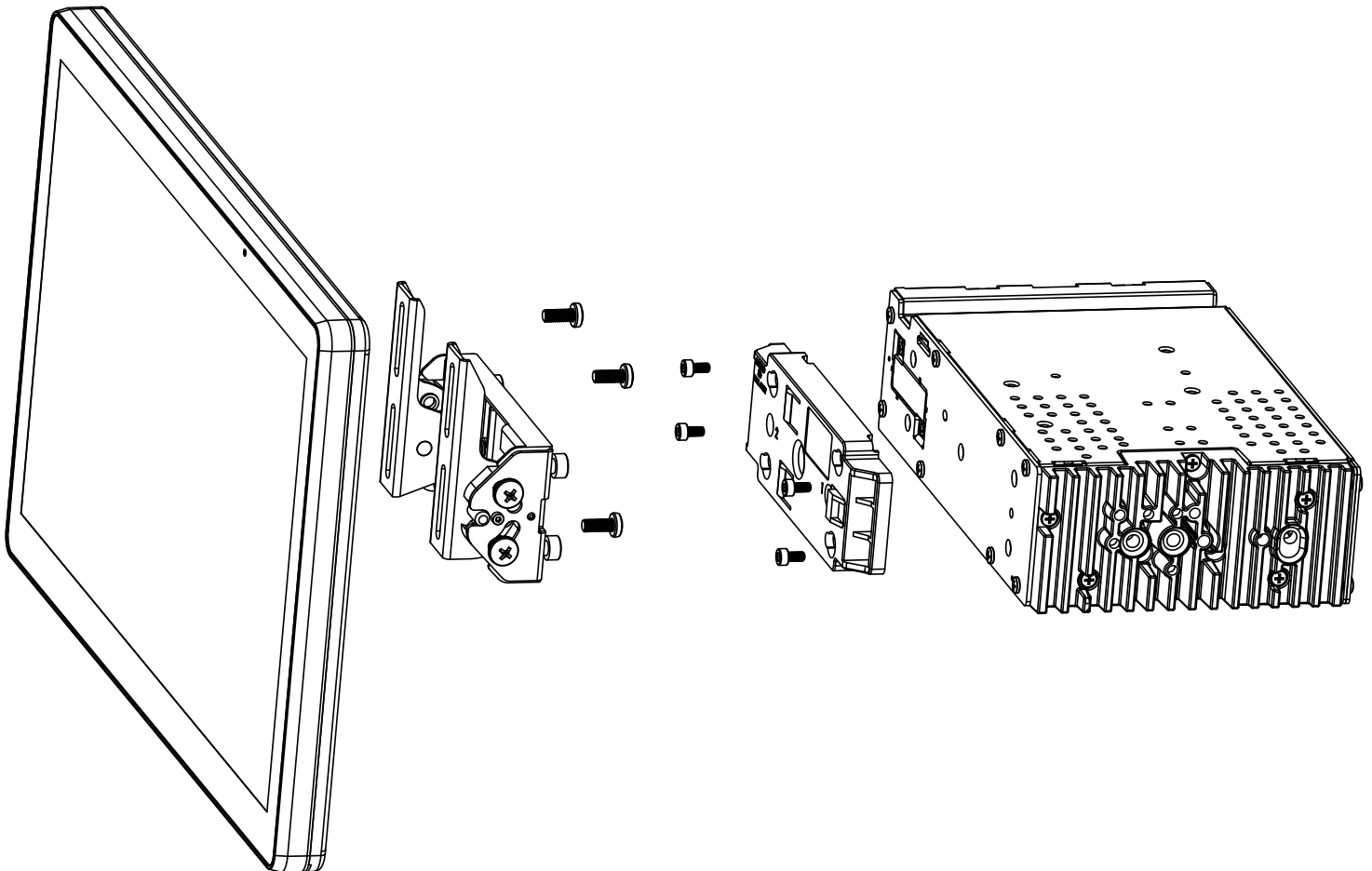




INSTALLATION GUIDE

12.8-INCH MODULAR MULTIMEDIA DISPLAY SYSTEM

MODEL NUMBER: iX212





PRECAUTIONS

Installation of this product requires technical skill and experience. It is recommended to have it professionally installed by an authorized Stinger / AudioControl / PAC / American International Dealer.

Read entire instructions thoroughly before starting.

Disconnect the vehicle's negative battery cable before making any wire connections.

Protect all vehicle surfaces with tape or plastic

Do not install components in any location that will hinder vehicle operation, such as steering wheel, gearshift, air bags, hazard switch, warning lights.

All wiring should be secured away from sharp edges and moving parts.

Visit StingerSolutions.com for updates and further information.

TECHNICAL SUPPORT:

727-592-5991

Email:

support@stingersolutions.com

CUSTOMER SOLUTIONS:

727-803-0285



**15500 Lightwave Drive, Suite 202
Clearwater, Florida 33760**

AGREEMENT: End user agrees to use this product in compliance with the instructions and terms of use and with all State and Federal laws. STINGER provides instructions and safety warnings with respect to this product and disclaims all liability for any use not in conjunction with those instructions or other misuse of its product. If you do not agree, please discontinue use and contact STINGER. This product is intended for off-road use and passenger use only

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INSTALLATION GUIDE

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Parts List

QTY	DESCRIPTION	PART NO
1	Touch Panel Display	ix212-D
1	Radio Module	iX212-M
Mounting Brackets / Hardware		
1	Radio Bracket - Nose Bracket / Display Bracket	PSE-2000
1	Nose Bracket - Radio Bracket	
1	LVDS Connector Rear Cover	
4	M4 X 10 Screw	PSE-2002
5	M5 X 10 Screw	
1	M2.6 X 6.5 Screw	
10	Rubber Plug	
1	Mid Bracket	
Cables / Harnesses		
1	16 Pin AV Harness	PSEH-2103
1	12 Pin Pre-out Harness	PSEH-2104
1	14 Pin Data Harness	PSEH-2105
1	26 Pin Power Harness	PSEH-2102
1	LVDS Display Cable	PSEH-2101
1	External Microphone	PSEH-1108
1	GPS Antenna	PSEH-1109
1	GPS Mounting Plate	

Optional Accessories (SOLD SEPARATELY)

	DESCRIPTION	PART NO
	Flush Mount Display Housing	SE-HFDK12
	iGO Navigation North American Map (Micro SD Card)	SE-P24
	LVDS Display Cable - 2 meters or 6.5 feet	SE-2502

Hardware Guide

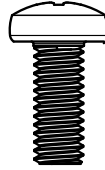
M2.6 X 6.5



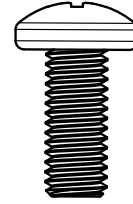
M3 X 6



M4 X 10

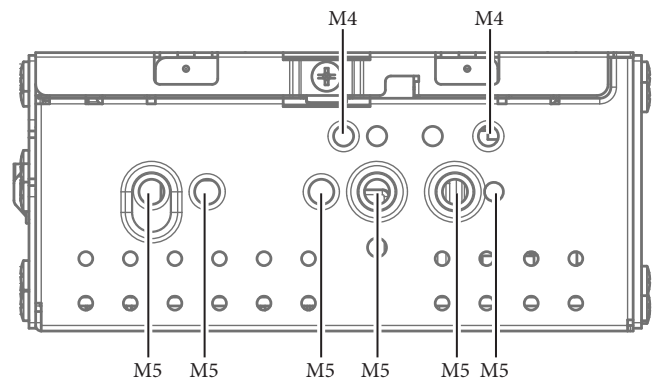
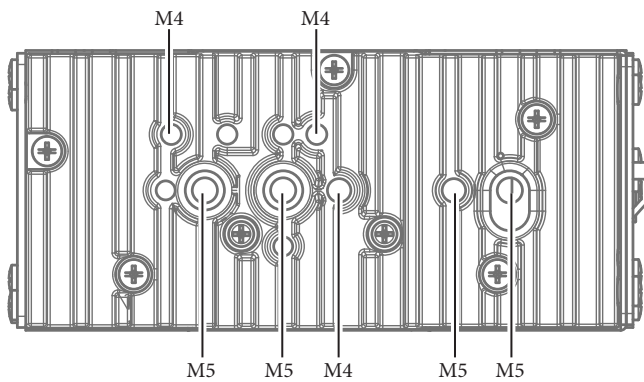


M5 X 10

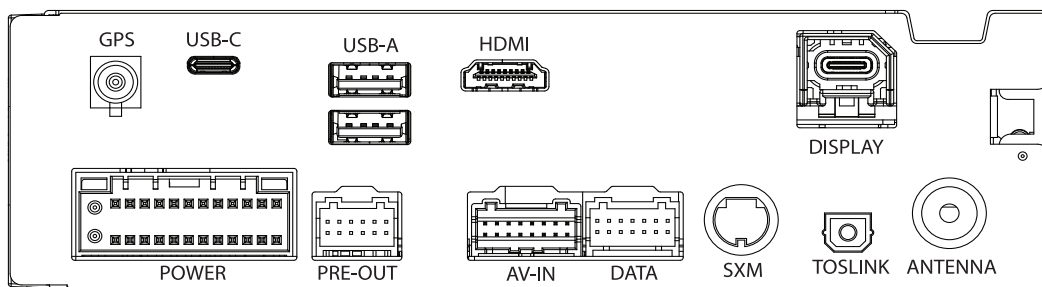


NOTE: Depending on the installation, not all hardware will be used.

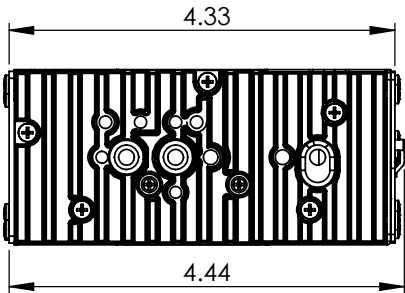
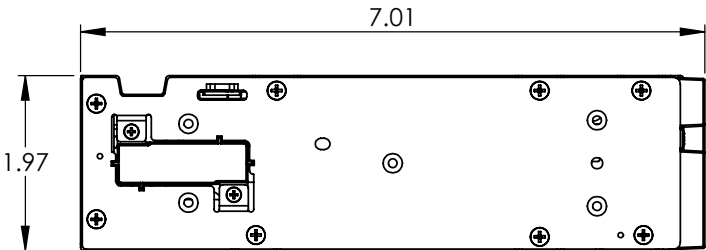
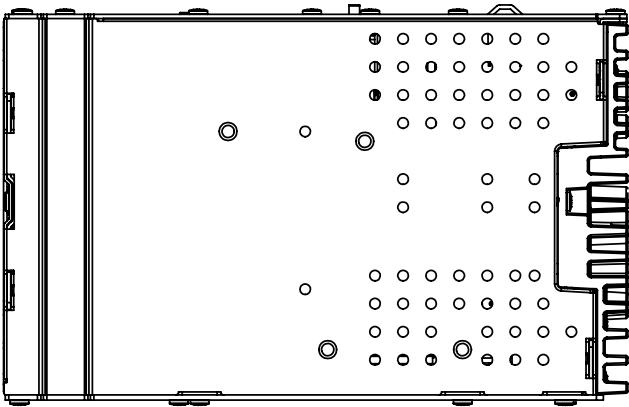
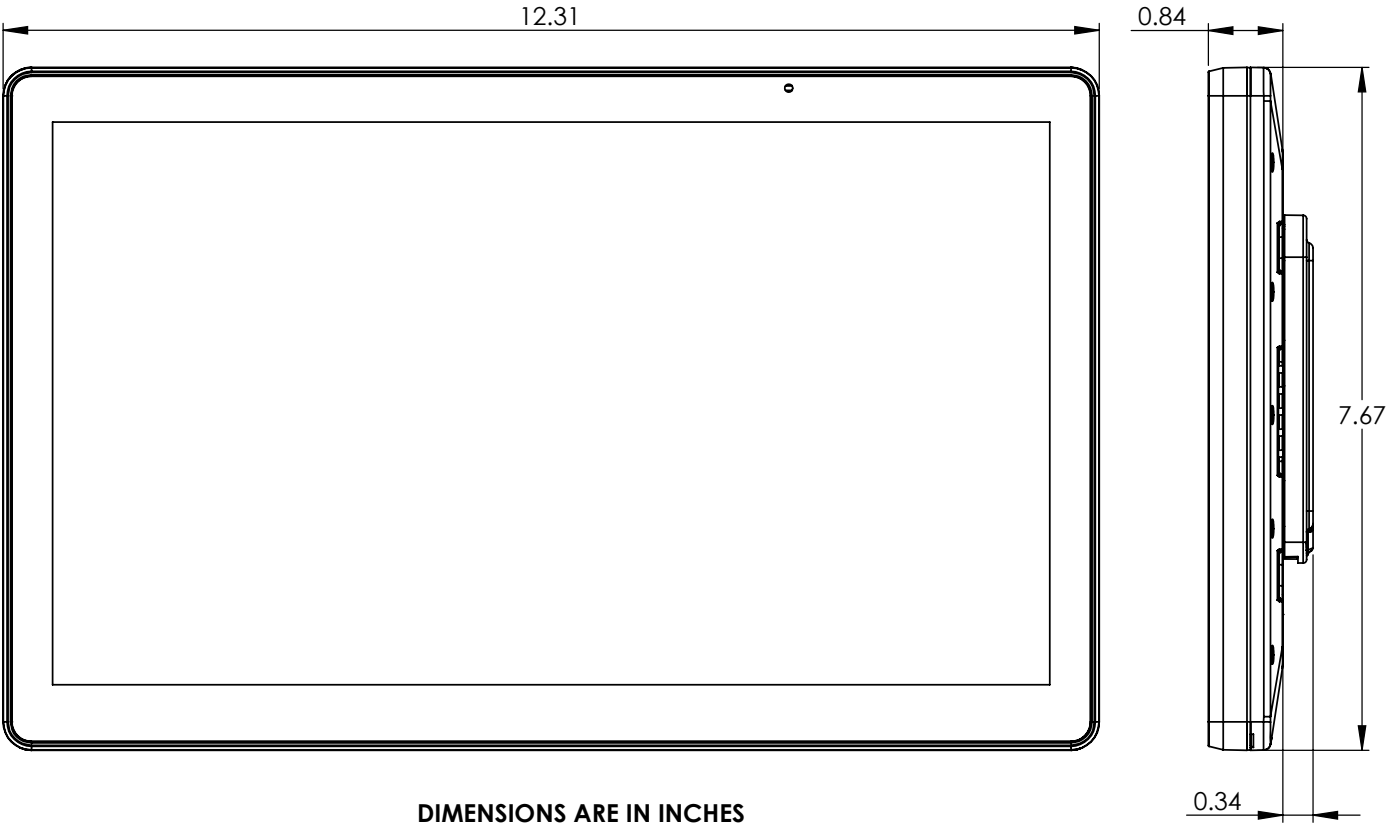
! Only use designated screws as stated in this manual. Using the wrong screws will result in damage to internal components, which is not covered under warranty.



M4 holes are optional (M4 hardware is not included).

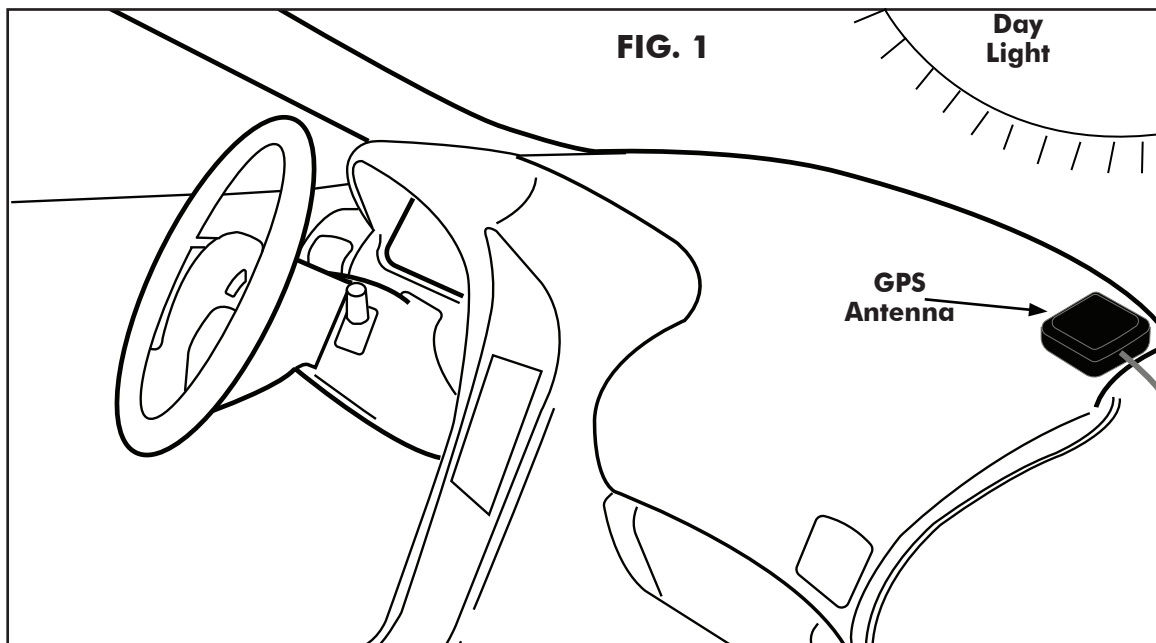


Dimensions (in)



Installation Using A Dash Kit

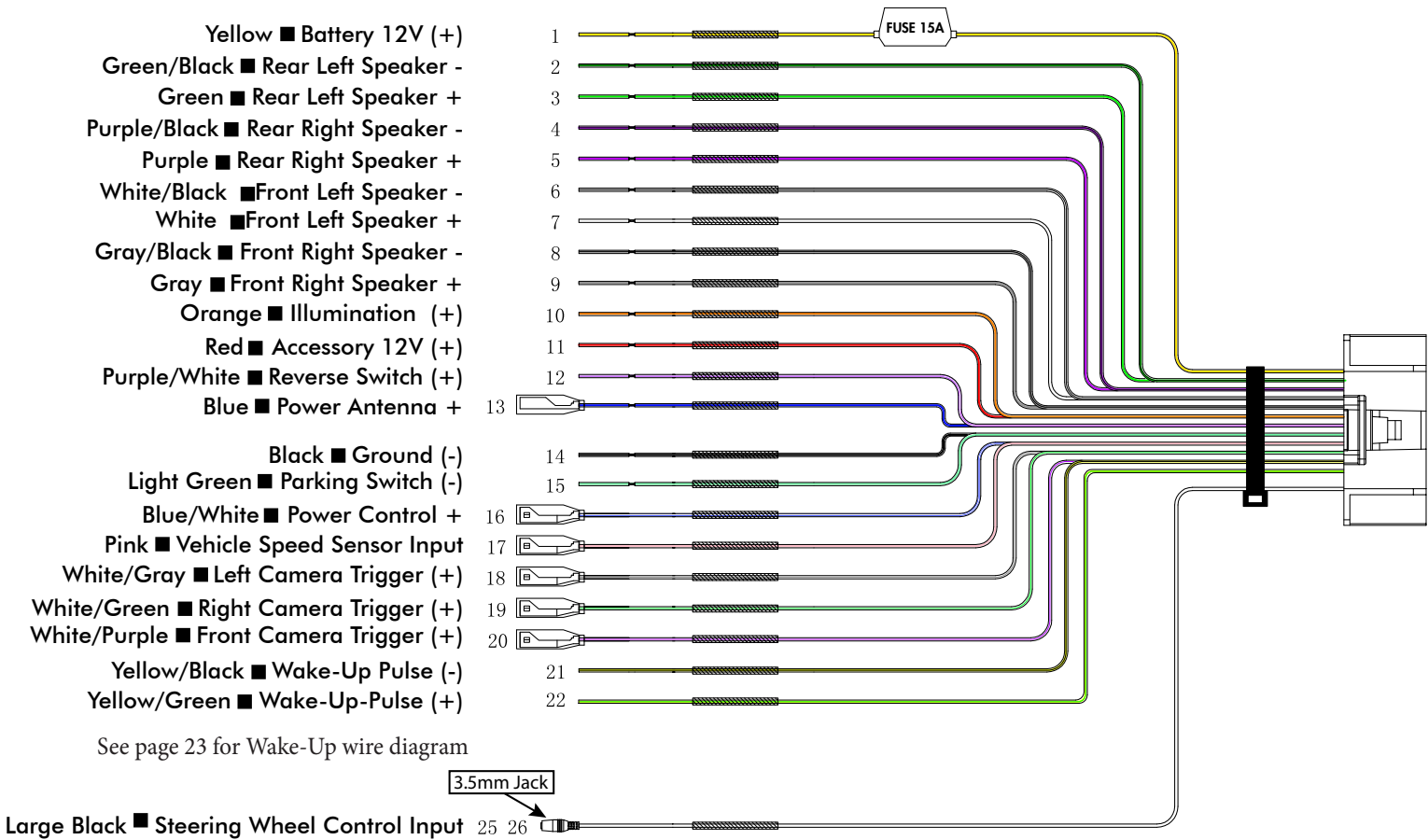
1. Hold the iX212 display in front of the factory radio and determine if you would like the display to be mounted vertically(portrait) or horizontal(landscape).
2. Follow the Dash Disassembly instructions that are included with your specific dash kit.
3. Assemble the iX212 radio module onto the dash kit (see page 16).
4. Wire the iX212 26 PIN Power/Speaker harness to your aftermarket wire harness (see page 8).
5. Connect the iX212 26 PIN harness to the radio module.
6. If the aftermarket wire harness has a factory back-up camera connection, connect the 16 PIN AV/Rear Camera harness to the iX212.
7. Connect the aftermarket RCA to the Reverse Camera input RCA on the iX212 (see page 9).
8. Mount the GPS antenna from the iX212 somewhere inside the vehicle that has visibility to the sun. **Note: Under plastic panels is ok as long as it's close to the windshield and not under metal (FIG.1).**
9. Route the GPS antenna to come out where the aftermarket radio was located.
10. Connect the GPS antenna to the iX212 radio module.
11. Connect the vehicles antenna wire to the iX212 radio module. **Note: some vehicles will need an antenna adapter (not included).**
12. Connect the iX212 LVDS connector to the radio module (see page 17, FIG.J).
13. Plug in your aftermarket harness to the vehicle harness.
14. Temporarily connect the LVDS harness to the iX212 Display (see page 17, FIG.K).
15. Test the basic functions of the iX212.
16. Once the functional testing has been completed, remove all the cables plugged into the iX212 radio module.
17. Follow the Dash Kit Assembly instructions (reference pages 16-19).



Wiring and Connections

26 Pin Power / Speaker Harness

Connect radio power and speaker connections to a vehicle specific harness (sold separately) referencing diagram below.



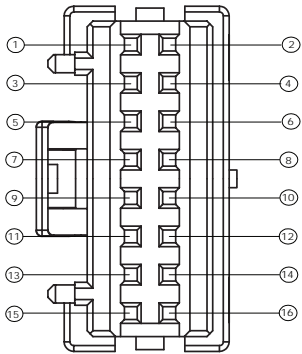
Wiring and Connections

16 Pin AV / Rear Camera Harness

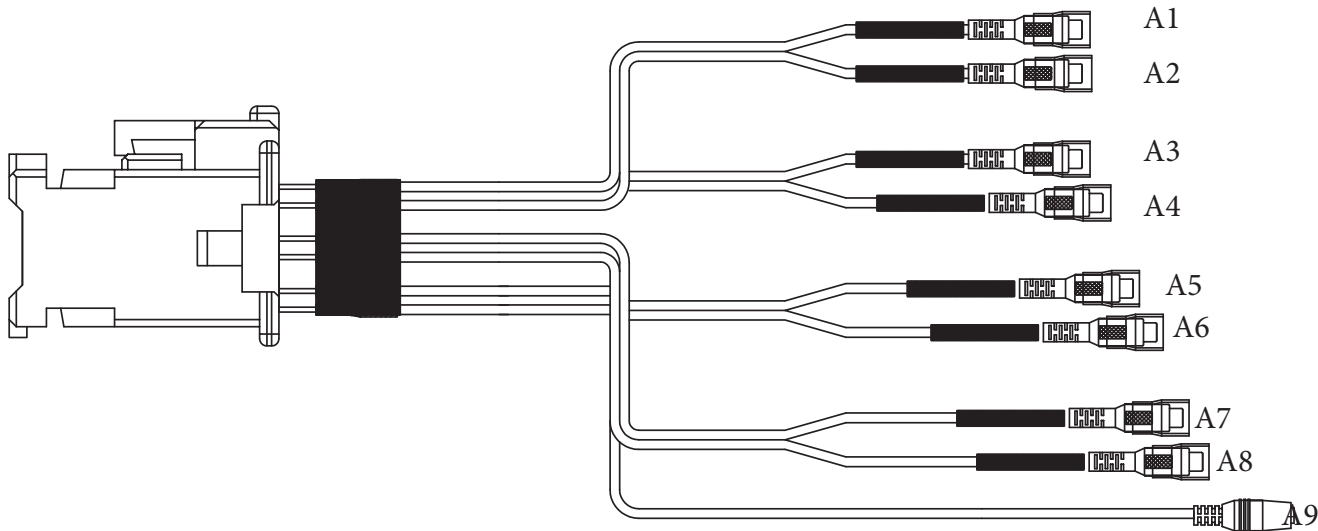
Audio/Video Inputs & Outputs / Rear Camera Video Input

NOTE: For Camera set-up, refer to the HORIZON12 User Guide

Audio / Video Input	A1	1	White RCA	Audio Input Left
		2		Audio Input GND
	A2	3	Red RCA	Audio Input Right
		2		Audio Input GND
	A3	5	Yellow RCA	Video Input
		4		Video Input GND
Reverse Camera Input	A4	6	Yellow RCA	Camera Input
		4		Camera Input GND
Left Camera Input	A5	7	Yellow RCA	Camera 2 Input
		8		Camera 2 Input GND
Right Camera Input	A6	9	Yellow RCA	Camera 3 Input
		10		Camera 3 Input GND
Front Camera Input	A7	11	Yellow RCA	Camera 4 Input
		12		Camera 4 Input GND
Reverse Audio Input	A8	13	White RCA	Reverse Audio Input
		14		Reverse Audio Input GND
Microphone Input	A9	15	Black 3.5mm	External MIC
		16		External MIC GND



Suggested: Adding the external microphone for optimal performance



Wiring and Connections

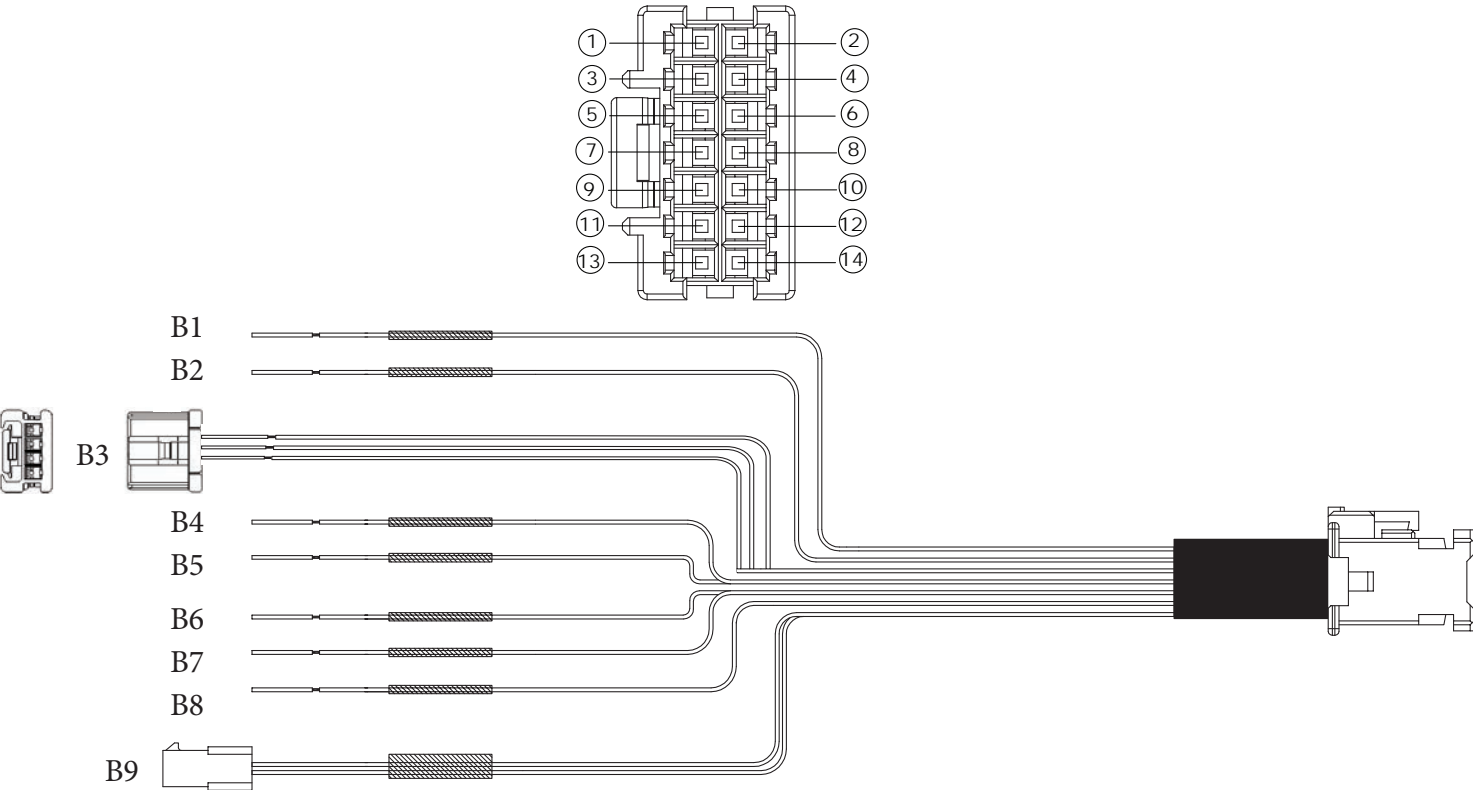
14 Pin Data and Accessory Control Wire Harness

Steering Wheel Control, Accessory Control, ENLIGHT10 Connection

NOTE: For Steering Wheel Control information, refer to the HORIZON12 User Guide
For information on connecting the Accessory Control wires see page 22

Steering Wheel Control	B1	1	Brown	SWC Key 1
	B2	2	Brown/Black	SWC Key 2
Future Expansion	B3	3	Blue/White	Future Expansion
		4	Blue/Black	
		5	Red	
Steering Wheel Control	B4	6	Black	SWC GND
Accessory Control	B5	7	White/Black	Switch 1 Output / negative trigger
	B6	8	Gray/Black	Switch 2 Output / negative trigger
	B7	9	Green/Black	Switch 3 Output / negative trigger
	B8	10	Purple/Black	Switch 4 Output / negative trigger
ENLIGHT10 Control	B9	12	Orange/Black	UART TX
		13	Orange	UART RX
		14	Black	UART GND

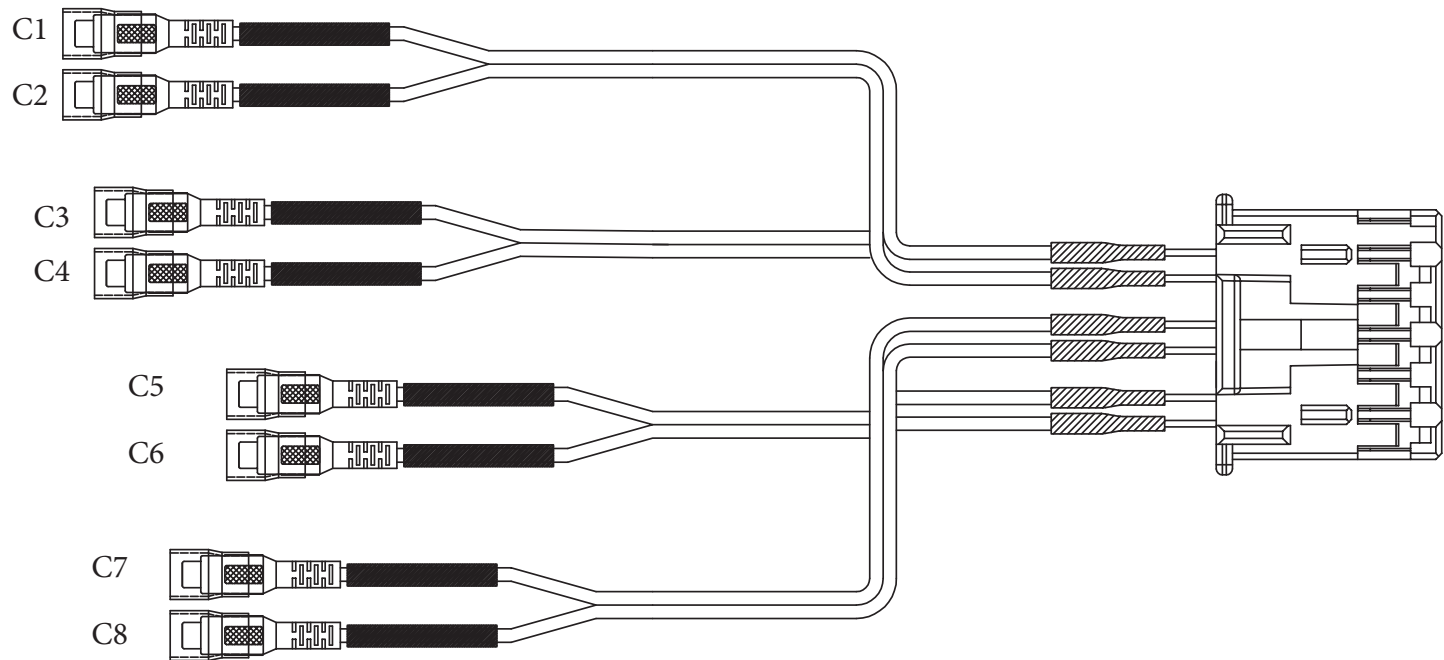
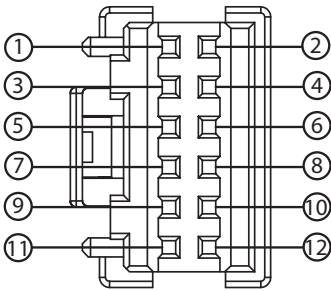
ENLIGHT10 Control can connect to any SPXD products with Bluetooth controller



Wiring and Connections

12 Pin PRE-Out Harness Audio Outputs Front, Rear, and Subwoofer

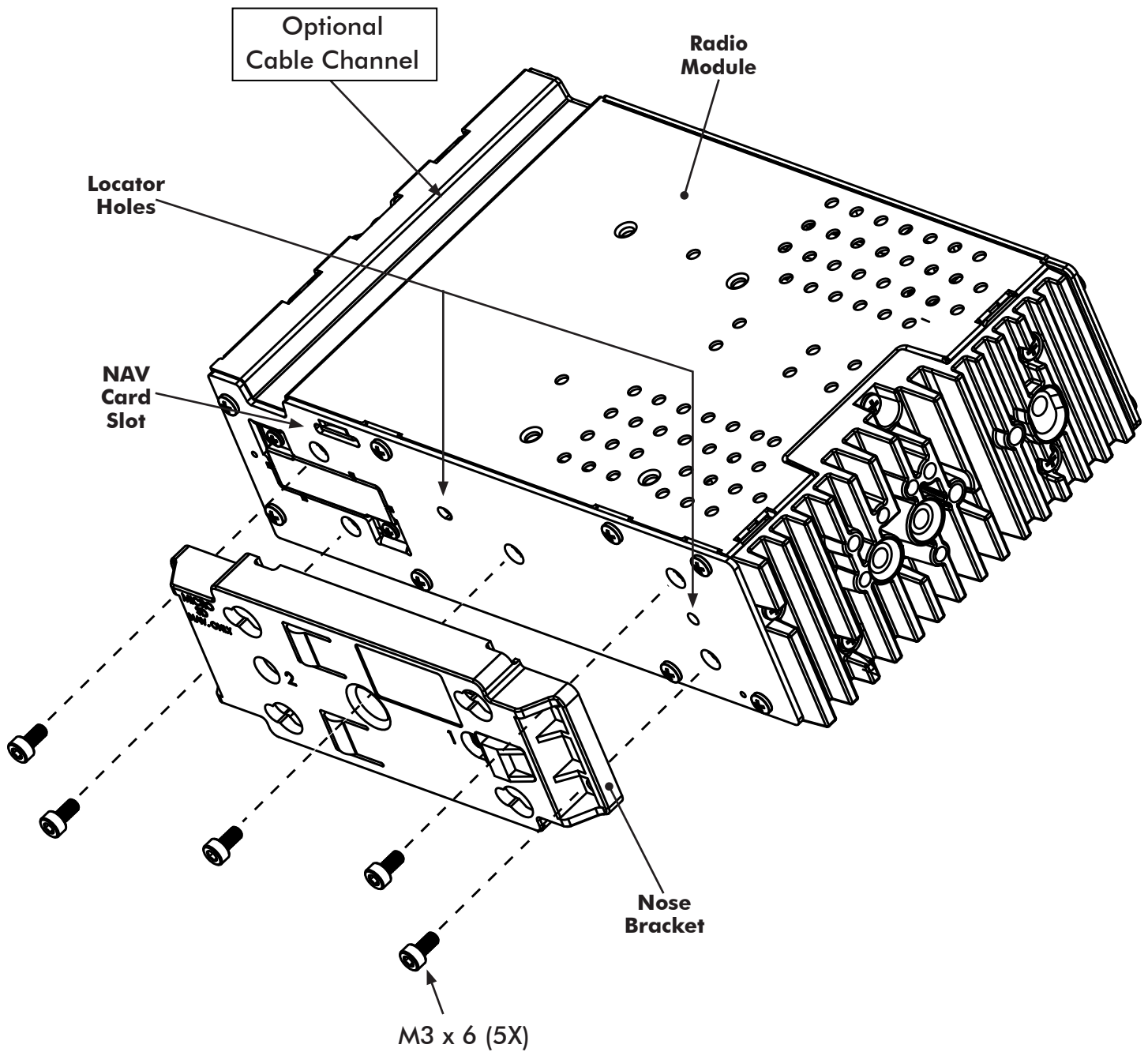
Subwoofer Output	C1	1	Red RCA	Right Subwoofer
		3		Subwoofer GND
	C2	2	White RCA	Left Subwoofer
		3		Subwoofer GND
Rear Audio Output	C3	4	White RCA	Left Rear
		6		Rear GND
	C4	5	Red RCA	Right Rear
		6		Rear GND
Front 1 Audio Output	C5	7	White RCA	Left Front 1
		9		Front 1 GND
	C6	8	Red RCA	Right Front 1
		9		Front 1 GND
Front 2 Audio Output	C7	10	Red RCA	Right Front 2
		12		Front 2 GND
	C8	11	White RCA	Left Front 2
		12		Front 2 GND



1

Pre-Assembly

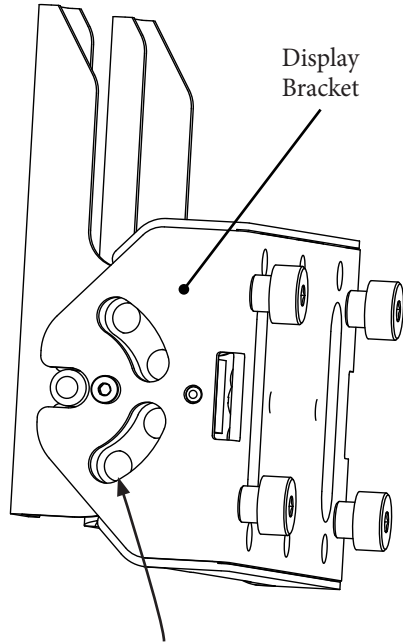
Single or Double Din Applications: Align the Nose Bracket onto the Radio module where the NAV Card Slot lines up and the 2 locator pins on the back of the Nose Bracket line up with the 2 holes on the front of the radio module. Attach the Nose Bracket to the radio module using M3 X 6 screws at the locations indicated.



2 Display Bracket Assembly

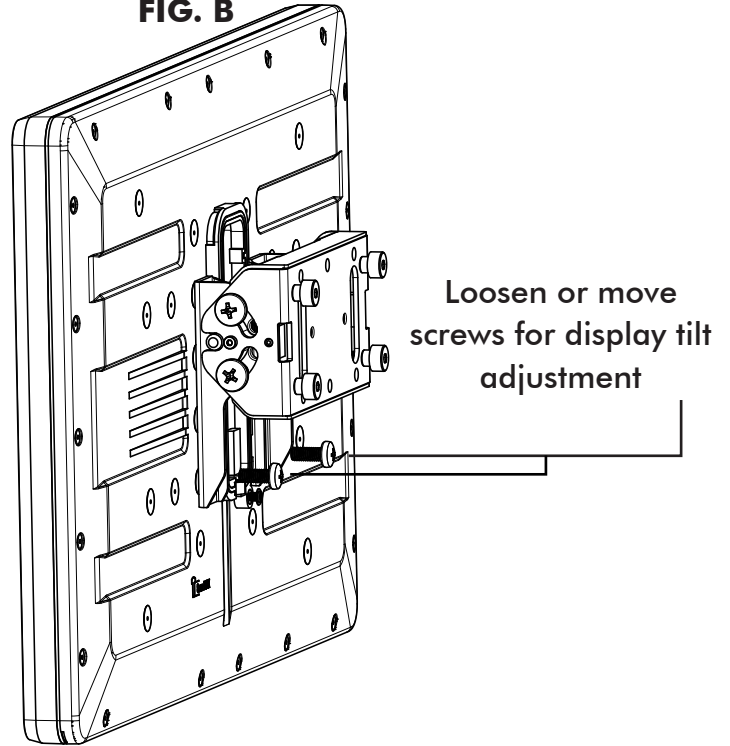
Read Steps 2-4 to understand how the HORIZON12 assemblies before starting the installation process. The display can be installed flat or with a slight angle for a better viewing angle. Loosen or remove the screws on the Display Bracket. (FIG. A). Loosen the screws, or move the screws for the best viewing angle (FIG. B / C).

FIG. A



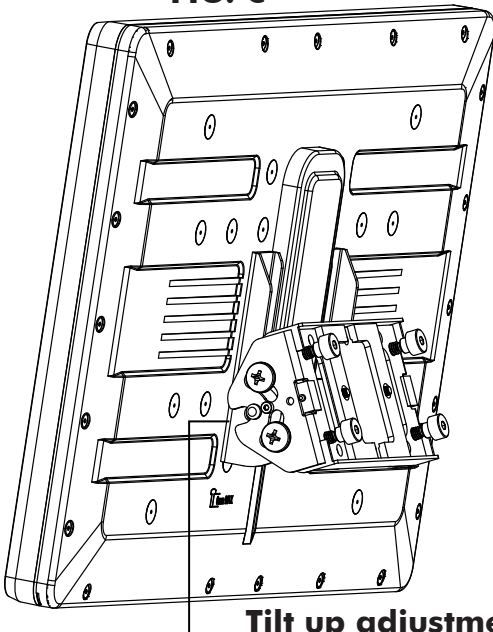
NOTE: Screws removed for illustration purposes

FIG. B

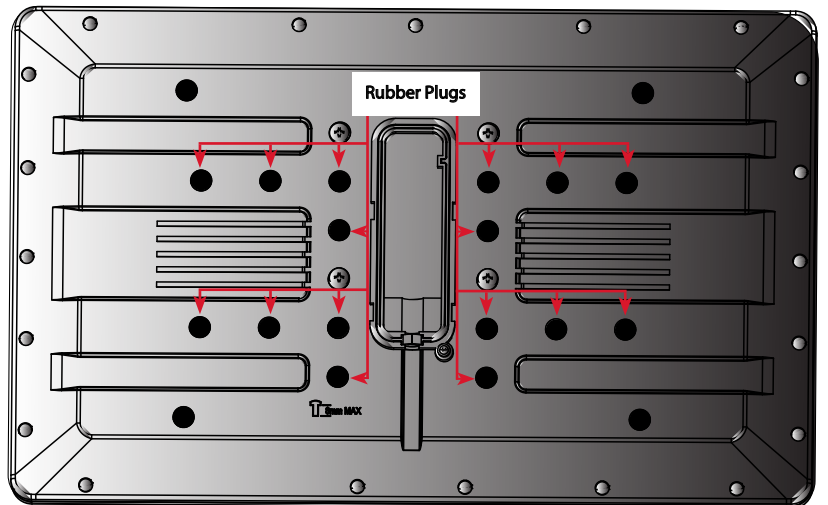


Default setting at 90°

FIG. C



Tilt up adjustment, move lower screw to next hole
25° Example



NOTE: For Display to be IP65 rated, you must install 16 rubber plugs in the screw holes that will not be used. Image above has 4 screws installed

3 Display Assembly Horizontal

The Display Bracket can be mounted Right-side up (FIG.D) or Up-side down (FIG.E). Determine how the Display Bracket needs to be mounted for your application. **NOTE: Ensure the LVDS Display Cable can still plug-in after the bracket is in the desired location (FIG F).** You may need to rotate the Display Bracket for the LVDS cable to plug-in properly (FIG. D/E). Use four M4 x 10 supplied screws to hold the bracket in place. **NOTE: Do not tighten the screws until the last installation step.**

FIG. D

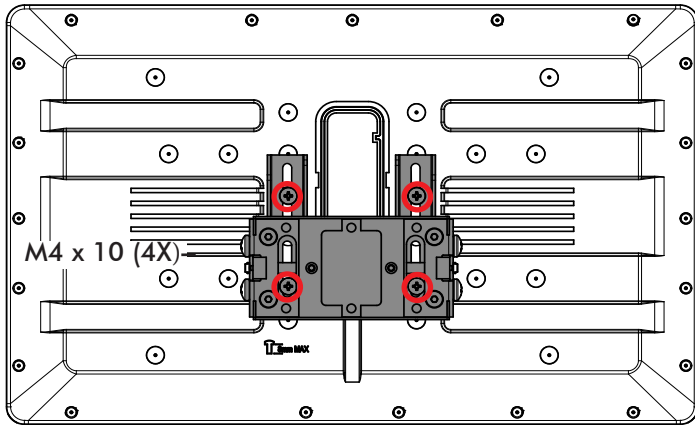
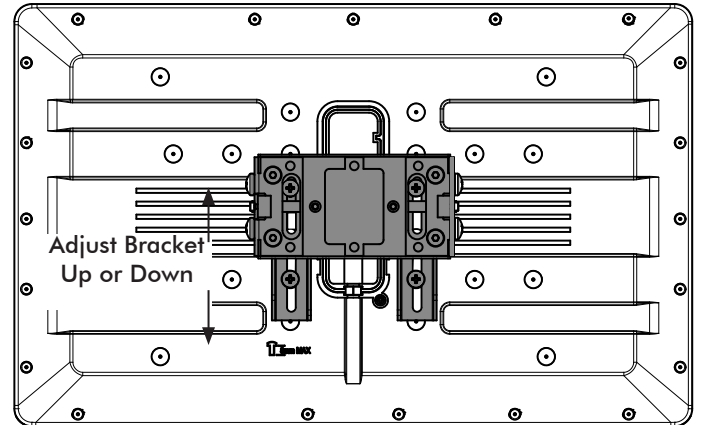


FIG. E

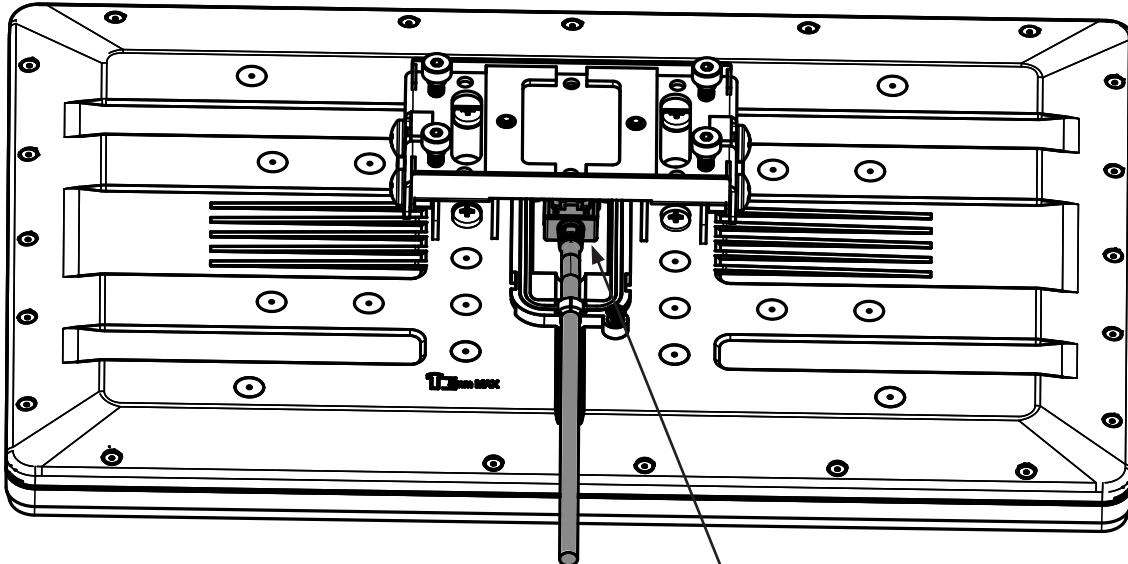


Display
Bracket
Right-side Up



Display
Bracket
Up-side Down

FIG. F



LVDS Cable needs to have space to plug-in, Or... if you need the bracket in a certain position, you can remove the bracket, plug in the cable/cover and then re-install bracket.

4

Display Assembly Vertical Center Position

The iX212 can be mounted vertically. To mount vertically, the Universal Mounting Bracket will need to be disassembled (**Fig G**). Locate the provided Vertical Mount Bracket and assemble to Monitor Mount Bracket (**Fig H**). Determine the proper height for monitor location. Identify appropriate mounting holes that the Display Bracket will need to mount, for your application (**Fig I**). **NOTE: Ensure the LVDS Display Cable can still plug-in after the bracket is in the desired location.** Use four M4 x 10 supplied screws to hold the bracket in place. **NOTE: Do not tighten the screws until the last installation step.**

FIG. G

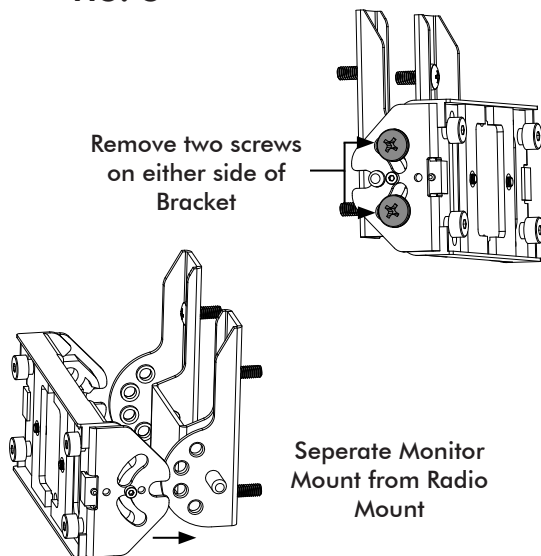


FIG. H

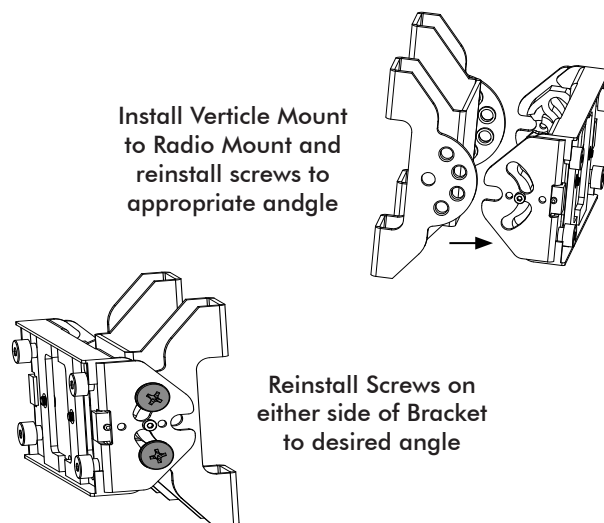
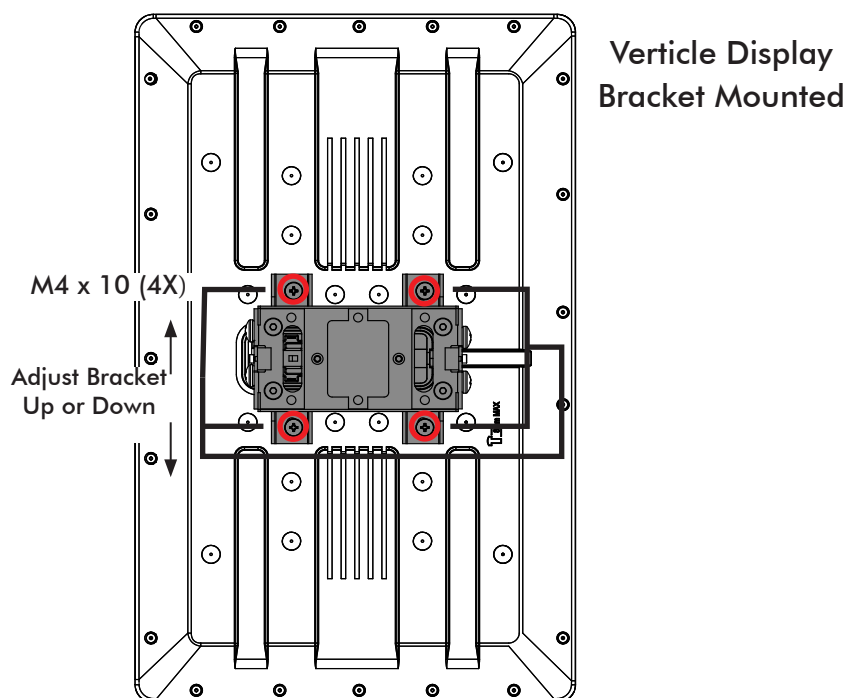


FIG. I



4A Display Assembly Vertical Off-Center

To mount the iX212 vertically, off-center, the Universal Mounting Bracket will need to be used (Fig J). Determine the proper height for monitor location. Identify appropriate mounting holes that the Display Bracket will need to mount, for your application (Fig K). Use four M4 x 10 supplied screws to hold the bracket in place. **NOTE: Do not tighten the screws until the last installation step.**

FIG. J

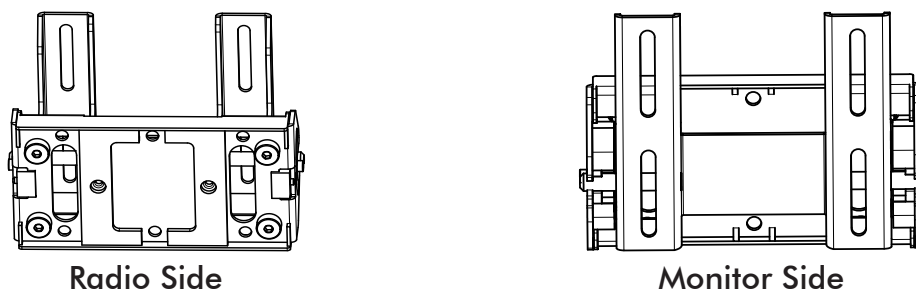
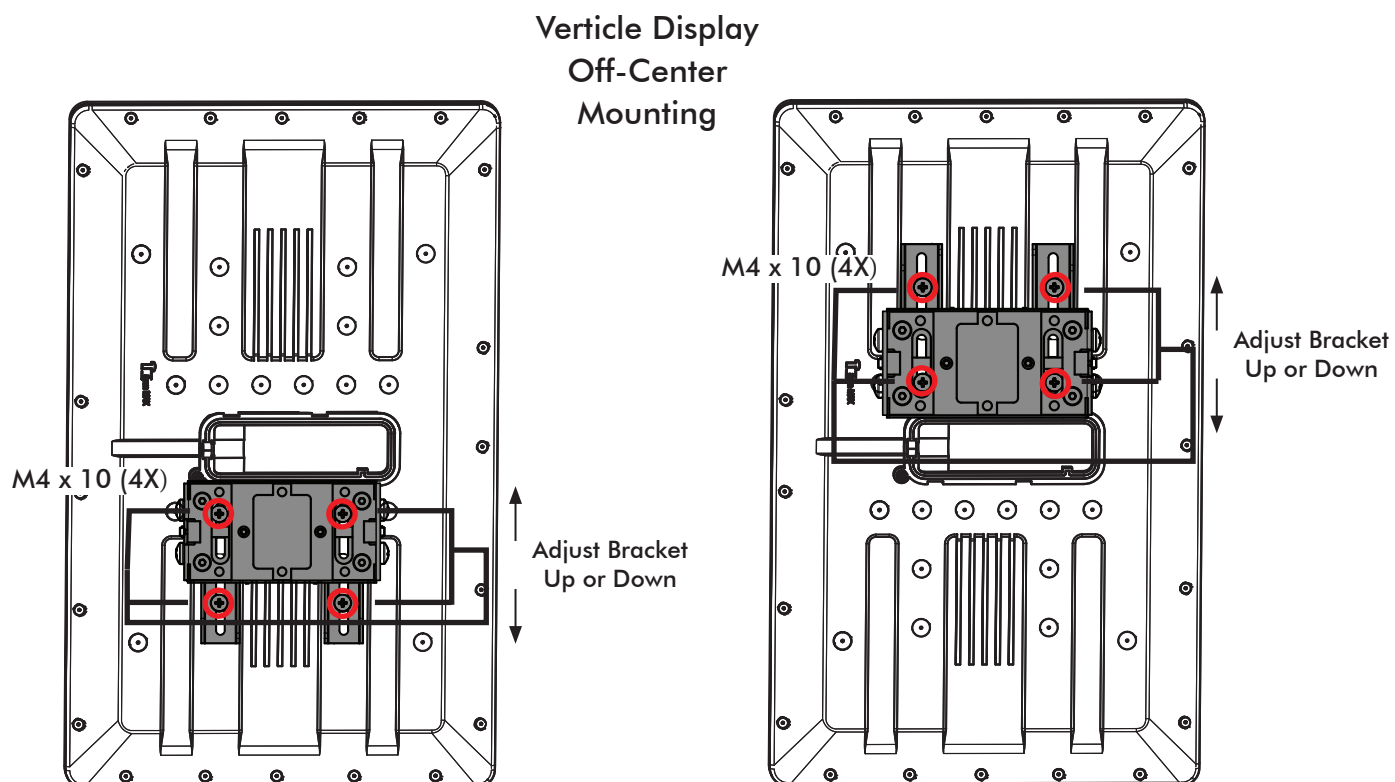


FIG. K



5

Display Assembly cont;

Align the 4 shoulder bolts on the Display Bracket attached to the LCD Panel with the 4 key holes on the Nose Bracket and push forward.

Once the 4 shoulder bolts are aligned properly, slide the LCD assembly to the left to lock the assembly to the Nose Piece.

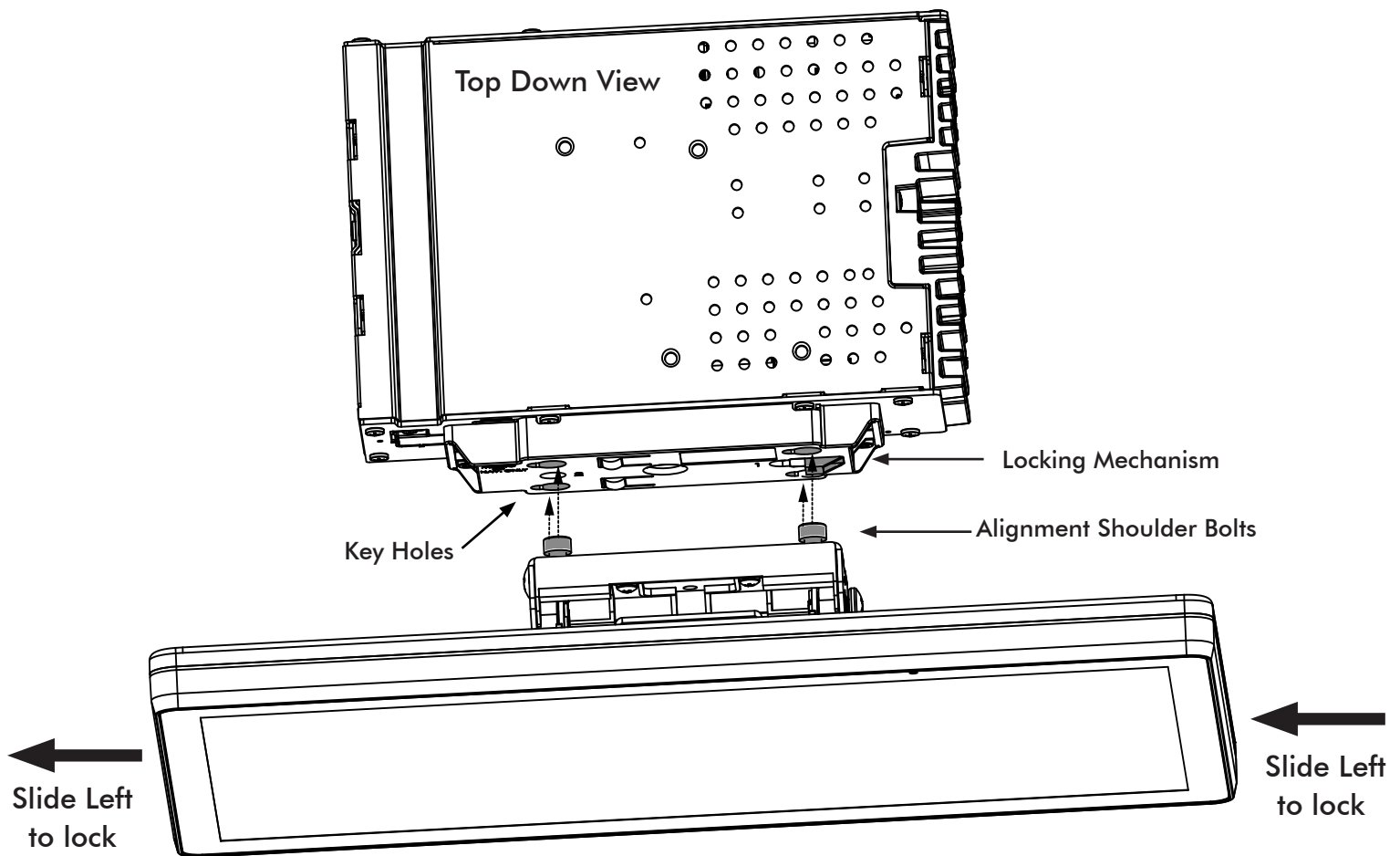
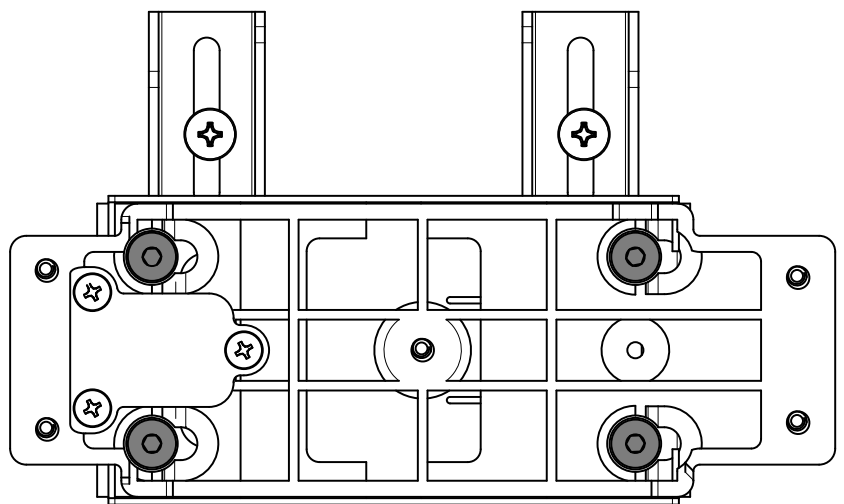


Image displays how the pins line up with the openings on the Nose Piece.

NOTE: Radio module has been removed to better understand how the pieces align together.



Back View

6

Multiple Mounting Options

HORIZON12 can be configured for different mounting applications:

6A Using a Single / Double DIN Dash Kit.

6B Using Factory Radio Mounting Brackets.

6A Single or Double DIN Dash Kit:

Radio chassis mounts to the kit brackets in the sub-dash, not to the kit main frame
Display Adjustment & Mounting:

1. Slide the Radio Module into the dash kit opening.
2. Find the best location for the Radio Module to mount into the dash kit (FIG G).
3. Use the 4 supplied M5 x 10 screws to hold the Radio Module in place (FIG G).
4. Attach the Display assembly to the Radio Module (see page 15) and check fitment (FIG H).
5. Adjust the display as desired. Remove the display to adjust if necessary. (see page 13).
6. Once you have the desired viewing angle, remove the display and then remove the Locking M3 X 5 screw from the Nose Bracket (FIG I).
7. Connect one "end" of the LVDS cable to the radio module (FIG J).
8. Connect the other end of the LVDS cable to the Display (FIG K).
9. Slide down the LVDS Connector Rear cover onto the back of the Display (FIG L).
10. Use the supplied M2.6 X 6.5 screw and mount the rear cover (FIG M).
11. Attach the Display to the Nose Bracket until the lock engages with a click sound (see page 15).

NOTE: If the rubber covers or LCD cover are not installed the LCD will not be IP65 rated. Warranty is void if water damage occurs.

FIG. G

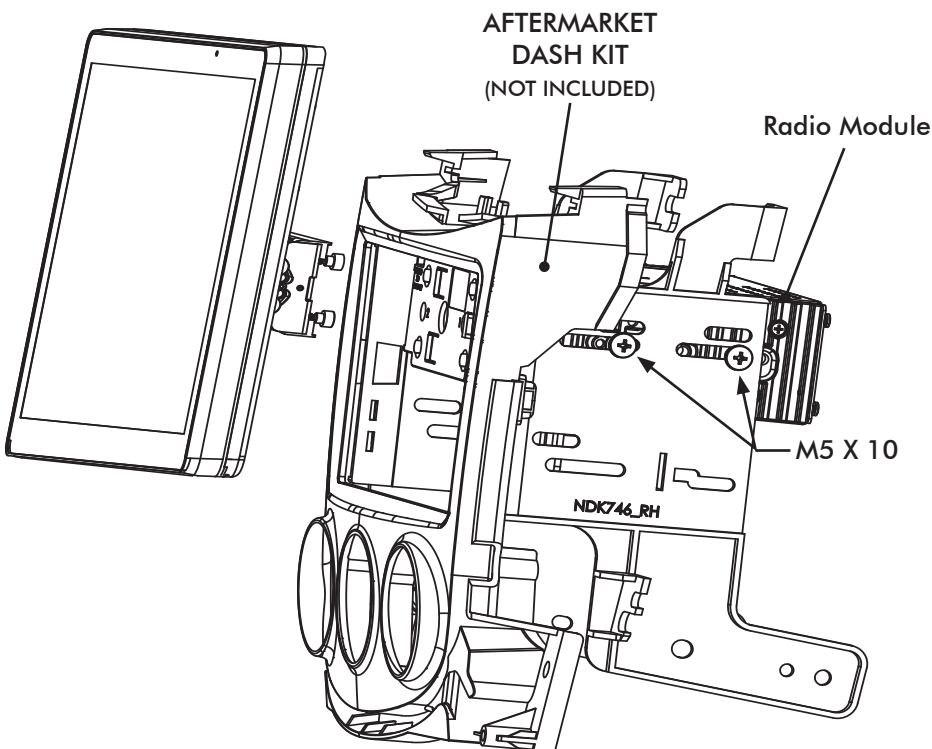


FIG. H

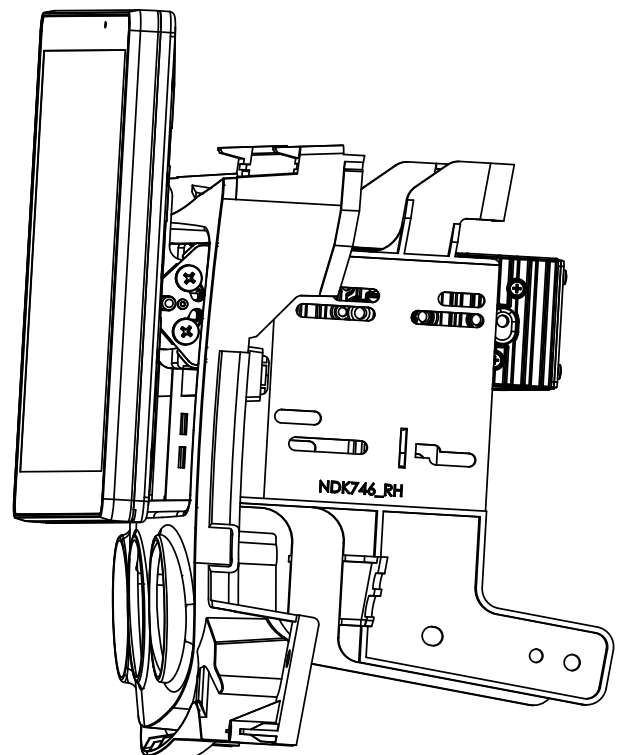


FIG. I

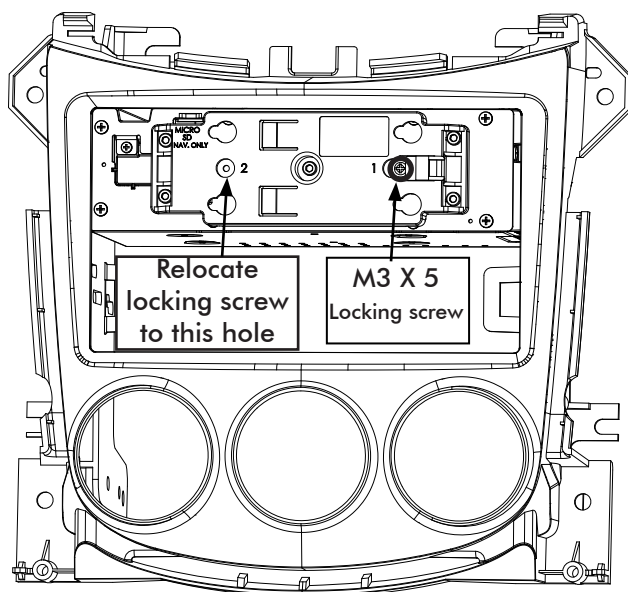


FIG. J

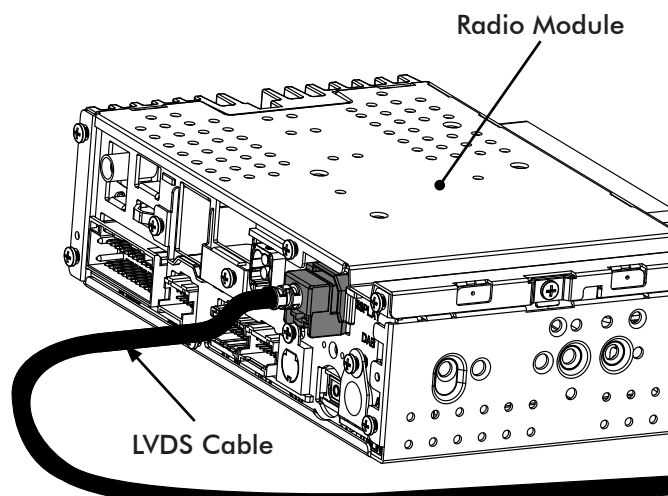
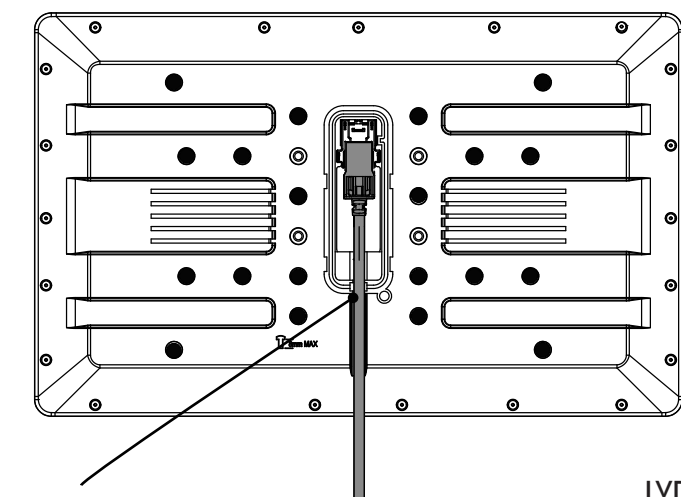
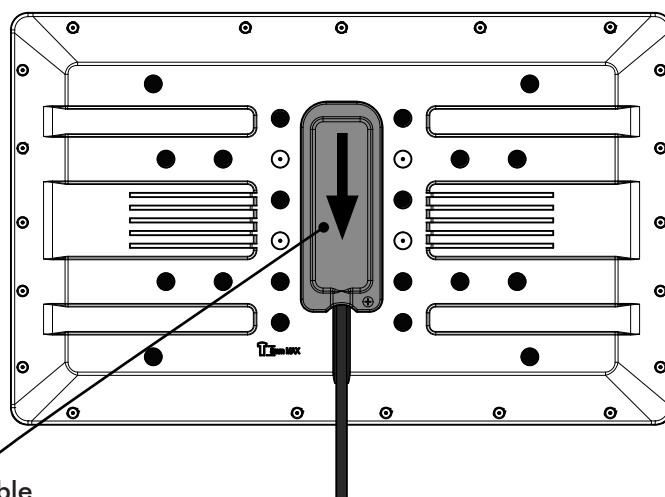


FIG. K



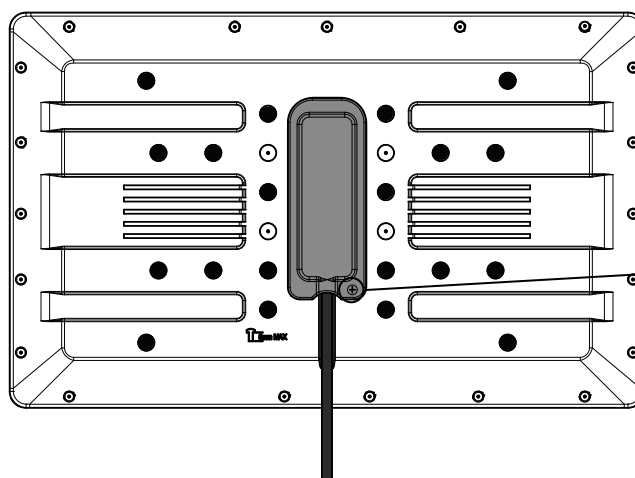
LVDS Cable

FIG. L



LVDS Cable
Cover

FIG. M



M2.6 X 6.5
Screw

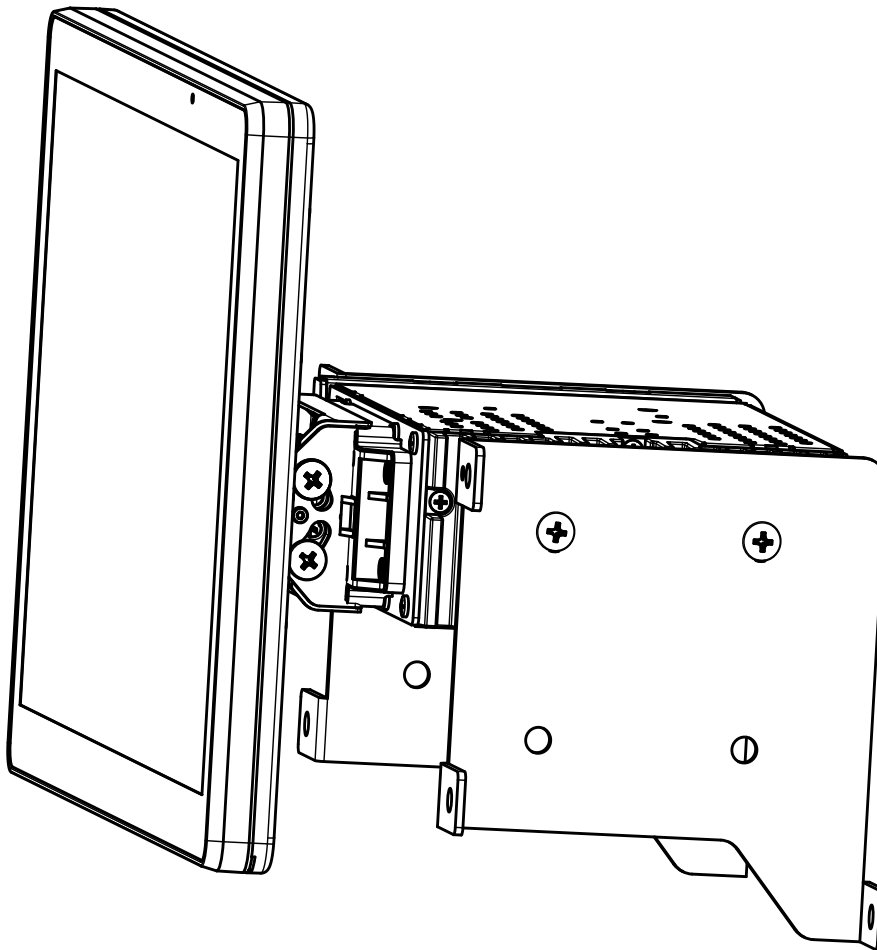
NOTE: Figures J, K, L & M,
mounting brackets is not shown for
presentation purpose

Display Adjustment & Mounting:

1. Use all four mounting screws and attach the radio module to the factory brackets (FIG N).
 - a. Included (4X) M5 X 10 screws to mount the (radio module).
 - b. Not included (4X) M4 X 10 screws to mount the (radio module).
2. Attach the LCD to the Radio Module (see page 15).
3. Remove the display panel and follow instructions to adjust the display angle (see page 13).
4. Once you have the desired viewing angle, remove the Locking M3 X 5 screw (see page 17, FIG. I).
5. Connect one "end" of the LVDS cable to the radio module (see page 17, FIG J).
6. Connect the other end of the LVDS to the Display panel (see page 17, FIG K).
7. Slide down the LVDS Connector Rear cover onto the back of the Display panel (see page 17, FIG L).
8. Use the supplied M2.6 X 6.5 screw and mount the rear cover (see page 17, FIG M).
9. Attach the LCD to the Nose Bracket until the lock engages with a click sound (see page 15).

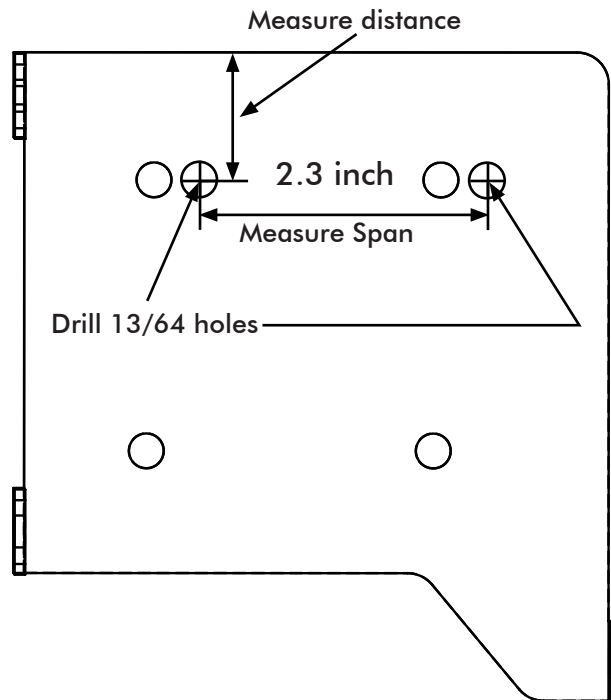
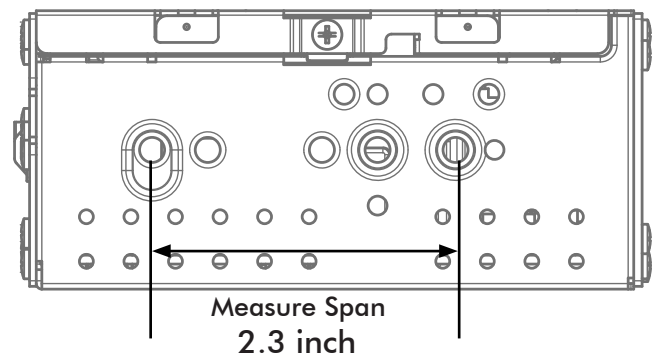
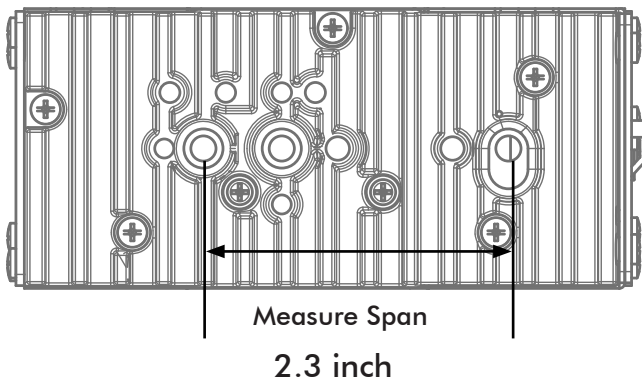
NOTE: If the rubber covers or LCD cover is not installed the LCD will not be IP65 rated. Warranty is void if water damage occurs.

FIG. N



New holes in the factory brackets may need to be drilled for optimal screen position

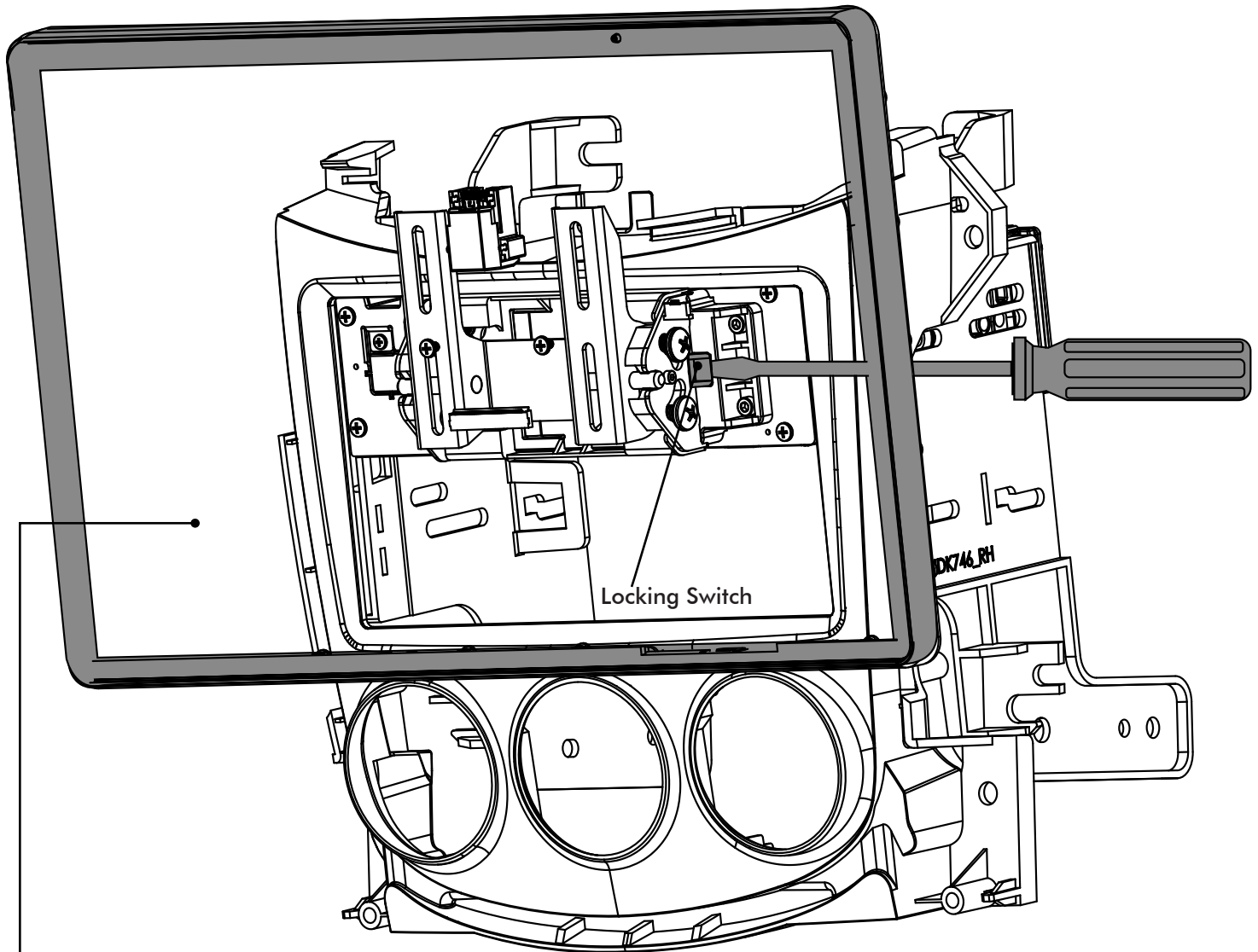
1. Measure the hole span in the radio module mounting holes (2.3 inch).
2. Measure the height of where you want the radio module mounted.
3. Mark your holes on both sides of the brackets and drill two 13/64 holes on both sides of the brackets.
4. Mount the 2 brackets to the radio module using the four supplied M5 X 10 screws.
5. Install the assembly (from Steps 1-4).
6. Attach the display to the radio module (following Steps 4-11, page 16).



7

Removing the Display Panel:

In the event the display panel needs to be removed, follow the instructions below to prevent damage to the vehicle trim, radio display and installation kit.

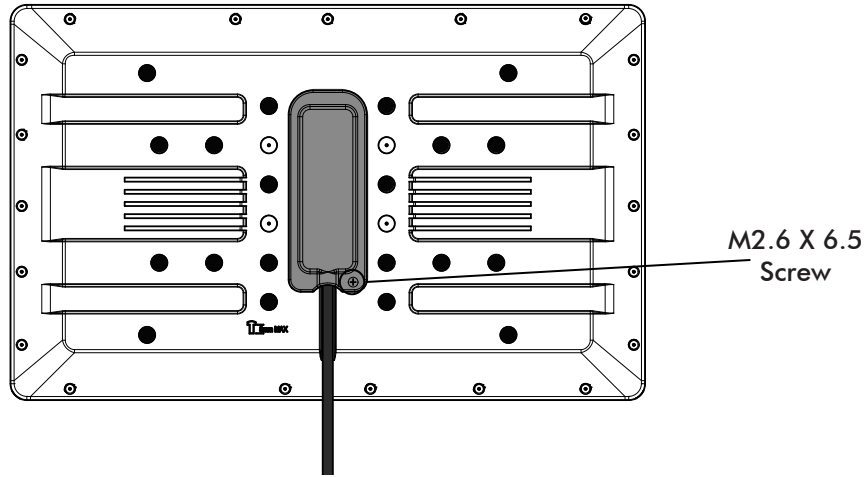


1. Using a long flat-head screw driver, press-in the release switch behind the Display, and then slide to the right.
2. Pull the Display off of the nose bracket.
3. Remove the M2.6 X 6.5 screw on the back cover of the Display (FIG.O).
4. Slide the back cover up and remove the cover (FIG.O).
5. Disconnect the LVDS display cable (FIG.O).

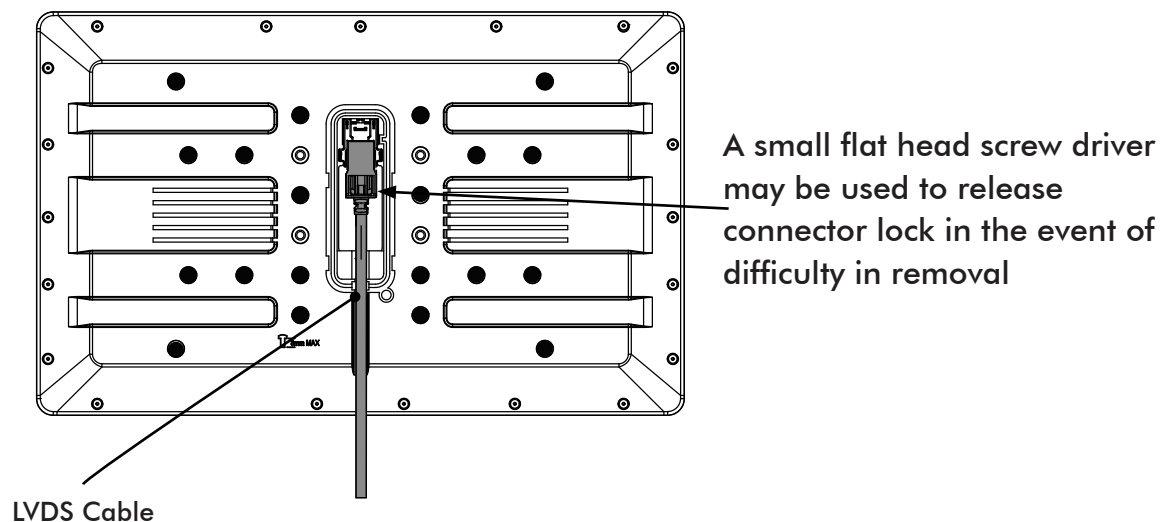
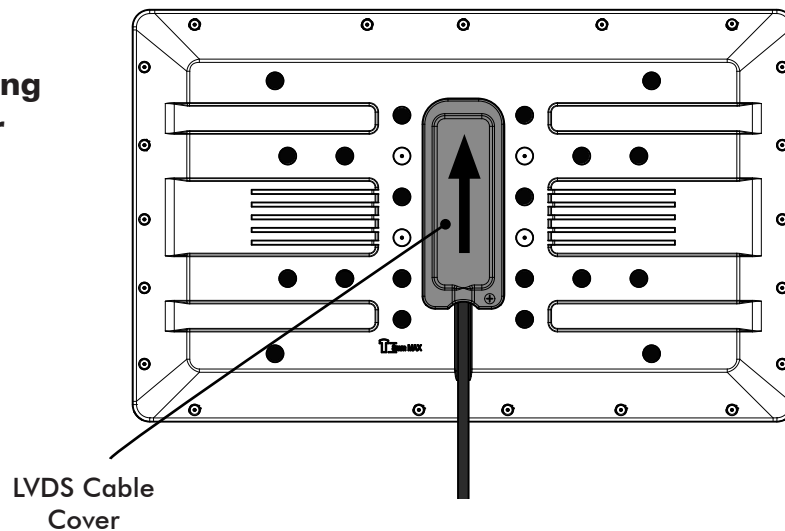
NOTE: The Display has been made invisible to show how to locate the locking switch

Removing the Display Panel Cont:

FIG. O



NOTE: Figure O, mounting bracket is not shown for presentation purpose



8

Accessory Control Wiring

The HORIZON12 has the ability to control 4 different devices from the Accessory Control app on the radio.



WARNING! The Accessory outputs MUST be connected using Relays, or SWITCHHUB.

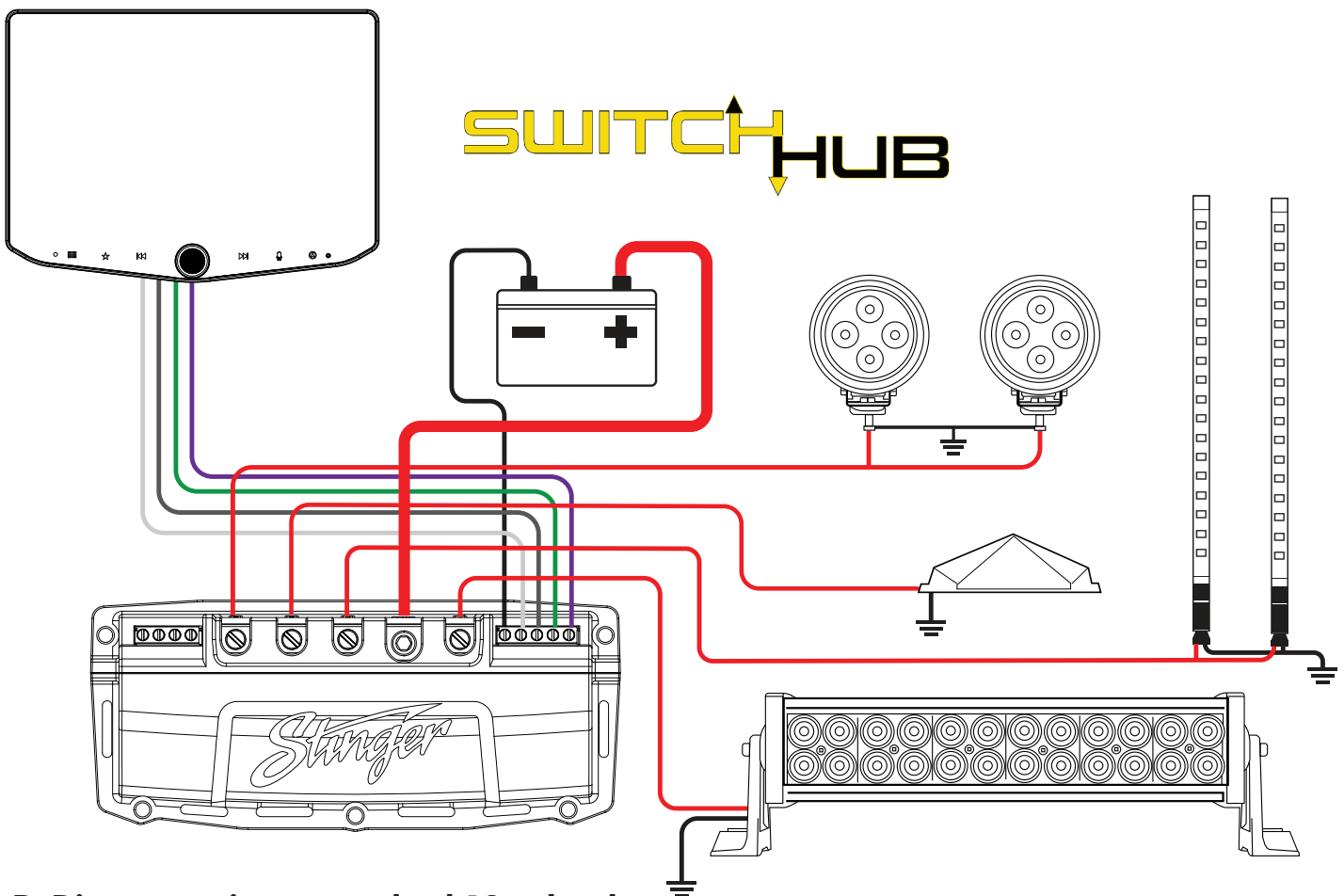
If you do not follow these instructions you will **DAMAGE** the HORIZON12 radio module.

THIS WILL NOT BE COVERED UNDER WARRANTY!!!

A. Diagram using a SPXHS440 (SWITCHHUB)

1. Connect 12V to the port on the SWITCHHUB labeled Battery.
2. Connect Ground on the SWITCHHUB labeled GND.
3. The larger terminals on the SWITCHHUB will connect to your Accessory devices, (Rock Lights, Whip Lights, etc).
4. Connect the Accessory switch wires from the HORIZON12 to the connections labeled - 1, 2, 3, 4.

NOTE: Connect the **NEGATIVE** terminals 1, 2, 3, and 4 not the positive terminals.

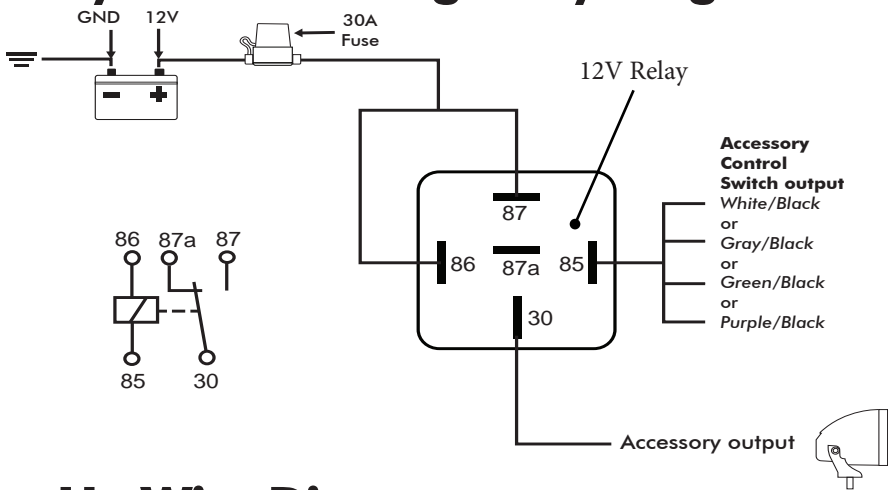


B. Diagram using a standard 12 volt relay

1. Connect PIN 85 to any of the Accessory Control wires on the HORIZON12 (**White/Black, Gray/Black, Green/Black, Purple/Black**).
NOTE: If connecting multiple devices you will need one relay per Accessory Control wire.
2. Connect PIN 30 to the device you want to power on, example (Off-Road lights).
3. Connect PINS 87 and 86 to 12 volt power source.

NOTE: Must add a fuse to the 12 volt wire before the positive battery terminal, see diagram on next page.

Accessory Control Wiring Relay Diagram



Wake-Up Wire Diagram (Optional not needed for normal operation)

The HORIZON12 has the ability to start powering up, before the vehicle has been started for a faster boot-up. Use one of the Wake-Up Pulse wires + = Positive trigger, - = Negative trigger.

Using Wake-Up Pulse +

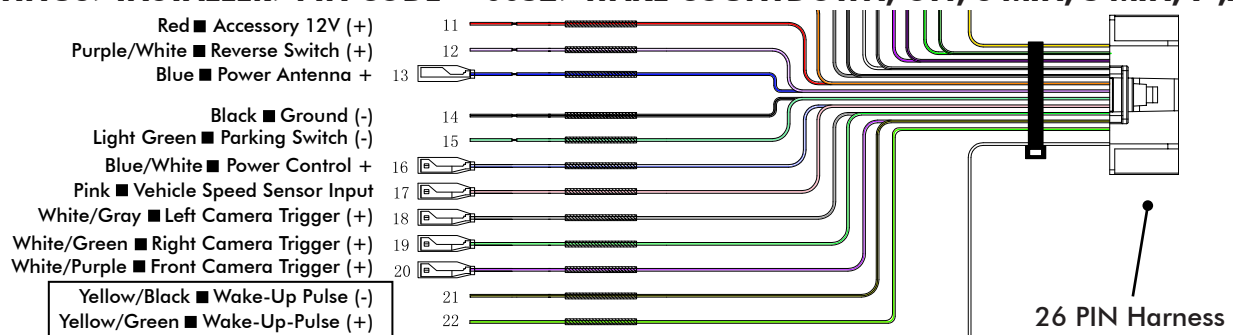
1. Locate the vehicles positive unlock wire, this will be the wire that sends 12 volts to the door lock to unlock the vehicle.
2. Connect the Yellow/Green wire (Wake-up pulse +) from the 26 Pin Power Harness to this wire. When you unlock the vehicle the radio will start its boot up process.

Using Wake-Up Pulse -

1. Locate the vehicles negative unlock wire, this will be the wire that sends a negative to the door lock to unlock the vehicle.
2. Connect the Yellow/Black wire (Wake-up pulse -) from the 26 Pin Power Harness to this wire. When you unlock the vehicle the radio will start its boot up process. When you unlock the vehicle the radio will start its boot up process.

NOTE: During the boot up process from the Wake-Up wire, the radio display will not turn on until the vehicle accessory has been turned on.

The default Wake-up time is set to 5 min, this can be changed in the installer settings menu >SETTINGS>INSTALLER>PIN CODE = 0052>WAKE COUNTDOWN, OFF, 3 MIN, 5 MIN, 7 ,MIN.



NOTE: If your vehicle does not have a negative or positive door unlock wire locate the vehicles wire that turns the dome light on when the vehicle is unlocked.

Troubleshooting

General

Black Screen with Audio

Touch the screen anywhere as it may have been turned off.

Ensure the display cable on the back of the display is fully locked into place and also properly connected at the back of the radio module.

Bluetooth

Device will not Pair

Ensure Bluetooth is turned ON in your device settings. Delete all unused devices. Delete any "Stinger" device. Restart/Reboot device and try pairing again.

Music Volume is low

- Turn up volume on device
- Turn up volume on head unit
- Turn up Main Bluetooth Music Gain (AUDIO SETTINGS > ADVANCED > SOURCE GAIN > BLUETOOTH MUSIC).

Phone Volume is low

- Turn up volume on device
- Turn up volume on head unit
- Turn up Phone Volume Gain (AUDIO SETTINGS > ADVANCED > PHONE VOLUME).
- Turn up Mic Gain (MENU > PHONE > SETTINGS)

No Microphone / Voice Control

- Set Microphone location (SETTINGS > MICROPHONE).

Apple CarPlay

Apple CarPlay will not start/launch

- Ensure an Apple certified cable is being used
- Ensure cable is plugged into USB C port.

Android Auto

Android Auto

- Ensure a USB certified cable is being used
- Make sure Android Auto app is downloaded and installed on your device.
- Ensure cable is plugged into USB C port.

SiriusXM Satellite Radio

Check Antenna

The radio has detected a fault with the SiriusXM antenna. The antenna cable may be either disconnected or damaged.

- Verify that the antenna cable is connected to the SiriusXM Connect Vehicle Tuner.
- Inspect the antenna cable for damage and kinks.

Replace the antenna if the cable is damaged. SiriusXM products are available at your local car audio retailer or online at www.shop.siriusxm.com.

Check Tuner

The radio is having difficulty communicating with the SiriusXM Connect Vehicle Tuner. The tuner may be disconnected or damaged.

- Verify that the SiriusXM Connect Vehicle Tuner cable is securely connected to the radio.

No Signal

The SiriusXM Connect Vehicle Tuner is having difficulty receiving the SiriusXM satellite signal.

- Verify that your vehicle is outdoors with a clear view of the sky.
- Verify that the SiriusXM magnetic mount antenna is mounted on a metal surface on the outside of the vehicle.
- Move the SiriusXM antenna away from any obstructions. Inspect the antenna cable for damage and kinks.
- Consult the SiriusXM Connect Vehicle tuner installation manual for more information on antenna installation.

Replace the antenna if the cable is damaged. SiriusXM products are available at your local car audio retailer or online at www.shop.siriusxm.com.

Channel Locked

The channel that has been requested is Locked by the radio's Parental Control feature. See the Parental Control section, on Page 17 of the User Guide available on the Stinger website, for more information on the Parental Control feature and how to access locked channels.

Subscription Updated

The radio has detected a change in your SiriusXM subscription status.

- Press anywhere on the screen to clear the message.

In the U.S.A., visit www.siriusxm.com or call 1-866-635-2349 if you have questions about your subscription. In Canada, visit www.siriusxm.ca or call 1-877-438-9677 if you have questions about your subscription.

Channel Unavailable

The channel that you have requested is not a valid SiriusXM channel or the channel that you were listening to is no longer available. This message may also appear briefly when first connecting a new SiriusXM Connect Vehicle tuner.

Visit www.siriusxm.com for more information about the SiriusXM channel lineup.

SiriusXM Satellite Radio (cont.)

Memory End

This message will display when the beginning of stored audio has been reached. You cannot rewind any further.

Memory Full

The stored audio memory has become full while audio was paused. Resume playback.

Channel Unsubscribed

The channel that has been requested is not included in your SiriusXM subscription package or the channel that you were listening to is no longer included in your SiriusXM subscription package.

In the U.S.A., visit www.siriusxm.com or call 1-866-635-2349 if you have questions about your subscription package or would like to subscribe to this channel. In Canada, visit www.siriusxm.ca or call 1-877-438-9677.

Video/Cameras

Rear Camera not displaying in reverse

- Make sure rear camera trigger is ON - (CAMERAS > CAMERA SETUP)
- If display is showing NO SIGNAL in reverse, ensure camera RCA is plugged into correct RCA input (CAMERA IN).
- Confirm camera has power and ground.
- Confirm camera trigger is receiving positive 12V.

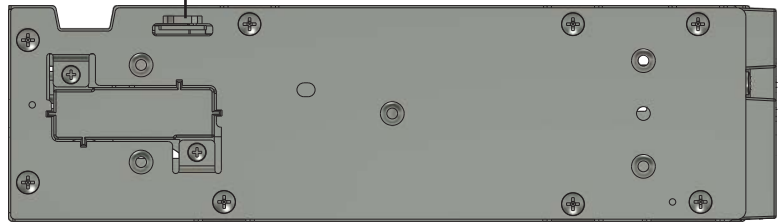
Note: 4 Camera Video Inputs Support: NTSC, PAL, AHD 25mhz & AHD 30mhz Video format. Mirror camera Image.

Upgrades/Options

Navigation Ready

Add optional iGO Navigation with part number SE-P24. Insert the purchased Micro SD card into the front of the radio module. HORIZON12 and iGO are optimized for ease of use and driving safety.

Navigation SD Card



SiriusXM Ready

Add optional SiriusXM tuner
Part number (SXV300V1)



American International

Dash kits, wire harnesses and antenna adapters. **PAC-Audio.com**



PAC Audio

Retain the factory vehicle features with RadioPRO Radio Replacement Modules, Steering Wheel Interfaces, Factory Camera and USB retention. **PAC-Audio.com**



EchoMaster

Add a Rear Camera, or Side and Front Cameras. **EchoMaster.com**



AudioControl

Take advantage of the 8 channel / 4v outputs or variable TOSLINK by adding an amp, DSP processor and speakers. **AudioControl.com**



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HORIZON 12™

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NOTES:

Notes section containing 15 horizontal lines for writing.