subsequent entries of the same valid Space Code will be an invalid Customer Code will produce the "access is temporarily inhibited" message including a valid Customer Code for that Space Code. This condition will continue to lock out any access code associate with this space for 5 minutes since the last access code for that space was entered. This is a designed in security feature.

