

# MOTORCYCLE TUNES

## Installation Instructions

### 1200 Watt Amplified Speaker System with Bluetooth Controller

We thank you for your purchase!

**IMPORTANT:** The information contained within this document is intended to offer some basic guidelines for the most common installations, and can be installed by anyone with some general electrical knowledge. More complex or custom audio system installations should be installed by a competent professional. Motorcycle Tunes is NOT responsible for any damage to your bike or equipment caused by improper installation or faulty equipment.

**CAUTION: HOOKING THE AMPLIFIER UP INCORRECTLY CAN CAUSE PROPERTY DAMAGE OR PERSONAL INJURY OR BLOW THE SPEAKERS. If you turn the Sensitivity/Gain Control Up too high, it will blow the speakers and void the speaker warranty. See below how to set the gain control.**

**Safety Check – BEFORE USING THE SYSTEM IT IS VERY IMPORTANT TO MAKE SURE EVERYTHING IS SAFE BEFORE YOU RIDE:** Make sure that your driving ability is not hindered by the items added to your bike, and that you can safely operate your bike before your road test the equipment. Motorcycle Tunes yields all responsibility of any damage caused by or any damage that may result from the Motorcycle Tunes audio system. When purchasing our item, you are agreeing to release Motorcycle Tunes of all legal liabilities of all products/advice given through website, instructions, email, or phone. As the purchaser, you are agreeing to assume all responsibility of the items once they have been shipped.

This system can be used on any 12-Volt system (Motorcycle, Boat, ATV, UTV, Vehicle, ect).  
Installation is divided into three parts, Speakers, Bluetooth and Amplifier.

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## Part #1 - Installing the Speakers

Get an idea where you want to mount the speakers. The more the speakers face the driver, and the higher on the bike the speakers are placed, the better they will sound when you are riding. The speakers can be mounted to the handlebars, crash bars, engine guard, or to your custom location.

*Important: Make sure the speakers will not interfere with your steering, or gauges.*

**Step 1 – Mounting the Speaker Clamps:** Your system shipped with 1 set of 3-Piece Mounting Clamps, clamps are available in (1", 1-1/4", 1-1/2") Use an allen head wrench to take the clamps apart and mount the clamps to your bars. There will be a gap on the clamps that will tighten up when the speakers are installed, but it will NOT tighten up all the way closed.

**Step 2 - Mounting the Speakers:** Mount each speaker to the clamp and make sure they are secured, but do not apply too much torque to the nut. The bottom mounting bolt is chromed stainless steel.

**Tip – Don't Strip the Nut!** If you cannot ensure that it is not cross threaded, you can use a pair of vice grips or channel locks on the end of the clamps to slightly pull them together. Then slide the speakers bottom mounting bolt through the clamps, you will have more room to tighten the nut a few turns by hand. This will ensure the nut has good thread before you tighten it by wrench, and will prevent the nut from cross threading and seizing up.

**The 3-Piece clamps will NOT close all the way, just tighten them snugly.**

**IMPORTANT** The speaker mounting bolt is chromed stainless steel, and the treads on this bolt can be stripped easily if the nut tightened too much, or if the nut is not perfectly aligned before tightening. When you mount the speakers to the clamps use care, or you can damage the thread. Run the speaker wires down to where you are going to mount the amplifier.

Run the speaker wires back to where the amplifier will be installed. The speakers wires are colored, Red is Positive, and Black is Negative.

### Hooking up the speaker wires to the Amplifier Speaker Output Plug.

**Amplifier Speaker Output Plug** – This is are two mall 4 prong plug, each one has 4 short speaker wires on it. This is the speaker output plug for the amplifier, and sends the signal to the speakers. The speakers will hook to these wires then the plug will plug into the amplifier. Use the included BUTT connectors to crimp the connections.

Left Speaker **Red** to the Solid White

Left Speaker **Black** to White/Black

Right Speaker **Red** to Solid Grey

Right Speaker **Black** to Grey/Black

Left Rear Speaker **Red** to the Solid Green

Left Rear Speaker **Black** to Green/Black

Right Rear Speaker **Red** to Solid Purple

Right Rear Speaker **Black** to Purple/Black

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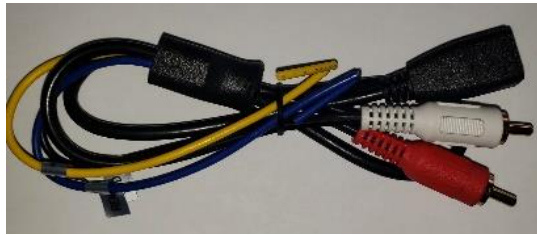
### Part #2 – Installing the Bluetooth

The Bluetooth controller has 1 Red wire, 1 Red 3.5mm Female Jack and 1 Micro Port plug, Micro Port Extension Cable, and an Adapter Plug with RCA outputs and Red/Blue/Black wires, and a mount that can either mount the Bluetooth to your handlebars, or to the existing 2 bolts on your clutch or brake.

#### Bluetooth Microport Extension Cable



#### Bluetooth Adapter Plug



Plug the Extension cable into the back of the Bluetooth, and run the other end down to where the amplifier is going to be installed, then plug it into the Bluetooth Adapter Plug. The RCA plugs on the Bluetooth Adapter Plug will then plug into the amplifier.

**You will need to decide how you want the system to turn on, it can be installed so that it turns on automatically when you start your bike, or so that every time after you start your bike, you will have to turn it on manually.**

<p align="center"><b>Auto Turn On Installation</b> The system turns on when you start the bike</p>	<p align="center"><b>Manual Turn On Installation</b> When you want to turn on the system, you push and hold the power button for 3 seconds</p>
<p><b>Red Wire on Bluetooth controller</b> - +12V Switched Power on Battery or Fuse Box, (so that the power will turn on/off with the key)</p> <p><b>Blue Wire on the Bluetooth Adapter Plug</b> – This is the wire that turns the power to the amplifier on and off, hook the bare end to the REM (remote turn on) wire on your amplifier.</p> <p><b>Yellow Wire on Bluetooth Plug – Not Used</b> <b>Black Wire on Bluetooth Plug – Not Used</b></p> <p><b>NOTE – If using the red power wire you bypass the On Off Button</b></p> <p><b>When this method is used, the On/OFF switch of the Bluetooth will NOT function, it will automatically turn ON and OFF via the switched power source. This is used when you want it to automatically turn on and off with the key</b></p>	<p><b>Red Wire on Bluetooth Controller - NOT USED (just cap the end of this wire)</b></p> <p><b>Blue Wire on the Bluetooth Adapter Plug</b> – This is the wire that turns the power to the amplifier on and off, hook the bare end to the REM (remote turn on) wire on your amplifier.</p> <p><b>Yellow Wire on Bluetooth Plug</b> – +12V Switched Power on Battery or Fuse Box, (this wire is ONLY hot when the so that the power will turn on/off with the key)</p> <p><b>Black Wire on Bluetooth Plug</b> – Hook the bare end to the negative battery terminal of the motorcycle or to the frame of the motorcycle.</p> <p><b>When this method is used, You will need to push and hold the power button the Bluetooth for 3 seconds, this will turn the Bluetooth on and will also turn the amplifier on.</b></p>
<p><b>Red 3.5mm Audio Input</b> - AUX Input, Optional additional input to plug the system into the headphone jack of your personal audio device. You will need a 3.5mm Male to 3.5mm Male patch cable to plug into the headphone jack of your device.</p>	

Even though the amplifier is hooked to the positive and negative battery terminals, In either method above, the amplifier is always off, until the Bluetooth is powered on (by one of the methods above), then a remote signal is sent from the Bluetooth to the connected amplifier, turning on the power to the amplifier and the amplifier pulls it power from the battery.

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### Part # 3 Amplifier Installation

**CAUTION:** Amplifier is NOT waterproof. Install it under the seat, saddlebag, travel trunk, fork bag, or in our amplifier bag.

The Cerwin Vega amplifier has a built in heavy duty heat sink, designed to keep the amplifier cool and prevent heat robbing distortions from running the music. This allows the amplifier to be installed in tight locations without heat issues.

Begin by planning on where you are going to mount the speakers and amplifier. Keep in mind the amp needs a minimum of 1" around it for proper cooling. Plan the wire routing; you don't want it around the exhaust or for it to rub. You also don't want to route the power cable next to the audio input cable, because this can add noise to the system.

#### Amplifier Power

There are 3 Power Wires (1 Power Red Wire, 1 Remote Turn On Blue Wire, and 1 Ground Black Wire)

**Red Wire with Yellow Ring Terminal** - Hook bare end to the +12V hookup on the amplifier and the terminal ring to the positive battery post.

**Black Wire with Yellow Ring Terminal (Ground)** – Hook the bare end to the GROUND terminal on the amplifier, and hook the terminal end to the negative battery terminal of the motorcycle or to the frame of the motorcycle.

GETTING A GOOD GROUND IS VERY IMPORTANT, BECAUSE 99% OF NOISE ENTERS THROUGH THE GROUND OF A SYSTEM.

Make sure that all wires are away from hot areas, and that everything is secured to your bike. Before your turn on the power, make sure that your devices volume is turned down. You can damage your speakers/amplifier if your device is at full or loud volume when the amp is turned on. You will always want to start off with a low volume and build up to a louder volume. This will prolong the life of your speakers/amplifier. Everything should now be hooked up correctly.

#### Amplifier Settings – **BE SURE TO SETUP YOUR AMPLIFIER CORRECTLY TO PREVENT SPEAKER DAMAGE**

To adjust the Sensitivity/gain setting on the amplifier, turn the amplifier Sensitivity knob all the way down (counterclockwise). Next turn the source unit (personal audio device) volume up to almost full volume (usually about 75-90% of the way up). Next, increase the level setting on the amplifier until adequate volume is achieved, or until distortion is audible and then turn it down a bit until the distortion is inaudible.

NOTE- Ideal signal to noise and dynamic range are achieved with the sensitivity/gain at minimum. Most users find this achieved at less than 1/4 in the adjustment range. Avoid setting the amplifier gain very high as noise and distortion will increase significantly and damage to the speakers can result.

#### The HP or LP crossover will need to be set to FLAT

Placing the x-over switch in the Flat position all frequencies to pass to the speakers. Placing the switch in the HP or the LP position activates the 12dB crossover, adjustable from 40Hz-400Hz. If you choose to use the HP or LP setting further instructions are available in the Cerwin Vega instruction booklet.

Turn on mode will need to be set to REM – If the Blue wire on the Bluetooth is not connected to the REM port on the amplifier, then the system will NOT work.

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### 1200 Watt Amplified Speaker System with Bluetooth Controller

#### Amplifier Audio Input.

The amplifier has two 6 inch ling pigtails that have rca plugs on them, you will need to connect them to the amplifier



On the amplifier RCA Input Plugs, you will need to separate the RED and the Black plugs like in the picture below.



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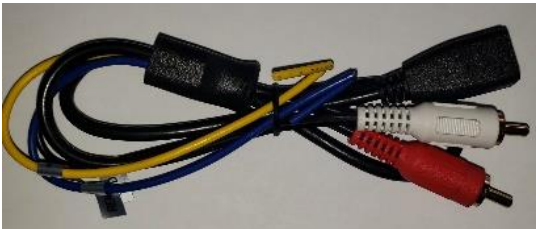
### 1200 Watt Amplified Speaker System with Bluetooth Controller

The WHITE RCA Inputs on the amplifier, will plug into one of the RCA Y Adapters

The RED RCA Inputs on the amplifier, will plug into one of the RCA Y Adapters



Now you will need to locate the Bluetooth Adapter Plug,



The RED Male RCA plug will plug into the one of the black Female RCA plugs going to the amplifier.

The White Male RCA plug will plug into the other black Female RCA plug going to the amplifier.

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### 1200 Watt Amplified Speaker System with Bluetooth Controller

#### Bluetooth REMOTE OPERATION and Pairing

Auto Turn On Mode – Bluetooth and Amplifier Will Turn on after you start your bike, then you will be able to Pair or Use the device

Manual Turn On Mode - push and hold the Power/AUX button for 3 seconds, this turns the Bluetooth and Amp On

On your phone turn on the Bluetooth then look for new devices, wait about 20 – 30 seconds and you will see CVBTR10/12, then pair your phone to that device.

Once a bluetooth is paired, it will automatically reconnect to the device. If no device is present the Bluetooth automatically goes into pairing mode and will present itself as discoverable for the next device present.

#### AUX Input

Connect AUX inputs with any media player (MP3 Player, Smartphone, Headpunit, iPod), click AUX, the yellow light will be on when the Bluetooth is in AUX mode.

#### Bluetooth Troubleshooting -

Make sure the volume is up on the Bluetooth source

Confirm Pairing of your Device and the Bluetooth Controller

**If using the Red Power wire on the Bluetooth, this will Bypass the ON OFF switch on the Bluetooth.**





**NOTE:** If you are having problems after installation follow the Troubleshooting procedures below.

**Procedure 1: Check Amplifier for proper connections.**

**Verify that POWER light is on. If POWER light is on skip to Step 3, if not continue.**

1. Check in-line fuse on battery positive cable. Replace if necessary.
2. Verify that Ground connection is connected to the negative battery terminal. Repair/replace if necessary.
3. Verify there is 9 to 16 Volts present at the positive battery and remote turn-on cable. Verify quality connections for both cables at amplifier, stereo, and battery/fuseholder. Repair/replace if necessary.

**Procedure 2: Protect light is on.**

1. This is a sign of a possible short in the speaker connections. Check for proper speaker connections and use an ohm meter to check for possible shorts in the speaker wiring. Too low of a speaker impedance may also cause Protect to light. The amplifier is 4 ohm and 2 ohm stable.
2. In the event that the speaker connections are not the issue, check for proper speaker impedance and rewire if needed. This can also be a sign of driving the amplifier at very high power levels without adequate airflow around the amplifier. Shut off the system and allow amplifier to cool. Check that the motorcycle charging system is maintaining proper voltage. If the previous items do not solve the problem, a fault may be in the amplifier, call customer service for support.

**Procedure 3: Check Amplifier for audio output.**

1. Verify good RCA/Speaker input connections at stereo and amplifier. Check entire length of cables for kinks, splices, etc. Test RCA/Speaker inputs for AC volts with stereo on. Repair/replace if necessary.
2. Disconnect RCA/Speaker input from amplifier. Connect RCA/Speaker input from test stereo directly to amplifier input.

**Procedure 4: Check Amplifier if you experience Turn-on Pop.**

1. Disconnect input signal to amplifier and turn amplifier on and off.
2. If the noise is eliminated, connect the REMOTE lead of amplifier to source unit with a delay turn-on module.

**OR**

1. Use a different 12 Volt source for REMOTE lead of amplifier (i.e. battery direct).
2. If the noise is eliminated, use a relay to isolate the amplifier from noisy turn-on output.

**OR**

1. In a high level(speaker) input application the Variable High Level Adjustment can be used to delay the turn on eliminating turn on/off pop.

**Procedure 5: Check Amplifier if you experience excess Engine Noise.**

1. Route all signal carrying wires (RCA, Speaker cables) away from power and ground wires.

**OR**

2. Bypass any and all electrical components between the stereo and the amplifier(s). Connect stereo directly to input of amplifier. If noise goes away the unit being bypassed is the cause of the noise.

**OR**

3. Remove existing ground wires for all electrical components. Reground wires to different locations. Verify that grounding location is clean, shiny metal free of paint, rust etc.

**OR**

4. Add secondary ground cable from negative battery terminal to the chassis metal or engine block of vehicle.

**OR**

5. Have alternator and battery load tested by your mechanic. Verify good working order of electrical system including distributor, spark plugs, spark plug wires, voltage regulator etc.

Resistor Plugs can be installed to help remove any noise.

### **Amplifier Settings – BE SURE TO SETUP YOUR AMPLIFIER CORRECTLY TO PREVENT SPEAKER DAMAGE**

To adjust the Sensitivity/gain setting on the amplifier, turn the amplifier Sensitivity knob all the way down (counterclockwise). Next turn the source unit (personal audio device) volume up to almost full volume (usually about 75-90% of the way up). Next, increase the level setting on the amplifier until adequate volume is achieved, or until distortion is audible and then turn it down a bit until the distortion is inaudible.

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The HP or LP crossover will need to be set to FLAT

Placing the x-over switch in the Flat position allows all frequencies to pass to the speakers. Placing the switch in the HP or the LP position activates the 12dB crossover, adjustable from 40Hz-400Hz. If you choose to use the HP or LP setting further instructions are available in the Cerwin Vega instruction booklet.

Turn on mode will need to be set to REM

### **System will not turn on, or no sound from speakers.**

If the system is not turning on, then you would want to first check to make sure the amp is getting power and turning on. Check to make sure the Red and Black wires are securely connected on the battery, and that the inline fuse is not blown.

The amplifier has a REM wire this MUST be hooked to the Blue wire on the Bluetooth

The amplifier has a power light that should turn on when the amplifier is on. You can test the speakers on another stereo or the amplifier with another speaker and see if you can tell if the amp is bad or both speakers are bad.

### **Distorted Output, Cutting In/Out, Popping, Static, Whining Or Other Noise.**

Turn the gain on the amplifier down – refer to our installation instructions about setting up the amplifier. Too much gain will cause distortion and blow the speakers.

Move the ground, ground the system to the closest spot to the unit. Noise usually enters through the ground, the shorter the wire the better.

If you hear a whining noise that increases with the RPM of your bike, you need a ground loop isolator.

### **1 Speaker Not Working**

Swap the speaker wires from the amp to the speakers

(hook the right amp output to the left speaker and Left amp output to the right speaker)

If the speaker that was not working starts working, then it is a defective amplifier

If the speaker that was not working is still not working, then it is bad speaker.

### **Bluetooth not connecting/working**

First of all, check the instructions and make sure the wires are hooked up correctly.

If you are unable to pair to the Bluetooth, then you will need to power off and unhook the power wire. This will reset the unit, then you will just repair the device like the instructions.

**Bluetooth Test** - If you are still unable to pair the Bluetooth, or not able to get it to work, the next step is test the Bluetooth and see if it is defective, we can do this by bypassing the Bluetooth. Begin by disconnecting the 3.5mm audio input plug from the plug on the Bluetooth, and plug that direct into the headphone jack of your portable audio device. Then disconnect the Amplifier REM wire to Blue wire on Bluetooth. Then take the REM wire on the amplifier and hook it direct to the positive battery terminal. This will turn the power on the amplifier on. If the system is working now, then the Bluetooth was either not hooked up correctly, or it is defective.