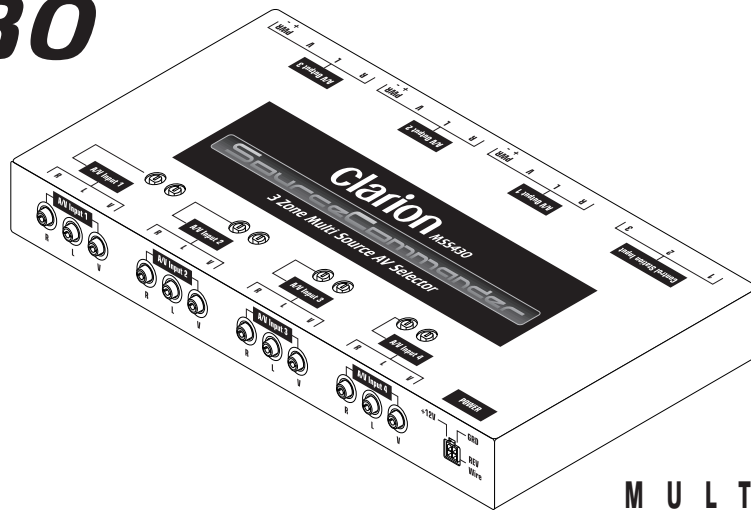


Clarion®

SOURCE COMMANDER
MSS430



MULTISTATION
A/V SELECTOR

OWNER'S MANUAL
INSTALLATION GUIDE

WARNING!

THE CLARION MSS430 MULTISTATION A/V SELECTOR IS DESIGNED FOR SWITCHING OF VIDEO SOURCES FOR REAR SEAT VIEWING ONLY.

THIS PRODUCT IS NOT INTENDED FOR VIEWING BY THE DRIVER WHILE THE VEHICLE IS IN MOTION SINCE SUCH USE MAY DISTRACT THE DRIVER OR INTERFERE WITH THE DRIVER'S SAFE OPERATION OF THE VEHICLE AND MAY RESULT IN SERIOUS INJURY OR DEATH. SUCH USE MAY ALSO VIOLATE STATE LAW.

CLARION DISCLAIMS ANY LIABILITY FOR ANY BODILY INJURY, INCLUDING FATALITIES, OR PROPERTY DAMAGE THAT MAY RESULT FROM ANY IMPROPER OR UNINTENDED USES OF THIS PRODUCT.

ABOUT INSTALLATION

Installation of mobile audio and video components requires experience with a variety of mechanical and electrical procedures. Even though this manual provides general installation and operation instructions for your new Clarion MSS430 Multistation A/V Selector, it does not show the exact installation methods for your particular vehicle.

If you do not have the required knowledge and experience to successfully complete the installation, we strongly recommend consulting an authorized Clarion dealer about professional installation options.

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INTRODUCTION

The Clarion MSS430 is a full-featured Multistation A/V Selector specifically created for the mobile environment. When used with the enclosed Control Stations, the system allows true multi-zone control with independent audio/video selection of up to four sources and connection of up to three monitors, each capable of displaying a different audio/video program. Each station provides individual entertainment.

The MSS430 also includes the following features:

- Works with all Clarion monitors
- Accepts up to three individual Control Stations
- All solid-state electronic circuits
- Audio level gain controls
- Buffered input and output audio/video circuits
- Gold-plated RCA connectors
- High-quality video/audio selector circuits
- Rear Vision Camera automatic switching

About The Manual And Warranty

To start enjoying your new Clarion MSS430 Multistation A/V Selector, please read all remaining instructions listed in this manual. Keep all instructions for future reference.

This product is covered by a limited warranty (see the enclosed warranty card). **Save the sales receipt to protect your purchase and aid in warranty service.**

INSTALLATION AND OPERATION PRECAUTIONS***Installation Precautions***

- This unit operates on an automotive 12-volt negative ground power source and requires additional mobile audio and video components for proper operation.
- Before installation, disconnect the (-) negative lead from the vehicle's battery.
- Use only supplied screws and hardware. Make sure all connections and components are fastened securely.
- At the proposed installation sites, make sure there is adequate space to accommodate both MSS430 and the Control Station dimensions.
- Use extreme caution when drilling around electrical wiring, brake lines, and fuel lines. Check clearances on both sides of a planned installation surface before drilling any holes or installing any screws.
- Always wear protective eyewear when using tools.

- Use only high-quality RCA cables that are no longer than necessary for direct connections to other components in the system. Extra-length audio and video cables can cause signal loss and act as an “antenna” for noise.
- When routing RCA cables, keep them away from power cables and output speaker wires.

Operation Precautions

- Do not allow liquids or foreign objects to enter the MSS430 Multistation A/V Selector or Control Station(s).
- If any unit should become wet, turn off all power and let your authorized Clarion dealer clean or service the equipment.

DO NOT ATTEMPT TO OPEN OR SERVICE THE MSS430 OR CONTROL STATIONS. THE INTERNAL PARTS ARE NOT USER-SERVICEABLE. DOING SO WILL VOID THE WARRANTY.

- Do not place heavy objects on the MSS430 Multistation A/V Selector or Control Station(s).

Clarion SOURCE COMMANDER MSS430

- Do not drop or excessively jar the MSS430 Multistation A/V Selector or Control Station(s).
- Do not use liquid cleaners on any surfaces. Only use a soft (cotton or other non-static) cloth to wipe off fingerprints or other imprints from the faceplate or remote control.
- Do not subject the unit to direct sunlight or an extremely hot environment (e.g., closed windows on a hot summer day, direct path of heater vent, etc.).
- Avoid using the products under the following conditions:
 - After extended parking on an extremely hot or cold day
 - Near strong magnetic fields
 - In an environment with excessive humidity, dust, or vibration (e.g., off-road travel, etc.)

INSTALLATION AND WIRING

Parts List

- (1) Source Commander MSS430 A/V Selector
- (3) Control Stations
- (3) Control Station Cables
- (2) Mounting L-Brackets
- (4) M4 x 8 Pan Head Machine Screws
- (4) M4 x 15 Self-tapping Sheet Metal Screws
- (1) 4-pin Molex Power Connector
- (3) 2-pin Monitor Power Connectors
- Owner's Manual/Installation Guide
- Warranty Registration Card

Installing the MSS430

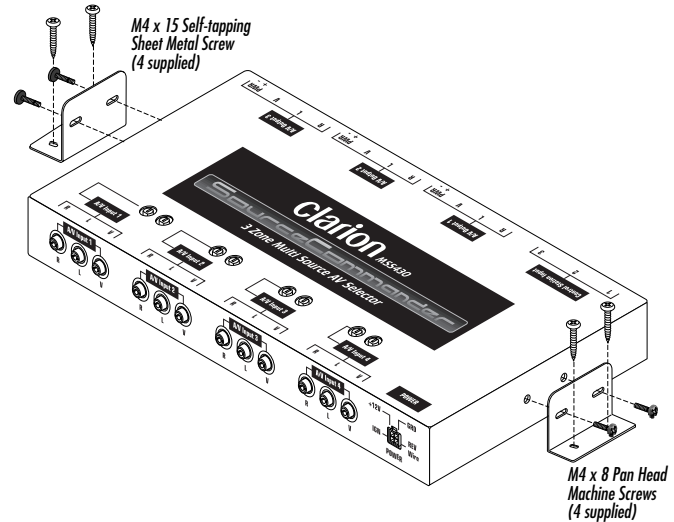


Figure 1. Installing the MSS430.

Installing the Control Station

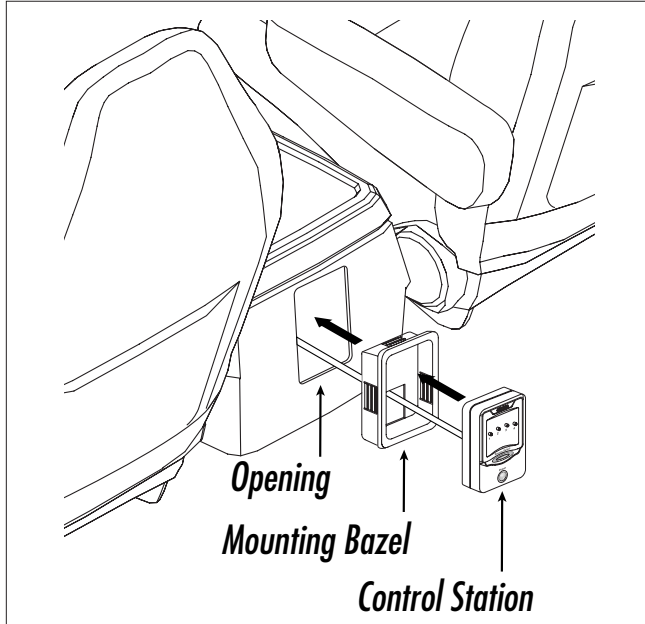


Figure 2. Installing the Control Station in a center console.

MSS430 Wiring for the 4-Pin Power Harness

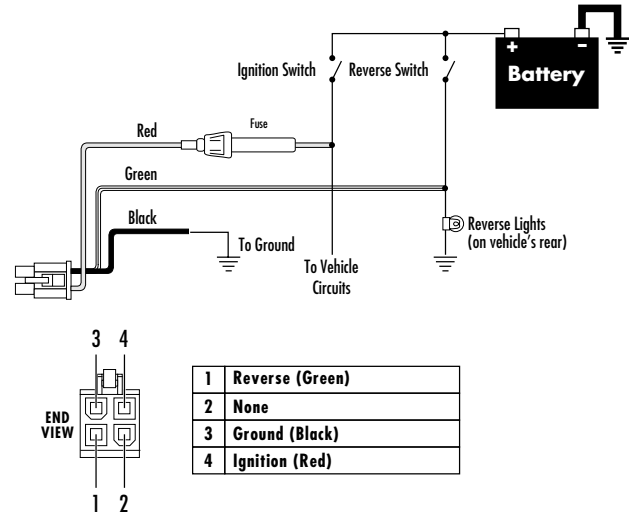


Figure 3. Wiring and pinouts for the 4-pin power harness.

INSTALLATION AND WIRING (CONTINUED)

MSS430 Wiring for DVD Disc Player

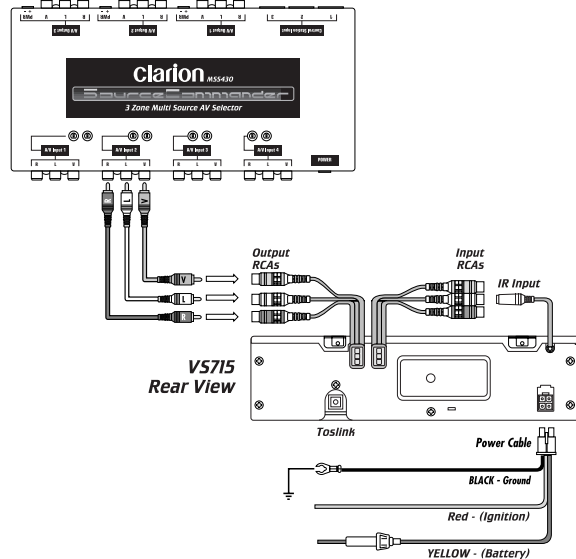


Figure 4. Wiring diagram using a VS715 DVD player.

MSS430 Wiring for VCR

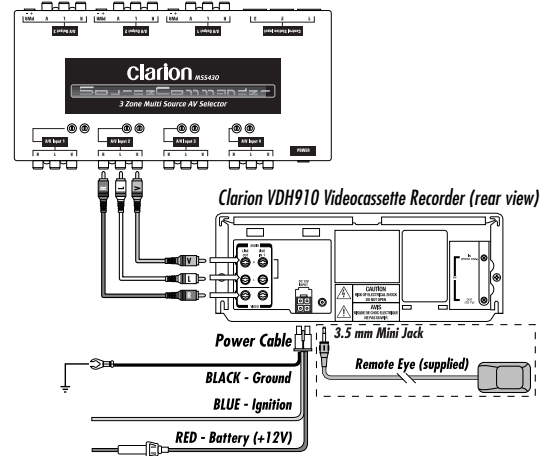


Figure 5. Wiring diagram for a VDH910 VCR Input.

Clarion SOURCE COMMANDER MSS430

MSS430 Wiring for TV Tuner Input

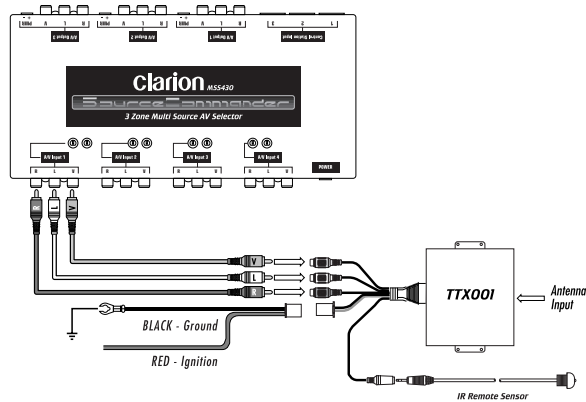
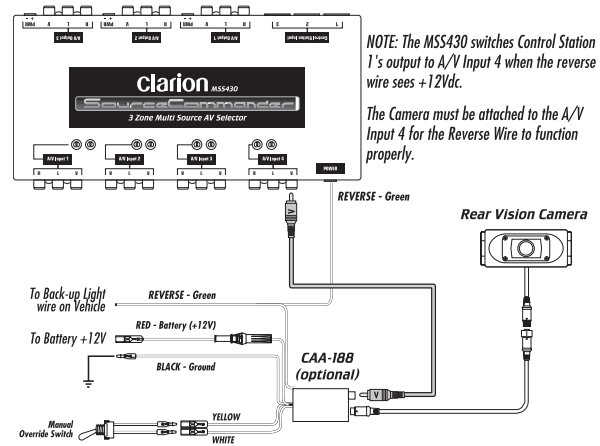


Figure 6. Wiring diagram for a TTX001 TV Tuner.

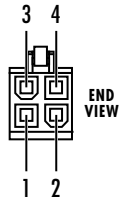
MSS430 Wiring for Rear Vision Camera



NOTE: The MSS430 does not provide necessary power and signals for the Rear Vision camera. The CAA-188 Camera Power Supply is required.

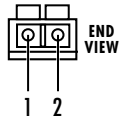
Figure 7. Wiring diagram for a Clarion Rear Vision Camera.

Power Connector Pinouts



**POWER
4-Pin Connector
(Male Pins)**

1	Reverse (Green)
2	None
3	Ground (Black)
4	Ignition (Red)



**MONITOR OUTPUT
2-Pin Connector
(Male Pins)**

1	Negative Lead
2	Positive Lead

Figure 8. 4- and 2-pin Molex Power connector pinouts.

MSS430 Video and Power Connector Pinouts

**A/V INPUT 1 ~ 4
RCAs**



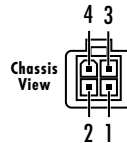
Center Conductor is signal (+),
Outside conductor is signal ground (-).

**A/V OUTPUT 1 ~ 3
RCAs**



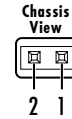
Center Conductor is signal (+),
Outside conductor is signal ground (-).

**POWER INPUT
4-Pin Molex**



1	Reverse (Green)
2	None
3	Ground (Black)
4	Ignition (Red)

**MONITOR OUTPUT
2-Pin Connector**



1	Negative Lead
2	Positive Lead

Figure 9. MSS430 Chassis A/V Inputs, Outputs, & Power connectors.

Clarion SOURCE COMMANDER MSS430

DESCRIPTION OF MSS430 FRONT CONNECTORS

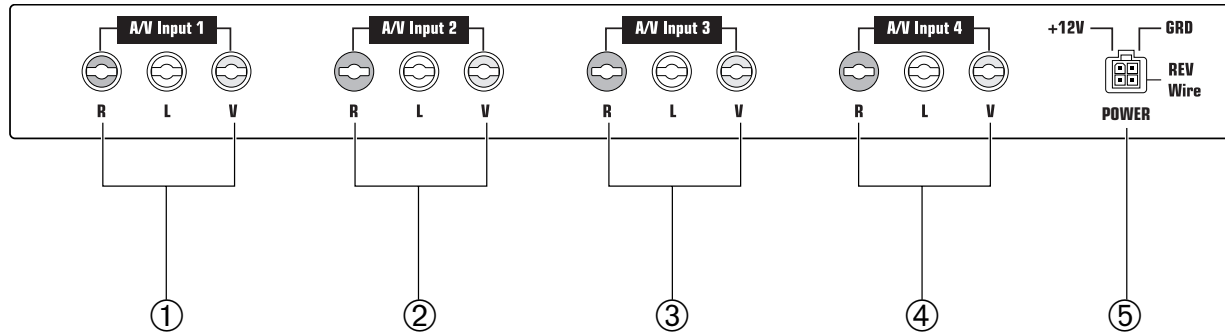


Figure 10. The MSS430's chassis input connectors.

A/V Input Connections (Front Panel)

① A/V INPUT 1 (3-RCA Jacks)

Use a triple RCA A/V cable (not supplied) to connect video and stereo audio from the primary video source (e.g., Clarion VDH910 VCR, VS715 DVD Player, etc.) to the MSS430 A/V Selector. See *Applications on page 15*.

Adjust the input gain controls so that the source's level

matches the audio level of the other video inputs.

NOTE: Do not connect high level speaker-level wires to these inputs. The MSS430 requires low-level signal inputs only.

② A/V INPUT 2 (3-RCA Jacks)

Same as A/V Input 1. Use these jacks to connect a second video source (e.g., video game console, TV Tuner, etc.)

③ A/V INPUT 3 (3-RCA Jacks)

Same as A/V Input 1. Use these jacks to connect a third video source.

④ A/V INPUT 4 (3-RCA Jacks)

Same as A/V Input 1. Use these jacks to connect a fourth video source.

NOTE: When using a optional Clarion Rear Vision Camera, the video connection must be connected to A/V Input 4 to function properly with the reverse wire. See Figure 7 on page 8 for connection configuration.

When +12Vdc is applied to the reverse wire (Pin 4), the MSS430 will automatically override Control Station 1's video selection and switch directly to A/V Input 4. The LED indicator will blink to show that the reverse function is active. The video signal will automatically override any other selection that is being viewed on Monitor 1. When voltage is removed from the reverse wire, the monitor will automatically switch back to the original source selected.

⑤ POWER INPUT CONNECTOR (4-Pin Molex)

Connect the enclosed Molex pigtail to the vehicle's power, ground, and back-up light circuits, (see *Figure 3* on page 6).

DESCRIPTION OF MSS430 REAR CONNECTORS (CONT'D)

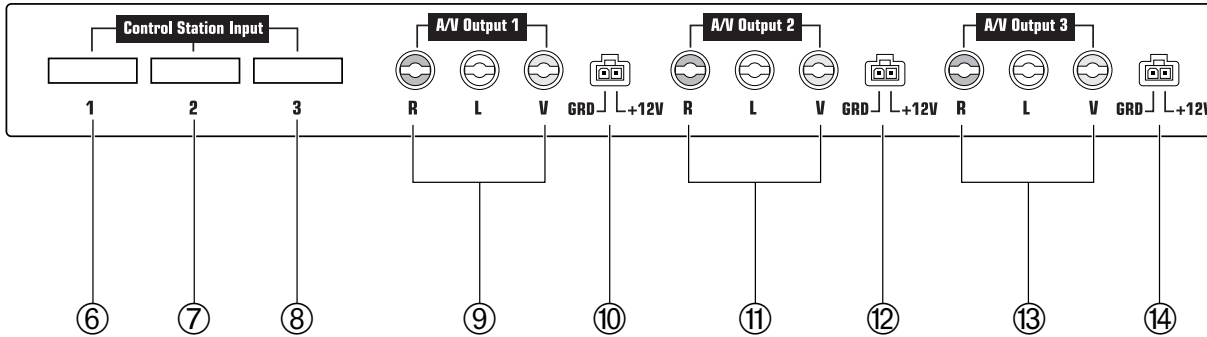


Figure 11. The MSS430's A/V Outputs and Power connectors.

⑥ CONTROL STATION 1 (6-Pin Connector)

The Control Station connected to this port provides control and selection of Zone 1 audio/video sources.

⑦ CONTROL STATION 2 (6-Pin Connector)

The Control Station connected to this port provides control and selection of Zone 2 audio/video sources.

⑧ CONTROL STATION 3 (6-Pin Connector)

The Control Station connected to this port provides control and selection of Zone 3 audio/video sources.

⑨ A/V OUTPUT 1 (3-RCA Jacks)

Use this output when connecting the MSS430 to an external (NTSC-composite type) video monitor for Zone 1.

⑩ MONITOR 1 OUTPUT (2-Pin Connector)

Connect to the monitor's +12 V and ground for Zone 1.

⑪ **A/V OUTPUT 2 (3 -RCA Jacks)**

Use this output when connecting the MSS430 to an external (NTSC-composite type) video monitor for Zone 2.

⑫ **MONITOR 2 OUTPUT (2 -Pin Connector)**

Connect to the monitor's +12 V and ground for Zone 2.

⑬ **A/V OUTPUT 3 (3 -RCA Jacks)**

Use this output when connecting the MSS430 to an external (NTSC-composite type) video monitor for Zone 3.

⑭ **MONITOR 3 OUTPUT (2 -Pin Connector)**

Connect to the monitor's +12 V and ground for Zone 3.

DESCRIPTION OF CONTROL STATION

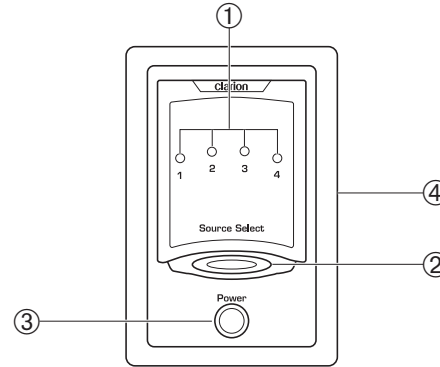


Figure 12. The Control Station's Power button, source LED indicators, and Source Select buttons.

① **SOURCE SELECT LEDs**

When illuminated, each LED indicates which A/V source is selected. Press the SOURCE SELECT button to change source selection and the corresponding LED will illuminate.

② **SOURCE SELECT Button**

Press the SOURCE SELECT button one or more times to step through the different Audio/Video inputs. Each LED illuminates to confirm the source selected.

③ **POWER Button**

When ignition is applied to the MSS430's ignition lead, all control stations are automatically set into the Stand-By mode (no power output from the monitor's power connector). Press the POWER button on any Control Station and the source LED will illuminate and the monitor will power on.

NOTE: Control Stations

a). If the Ignition is shuts down while the Control Stations are in use, the Control Stations will not automatically turn on when the ignition is activated again. Press the Power button on the Control Station again. The Control Station will power up and remember the last source selected.

Press and hold the Power button for 2 to 3 seconds to power down the monitor at each of the Control Stations.

④ **Mounting Bezel**

Outer mounting bezel around each Control Station allows for easy installation. (*see page 6 for intallation information*).

APPLICATIONS INPUT CONFIGURATIONS

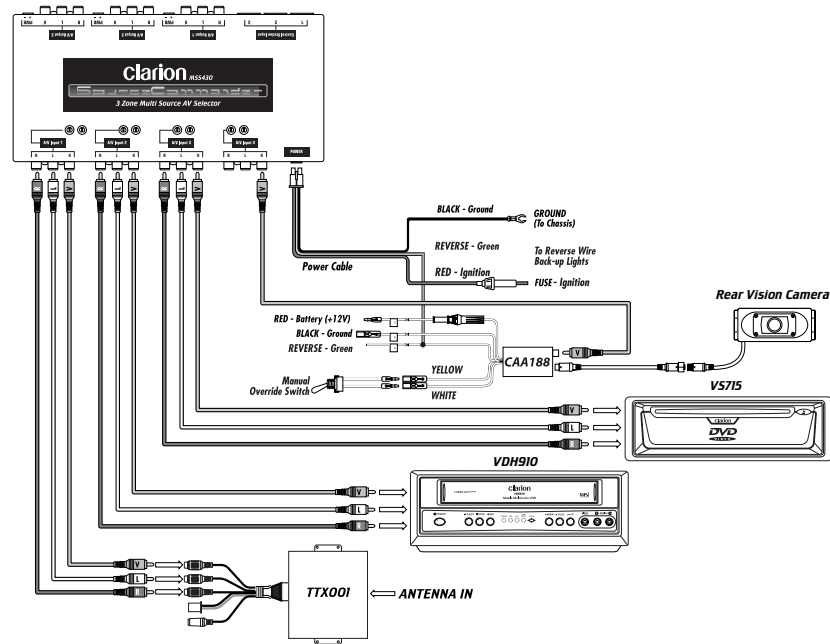


Figure 13. Using the MSS430 Input Connectors.

Clarion SOURCE COMMANDER MSS430

APPLICATIONS OUTPUT CONFIGURATIONS

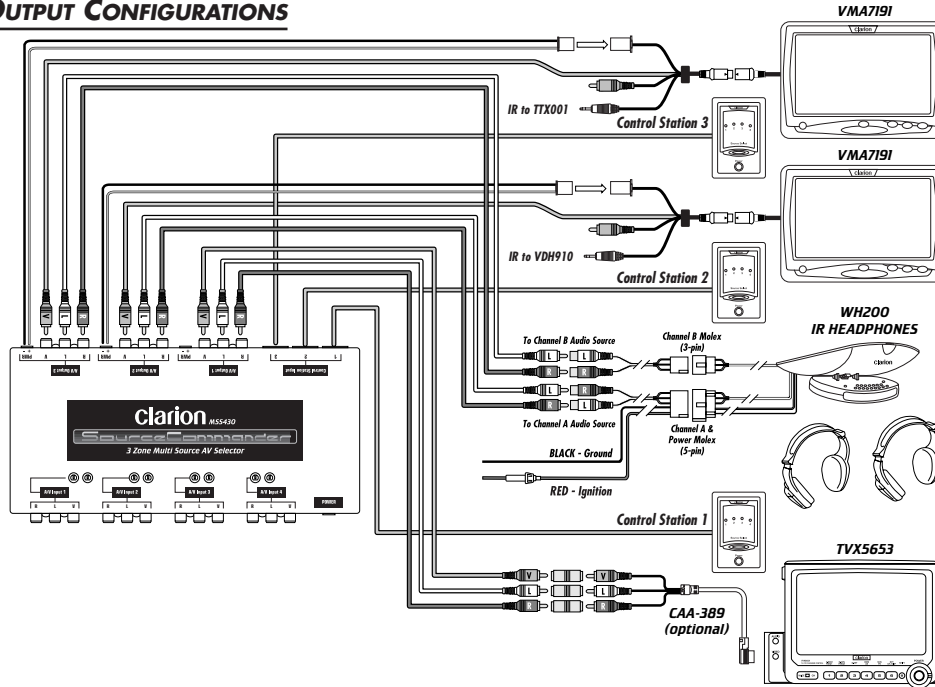


Figure 14. Using the MSS430 Output Connectors.

OPERATING THE MSS430 SYSTEM**Reverse Mode (Control Station 1 ONLY)**

When using this control station with an optional Rear Vision Camera and CAA188 power supply, the camera's source will automatically switch when the car is put into the reverse gear.

The LED indicator will flash designating the Reverse Mode and the monitor will display the video signal from the Rear Vision Camera.

NOTE: Rear Vision Camera Connections

a). *The Rear Vision Camera's video output from the CAA188 must be connected directly to A/V Input 4 only. (see MSS430 Wiring for Rear Vision Camera on page 8).*

When the vehicle is taken out of the reverse gear, the last video source chosen, before the reverse mode, is displayed and the source LED is illuminated constantly.

Viewing A Videocassette

1. After system and individual control station power is on, insert a videocassette in the VCR and press PLAY on the corresponding IR Remote Control. Use the IR remote controls to control the VCR functions through the monitor's IR Sensor.
2. At any Control Station, press the SOURCE SELECT button one or more times until the LED illuminates for the VCR source input. Its TV monitor will now display the source selected.
3. Adjust the headphones or audio system's volume control to a desired listening level.

Viewing A Video Game (If Installed)

1. After system and individual control station power is on, power on the video game player and insert a desired game cartridge.
2. At any Control Station, press the SOURCE SELECT button one or more times until the LED illuminated for the

video game source input. Its TV monitor should now display the selected source.

3. Adjust the audio system's volume control to a desired listening level.

Viewing A DVD

1. After system and individual control station power is on, insert a DVD in the DVD player and press PLAY on the corresponding IR Remote Control. Use the IR remote controls to control the DVD functions through the monitor's IR Sensor.
2. At any Control Station, press the SOURCE SELECT button one or more times until the LED illuminates for the DVD source input. Its TV monitor will now display the source selected.
3. Adjust the headphones or audio system's volume control to a desired listening level.

TROUBLESHOOTING

Symptom	Cause	Solution	Symptom	Cause	Solution	
System does not work.	Fuse is blown.	Replace external fuse with the same value .	No sound from in-dash monitor	Video source not selected on in-dash unit.	Switch the input control on the in-dash unit to select the video source.	
	Power wires not connected.	Check IGNITION and GROUND wiring at MSS430; check battery connections.		No video from external RCA outputs.	Power is off at Station.	At Control Station, press the POWER button once to turn on the Control Station.
	No Remote-On	Check for +12 V on Battery lead. If voltage is low, use relay circuit.		No video from in-dash monitor.	CAA389 not connected properly.	Connect CAA389 to optional video input.
No LED illumination on the Control Station.	No Ignition power	Check for +12 V on Ignition lead to MSS430. If voltage is low, use relay circuit.	No Rear Vision	Reverse wire not connected.	Connect Reverse wire on MSS430 to +12V source when vehicle shifted into reverse.	
	Station DIN not inserted fully into 6-pin connector.	Properly connect to MSS430; insert connector and lock into place.		Camera not connected properly.	Connect a Clarion Rear Vision Camera to the A/V INPUT 4 video connector.	
No sound from IR Headphones.	Station power is off.	Press the POWER button once to turn on control unit on.	No Power to CAA188	Check power and ground connections to CAA188.		
	Stand-by power up mode.	Press the Power button once to activate the Control Station. Check for source LED illumination.	Reverse Wire not connected on CAA188 camera power supply.	Check for proper connection and +12 V on Reverse Wire when vehicle is in reverse gear.		
	Volume down on IR headphones.	Check volume level on IR headphone set.				
No sound from in-dash monitor	CAA389 not connected properly.	Connect CAA389 to optional video input.				

Clarion **SOURCE COMMANDER MSS430**

MSS430 SPECIFICATIONS

Audio Specifications

Maximum Output:	4 V _{p-p} (peak to peak)
Frequency Response:	30 Hz to 25 kHz
S/N Ratio (A-wtd):	60 dB
Input Sensitivity:	1.0 V _{p-p} (peak to peak)
Input Impedance:	10k Ohms
Input/Output Gain:	0dB +/-2dB at Max volume with 600 Ohm load.

Video Specifications -

Output Level:	1.0 V _{p-p} +/- 20% (peak to peak)
Frequency Response:	39 Hz to 5.5 MHz
Video Input/Output Gain:	0dB +/-2dB with 75 Ohm load
Input Sensitivity:	0V _{p-p} +/- 20% (peak to peak)
Input Impedance:	75 Ohms

General Specifications -

Power Requirement:	10 V _{dc} - 13 V _{dc}
Fuse Rating:	1.6 A

Dimensions (w x h x d): 9.84 x 1.06 x 5.24 in.
(250 x 27 x 133 mm)

CONTROL SPECIFICATIONS

Dimensions (w x h x d): 1.7 x 2.6 x .60 in.
(43 x 66 x 15 mm)

Mounting Depth: .63 in. (16 mm); behind panel

Mounting Hole Diam.: 1.9 x 2.8 in. (48 x 72 mm)

Due to Clarion's ongoing research and development, the product specifications and appearances listed in this manual are subject to change without prior notice.

FCC STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 16 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be verified by turning the unit off and on, the user is encouraged to consult the dealer or an experienced radio/television technician for help.

Clarion Corporation of America

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