



General

### **Who is the Weatherman and why is he so important to PCI Race Radios?**

Bob Steinberger, otherwise known as The Weatherman, put communications in the vehicles of Bill Stroppe, Joe MacPherson and Walker Evans in 1972. At the 1974 Mint 400, he sent up three weather balloons with five hundred feet of coax attached and the first successful radio relay from a pit was made. It is believed that it was Joe MacPherson who couldn't remember his name, so he dubbed him "Weatherman" on the radio. The rest is history and Bob's iconic status has been reached through nearly half a century of work with the communications company he founded, PCI Race Radios.

### **How do you differ from your competitors?**

With over 40 years of experience, PCI Race Radios literally pioneered the Intercoms, Helmet, Radios and GPS units used today. Years of development and our own personal racing experience has helped us to design the best quality products available. Each and every product is tested by our R&D department to ensure that it can be used in the all different terrains and weather. After all, we are racers as well! All our products are made by the racers for the racers!

PCI manufacturers all of our intercoms right here in the USA. Buying from PCI also means you're buying manufacturer direct for all Headsets, Helmet wiring kits, cables and accessories.

We directly represent and distribute several large Manufacturers like Icom, Kenwood, Lowrance, Impact, HJC and others. We don't just two-step these products (or even three step like some of our competitors) but we work together with these manufacturers day in and day out to help design the highest quality components in racing. Recently, we designed an ear cup specifically for HJC.

No other company contributes more to product development and design than PCI. Time isn't all we contribute to this industry - PCI is a huge supporter of all land use organizations that help keep our desert recreational and racing areas open. We've been an ASA, CORVA, ORBA, BRC and others.

We also do a great deal of sanctioning body support. As the official Radio of SCORE, MORE, SNORE, LOORRS, Ultra 4, KOH, AVE, WE ROCK and AZOP - we support these sanctioning bodies with equipment and training to bring you a fun, safe, efficient race. Scott "Weatherman" Steinberger carries on his father's legacy at every SCORE race providing the "Weatherman" Radio Relay.

Last but not least - our trackside and on site support. No other company can compete with our experience and inventory at the races. You can count on friendly, efficient service trackside at most races for service and sales. Talk about backing up your product - need something at the race track? We're there to help!

### **What size bracket to I need?**

PCI carries several Billet brackets for our intercoms, radios, RaceAir, GPS, antenna and other items. This guide will help you determine what size you need.

Can Am X3 Perimeter Bars 1.85"

Can Am X3 Rear Harness Bar 2.5" (On the 4 seater the front passenger harness bar is 1.85")

Can Am Maverick and Commander 2"

Polaris Top Cross bars and Perimeter bars 1.75"

Polaris Rear harness and bumper crossbar 1.5" (Some models will have 1.75")

Yamaha YXZ Cage 1.75"

Yamaha YXZ Crossbars 1.5"

Yamaha Rhino Perimeter 1.75"

Yamaha Rhino Top Crossbars 1.5"

Arctic Cat Wildcat 1.75"

Honda Big Red, Pioneer 500 and 700 1.625"

Honda Pioneer 1000 1.75"

Kawasaki Teryx Perimeter 1.875" / Top Crossbars 1.7"

### **What is your warranty policy?**

Radios:

2 years on Kenwood and Icom radio mainframes (1 year parts and accessories)

1 year on Baofeng radios (6 months on parts and accessories)

PCI intercom systems (including cables, headsets, PTTs):

1 year manufacturer defects in materials and workmanship

Lowrance GPS:

2 years on HDS series devices

1 year on Elite TI series devices

RaceAir (including Boost):

1 year manufacturer defects in materials and workmanship

Helmets (1 year on all PCI custom wiring/RaceAir)

HJC DOT – 3 year defects in materials and workmanship

HJC SA-rated - 1 year defects in materials and workmanship

Impact - 1 year defects in materials and workmanship

Pyrotect - 1 year defects in materials and workmanship

Klim - 5 years defects in materials and workmanship

## GPS FAQ

### Software Updates and Downgrades

Some Lowrance Software versions do not work with popular .lcm mapping files. If your GPS doesn't read a mapping card, inserting a card slows the GPS, freezes it or constantly restarts it - check your software version.

For compatibility with all mapping cards, we recommend the following versions of software:

Globalmap: Any

Trophy: **1.0**

Elite 5m Baja: Any

Elite 7 TI: **18.2** or 5.0

Elite 5 TI: **18.2** or 5.0

Elite Ti2 **19.1**

HDS Gen 2: **2.5**

HDS Gen 1: Any

HDS Gen 3: **18.2** or 7.0

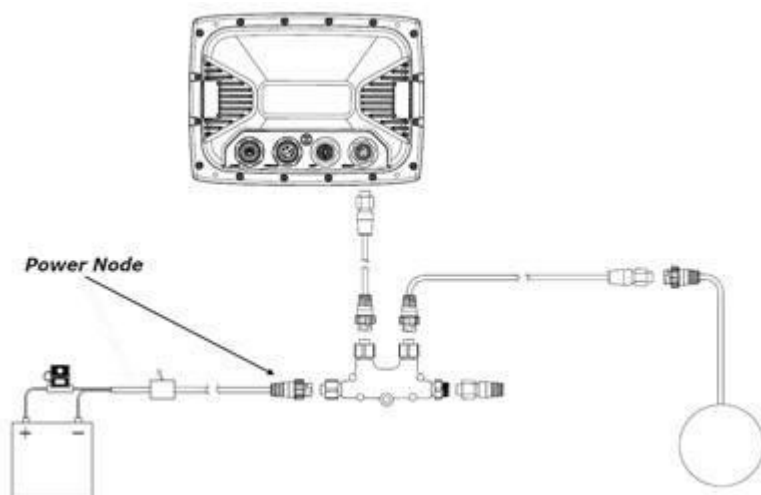
HDS Carbon: **18.2, 18.3** or 4.0

Elite 7 HD: **4.0**

After downloading the file, copy the unzipped files onto a blank SD card (not the card with the mapping). Power off the GPS, place the card into the GPS unit and turn the GPS on.

### Will my old Globalmap Power Cable work with my new HDS GPS?

HDS units are compatible with all previous NMEA 2000 capable units. However, the network will now be powered by a power node (see diagram) and not through the display unit.



### When I insert a mapping card, my GPS freaks out, freezes or restarts.

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Globalmap: Any  
Trophy: 1.0  
Elite 5m Baja: Any  
Elite 7 TI: 18.2 or 5.0  
Elite 5 TI: 18.2 or 5.0  
HDS Gen 2: 2.5  
HDS Gen 1: Any  
HDS Gen 3: 18.2 or 7.0  
HDS Carbon: 18.2 or 4.0  
Elite 7 HD: 4.0

After downloading the file, copy the unzipped files onto a blank SD card (not the card with the mapping). Power off the GPS, place the card into the GPS unit and turn the GPS on. Call us if you need additional help.

### **My GPS tracks sideways, spins or has a Red triangle in the middle of the screen**

PCI modifies all of our Point 1 Antenna units to remove some boating features and keep your GPS heading the right way. If you are using a Point 1 antenna with a Globalmap GPS and purchased your antenna somewhere else, you will need to send the antenna in or bring it to us at a race to have it modified.

### **PCI Cheat Sheets**

- • GlobalMap
- • Trophy / Elite
- • HDS Gen 1 & 2
- • HDS Gen 3
- • Garmin GPSMAP
- • HDS LIVE

### **How do I edit GPS waypoints on my computer?**

We recommend using the [Insight Planner software](#) from Lowrance.

### **Error Parsing Waypoint when trying to import a file**

We've run across a few GPS units with the "Error Parsing Waypoint" message when trying to import a .usr file. By updating to the latest software version, you can eliminate this problem. If a software download isn't possible in the field, a quick option is to convert the file to a GPX file instead of .USR. Keep in mind converting to GPX may remove some features like icon selections. To solve many GPS issues, we recommend the following versions of software:

Elite 7 TI: 18.2 or 5.0

Elite 5 TI: 18.2 or 5.0

HDS Gen 2: 2.5

HDS Gen 1: Any

HDS Gen 3: 18.2 or 7.0

HDS Carbon: 18.2 or 4.0

After downloading the file, copy the unzipped files onto a blank SD card (not the card with the mapping). Power off the GPS, place the card into the GPS unit and turn the GPS on. Call us if you need additional help.

### Create a trail using Google Earth

We have found the best way to create a trail on the computer is to use Google Earth.

- • **Download** and install Google Earth
- • Right Click on My Places and create a new folder
- • Click on the "New Path" Icon on the menu bar.
- • Start at the beginning of your trail and keep clicking to create points along the path. The more clicks, the higher the resolution. The fewer clicks, the straighter the line in between each point.
- • Change the name of your path and click ok.
- Find the new path you created in My Places (hopefully in that new folder you created)
- • Right click on the entire folder if multiple paths or just the one path if that's all you want to export and left click on Save Place As.
- • Name your file, select a location to save and change file type to .Kml
- • Go to gpsvisualizer.
- • Type of GPS Data you want to convert: Tracks
- • Input file Format: Google Earth (Keyhole) Markup Language
- • Output file format: Lowrance USR if using an older GPS, GPX XML if using a newer touch screen GPS
- • Upload your file and click on convert the file.
- • Click on your file to download.
- • Save to a chip and load/import into your GPS!
- • Cool tip: Check out the section under Create Graphics with GPS Visualizer. If you click on one of those links it will show your trail in Google Maps, Earth or as a .jpg image.

### HELMETS FAQ

#### What is IMSA, Nascar, Peltor, PCI and Off-Road Wiring.

Developed over 30 years ago, PCI wiring is the standard in Off-Road communications. PCI helmets and headsets are compatible with what competitors call "off-road."

IMSA and Peltor conductors look the same, but the pin configuration is different.

Nascar looks different with a 3 pin conductor.

### What is the difference between a DOT, M and SA Rated Helmet?

DOT standards are set by the US Federal Government for on road use. SNELL standards are much higher and are normally required by racing sanctioning bodies. Most Off-Road Sanctioning Bodies require SA Rated helmets. SA is the Automotive Rating, while M is the Motorcycle Rating. The SA Helmet requires a flammability test, has a narrower field of vision and includes a rollbar multi impact test while the M helmet does not.

### How long is my helmet good for?

We recommend replacing your helmet every 5 years. If your helmet has been involved in a serious impact, we also recommend replacing it. Most Off-Road sanctioning bodies allow the current SNELL year and the previous making SA 2010 and SA 2015 legal. An SA 2015 Helmet should be "legal" until the 2021 Rule books come out.

### What is the difference between DOT and SNELL rated Helmets?

DOT is the Department of Transportation. The SNELL Memorial Foundation is a not-for-profit organization that sets tougher testing guidelines for helmets.

### Proper Helmet Fit

Never buy a used helmet or borrow someone else's helmet. Over time the protective foam in helmets will adjust to the contours of a user's head. A used or borrowed helmet may not offer as much protection as a new helmet.

Please remember: Helmets will "break in" with use. It is important that the helmet fits as tight as one can comfortably withstand to wear.

Wearing the wrong size helmet can increase your risk of serious injury or death in an accident. A helmet that is too large for your head may be dislodged or knocked off in an accident. To select the right size helmet for your head, follow these instructions:

- **Measure your head.** Wrap a tape measure around your head about one inch (2.5 cm) above your eyebrows.
- **Use the sizing chart** to select the helmet size that corresponds most closely to your head measurement. If your head size falls between two helmet sizes, try on the larger helmet first and then the smaller size.
- **Try on the helmet** by grasping both chin straps to pull the helmet completely onto your head, ensuring that the top of your head is in contact with the top of the helmet interior.
- **Check for a proper fit.** To make sure your helmet is the right size, check that the helmet inner lining fits snugly around your head, The top pad presses firmly on your head, The cheek pads

contact your cheeks, and there is no space around your brow under the inner lining. Test this by trying to insert your fingers. If the helmet does not fit snugly, try on a smaller size.

- **Test the helmet fit** by placing your hands on each side of the helmet. While holding your head as motionless as possible, try rotating your helmet from left to right then up and down. If you can feel the helmet padding sliding on your head, it is too big, try a size smaller. You should feel the helmet move the skin on your head and face as you try to move the helmet.
- **Fasten the retention system** (chin strap) as tight as possible under your jaw without causing pain. There must be no slack in the strap, and the strap must be tight up against your jaw.
- **Test the retention system** (chin strap). Put your hands on the back of the helmet and try to push the helmet off by rotating it forward. Put your hands on the front of the helmet above your forehead (or on the chin guard) and try to push the helmet off by rotating backward. If helmet comes off, try another size or another model or brand. Repeat steps 3 through 8 until you find a helmet that fits your head snugly and securely.

## INTERCOM FAQs

### **How do I get more volume out of my ipod**

We recommend using our Line Driver to amplify music into your intercom system. We do not recommend charging your music device while playing music as it introduces power noise into the system. If you must charge the device during playback, we have two options: Purchase a ground isolator for the Line Driver; or use a battery powered amplifier such as a Boostaroo.

### **How do I connect my intercom to my stereo?**

We recommend using **RCA cables** or a **3 conductor input** from your stereo to your intercom. Most stereo installations will also need a **ground isolator** to help reduce power noise from your stereo.

### **My Bluetooth range is limited, how do I get more range?**

Keep in mind that thick phone covers and any aluminum or other metal covers will greatly reduce bluetooth signal range. If you can't part with your favorite phone cover or you have a thick metal dash, you can add an **external antenna** to your intercom box to increase range.

### **I am having an intercom/radio problem, can you guys fix it?**

If an intercom or radio needs repair, the device must be removed from the vehicle and sent into PCI for repair. 99 times out of 100, the intercom/radio problem is actually an improper installation. Unfortunately, we do not have the space available to offer installation onsite.

## **RADIO FAQ**

### **Do radios require an FCC license?**

The PCI Polaris Comlink RTX Radio does not require an FCC license to operate. It operates in the MURS band.

All other two-way radios require an FCC license to operate. PCI is not a frequency coordinator.

### **Can I program my own radios?**

Technically, yes. We strongly discourage you programming your own radios. At Battle at Primm this year, we had a race truck unable to transmit when an ambitious team member reprogrammed the radio and removed the external PTT functionality. We also have several racers that change their band from wide to narrow thinking its a simple switch of a button. The radio MUST be tuned on a service monitor after this change.

Frequency changes and tuning are a free PCI service at races, play it safe and have the pros do it. If you must do it on your own, call us and ask for some (free!) help. ALWAYS read the radio, make your changes (to the frequencies only) and then write. Never start with a blank canvas.

### **Where should I mount my Antenna?**

Mounting your antenna properly determines the range of your two-way radio. A metal roof with an antenna mounted in the center with no obstructions (roof rack, light bar) 18" in every direction provides the farthest range.

Roof Racks - Mount the antenna at the highest point of the rack. Use a no ground plane antenna.

No Roof - Pick a spot in the middle of the car. The intersection of two tubes can also act as a ground plane. Mounting the antenna to a corner triangle tab and using a no ground plane antenna will work best.

Do not run radio coax and intercom helmet cables in the same wire loom. RF can bleed over when transmitting, putting noise into the system. Never run coax or power cables near MSD or ignition equipment. They create noise and if the coax is too close to the MSD, transmitting can even power the vehicle off!

When tie wrapping the coax to the frame, do not crush the coax. If your coax looks flattened, kinked, frayed, or worn, replace it!

### **What is Narrowbanding?**

January 1st, 2013 - FCC Narrowbanding takes effect. PCI will narrowband your PCI radios free of charge, please stop by at a race, or ship your radios to us.

### **How do I mount my Antenna to my motorhome?**

Motor homes are one of the toughest vehicles to put a antenna on and they are always different depending on what the vehicle is made out of and how close the radio is mounted in comparison



to the antenna. We like to keep the coax length at 17' or less, but can go to a maximum of 24' with a standard flexible coax. Longer lengths require **special low loss coax cable** and special ends that have to be custom made.

When deciding where to put your radio keep these lengths in mind. If there is a way to mount radio overhead in the cab, the coax will be much shorter and give you more options for mounting.

What is your roof made of? If aluminum, a **hole mount coax** can be mounted directly to the top of the unit and has o-ring for rain seal. If the unit has a rubber roof, most mount a steel plate (that is powder coated so it does not rust) to the roof. Then you could use a **magnetic mount coax**. You could run the coax through a vent or use the rubber adhesive similar to what they do with Sat antenna for TV to penetrate the roof. A little silicone under the steel plate will make it a permanent fixture of the Motorhome.

The antenna should be at least 2' away from any air conditioners, or Satellite Dishes. We recommend a 1/4 wave or short antenna so it clears underpasses and bridges going down the freeway at speed.

VHF antennas cannot be mounted on the mirror or side of vehicle, they have to be on top of the vehicle for proper range.

### **Does my Antenna/Coax need to be "grounded"**

The power is grounded through the radio but when the coax is touching metal (aluminum, steel or even carbon fiber) it also helps to create a ground plane from the metallic surface/roof - increasing your radio range.

If mounting to a plastic or fiberglass roof and there are no intersecting metal bars, using **tin tape** in a 36" cross will help push the antenna signal up and out instead of down and into the car, causing interference and reduced radio range.

### **Adding Frequencies to a BaoFeng Radio**

The UV-5R and T55 are programmed with PCI's **stock BaoFeng list**.

### **What is the difference between UHF and VHF?**

There are a lot of technical details we could get into, but long story short - UHF is a "better" signal. Ultra High Frequencies (UHF) penetrate obstructions such as buildings, wood, steel and concrete better than Very High Frequencies (VHF). However, UHF signals do not travel as far as VHF signals do. VHF also curve around the earth better for long distance, outdoor and hilly terrain. We recommend UHF for Closed Course racing and Business solutions. All Desert Racing should use VHF.

The VHF band range is 150Mhz to 174Mhz. UHF is 400Mhz to 512Mhz. VHF and UHF radios cannot be programmed to talk to each other. Desert teams can use VHF radios for desert and short course, but the ideal scenario would be to have UHF radios for short course and a separate set of VHF radios for the desert.

### **How do I adjust squelch on my Icom F5021 Radio?**

Power the radio on and press P0. A number will show on the screen showing the Squelch adjustment 0 to 9.

At 0, your squelch is wide open and you will hear static. This is also when your radio is most sensitive and you may be able to hear farther transmissions if someone is just out of reach.

Setting 1-3 are very sensitive and you will hear static constantly.

4-6 is the recommended area we suggest for recreation and will allow for good range with less static.

7-9 will drastically cut your range. If there is another group 5-10 miles away that you don't want to hear and your group is less than 5 miles, you could adjust your squelch to this range to remove that interference.