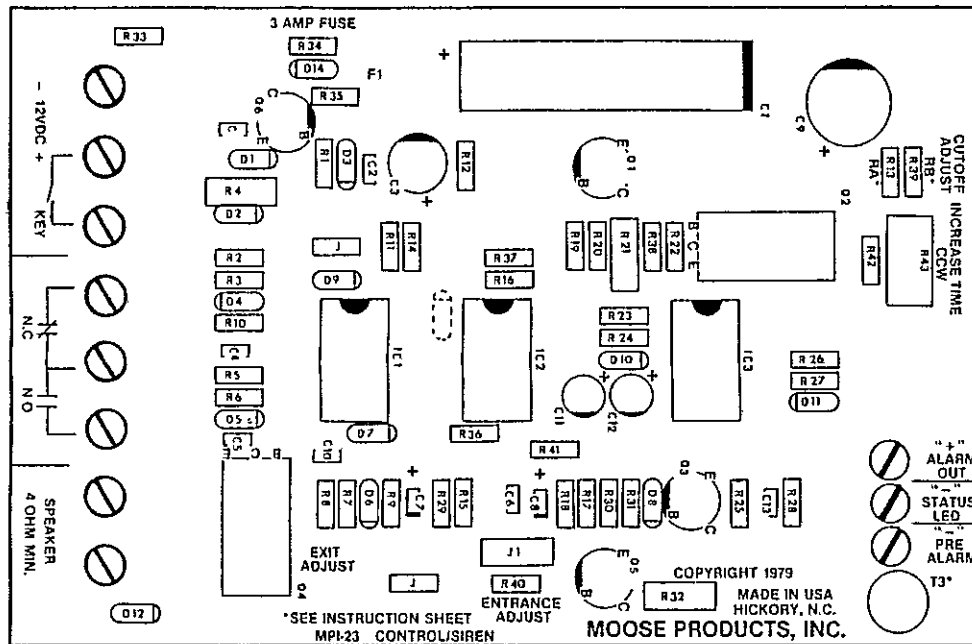


MPI-23 Instructions



Terminal Connection:

Terminals 1 & 2 - 12 VDC Battery Connection - Operating voltage range of the MPI-23 is from 6 to 15 volts. Power input to terminals 1 & 2 should always be a DC voltage level. **DO NOT** connect an AC transformer directly to the power input terminals. In order for the system timing capacitors to charge up, allow 20 seconds after connecting power to terminals 1 & 2 before turning system on. **DO NOT** turn system on and off by disconnecting the battery, because improper operation will result.

Terminals 2 & 3 - Key Switch On/Off - A SPST switch can be connected to terminals 2 & 3 to turn the system on and off. The system turns on by closing the switch contacts. An alternate method of turning the system on is by applying 12VDC to terminal 3. Disconnecting the 12VDC will turn the system off. See instructions for terminals 1 & 2 about turning system on and off.

Terminals 4 & 5 - Normally Closed Protective Loop - Any normally closed switches may be connected to these terminals. The system will operate properly with up to 1000 ohms normally closed protective loop resistance. If the normally closed protective loop is not used, terminals 4 & 5 must be jumpered for the system to operate.

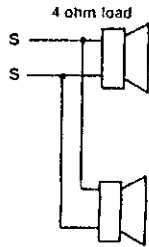
moose products inc.

Terminals 5 & 6 - Normally Open Protective Loop - Any normally open switches may be connected to these terminals. The system will operate properly with up to 50 ohms normally open protective loop resistance.

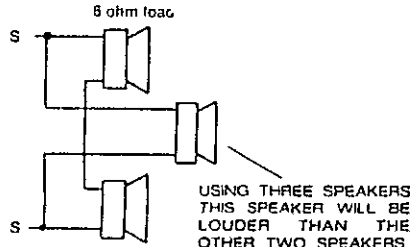
NOTE: When the N. O. protective loop is closed, the loop current will be approximately 25 milliamps. In dry cell operated systems, the N. O. protective loops should not be closed for prolonged periods due to high battery drain.

Terminals 7 & 8 - Speaker Connection - Connect a minimum of an 8 watt speaker. A 15 watt MPI-15 has been found to give the most efficient power output. The speaker load should not fall below 4 ohms. The following is a suggested speaker hook-up pattern using 8 ohm speakers:

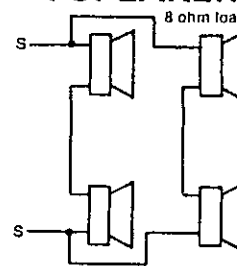
2 SPEAKERS



3 SPEAKERS



4 SPEAKERS



A general rule is, the larger the speaker, the more efficient it is, and the more sound power it will deliver.

Time settings and adjustments:

Exit Time - Factory set at 40 seconds \pm 25%. Resistor "R8" may be replaced with a different value resistor for a different exit time setting. For various time settings and resistor values, see TABLE 1.

For no exit time cut capacitor "C7".

Entrance Time - Factory set at 20 seconds \pm 25%. "R40," the entrance adjust resistor, may be cut out of circuit to give 40 seconds entrance time. For other time settings, cut resistor "R40" out of circuit and replace resistor "R18" with a value suggested in TABLE 1.

TABLE 1

Time	Resistor Value
5 seconds	220,000 ohms, 1/4 watt
10 seconds	470,000 ohms, 1/4 watt
20 seconds	1,000,000 ohms, 1/4 watt
40 seconds	2,000,000 ohms, 1/4 watt
60 seconds	3,300,000 ohms, 1/4 watt

Times will vary \pm 25%.

For no entrance time, Jumper J-1 should be cut.

To switch from instant to delay operation, a switch can be wired in series with Jumper J-1. Open the switch for instant entrance and close the switch for normal delay operation.

The exit time will still be present in the instant or delay mode.

NOTE: When soldering the wires for the instant/delay switch into the board, use a 40 watt soldering iron or less and rosin core solder.

Cutoff/Reset Time - Factory set for 4 minutes \pm 25%. Cut out of circuit resistor "RA" for 8 minutes \pm 25%. Cut out resistors "RA" and "RB" for 16 minutes \pm 25%.

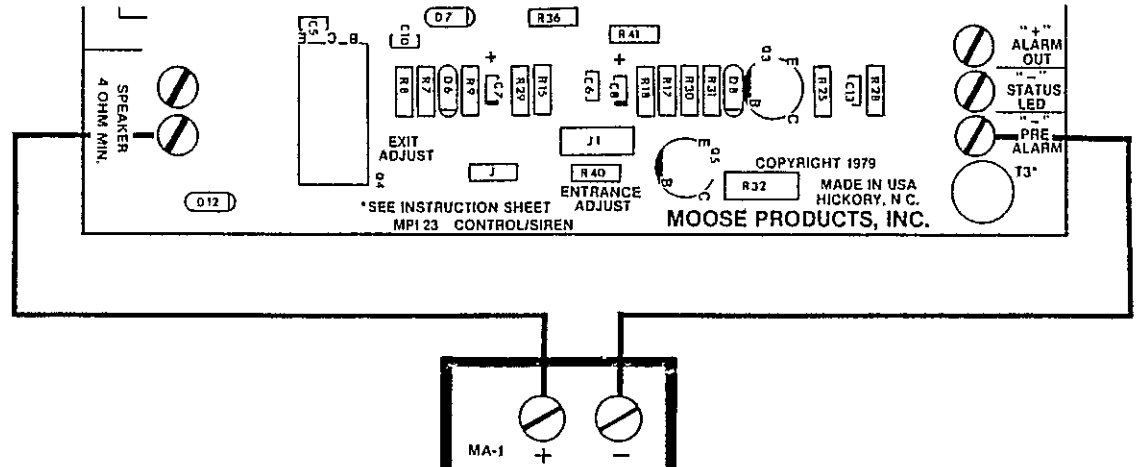
On units with the optional Potentiometer, reset time may be adjusted from 20 sec. to 20 min.

When the siren cuts off, the system will reset when the protective loops are restored to a non-alarm condition. If the loops are violated again, the entrance time must run out before the alarm will sound. To eliminate, shut off and reset until loop is restored, a general purpose diode may be added

at the location marked by dotted lines between IC-1 and IC-2 (diode must be installed with stripe toward R-14).

Prealarm Connection - The prealarm acts to signal a person entering the premises to cut off the alarm system or the siren will be activated. Upon violating the protective circuit loop, the Moosealert will begin to sound, and continue to sound until the siren cuts off or until the system is cut off by the key switch.

A Moosealert Model MA-1 or MA-2 or equivalent is suggested. The current drain should not exceed 50 ma.



Voltage Out On Alarm - For a voltage output on alarm, use the "+ Alarm Out" Terminal for Positive Voltage and Terminal 1 for Negative. Maximum current drain from this point is 1 amp.

24 Hour Non-Latching Panic - For a 24 hour non-latching panic, attach a wire to Terminal 2 and a wire to "+ Alarm Out" Terminal. Shorting these wires together gives a non-latching, 24 hour panic. To obtain a latching effect, use a latching switch or relay.

To turn off siren in this mode of operation, the switch contacts must be opened.

Protective Loop Status Indicator - To determine if the protective loops are not violated, (normally closed loop is closed and the normally open loop is open), a standard LED (light emitting diode) may be remote mounted with wires connected to the "-" status LED terminal and terminal 2 "+" 12VDC (cathode side of LED should be toward "-" status LED terminal).

Polarity must be observed when inserting the LED. If the LED is in backwards, it will not glow. To determine the polarity of an LED, look through the LED from a side view. One side of the LED element will be bigger than the other side.

The large side is the cathode side.

The LED will glow continuously if the protective circuit loop is not violated. To reduce current drain for dry cell operation, a N. O. push button switch may be placed in series with the LED, so that the LED will light only when the button is depressed.

System Armed LED Indicator - A systems "armed" or "turned on" LED indicator may be wired to the terminal block according to Figure A. The LED will glow when the system is armed.

Figure A

