

202x Polaris Ranger XD 1500 Aftermarket Subwoofer Installation

DISCLAIMER

If you don't have Ride Command+, then I believe anything wiring-wise I talk about will not apply. You have to have the factory audio system in the base case. Further to that, I can't discern if the sub and rear speaker wiring is preinstalled by the factory on all trim levels regardless of whether or not Ride Command+ is included. In my case, I have a NorthStar Ultimate, and the audio wiring harnesses were there for to use to my advantage.

The subwoofer . First, it had to be a sonic compromise, as space is limited. Second, I wanted as much power as possible to make normal listening levels distortion free. Third, it had to be "active" (self powered). Lastly, it had to be cost effective. After much searching on ebay and Amazon, I landed on this:

https://www.amazon.com/dp/B08MSXZLJT?ref=ppx_yo2ov_dt_b_fed_asin_title&th=1

Is it perfect? No, it's a compromise based on functional needs and cost/benefit. It is approximately 10x10x10 and fits perfectly under the rear passenger side seat. I have RBO door cupholders, and they intrude into the cabin unlike the stock webbing. Even at 10x10x10, it's a close thing. However, with the stock door storage this sub has got plenty of clearance.

A complete aside and off topic: Some have questioned why I need more cup holders than stock. If you wonder the same thing, it's not about quantity but about quality. The Polaris cupholders aren't designed for larger, tall, insulated containers, such as Contigos. I don't like tall cups in shallow cupholders either rattling around or falling out. End of digression.

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The wiring . Luckily the preinstalled, unused sub connector, located between the driver's side rear passenger and middle seats, has both the male and female ends. Unluckily, they don't pin the male end, and it just has rubber plugs.

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Note: in the pic above I have already removed the connector from its mounting point and taken off the male plug.

I suggest you buy a Deutsch Connector kit from Amazon that gives you a selection of connectors for future use, and has pins and the tools needed to put wired pins in the empty male connector. Any kit that includes the tools is a good choice, I suppose. Such as:

https://www.amazon.com/Connector-Connectors-Automotive-Accessory-Motorcycle/dp/B09S3N51GM/ref=sr_1_11?crid=P8GXPRYUV4O1&dib=eyJ2IjoiMSJ9.N

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M-

[SN9jXG1WJAhROpF2IJrtMMEeoRvn2iD1qZLJcfcCXjFHEzyFK9ToI2r0XjEAcrS8PVj8rY4tTqx5hyExrEpuld7AyZaqrggvSrtXdyrtwxEwi2egr67M_qgO80Ko3b-D3pGUMbRTY0CHzZvkeKpRb-NMTZCo2esOVGuZDYhkOREpKuFZTNTDv5OtkZmO3OTnHQR5wRuyMIVdOm8Frc9o8HHn9PRFBs9g-J3ETMI.W9Tp_2T4Cily9q8qecpwnh8fNPJmN_5OF8F59B9bDnc&dib_tag=se&keywords=deutsch+connector+kit&qid=1730300131&srefix=deutsch+co%2Caps%2C212&sr=8-11](https://www.amazon.com/SN9jXG1WJAhROpF2IJrtMMEeoRvn2iD1qZLJcfcCXjFHEzyFK9ToI2r0XjEAcrS8PVj8rY4tTqx5hyExrEpuld7AyZaqrggvSrtXdyrtwxEwi2egr67M_qgO80Ko3b-D3pGUMbRTY0CHzZvkeKpRb-NMTZCo2esOVGuZDYhkOREpKuFZTNTDv5OtkZmO3OTnHQR5wRuyMIVdOm8Frc9o8HHn9PRFBs9g-J3ETMI.W9Tp_2T4Cily9q8qecpwnh8fNPJmN_5OF8F59B9bDnc&dib_tag=se&keywords=deutsch+connector+kit&qid=1730300131&srefix=deutsch+co%2Caps%2C212&sr=8-11)

You only need a short length of 3 (or four) conductor cable. It could be 18 gauge, but if I'm considering 18 gauge I usually just go 16, as the size difference is negligible but the current carrying capability is much better. The three wires in the sub connector don't carry any significant current, so you could probably even use 20 gauge with no problem. You could use 16 gauge cable, like this (which in this case would work for both the audio connections and the power connections):

https://www.amazon.com/Conductor-Electrical-Stranded-Automotive-30FT-9-1M/dp/B0CGH6VSMX/ref=sr_1_1_sspa?crd=1JGMFNVPEJOU1&dib=eyJ2IjoiMSJ9.plkVdkC23HTecdw7gjKCntCTovJqfpJ1DbDW7Nt3gtf5VcifUYt2gY7e8hQNW1Rj2PFOQwV7EC2vZK263y-VmPBGopTZd7AJ0sX8Mxcwp48kOEXeETt_sJev7i16ZpmyfowX1dsCr56k1CEnMJxyVIHmvyH8SYnmJAGUQ9CiuUmua6Bte6X4t5xZ1pDbmHhnV20s_lf64Lfvh_bcQ_onZMpYCwAbeFU2xEs0shMCiVRBVM1Yf3dUDOXhCQHbOcOtolj2zpQVVSsasNwKL96x0Y7sY8DqpcvtDrW7yTezqs.ZhYnZsTPbZFgdAIWOvZcUELlwRsQZYgkO7nqz-tQPUi&dib_tag=se&keywords=16%2Bgauge%2B4%2Bconductor%2Bautomotive%2Bcable&qid=1730300370&srefix=16%2Bgauge%2B4%2Bconductor%2Bautomotive%2Bcable%2Caps%2C272&sr=8-1-spons&sp_csd=d2lkZ2V0TmFtZT1zcF9hdGY&th=1

At the Polaris connector end, the female connector is the prewired end, and the wire configuration is:

- Dark Blue (DB); ATO, or Amplifier Turn On (goes to REMOTE on sub)
- White (WH); sub positive audio signal (goes to inner, jacketed wire on the RCA connector)
- Beige with black stripe (BG/BK); sub negative audio signal (goes to shield/ground bare wire on RCA connector)

Be aware that the Polaris wiring diagram, if you have access to one, says the positive signal wire is beige. That is untrue. It is clearly white.

I soldered the wires of my cable to the pins, as when I tried to just crimp them they ended up pulling out. That really caused a storm of colorful language on my part, so I started over and soldered them. Learn from my mistakes, PLEASE.

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Caution: I created the Polaris connector end on the workbench and then took the cable and snaked the unterminated end from the Polaris connector over to the sub location with plenty of spare length. I doubt a terminated end will fit through the openings behind the seatbacks. You're welcome to try, but I decided not to chance it. If that works, it's way more convenient to make the cable on the bench.

At the sub end, I used an inline, 3 pin Deutsch connector. Match up whatever colors to Polaris colors of your choosing, and make sure to keep that consistent at both ends and at the sub pigtail. I guess I should assume you would do so, but I thought it was worth emphasizing. I don't think I need to go into cable making details, unless you specifically ask me to make an addendum.

You can buy RCA pigtails, such as:

https://www.amazon.com/Fancasee-Replacement-Connector-Adapter-Repair/dp/B081TYCKC6/ref=sr_1_4?crd=34HH12BJRNH2S&dib=eyJ2IjoiMSJ9.9JU2cSb7JCKBh1ZFdWqzvEEzsYfi4FrXyJNiZATBP_zfrteja88isx0m6GxJk99Ukq7wzEn7nbNwTuRcbppudpsY7MORcEk6JtXdkFI7SxLt9Oza792rwnN1THjuVqJjB1RlxIZBeuy5SVsz-Mhksik0w2_bLbv4W0V-nTpf63WII3-W5-D1F8-s7ul-57GM6RHKFILWTx2Sx5eNV5csZysdO7wktQGQfrOtE1OQA.4HAI8uykRG-9HFxBuwcwqv9TaX3nGw6fea5LZAqrMcl&dib_tag=se&keywords=rca+connector+pigtail&qid=1730302608&sprefix=rca+connector+pigtail%2Caps%2C190&sr=8-4

or even:

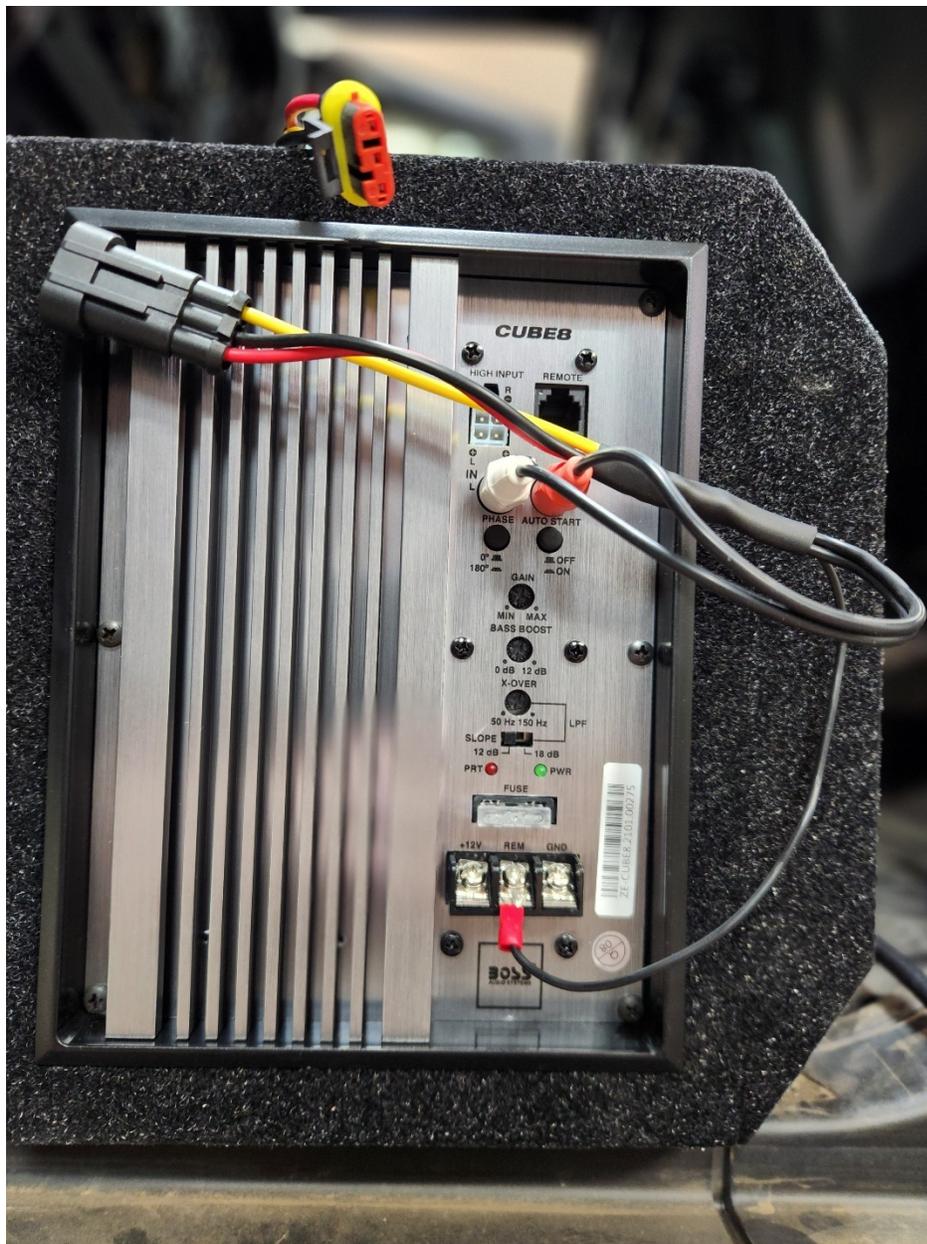
https://www.amazon.com/MOBOREST-Terminal-connectors-Solderless-Male-2pack/dp/B07HBJMHVV/ref=sxin_16_pa_sp_search_thematic_sspa?content-id=amzn1.sym.76d54fcc-2362-404d-ab9b-b0653e2b2239%3Aamzn1.sym.76d54fcc-2362-404d-ab9b-b0653e2b2239&crd=34HH12BJRNH2S&cv_ct_cx=rca%2Bconnector%2Bpigtail&dib=eyJ2IjoiMSJ9.NtNaSV7NKCcrOkGxs3xZWBvl_7bypSURQpA-Gd1whxVZ_sHKlgM98ijP48r1qfHJ.DwQWrw0SyTtZFAbspEdSrcqqr_j6A5xDeR8wKg14pRQ&dib_tag=se&keywords=rca%2Bconnector%2Bpigtail&pd_rd_i=B07HBJMHVV&pd_rd_r=8c4f7642-5c1a-4fc9-9f63-0d27b561e3dd&pd_rd_w=XSj3Y&pd_rd_wg=P61Bg&pf_rd_p=76d54fcc-2362-404d-ab9b-b0653e2b2239&pf_rd_r=DEC3HCAG4G3WN7H64NYN&qid=1730302608&sbo=RZvfv%2F%2FHxDF%2BO5021pAnSA%3D%3D&sprefix=rca%2Bconnector%2Bpigtail%2Caps%2C190&sr=1-1-6024b2a3-78e4-4fed-8fed-e1613be3bcce-spons&sp_csd=d2lkZ2V0TmFtZT1zcF9zZWYy2hfdGhIbWF0aWM&th=1

Here's a pic of the resultant connections at the sub and you'll notice that I used a 16 gauge black wire with a crimp-on spade connector for the "remote" connection:

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You'll notice that the Deutsch connectors have thick wires (14 gauge). Totally unnecessary wire size, but I already had prewired Deutsch connectors and decided to use them rather than make them from parts in the Deutsch connector kit. The prewired connectors are marginally easier to use than making your own, but look a little less professional when it's all said and done. Functionally, they work great in this application.

Subwoofer Connector(s). You could just use bare-ended wires at the sub. However, you can see above that I chose to make a harness with Deutsch connectors so I could quickly and easily remove the sub. The sub is right in front of the battery and fuse covers, so chances are you're going to need quick access someday. If you buy the Deutsch kit, you'll have a 3 pin connector pair to use. I put the female end on the cable

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from the Polaris sub connector, as when the sub is disconnected/removed there is no chance of shorting the connections on the cable hanging out from below the seat.

The sub has two RCA inputs for low level signals of the type Polaris provides on their connector. There is also a REMOTE terminal, and you should really use a crimp-on spade connector (although you could just twist bare wire around it and screw it down).

Because the sub instructions don't tell you which RCA connector (R-red or L-white) to use when you only have one sub output from the amp, I elected to make a "Y" adapter and from the one plus and minus audio signal wires from Polaris. I connected a red and white RCA. I suspect it would have been fine to use just one RCA, but since BOSS doesn't say and they don't provide schematics, I decided to make the "Y".

Power. The sub will be in quiescent state until a signal is detected at the REMOTE terminal (as long as the AUTO START button isn't engaged, which it should not be when using the RCA connections). I temporarily hooked up the 12v+ and Ground terminals directly to the battery. However, I don't recommend this for the long term. The quiescent state draws at least microamps and maybe even milliamps, even when the amplifier isn't fully on. Obviously, that will drain your battery even when the buggy's ignition is off. Unless you trickle charge your buggy every night, your battery's going to be dead just when you need it.

The amp power should be sourced instead from an accessory/switched power source. There is a Pulse connector block above the headliner on the rear passenger side. You can buy preterminated Pulse connectors here, if you don't want to make your own (and I would recommend against making your own):

https://www.amazon.com/gp/product/B0B31LXGTZ/ref=ppx_yo_dt_b_search_asin_title?ie=UTF8&th=1

Use a 14 or 16 gauge, two conductor (at least) cable, from the middle (blue wire on the connector listed above) for the positive, and the black wire for the ground. Run the cable into the chase that is built into the right rear roof support. In the pic below you can see where I have already wired some lightbars to the rear Pulse bar, which of course is shown without the cover. There is a T20 (I think that's the size) torx screw that you have to remove. Look closely and you can see the hole in the headliner.

It's a short run from the Pulse bar into the chase and down to the sub. Once again, to facilitate rapid removal, I recommend you put a Deutsch female on the power cable and a male connected with spade crimp-ons on the amp. I also recommend using a different Deutsch connector than the one you used for the audio signal. YOU know what you've done, but if someone else works on your buggy and removes the amp, there's a chance they'll connect the audio Deutsch to the power Deutsch if they're the same connector.

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That would be very bad, indeed. So, either use a different connector or do some marking of the cable/connector that makes it very clear to what it gets connected.

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At the sub, connect the blue wire (or whatever color you chose in your cable that connects to the Pulse bar connector blue wire) to 12v+ and connect the black wire (again, or whatever color you chose in your cable) to the Ground.

Battening Down the Sub. I decided that since I have aftermarket floor mats that I paid a lot of money for, that I wasn't going to screw the sub down. Instead, I'm just using some thick foam on top of the sub so that when the seat is put down it puts pressure on the sub. That seems to be working fine, even with no one sitting on the seat.

Finish Line. That completes the installation steps, other than buttoning up any covers and screws you've taken out to access various Polaris connectors. You can now turn on the Ride Command+ and adjust the equalizer according to your tastes.

For the settings on the sub, that is also very subjective. But I did the following:

- Gain all the way up
- Bass boost, about 50% of the dial
- Slope, 12dB
- Volume (on the included remote volume control), 100%
- Crossover (X-over), about 75% of the dial
- Phase, 0deg
- Auto Start, Off

I chose a higher crossover frequency because I haven't yet added rear speakers. You get a fuller sound, but at the risk of distortion from the sub trying to boost frequencies better left for speakers. But, the high setting is only 150hz, so it really is technically within the "normal" range of a sub. Again, that's totally subjective and up to you. Play around a bit with different music styles to see how you like the various settings.

Summation . For less than \$300 (and only that high if you buy the Deutsch kits and multi-conductor cables), it's a vast improvement over the stock sound. It's not going to rattle the neighbor's windows, but that wasn't my goal. I didn't buy the buggy for its sound system. But it's got one and I use it. I'm not an audiophile, but I am a musician. I cannot stand a poor sound system, even if it's just on principle. For what's provided by Polaris, it isn't pure crap, but it does leave a bit to be desired. I think this solution makes the system pleasant enough. In the future I plan to add rear speakers. The built-in Polaris amp has provisions for them, and the speaker connectors are already above the headliner. I think this will improve the depth of the sound and not its volume. That would be perfectly fine for me. But for now, I'm good with just the sub.

Good luck, and I wish you success and satisfaction with this upgrade