PRA Series of Radio and TV Amplifier - Power Supplies

The PRA-420 is an antenna power supply, low noise MMIC amplifier and splitter combination to supply up to 24 Shipboard Radios and /or TV Receivers. It covers all international TV and FM radio frequencies. Amplification is adjustable from +10dB to + 30dB via an onboard attenuator. An internal low loss passive 2-way ferrite splitter is provided but can be bypassed for double power output. The PRA-422 also has an amplifier and attenuator for AM-SW Radio. An optional input port can be provided for an external signal sources such as a VCR, Modulator or Cable TV.

The hinged cast metal EMI shielded case is rubber gasket sealed and highly water resistant. External CATV type “F” connectors are provided for the external antenna input and 2 branch line outputs as well as for the external signal source. An “O” ring cable gland is provided for the primary power cable. It can be configured to power from 110/220VAC or 12/24 VDC

PRA-422 is identical to the PRA-420 with the addition of an AM-SW radio amplifier with a 20dB adjustable attenuator. PRA-422 can be configured to power two active antennas such as a PR-420 TV and the PR-430 Radio Antenna. PRA-43x series are for AM-SW radio and FM Radio. There are attenuators for each band.

Recently all units were upgraded to meet European Safety Regulations for CE Mark and carry the designator BE. We have also added a green LED "on lamp" and a red LED warning of a short or over current on the antenna port. For convenience, 110/220 strapping is now done with plug in jumpers. Other than this the units are identical to original manufacture for performance and external connections.

A special 16dB Tilt amplifier has been introduced mostly for US NAVY to compensate for long cable runs and uses the designator PRA420T16LPD17. It is basically the same unit as the PR-420 with addition of a 16dB tilt compensation network.

Naval Electronics, Inc. 7028 West Waters Ave Suite 393, Tampa, Florida USA 33634
Phone (813) 885-6091, Fax (813) 885-3601, E-mail sales@naval.com

Installing the PRA

The PRA should connect to the Naval Active Antenna with less than 80 ft of RG-6 coax cable or up to 150 ft if RG-11 is used. Great care must be made in terminating all coaxial connections and they should be checked for continuity and short circuits before connecting to the PRA.

If the PRA is to be used as a booster only or "Line Extender", then DC must be disconnected at the input connector. This can be done on request by the factory or an appropriate dc block can be installed on the antenna connector to prevent the +15VDC from damaging connected equipment and possibly damaging the PRA. It is not necessary to connect the ground terminal as the unit can remain floating from ground and this can also help prevent ground loops on the TV system. Our splitters, taps and outlets are also ground isolated for the same reason.

An appropriate power cable should be used that fits tightly in the provide cable gland and the gland should be tightened to grip very firmly and prevent water ingress. The gland also provides strain relief to the cable and connections inside the case.

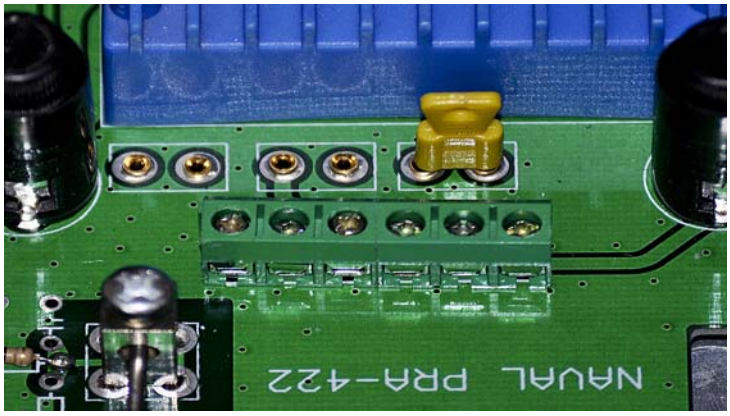
The antenna should be mounted as high as possible and in the clear of other objects. Yard Arm mounting is preferred. The antenna must not be close and in the line of fire of Ship's Radar and transmitting antennas, to minimumize interference. Any coax splices should be wrapped with coax seal to prevent moisture ingress.

The case can be mounted to any surface with 2 appropriate bolts on the 2 mounting feet provided. The case can then easily be disconnected from the mounting feet for service.

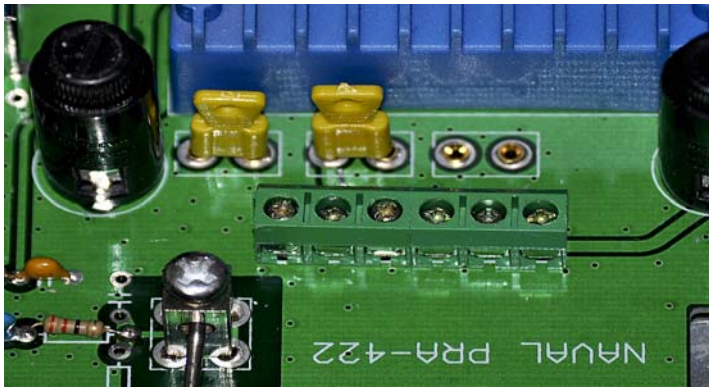
Fuse values should not be changed. If a fuse blows, there is a reason and replacing with a larger fuse will result in damage and a system down for repair. Contact the factory by email or phone if technical assistance is required.

The technician installing this equipment should be qualified to do so and normal CATV terms and procedures well known. The 2 internal attenuators need to be adjusted after system turn on as in normal CATV procedures, with a calibrated CATV Level Meter used appropriately throughout the system. It is good practice to utilize a "TDR" Time Domain Reflectometer after install to ensure that all coax is connected properly and to also put all coax cable lengths on "As Fitted" Drawings to ensure ease of future trouble shooting and as part of the Final System Test.

Jumper instructions (change 110VAC <=> 220VAC) and LED write up



Shown above strapped with single strap for 220 VAC



Now shown above with double strapping for 110VAC

Naval Electronics, Inc. 7028 West Waters Ave Suite 393, Tampa, Florida USA 33634
Phone (813) 885-6091, Fax (813) 885-3601, E-mail sales@naval.com

Schematic and Drawing

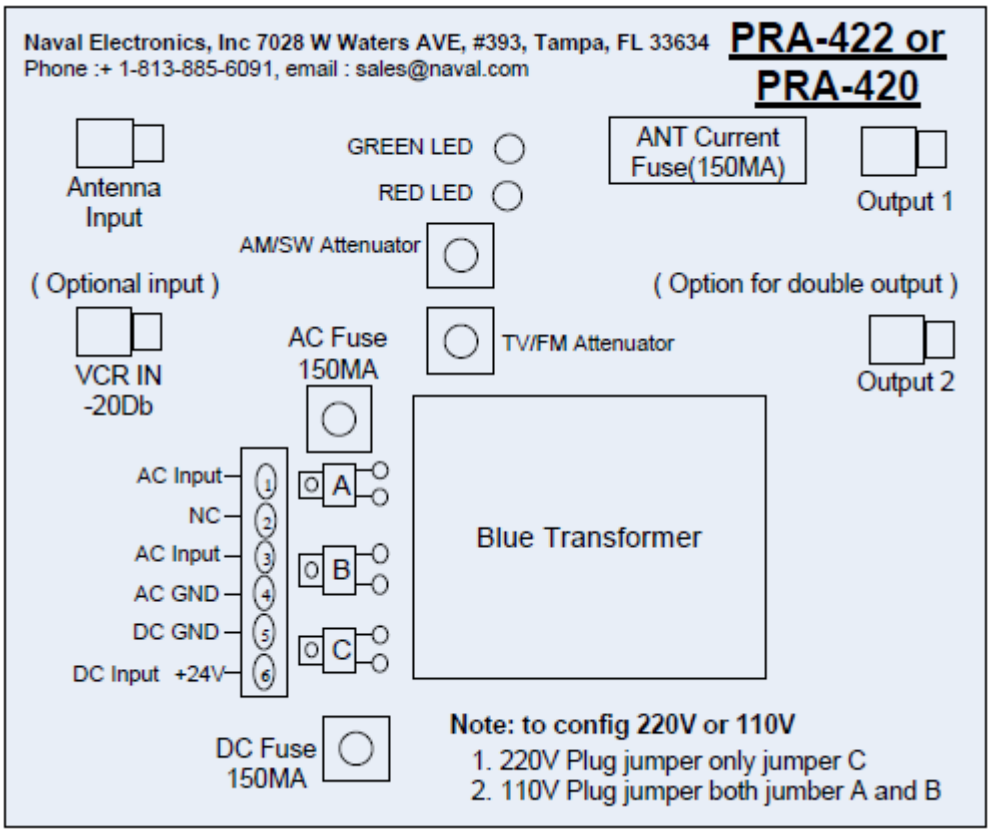
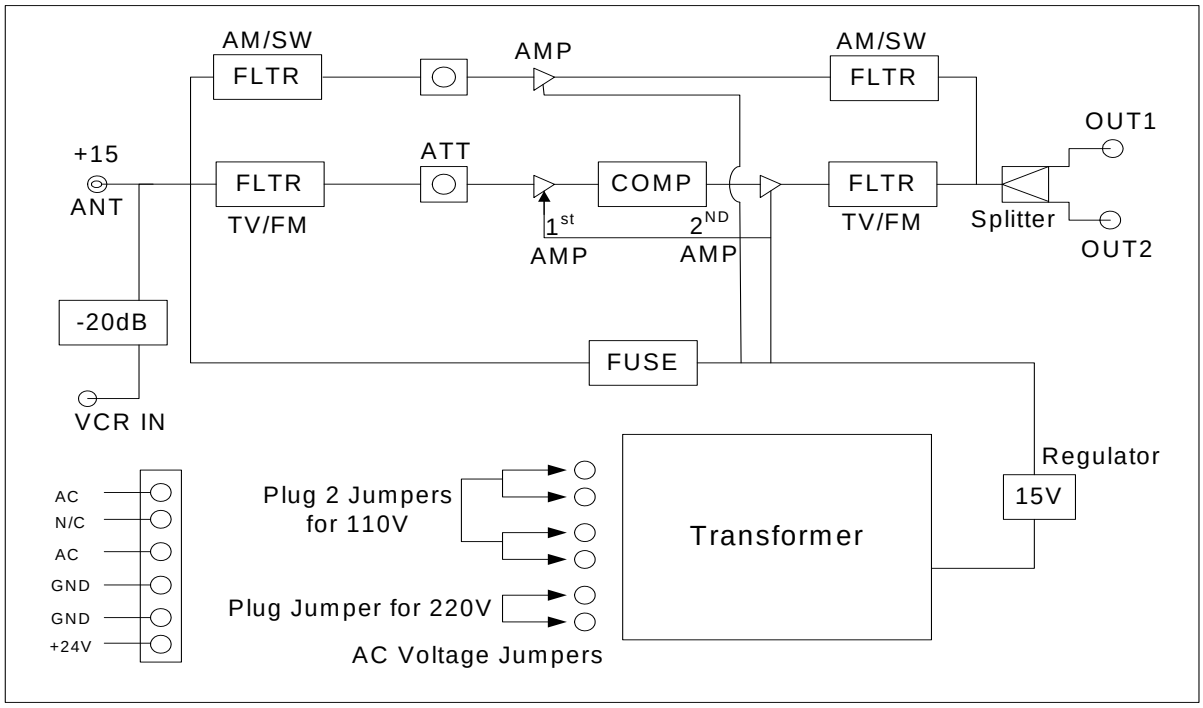
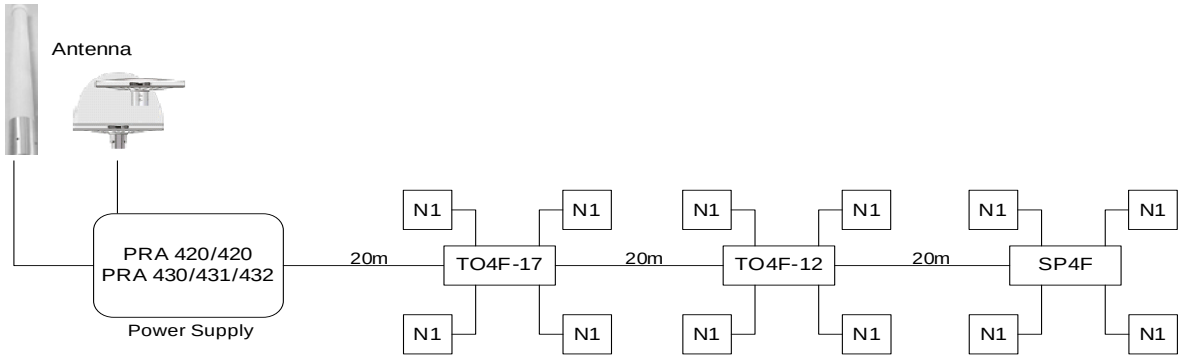


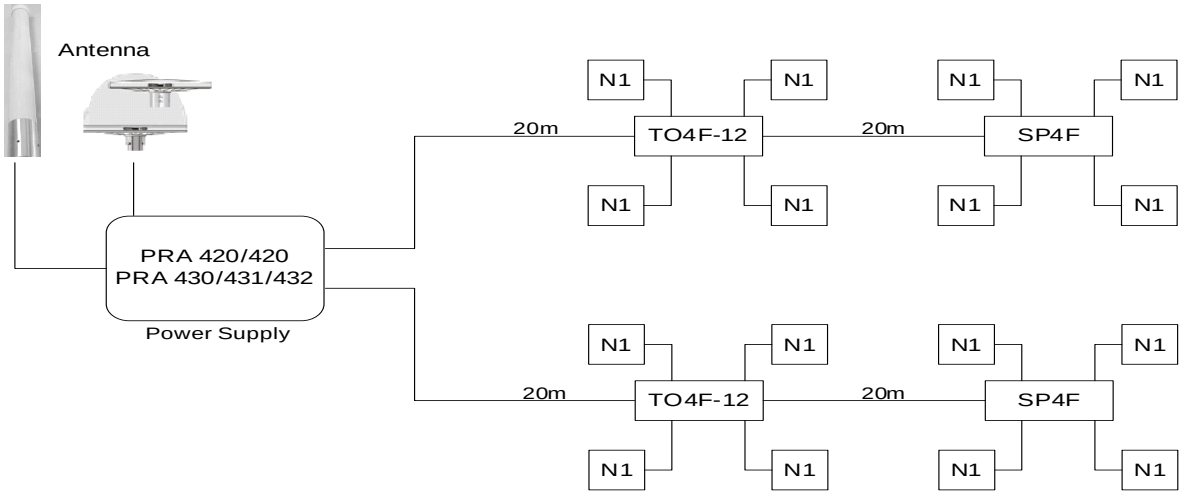
Diagram for PRA-420/PRA-422/PRA-430/PRA-431/PRA-432 Power Supply



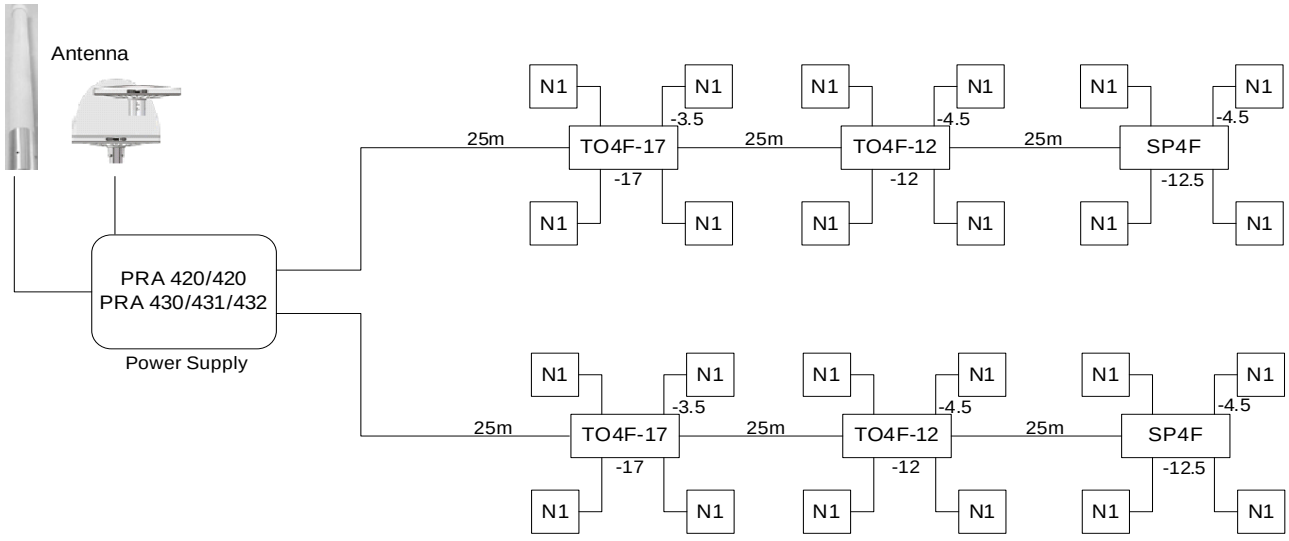
Sample system



12 TV radio outlets



16 TV radio outlets



24 TV radio outlets

Naval Electronics, Inc. 7028 West Waters Ave Suite 393, Tampa, Florida USA 33634
Phone (813) 885-6091, Fax (813) 885-3601, E-mail sales@naval.com