

## The Skydiver Lifesaver, Automatic Parachute Release

In skydiving, errors can often be fatal so there is not too much room for them. Here are a few examples of things that may come between a skydiver and his ability to deploy the parachute in safe conditions:

- \* When exiting the plane or during the free fall the skydiver loses consciousness.
- \* The skydiver gets distracted and loses track of altitude.
- \* Unexpected events happen, like another skydiver or a plane gets too close and damages the equipment, or destabilizes the skydiver.

Those events, though undesired, may happen and put the skydiver in the impossibility of deploying the parachute. For those situations, an automatic activation device was created and became compulsory to any skydiver. The AAD is a small computer that opens the safety parachute for the skydiver when he is unable to do it on his own by monitoring the altitude.

CYPRES AAD is the most common used and the best known safety device for skydiving. The Cybernetic Parachute Release System (CYPRES) is used by more than 65 000 thousands skydivers according to the manufacturer.

The CYPRES AAD is made of four elements:

- \* A small display that allows the user to monitor its activity and the on/off switch
- \* The actual computer
- \* A battery
- \* A cutter, which is the actual device that deploys the reserve parachute

The computer sends a signal to the cutter when the time for reserve parachute deployment has come. The cutter is actually a bullet with a wedge – shaped sharpened tip that cuts the closing loop. The closing loop is a piece of cord through which the closing pin of the reserve parachute closes its container. The most effective way of opening the reserve parachute is to cut that closing loop.

The altitude at which the CYPRES is set to deploy the reserve is 750 feet (230 m). This altitude is monitored by the computer inside the CYPRES. The computer's job is not easy and non trivial and there are cases when the computer may be tricked:

- \* Normal flying with a successfully deployed main parachute
- \* Fast, unexpected changes of pressure caused by rolling over or flying around other skydivers during the free fall.
- \* Returning to the ground in the plane
- \* Significant changes of pressure caused by the weather like a low-pressure system moving into the area.

The CYPRES AAD deploys the reserve parachute only if the skydiver reaches the altitude of 750 feet in free fall.

The CYPRES is turned on when the skydiver is on the ground. The computer measures the air pressure on the ground and stores the data for comparison and determination of the altitude when flying. The computer recalibrates itself when it is on the ground every 30 seconds for determining changes in the air pressure caused by weather.

## About the Author

More research available about [skydiving](#) and [skidiving equipment](#) on <http://www.skydiving-guide.com> .

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