TriMark®
500 Bailey Avenue
P.O. Box 350
New Hampton, Iowa 50659 U.S.A.
Tel: 641-394-3188
Fax: 641-394-2392
www.trimarkcorp.com

e-*ASK*

Electronic **A**ccess **S**ecurity **K**eyless-entry

e-*ASK* Keyless-entry System Installation & Instructions

(UM26 ~ 24324-02)

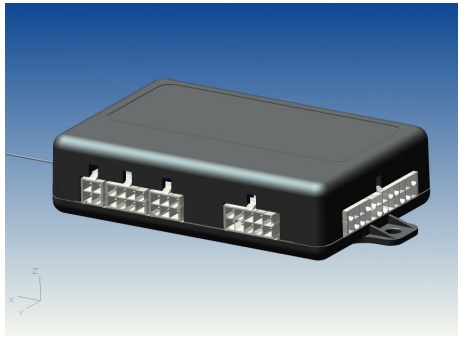
CAN Multiplex System

Rev. B
9/08

Table of Contents

Introduction

This manual provides the necessary information for the proper installation and use of Tri*Mark*'s CAN **e-*ASK*** system including vehicle module and keypad.



Standard e-*FOB* Operation and Features

Button	Function
Lock	Locks doors and arms security system.
Unlock	Unlocks doors and disarms security system. Also activates the porch light.
Panic	Activates panic mode when pressed and held for 2 seconds.
*** Auxiliary Button**	Auxiliary output. Possible assignment include: interior/exterior lighting, awning extension/retraction, gas cap release, hood release, etc.

Cargo e-*FOB* Operation and Features

Button	Function
Entry Lock	Locks entry door and arms security system.
Entry Unlock	Unlocks entry door and disarms security system. Also activates the porch light.
Cargo Lock	Locks cargo doors and arms security system.
Cargo Unlock	Unlocks cargo doors and disarms security system. Also activates compartment lights.

Note:

- The FOB transmitters and receiver are shipped programmed. After making all necessary wiring connections (see Appendix B, page II for wiring information), the e-*FOB* system will function as shown.
- Only the unlocking function of the e-*FOB* remains while the engine is running—other functions are deactivated.

Non-doorbell e-*PAD* Operation and Features

The e-*PAD* is shipped with default authority and access codes. Unless the OEM or dealer has changed default codes, the authority and access codes are as follows:

Access code:

Digit 1	Digit 2	Digit 3	Digit 4	Digit 5
1/2	3/4	5/6	7/8	9/0

Authority code:

Digit 1	Digit 2	Digit 3	Digit 4	Digit 5
7/8	7/8	7/8	7/8	7/8

Locking doors with keypad

Press and hold down the (1 / 2) or (1) button for 1-2 seconds. An access code is not needed to lock the doors.

Secure Operations

Entering a valid 5-digit access code enables secure operations. After entering an access code, the keypad is enabled for 5 seconds and a sixth button press initiates a secure operation, such as unlocking the doors.

Notes:

- The authority code does not allow for secure operations. It is only used to assign access codes (see page 14 for information on setting access codes).
- If an unassigned button or no button is pressed while the system is enabled, the keypad reverts back to disabled state.
- The secure keypad operations are set depending on the system configuration.

e-*ASK* CAN DIP Switch Configuration –

- DIP switches 1-3:

The settings of DIP switches 1-3 define CAN address of the IO RF receiver module. The setting a unique address is required if multiple modules are used on CAN network. If only 1 module is used on network then all DIP switches should be set to default ON position.

- DIP Switch 1: On
- DIP Switch 2: On
- DIP Switch 3: On

- DIP switches 4-6:

The setting of DIP switches 4-6 define configuration of the IO RF receiver module. Different configurations of provide different functionality for keypad and interior switches. Most customers use default configuration D setting. See configuration setting definitions below.

- Keypad Dip Switch Setting Configurations:

The following operations are dependent on system configuration. Entering a 5-digit access code enables the keypad. After entering the access code, one must press a 6th digit to unlock specific doors or perform an operation according to the following listing.

Configuration A [SW 4 off / SW 5 off / SW 6 off]:

- Button (1/2): unassigned
- Button (3/4): unlocks all entry and compartment doors
- Button (5/6): unassigned
- Button (7/8): toggles Aux 1 output
- Button (9/0): activates zone 6 unidirectional actuation

Configuration B [SW 4 off / SW 5 off / SW 6 on]:

- Button (1/2): Unlocks all entry door(s)
- Button (3/4): Unlocks all entry and compartment doors
- Button (5/6): Unassigned
- Button (7/8): toggles Aux 1 output
- Button (9/0): activates zone 6 unidirectional actuation

Configuration C [SW 4 off / SW 5 on / SW 6 off]:

- Button (1/2): Unlocks all entry doors
- Button (3/4): Unlocks all doors assigned to relay bank A
- Button (5/6): Unlocks all doors assigned to relay bank B
- Button (7/8): Unlocks all doors assigned to relay bank C
- Button (9/0): Unlocks all doors assigned to relay bank D

Configuration D [SW 4 off / SW 5 on / SW 6 on]:

- Button (1/2): Unlocks all entry doors
- Button (3/4): Unlocks all entry and compartment doors
- Button (5/6): Unlocks all curb side compartment doors (relay banks C-D)
- Button (7/8): Unlocks all driver side compartment doors (relay banks A-B)
- Button (9/0): Toggles Aux 1 output

- Interior Switch Dip Switch Setting Configurations:

The following vehicle switch assignments of connector J1 and 3 define functional assignment of interior switches. When the switch input is grounded, its corresponding function is specified.

Configuration A [SW 4 off / SW 5 off / SW 6 off]:

1) J3 pin 4: Locks all doors
2) J3 pin 3: Unlocks all doors
3) J1 pin 1: Unassigned
4) J1 pin 2: Unassigned
5) J3 pin 5: Unassigned
6) J3 pin 2: Unassigned

Configuration B [SW 4 off / SW 5 off / SW 6 on]:

1) J3 pin 4: Locks all doors
2) J3 pin 3: Unlocks all doors
3) J1 pin 1: Locks all compartment doors (banks A-D, not entry door relays)
4) J1 pin 2: Unlocks all compartment doors (banks A-D, not entry door relays)
5) J3 pin 5: Locks entry door(s)
6) J3 pin 2: Unlocks entry door(s)

Configuration C [SW 4 off / SW 5 on / SW 6 off]:

1) J3 pin 4: Locks all doors
2) J3 pin 3: Unlocks entry door(s)
3) J1 pin 1: Unlocks bank A compartment(s)
4) J1 pin 2: Unlocks bank B compartment(s)
5) J3 pin 5: Unlocks bank C compartment(s)
6) J3 pin 2: Unlocks bank D compartment(s)

Configuration D [SW 4 off / SW 5 on / SW 6 on]:

1) J3 pin 4: Locks all doors
2) J3 pin 3: Unlocks all doors
3) J1 pin 1: Unlocks curb-side compartment doors (banks C-D)
4) J1 pin 2: Unlocks driver-side compartment doors (banks A-B)
5) J3 pin 5: Locks entry door(s)
6) J3 pin 2: Unlocks entry door(s)

Notes:

- See the table on page 8 for S2 DIP switch assignments.
- Configuration D is the default.

- **DIP switch 7:**

The setting of DIP switch 7 defines the type of remote fob transmitter, either standard fob or cargo fob.

- Off: Standard fob
- On: Cargo fob

- **DIP switch 8:**

The setting of DIP switch 8 defines the type of CAN protocol, either RV-C or SAE J1939.

- Off: RV-C
- On: SAE J1939

Additional Features

Dome/Porch Light Activation

The dome/porch light is activated for a timed duration (5-60 seconds) whenever a keypad button is pressed or when system is unlocked from FOB transmitter or vehicle switch. The time duration is dependent on the trim pot setting. The dome/porch light is deactivated with starting the engine or locking the entry doors.

e-*PAD* Anti-tamper Deactivating Feature

After repeated attempts to enter incorrect codes (20 button presses without enabling), the keypad enters an inactive mode that disables button for 1 minute. This helps prevent undesired access by entering random codes. No beep will sound with button press while the system is disabled.

e-*Grab* Handle Lighting

The grab handle is lit continuously. The e-*PAD* back lighting is lit with a button press and while training new access and authority codes.

Trim Pot Variable Resistors

These trim pots provide adjustable settings for timed outputs. Clock-wise rotation increases activation time. See Appendix B, page IV.

- Dome/porch light activation (5-60 second range).
- Auxiliary 1 output (0.5-5.0 minute range).
- Auxiliary 2 compartment lighting output (0.5-5.0 minute range).

Notes:

- Trim pot settings are updated every 30 seconds.
- Trim pot adjustments may not be observed immediately.

Learn Switch Connector

The learn switch yellow input wire is used to reset the keypad to assign a new authority code. See page 12 for further information on teaching keypad a new authority code.

Status LED

LED flashes at power-up and can provide other trouble shooting diagnostics codes

Miscellaneous I/O Module Features

Door locking and unlocking

A short single pulse output provides locking and unlocking operation to the entry doors (zone 1). The compartment doors (banks A-D) are locked and unlocked with a single pulse. The locking and unlocking pulses have opposite polarities. Locking and unlocking operations are activated via vehicle switch inputs or according to **e-*PAD*** and **e-*FOB*** instructions.

Lock and Unlock Confirmation

- Standard mode: The headlights flash once and the horn honks once with a lock command. On unlock, the headlights flash twice and the horn honks twice.
- Cargo mode: There is no unlock confirmation. The headlights flash once and the horn honks once when either the entry or compartment doors are locked. When both entry and compartment doors are locked within 10 seconds, headlights flash twice and the horn honks twice.
- Keypad: The headlights flash once and the horn honks once with a lock command. On unlock, the headlights flash twice and the horn honks twice.
- Locking and unlocking confirmation is deactivated while engine is running.

Deactivate Lock Confirmation

The system defaults to confirmation ON with power-up. Horn and headlight confirmation can be toggled off and on from the keypad.

Future provision to be added later.

Note: Lights flash and horn honks to indicate that you are setting horn and headlight confirmation to ON.

Door Ajar Warning

A triple siren chirp sounds if any compartment or entry door is open when the entry and compartment doors are locked. If a door is open, the alarm is not armed.

Alarm

After locking all doors, the system is armed. In cargo mode, both the entry door and compartment doors must be locked within 10 seconds to set the alarm. The alarm is activated when any entry door or compartment door is opened, or by grounding the extra security input.

The extra security input could be connected to external shock sensing, motion detection or other sensing device. When alarm is triggered, the siren is continuously activated and headlights flash for 1 minute.

To deactivate alarm mode:

- Unlock all doors via FOB transmitter.
- Unlock system via keypad or vehicle switch.
- Start the engine.

The following table describes audio/visual activations at various conditions.

Outputs	Single Lock confirmation	All Lock confirmation	Alarm
Siren	Not used	Not used	1 minute or when shut off
Horn	1 chirp	2 chirps	Not used
Headlights	1 flash	2 flashes	1 minute or when shut off

Timed Dome/Porch Light Activation
The dome/porch light is activated upon pressing any keypad button or by unlocking entry door via FOB transmitter. The activation duration is controlled via trim pot. Starting the engine or locking the doors deactivates the light.

Compartment Light Activation
Compartment lights are activated upon unlocking compartment doors (bank A-D) or toggling vehicle switch. The activation duration is controlled via trim pot. Starting the engine deactivates the light.

Auxiliary 1 Output Activation
Standard Mode: With proper wiring and system configuration, Aux 1 output can be activated with * Button on FOB transmitter, via keypad, or toggled with vehicle switch. The activation duration is controlled via trim pot B. Starting the engine deactivates the output.

Teaching Additional Transmitter FOBs

There are 2 ways that one can put the receiver into learn mode. The first requires that a CAN keypad be connected to the network. This option allows the receiver to be put into train mode without accessing the module. The 2nd option requires one to have access to the receiver, but a keypad is not required.

Option 1 (if CAN keypad is connected to network):

1) Hold middle (5/6) button of keypad for 5 seconds. The keypad will beep and the LEDs will flash.
2) Enter authority code buzzer stays on.
3) Hold 9/0 for 5 seconds. A double-beep plays.
4) The receiver module is now in FOB Learn Mode (The LED under the receiver enclosure will be blinking rapidly—this will not be visible unless the enclosure cover is removed)
5) Next press lock button of each fob (up to 4) that should be synched. (LED stays solid for 2 seconds as each one is learned.) Press the fob button for 0.5-2.0 seconds. Do not attempt to synch subsequent fobs until minimum of 3 seconds
6) After 60 seconds of FOB button inactivity, or by simply pressing any key on the keypad, you will hear the successful indication (4 quick beeps) and the I/O module will reboot and address claim again to go back to normal operation.

Option 2 (if no CAN keypad is connected to network:

1. Remove power from door module
2. Open up door module enclosure
3. Move DIP switches 4-6 to the “ON” position. Make sure that the install antenna module PCB is installed. See figure 2.

Figure 2: Antenna module PCB installation.

4. Connect door module to CAN network
5. Connect power to door module (8 pin connector)
6. Wait about 5 seconds. Module will perform a start up sequence during this time interval. After start up sequence LED will continue to flash.

7. Press any fob button until LED pattern changes (longer ~0.5 second flash), then release. This synchs the first fob transmitter.
8. Press any fob button of 2nd fob, LED pattern changes immediately. This synchs the 2nd fob transmitter.
9. Repeat above step 8 until all fobs are synched (up to 4 fobs)
10. Remove power and CAN connector from door module
11. Move DIP switches 4-6 to normal position and verify DIP switches 1-3 are in proper position. Further information on DIP switches is above.
12. Reassemble enclosure.
13. Reconnect CAN connector.
14. Reconnect power to door module.
15. Verify that fobs are synched to the door module and that range is of RF transmission is acceptable. Door module needs to be connected to a valid CAN network (2+ modules on network) for verify functionality.

Please Note:

- Up to 4 transmitters can be synched with a door module. If a 5th transmitter is added an earlier transmitter becomes invalid.

1.

Notes:

•

Teaching Keypad New Authority / Access Codes

When you assign a new authority code, you delete the existing authority code as well as any access codes.

Note: The authority code you assign following these instructions also becomes an access code saved to the 1/2 button.

1. Connect yellow learn wire of keypad to ground There will be LED three-second beep.
2. Enter a new five-digit code—this will be your access and authority code.
3. Enter the new code again.
4. The existing code will only be erased if a new code is assigned.
5. The code is stored in position one.

Important: Authority and access codes should not be the same. If someone figures out an access code and discovers it to be an authority code as well, they can then create their own access code and gain entrance to your vehicle.

Once resetting the keypad, your next step should be to create a new access code and store it in position one so as to ensure the access code is no longer the same as the authority code.

Notes:

- The authority code is to be controlled by individuals (owners of vehicle, fleet manager, etc.) who manage the distribution of access codes to vehicle users.
- The authority code should be changed when the vehicle is sold.
- The authority code does not enable secure functions (lock/unlock doors, etc.) it is only used to assign access codes.

The following area can be used to document the authority code:

Authority Code				
Digit 1	**Digit 2**	**Digit 3**	**Digit 4**	**Digit 5**

Assign New Access Codes

With a valid authority code (see page 3 or 11), an access code can be programmed with the following instructions.

1. Press the (5/6) button for 5 seconds, the keypad will beep. The backlighting LED of the keypad will flash indicating the learn mode.
2. Enter in the 5-digit authority code (see page 3 or 11). Keypad will provide a long beep that will stop after you have defined an access number.
3. Press and release the button that corresponds to the access number. For example, press (1/2) button for access #1 and press (3/4) button for access #2. During this activity you are defining 1 of 5 access numbers. A subsequent code will be assigned to this access #. The keypad will provide a confirmation beep after this single button press.
4. Enter in your new 5-digit access code. The keypad will provide confirmation beeps.
5. Re-enter new access code. The keypad will provide confirmation beeps.

Repeat process to assign additional access codes.

Up to 5 different access codes can be assigned at one time. As additional access codes are defined, pre-existing access codes are overwritten. For example, if a new access code is assigned for access #3, the previous access #3 code is no longer valid.

The following area can be used to document the access code assignments.

Access #	User Name	Digit 1	Digit 2	Digit 3	Digit 4	Digit 5
1						
2						
3						
4						
5						

Troubleshooting

CAN Error Diagnostic Codes:

The following defines diagnostic code for door module and keypads. Similar codes are used with both types of modules, door module and keypad module. The keypad module using back lighting LED and buzzer for communicating codes while the door module uses D16 and D17 LEDs.

1) At power up the door module will attempt to claim its address on the CAN bus. This takes 1/4 second. Afterwards, it waits another 1/4 second then sends out a request to all the other nodes on the bus to see who's out there. After this, it turns on both LEDs for 1 second.

This “long blink" of the LEDs is intended to tell you that the CPU reset and why:

- One 1 second blink = normal power on
- Two 1 second blinks = watchdog timer reset the CPU (this indicates a software bug)
- Three 1 second blinks = brownout reset. The power supply fell below the minimum requirement for a moment. This threshold is set for 2.0 V for now.

2) After the long blinks, a series of "short blinks" indicate other errors that may have occurred:

- Two short blinks = the CAN bus is inactive. This means there is an electrical problem with the CAN bus (possibly a problem with bus termination), or simply that the I/O module is the only node attached to the bus. The I/O module will continue running assuming that it is the only node in the vehicle.
- Three short blinks = the I/O module couldn't claim its CAN address. This is probably because another I/O module on the bus is set to the same function instance. This is considered a fatal error so the I/O module will reset itself and try again.

NOTE: CAN communications errors and address claim problems take a while to detect because of the retry code in the I/O module, so if any errors are found the initial power-on long blink will not occur until a couple of seconds after power on.

Setting CAN Keypad Function Instance (location):

The following procedure sets the keypad's CAN function instance which determines the default CAN address it will try to claim and identifies this keypad's location within the vehicle. Each keypad installed in a vehicle must have a unique function instance. The default function instance is 0. The procedure for assigning keypad function instance follows:

1. Ground the learn mode input (brown wire). AMP connector housing location 9. The buzzer will sound for 3 seconds and the keypad backlights will flash continuously ½ second on, ½ second off (note: backlighting can only be seen when dark). Double beeps are provided upon any button press while in learn mode.

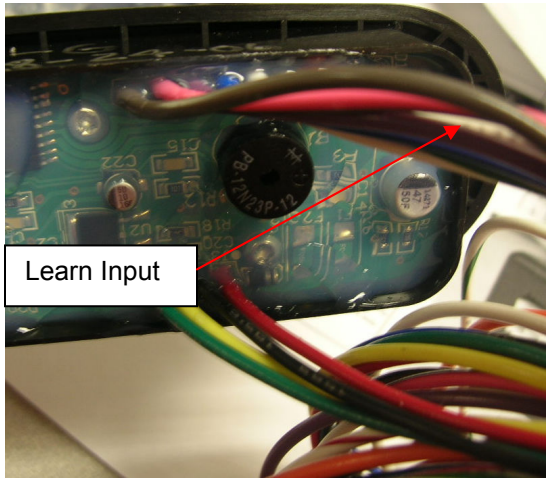


Figure 4: CAN Keypad Wiring

2. Press and hold the 1/2 button for 5 seconds. The keypad plays a 1/20 second beep after held long enough.
3. Next press button to indicate which function instance this keypad should be assigned:
   1/2 = function instance 0 = Driver's side
   3/4 = function instance 1 = Passenger's side
   5/6 = function instance 2 = 3rd keypad tbd
   7/8 = function instance 3 = 4th keypad tbd
   9/0 = function instance 4 = 5th keypad tbd
   Notes: This step must be completed within 10 seconds.
4. Single 1/20 second beep is played confirming function instance change occurred. Followed by a 1 second pause. Then # of beeps are played indicating which function instance is stored. E.g. 1 beep for function instance 0, 2 beeps for function instance 1 . . . 5 beeps for function instance 4. Each beep is 1/4 second with a 1/4 second delay between them.
5. After another 1 second delay, the keypad software will be reset out of learn mode. The CAN address will be reclaimed with the new function instance. Now each button press provides one beep.

Problem Description	Possible Solution
e-*FOB* Hints	
Button press does not provide correct operation	Verify power to the I/O module and RF receiver.
	Re-teach the FOB transmitter to the receiver. Ensure that only Lock button is pressed while in learn mode.
No operation or intermittent operation	Mount RF receiver away from enclosed metal areas and fully extend antennae.
	Check FOB transmitter battery voltage. Batteries need to be changed every 1-2 years depending on usage.
Alarm mode starts when powered up	Press Unlock button of FOB transmitter
One particular e-*FOB* function does not work.	Check wire connection of affected function at RF module, wiring harness, and I/O module.
e-*PAD* Hints	
No response with button press	Verify power to the I/O module.
	Verify that keypad cable is connected. (rest of system will function).

Access code is not recognized	Verify that code has not been changed. Reassign keypad with instructions starting on page 11.
	Confirm use of an access code, not the authority code.
Key fob works correctly, keypad beeps, but no output	Cycle power to I/O module.
Unexpected, secure operation occurs	Verify DIP switches are set to correct configuration setting.
e-*ASK* I/O Hints	
No response in any system element	Verify power to the I/O module.
Lights and panic mode do not turn off with ignition start.	Verify that connector is wired properly.
Output relay latches on or off.	Verify that power to relay comes from external relay power pin. .
	Cycle power to system. If condition continues, replace relay.

This product has been manufactured with methods to ensure high quality and to meet the high expectations of our customers. Tri*Mark* warrants this product to be free from workmanship defects and will remedy issues per Tri*Mark's* warranty policy.

Remote transmitter FOBs, batteries, and other equipment subject to normal ear and deterioration may need to be replaced periodically by dealer and/or end user and are not covered by this warranty. Tri*Mark* will not be liable for indirect, special, incidental or consequential damages.

This system complies with part 15 of the FCC 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.

Note: The manufacturer is not responsible for any radio or television interference caused by unauthorized modification to this equipment. Such modification could void the user's authority to operate the equipment.

Appendix A: Connectors and Pinouts

The following tables and diagrams are provided to show connector and pin assignments for the **e-*ASK*** CAN Multiplex system.

Table 1: CONNECTOR AND PIN INFORMATION

CONNECTOR	MATING CONNECTOR	MATING TERMINAL
J1	AMP 2-106527-4	AMP 106529-2
J2	AMP 1-106527-0	
J3	AMP 106527-6	
J4	AMP 106527-8	
J5	AMP 106527-4	

Function	Pin Location
J1 CONNECTOR	
BANK C-D UNLOCK INPUT (GND)	1
BANK A-B UNLOCK INPUT (GND)	2
COMPARTMENT DOOR AJAR INPUT (GND)	3
GROUND	4
BANK D LOCK (RELAY 30A)	5
BANK D UNLOCK (RELAY 30A)	6
VEHICLE POWER	7
UNLOCK ENTRY OUTPUT (RELAY 30A)	8
UNLOCK ENTRY INPUT (GND)	9
UNLOCK ALL INPUT (GND)	10

LOCK ALL INPUT (GND)	11
LOCK ENTRY INPUT (GND)	12
SECURITY INPUT (GND)	13
UNASSIGNED	14
UNASSIGNED	15
GROUND	16
BANK D LOCK (RELAY 30A)	17
BANK D UNLOCK (RELAY 30A)	18
VEHICLE POWER	19
CAN HIGH	20
LOCK ENTRY OUTPUT (RELAY 30A)	21
CAN LOW	22
ENTRY DOOR AJAR INPUT (GND)	23
DOME LIGHT OUTPUT (2A GND)	24
J2 CONNECTOR	
VEHICLE POWER	1
UNASSIGNED	2
UNASSIGNED	3
KEY INSERTED INPUT (SEE J2P7)	4
UNASSIGNED	5
GROUND	6
IGN/KEY INPUT POLARITY/COMMON	7
IGNITION INPUT (SEE J2P7)	8

UNASSIGNED	9
GROUND	10
J3 CONNECTOR	
BANK C LOCK (RELAY 25A)	1
BANK B LOCK (RELAY 25A)	2
BANK A UNLOCK (RELAY 25A)	3
BANK B UNLOCK (RELAY 25A)	4
BANK C UNLOCK (RELAY 25A)	5
BANK A LOCK (RELAY 25A)	6
J4 CONNECTOR	
EXTERNAL RELAY POWER (+12V)	1
HORN OUTPUT (-500 MA)	2
HEADLIGHT OUTPUT (-500 MA)	3
AUXILIARY 1 OUTPUT (-500 MA)	4
AUXILIARY 2 OUTPUT (-500 MA)	5
DOOR AJAR OUTPUT (-500 MA)	6
SIREN OUTPUT (-500 MA)	7
UNASSIGNED	8
J5 CONNECTOR	
KEYPAD POWER	1
CAN LOW	2
GROUND	3
CAN HIGH	4

FCC ID: TV2ERX3

FCC Compliance and Advisory Statement

This device complies with Part 15 of the FCC 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.

This equipment has been tested and found to comply with the limits for a Class B digital device, according to Part 15 of the FCC 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 correct the interference by one or more of the following measures:

1.Reorient the receiving antenna.

2.Increase the separation between the equipment and receiver.

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

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

Any special accessories needed for compliance must be specified in the instruction manual.

Warning: A shielded-type power cord is required in order to meet FCC emission limits and also to prevent interference to the nearby radio and television reception. It is essential that only the supplied power cord be used. Use only shielded cables to connect I/O devices to this equipment.

CAUSION: Any changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.