BT1000, BT1002, BT1004 & BT1005

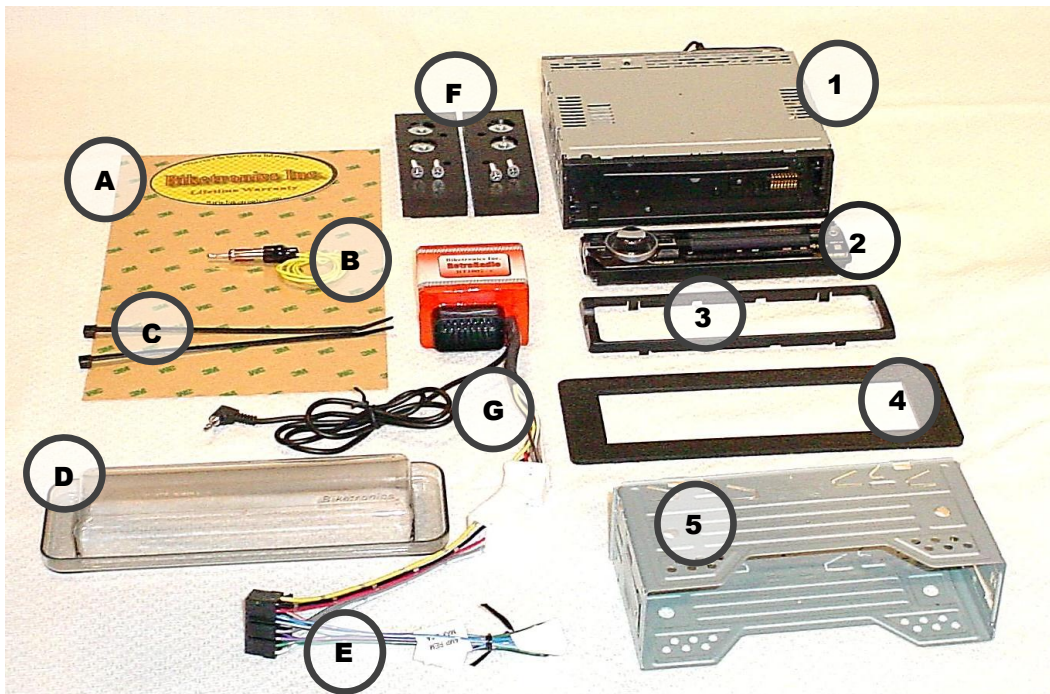# RETRO RADIO

INSTRUCTIONS

BIKETRONICS INC.

Splash cover installed

Introduction

Congratulations on your RetroRadio purchase! RetroRadio ties almost any Sony in-dash AM/FM, CD/MP3 player to your 1996 – 2011 family of Harley Electra Glides and Road Glides with handle-bar radio controls. Even the speed sensor signal is used to automatically control the volume! Should you have questions regarding RetroRadio, feel free to call Biketronics Inc. An advantage of using the Sony is the ease to incorporate the newest audio devices such as USB, satellite radio, GPS, Bluetooth or iPOD/MP3 units with the radio system at reasonable costs.

Parts Layout for Radio Package

A. Adhesive Vinyl Sheet & Biketronics decal
B. Yellow Antenna Wire (Local Reception)
C. Zip Ties – 2 each
D. Splash Cover for Radio Face **(optional accessory)**
E. Radio Wire Harness ** (Radio Black Connector and Biketronics White Connector)
F. Mounting Blocks (Left and Right Sides, 4 - screws)
G. Biketronics (Orange) Module

1. Radio **
2. Radio Face **
3. Radio Trim Ring **
4. Black Bezel Plate
5. Radio Cage ** **(Not Used – remove and discard)**

** Included with Biketronic radio.

Tools Required

1. Torx head screwdrivers #25 & #27
2. 3/16" Allen/hex wrench (Preferably ball end type)
3. #2 Phillips screwdriver
4. Harley shop manual (optional)

General Information and Notes

- **<u>Road Glide owners</u>** – To facilitate easy radio removal and installation remove 2 top nuts and only loosen 2 bottom bolts/nuts on main fairing support bracket.
- **<u>Ultra Classic owners</u>** – Removal of Harley OEM radio will **disable CB-radio and intercom functions**. Biketronics has optional kit/procedure to connect rear speakers to new radio.
- Compatible Sony in-dash radio units are listed on www.biketronics.com.
- Typically, any Sony unit that is configured to operate with the optional Sony wired remote control model # RMX-4S will work with the RetroRadio.
- Care – Avoid direct spray of water on the radio face. Please note that Biketronics Inc. can not be responsible for any damage due to improper installation and/or failure due to water damage. For 1988 and later models, check out the new Splash Covers from Biketronics.
- The RetroRadio kit is plug–n-play. Do not drill, file or cut. Call Biketronics if you are not sure about installation.

BT1000 module – 1998-2005 Electra Glide & Road Glide models
BT1002 module – 2006-2011 Electra Glide & Road Glide models
BT1004 module – 1996-1997 Electra Glide models
BT1005 module – 1998-2011 Electra Glide & Road Glide models

Biketronics Inc.
Tel.(208) 882-8469
Fax.(208) 882-5938
www.biketronics.com
© 2001 – 2011 Biketronics Inc, Moscow ID 83843   ver 030211
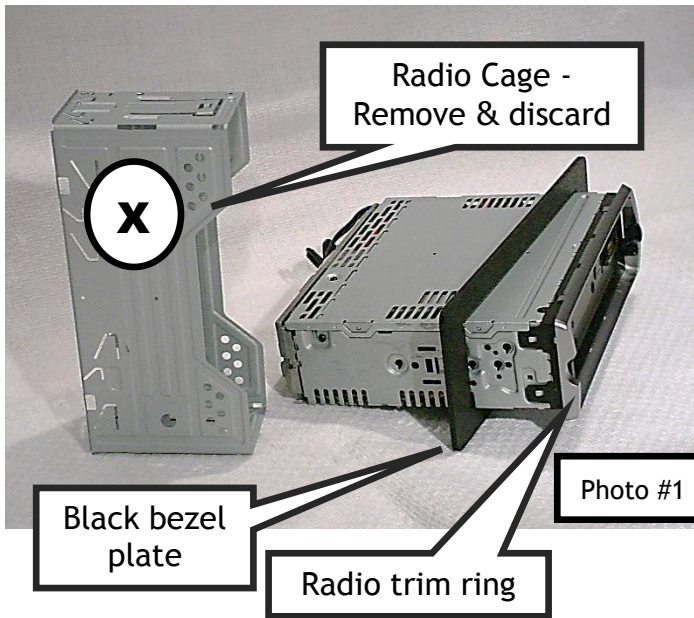
General Installation Guidelines

- Read all instructions FIRST.
- Disconnect battery cables from Harley battery – negative cable first
- Go easy…..Don't force parts!
- Prior to disassembly, ensure that you have all necessary tools and parts for the job.
- Protect bike finish using towels and blankets. Before fairing removal, prepare a safe padded area to store fairing.
- Allow plenty of time – don't rush the job. Allocate 1-2 hours for completion.
- When in doubt, re-read the instructions or call Biketronics for assistance.

Preparation of Fairing

- Remove outer fairing (Remove fairing bolts and disconnect headlight wire connector).
- Remove Harley glove box or stock radio from fairing. Retain the 4 Allen-head bolts.
- (1996-1997 only) - Remove cradle used to support Harley radio in fairing.

Installation of Radio and Electronics

- Follow instructions and photos #1 to #5

Radio Cage - Remove & discard

X

Black bezel plate
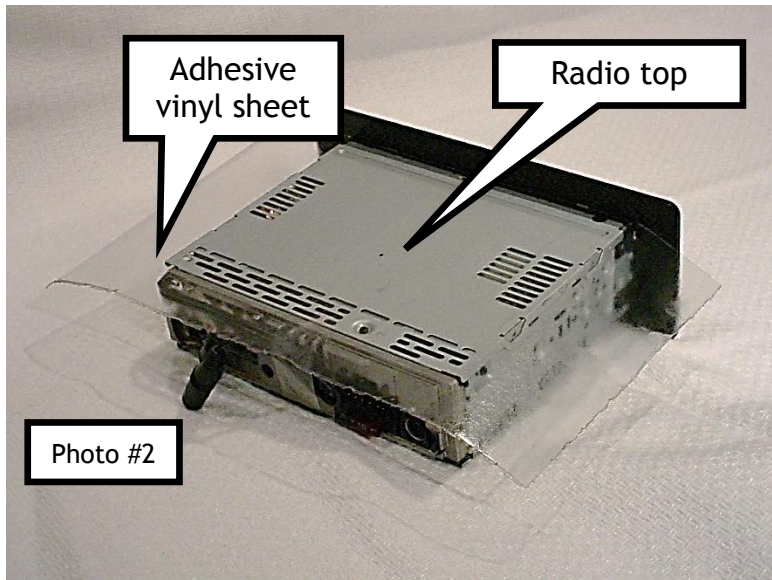
Radio trim ring

Photo #1

**Remove radio face from radio
Remove and discard radio cage**

Black bezel plate is shown after it is slid onto radio from rear and before it is butted against radio trim ring. Textured side of bezel plate is installed facing front of radio. Orientate radio so top is in the up-position.

Position adhesive vinyl on radio top against black bezel plate. Wrap vinyl sheet on top and down sides of radio. Trim loose ends that extend below sides and back of radio.
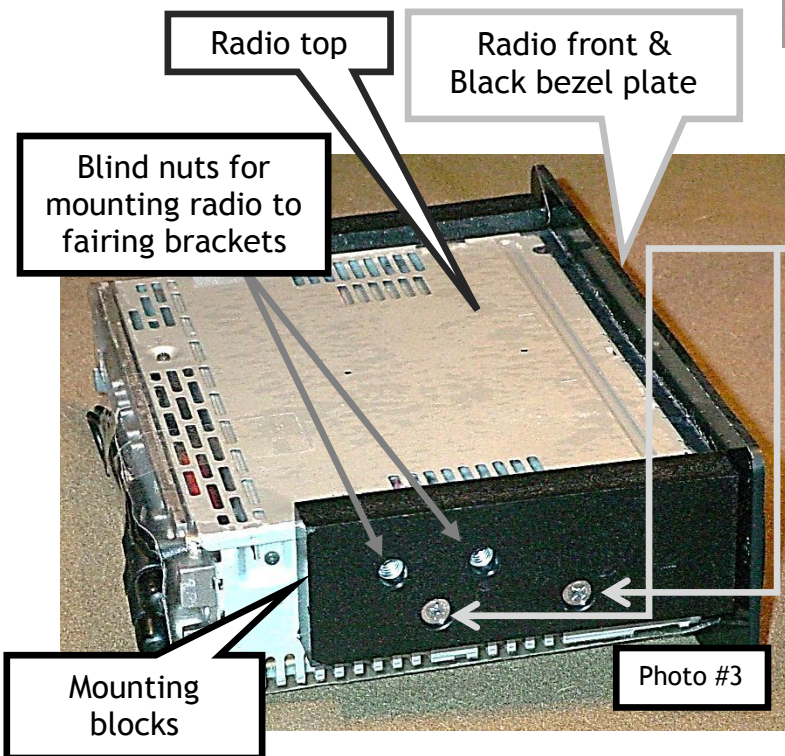
Adhesive vinyl sheet

Radio top

Photo #2

Radio top

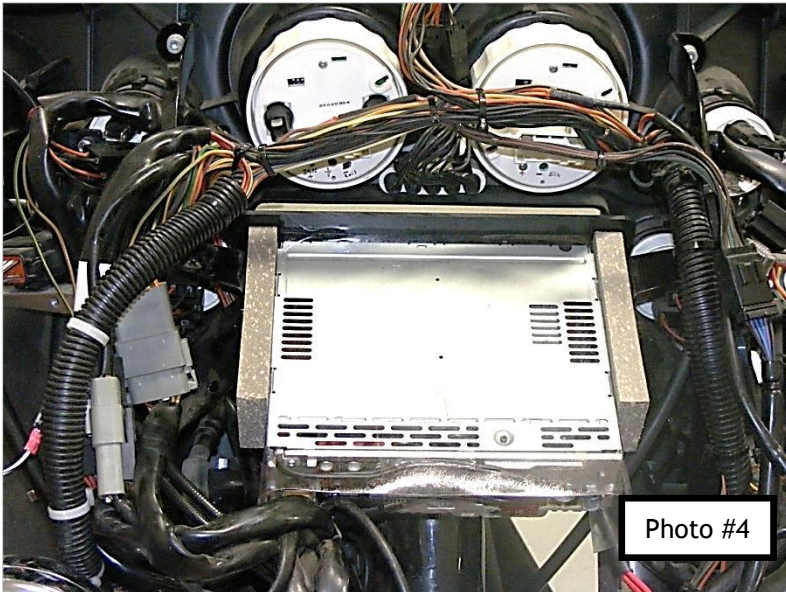Radio front & Black bezel plate
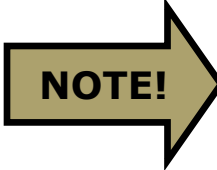
Blind nuts for mounting radio to fairing brackets

Phillip screws (2 each side) are inserted in counter-sunk holes to secure mounting blocks to radio

Attach mounting blocks (left & right) to radio with supplied Phillip screws. Blocks should protrude above top of radio. Block ends should butt against black bezel plate (small gap is ok).

Mounting blocks

Photo #3

Photo #4

Position radio as shown in photo to allow attached black bezel plate to clear Harley brackets. Tip radio front downward and push in to seat radio against inner fairing. Install (loosely) the 4 Harley Allen-head bolts, adjust radio position and tighten bolts.

NOTE!

IMPORTANT

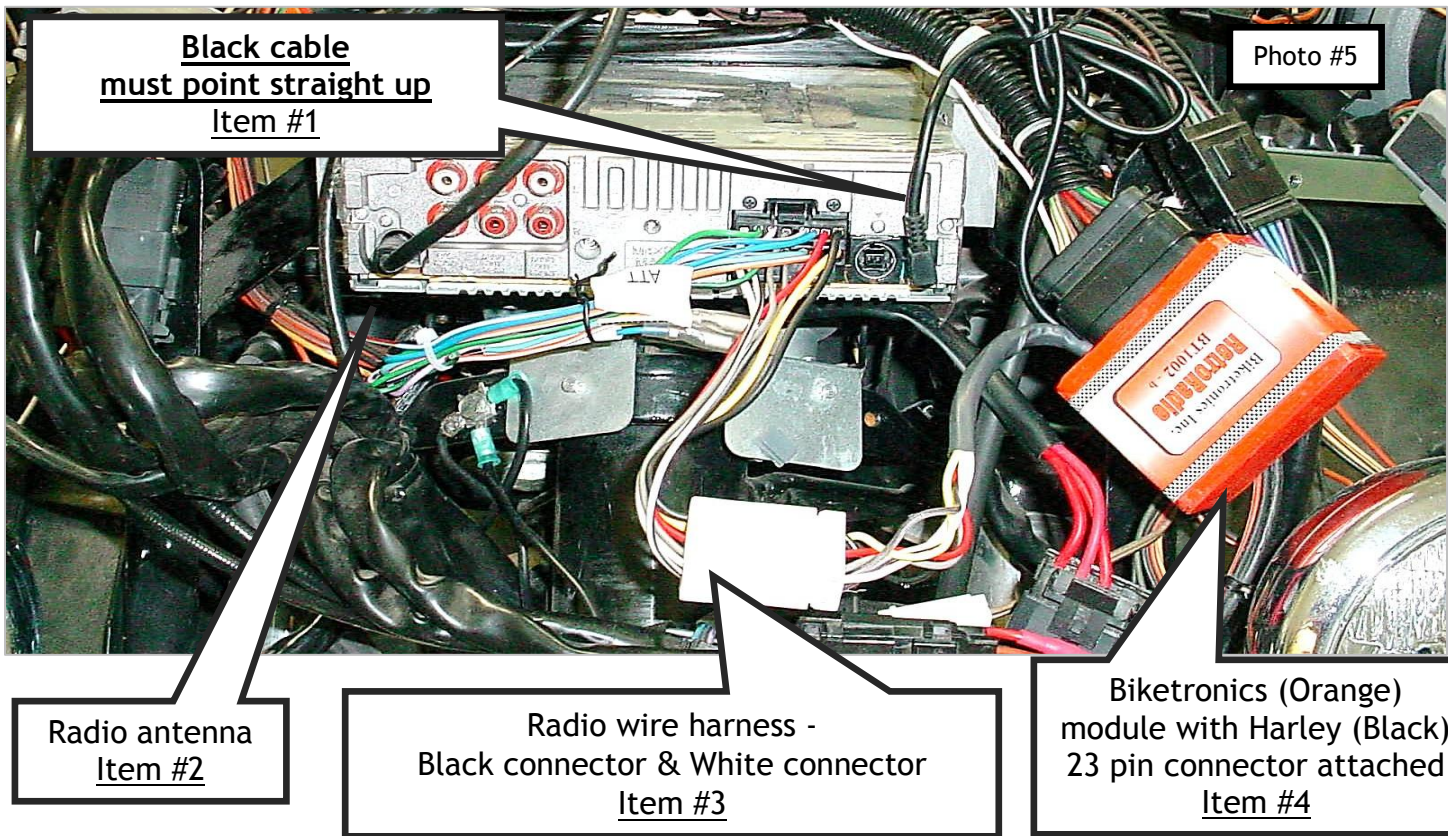**INSTALL RADIO ON <u>HEADLIGHT SIDE</u> OF INNER FAIRING**

See Photo #4

Hard wire connection for radio harness to Biketronics (Orange) module

If radio wire harness or Biketronics (Orange) module does not have attached White connector, these wires can be connected by soldering or crimping. Use shrink tubing or high quality electrical tape to insulate the joints. It is important to have good electrical connections to avoid problems.

WARNING!!!
<u>DISCONNECT</u> the Biketronics (Orange) module from Harley wire harness before you start to solder or crimp wires. Failure to follow this warning can result in an accidental short circuit that MAY damage Biketronics module electronics.

Color chart for hard wire connection		
Function	**Radio wire color**	**Biketronics module wire color**
Switched 12 volts	Red	Red (Do not use as power source for additional accessories)
Constant 12 volts	Yellow	Yellow (Do not use as power source for additional accessories)
Ground	Black	Black
Front speaker-Right (+)	Gray	Gray
Front speaker-Right (-)	Gray/black stripe	Gray/black stripe
Front speaker-Left (+)	White	White
Front speaker-Left (-)	White/black stripe	White/black stripe
Amp remote	Blue/white stripe	Not used (Optional - amplifier)
Rear speakers – Right	Green & Green/black	Not used (Optional - rear speakers)
Rear speakers – Left	Purple & Purple/black	Not used (Optional - rear speakers)
Antenna remote	Blue	Not used
Phone attenuate	Light blue	Not used
Illumination	Orange/white stripe	Not used
Refer to radio installation instructions for additional reference		

**Black cable
must point straight up
Item #1**

Photo #5

**Radio antenna
Item #2**

**Radio wire harness -
Black connector & White connector
Item #3**

**Biketronics (Orange)
module with Harley (Black)
23 pin connector attached
Item #4**

Final Connections - see photo #5

- Connect speakers using wire leads in Harley OEM wire harness:

Harley wire colors for fairing speaker connections		
Air cleaner side	Gray/red stripe	Speaker positive (red dot or "+")
Air cleaner side	Light Green/black stripe	Speaker negative
Kick stand side	White/orange stripe	Speaker positive (red dot or "+")
Kick stand side	Light Green/white stripe	Speaker negative

- <u>Item #1</u> - Plug Black cable from Biketronics (Orange) module into jack in rear of radio.
  Cable must point straight up toward windscreen.
- <u>Item #2</u> - Plug antenna lead in rear of radio.
- <u>Item #3</u> - Plug radio wire harness Black connector into rear of radio and White connector into harness from Biketronics (Orange) module.
- <u>Item #4</u> – Depending on model year, make connection between Biketronics (orange module) and Harley wire harness:
  - ❖ (1998-2011) - plug Harley (Black) 23 pin connector into Biketronics (Orange) module.
  - ❖ (1996-1997) - plug Harley 8 pin and 12 pin connectors into Biketronics (Orange) module.
- Use included zip ties to secure module and harness.
- Reconnect battery cables to Harley battery – positive cable first.
- Install radio face onto radio.
- Check radio functions with handle-bar radio control buttons. Refer to pages 8 & 9 for Automatic Volume Control (AVC) programming and handle-bar radio control functions.
- Reinstall fairing and go riding.

IMPORTANT NOTE

- It is UNSAFE to look at the radio while riding. Familiarize yourself with radio controls in the garage. Allow yourself time to normalize working the radio with hand controls and "hearing" the results.
- Sony radios have a beep that is emitted when control input is given. Keep this feature enabled until you are acclimated to operating the radio without looking at the radio face.

Trouble Shooting

- For handle-bar radio controls to operate, the ⅛" L-shaped plug on Black cable (item #1, photo #5) must be firmly plugged in back of radio with **Black cable pointed straight up toward windscreen.**
- There are 2 fuses (radio memory and radio power) in Harley harness that must be operable for radio to turn on (lights on). There is a third fuse located in rear of radio.
  - ❖ (1997-2011) - 2 fuses are located behind side cover on kickstand side of Harley.
  - ❖ (1996) - **2 fuses are located in fairing below radio and both must be changed to a 5 or 10 amp rating for radio to operate. Do not exceed 10 amp rating.**
- There is a Harley (1998-2005) OEM radio ground wire located on kickstand side of top triple tree cast iron clamp. This ground wire (Black/green stripe) is attached on top surface with a spade connector that can become disconnected and create a dead circuit.
- Radio sound can be greatly enhanced by the use of tone and equalizer bands. Consult radio instruction manual to access these functions.
- If handle-bar radio controls start to operate erratically, disconnect negative battery cable from Harley battery for 5 minutes and reconnect. If the problem still persist call Biketronics for assistance.
- Addition of separate ground wire between radio and bike frame can cure erratic handle-bar controls of radio. Radio has bolt hole (metric M4 x ½" bolt) in rear of unit for ground point.

Automatic Volume Control (AVC)

Biketronics module comes from factory with AVC setting of 2 for normal operation

If you wish to change the setting - perform the following steps:

- Turn on radio to start AVC programming.
- **AVC information WILL NOT display on radio face.** ⬅ **NOTE!**
- Follow "SET AVC" procedure on page 9.
- The only method to verify successful AVC programming is to ride bike and verify that radio volume varies with speed.
- Tips and suggestions -
  - ❖ Harleys can experience problems due to corrosion/age/modifications that may effect normal operations of handle-bar radio control buttons.
  - ❖ **Set AVC – step #2 (page 9)**: Automatic volume control depends on # of pushes of LEFT handle-bar radio control button. 1 push = fastest volume gain, 20 pushes = slowest volume gain, 0 pushes = AVC turned off. Typical setting is usually 2 – 7 pushes of LEFT handle-bar radio control button.
  - ❖ Left handle-bar radio control buttons – radio volume, tone & balance, AVC programming.
  - ❖ Right handle-bar radio control buttons - radio seek/scan, presets & source/mode.
  - ❖ Harley ignition must be turned on for radio to operate.

Automatic Volume Control (AVC) Programming

Function	1988-1995 Harley	1996-2011 Harley
Set AVC Step #1	Left button - Push **in/hold** for **2** seconds, **release** **Exception** – BT1005 module only – Push **in/hold** for **5** seconds, **release**	
Step #2	Left button - Push **right and release** 2-7 times (typical)	Left button - Push **up and release** 2-7 times (typical)
	Step #2 will time out after **2** seconds following last push	
Step #3	Do not operate controls for **10** seconds to allow programming to reset	
Step #4	Ride bike to verify AVC program. Volume should change with speed. Repeat above steps to reset AVC if necessary	

Function	1988-1995 Harley	1996-2011 Harley
Turn off AVC Step #1	Left button - Push **in/hold** for **2** seconds, **release** **Exception** – BT1005 module only – Push **in/hold** for **5** seconds, **release**	
Step #2	Do not operate controls for **10** seconds to allow programming to reset	
Turn on AVC	Perform above procedure – **"Set AVC"**	

Handle-bar Functions

Function	1988-1995 Harley	1996-2011 Harley
Change volume	Left button – Push **left** or **right**	Left button – Push **up** or **down**
Change bands (Radio, CD, IPOD, Aux, Satellite, USB)	Right button – Push **in/momentary hold/release** until desired band is displayed	
Seek/Scan	Right button – Push **left** or **right**	Right button – Push **up** or **down**
Seek presets	Right button – Push **in/release** then push right button **right** (seek up) or push right button **left** (seek down)	Right button – Push **in/release** then push right button **up** (seek up) or push right button **down** (seek down)
	Seek preset mode times out after **4** seconds following last push	
Change AM/FM bands	Right button – quick double push **in**	
Adjust tone/balance	Left button - Push **in** repeatedly until desired function is displayed then use a following step -	
	Left button – Push **left** or **right** to adjust function	Left button – Push **up** or **down** to adjust function
Turn on radio	Right button – Push **in/hold**	
Function	1988-1995 Harley	1996-2011 Harley

Biketronics Warranty Policies

General Warranty Information: Warranty applies to the original retail purchaser only and is not transferable. Proof of purchase is required for all warranty claims.

Auction Sales Policy: Products purchased through auction type websites, such as EBay, are subject to the return and warranty policies of the seller. Please make sure you understand their service and return policies before any funds are exchanged. Biketronics Inc. will warranty products purchased this way but the customer will be responsible for all shipping costs.

Satisfaction Guarantee: Products purchased directly from Biketronics Inc. come with a 30 day satisfaction guarantee. Refunds exclude shipping charges. For a full refund: products must be in excellent condition and kits must be complete in original packaging. *Biketronics products that are purchased through a dealer are subject to the dealers return policy.

Warranty Coverage on Aftermarket Radios: Radios purchased from Biketronics Inc. come with the manufactures warranty. Warranty does not cover damage due to improper installation, shipping, handling or water damage caused from failure to use a protective cover. This coverage is handled by the customer through the radio manufacturer. Biketronics Inc can handle this process for a handling fee and all shipping costs.

Warranty Coverage on Hogtunes Speakers: Hogtunes speakers purchased from Biketronics Inc. come with the manufactures 20 year warranty. Warranty does not cover damage due to improper installation, shipping, or handling such as punctured surrounds.

Warranty Coverage on Hertz Speakers: Hertz speakers purchased from Biketronics Inc. come with a lifetime warranty. Warranty does not cover damage due to improper installation, shipping, or handling such as punctured surrounds.

Warranty Coverage on Biketronics Inc. Products: All products manufactured by Biketronics come with a lifetime warranty. Warranty does not cover damage due to improper installation, shipping or handling.

Exclusions: Any defects resulting from water damage, fire, acts of nature, misuse, abuse, modification, improper installation, vehicle crash, or any type of impact will void the warranty. We will not be responsible for damages to motorcycles resulting from the use or misuse of the product. In no event shall Biketronics Inc. be liable for any damages whatsoever (including consequential damages, incidental damages, or damages for loss of use, loss of time, inconvenience, or other losses) arising out of the use, misuse, or inability to use our product. Biketronics Inc. reserves the right to change the design of its products without any obligation to modify any previous product.

Repair or Replacement: If your product is not functioning properly, please call us at 1(208)/882-8469 as soon as possible so we can assist you in diagnosing and resolving your product problems. In cases where a product is defective, please call us for an RMA (return merchandise authorization) number. If the product is found to be defective and covered under warranty, it will be repaired or replaced at our option. Any charges accrued for removal, installation, reinstallation and shipping will not be covered by this warranty.

Damaged or modified equipment: will be subject to a charge equal to the parts and labor required to return the product to as-new condition. This includes damaged wires, connectors, housings and shipping damage. If the product is not found defective Biketronics Inc. will return the product at the customers cost.

International Customers: Customer will pay shipping on all warranty services.