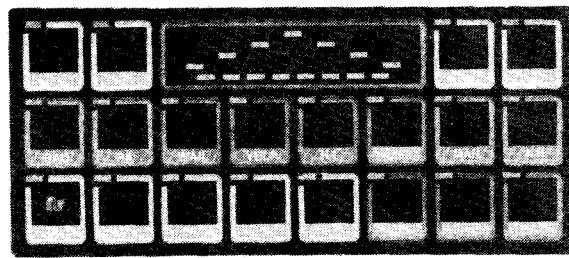
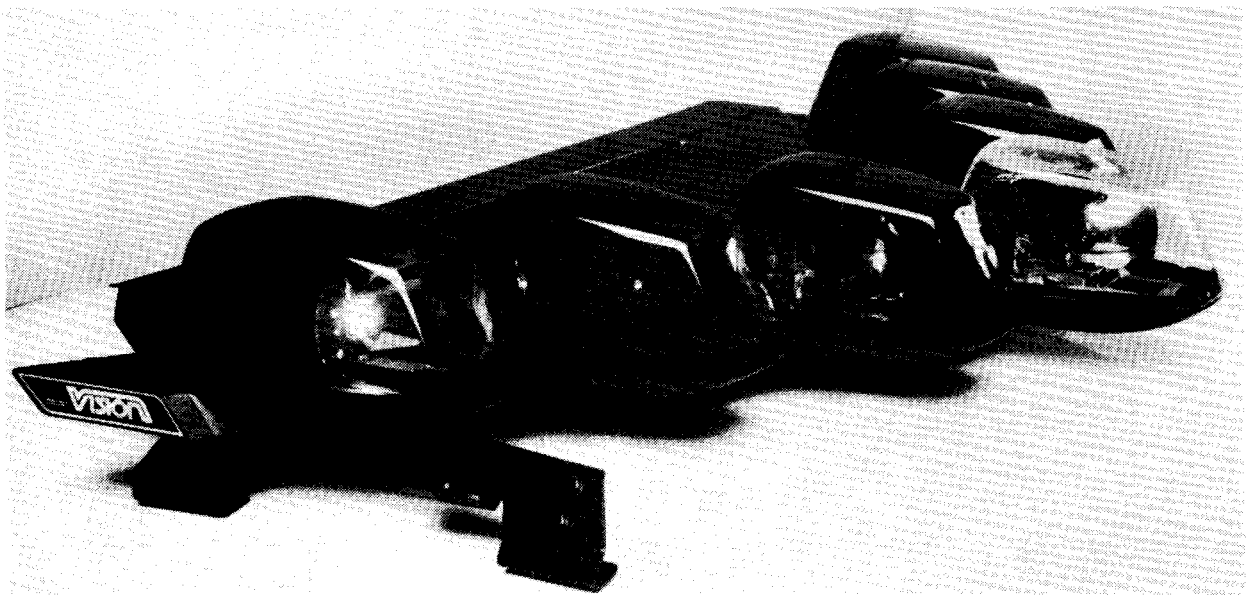


Price \$15.00



PREMIUM VISION® WARNING SYSTEM



HARDWARE INSTALLATION AND MAINTENANCE INSTRUCTIONS

LIMITED WARRANTY

The Signal Division, Federal Signal Corporation (Federal), warrants each new product to be free from defects in material and workmanship, under normal use and service, for a period of two years on parts replacement and one year on labor from the date of delivery to the first user-purchaser.

During this warranty period, the obligation of Federal is limited to repairing or replacing, as Federal may elect, any part or parts of such product which after examination by Federal discloses to be defective in material and/or workmanship.

Federal will provide warranty for any unit which is delivered, transported prepaid, to the Federal factory or designated authorized warranty service center for examination and such examination reveals a defect in material and/or workmanship.

This warranty does not cover travel expenses, the cost of specialized equipment for gaining access to the product, or labor charges for removal and re-installation of the product. Lamps, flash tubes, or batteries are not covered under warranty.

This warranty does not extend to any unit which has been subjected to abuse, misuse, improper installation or which has been inadequately maintained, nor to units which have problems relating to service or modification at any facility other than the Federal factory or authorized warranty service centers.

THERE ARE NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL FEDERAL BE LIABLE FOR ANY LOSS OF PROFITS OR ANY INDIRECT OR CONSEQUENTIAL DAMAGES ARISING OUT OF ANY SUCH DEFECT IN MATERIAL OR WORKMANSHIP.



FEDERAL SIGNAL CORPORATION

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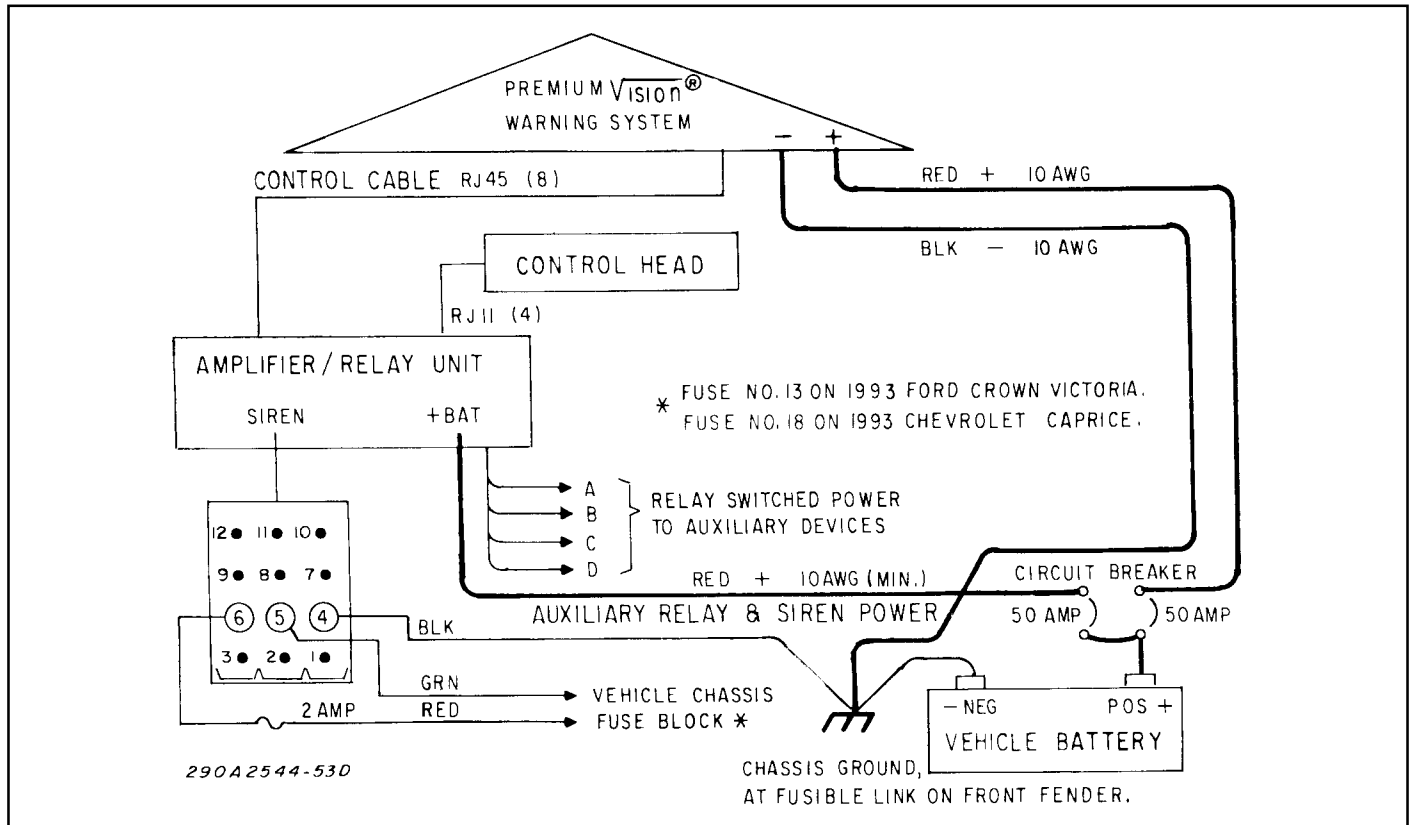
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IMPORTANT WIRING INFORMATION

WARNING

The Premium Vision® warning system is an advanced microprocessor based warning system. Unlike conventional light bars, malfunctions and/or improper operation **WILL** result if proper installation procedures are not followed. Refer to the accompanying diagram and pay special attention to the "DO & DON'T" list at the bottom of this page. To complete the electrical installation, refer to paragraph 3-7.



DO	DON'T
1. DO...Connect the 10 ga. red wire from the lightbar to one of the two 50-ampere circuit breakers (installed as close to the battery as possible and directly to the positive (+) battery terminal).	1. DON'T...Use in-line fuses, solenoids, or relays to switch power to the 10 ga. red wire. Unreliable warning system operation will result.
2. DO...Connect the 18 ga. red wire from the twelve pin connector (Pin 6) to a point on the fuse block that is powered in run and start positions (F13 on 1993 Crown Victoria and F18 on 1993 Chevrolet Caprice). Use an in-line 2A fuse.	2. DON'T...Use solenoids or relays. Do not connect any other products to this line. Unreliable warning system operation will result.
3. DO...Connect the 10 ga. black wire from the lightbar AND the 18 ga. black wire from the twelve pin connector (Pin 4) to the fusible link at the front fender between the negative (-) battery terminal and chassis ground. This is the ONLY chassis ground allowed for these two wires.	3. DON'T...Connect to any other chassis ground or ground shared with any other product. Unreliable warning system operation will result.
4. DO...Connect the green wire from the twelve pin connector (Pin 5) to chassis ground.	4. DON'T...Connect to any black negative wire of the Vision System. Unreliable warning system operation will result.
AUXILIARY RELAY/SIREN POWER:	
5. DO...Connect a 10 ga. wire to the load side of the other 50-ampere circuit breaker. Route it through the hole labeled +BAT on the interface/relay unit and attach it to LUG 1 on the circuit board.	5. DON'T...Use any wire smaller than 10 ga. or a circuit breaker less than 50 amps. Unreliable auxiliary device operation will result.

SECTION I

GENERAL DESCRIPTION

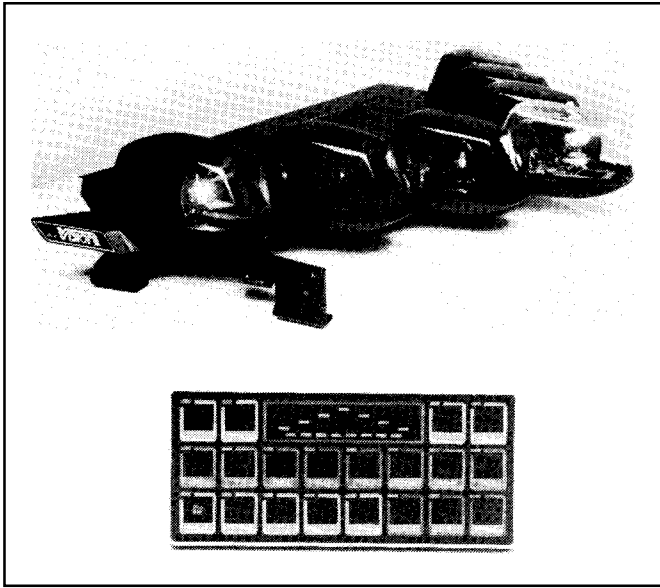


Figure 1-1. Premium Vision® Warning System.

The Federal Premium Vision® warning system (figure 1-1) is a full-featured, programmable, integrated warning light and siren system. State-of-the-art microprocessor based technology is used to produce a warning system with a super-compact, 1" thin control head. All warning system functions and programmable features are available at the Control Head. Replaceable switch function labels are provided for identification of Control Head switches. The Premium Vision also provides siren functions which include: Wail, Yelp, Hi-Lo, Priority, Air Horn, and Manual Siren.

V-shaped construction lets the Premium Vision warning system maximize light warning efficiency at crucial 45° angles. The individual domes are shaped to eliminate critical dome angles, which reflect rather than transmit light in other light bars, significantly improving light transmission (brightness).

Premium Vision's revolutionary aerodynamic styling provides superior vehicle fuel efficiency and top speed.

Each of the warning system's seven modular, self-contained and independent lights are pre-programmed to provide a wide selection of warning light patterns. Available patterns include: rotate at 90, 120 or 175 flashes per minute; oscillate to the front, rear, sides and/or angled; as well as steady burn and flashing. Pattern selection can be performed during or after installation without disassembly, wiring changes, or special tools.

Take-down and alley lights have horizontal tracking capability for use as spotlights, or they may be programmed to move to a predetermined position.

Four auxiliary relay outputs are available for control of auxiliary lights and accessories.

An optional user-supplied switch, such as a foot switch, may be used to activate primary warning lighting and siren.

An optional rear directional light, called the SignalMaster™, provides additional warning capability using a common control. The SignalMaster has programmable light patterns which provide supplemental warning for any hazardous situation.

The Control Head's center row of switches controls the siren functions. The lower switches control light patterns, relays and the optional SignalMaster directional light. The Control Head's LED display indicates which lights are illuminated. When the optional SignalMaster is installed, the Control Head's LED display simulates the light pattern being executed by the directional light.

The warning system is protected against reversed polarity damage. Relay outputs are protected by automotive-type fuses.

The Premium Vision warning system may be installed in any vehicle with a 12-volt NEGATIVE ground electrical system. The Amplifier/Relay Unit may be installed in the trunk or under the seat. For simple installation: connection between the Control Head and the Amplifier/Relay Unit is via a modular telephone cable with standard modular phone connectors at both ends, and connection between the Amplifier/Relay Unit and the lightbar is via a multi-conductor cable with connectors at both ends.

Other advanced features of the Premium Vision warning system include:

- High degree of reliability through the use of CMOS microprocessor and other integrated circuits.
- Modular construction with easily replaceable circuit boards, domes and lamps to greatly reduce spare parts inventory.
- Quiet, smooth, precise and efficient positioning stepper motors control parabolic reflectors and have a longer life than conventional DC motors.

SECTION II

SPECIFICATIONS

2-1. ELECTRICAL.

Input Voltage	11VDC to 16VDC.
Polarity	Negative ground only.
Operating Temperature Range	-30°C to +65°C.
Standby Current	3.0 amperes (nominal).
Operating Current	40 amperes (nominal).
(100 watt siren activated—SignalMaster and auxiliary functions deactivated)	

2-2. SIREN.

Frequency Range	700 to 1500Hz (nominal).
Nominal Cycle Rate	Wail - 12 cycles/min. Yelp - 180 cycles/min. HI-Lo - 60 cycles/min.
Siren Power	Operates 1 or 2 100-watt speakers.
Nominal Voltage Output	64V peak to peak (siren tones).
Audio Response	300Hz to 3,000Hz ± 3 db.
Audio Power	45 watts in PA Mode (typical with 1.4V peak to peak input).
Harmonic Distortion	Less than 10% from 5 to 45 watts.
Input Impedance (PA)	4,000 ohms (nominal).

2-2. PHYSICAL.

Dimensions:

Interface/Relay Unit

Height	2-11/16" (6.83cm).
Width	6-3/8" (16.2cm).
Length	6-5/8" (16.8cm).
Net Weight	4 lbs. (1.82kg).

Control Head

Height	3-1/8" (5.87cm).
Width	1.0" (2.54cm).
Length	6-3/4" (17.15cm).
Net Weight	9-5/8 oz. (0.273kg).

Lightbar

Height	5-7/8" (15cm).
Width	47-3/4" (121.3cm).
Length	28" (71.12cm).
Net Weight	42 lbs. (30.45kg).

Shipping Weight	72 lbs. (32.73kg).
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2-3. FEATURES SUMMARY.

- V-shaped construction.
- Seven multi-function 50 watt lamp modules.
 - Rotation at 90FPM, 120FPM, and 175FPM.
 - Oscillation to front, rear, and sides.
 - Alley/take-down lights with manual (sweep or single step) positioning capability.
- Four auxiliary relay-controlled outputs.
- Mode 3 activation via foot switch (optional).
- User-selectable keyboard configurations with pre-programmed light patterns.
- Optional rear SignalMaster directional light.
- Unauthorized reprogramming prevention.

SECTION III

INSTALLATION

SAFETY MESSAGE TO INSTALLERS OF WARNING LIGHT/SIREN SYSTEMS

WARNING

The lives of people depend on your safe installation and servicing of Federal products. It is important to read and follow all instructions shipped with the products. In addition, listed below are some other important safety instructions and precautions you should follow:

Before Installation

Qualifications

- To properly install a warning light/siren system: you must have a good understanding of automotive electrical procedures and systems, along with proficiency in the installation and service of safety warning equipment.

Sound Hazards

- Your hearing and the hearing of others, in or close to your emergency vehicle, could be damaged by loud sounds. This can occur from short exposures to very loud sounds, or from longer exposures to moderately loud sounds. For hearing conservation guidance, refer to federal, state, or local recommendations. OSHA Standard 1910.95 offers guidance on "Permissible Noise Exposure."
- All effective sirens and horns produce loud sounds which may, in certain situations, cause permanent hearing loss. You should minimize your exposure times and wear suitable hearing protection.

During Installation

- DO NOT connect this system to the vehicle battery until ALL other electrical connections are made, mounting of all components is complete, and you have verified that no shorts exist.
- Locate the control head so the vehicle, controls, and microphone can be operated safely.
- A warning light/siren system is a high current device. In order for it to function properly, separate ground (-) and positive (+) connections must be made. They should be connected to the battery terminals. The supplied circuit breaker must be installed in the positive lead as close to the battery as practical.

- The Premium Vision warning system is an advanced microprocessor based warning system. Unlike conventional light bars, low voltage conditions (less than 11VDC) may cause it to malfunction or fail to operate. Installation procedures MUST produce reliable and durable ground (-) and positive (+) connections. In addition: the vehicle battery, charging system, and installation wiring MUST have the capacity to supply consistent warning system power at rated current and voltage levels.
- DO NOT install a two-way radio antenna on the lightbar.
- Install the lightbar at least 18-inches away from any two-way radio antenna.
- DO NOT drill additional holes in the lightbar, or install auxiliary devices on the lightbar.
- When drilling into a vehicle structure, be sure that both sides of the surface are clear of anything that could be damaged.
- If wiring is shorted to vehicle frame, high current conductors can cause hazardous sparks resulting in electrical fires or flying molten metal.

After Installation

- After installation, test the warning light and siren system to ensure that it is operating properly.
- Test all vehicle functions, including horn operation and vehicle light systems, to ensure proper operation.
- After testing is complete, provide a copy of these instructions to the instructional staff and all operating personnel.
- File these instructions in a safe place and refer to them when maintaining and/or re-installing the product.

Failure to follow all safety precautions and instructions may result in property damage, serious injury, or death to you or others.

WARNING

When installing equipment inside air bag equipped vehicles, the installer **MUST** ensure that the equipment is installed **ONLY** in areas recommended by the vehicle manufacturer.

Failure to observe this warning will reduce the effectiveness of the air bag, damage the air bag, or potentially damage or dislodge the equipment, causing serious injury or death to you or others.

3-1. UNPACKING.

After unpacking the Premium Vision, examine it for damage that may have occurred in transit. If the equipment has been damaged, file a claim immediately with the carrier stating the extent of damage. Carefully check all envelopes, shipping labels and tags before removing or destroying them.

3-2. COLORED DOME INSERT OPTION INSTALLATION.

WARNING

To provide proper warning colors to the front and/or rear if dome inserts are used, a clear dome must be used with the colored inserts.

- A. Remove and retain the two Torx head screws which secure the dome to the pod.
- B. Carefully remove the dome and set it aside.
- C. Place the front or rear insert in position and ensure that the locating notches are properly positioned on the locating ribs as shown in figure 3-1. If applicable, repeat with the other insert.

CAUTION

Excessive tightening of the Torx head screws will damage the screws.

- D. Replace the dome and secure with the previously removed Torx head screws.

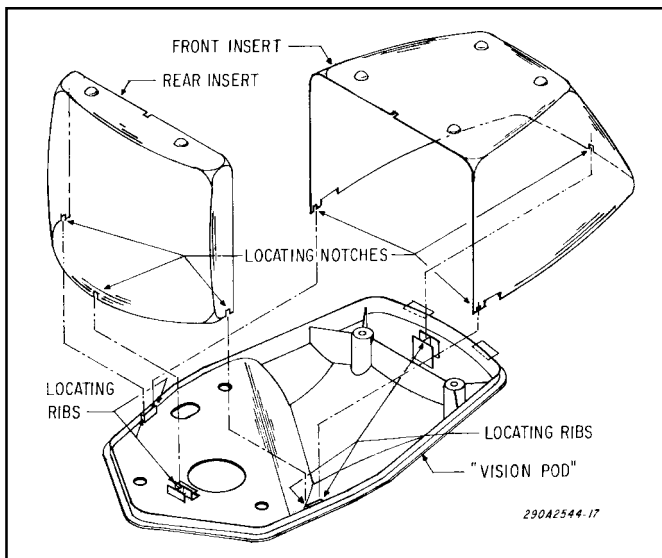


Figure 3-1. Dome Insert Installation.

3-3. LIGHTBAR INSTALLATION.

WARNING

Improper warning system and/or two-way radio system operation may result if a two-way radio antenna is installed on, or within 18-inches of, the lightbar. Before permanent installation of the lightbar or a two-way radio antenna, test the warning system and two-way radio system. **DO NOT** install a two-way radio antenna on the lightbar.

Some installations may require relocation of the two-way radio antenna to a trunk or fender location.

Warning system failure may result if additional holes are drilled in the lightbar, or if auxiliary devices are installed on the lightbar. **DO NOT** drill additional holes in the lightbar, or install auxiliary devices on the lightbar.

Before performing any installation, see figure 3-2 (block wiring diagram); plan all wiring and cable routing. Ensure that the lightbar is installed on the vehicle roof in accordance with the instructions packed with the mounting kit.

3-4. AMPLIFIER/RELAY UNIT MOUNTING LOCATION SELECTION.

CAUTION

The Premium Vision Amplifier/Relay Unit housing is **NOT** waterproof. It must be mounted in a location which is sheltered from falling rain, snow, standing water, etc. Also, it must be installed in an adequately ventilated area. Never install near heater ducts.

Do not mount the Premium Vision Amplifier/Relay Unit under the vehicle's hood.

When selecting a mounting location for the Premium Vision Amplifier/Relay Unit and the control head, it is necessary to keep in mind that the control head cable is 20-feet long and the power cable is 4-feet long. Plan all wiring and cable routing before performing any installation.

Some possible Amplifier/Relay Unit mounting locations are: under the dash, under the front seat, or in the trunk (under the rear deck, near the rear seat speakers, if vehicle is so equipped).

Using the supplied mounting bracket will allow the Amplifier/Relay Unit to be easily removed for wiring and servicing, should it be needed.

NOTE: FOR SS2000, OR PA300 POWER CABLE
COMPATIBILITY REFER TO PARAGRAPH 3-7. B.

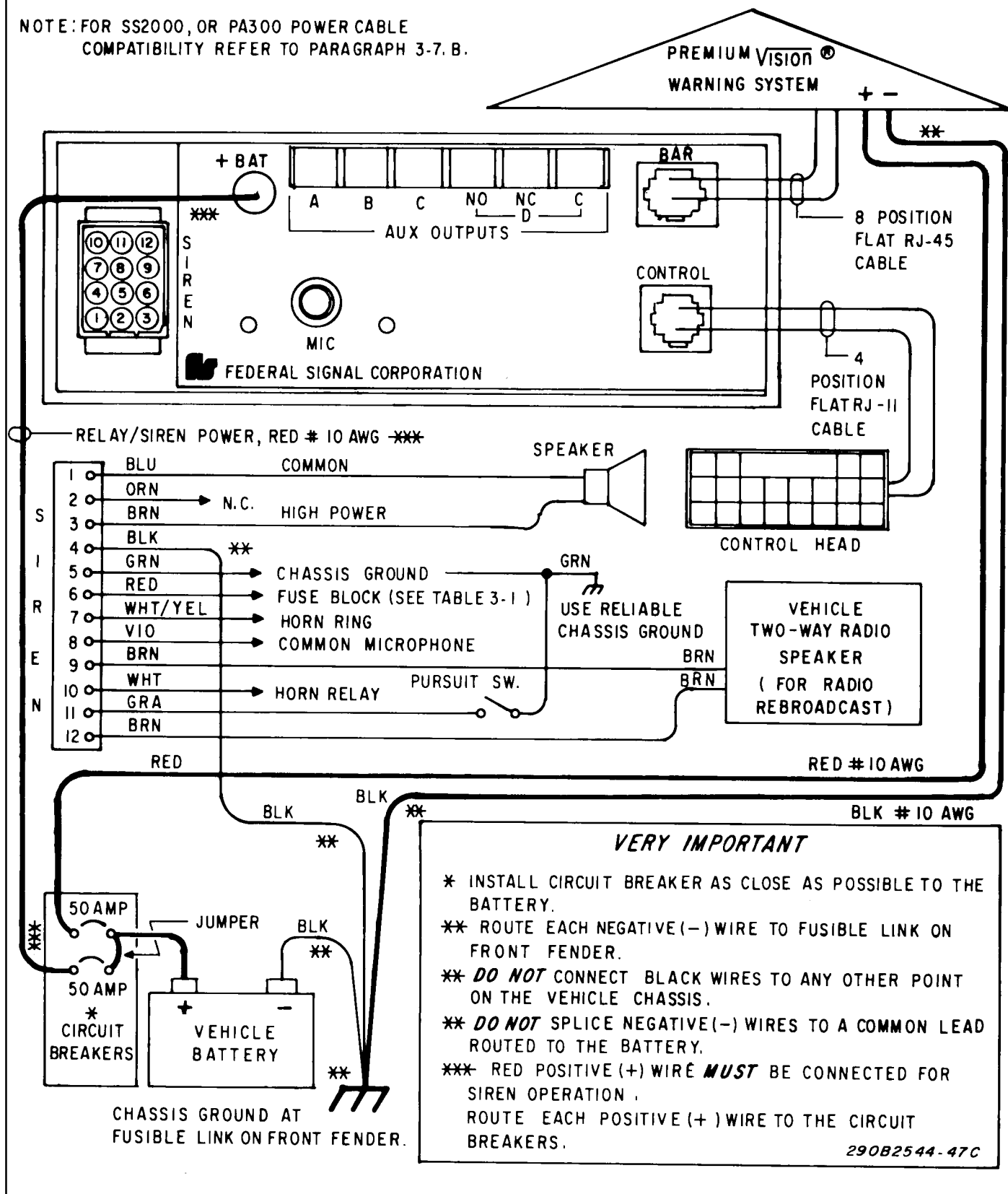


Figure 3-2. Block Wiring Diagram.

3-5. AMPLIFIER/RELAY UNIT MOUNTING BRACKET.

To install the Amplifier/Relay Unit using the mounting bracket, proceed as follows:

A. Use the mounting bracket as a template and scribe two drill positioning marks at the selected mounting location.

CAUTION

Before drilling holes in ANY part of a vehicle, be sure that both sides of the mounting surface are clear of parts that could be damaged; such as brake lines, fuel lines, electrical wiring or other vital parts.

NOTE

If desired, the #14 thread-forming screws may be used in place of the 1/4-20 x 3/4 hex head screws.

B. Drill two mounting holes at the position marks.

C. Secure the mounting bracket to the mounting surface with (2 each) 1/4-20 x 3/4 hex head screws, 1/4 split lockwashers and 1/4-20 hex nuts as shown in figure 3-3.

3-6. CONTROL HEAD INSTALLATION.

CAUTION

Unreliable switch activation and loss of "tactile feedback" will result if the control head mounting method allows movement. DO NOT mount the control head on padded surfaces.

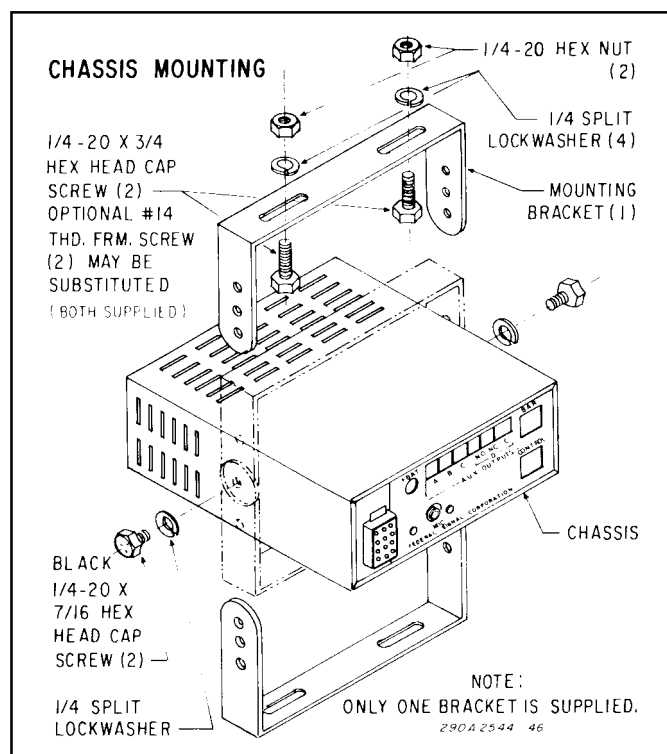


Figure 3-3. Mounting Bracket Installation.

Choose a **firm** and **flat** mounting location for the control head that allows the vehicle, controls, and microphone to be operated safely at all times.

See figure 3-4. The supplied hinged mounting bracket enables the control head to be mounted in a variety of positions. Positioning the bracket above the unit allows mounting the control head on the underside of the dash. Positioning the bracket below the unit will permit mounting on any horizontal surface. To mount the control head using the bracket, proceed as follows:

A. Assemble a bracket to the control head using the 6-32 x 1/4 screws and #6 lockwashers. Assemble the other bracket to the control head/bracket assembly using the 1/4-20 x 3/4 hex head screws and 1/4" lockwashers as shown in figure 3-5.

NOTE

The brackets are not symmetrical. After assembling the brackets to the control head, ensure that the assembly can be properly positioned at the intended mounting location. If proper positioning cannot be achieved, reverse the bracket.

B. Use the mounting bracket as a template and scribe two drill positioning marks at the selected mounting location.

CAUTION

Before drilling holes in ANY part of a vehicle, be sure that both sides of the mounting surface are clear of parts that could be damaged; such as brake lines, fuel lines, electrical wiring or other vital parts.

C. Drill two mounting holes at the position marks.

D. Secure the mounting bracket to the mounting surface with the #10 thread-forming screws as shown in figure 3-5.

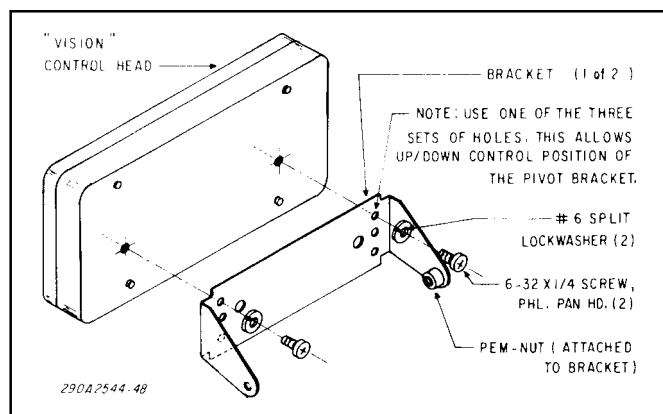


Figure 3-4. Control Head Bracket Assembly.

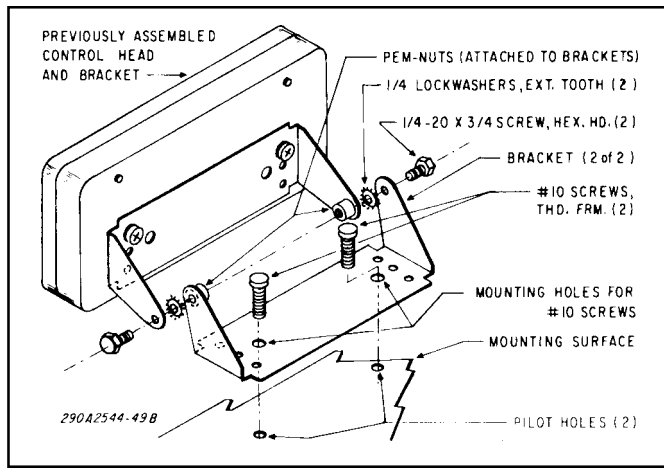


Figure 3-5. Control Head and Bracket Installation.

3-7. ELECTRICAL INSTALLATION.

WARNING

Failure to observe this WARNING may result in fire, burns or blindness.

If shorted to vehicle frame, high current conductors can cause hazardous sparks resulting in electrical fires or molten metal.

DO NOT connect this system to vehicle battery until ALL other electrical connections are made and mounting of all components is complete.

Verify that no short circuits exist, before connecting to the Positive (+) battery terminal.

To complete this portion of the installation, proceed as follows:

A. Lightbar Connections.

The lightbar is completely wired at the factory and does not require any additional internal wiring. All the conductors necessary for control of all functions are contained in the cables.

1. Route the lightbar power cable and the control cable into the vehicle.
2. Route the control cable near the location of the previously installed Amplifier/Relay Unit and secure the cable with user-supplied clamps and hold-downs as required.

3. Plug the control cable's connector into the mating connector on the Amplifier/Relay Unit.

CAUTION

Before drilling holes in ANY part of a vehicle, be sure that both sides of the mounting surface are clear of parts that could be damaged; such as brake lines, fuel lines, electrical wiring or other vital parts.

4. If necessary, drill a hole in the vehicle firewall. Place a grommet or similar device in the

hole to protect the wires against damage from rough edges. Route the power cable into the engine compartment.

To protect the wire, a separate circuit breaker must be connected as close as practical to the positive (+) battery terminal. FUSES ARE NOT ACCEPTABLE. See figures 3-2 and 3-6. Install the supplied two 50-ampere circuit breakers (Federal Part No. 8474176). DO NOT remove the jumper on the battery side of the circuit breakers. Connect the red wire to one of the 50-ampere circuit breakers.

Do NOT make any connections to the battery until all other wiring is complete.

B. Amplifier/Relay Unit Power Cable Connections.

The Amplifier/Relay Unit power cable, included in the carton, is equipped with a twelve-pin plug that mates with the connector on the rear of the Amplifier/Relay Unit (see figures 3-7 and 3-8). Additional wire (the same gauge or heavier) may be spliced to the leads as required. The Premium Vision's Amplifier/Relay Unit power cable is basically pin-compatible with the Federal SS2000 or PA300 power cable. Refer to chart 3-1 for compatibility considerations. A block wiring diagram is shown in figure 3-2. The various wires on the connector must be connected as follows:

NOTE

Use electrical tape to insulate ANY unused power cable wires.

1. Speaker.

The unit is designed to operate with one 11-ohm impedance (100W) speaker or two 11 ohm impedance (100W) speakers connected in parallel and in phase. On Federal speakers, this can be accomplished by connecting the two speaker leads marked "1" to the SPEAKER COMMON power cable lead and the two speaker leads marked "2" to the SPEAKER HI power cable leads. See figure 3-8.

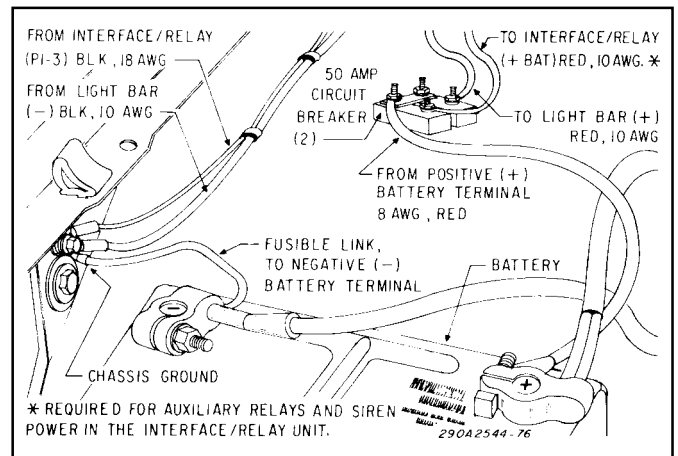


Figure 3-6. Battery Connections.

Premium Vision Power Cable	PA300 Power Cable	SS2000 Power Cable
Pin # 2	Note 1	Note 1
Pin # 8	Note 2	Compatible
Pin # 11	Note 3	Compatible

WARNING

Unreliable warning system operation will result if the power cable's black wire is connected to chassis ground or to a ground shared with any other product. Ensure that the black wire is routed directly to the negative battery terminal.

Also, when using the PA300 or SS2000 power cable, the 20-ampere in-line fuse **MUST** be replaced with a 2-ampere fuse.

Notes:

1. Replace low power speaker with a 100W unit. Ensure that the new speaker is connected to Pins 1 and 3 of the Power Cable plug.
2. If this feature (common microphone) is desired, replace the PA300's power cable with the new cable supplied with the Premium Vision.
3. If this feature (pursuit function) is desired, replace the PA300's power cable with the new cable supplied with the Premium Vision.

Chart 3-1. Power Cable Compatibility.

A speaker is not included as part of this warning system. FEDERAL speakers are weatherproof and may be installed in any convenient location; on the roof, fender, behind the grill, etc. Any special mounting instructions applicable to the type of speaker you have selected will be found in the speaker carton.

Connect the speaker leads (18 gauge wire) as shown in figure 3-8.

2. Radio.

See figure 3-8. To allow incoming radio messages to be rebroadcast over the outside speak-

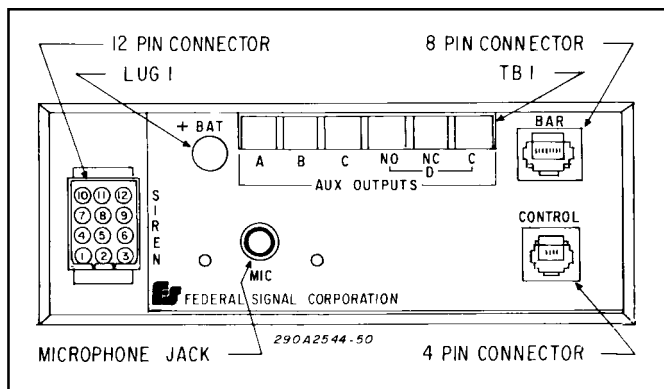


Figure 3-7. Rear View of Amplifier/Relay Unit.

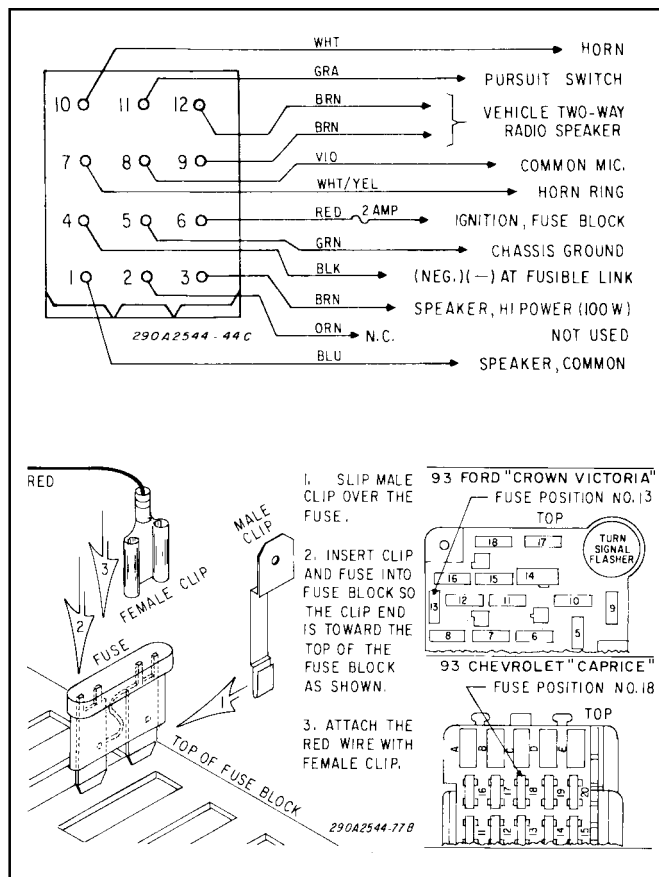


Figure 3-8. Interface/Relay Unit Power Cable and Fuse Clip Adapter Installation.

ers, connect the two brown zip cord leads (twelve-pin connector, pins 9 and 12) across the two-way radio's speaker.

3. Horn Ring.

In order to utilize the horn ring control of siren tones (Tap II) and other features of the warning system, the following procedure must be performed.

- a. Locate the wire that connects the vehicle horn ring switch to the horn or horn relay. Cut this wire.
- b. See figure 3-9. Splice the white/yellow power cable wire to the horn ring side of the wire that was cut in step a. Insulate the splice with the wire nuts (supplied).

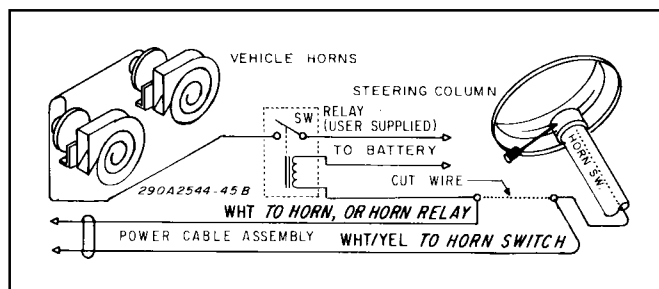


Figure 3-9. Horn Ring Connections.

CAUTION

The horn ring transfer circuit of the siren is capable of switching a maximum of 2-amperes. Some vehicles do not have a horn relay and, consequently, will draw more than 2-amperes when the vehicle horn is activated. Consult your vehicle service manual or a qualified mechanic to determine the current required to activate the horn. If it is **less** than 2-amperes, perform the procedure in step c. If it is **greater** than 2-amperes, perform steps d through j.

c. Splice the white power cable wire to the horn side of the cut wire. Insulate the splice with a wire nut.

d. Obtain a SPST relay of sufficient contact current capacity to activate the vehicle horn. Refer to figure 3-9 while performing the following steps.

e. Mount the relay in a suitable location.

f. Connect the horn side of the wire cut in step a to the relay contact terminal.

g. Determine the “sense” of the vehicle’s horn ring activation circuit, i.e., does the horn circuit require a switched positive voltage or switched ground for activation.

h. Connect the relay wiper terminal to the positive or negative potential determined in step g.

i. Connect the white power cable wire to one end of the relay coil.

j. Connect the other end of the relay coil to the opposite potential of that connected to the wiper in step h.

4. Pursuit Switch.

The Pursuit function is activated by momentarily grounding the Pursuit switch input using a user-supplied foot switch. Federal Part No. 122A108 (switch) with Part No. 164B101 (boot), or other equivalent momentary contact SPST switch, can be used.

a. Install the foot switch in a location which allows the vehicle, controls, and microphone to be operated safely at all times. In addition, the foot switch should be installed in a location which allows minimum reaction time in an emergency situation.

b. Connect one side of the switch to a **RELIABLE** chassis ground using #18AWG or larger wire.

c. See figure 3-8. Connect the other side of the switch to the power cable’s gray wire using #18AWG or larger wire.

5. Common Microphone.

a. If the PA and RADIO transmitter are to share a common microphone, the audio switching must be performed by a user-supplied switching device. The violet wire provides a ground when the Premium Vision is operating in the PA mode.

Refer to the instructions provided with the switching device. Connect the **GROUND ACTIVATED** (200 milliamperes or less) switching device to the violet wire.

b. If the PA and RADIO transmitter are to have separate microphones, fold back and insulate the violet wire.

6. Connection to Power Source (see figure 3-8).

The Premium Vision must operate from a 12 volt **NEGATIVE** ground vehicle electrical system. Therefore, before making any electrical connections, verify the polarity of the vehicle electrical system ground.

NOTE

Transient noise pulses caused by the automotive power system or surge currents due to switching inductive or incandescent lamp loads may cause malfunctions in the Premium Vision if proper wire routing is not followed.

The Amplifier/Relay Unit red (positive) power cable lead should be as short and direct to the fuse block or user-supplied switch (current capacity of at least 2 amps) as possible. **DO NOT** splice to lightbar or accessory power leads.

The Amplifier/Relay Unit black (negative) power cable lead should be as short and direct to the fusible link on the front fender as possible. **DO NOT** splice to lightbar or accessory negative (black) leads.

The black (negative) power cable lead **MUST** be connected to the vehicle chassis **ONLY** at the fusible link on the front fender.

IMPORTANT

The Premium Vision system does not have an on-off switch. If Amplifier/Relay Unit power is obtained directly from the vehicle battery, the system will continuously draw approximately 3.0A and will eventually discharge the vehicle's battery. It is **RECOMMENDED** that Amplifier/Relay Unit power be obtained from a vehicle circuit that is powered **RUN, and START** positions. Power can also be obtained from a user-supplied switch (current capacity of at least 2 amps).

CAUTION

Before drilling holes in ANY part of a vehicle, ensure that both sides of the surface are clear of parts that could be damaged; such as brake lines, fuel lines, electrical wiring or other vital parts.

a. Connect the green power cable lead to the vehicle chassis as close as practical to the Amplifier/Relay Unit. Scrape paint away from the selected bolt hole to assure a good electrical connection to the chassis.

b. Power for the Amplifier/Relay Unit can be obtained from the vehicle's fuse block; or a 2-ampere fused, switched circuit. When obtaining power from the vehicle's fuse block, refer to the vehicle's wiring manual to ensure the unit will be powered in the **RUN and START** positions.

Route the red (+) power cable lead to the fuse block (see table 3-1) or user-supplied switch. When the red (+) power cable lead is routed to the fuse block, install the supplied fuse clip adapter as follows (see figure 3-8):

(1). Slip the fuse clip adapter over the fuse.

(2). Insert the adapter clip/fuse into the applicable fuse block location (see table 3-1 or refer to the vehicle's wiring manual) with the adapter clip end toward the top of the fuse block.

(3). Attach the power cable's red wire on the fuse clip.

c. To protect the wires, use an in-line fuseholder and 2-ampere fuse (not supplied). The

Make of Automobile	1993	1992	1991	1990-89
Chevrolet Caprice	Fuse 18	Fuse 18	Fuse 18	TURN B/U
Ford Crown Victoria	Fuse 13	Fuse 13	Fuse 13	Fuse 18

Table 3-1. Fuse Block Connection.

fuseholder and fuse should be installed in the red (+) lead as close as practical to the power source.

d. Route the black (-) power cable lead through the previously drilled hole into the engine compartment, and through existing clamps and holders toward the fusible link on the front fender. DO NOT make any connections to the battery until all other wiring is complete.

C. Siren/Auxiliary Connections.

IMPORTANT

Steps 1, 2, 3, 4, and 6 below ARE REQUIRED FOR SIREN FUNCTIONS whether or not the auxiliary relays are used.

The Premium Vision's relay-controlled outputs can control auxiliary lights and accessories. Specific control head switches operate the relay-controlled outputs. To properly connect the auxiliary devices to the warning system, it is necessary for the installer to understand which control head switch(es) activate the output(s). The Premium Vision is configured at the factory to satisfy most installation requirements.

Before proceeding with installation, refer to the supplied Operation and Configuration Instructions manual for a description of the "standard" keyboard configuration and for instructions on how to change the configuration (if necessary).

The Premium Vision provides one terminal strip (TB1) for control of auxiliary lights and accessories. A total of four fused relay-controlled outputs are available. Each relay-controlled output is fused at 20-amperes.

Each output switches a nominal +12-volts to the controlled device. Do NOT use the black wire in the Amplifier/Relay Unit power cable for grounding the switched device(s). Ground the switched devices separately.

NOTE

Output D provides normally open/normally closed (NO/NC) and common contacts (C). The normally open/normally closed (NO/NC) contacts can be used as a brake light cut-out or similar function. Also, by removing the fuse labeled "F5", Output D can be isolated from the +12-volt battery supply for switching other POSITIVE voltages (connected to Output D's terminal labeled "C").

Refer to the installation instructions provided with the auxiliary devices for additional precautions and details.

Complete the siren wiring and wiring to the accessories (if any) as follows:

1. Remove the chassis cover by loosening the 2 screws on the bottom of the Amplifier/Relay Unit. Slide the cover to expose the terminal strip.

2. Route a #10AWG or larger (depending on accessory loads) red wire through the hole labeled +BAT. Attach it to the large lug-type terminal (LUG1) on the circuit board (see figure 3-10). Since this wire provides the power source for the **siren** and all **relay-switched auxiliary functions**, a good mechanical and electrical connection here is important. Also, ensure that there are no loose wire strands which may cause a short circuit.

3. Route this wire through the previously drilled hole into the engine compartment and through existing clamps and holders toward the battery.

4. To protect the wire, the Premium Vision, and the auxiliary outputs, connect it to the UNUSED LOAD SIDE of the previously installed 50-ampere circuit breakers. DO NOT make any connections to the battery until all wiring is complete.

NOTE

Step 3-7.C.5. below is necessary ONLY if auxiliary devices are to be controlled by the warning system.

5. See figures 3-7 and 3-10. Connect wires from the accessories to TB1 as applicable. Refer to the instructions packed with the accessories for proper wire gauge, current requirements, and any additional instructions.

6. Replace the chassis cover. Slide it forward and secure with the two screws.

D. Control Head Connections.

All connections between the Premium Vision control head and Amplifier/Relay Unit are accomplished by a single 20-foot telephone-type cable (provided). It is terminated with modular-type connectors on each end.

CAUTION

The unit will not operate if the telephone-type cable is improperly wired. If it is necessary to shorten the 4 conductor telephone-type cable, ensure that the connections made to the modular connector are exactly the same as the original cable connections.

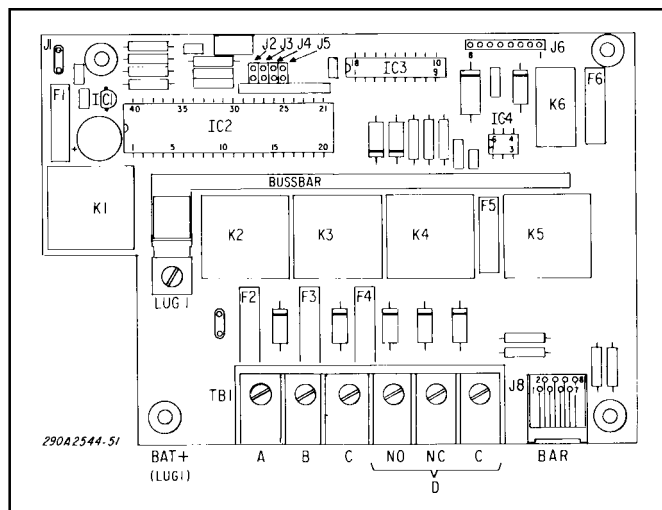


Figure 3-10. Relay Circuit Board.

To complete this portion of the installation, proceed as follows:

1. Route the 20-foot cable between the control head and the Amplifier/Relay Unit. Secure the cable with user-supplied clamps and hold downs as required.

2. Insert the modular connector in the mating receptacle on the back of the Amplifier/Relay Unit. Secure with user-supplied clamps and/or wire ties to provide strain relief.

3. Insert the other modular connector in the receptacle on the control head. Secure with user-supplied clamps and/or wire ties to provide strain relief.

E. Microphone Connections.

The Premium Vision is not supplied with a microphone. A Federal Model MNCT microphone may be plugged into the microphone jack on the rear of the Amplifier/Relay Unit.

If the Amplifier/Relay Unit is remotely mounted, Model RMK (microphone extension kit) is available from Federal. It includes a 20-foot extension cable with phone plug, jack, and dashboard mounting bracket.

Carefully route the extension cable through the vehicle along with the telephone-type cable, and secure with user-supplied clamps and ties as required.

3-8. INSPECTION AND FINAL INSTALLATION.

- A. See figure 3-3. Secure the Amplifier/Relay Unit to the mounting bracket with the BLACK 1/4-20 x 7/16 hex head screws and 1/4 split lockwashers. Ensure all fasteners are properly tightened.

B. Before connecting to the power source, perform a visual check of all connections and wiring.

C. Ensure that there are no loose wire strands or other bare wire which may cause a short circuit. Also, all wires must be protected from any sharp edges which could eventually cut through the insulation.

D. Use an ohmmeter to verify that a short circuit does NOT exist between the positive (+) and negative (-) power cable leads. Also, there must be NO short circuits between the positive (+) wires and the vehicle chassis.

WARNING

Failure to observe this warning **WILL** result in severe instantaneous damage to the Premium Vision system.

The reverse polarity protection **WILL NOT** protect against red (+) and black (-) wires mixed in the same connection. Ensure that all positive (red) and negative (black) wires are properly connected together (reds to reds, and blacks to blacks) before connecting to the power source.

E. See figure 3-6. After performing steps A through D, connect all black (-) wires to the fusible link on the front fender. Secure mechanical and electrical connections are required.

F. See figure 3-6. Connect a user-supplied #8AWG or larger red wire between the circuit breakers and the battery as shown. Again, secure mechanical and electrical connections are required.

3-9. REPLACEABLE FUNCTION LABELS.

NOTE

Before installing the function labels, it is necessary to understand which functions are activated by the individual switches. Read and understand Section I Operation and Section II Configuration in the supplied Operation and Configuration Instructions before proceeding.

See figure 3-11. Replaceable function labels identify all switches on the control head. Sheets of applicable function legends are supplied.

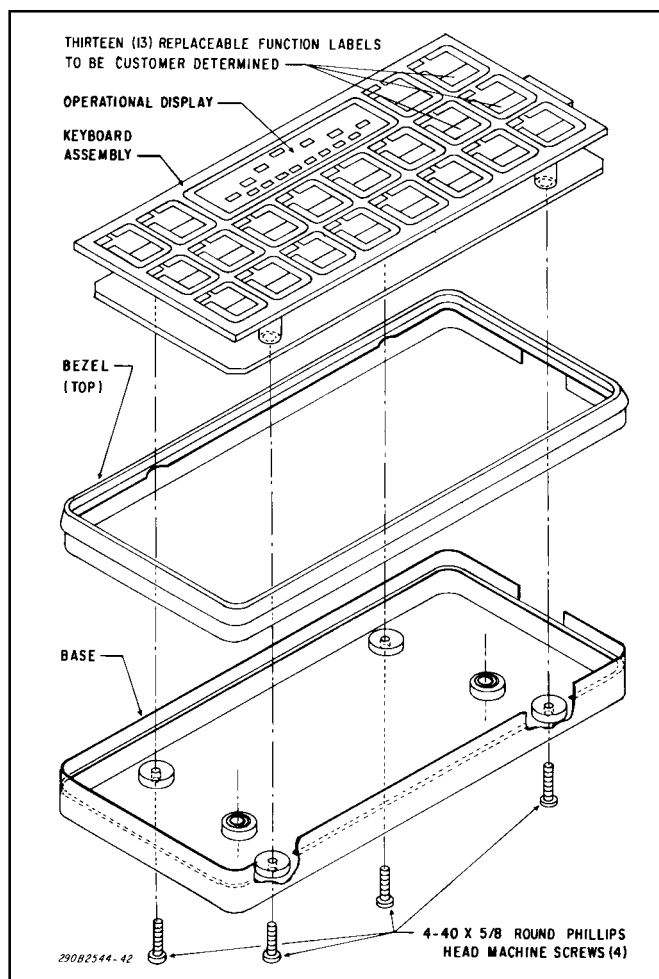


Figure 3-11. Control Head Disassembly.

To install the function legends, proceed as follows:

A. Disconnect the control head cable at the control head. Remove the control head from its bracket (if used).

B. Remove and retain the four screws from the rear of the control head. Separate the control head rear housing (base) from the bezel. Lift the keyboard assembly out through the bezel.

NOTE

It is not necessary to separate the keyboard assembly's two circuit boards.

C. Place the keyboard assembly on the work surface face down. See figure 3-12. Using a small longnose pliers or tweezers, carefully grasp the white edge of the top legend strip and slide the strip out of the keyboard.

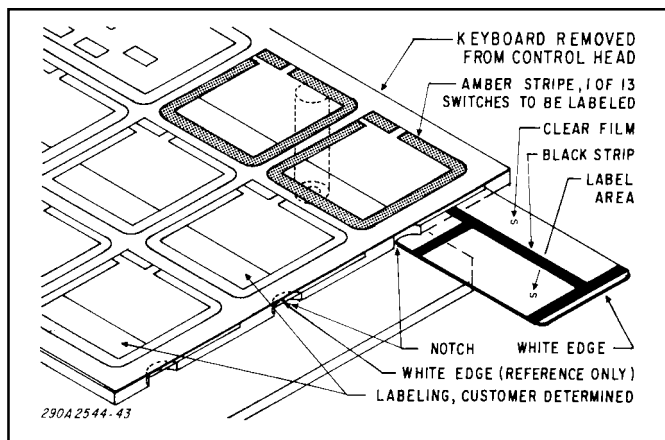


Figure 3-12. Replaceable Function Labels.

D. Select the appropriate labels from the supplied sheets of function legends. Peel the labels from the sheets and apply to the legend strip in the area provided as shown in figure 3-12. Slide the legend strip back into the keyboard.

E. Repeat the above procedure for the other legend strips.

F. Reassemble the control head. Reassemble the control head in its bracket (if used), and insert the modular connector in the receptacle.

3-10. TESTING AFTER INSTALLATION.

NOTE

The Premium Vision warning system is supplied with the Default Configuration selected.

Before testing, read and understand Section I Operation in the supplied Operation and Configuration Instructions. After installation is complete, test all warning system functions to ensure that all functions and controlled devices operate as intended. Test all vehicle functions, including horn operation and vehicle light systems, to ensure proper operation.

Configuration is described in Section II Configuration in the supplied Operation and Configuration Instructions.

SECTION IV OPERATION

SAFETY MESSAGE TO OPERATORS OF FEDERAL SIGNAL WARNING SYSTEMS

WARNING

The lives of people depend on your safe operation of Federal products. It is important to read and follow all instructions shipped with the products. In addition, listed below are some other important safety instructions and precautions you should follow:

Qualifications

- To properly use a light system: you must have a good understanding of general vehicle operation, a high proficiency in the use of safety warning equipment, and thorough knowledge of state and federal UNIFORM TRAFFIC CODES.

Sound Hazards

- Your hearing and the hearing of others, in or close to your emergency vehicle, could be damaged by loud sounds. This can occur from short exposures to very loud sounds, or from longer exposures to moderately loud sounds. For hearing conservation guidance, refer to federal, state, or local recommendations. OSHA Standard 1910.95 offers guidance on “Permissible Noise Exposure.”
- All effective sirens and horns produce loud sounds which may, in certain situations, cause permanent hearing loss. You should minimize your exposure times and wear suitable hearing protection.

Sound Limitations

- Maximum sound output will be severely reduced if any objects are in front of the speaker. If your installation has obstructions in front of the speaker, drive even more cautiously.
- Frequently inspect the speaker to ensure that it is clear of any obstruction, such as mud or snow, which will reduce maximum sound output.

Signaling Limitations

- Be aware that the use of your visual and audible signaling devices does not give you the right to force your way through traffic. Your emergency lights, siren, and actions are REQUESTING the right-of-way.

- Although your warning system is operating properly, it may not alert everyone. People may not hear, see, or heed your warning signal. You must recognize this fact and continue driving cautiously.
- Situations may occur which obstruct your warning signal when natural or man-made objects are between your vehicle and others, such as when you raise your hood or trunk lid. If these situations occur, be especially careful.
- The control head’s LED display emulates the light pattern(s) being executed by the warning system. The display is intended ONLY as a guide and NOT as an indication of proper warning system operation. Before using the warning system, its operation should be observed from outside the vehicle.

Driving Limitations

- At the start of your shift, you should ensure that the warning system is securely attached to the vehicle and operating properly.
- If the unique combination of emergency vehicle equipment installed in your vehicle has resulted in the light/siren controls being installed in a position that does not allow you to operate them by touch only, OPERATE CONTROLS ONLY WHILE YOUR VEHICLE IS STOPPED.
- If driving conditions require your full attention, you should avoid operating the light/siren controls while the vehicle is in motion.

Continuing Education

- File these instructions in a safe place and refer to them periodically. Give a copy of these instructions to new recruits and trainees.

Failure to follow these safety precautions may result in property damage, serious injury, or death to you, to passengers, or to others.

IMPORTANT

System configuration and any changes to the “standard” keyboard configurations (if any) MUST be provided to the operator by the installer or person responsible for programming. It is the operator’s responsibility to understand how his particular system is configured (programmed) to operate.

OPERATING INSTRUCTIONS

The Premium Vision control head is designed to assist the operator's selection of functions. Each control head switch is recessed and aids guiding the operator's finger to the switch's center for activation. When a switch is pressed, "tactile feedback" provides function selection indication as follows: a click is felt, a beep is heard, the selected function's LED is

illuminated, and the control head's V-shaped LED display indicates which warning system lights are illuminated. If the optional SignalMaster directional light is installed, the control head display emulates the directional light pattern being executed.

Specific operating instructions are provided in the supplied Operation and Configuration Instructions.

SECTION V CONFIGURATION

WARNING

Property damage, serious injury, or death to you or others may result if the Vision warning system is improperly configured. Configuration, if required, is to be performed at the time of installation. It is NOT intended for operators to "customize" the Vision's operation for their individual preferences. It is the USER's responsibility to determine compatibility, suitability, and ensure proper configuration of the Vision warning system.

The person responsible for configuration MUST be familiar with local codes and procedures for safe emergency vehicle warning system operation.

CONFIGURATION INSTRUCTIONS

The Premium Vision is an extremely versatile and configurable warning system. Take-down lights, alley lights, secondary and primary warning light patterns, siren functions, and the optional SignalMaster directional warning signals are all available with the "standard" keyboard configurations. Also, control of auxiliary devices (headlight flashers, grille lights, etc.) is available.

For configuration instructions, refer to the supplied Operation and Configuration Instructions.

SECTION VI

SERVICE AND MAINTENANCE

SAFETY MESSAGE TO PERSONNEL SERVICING FEDERAL SIGNAL WARNING SYSTEMS

WARNING

The lives of people depend on your safe servicing of Federal products. It is important to read and follow all instructions shipped with the products. In addition, listed below are some other safety instructions and precautions you should follow:

- Read and understand all instructions in this manual before servicing electronic siren.
- To properly service a warning system: you must have a good understanding of automotive electrical procedures and systems, along with proficiency in the installation and service of safety warning equipment.
- Electronic circuit repairs must be performed by a qualified and competent electronic technician.
- Your hearing and the hearing of others, in or close to your emergency vehicle, could be damaged by loud sounds. This can occur from short exposures to very loud sounds, or from longer exposures to moderately loud sounds. For hearing conservation guidance, refer to federal, state, or local recommendations. OSHA Standard 1910.95 offers guidance on "Permissible Noise Exposure."
- All effective sirens and horns produce loud sounds which may cause, in certain situations, permanent hearing loss. You should take appropriate safety precautions such as wearing hearing protection.
- DO NOT connect this system to the positive terminal of the battery until servicing is complete, and you have verified that there are no short circuits to ground.
- In order for the warning system to function properly, the ground connection must be made to the NEGATIVE battery terminal.
- After repair, test the complete warning system to ensure that it is operating properly.

Failure to follow all safety precautions and instructions may result in property damage, serious injury, or death to you or others.

6-1. GENERAL.

Most of the component electronic parts used in the Premium Vision are standard items that can be obtained from any TV or electronics shop. In order to reduce equipment down-time, Federal recommends that an entire printed circuit board be replaced. The printed circuit boards are relatively inexpensive allowing you to keep an adequate supply in your repair shop.

For warranty service, contact your local Distributor.

The factory can and will service your equipment or assist you with technical problems that cannot be handled satisfactorily and promptly locally.

Communications and shipments should be addressed to:

Service Department
Federal Signal Corporation
2645 Federal Signal Drive
University Park, IL 60466

1-800-433-9132
(In Illinois) 708-534-3400

6-2. CONTROL HEAD.

The Premium Vision control head consists of two circuit boards stacked on top of each other. See figure 6-1. To disassemble the control head, proceed as follows:

- A. Disconnect the control head cable at the control head. Remove the control head from its bracket (if used).
- B. Remove and retain the four screws from the rear of the control head. Separate the control head rear housing (base) from the bezel. Lift the keyboard assembly out through the bezel.
- C. Separate the two circuit boards by gently pulling them apart.
- D. Disconnect the green wire at the stud on the keypad circuit board.
- E. After repair or replacement, reconnect the green wire and reassemble the control head. Reassemble the control head in its bracket (if used), and insert the modular connector in the receptacle.

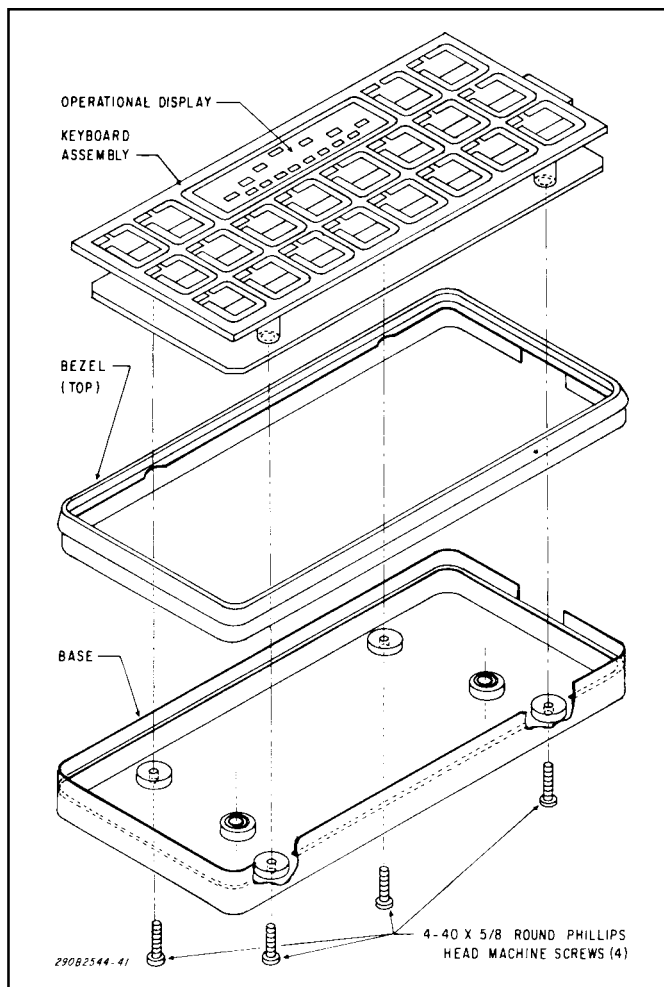


Figure 6-1. Control Head Disassembly.

6-3. AMPLIFIER/RELAY UNIT.

A. General.

Any competent electronic technician should have little difficulty in tracing a malfunction, should any occur. For emergency replacement of any of the small components, care must be used when soldering. Heat easily damages transistors, capacitors and circuit boards. It is therefore advisable to use longnose pliers or a similar heat sink on the lead being soldered.

CAUTION

To avoid damage to the unit, disconnect all red wires to the unit at the battery before proceeding.

B. Removal for Servicing.

When removing the chassis for servicing, loosen the two hexagon head screws on the underside of the unit, near the front edge. Slide the entire chassis out of the case.

C. Printed Circuit Board Removal.

The Premium Vision Amplifier/Relay Unit consists of two circuit boards stacked on top of each other. The top board is the relay board and the bottom board is the amplifier board. See figure 6-2.

1. To remove the relay board, proceed as follows:
 - a. Disconnect the wires from terminal strip TB1.
 - b. Disconnect the large red wire at LUG1.
 - c. Unplug the ribbon cable (J6) on the relay board.
 - d. Unplug the red wire at J1 and the green wire at J7.
 - e. The relay board is secured to the amplifier board by two stand-offs and two screws with spacers. Remove and retain the two screws and spacers, depress the locking tab on each stand-off and gently lift the relay board off the stand-off.
2. To remove the amplifier board, proceed as follows:
 - a. Remove the relay board as described above.
 - b. Unplug all connectors and plug-in type terminals from the printed circuit board.
 - c. Remove and retain the screws which secure the output transistors to the chassis.
 - d. Remove the two stand-offs which hold the amplifier board to the chassis.

D. Control Head Fuse.

A solder-in sub-miniature fuse (F1 on the bottom circuit board) provides short-circuit protection for the control head and cable. F1 is located next to J6 (four-position RJ-11 connector) on the circuit board. Failure of this fuse, although unlikely, will cause the Premium Vision to be completely inoperative. If failure of F1 is suspected, proceed as follows:

1. Remove the circuit board as described in 6-3.C. above.
2. Check the fuse for continuity with an ohmmeter.

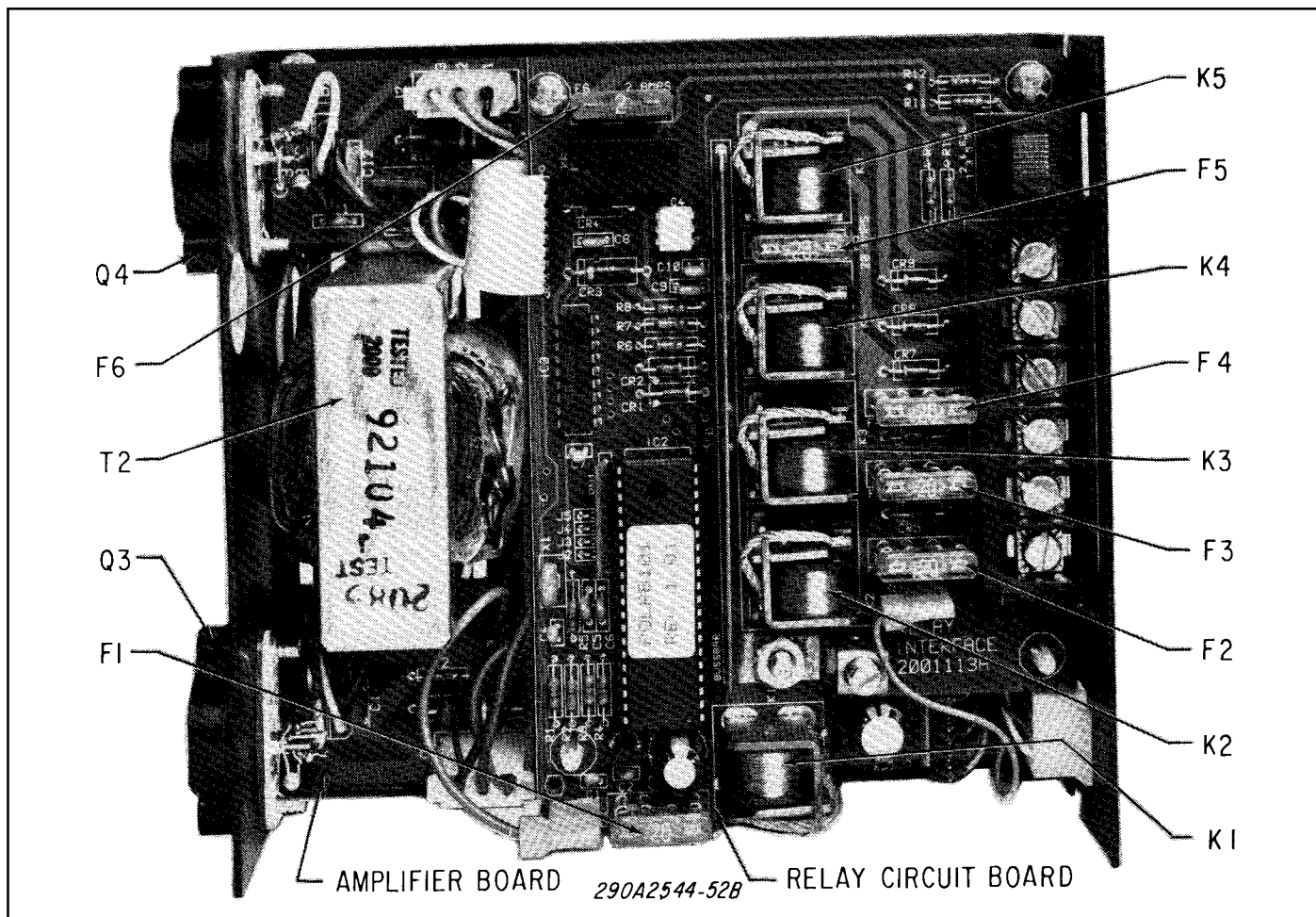


Figure 6-2. Amplifier/Relay Unit Internal View.

3. If fuse failure has occurred, replace with an EXACT replacement (refer to paragraph 6-6.).

NOTE

Failure of the control head fuse is usually the result of a shorted control head cable, or the control head cable was damaged during installation. Ensure that the cause of F1's failure is located and repaired before reapplying power to the unit.

E. Replacement of Output Transistors.

Failure of one or both of the output transistors (Q3, Q4) is usually the result of a defective speaker (short circuited voice coil). Rebroadcast of unsquelched radio or music for long periods will also have a detrimental effect on the output transistors, and is therefore not recommended.

Federal recommends that both output transistors be replaced should only one device prove to be defective. This practice will ensure long periods of service between failures.

Before installing new output transistors, check the amplifier fuse (F1 on the relay circuit board).

Install the insulators between the chassis and transistors.

Before installing the repaired unit, use an ohmmeter to check for continuity between the chassis and each output transistor's collector (center lead). There should be NO CONTINUITY between the chassis and the output transistors' center leads (collectors).

CAUTION

Make certain that the speaker is not defective prior to installing the repaired unit.

6-4. LIGHTBAR.

A. General.

Any competent electronic technician should have little difficulty in tracing a malfunction, should any occur. For emergency replacement of any of the small components, care must be used when soldering. Heat easily damages transistors, capacitors and circuit boards. It is therefore advisable to use longnose pliers or a similar heat sink on the lead being soldered.

CAUTION

To avoid damage to the unit, disconnect all red wires to the unit at the battery before proceeding.

B. Cover Removal.

See figure 6-3. Remove and retain the four screws which secure the cover on the lightbar. Slide the cover back slightly and carefully lift to remove.

C. Printed Circuit Board Removal.

The Premium Vision lightbar contains two (three if optional SignalMaster is installed) circuit boards. See figure 6-4.

To remove a circuit board, proceed as follows:

1. Remove and retain the fasteners which secure the circuit board to the lightbar.

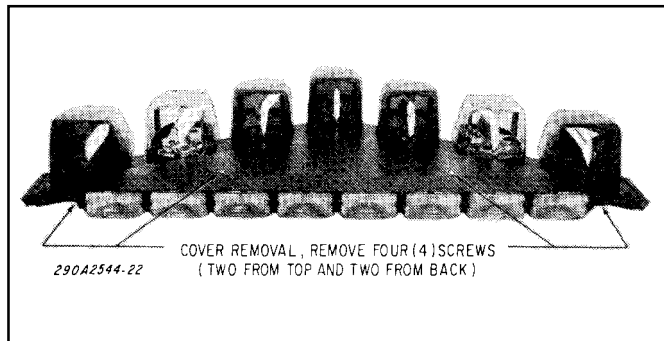


Figure 6-3. Lightbar Cover Removal.

CAUTION

Unpredictable operation may result if motor cables, or lamp driver cables, are mixed. Before removing cables, mark the cables for proper reconnection when reassembling.

WARNING

Failure to observe this warning **WILL** result in severe instantaneous damage to the Premium Vision system.

The reverse polarity protection **WILL NOT** protect against reversed red (+) and black (-) wires to individual circuit boards. Ensure that all positive (red) and negative (black) wires are properly reconnected when replacing a circuit board.

2. Disconnect wires and cables as applicable.

3. Repair or replace the circuit board as required.

D. Pod Servicing. (See figure 6-5.)

1. Remove and retain the two Torx head screws which secure the dome to the pod. Carefully remove the dome and set it aside.

2. To gain access to the motor, proceed as follows:

- a. Remove and retain the screws which secure the pod to the lightbar extrusion. Remove and retain the screws which secure the motor support assembly to the pod.

- b. Disconnect the six-pin motor cable plug and the three-pin opto isolator cable.

- c. Carefully lift the motor support assembly from the pod.

3. After servicing is complete, reassemble the pod by performing the above steps in reverse order.

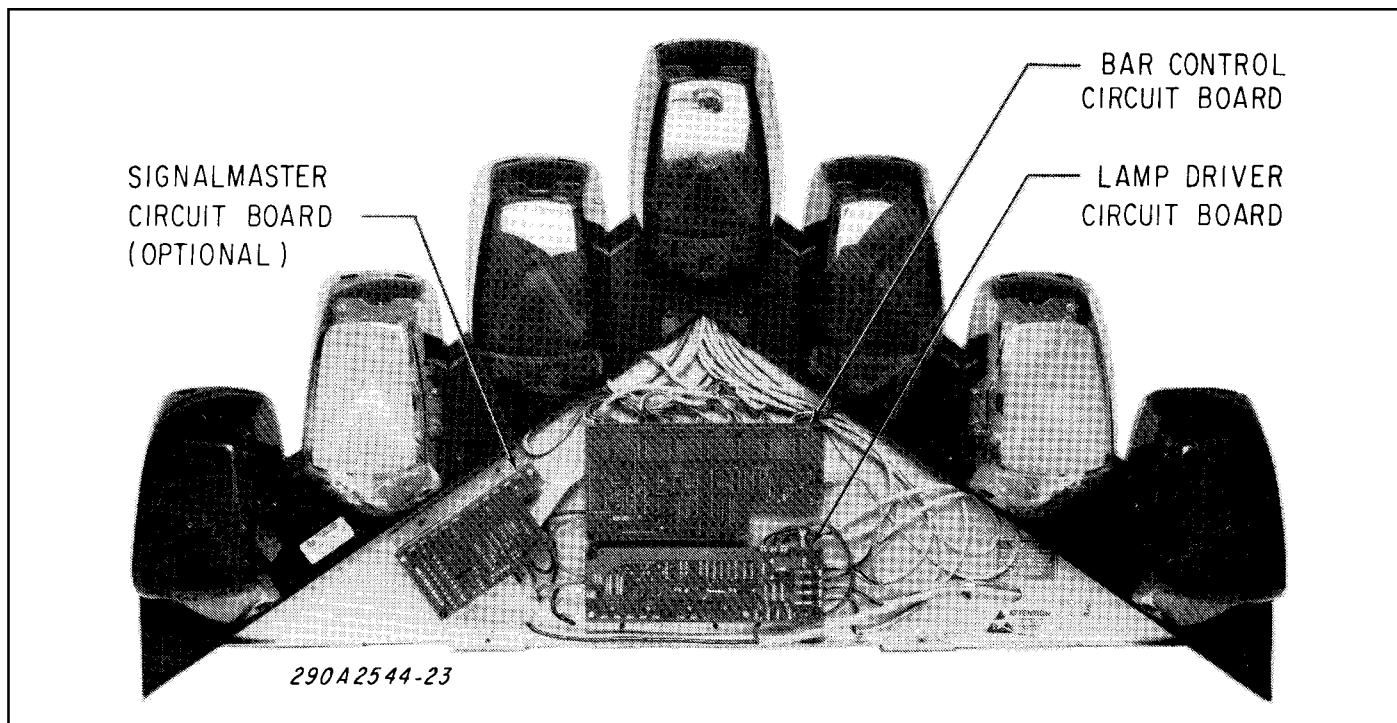


Figure 6-4. Lightbar Circuit Boards.

6-5. MAINTENANCE.

A. *Cleaning the Plastic Domes.*

WARNING

Crazing (cracking) of domes will cause reduced effectiveness of light system. Do not use cleaning agents (which will cause crazing) such as strong detergents, solvents, or petroleum products. If crazing of domes does occur, reliability of light for emergency purposes may be reduced until domes are replaced.

Ordinary cleaning of the plastic domes can be accomplished by using mild soap and a soft rag.

Should fine scratches or a haze appear on domes, they can ordinarily be removed with a non-abrasive, high quality, one-step, automotive paste cleaner/wax and a soft cloth.

B. *Lamp Replacement.*

WARNING

A serious injury may result if lamp is touched when hot. Always allow lamp to cool before removing.

1. Premium Vision Pods.

- a. Remove and retain the two Torx head screws which secure the dome to the pod.
- b. Carefully remove the dome and set it aside.

CAUTION

Service life of lamp will be shortened if glass portion is touched. If glass has been handled, clean carefully with a grease solvent.

- c. To replace the halogen lamp, twist to unlock and then pull the defective lamp out of the socket. Install a new #795X lamp in the socket (see figure 6-6). Refer to paragraph 6-6 for Federal Signal Part Number.

- d. Replace the dome using the previously removed screws.

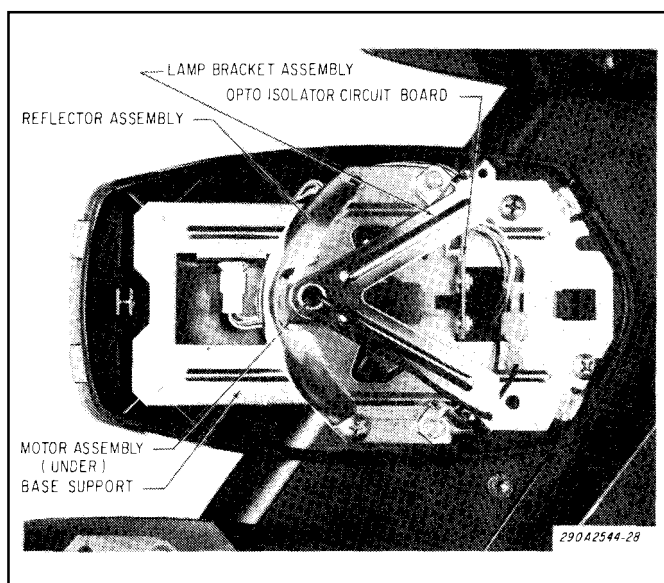


Figure 6-5. Pod Components.

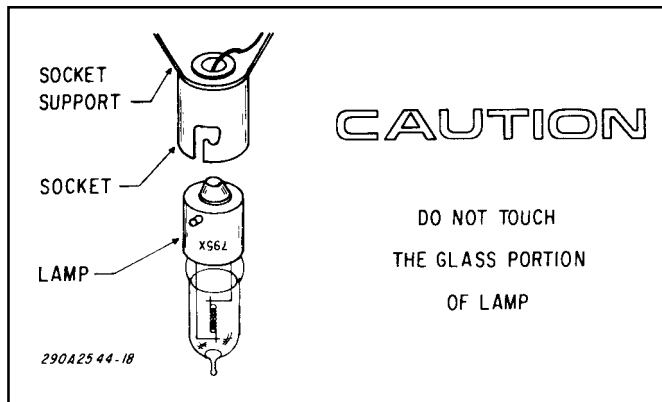


Figure 6-6. Pod Lamp Replacement.

2. SignalMaster.

CAUTION

Use of higher wattage lamps can result in damage to the lenses.

- a. Remove and retain the two screws which secure the lens. Carefully pull the lens straight away from the light assembly.

CAUTION

Service life of lamp will be shortened if glass is touched. If glass has been handled, clean with a grease solvent.

- b. Remove the defective lamp by carefully pulling it out of the socket. Install a new lamp (G.E. GH-22) by aligning the pins on the lamp base with the holes in the socket, and carefully pushing the lamp into the socket. Refer to paragraph 6-6 for Federal Signal Part Number.

- c. Replace the lens using the previously removed screws.

C. Cleaning Reflectors.

WARNING

Scratched or dulled reflectors will cause reduced effectiveness of light system. Avoid heavy pressure and use of caustic or petroleum based products when cleaning. If crazing of reflectors does occur, reliability of light for emergency warning purposes may be reduced until reflectors are replaced.

Use a soft tissue to clean the reflectors.

**6-6. VISION PREMIUM REPLACEMENT
PARTS LIST.**

<i>Description</i>	<i>Part Number</i>
Printed Circuit Boards	
Bar Controller PCB (Figure 6-8)	2001082
Lamp Driver PCB (Figure 6-9)	2001081C
Signalmaster PCB (Figure 6-10)	2001080
Opto Sensor PCB	2001079A
Assemblies	
Control Head Assy.	8572187
Amplifier Unit Assy.	8572191B
Domes	
Dome, Clear	8572001A
Dome, Red	8572001A-01
Dome, Amber	8572001A-02
Dome, Blue	8572001A-03
Dome, Green	8572001A-04
Dome, C.I.E. Blue	8572001A-05
Dome, Magenta	8572001A-06
Pod Assemblies	
Pod Assy., Drivers Side (no dome)	8572101A
Pod Assy., Center (no dome)	8572101A-01
Pod Assy., Passenger Side (no dome)	8572101A-02
Vision Premium Components	
Lamp (rotator) 50W Hal. Vert. Fil.	8107141A
Lamp (SIGM-8) 27W Hal.	8573007A
Motor And Cable Assy.	175716
Power Cable (2 conductor)	175733A-01
Power Harness (12 conductor)	175684A-01
RJ-11 Data Cable	146863A
RJ-45 Data Cable	146903A
Legend Sticker Card	161832A
Installation Assy. Kit	8572192A
Circuit Breaker, 50 Amp.	8474A138
Circuit Breaker, 2-50 Amp.	8474176A
Mounting Bracket, Control Head	85361065A
Mounting Bracket, Amplifier Unit	85361059A
Pod Deflector Kit	8572233A
Fuse Clip Adaptor	224256
Output Transistor 2N5885, NPN	125B432
Output Transformer	120C165-03

<i>Description</i>	<i>Part Number</i>
Fuses	
Fuse, 2 Amp., Pico Fuse	148151A-08
Fuse, 2 Amp., In-line	148A126A
Fuse, 2 Amp., Automotive Blade	148A142A-10
Fuse, 5 Amp., Automotive Blade	148A142A-03
Fuse, 15 Amp., Automotive Blade	148A142A-06
Fuse, 20 Amp., Automotive Blade	148A142A
Software And Adaptors	
DB9 To RJ-45 Adaptor	140318A
RJ-45 To DB9 Adaptor	140322A
Vision Premium Software Standard	VP-POL-K
Vision Premium Software Slide Switch	VPSS-POL-K
Fuse Clip Adaptor	224256A
Signalmaster Components	
SIGM8 Reflector	8573002A-01
SIGM8 Lens, Clear	8573001A
SIGM8 Lens, Red	8573001A-01
SIGM8 Lens, Amber	8573001A-02
SIGM8 Lens, Blue	8573001A-03
SIGM8 Lens, Green	8573001A-04

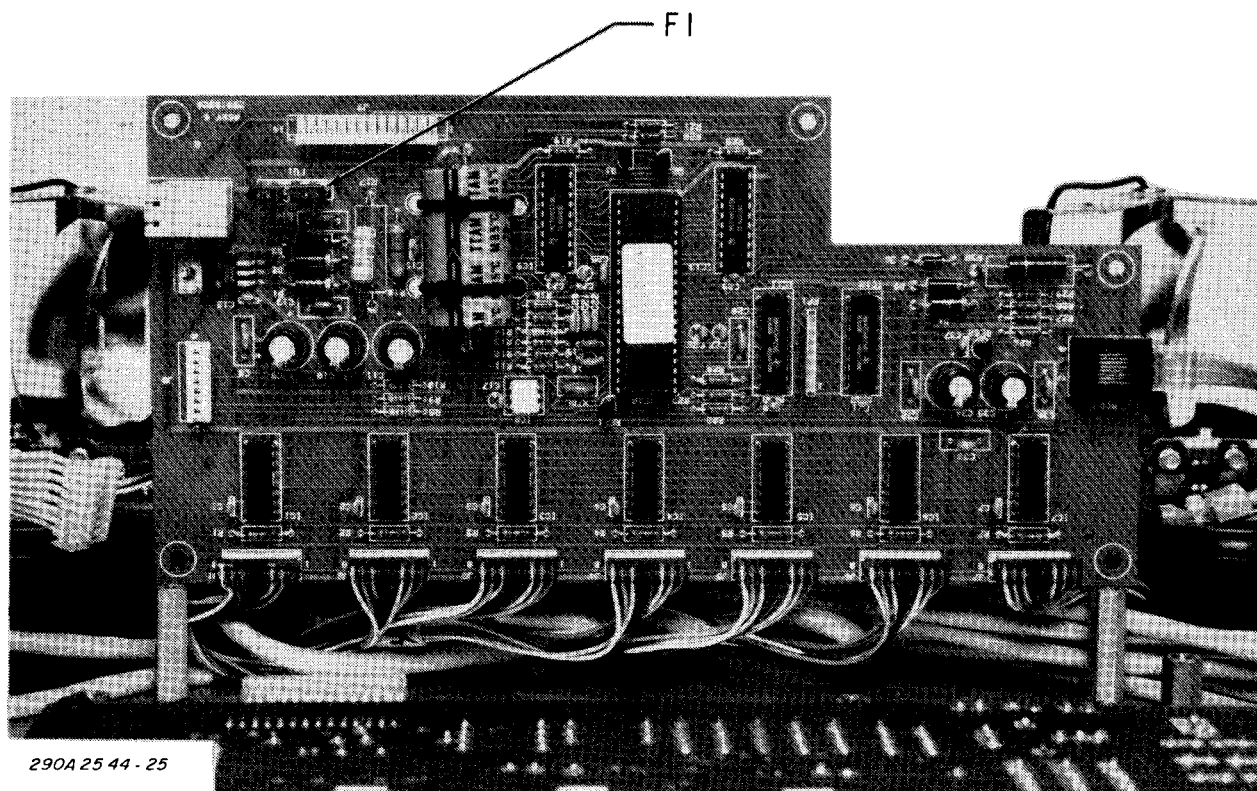


Figure 6-7. Bar Control Printed Circuit Board.

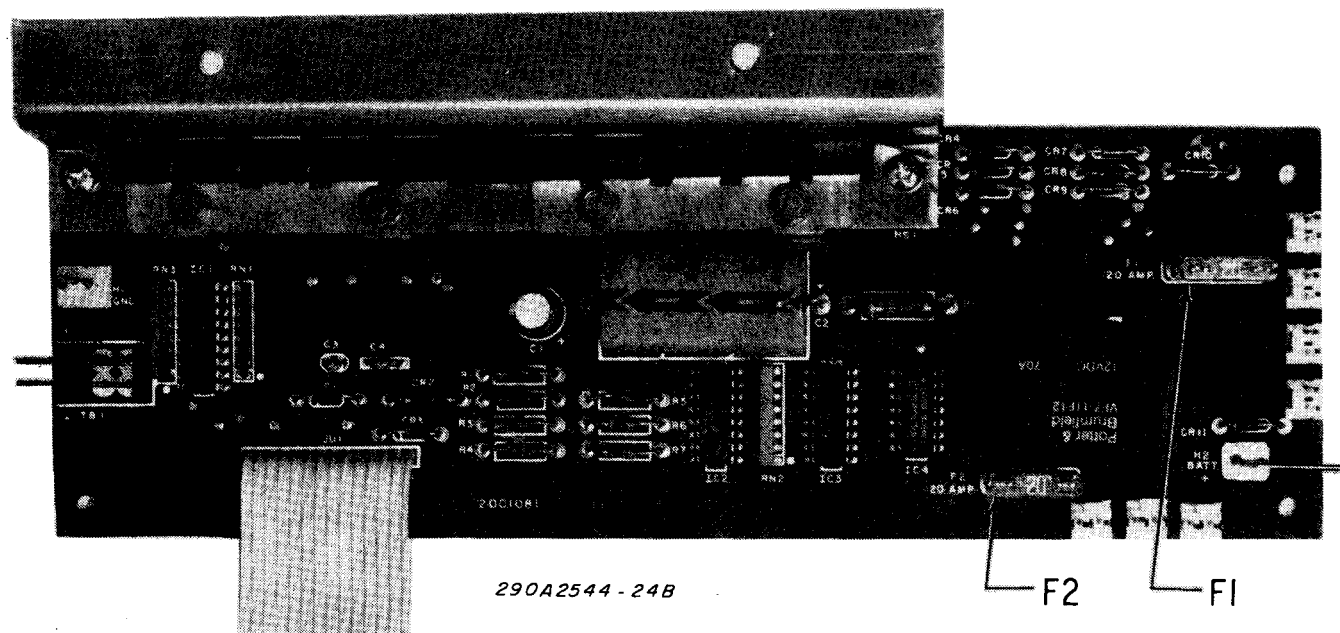


Figure 6-8. Lamp Driver Printed Circuit Board.

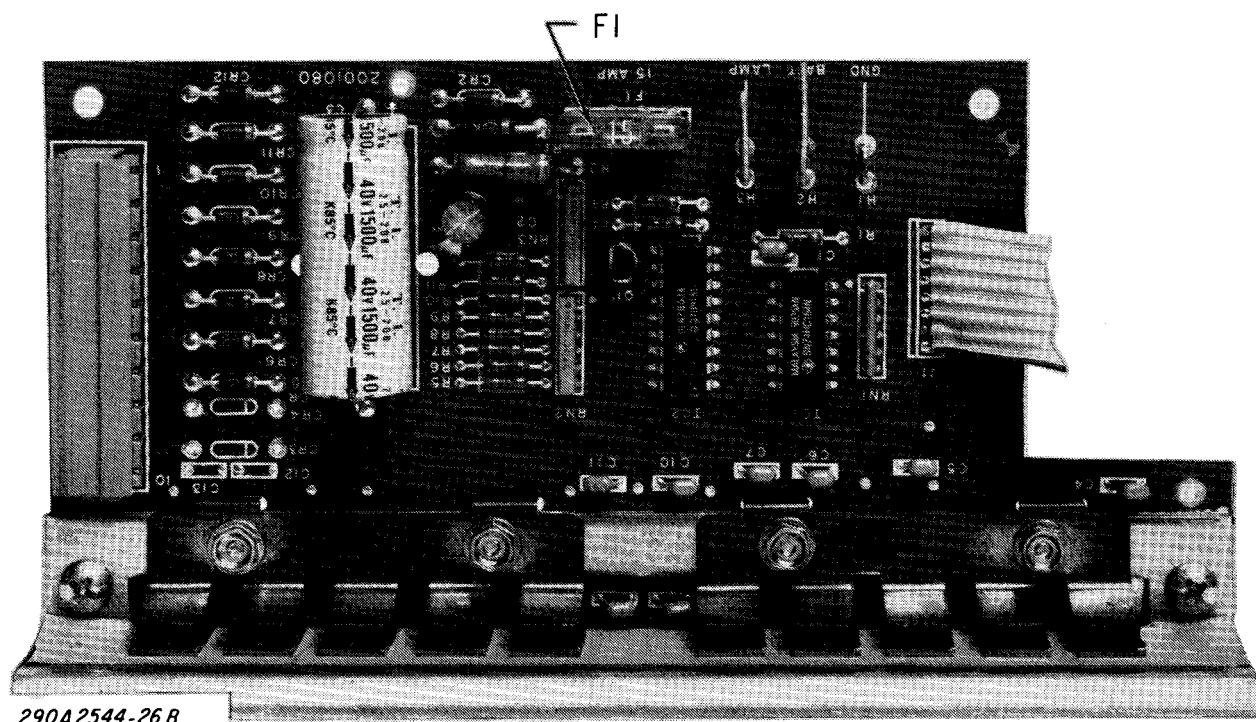


Figure 6-9. SignalMaster Printed Circuit Board.