DANGERSires produce extremely loud emergency warning tones! Exposure to these tones without proper and adequate hearing protection, could cause ear damage and/or hearing loss! The Occupational Safety & Health Administration (www.osha.gov) provides information necessary to determine safe exposure times in Occupational Noise Exposure Section 1910.95. Until you have determined the safe exposure times for your specific application, operators and anyone else in the immediate vicinity should be required to wear an approved hearing protection device. Failure to follow this recommendation could cause hearing loss!

Warnings to Installers

Whelen’s emergency vehicle warning devices must be properly mounted and wired in order to be effective and safe. Read and follow all of Whelen’s written instructions when installing or using this device. Emergency vehicles are often operated under high speed stressful conditions which must be accounted for when installing all emergency warning device controls. Controls should be placed within convenient reach of the operator so that they can operate the system without taking their eyes off the roadway. Emergency warning devices can require high electrical voltages and/or currents. Properly protect and use caution around live electrical connections. Grounding or shorting of electrical connections can cause high current arcing, which can cause personal injury and/or vehicle damage, including fire. Many electronic devices used in emergency vehicles can create or be affected by electromagnetic interference. Therefore, after installation of any electronic device it is necessary to test all electronic equipment simultaneously to insure that they operate free of interference from other components within the vehicle. Never power emergency warning equipment from the same circuit or share the same grounding circuit with radio communication equipment. All devices should be mounted in accordance with the manufacturer’s instructions and securely fastened to vehicle elements of sufficient strength to withstand the forces applied to the device. Driver and/or passenger air bags (SR5) will affect the way equipment should be mounted. This device should be mounted by permanent installation and within the zones specified by the vehicle manufacturer, if any. Any device mounted in the deployment area of an air bag will damage or reduce the effectiveness of the air bag and may damage or dislodge the device. Installer must be sure that this device, its mounting hardware and electrical supply wiring does not interfere with the air bag or the SRS wiring or sensors. Mounting the unit inside the vehicle by a method other than permanent installation is not recommended as unit may become dislodged during swerving; sudden braking or collision. Failure to follow instructions can result in personal injury. Whelen assumes no liability for any loss resulting from the use of this warning device. PROPER INSTALLATION COMBINED WITH OPERATOR TRAINING IN THE PROPER USE OF EMERGENCY WARNING DEVICES IS ESSENTIAL TO INSURE THE SAFETY OF EMERGENCY PERSONNEL AND THE PUBLIC.

Warnings to Users

Whelen’s emergency vehicle warning devices are intended to alert other operators and pedestrians to the presence and operation of emergency vehicles and personnel. However, the use of this or any other Whelen emergency warning device does not guarantee that you will have the right-of-way or that other drivers and pedestrians will properly heed an emergency warning signal. Never assume you have the right-of-way. It is your responsibility to proceed safely by avoiding an intersection, driving against traffic, responding at a high rate of speed, or walking on or around traffic lanes. Emergency vehicle warning devices should be tested on a daily basis to ensure that they operate properly. When in actual use, the operator must ensure that both visual and audible warnings are not blocked by vehicle components (i.e.: open trunks or compartment doors), people, vehicles, or other obstructions. It is the user’s responsibility to understand and obey all laws regarding emergency warning devices. The user should be familiar with all applicable laws and regulations prior to the use of any emergency vehicle warning device. Whelen’s audible warning devices are designed to project sound in a forward direction away from the vehicle occupants. However, because sustained periodic exposure to loud sounds can cause hearing loss, all audible warning devices should be installed and operated in accordance with the standards established by the National Fire Protection Association.

Safety First

This document provides all the necessary information to allow your Whelen product to be properly and safely installed. Before beginning the installation and/or operation of your new product, the installation technician and operator must read this manual completely. Important information is contained herein that could prevent serious injury or damage.

\*WARNING:* This product may contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.whelen.com/regulatory.

- Proper installation of this product requires the installer to have a good understanding of automotive electronics, systems and procedures.
- Whelen Engineering requires the use of waterproof butt splices and/or connectors if that connector could be exposed to moisture.
- Any holes, either created or utilized by this product, should be made both air- and watertight using a sealant recommended by your vehicle manufacturer.
- Failure to use specified installation parts and/or hardware will void the product warranty.
- If mounting this product requires drilling holes, the installer MUST be sure that no vehicle components or other vital parts could be damaged by the drilling process. Check both sides of the mounting surface before drilling begins. Also de-burr the holes and remove any metal shards or remnants. Install grommets into all wire passage holes.
- If this manual states that this product may be mounted with suction cups, magnets, tape or Velcro®, clean the mounting surface with a 50/50 mix of isopropyl alcohol and water and dry thoroughly.
- Do not install this product or route any wires in the deployment area of your air bag. Equipment mounted or located in the air bag deployment area will damage or reduce the effectiveness of the air bag, or become a projectile that could cause serious personal injury or death. Refer to your vehicle owner’s manual for the air bag deployment area. The User/Installer assumes full responsibility to determine proper mounting location, based on providing ultimate safety to all passengers inside the vehicle.
- For this product to operate at optimum efficiency, a good electrical connection to chassis ground must be made. The recommended procedure requires the product ground wire to be connected directly to the NEGATIVE (-) battery post (this does not include products that use cigar power cords).
- If this product uses a remote device for activation or control, make sure that this device is located in an area that allows both the vehicle and the device to be operated safely in any driving condition.
- It is recommended that these instructions be stored in a safe place and referred to when performing maintenance and/or reinstallation of this product.
- FAILURE TO FOLLOW THESE SAFETY PRECAUTIONS AND INSTRUCTIONS COULD RESULT IN DAMAGE TO THE PRODUCT OR VEHICLE AND/OR SERIOUS INJURY TO YOU AND YOUR PASSENGERS!

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Form No.14580F (050417)

For warranty information regarding this product, visit www.whelen.com/warranty
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Specifications

General
Input Voltage 12 VDC ±20%
Negative Ground Only
Main Input Current 80 Amps Max.
Main Input Fuse 2 Fuses @ 40 Amps ea.
Standby Current (backlight off) Ign.On - 80mA (typ) / Ign.Off - 100 uA (typ)
Operating Temperature -30°C to +60°C
Storage Temperature -40°C to +70°C
Humidity 99% (Non-condensing)

Amp/Relay Module
Audio Bandwidth @ 25 Watts 300 to 10000 Hz ±3db
Distortion @ 25 Watts 1% Maximum
Speaker Impedance 5.5 Ohms Minimum

Outlet Current
LED Outlets J2 & J4 (32 Total) 2.5A Each (Internally Limited)
Note: Total combined current not to exceed 40 Amps
High Current Outlets J1 (8 Total) 10A Each (Fused)
Note: Outlets J1-5 thru J1-8 may be Positive or Negative activated
Note: Total combined current not to exceed 40 Amps
LC AUX Outlets (J4-1, J4-2, J4-11) 250mA Each (Internally Limited)

Input Operation
Logic Inputs 1-4 Positive or Negative Activation
Logic Inputs 5-8 Positive Activation Only
Analog Inputs 1-3 0 - 12VDC
Ignition Sense Connected to 12VDC Ignition Switch

Dimensions (Amp/Relay Module)
Height 3.25 inches
Width 7.62 inches
Depth 9.50 inches

Dimensions (Control Head)
Height 3.58 inches
Width 6.85 inches
Depth 1.32 inches
Installation

**CanTrol™ Module**

1. Locate a suitable mounting location. A dry, cool compartment is a good choice.

2. Position the CanTrol Module on the proposed mounting location. Using an awl or similar tool, scribe the mounting surface where the mounting holes are to be drilled. Make sure that this mounting area allows sufficient ventilation for the CanTrol™ module’s air vents and fans.

Caution: As mounting the CanTrol™ module will require drilling, it is absolutely necessary to make sure that no other vehicle components could be damaged in the process. Check both sides of the mounting surface before starting. If damage is likely, select a different mounting location.

3. Remove the module from its mounting area, and using a drill bit sized for a #10 sheet metal screw, drill a hole in each of the areas scribed in the previous step.

4. Return the module to its mounting location and using #10x3/4” sheet metal screws (provided), secure the module onto its mounting surface. Be sure to install a #10 internal tooth lock washer (included) onto each mounting screw before mounting the unit. **IMPORTANT:** The CanTrol™ module case must be either mounted on, or grounded to the vehicle chassis.

**Control Head**

The CanTrol™ control head features 18 push-buttons with active illumination, a 4-position slide switch (off, 1, 2 & 3) and a Traffic Advisor™ display that enables the operator to view a representation of the direction being displayed. There are two basic mounting brackets for the CanTrol™ control head. One allows the control head to be mounted into your vehicle’s console (if so equipped). The other allows the control head to be located much closer to the bail strap than the other pairs allow. Regardless of the style selected, be sure to observe the air bag warning on the cover of this manual.

**Bail-strap mount**

1. Position the bail strap in the selected mounting location. Using an awl or other suitable tool, scribe the surface where the mounting holes are to be drilled.

Caution: As mounting the control head will require drilling, it is absolutely necessary to make sure that no other vehicle components could be damaged in the process. Check both sides of the mounting surface before starting. If damage is likely, select a different mounting location.

2. Drill the mounting holes in the areas scribed in step 1. The size of the drill bit should be determined by the size of the mounting hardware (#10 sheet metal screw) and thickness of the mounting surface.

3. Using hardware provided (#10 x 3/4” sheet metal screw & #10 internal tooth lockwasher), secure the bail strap to the mounting location.

**Note:** There are 3 sets of holes on the bail strap for positioning the control head at 3 different heights.

4. With the bail strap in place, insert the #10 x 3/8” hex head bolt into the assembly hole from the inner side of the bail strap. Place the #10 internal-tooth lock washer and the acorn nut on the protruding bolt on the outer side of the bail strap. Loosely secure the acorn nut to the hex head bolt.

Now slide the control head onto the bolt heads. Once it is in the position that the customer has chosen, and the control head has fully engaged the bolt heads, tighten the acorn nuts until the unit is firmly secured.

A third pair of mounting holes are provided that will enable the control head to be located much closer to the bail strap than the other pairs allow. If this closer location is used, the tips of the bail bracket may be broken off at the notches shown.

**Havis Console Mount**

The Havis console mounting kit includes all the necessary hardware needed to secure the control head to the mounting bracket for installation on a Havis console. The control head mounts onto the console mount bracket the same way the control head mounts onto the bail bracket as outlined previously except for the addition of a flat washer that must be inserted between the control head and the bracket. Please refer to the manual included with your console for specific information on securing the control head/mounting bracket assembly onto the console.

For installation into consoles by other manufacturers, a control head bracket designed for your console must be obtained from the console manufacturer.

**Microphone (Item 8)**

A 1/4” port is provided on the CanTrol™ module for installation of the microphone.

If the optional 20’ extension cord is used, install this cord as outlined above. Install the mic plug bracket (included with kit) in the desired area using #8 x 1/2” hardware (included). Route the cord to the plug bracket, install the cable end thru the bracket hole and fasten using the hex nut provided.

**PA Volume Adjustment (Item 9)**

Using a small, flat-blade screwdriver, set the potentiometer to its middle position. With the CanTrol™ system on, activate the PTT (Push To Talk) feature on the optional microphone. Adjust the potentiometer until a satisfactory PA volume level is achieved using a normal speaking voice.

**Radio Repeat Volume Adjustment (Item 10)**

To Adjust the Radio Repeat Levels: Before placing this unit into service, the Radio Repeat output volume must be adjusted to satisfactory operating levels. To adjust this level, a small, flat-blade screwdriver is needed. Locate the Radio Repeat adjustment potentiometer on the left side of the CanTrol™ module. Set the volume of the vehicle’s two-way radio to its normal operating level. Press the RAD button on the control head to activate Radio Repeat. As incoming transmissions are received, adjust the Radio Repeat potentiometer to set the desired level. Turn the potentiometer clockwise to increase the level and counter-clockwise to decrease the level.

**Control Head Configuration:**

There is an almost limitless number of configurations in which the CanTrol™ system can be programmed. Each of the available control heads operate differently from one another.

Additionally, each control head has its own, unique default configuration, based on the control head style and other system components. Refer to the CanTrol™ software to configure your specific configuration.
**Wiring**

**WARNING!** All customer supplied wires that connect to the positive terminal of the battery must be sized to supply at least 125% of the maximum operating current and fused “at the battery” to carry that load (see wire chart on page 9).

*NOTE: Item numbers reference the illustration found on page 7.*

**IMPORTANT!** Wires connecting to the amp/relay module have the proper terminals pre-installed. If the customer needs to re-terminate these wires for any reason, the proper tool MUST be used to insure proper cramping.

**System Power (Item 5)**

1. Locate the 4-position Molex™ connector (item 5).
2. Using appropriately sized wire, extend the two RED wires to the Positive (+) battery terminal. Fuse each wire independently @ 40 Amps. DO NOT install these fuses until the wiring for the entire system has been completed.
3. Using appropriately sized wire, extend the two BLACK wires from the CanTrol™ module to the vehicle’s chassis ground. This is typically adjacent to the battery.
4. Complete the connections and plug the connectors into the CanTrol™ module.

**Ignition Sense (Item 13)**

1. Locate the RED/WHT wire at J17-7.
2. Connect this wire to the vehicle ignition switch. This will allow the CanTrol™ system to be turned off with the ignition switch.

**Outputs**

CanTrol™ offers the following outlets:
- 32 LED outputs (2.5A Max. each)
- 8 High Current outputs (10A Max. each)
- 3 Aux. outputs (250mA Max each)

**Siren Speaker (Item 7)**

1. Route the ORG and BRN wires from the CanTrol™ module to the siren speaker.
2. Connect ORG wire to the WHT speaker wire (speaker high).
3. Connect BRN wire to BLK speaker wire (speaker low).

*NOTE: For dual speaker installation, connect the second speakers wires to the same destinations as the first speakers wires (see page 10).*

**Radio Rebroadcast (Item 13)**

Two BLU wires (J17-8 & J17-16) are used to connect your two-way radio’s external speaker for radio rebroadcast. This is an optional connection and will not effect the other operations.

*Note: Radio rebroadcast will NOT work with amplified remote speakers! If your remote speaker is amplified (i.e.: contains a power amp circuit in the speaker assembly), do not enable the radio rebroadcast feature.*

1. Locate the two wires that connect the external speaker to the two-way radio, cut one of them and splice one of the BLU wires into this circuit.
2. Cut the remaining speaker wire and splice the remaining BLU wire into this circuit.

**Backlighting (Item 13)**

Note: The CanTrol™ backlight circuit has been designed to accept any of the following:
- 0 VDC Input (off)
- 12VDC (on)

A Pulse Width Modulated (PWM) input with a range of 0% - 100% duty cycle@100Hz (i.e. dimmer circuit)

1. Route the WHT/BLK wire (J17-5) from the CanTrol™ module to the vehicle’s marker light circuit.
2. Splice this wire into this circuit to enable the control head backlighting to be active whenever the vehicle’s marker light is active.

**Inputs**

The CanTrol™ system inputs operate as follows:

**Logic Inputs** - These are programmable inputs and their default configuration and activation polarity is as follows:

**Active High/Low**

- Logic Input 1 (J17-1) - Horn Ring Input (Ground Activated). Identical in operation to the Manual button when the Horn Transfer Relay has been activated.
- Logic Input 2 (J17-2) - Park Sense 1 (Positive Activated). Terminates siren operations.
- Logic Input 3 (J17-3) - Unused

When connecting to the vehicle’s transmission neutral safety switch signal wire, always consult your vehicle’s technical manual before altering your vehicle’s wiring. Wiring modifications may compromise your vehicle’s safety and/or performance.

- Logic Input 4 (J17-4) - Unused
- Logic Input 5 (J17-9) - Unused
- Logic Input 6 (J17-10) - Unused
- Logic Input 7 (J17-11) - Unused
- Logic Input 8 (J17-12) - Unused

**Analog Inputs** - There are three (3) analog inputs (J17-5, J17-13 and J17-6). Their input voltage may range from 0 to 12VDC. By default, Analog Input 2 and Analog Input 3 are disabled and can be enabled as needed.

The remaining inputs are designated to be used for Ignition Sense (J17-7) and Radio Repeat (J17-8 & J17-16).

**Hands-Free Siren (Items 4 & 13) (Optional)**

1. Using a customer supplied relay capable of handling the current of your vehicle horn, connect as shown below:

![Hands-Free Siren Diagram](image-url)
**Input Expansion Module (optional)**

The optional input expansion module enables up to eight (8) non-CenCom vehicle components and/or equipment to be integrated into the CenCom/Control network.

As shown in the tables below, connect the input wire of the desired device to the appropriate wire. For example, if the device in question requires a Positive input signal, that input wire would be connected to the BROWN expansion module pigtail wire. In this example, that device would be recognized as "INPUT 1" by the CenCom/Control system. However, if that device requires a Negative input signal, that input wire would be connected to the WHT/BRN expansion module pigtail wire. Note that this device would be recognized as "INPUT 1" by the CenCom/Control system.

**WIRE SIDE VIEW**

<table>
<thead>
<tr>
<th>8</th>
<th>7</th>
<th>6</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
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<tbody>
<tr>
<td>16</td>
<td>15</td>
<td>14</td>
<td>13</td>
<td>12</td>
<td>11</td>
<td>10</td>
<td>9</td>
</tr>
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</table>

**WIRE CHART**

<table>
<thead>
<tr>
<th>POS</th>
<th>COLOR</th>
<th>FUNCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>BROWN</td>
<td>Positive Input 1</td>
</tr>
<tr>
<td>2</td>
<td>RED</td>
<td>Positive Input 2</td>
</tr>
<tr>
<td>3</td>
<td>ORANGE</td>
<td>Positive Input 3</td>
</tr>
<tr>
<td>4</td>
<td>YELLOW</td>
<td>Positive Input 4</td>
</tr>
<tr>
<td>5</td>
<td>GREEN</td>
<td>Positive Input 5</td>
</tr>
<tr>
<td>6</td>
<td>BLUE</td>
<td>Positive Input 6</td>
</tr>
<tr>
<td>7</td>
<td>VIOLET</td>
<td>Positive Input 7</td>
</tr>
<tr>
<td>8</td>
<td>GREY</td>
<td>Positive Input 8</td>
</tr>
<tr>
<td>9</td>
<td>WHT/BRN</td>
<td>Negative Input 1</td>
</tr>
<tr>
<td>10</td>
<td>WHT/RED</td>
<td>Negative Input 2</td>
</tr>
<tr>
<td>11</td>
<td>WHT/ORG</td>
<td>Negative Input 3</td>
</tr>
<tr>
<td>12</td>
<td>WHT/YEL</td>
<td>Negative Input 4</td>
</tr>
<tr>
<td>13</td>
<td>WHT/GRN</td>
<td>Negative Input 5</td>
</tr>
<tr>
<td>14</td>
<td>WHT/BLU</td>
<td>Negative Input 6</td>
</tr>
<tr>
<td>15</td>
<td>WHT/VIO</td>
<td>Negative Input 7</td>
</tr>
<tr>
<td>16</td>
<td>WHT/GRY</td>
<td>Negative Input 8</td>
</tr>
</tbody>
</table>

**Control Head Strain Relief**

1. Route the control head cable (provided) from the CanTrol™ module to the designated mounting location. Plug this cable securely into the rear of the control head. Be sure to route the cable through either of the two recessed pathways (shown here). This will prevent the cable from being accidentally disconnected or pinched by the control head.
1 - Traffic Advisor Indicators & Fuse
These indicators display the active T/A pattern. The 20 AMP fuse shown protects this circuit.

2 - LED Indicators
These indicators light when their corresponding J2 LED Output (1-4 & 9-12) is active. The 20 AMP fuse shown protects these outputs.

3 - LED Indicators
These indicators light when their corresponding J2 LED Output (5-8 & 13-16) is active. The 20 AMP fuse shown protects these outputs.

4 - LED Indicators
These indicators light when their corresponding J4 Low Current Output (1, 2 & 11) is active. These outputs are internally fused.

5 - LED Indicators
These indicators light when their corresponding J4 LED Output (3-6 & 13-16) is active. The 20 AMP fuse shown protects these outputs.

6 - LED Indicators
These indicators light when their corresponding J4 LED Output (7-10 & 17-20) is active. The 20 AMP fuse shown protects these outputs.

7 - LED Indicators
This indicator lights when J1 High Current Output 1 is active. The 10 Amp fuse shown protects this output.

8 - LED Indicators
This indicator lights when J1 High Current Output 2 is active. The 10 Amp fuse shown protects this output.

9 - LED Indicators
This indicator lights when J1 High Current Output 3 is active. The 10 Amp fuse shown protects this output.

10 - LED Indicators
This indicator lights when J1 High Current Output 4 is active. The 10 Amp fuse shown protects this output.

11 - LED Indicators
These indicators light when their corresponding J1 High Current Output (5-8) is active.

Note: The position for a given output fuse is determined by how that output is switched. If the output is switching +VDC, the fuse for that output should be in the "Positive Switching" position. In this example, the Green LED indicator for that output would light. If it is switching -VDC, the fuse should be in the "Ground Switching" position. In this example, the Amber LED indicator for that output would light.
## Wire Gauge Calculation Chart

### Maximum Current Draw Through The Wire

<table>
<thead>
<tr>
<th>Wire Gauge</th>
<th>5 Amps</th>
<th>10 Amps</th>
<th>15 Amps</th>
<th>20 Amps</th>
<th>25 Amps</th>
<th>30 Amps</th>
<th>35 Amps</th>
<th>40 Amps</th>
<th>45 Amps</th>
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</thead>
<tbody>
<tr>
<td>22 AWG</td>
<td>6 Feet</td>
<td>3 Feet</td>
<td>Insufficient</td>
<td>Insufficient</td>
<td>Insufficient</td>
<td>Insufficient</td>
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<td>Insufficient</td>
<td>Insufficient</td>
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</tr>
<tr>
<td>20 AWG</td>
<td>9.5 Feet</td>
<td>5 Feet</td>
<td>3 Feet</td>
<td>Insufficient</td>
<td>Insufficient</td>
<td>Insufficient</td>
<td>Insufficient</td>
<td>Insufficient</td>
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<td>Insufficient</td>
</tr>
<tr>
<td>18 AWG</td>
<td>15 Feet</td>
<td>7.5 Feet</td>
<td>5 Feet</td>
<td>4 Feet</td>
<td>3 Feet</td>
<td>Insufficient</td>
<td>Insufficient</td>
<td>Insufficient</td>
<td>Insufficient</td>
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</tr>
<tr>
<td>16 AWG</td>
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<td>12 Feet</td>
<td>8 Feet</td>
<td>6 Feet</td>
<td>5 Feet</td>
<td>4 Feet</td>
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<td>3 Feet</td>
<td>Insufficient</td>
<td>Insufficient</td>
</tr>
<tr>
<td>14 AWG</td>
<td>39 Feet</td>
<td>19.5 Feet</td>
<td>13 Feet</td>
<td>9.5 Feet</td>
<td>8 Feet</td>
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<td>5.5 Feet</td>
<td>5 Feet</td>
<td>4.5 Feet</td>
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<tr>
<td>12 AWG</td>
<td>62 Feet</td>
<td>31 Feet</td>
<td>20.5 Feet</td>
<td>15.5 Feet</td>
<td>12.5 Feet</td>
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<td>9 Feet</td>
<td>7.5 Feet</td>
<td>7 Feet</td>
<td>6 Feet</td>
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<tr>
<td>10 AWG</td>
<td>98 Feet</td>
<td>49 Feet</td>
<td>32.5 Feet</td>
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<td>19.5 Feet</td>
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<td>8 AWG</td>
<td>156 Feet</td>
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<td>22.5 Feet</td>
<td>19.5 Feet</td>
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<td>6 AWG</td>
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<td>124 Feet</td>
<td>82.5 Feet</td>
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<td>49.5 Feet</td>
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### Maximum Current Draw Through The Wire

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<th>Wire Gauge</th>
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<th>75 Amps</th>
<th>80 Amps</th>
<th>85 Amps</th>
<th>90 Amps</th>
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<th>100 Amps</th>
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<td>20 AWG</td>
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<td>16 AWG</td>
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<td>14 AWG</td>
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<td>16.5 Feet</td>
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<td>12.5 Feet</td>
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<td>23 Feet</td>
<td>22 Feet</td>
<td>21 Feet</td>
<td>19.5 Feet</td>
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<tr>
<td>2 AWG</td>
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<td>37 Feet</td>
<td>35 Feet</td>
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CanTrol™ WC System Wiring Guide

J10-1. (BRN) - T/A 1
J10-2. (RED) - T/A 2
J10-3. (ORN) - T/A 3
J10-4. (YEL) - T/A 4
J10-5. (GRN) - T/A 5
J10-6. (BLU) - T/A 6
J10-7. (VIO) - T/A 7
J10-8. (GRY) - T/A 8
J10-9. (WHT) - Comm. (+12V)
J10-10. NOT USED
J10-11. NOT USED
J10-12. NOT USED

J1-1. BRN
J1-2. RED
J1-3. ORN
J1-4. YEL
J1-5. GRN
J1-6. BLU
J1-7. VIO
J1-8. GRY

J2-1. Output 17 - BRN
J2-2. Output 18 - RED
J2-3. Output 19 - ORN
J2-4. Output 20 - YEL
J2-5. Output 21 - WHT/BRN
J2-6. Output 22 - WHT/RED
J2-7. Output 23 - WHT/ORG
J2-8. Output 24 - WHT/YEL
J2-9. Output 25 - GRN
J2-10. Output 26 - BLU
J2-11. Output 27 - VIO
J2-12. Output 28 - GRY
J2-13. Output 29 - WHT/GRN
J2-14. Output 30 - WHT/BLU
J2-15. Output 31 - WHT/VIO
J2-16. Output 32 - WHT/GRY

J4-1. AUX 1 - WHT/BLK
J4-2. AUX 2 - RED/WT
J4-3. Output 1 - BRN
J4-4. Output 2 - RED
J4-5. Output 3 - ORG
J4-6. Output 4 - YEL
J4-7. Output 5 - WHT/BRN
J4-8. Output 6 - WHT/RED
J4-9. Output 7 - WHT/ORG
J4-10. Output 8 - WHT/YEL
J4-11. Output 9 - WRN
J4-12. Output 10 - BLU
J4-13. Output 11 - VIO
J4-14. Output 12 - GRY
J4-15. Output 13 - WHT/GRN
J4-16. Output 14 - WHT/BLUE
J4-17. Output 15 - WHT/ORG
J4-18. Output 16 - WHT/YEL
J4-19. Output 17 - NOT USED
J4-20. Output 18 - NOT USED

J17-1. Logic Input 1 - WHT/BRN
J17-2. Logic Input 2 - WHT/RED
J17-3. Logic Input 3 - WHT/ORG
J17-4. Logic Input 4 - WHT/YEL
J17-5. Logic Input 5 - BLK/WHN
J17-6. Logic Input 6 - WHT/GRN
J17-7. Logic Input 7 - WHT
J17-8. Logic Input 8 - WHT/BLUE
J17-9. Logic Input 9 - WHT/ORG
J17-10. Logic Input 10 - WHT/VIO
J17-11. Logic Input 11 - NOT USED
J17-12. Logic Input 12 - NOT USED
J17-13. Analog Input 1 - WHT/BLK
J17-14. Analog Input 2 - NOT USED
J17-15. Analog Input 3 - NOT USED
J17-16. Radio - BLUE
J17-17. Radio - NOT USED

Microphone Not For Use With The CanTrol™ Hand-Held Controller

Standard CanTrol Control Head Shown For Reference
This worksheet is provided to allow the installer to provide a visual record of what specific vehicle equipment is activated and/or controlled with specific inputs or outputs to the customer.
This worksheet has been provided so that a written record of all Input, Output and Axillary connections may be created. After all pertinent installation data has been verified and recorded, store and retain this sheet for future reference.
CanTrol™ Installation Worksheet (J4)

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<th>Pos.</th>
<th>AUX</th>
<th>Color</th>
<th>Function</th>
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<td>J4-2</td>
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<td>RED/WHT</td>
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<td>J4-11</td>
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This worksheet has been provided so that a written record of all Input, Output and Axillary connections may be created. After all pertinent installation data has been verified and recorded, store and retain this sheet for future reference.
## CanTrol™ Installation Worksheet (J17)

This worksheet has been provided so that a written record of all Input, Output and Auxillary connections may be created. After all pertinent installation data has been verified and recorded, store and retain this sheet for future reference.

### J17 - Logic Inputs

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<td>WHT/ORG</td>
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<td>WHT/YEL</td>
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<td>J17-5</td>
<td>WHT/BLK</td>
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</tr>
<tr>
<td>J17-6</td>
<td>WHT/VIO</td>
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</tr>
<tr>
<td>J17-7</td>
<td>RED/WHT</td>
<td>Ignition (Pre-assigned and non-programmable)</td>
</tr>
<tr>
<td>J17-8</td>
<td>BLU</td>
<td>Radio Repeat (Pre-assigned and non-programmable)</td>
</tr>
<tr>
<td>J17-9</td>
<td>BLK/WHT</td>
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</tr>
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