GPS Simulator Purpose During Astron Trade Shows

Seiko Watch Corporation, SWC, has developed a new technologically advanced watch, Astron, which has the capability of receiving GPS signals in order to identify the 39 different time zones. In order to do so, SWC has separated the world into 1 million squares that distinguishes the different time zones. By the push of a button, the watch is told to go out and grab as many satellite signals as it can. This process is done through a patented, low-energy-consumption GPS receiver that is located under the bezel of the watch. It needs a minimum of 4 signals in order to triangulate its location so it knows what time zone it resides in.

Seiko Corporation of America, SCA, is a direct subsidiary of SWC. SCA has purchased a GPS simulator, GSG-52. A complete description of the GSG-52 GPS Simulator is attached as a PDF. The purpose of having this machine is for Public Relation events. SCA would like to demonstrate to consumers and editors how the watch operates at indoor trade shows. Coordinates from a different time zone will be plugged into the simulator so it can transmit the signals through an antenna for watch to pick up. For example, if the watch is set to New York time, coordinates for Tokyo will be plugged in, then the GSG-52 will simulate and transmit those signals to the watch. The hands will then adjust automatically to the correct local time with Atomic Clock precision. This machine is essentially tricking the watch in believing that it is in a different part of the world. The GSG-52 will be strictly used for demonstrating the functionalities of the watch to the public.

Astron
Operating Instructions

Flight Mode (ON/OFF):

B: Press and release.
C: Press and hold for 3 seconds.

Daylight Saving Time: (On/OFF):

A: Press and release.
C: Press and hold for 3 seconds.

How to manually adjust the time zone:

C: Press and hold for 3 seconds.
Second hand will point to the current time zone.
B: Press to advance second hand clockwise.
Press and release button B repeatedly to move second hand to new city abbreviation or +/- UTC indication.
C: Press to advance second hand counter clockwise.
Press and release button C repeatedly to move second hand to new city abbreviation or +/- UTC indication.

How to receive (multiple) GPS signals to adjust the time and time zone.

B: Press and hold for 6 seconds

- After 3 seconds, the second hand will move and point to the 12:00 position. Keep button B depressed until the second hand points to the 6:00 position.
- Indicator hand will point to "+4" to indicate that Astron will attempt to acquire 4 or more satellites.

- Second hand will move and point to the hour markers to indicate the number of satellites that Astron is detecting. Before acquisition is complete, the second hand will move back and forth indicating the number of potential satellite signals. This process can take up to two minutes.
- If reception is successful, the second hand will move and point to the (Y) at the 12 second position.
- If the reception is unsuccessful the second hand will move and point to the (N) at the 18 second position.

How to receive (one) GPS signal to adjust the time:

B: Press and hold for 3 seconds

- After 3 seconds, the second hand will move and point to the 12:00 position.
- Indicator hand will point to "1" to indicate that Astron will acquire a signal from one satellite.
- If reception is successful, the second hand will point to the (Y) at the 12 second position.
- If the reception is unsuccessful the second hand will point to the (N) at the 18 second position.

How to check of the last reception attempt was successful:

B: Press and release

Indicator hand will move to:

- 1 = Time adjustment was attempted (one satellite).
- +4 = Time zone adjustment was attempted (4 or more satellites).

Second hand will point to (Y) or (N) to indicate if previous attempt was successful or not.

How to manually adjust the 24 hour / dual time sub dial:

Unscrew then pull crown out to the first position.

B: Press and release to advance minute hand one minute.

C: Press and release to reverse the minute hand one minute.

Press and hold either button to rapidly advance minute hand and 24 hour hand.

Note: The 24 hour sub dial operates independently from the main watch and is not adjusted when Astron acquires atomic clock data from the GPS satellites.

How to manually adjust the date:

Unscrew then pull crown out to the second position.

B: Press and release to advance date one day.

C: Press and release to reverse the date one day.

Press and hold either button to continuously advance or reverse the date.

Press the same button again to stop.