Biketronics Inc.

Innovative V-Twin Electronics

RetroRadio (BT1004) Installation Guide

BT1004 & BT1006
For 1994 to 1997 Harley Davidson FLT

Made in USA

Congratulations on your RetroRadio purchase! RetroRadio is made in America and to the extent possible, using components from American companies. RetroRadio ties almost any Sony in-dash CD/MP3 player to your HD Touring model's hand controls. Even the speedo signal is used to automatically control the volume! Should you have questions regarding RetroRadio, feel free to dial number found below or on your RetroRadio unit.

Special Note: This kit contains instructions for both early (pre 1996) and late model fairing styles. When necessary these instructions will indicate differences accordingly.

General Installation Guidelines:

- Disconnect battery - negative cable first.
- **Read all instructions FIRST**.
- Go easy… Don't force parts!
- Prior to disassembly, insure 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 place it.
- Allow plenty of time – don't rush the job.
- When in doubt, re-read the instructions or call Biketronics for help.

Tools Required.

- Torx head screwdrivers #25 & #27
- 3/16 allen wrench **(Preferably ball end type**.)
- Channel-loc pliers.
- Soldiering pencil **or** crimp tool with crimp caps (if using your own radio.)

Installation outline is as follows:

1. Disconnect battery - negative cable first. **DO THIS NOW!**
2. Remove fairing.
3. Prepare radio for installation.
4. Install radio with RetroRadio module.
5. Rear Speakers-need new leads to Sony rear outputs.
6. Test radio and reinstall fairing.
7. Enjoy the latest sound technology on your bike.

Disconnect battery – negative cable first! **DO THIS NOW!**

Remove outer fairing (consult shop manual)

Prepare Radio for Installation

1994 & 1995 Models (see next page for '96/'97)

- **Sony Radio Cage (Note: Filler Plate not used on ’94 & ’95)**
  - Apply two layers of 2” packaging tape (not supplied) to cage (see Figure). (Tape will provide extra moisture protection.)
  - Install cage onto radio and latch into place.


Apply tape to cage

Install Radio in dash

- **Remove old Radio**
  - Follow shop manual procedure to remove old radio. Outer fairing must be removed. Instrument cluster removal is recommended but not essential. Be careful with inner fairing plastic as it may be brittle. Retain radio mounting bracket, screws, nut plates, rubber nose-seal, and handle bar cover.
- **Mounting bracket preperation**
  - Using a pair of channel loc pliers, relieve 8 mounting bracket spring tabs to allow radio with cage to insert into bracket without binding (see Figure.)


Relieve bracket spring tabs

  - Prepare mounting bracket by applying adhesive-backed moisture barrier to top and sides as shown. Next, re-attach rubber nose-seal to mounting bracket.


Moisture barrier

  - Re-install mounting bracket, nose-seal, handle bar cover, and moisture barrier as a unit to inner fairing (see Figure.)
  - After tightening assembly, install supplied U-shape plastic trim to cover screw heads and top of mounting bracket. Dash is now ready to accept new radio with cage.

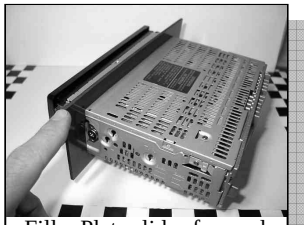

Install bracket assembly

- **Install Radio.**
  - Slip radio with cage into dash (see Figure.)
  - Fasten back of radio to fairing cross brace mounting tab using supplied 8 mm hex head bolt and washer. Some adjustment of tab and/or cross brace may be necessary. (DO NOT APPLY UNDUE FORCE TO PLASTIC INNER FAIRING.)

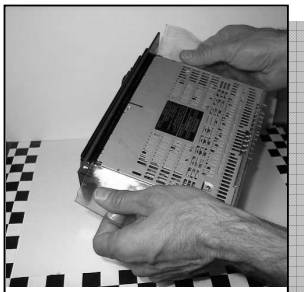

Slip radio into dash

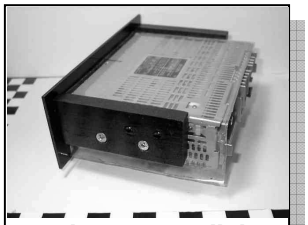
1996 & 1997 Models

- **Filler Plate (Note: Cage not used on '96 & '97)**
  - Slide filler plate (textured side forward) onto radio from back of unit until it seats against front trim ring. Filler plate should lock into position after sliding past spring clip retainer boss.


Filler Plate slides forward

- **Moisture Barrier**
  - Next apply adhesive backed moisture barrier to top and sides of radio. Align long edge as close to filler plate as possible. Insure barrier covers any and all openings on **top** and **sides** of radio. Any extra material on sides should be allowed to hang "straight down." Barrier should extend beyond back of radio by ½" (min.)
- **Side Mounts**
  - Use #12 flat head Phillips screws to fasten side mounts to radio. (Screws should puncture moisture barrier.) Side mount should butt just behind filler plate to provide a solid backing for plate. Properly installed mounts will protrude slightly above radio top.

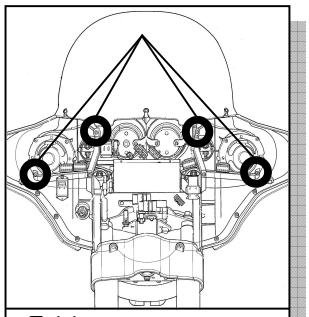

Moisture barrier application


Side mounts installed

Install Radio in dash

- **Install Radio.**
  - Use masking tape to avoid scratching radio front panel. (Remove detachable front panel if applicable).
  - Hold radio at 45 degree angle with front panel up. Slowly insert radio with filler panel traveling up-and-over radio brackets and seating filler panel atop handlebar clamps. (NOTE: Radio with side mounts should insert WITHOUT binding. It may be necessary to loosen four (4) 3/16" allen head fairing support screws to adjust mounting bracket position – see Figure. Tighten fairing support screws after radio insertion.)
  - Gently raise back of radio to align mounting holes. (Insure filler plate sides and top do not bind with instrument mounts or dash indicator light clips. Light filing of filler plate may be necessary in rare cases.)
  - Loosely fasten four (4) allen head radio mounting screws retained from bike.
  - Position radio for symmetric fit in dash and tighten four (4) 3/16" allen head mounting screws.


Install clearing trim plate


Fairing support screws

- **Connect Sony loom to RetroRadio Module. (Note: Skip step if your module came with connectors.)**
  - (Note: It is important to make connections by soldering or crimping. Use shrink tubing or high quality electrical tape to insulate your work. Bottom line: make sure you have good electrical connections to avoid problems later on.)
  - On workbench, soldier/crimp seven (7) wires from RetroRadio module to Sony radio loom using the following table: Tape unused wires.

Function	Sony loom color	RetroRadio wire color
Switched Ignition	Red	Red
Battery	Yellow	Yellow
Ground	Black	Black
Spkr: Right (+)	Gray	Gray
Spkr: Right (-)	Gray/Black stripe	Gray/Black stripe
Sprk: Left (+)	White	White
Sprk: Left (-)	White/Black stripe	White/Black stripe

- **Install RetroRadio Module.**
  - Insert Sony radio plug into back of radio.
  - Insert 1/8" stereo plug into back of radio. **Important:** plug has hex shape that keys to radio chassis – usually the wire will point up.
  - Plug in antenna connector.
  - Finally, plug RetroRadio module into OEM radio connectors.
  - There are two Deutsch connectors having 8 and 12-positions. (Note: wire colors may not match OEM wire colors exactly.)
  - Secure harness and module using supplied zip ties.
  - Rear Speakers need new leads taken to the Sony harness-refer to the Sony Installation Guide.

Test and Finish up

- **Reconnect Battery – Positive cable first.**
- **Check Radio Function.**
  - To turn on radio, press and hold right middle (RM) button.
  - Volume up and down with left control up (LU) and down (LD).
  - Bumping the left middle button will cycle through the sound options: bass, treble, balance, etc.
  - Seek stations or change CD tracks via right control up (RU) and down (RD).
  - Switch between CD and radio (source) by pressing and holding the right middle (RM) button.
  - Change radio bands (mode) using two quick bumps of the RM button.
  - Seek over your presets by using one quick bump on RM followed by seek up (RU) or down (RD). (Note: this preset mode times out after four (4) seconds following last press.)
- **AVC Profile Selection**: The AVC profile controls the relationship between radio volume and bike speed. Combinations of different model radios as well as bike model year and "pipe loudness" are all reasons for having a selectable AVC profile. There are twenty profiles including a setting which disables AVC altogether. Each profile has an associated serial number from 0 to 20 where 0 represents off, one (1) is the most aggressive and twenty (20) is the least aggressive. AVC profile selection is accomplished with the left-hand radio button. Enter AVC selection mode by depressing middle radio button (lm) two (2) seconds. Once you let up on the button, you have four (4) seconds to "bump" the same button up. Each bump up selects the next index starting from one. (Note that each bump up extends time for AVC selection mode by another 4 seconds.) For example, suppose you want to select profile #2 (this is default on most units.) First depress the left middle button for 2 seconds. Upon button release, bump the same button up twice and release. Wait four seconds for RetroRadio to exit AVC selection mode. Now suppose you wish to disable AVC altogether. Start by

depressing left audio switch to middle position (lm) for 2 seconds. Now release and wait ten seconds – The AVC is now disabled until programmed using this procedure.

- **Reinstall fairing and go riding! IMPORTANT NOTE: It is UNSAFE to look down at radio while riding. Familiarize yourself with radio controls in garage. Allow yourself time to normalize to working the unit with hand controls and "hearing" the result.** Sony radios have a "beep" that is emitted when control input is given. Keep this feature enabled until you are used to operating radio. **Again, DO NOT look at radio while riding! Please exercise proper riding safety!**

Troubleshooting:

Insure connections with proper color mapping – Refer to table on page two.
For cases where radio does not respond to control input from bike or radio front panel, be sure to check the 1/8" stereo control plug. Recall this plug has a hex shape that must mate with radio chassis. Generally the wire will exit vertically (up) out of back of radio.

Care:

Avoid direct spray of water on front of radio. Please note that Biketronics cannot be responsible for any damage due to improper installation and/or failure due to over exposure to moisture.

Fuse:

The OEM Harley "RADIO MEMORY" fuse will likely need to be upgraded from a 1-amp unit to something between 5-10 amps - DO NOT exceed 10 amps.
Check your bike's shop manual for fuse location.

Deck compatibility:

RetroRadio compatible Sony in-dash CD and CD/MP3 units:

NOTE: Any in-dash unit compatible with the Sony wired remote control model RMX4S will work with RetroRadio.

Look for other fine Biketronics offerings. Feel free to contact Biketronics or your dealer for:

- BlinkerSpot turns spotlights into blinkers allowing complete removal of front turn signals and wiring.
- TailBones allows rear turn signals to work as both stoplights and running lights even with single filament bulbs. Plugs right in.
- TailRunner enables rear turn signals to double as running lights even with single filament bulbs.
- FrontRunner adds running light function to your single-filament front turn signals, including high power halogen bulbs.
- SmartEqualizer is the *solution* for custom lighting on alarm, alarm option and non-alarm bikes. The computerized load equalizer allows you to install any combination of turn signal indicator, including halogen and LED's.

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