

ADEMCO**INSTALLATION
INSTRUCTIONS****No. 5216-12
ADAPTER
WITH
KEYED SHUNTING****for No. 215-12 Two Wire Digital Remote Stations with Panic
(for Indoor use only)****GENERAL INFORMATION:**

The No. 5216-12 Adapter and No. 215-12 Two Wire Digital Remote Station(s) with Panic Circuitry permit 4 digit coded pushbutton ON/OFF (Arm/Disarm) Control of 12V controls, such as the No. 1023-12 Alarm Processing Center. In addition, keyed shunting can be applied (or removed) at a No. 215-12 Remote Station, at any time, to a single zone or to shut-off space protection devices within a zone, by depressing appropriate key combinations on the No. 215-12 (although any manual or automatic zone shunting applied by the control takes priority).

No. 215-12's are for INDOOR use only.

DESCRIPTION:

Only two wires are required to connect up to four No. 215-12 Remote Stations to the No. 5216-12 Adapter. A twelve pushbutton keypad on each No. 215-12 enables the user to arm or disarm the control, initiate a panic alarm at any time, shunt a single protection zone or directly and selectively shut off space protection devices within a zone. Status of the control's burglar alarm circuit(s) (such as: "not ready for arming", "alarm memory", "ready for arming", "keyed shunt" or "armed") is indicated by a single LED on each No. 215-12. An audible warning indicator is built into each No. 215-12 for use with the control's entry/exit delay circuit and for other system warning sounds as the control or its other accessories may provide (see instructions accompanying those units).

If desired, momentary type normally open emergency (panic) switches (e.g.: No. 219) may be connected across the remote stations' two wire circuit instead of switches separately wired to the panel (unless the remote stations' panic alarm feature is not to be connected, as described in the INSTALLATION AND WIRING Section).

A "SILENT PANIC ALARM" connection option can be used, which utilizes the No. 5216-12's panic circuitry to trip a digital communicator (e.g.: No. 669 or No. 670) or dialer (e.g.: No. 612). A silent alarm can then be transmitted to a remote location when the appropriate pair of buttons on a No. 215-12 Remote Station (or a panic switch connected across its two wire circuit) is pressed. The special connections required are incorporated in the INSTALLATION AND WIRING Section herein.

The No. 5216-12 Adapter's housing is designed to clip into the cabinet of the alarm control with which it is used. It contains a PC board which includes: a) Leads for alarm control connections, b) "Digit Wires" and "Code Pins" for programming the 4 digit code, c) Jumpers for cutting or positioning, as required, and d) Terminals for "Panic Reset" and No. 215-12 connections.

No tamper switches are needed in the No. 215-12 Remote Station as the system is inherently secure. A full four digit code is required to arm or disarm the system and that code cannot be determined at any remote station. A short or even momentary low resistance between the stations' two wire run at any time will initiate a panic alarm (unless the panic feature is not to be connected, as described later).

- Notes:
- A. Only No. 215-12 Remote Stations (up to 4) may be used with the No. 5216-12 Adapter.
 - B. Circuit safeguards will prevent arming or disarming by erasing all prior information entered via the keypad if: a) an erroneous digit is entered or, b) more than approximately 3 seconds are taken to enter the code.
 - C. A stand-alone keyswitch cannot be used for ON-OFF control of the panel when the No. 5216-12 is used.

INSTALLATION AND WIRING (See Diagram 1):

Up to four No. 215-12 Remote Stations may be connected to the No. 5216-12 in parallel, indoors on one or more two wire runs originating at the control (where the No. 5216-12 will be located).

The wire size to be used for the entire length of a two wire run depends upon the distance from the control to the farthest remote station on that particular run. Use the following tabulation to determine the wire size(s) needed for the proposed run(s). Twisted pair is recommended for greater immunity to unwanted induced voltages.

<u>MAXIMUM DISTANCE TO FARTHEST REMOTE STATION</u>	<u>WIRE SIZE</u>	<u>ADEMCO NO. (TWISTED PAIR)</u>
100 feet	#22	289
200	#20	283
300	#18	284
500	#16	282

An emergency (panic) alarm can be triggered at any No. 215-12 Remote Station by momentarily pressing its buttons marked # and * simultaneously.

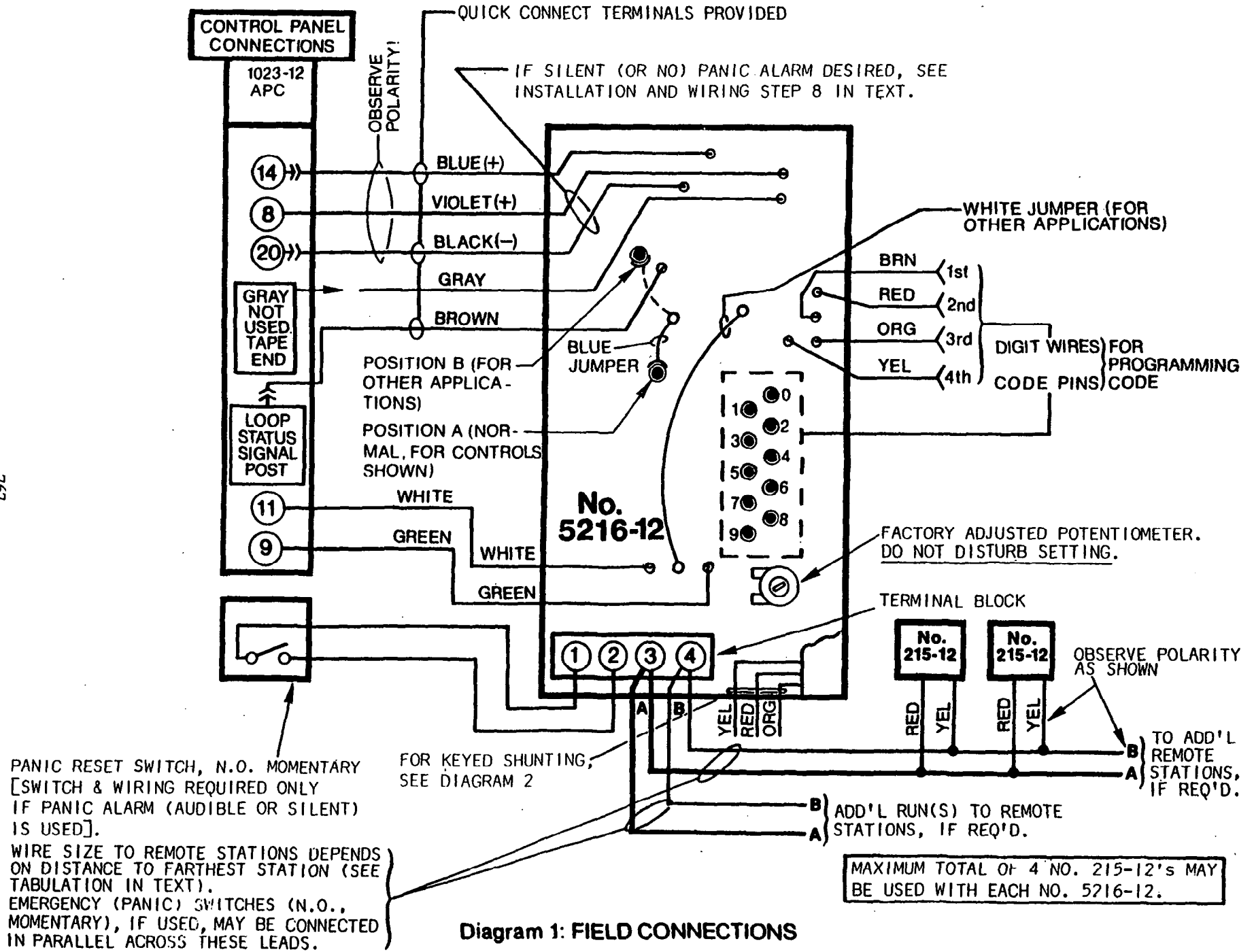
Note: If this feature is not desired, the No. 5216-12's VIOLET lead may be left disconnected from the control unit during installation. See Step 8 in the following procedure.

1. Locate the No. 215-12 Remote Station(s) and run the two wire circuit(s) between them and the control as described above. Connect the remote station RED and YELLOW leads across the "A" and "B" leads respectively, as shown in Diagram 1. Connections to the No. 5216-12 Adapter (to be installed within the control) will be made later. IMPORTANT: Locate the No. 215-12(s) where the buttons are not likely to be depressed accidentally, as this could lead to false panic alarms.
2. If desired, connect any number of momentary type N.O. emergency (panic) switches (e.g.: No. 219) across the two wire run(s) to the remote station(s).

Note: If the No. 215-12 Remote Stations' panic alarm feature is not to be connected (as described earlier), emergency (panic) switches may only be connected on separate wiring to the control panel, in the standard manner for audible panic alarm or directly to a digital communicator if SILENT PANIC ALARM is desired (see WIRING Step 8).

3. Remove the cover from the No. 5216-12 Adapter (grasp the cover at the wiring opening and pull gently) and program the PC board as follows: (SEE PAGE 4)

661
767



- a. Select a four digit "arm/disarm" code. The code may consist of any 4 different digits from 0 to 9 (e.g.: 2 1 5 8). Codes containing repeated digits (such as: 4 3 3 7 or 6 5. 4 6) cannot be used.
 - b. Place the four "digit wires" on the appropriate "code pins". The BROWN "digit wire" should be placed on the "code pin" corresponding to the first digit in the selected code (e.g.: Pin 2, if 2 1 5 8 is the selected code). Similarly, the RED, ORANGE and YELLOW wires should be placed on the pins corresponding to the 2nd, 3rd and 4th digits respectively. All four "digit wires" must be connected for proper operation.
 - c. DO NOT DISTURB THE FACTORY ADJUSTED POTENTIOMETER ON THE NO. 5216-12's PC BOARD.
 - d. The BLUE jumper should be on the pin at position A in Diagram 1 when the No. 5216-12 is used with the control shown. Position B is for other applications (described elsewhere).
4. Disconnect the control's battery and AC power.
 5. Connect the remote station wiring to terminals 3 and 4 of the No. 5216-12, observing the "polarity" shown in the diagram. Allow enough slack to reach the final position the No. 5216-12 will occupy in the control.

Note: The cover of the No. 5216-12 is provided with a mounting lip which can be slipped over the edge of the control cabinet, (during Step 7) without interfering with the closing of the cabinet's cover.

IF THE NO. 215-12's PANIC ALARM FEATURE IS NOT TO BE CONNECTED (AS DESCRIBED EARLIER IN THIS SECTION) SKIP THE FOLLOWING STEP 6, AND PROCEED TO STEP 7.

6. Connect Panic Reset wiring between the No. 5216-12 and the control as indicated in Diagram 1. A N.O. momentary contact switch for Panic Reset must be provided. The knockout provided in the cover of the control may be used for mounting the switch, or it may be located remotely [suggested keyswitches: No. 2174-70 (flat key), No. 4073-70 (round key), No. 5073-70 (higher security, pick resistant) ...or simply a No. 8064 Pushbutton may be used].

7. Replace the cover of the No. 5216-12 (dress all wires through the opening at one end of the cover) and install the unit inside the control cabinet by slipping its mounting lip over the edge of the cabinet.
8. Connect the No. 5216-12's remaining leads (for the RED, YELLOW and ORANGE keyed shunting leads, see Step 9) to the control as indicated in Diagram 1.

CAUTIONS: The BLUE(+) and BLACK(-) leads supply power to the No. 5216-12. Polarity must be observed or a burnout will result.

The VIOLET lead must not contact ground or any point, other than called for in the diagram, or a burnout may result. If it is not used (see next paragraph), tape its end.

Notes: If the No. 215-12 Remote Stations' panic alarm feature is not to be connected (as described earlier in this section) do not connect the No. 5216-12's VIOLET wire, but tape its end.

If SILENT PANIC ALARM is desired, do not connect the VIOLET (+) lead to the control. Instead, connect the VIOLET (+) lead and the control terminal to which the BLACK (-) lead is connected (No. 1023-12 terminal 20), to the voltage triggering points of a digital communicator (a

non-delay channel is recommended) or dialer. Observe polarity! (12V. DC appears across these leads when activated.)

AUDIBLE WARNING AT THE REMOTE STATIONS IS RECOMMENDED FOR SECURITY AND USER CONVENIENCE, BUT...

If audible warning is undesirable at the No. 215-12 Remote Station(s), do not connect the No. 5216-12's GREEN wire.

If any one No. 215-12 is to be silenced while others are not, connect the No. 5216-12's GREEN wire as shown in the diagram, but cut the thin ORANGE lead to the sounder in the No. 215-12 that is to be silenced.

9. If the No. 5216-12's keyed shunting feature is to be used, connect the unit's RED, YELLOW and ORANGE keyed shunting leads to a single zone in the control as indicated in Diagram 2, or to space protection devices as indicated in Diagram 3.

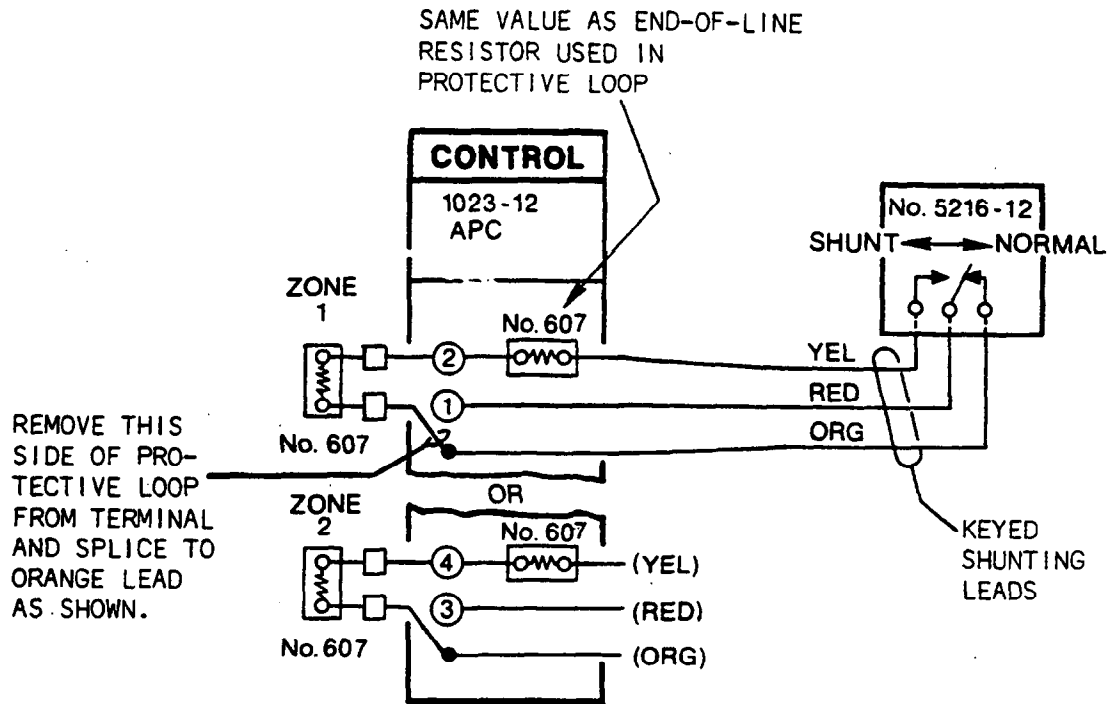
Notes: Do not use the No. 5216-12's keyed shunting feature in conjunction with a "fast response" zone (to avoid possible detection of the brief opening of the keyed shunting relay contacts as they operate).

A resistor, similar to the selected zone's end-of-line resistor must be connected in series with the No. 5216-12's YELLOW lead, as shown.

A keyed shunt connected to a space protection device will lock the detector in its "standby" state and keep its alarm contacts from operating as long as the shunt is in effect. With ultrasonic detectors (such as those in the Nos. 450, 454, 750 and 754 series) which have one of their transmitter day shut-off options selected, the power to the transmitters will be off while a keyed shunt is in effect.

10. Reconnect the control's battery and A.C. power.

SEE DIAGRAMS ON NEXT PAGE



NOTE: DO NOT USE No. 5216-12 IN CONJUNCTION WITH A "FAST" RESPONSE ZONE.

Diagram 2: TYPICAL CONNECTIONS, KEYED SHUNTING OF SINGLE ZONE

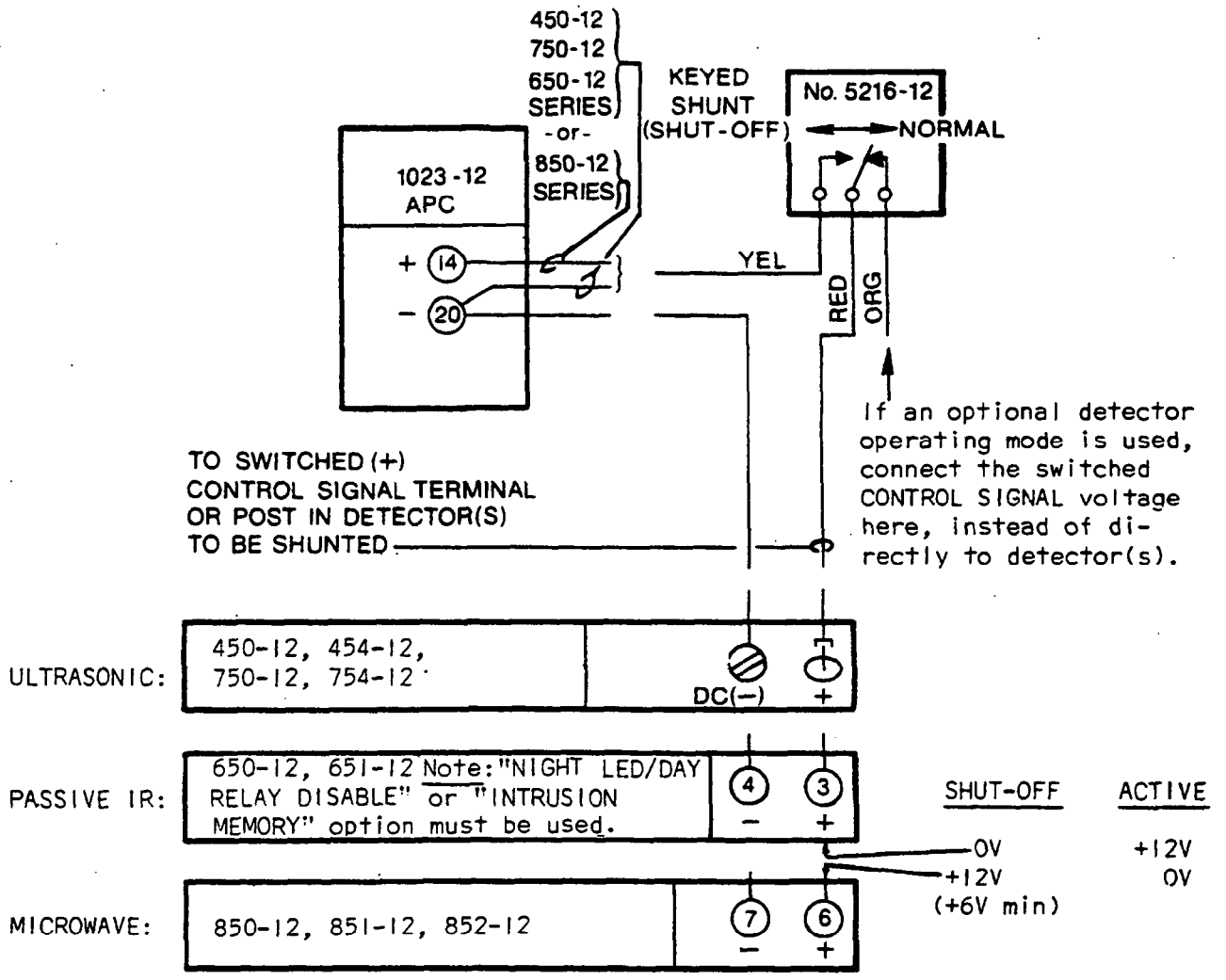


Diagram 3: TYPICAL CONNECTIONS, KEYED SHUNTING (SHUTOFF) OF SPACE PROTECTION DEVICES

TESTING AND OPERATION:

Arming and disarming of the system and (if used) keyed shunting may be carried out at any remote station.

The following tabulation shows how each remote stations' LED will indicate the system's status when used with a No. 1023-12 Alarm Processing Center.

No. 215-12's LED	SYSTEM STATUS: No. 1023-12 ALARM PROCESSING CENTER
OFF	DISARMED, PROTECTIVE CIRCUIT(S) OPEN or ALARM STORED IN PANEL'S MEMORY (see control's instructions)
<p>LED's on Alarm Processing Center will be lit for specific zone(s) not ready for arming, or flashing for memory in an alarmed zone which has restored. If panel LED is flashing, system may be armed directly without any loss of protection. (To clear panel's memory and restore flashing condition to remote station LEDs, arm and immediately disarm the system.)</p>	
FLASHING (NO BUZZER) OFF more than ON	DISARMED, PROTECTIVE CIRCUIT(S) CLOSED (Ready for Arming)
<p>The No. 1023-12 features automatic loop shunting and may be armed even though one or both of its basic protection zones (not the delay zone) has a fault, and the remote station LED is not flashing.</p> <p>If the fire circuit of a No. 245-12 Adapter is being used concurrently with a No. 5216-12 and 215-12(s) (for arming/disarming) connected to a No. 1023-12, the buzzer in each No. 215-12 will sound intermittently in the event of trouble in the fire loop.</p>	
FLASHING (NO BUZZER) ON more than OFF	ARMED (Keyed Shunting by No. 5216-12 in Effect)
ON STEADILY	ARMED (Ready for Alarm or Disarming)
<p>If the fire circuit of a No. 245-12 is being used concurrently with a No. 5216-12 and 215-12(s) (for arming/disarming) connected to a No. 1023-12, the buzzer in each No. 215-12 will sound steadily in the event of trouble in the fire loop.</p>	

1. Arm and disarm the system at each remote station and check the response of each station's LED indicator (see Note B on page 2):
 - a. Make sure all protective circuits are closed and system is ready for arming (remote station LED should be flashing, more OFF than ON).
 - b. Arm the system by entering the 4 digit code at the remote station (the remote station LED should light steadily).

If a basic protection circuit (without entry/exit delay) is disturbed, an alarm will sound immediately.

If an entry/exit delay circuit is disturbed (after the exit delay period runs its course), the remote station's audible indicator will sound during the "entry delay" period. If the system is not disarmed before the entry delay period expires, an alarm will result.

For buzzer warnings that occur during other than normal arming conditions, see the instructions that accompany the control.

- c. Disarm the system by entering the entire 4 digit code at the remote station (the station's LED should go off or start flashing, more OFF than ON).
2. If the No. 5216-12's keyed shunting feature has been connected, its action should be tested in each of the following ways:
 - a. Apply a keyed shunt and arm the system: At a No. 215-12 Remote Station, key any digit (other than the first digit of the arm/disarm code) followed by the full 4 digit arm/disarm code. Each No. 215-12's LED will flash (more ON than OFF) to indicate arming with keyed shunt in effect.
 - b. Remove the keyed shunt without changing the armed status of the system: Key only the first 3 digits of the arm/disarm code. Each No. 215-12's LED will then light steadily to indicate that the system is armed and no keyed shunt is in effect.
 - c. Apply a keyed shunt while the system is still armed: Key any digit (other than the first digit of the arm/disarm code) followed by only the first 3 digits of the arm/disarm code. Each No. 215-12's LED will then flash (more ON than OFF) to indicate that the system is armed with a keyed shunt in effect.
 - d. Disarm the system (keyed shunt will be automatically removed): Key the full 4 digit arm/disarm code.

Note: It is possible to initiate a keyed shunt while the system is disarmed by keying any digit (other than the first digit of the arm/disarm code) followed by only the first 3 digits of the arm/disarm code. When this happens (if all zones are otherwise intact), each No. 215-12's LED will be flashing, more OFF than ON, but at a somewhat slower rate than normally. Clear the shunt by keying only the first 3 digits of the arm/disarm code or clear the shunt and arm the system by keying the full 4 digit arm/disarm code.

3. Trigger panic alarm as follows:

Note: This assumes that the No. 5216-12-s VIOLET wire has not been left disconnected, to eliminate this feature, as described previously.

- a. On a No. 215-12 Remote Station, momentarily press the buttons marked # and * simultaneously. The panic alarm will sound (or a silent alarm will be sent) and continue until the PANIC RESET SWITCH (see Diagram 1) is operated. Repeat for each additional No. 215-12 Remote Station.
- b. If additional panic switches have been connected across the remote station wiring, test them as well.

SEE KEYING SUMMARY

SPECIFICATIONS:

	<u>No. 5216-12</u>	<u>No. 215-12</u>
<u>Physical:</u>		
Width:	3 3/4" (9.5 cm)	2 7/8" (7.3 cm)
Height:	6 7/8" (17.5 cm)	4 5/8" (11.7 cm)
Depth:	1 1/4" (3.2 cm)	1" (2.5 cm)

Electrical:

No. 5216-12 is powered with 12V. DC from control instrument.

Up to 4 No. 215-12's may be connected to one No. 5216-12.

Current Drain: 17 ma for No. 5216-12 plus 11.5 ma per No. 215-12
(LED lit steadily)

TO THE INSTALLER

Regular maintenance by the installer and frequent testing by the user is vital to continuous satisfactory operation of any alarm system.

The installer should assume the responsibility of developing and offering a regular maintenance program to the user as well as acquainting the user with the proper operation and limitations of the alarm system and its component parts. Recommendations must be included for a specific program of frequent testing to insure the system's proper operation at all times.

KEYING SUMMARY: No. 215-12(s) USED WITH No. 5216-12

DESIRED ACTION	No. 215-12's LED <u>BEFORE</u> KEYING	KEYING ^(A)	No. 215-12's LED <u>AFTER</u> KEYING
ARM, NO SHUNT ^(B)	FLASHING: OFF more than ON	N1-N2-N3-N4	ON STEADILY
ARM & APPLY SHUNT	FLASHING: OFF more than ON	NX-N1-N2-N3-N4	FLASHING: ON more than OFF
APPLY SHUNT & REMAIN ARMED	ON STEADILY	NX-N1-N2-N3	FLASHING: ON more than OFF
REMOVE SHUNT & REMAIN ARMED	FLASHING: ON more than OFF	N1-N2-N3	ON STEADILY
DISARM (Removes shunt, if any)	ON STEADILY or FLASHING: ON more than OFF	N1-N2-N3-N4	FLASHING: OFF more than ON (or OFF if zone not intact)
PANIC ALARM	At any time	* and # SIMULTANEOUSLY	No change

669

775

(A): N1-N2-N3-N4 = 4 digit arm/disarm code.
NX = any digit other than N1 (first digit of arm/disarm code).

(B): "SHUNT" in this summary refers to a keyed shunt applied, via the Nos. 215-12/5216-12 to shunt a single zone on the control or to turn off individual space protection devices within a zone.