

Installation Instructions

MOOSE MPI-712a

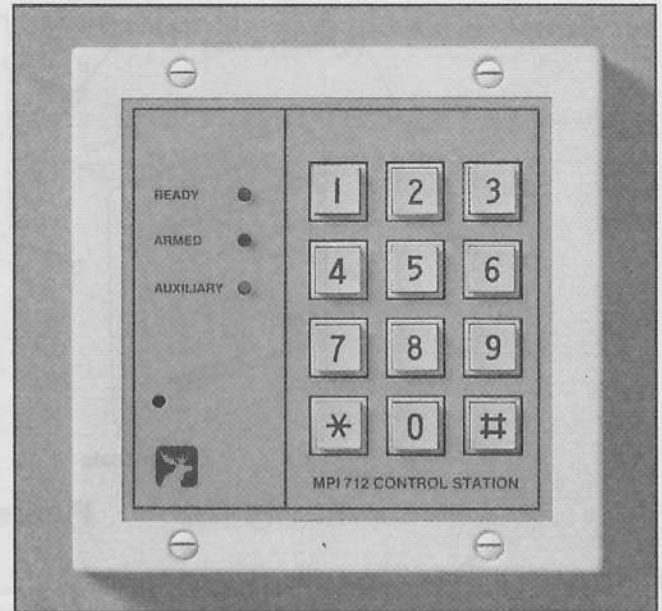
Self-Contained Control Station

APPLICATION

The MPI-712a is a self-contained, economical, remote control station. It may be used to operate any security control that requires a momentary (timed) or latching dry contact closure. The MPI-712a also provides an auxiliary dry contact relay which may be used for other applications. The auxiliary relay may be used to provide interior shunting, access control or any other latching or momentary (timed) dry contact closure. The MPI-712a features a built in piezo sounder, two button keypad activated panic, and code activated duress with 12 VDC outputs. It is fully keypad programmable and contains EEPROM (non-volatile) memory and microprocessor watchdog circuitry for reliable performance.

SPECIFICATIONS

- Dimensions: 4.5" x 4.6" x 0.8"
- Normal Operating voltage: 12 - 13.8 VDC.
- Current drain: Quiescent state = 15 mA;
Active state = 100 mA (both relays actuated and all three LEDs lighted).
- EEPROM: Non-volatile memory. Retains all programming after a total loss of power.
- Microprocessor protection: Watchdog reset circuitry as well as automatic shutdown if operating voltage falls below 7.5 Volts.
- Sounder: Piezoelectric.
- Relays: Arm and Auxiliary (2 Amp contacts each), programmable for latching or momentary (timed 1-255 seconds) operation.
- LEDs: Three (green/ready, red/armed, yellow/auxiliary). The green and red LEDs are programmable for positive or negative trigger. The yellow LED is controlled by the auxiliary relay.
- Wiring: Unpluggable wiring harness.
- Voltage outputs: +12VDC (up to 40 mA) Panic, +12VDC (up to 40 mA) Duress.
- Operating temperature range: 32°F to 120°F (0°C to +49°C).
- Color: White with gray labeling.



FEATURES

- Self-contained.
- Keypad programmable.
- Built-in piezo sounder.
- Up to three four digit user codes may be programmed.
- User codes may be configured to perform specific operations such as activate the arm/disarm relay only, activate the auxiliary relay only, activate either or both relays, and arm/disarm while activating an emergency duress output.
- The Arm and Auxiliary relays may be latching or momentary (timed 1-255 seconds).
- Built-in panic and duress features.
- Unpluggable wiring harness.

Mounting

1. Attach the back plate to a single or double gang electrical box or secure to wall with anchors. Use only flat head type screws.
2. Proceed to "Wiring". When wiring is complete, attach the face plate to the back plate using the four painted plastite screws (provided). Do not over tighten.

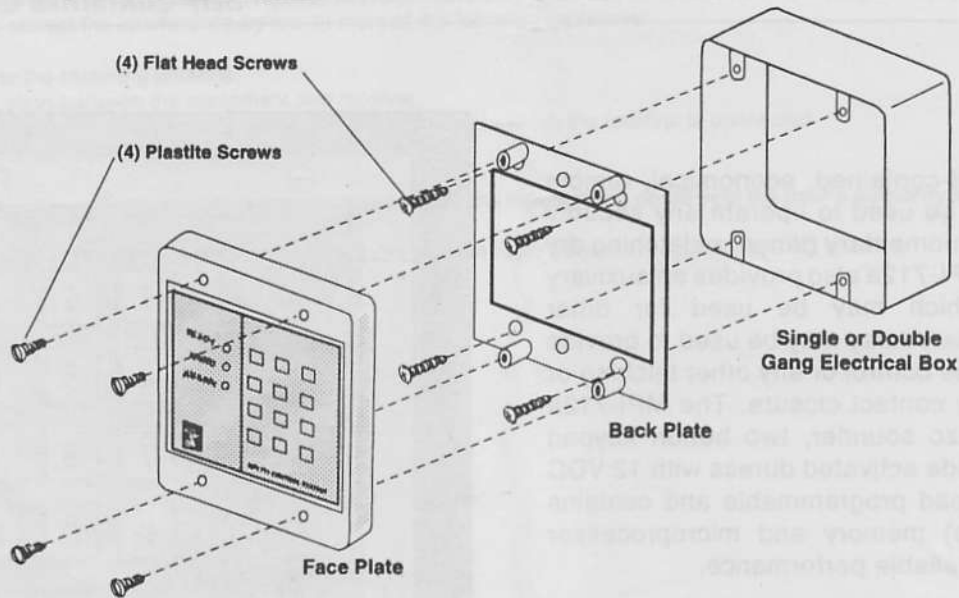


Figure 1 Mounting

Wiring

1. The MPI-712a is pre-configured for use with the MPI-25 and MPI-50 Security Controls. The MPI-50 provides negative voltage outputs to trigger the Ready LED, Armed LED, and Piezo sounder. **If the MPI-712a is to be used with a control which provides positive outputs, refer to "Configuring the MPI-712a to accept Positive Inputs" on page 7.**
2. Connect the necessary wires from the unpluggable wiring harness as indicated on the next page. Tape or wire cap any unused wires.
3. Plug the wiring harness into the control station.
4. Attach the control station face plate to the back plate using the 4 painted plastite screws (provided).

Terminal	Wire Color	Function
1	Black	(-) Negative Power Input
2	Red	(+) 12VDC Power Input
3	Blue	Arm Relay Common
4	White	Arm Relay Normally Open
5	Green	Ready LED Input (+ or - depending upon programming)
6	Orange	Armed LED Input (+ or - depending upon programming)
7	Brown	+12VDC Output Upon Panic
8	Yellow	Auxiliary Relay Common
9	Grey	Auxiliary Relay Normally Open
10	Pink	+12VDC Output Upon Duress
11	Purple	Piezo Input (+ or - depending upon programming)

NOTE: The yellow auxiliary LED lights when the auxiliary relay closes.

Table 1 Wiring Information

Power Up

1. After all wiring is complete, apply +12VDC power to the control station.
2. The control station will be operable eight seconds after power-up or immediately after pressing the "*" key.

NOTE: If the control station is connected to positive trigger inputs, all LEDs may light and the sounder may be on steady upon power-up. If so, remove power and refer to "Configuring the MPI-712a to accept Positive Inputs" on page 7.

Programming

The MPI-712a is programmable from two levels.

1. *Programming of User Codes:* allows the end user to change the Master User Code (Code 1) and User Codes 2 and 3.
2. *Programming the operating characteristics:* provides access to Functions 4 through 9 and 0.

□ Programming of User Codes

1. Press key 9 and hold for three seconds. A one-second beep will be emitted and the three LED indicators will light momentarily.
2. Enter the Master User Code 1 (1234 at default). The three LED indicators will begin to flash, signifying entry into the Programming mode.

NOTE: If User Code 1 is lost or unknown, see "Alternate Programming Mode Entry" on page 6.

3. Immediately press key 1, 2, or 3 depending upon your choice of programming User Code 1, 2, or 3.
4. Immediately enter the new 4 digit User Code. The sounder will beep and the three LEDs will flash once to signify acceptance. The control station will exit the program mode automatically.

NOTE: If more than eight seconds is taken to complete the programming process or if the LEDs stop flashing before step 3 is done, return to step 1.

□ Programming Example

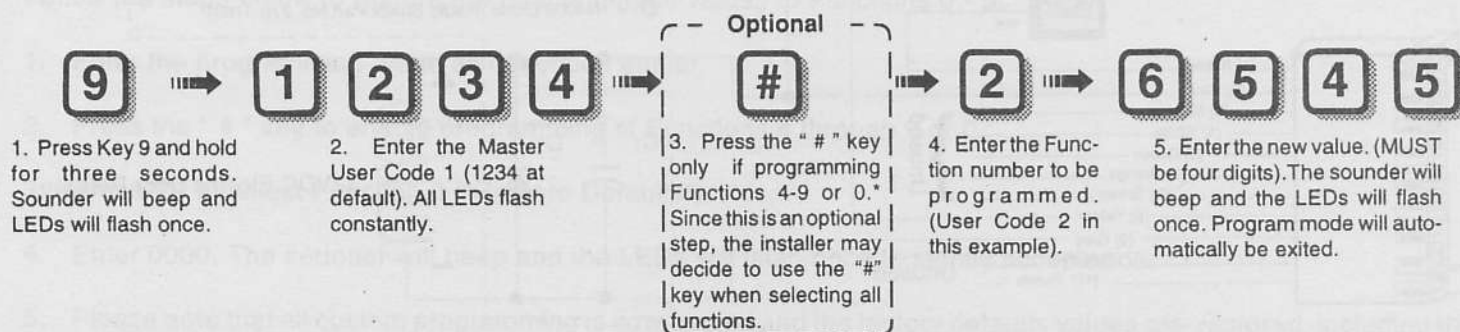


Figure 4 Programming

❑ Programming the Operating Characteristics

1. Press key 9 and hold for three seconds.* A one second beep will be emitted and the three LED indicators will light momentarily.
2. Enter the Master User Code 1 (1234 at default). The three LEDs will begin to flash, signifying entry into the Programming mode.

NOTE: If User Code 1 is lost or unknown, see "Alternate Programming Mode Entry" on page 6.

3. Press the " # " key to enable programming of functions 4 through 9 or 0.
4. Select the desired Function to be programmed from Table 2 below.
5. Enter the Function number to be programmed.
6. Enter the new value for the Function being programmed. This value **MUST** be four digits. The sounder will beep and the three LEDs will flash once to signify acceptance. The control station will exit the program mode automatically.

* **NOTE:** Due to the role of the digit 9 in the programming functions of these units, the use of this digit in a user code may create difficulty unless entered very quickly (in programming the code and in using it). For this reason, the installer may wish to avoid the use of this digit in an actual user code.

No. Function	Description	Default Value	Value Range	New Value
1 User Code 1	Master User Code	1234	0000 - 9999	— — — —
2 User Code 2	Additional User Code	0000 (disabled)	0000 - 9999	— — — —
3 User Code 3	Additional User Code	0000 (disabled)	0000 - 9999	— — — —
4 Configuration Digit for User Code 1	Assigns the functionality of User Code 1 (see Table 3)	0001 (assigned to activate arm relay only)	0000 - 0004	— — — —
5 Configuration Digit for User Code 2	Assigns the functionality of User Code 2 (see Table 3)	0000 (disabled)	0000 - 0004	— — — —
6 Configuration Digit for User Code 3	Assigns the functionality of User Code 3 (see Table 3)	0000 (disabled)	0000 - 0004	— — — —
7 Trigger Polarity	Trigger polarity [(+) or (-)] of sounder and Ready/Armed LEDs.	0000 (negative)	0000 - 0001 (0001 = positive)	— — — —
8 Arm Relay Time	Time in seconds that Arm relay closes when activated.	0005 (5 seconds)	0000 - 0255 (sec.) 0000 = Latching	— — — —
9 Auxiliary Relay Time	Time in seconds that Auxiliary relay closes when activated.	0005 (5 seconds)	0000 - 0255 (sec.) 0000 = Latching	— — — —
0 Restore Defaults	Enter a value of 0000 to restore factory default values to Functions 0 - 9.			

Table 2 Programming Functions

NOTE: Operation of the panic feature is achieved by depressing the "*" and the "#" at the same time.

Configuration Digits

Each User Code (1 - 3) must be assigned a *Configuration Digit* to define the operation(s) that the code is authorized to perform. Select the desired Configuration Digit for each code from Table 3 and program as described under "Programming the Operating Characteristics."

Digit	Operation
0000	Disables Code
0001	Code activates Arm relay only
0002	Code activates Auxiliary relay only.
0003	Code activates Arm relay. " # " followed by code activates Auxiliary relay.
0004	Code activates Arm relay and Duress trigger only.

Table 3 *Configuration Digits*

Alternate Programming Mode Entry

If the Master User Code (User Code 1) is lost or unknown, use the following procedure to enter the Programming Mode.

1. Remove power to the control station. (Unplugging the wiring harness will remove power).
2. Restore power to the control station.
3. Press the " # " key within 8 seconds after applying power. The Sounder will beep once and the LEDs will flash constantly to indicate entry into the programming mode.
4. Follow the programming steps on page 4 or 5 as required.

Restoring Factory Defaults

Follow the steps below to restore the factory default values to Functions 0 - 9:

1. Enter the programming mode as described earlier.
2. Press the " # " key to enable programming of Functions 4 through 9 or 0.
3. Press "0" to select Function 0 ("Restore Defaults").
4. Enter 0000. The sounder will beep and the LEDs will flash once to signify acceptance.
5. Please note that all custom programming is now erased and the factory defaults values are restored, including the programming for the input polarity of the LEDs and the piezo sounder.

Configuring the MPI-712a to accept Positive Inputs

The MPI-712a is pre-configured to accept negative trigger inputs for the Ready and Armed LEDs and the piezo sounder. Many security controls are supplied with positive outputs. If positive trigger is required, four traces on the back of the circuit board must be cut and a programming change must be made.

❑ Circuit Board Modification for Positive Trigger Inputs

1. Remove all power from the control station.
2. Observe the back of the control station circuit board. There are four traces in the upper left hand corner (just below the large phillips head screw). Each trace is marked with a pair of verticle hatch marks (see Figure 5).
3. Using a small pocket knife or razor blade, cut each of the four traces between the hatch marks.

NOTE: The MPI-712a will accept ONLY all positive or all negative triggers. The four traces must be either all cut or all intact.

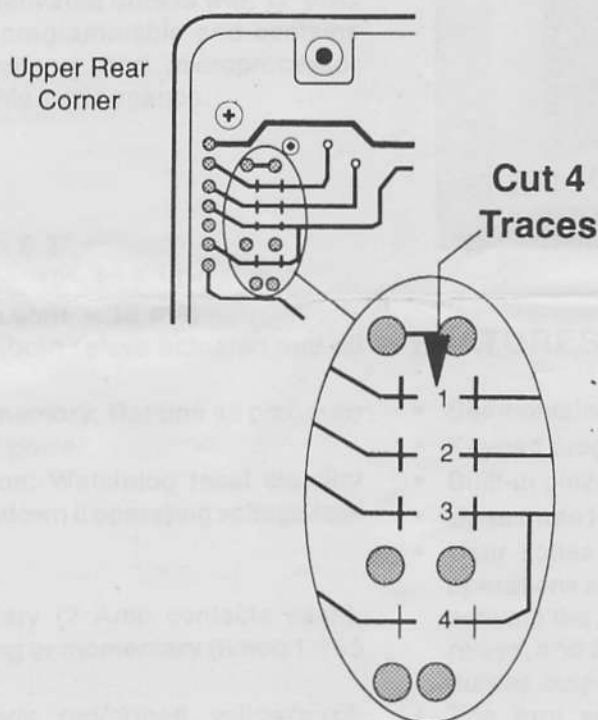


Figure 5 Cutting Traces for Positive Trigger

❑ Programming for Positive Trigger Inputs

1. After cutting the four circuit board traces as indicated above, apply power to the MPI-712a by connecting the Red wire to +12VDC and the Black wire to negative. Be sure that the unused wires do not touch each other so as to cause a short circuit.
2. Press the " # " key within eight seconds of power-up. All LEDs will flash.
3. Press the 7 key to select Function 7 (Positive Trigger). The LEDs will stop flashing.
4. Enter 0001 to change the polarity to Positive Trigger. The LEDs will flash once and the sounder will beep once to signify acceptance. Programming mode will be automatically exited. If the LEDs do not flash, remove power and return to step 1.

FCC COMPLIANCE

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 Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, 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 or 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.

CAUTION: Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

This equipment is a Class B Digital apparatus which complies with the radio frequency regulations, CRC c. 1374.

MOOSE



A PRODUCT OF SENTROL, INC

SENTROL CONTROLS GROUP

PO Box 2904

1510 Tate Blvd. SE

Hickory, NC 28603

Sales: 800.547.2556

Fax: 503.691.7566

Technical Support: 800.800.2027

Sentrol, Inc. reserves the right
to change specifications
without notice.
©1995 Sentrol, Inc.

64812430D