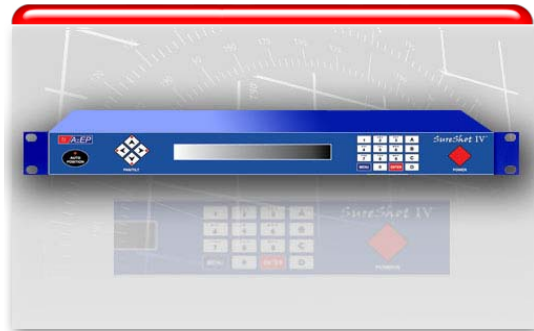




SureShot™ Terrestrial Product Line Overview

SureShot IV™ – Mobile

Model SSMWIV



SureShot™ – Microwave is a solid state, computer-based antenna positioning system that utilizes an internal GPS module and an external, antenna-mounted sensor module to orient an ENG microwave antenna toward a fixed receive site. Positioning accuracy is typically $\pm 1^\circ$ horizontally and vertically.

Line-of-sight positioning is a 3-keystroke operation. SureShot™ also records and recalls repetitive bounce shots just as easily.

Receive site coordinates are stored in nonvolatile memory and are used in conjunction with precise truck location data from the GPS module to calculate aiming information. SureShot™ then automatically controls the antenna's pan/tilt to quickly position the antenna toward the selected receive location.

Remote Control Upgrade

AzEP offers three levels of remote control in the truck. The simplest remote control option allows the station or headquarters to turn the vehicle's microwave transmitter on and off. News producers love this feature.

Level 2 remote control (see screen save in SureShot™ – Remote Control below) allows all major pieces of equipment needed for a live shot to be controlled from the station or headquarters.

Automatic Receive Site Control Upgrade

Along with the communications module upgrade, EVDO and/or a Kenwood radio, SureShot™ – Microwave can place a “call for service” to a target receive site equipped with SureShot™ – Receive (see below). The receive site antenna is then automatically oriented on a reciprocal heading to the transmitting field unit. No operator intervention is required.

Tracking Upgrade

As an option, SureShot™ can provide continuous antenna tracking capabilities to enable signal relay *to or from* any airborne platform. This feature is very useful when a ground vehicle cannot achieve a direct microwave shot because it is too far from a receive site or blocked by terrain. With SureShot™, a helicopter can then relay a signal back to the station or headquarters.

There are several SureShot™ variations available within this upgrade category. All configurations utilize internal communications modules and encrypted, compressed data transmission via Kenwood FleetSync radios in both the truck and aircraft. In addition, a communications module in the aircraft acquires and processes positioning data from onboard GPS gear. The Kenwood radios operate on the station or headquarters’s own communications radio frequency. All positioning signals are extremely short, periodic data bursts. The value of this communications scheme is that “steering” data is not embedded within the transmitted microwave signal. Consequently, SureShot™ can locate the orbiting aircraft with great speed and precision.

GPS Clock Output

SureShot™ displays GPS-accurate time on its LCD panel. But many situations require a large GPS-accurate digital clock in the vehicle too. This option equips SureShot™ with a standard output to control the clock. AzEP can also provide the digital clock, so the entire installation is plug-and-play.

SureShot IV™ – Receive **Model SSRCIV**

By adding the communications module to a specially designed SureShot™ and pairing it with the Kenwood radio, a receive site can be remotely controlled from the field, the station or headquarters.



In the simplest scenario, each site is equipped with a SureShot™ – Receive controller, EVDO and/or a Kenwood radio. Likewise, each truck is equipped with SureShot™ – Microwave, EVDO and/or a Kenwood radio. When the receive unit is in automatic mode, it responds automatically to positioning requests from the field. At the same time a truck operator is using SureShot™ – Microwave to position the transmit antenna, that SureShot™ unit notifies the receive site unit of a “request for service.” SureShot™ – Receive then orients the receive antenna precisely at the truck. In this basic configuration, frequency and antenna polarization are assumed to be fixed.

In manual mode, SureShot™ – Receive records but ignores field requests so that station or headquarters Central Receive can coordinate and initiate all positioning.

Continuous antenna tracking of aircraft is also available on SureShot™ – Receive.

SureShot™ – Remote Control

At the station or headquarters, a special SureShot™ Windows interface is used to remotely control the following Level 2 functions in the field vehicle:



- All antenna positioning, including manual and automatic receive site acquisition.
- Mast cam pan, tilt, zoom and focus.
- Full transmitter control, including power settings, channel and polarity.
- Switcher control.
- Audio level control.

Remote control of other functions is available. As discussed previously, there are two other levels of remote control available.

On the field end, a SureShot™ – Microwave unit equipped with a communications module and remote control module is used with the EVDO / Kenwood radio link. (Mast stow and unstow are not remotod for safety reasons.)

Each truck can be individually controlled from a common Windows interface screen (point and click). Each time a different truck is selected, full equipment status in that truck is updated on the display screen.