

Using the PDR 300 Portable Repeater in Aircraft

The PDR 3500 is a small, lightweight VHF-FM radio repeater that can be deployed on the ground or in an appropriately equipped aircraft. The use of a portable repeater can significantly improve radio communications in the area served by the portable repeater.

The CAP implementation of the Motorola PDR 3500 repeater contains a set of channels intended for airborne use and another set intended for ground use. The only difference between the air and ground channel sets is the output power. Airborne use requires less power to achieve similar results, thanks to the altitude advantage presented by an airborne platform.

Installation and use is relatively simple and can be accomplished by aircrews or ground teams, in addition to Communications Staff at events or missions.

The PDR 3500 weighs approximately 35 pounds and may be placed in the rear passenger seat behind the Mission Observer. It is intended for use in G1000 aircraft, which are pre-wired for portable repeater use. What follows is a step-by-step job aid showing how to install and operate the PDR 3500 in a G1000 aircraft.

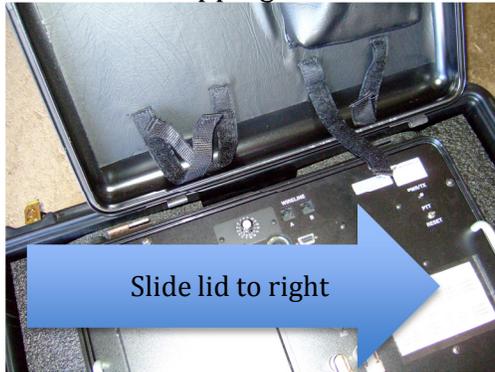
PDR 3500 Aircraft Installation

1. Opening the storage case.
 - a. The portable repeater is stored in a ruggedized shipping case. The repeater should be removed from the case for use. The repeater itself is mounted in a suitcase style container.



2. Remove the repeater "suitcase" from the shipping/storage case.
3. The repeater cover can be completely removed by sliding the lid to the right when it is opened. It will slide off the hinge pins. The lid should be removed during operation to prevent it from damaging cables and connectors. Store

the lid in the shipping case or in the aircraft cargo area.



4. Place the portable repeater on the rear set behind the Mission Observer seat.
 - a. The connections for power and antenna are located on the armrest, located at that seat. Those connections do not exist at any other location in the aircraft.



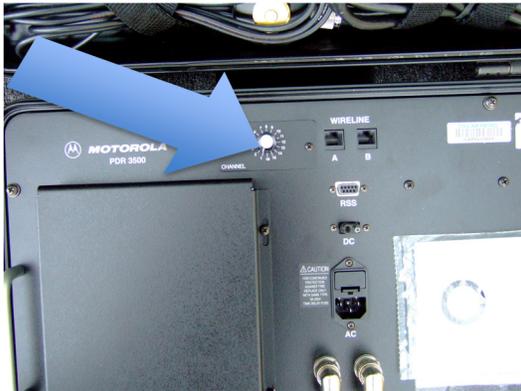
5. The repeater may be secured with the seatbelt as shown.
6. Remove the covers on the antenna and power connectors on the armrest.
7. Connect the antenna cable to the repeater and to the armrest as shown.



8. Connect the power cable to the repeater and to the armrest as shown.



9. Select the desired channel on the repeater using the chart attached to the front panel.



10. The repeater does not have a power switch. It will power on when the Mission Master and Aft Accessory Outlet switches are switched on. When power is supplied a green LED will light on the repeater as shown below.



The repeater is ready for use at this time.

Notes:

There is no need for the aircrew to work with the repeater during flight, although the aircrew may power it on and off as needed using the Mission Master and Aft Accessory Outlet switches.

The repeater does not interact with the CAP VHF-FM radio or the intercom system in the aircraft, except that the VHF-FM radio may communicate through the repeater in the same manner as a ground station.

Channel Selections:

Airborne Channels

CH 1	R63 @ 10 Watts	Ch 4	R68 @ 10 Watts
CH 2	R64 @ 10 Watts	CH 5	R69 @ 10 Watts
CH 3	R67 @ 10 Watts	CH 6	R70 @ 10 Watts

Ground Channels

CH 7	R63 @ 25 Watts	CH 10	R68 @ 25 Watts
CH 8	R64 @ 25 Watts	CH 11	R69 @ 25 Watts
CH 9	R67 @ 25 Watts	CH 12	R70 @ 25 Watts