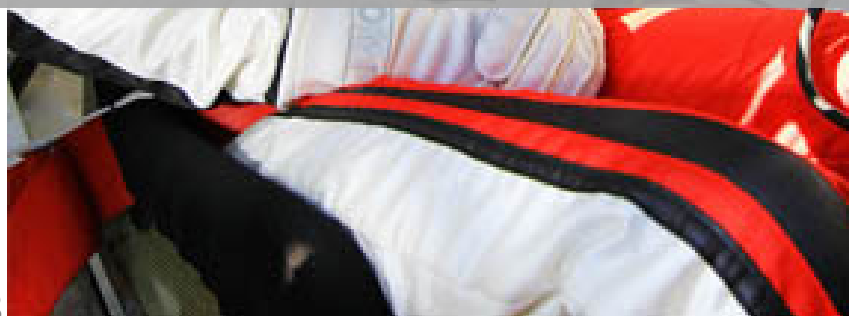




AVCOMM  
RACING  
COMMUNICATIONS

## INTERCOM INSTRUCTIONS



1/1/2018

# Avcomm Intercoms & 2way radio instructions



Installation instructions for Avcomm intercom and mobile radios.

## Step #1: Location for intercom and radio

Find a good location to mount intercom and mobile radio. Standard mobile radio to intercom interface cables are 3 ft. long. Extensions are available when mounting requires more than 6 feet apart. Part # IO 432

**Note:** Be sure to mount away from ignition boxes to avoid RF interference.

## Step #2 Mount intercom and radio

Mount intercom with bracket mounts. Be sure to allow enough room behind the intercom for the cables to be connected. Mount intercom and mobile radio with the U bracket mounting supplied by manufacturer.



## Step #3 Headset to intercom cables

Route the headset cables from the intercom to each seat. Be sure to run cables in a location where there is not excessive heat or they may get damaged. Always route cables away from ignition boxes or coils as RF interference may occur. After routing cables plug headset cables into the correct position into

the intercom. Be sure the driver cable is plugged into the driver position on the intercom. If the co-driver and driver are reversed the co-drivers mic will turn on when the driver pushes their push to talk for car to car transmitting. Plug cables into back of the intercom.

#### **Step #4 Push to talks**

If you're using headset direct cables the push to talk on the headset (driver or co-driver) will be active for car to car transmitting. If you're using the intercom cables with Nexus off road style jack, a remote push to talks will need to be installed. See below

#### **Hole mount push to talk**

Simply drill a 3/4" hole and mount the push to talk. Connect the P0 520-F (AR502/510 use P0 520) and plug into the back of the intercom. Be sure to plug in the driver PTT into the PTT jack just below the driver headset jack.

#### **Velcro mount push to talk**

Velcro push to talks can be mounted on the steering wheel, grab bar, or shifter. If mounting on the steering wheel, be sure to coil the cable around the steering wheel column. Turn steering wheel lock to lock and make sure the cable does not bind. Note: Damage can occur if the cable binds while turning. Connect the P0 520-F (AR502/510 use P0 520) and plug into the back of the intercom. Be sure to plug in the driver PTT into the PTT jack just below the driver headset jack.

**Note:** Be sure to locate the push to talks and their cable away from pinching or binding areas. Damage may occur because of improper location.

#### **Step #5 Intercom to Radio cable**

Plug in the 5 pin connector (Figure 1) into the pigtail cable coming out of the back of the intercom. Plug the Serial style connector (Figure 3) into the back of the car to car radio. Plug the 3.5mm gold plug (Figure 4) into the back of the radio into the external speaker port. Plug the 2 pin white molex connector (Figure 2) into the power plug coming from the intercom. The power from the radio will supply power to the intercom.



**Note:** Cable may be different per radio brand and model. Not all cables will supply power to the intercom.

#### **Step #6 Antenna and coax cable**

Find a good location for the antenna. For best performance mount the antenna on a metal or aluminum roof in the center. The 1/2 wave NGP antennas do not require a ground plane but it is always best to have enough metal surface area over 2' x 2' ft. area. Mount NMO connector(Gold) to a 3/8" hole in roof or roll bar tap. Be sure to remove any paint so the NMO mount gets a good ground. Route the coax cable away from ignition boxes and coils to the car to car radio.

**IMPORTANT!** If there is any extra coax cable **DO NOT COIL CABLE**, simply route cable further around car. Coiling this cable will cause transmit problems, and limit radio range.



### **Step #7 Connect power**

**Radio:** Route the power cable supplied with the car to car radio directly to the battery. **DO NOT** remove the fuses that are in line with the factory cable. This may void the factory warranty.

**Intercom:** If you are using the adaptor cable simply plug in the power cable from the intercom into the 2 pin white molex connector on this adaptor. If a car to car radio is not used just route the intercom power cable directly to the battery.

**Note:** Route all power cables directly to the battery. If power is tied to ignition, light, or other power sources a ground loop problem may occur.

**Note:** The intercoms will run on 9-24V DC. This intercom is very efficient and will run on very low power.

### **Step #8 Intercom operation**

Rotate VOX (Squelch) control on intercom full clockwise. Turn on intercom by rotating volume control clockwise. Put headset on and move microphone as close to your mouth as possible. Speak into mic and you should hear your voice in the headset. This is a VOX intercom with sidetone. Adjust the volume control to the desired level. Rotate the squelch control counter clockwise one click at a time until the mics turn off. Speak into mic and the VOX should turn mic on. Set this level higher to cut out wind and engine noise.

**Note:** Running the mics as close to your mouth as possible will allow a higher squelch setting to be used. This will block out more background noise while mics are turned off.

### **Step #9 Car to car radio operation**

Turn on car to car radio and select the channel you wish to transmit on. The incoming volume of the other cars is controlled by the radio. If the incoming car to car audio is too loud or too low simply adjust the volume control on the radio. Push the remote push to talk on the steering wheel or headset when headset direct cables are used. The LED in the intercom will turn from green to orange. This will show that the intercom is transmitting. The car to car radio LED will turn red. This will show that the radio is transmitting. The intercom LED will turn red when car to car radio is transmitting.

**Note:** Refer to radios owners manual for complete radio operation and functions.

### **Step #10 Car to car transmit level**

The intercom is preset for the proper transmit level but fine tuning may be needed. If your transmit volume is too low or you're transmitting too much background noise simply adjust the RADIO GAIN control on the back of the intercom. Remove the small round plastic cover. Insert a small screw driver into the hole. Rotate the control one click at a time. Counter clockwise will

decrease the transmit level and clockwise will increase the transmit level. Replace plastic cover when finished.



### Step #11 Music input

The AR550 has a 3.5mm plug in the front of the intercom and the AR510 a rear molex cable for hard wiring music devices (See Optional Accessories). For 3.5mm front port operation simply plug in a 3.5mm stereo cable into the intercom and the music device. Turn on music device and set the volume level. Since the AR550 is a VOX intercom the music will mute when talking over intercom or radio transmitting. If music is always muted reset VOX (Squelch) control on the intercom so the mics turn off.



**Note:** The volume for the music is only controlled by the music device.

### Step #12 Check installation

Check the entire installation. Make sure all cables are tied up and away from heat sources or places where damage may occur. Check all bolts + mounting hardware to make sure everything is tight. Once everything is checked you are ready to ride. Enjoy your off-road adventure and be safe – communicate! **Optional accessory cable**

The AR510/Ar550 have the ability to connect cell phones, in car cameras, and stereo systems with the rear 9 pin detachable Molex plug. When not installing these devices, this cable will not be used. But if you are using these devices simply plug in the accessory cable into the AUX post on the back of the intercom. Follow the diagram for proper hook up of these devices.

1	4	7
2	5	8
3	6	9



**Note:** When looking at the Molex connector the aligning bumps are on the left side.

<b>1</b>	Music In R	Red
<b>2</b>	Music In L	White
<b>3</b>	Ground	LG Black
<b>4</b>	Audio Out L	Green
<b>5</b>	Audio Out R	SM Black
<b>6</b>	Ground	LG Black
<b>7</b>	Cell Mic	Yellow
<b>8</b>	Cell Speaker	Blue
<b>9</b>	Ground	LG Black

### **Cell phone hook up**

Follow the wiring diagram for proper connection of speaker and microphone. There is a cell microphone audio control located behind the back panel of the intercom. This will control the microphone transmit level of the cell phone. Simply remove the 4 screws on the back panel of the AR550 intercom. Located on the bottom of the circuit board is a blue housing volume pot. While talking over the cell phone rotate the volume pot until the desired transmit level is reached. Replace the back panel and tighten the 4 screws.

### **Optional DSP**

Avcomm now has an optional Digital Speech Processing upgrade. DSP removes 90% of the background noise for crystal clear communication between driver, co-driver, and passengers. DSP samples your voice and blocks out the rest. Call today for the easy to install and unbelievable performing DSP. PN# DSP-B

### **Conclusion**

Thank you for purchasing the Avcomm intercom system. These intercoms are highly adjustable and can be configured for any application. If you have any questions or concerns please feel free to contact our tech line. We appreciate your comments and suggestions.

**Customer Service and Tech Line: 800 845 7541**

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