GARMIN.

WARNING: Navigation and terrain separation must NOT be predicated upon the use of the terrain function. The aera 795/796 Terrain Proximity feature is NOT intended to be used as a primary reference for terrain avoidance and does not relieve the pilot from the responsibility of being aware of surroundings during flight. The Terrain Proximity feature is only to be used as an aid for terrain avoidance and is not certified for use in applications requiring a certified terrain awareness system. Terrain data is obtained from third party sources. Garmin is not able to independently verify the accuracy of the terrain data.

WARNING: The displayed minimum safe altitudes (MSAs) are only advisory in nature and should not be relied upon as the sole source of obstacle and terrain avoidance information. Always refer to current aeronautical charts for appropriate minimum clearance altitudes.

WARNING: The altitude calculated by aera 795/796 GPS receivers is geometric height above Mean Sea Level and could vary significantly from the altitude displayed by pressure altimeters. Always use pressure altitude displayed by the aircraft altimeter when determining or selecting aircraft altitude.

WARNING: Do not use outdated database information. Databases used in the aera 795/796 system must be updated regularly in order to ensure that the information remains current. Pilots using any outdated database do so entirely at their own risk.

WARNING: Do not use data link weather information for maneuvering in, near, or around areas of hazardous weather. Information contained with in data link weather products may not accurately depict current weather conditions.

WARNING: Do not use the indicated data link weather product age to determine the age of the weather information shown by the datalink weather product. Due to time delays inherent in gathering and processing weather data for data link transmission, the weather information shown by the data link weather product may be significantly older than the indicated weather product age.

GARMIN.

4.2 TERRAIN

⚠️ **WARNING:** *Do not use Terrain information for primary terrain avoidance. Terrain information is intended only to enhance situational awareness.*

✔️ **NOTE:** *Terrain depicted in the Profile View is always "ahead" of the aircraft, and will change as ground track changes.*

The Terrain function displays altitudes of terrain and obstructions relative to the aircraft position and altitude with reference to a database that may contain inaccuracies. Terrain and obstructions are shown only if they are in the database. Terrain and obstacle information should be used as an aid to situational awareness. They should never be used to navigate or maneuver around terrain.

Note that all obstructions may not be available in the terrain and obstacle database. No terrain and obstacle information is shown without a valid 3-D GPS position.

The aera 795/796 GPS receiver provides the horizontal position and altitude of the aircraft. Aircraft GPS altitude is derived from satellite position. GPS altitude is then converted to a mean sea level (MSL)-based altitude (GPS-MSL altitude) and is used to determine terrain and obstacle proximity. GPS-MSL altitude accuracy is affected by satellite geometry, but is not subject to variations in pressure and temperature that normally affect pressure altitude sensors. GPS-MSL altitude does not require local altimeter settings to determine MSL altitude. It is a widely-used MSL altitude source.

Terrain and obstacle databases are referenced to MSL. Using the GPS position and altitude, the Terrain feature portrays a 2-D picture of the surrounding terrain and obstacles relative to the position and altitude of the aircraft. GPS position and GPS-MSL altitude are used to calculate and predict the aircraft's flight path in relation to the surrounding terrain and obstacles. In this way, the pilot can view predicted dangerous terrain and obstacle conditions.

Alert windows appear to inform the pilot of proximity to the terrain and obstacles, as well as an unsafe descent rate. These alerts depend on user-defined parameters in the Terrain Setup.

Overview

GPS Navigation

Flight Planning

Hazard Avoidance

Additional Features

Appendices

Index

116

TERRAIN INFORMATION

Two views are displayed by the Terrain function: the Map View, and the Profile View. The areas of the terrain shaded red are predicted to be within 100 feet below or above the aircraft. The yellow terrain areas are between the user-defined Caution Elevation and 100 feet below the aircraft. By default, the Caution Elevation is 1,000 feet; therefore, the areas in yellow are between 1,000 feet and 100 feet below the aircraft. The black areas are further than the Caution Elevation. A projected point of impact is marked with an "X" symbol.

OBSTACLE INFORMATION

Obstacles are shown on the Terrain Map View, at or below the map range of 12 nm. Obstacles are also shown on the Navigation Map when the map range is set to 5 nm or below.

Standard aeronautical chart symbols are used for lighted or unlighted obstacles taller than 200 feet Above Ground Level (AGL). Refer to the Obstacle Icons legend below.

When selecting an obstacle with the Map Pointer, each obstacle displays the altitude at the top of the obstacle, or Mean Sea Level (MSL). Each obstacle also lists the actual height of the obstacle, or Above Ground Level (AGL).

Unlighted Obstacle		Lighted Obstacle		Potential Impact Points	Obstacle Location
< 1000' AGL	> 1000' AGL	< 1000' AGL	> 1000' AGL		
					WARNING: Red obstacle is above or within 100' below current aircraft altitude
					CAUTION: Yellow obstacle is between 100' and 1000' below current aircraft altitude

Terrain Obstacle Colors and Symbology

GARMIN.

Overview

GPS Navigation

Flight Planning

Hazard Avoidance

Additional Features

Appendices

Index

TERRAIN AND OBSTACLE COLOR CODE

Red—terrain or obstacle is above or within 100 feet below the aircraft.

Yellow—terrain or obstacle is between the user-defined Caution Elevation and 100 feet below the aircraft.

Enabling/Disabling Terrain Shading on the Navigation Map:

1)   From the **Main Menu** touch the **Map** Icon.

2)   Touch the **Menu** Icon.

   a)   Touch the '**Show/Hide...**' menu option.

   b)   Touch the **Terrain** '**Show**/**Hide**' Button to toggle the terrain overlay on/off.

   Or:

   a)   Touch the '**Set Up Map**' menu option.

   b)   Touch the ◄ ► buttons until the '**Map**' Category is displayed.

   c)   Touch the **Terrain Shading** Field.

   d)   Touch the **On**/**Off** Button.

TERRAIN VIEWS

Two terrain views can be displayed: 'Map with Profile' or 'Map Only'.

Changing the terrain view:

1)   From the **Main Menu** touch the **Terrain** Icon.

2)   Touch the **Menu** Icon.

3)   Touch the '**Select Page Layout**' menu option. An option menu is displayed.

4)   Touch the desired menu option ('**Map with Profile**' or '**Map Only**').

Garmin aera 795/796 Pilot's Guide

190-01194-00 Rev. C

Potential Impact Point

Terrain Legend

Terrain Profile View

Red Terrain is above or within 100 ft below the aircraft.

Yellow Terrain is Between the User-defined Caution Elevation and 100 ft Below the Aircraft

Terrain Map

TERRAIN ALERTS & SETUP

Enabling/Disabling terrain alerts:

1) From the **Main Menu** touch the **Terrain** Icon.

2) Touch the **Menu** Icon.

3) Touch the '**Enable Alerts**' or '**Disable Alerts**' menu option.

Use the Terrain Setup Menu to set levels for terrain alerts as well as obstacles in or near your flight path.

- Caution Elevation—The aera 795/796 will provide an alert if the terrain or obstacle is within the default Caution Elevation or user-defined Caution Elevation.

Overview

GPS Navigation

Flight Planning

Hazard Avoidance

Additional Features

Appendices

Index

- Look Ahead Time—Determines the maximum time when an alert annunciation occurs. For example, if 120 seconds is selected, the aera 795/796 provides an alert up to 120 seconds before you reach the terrain or obstacle.

- Alert Sensitivity—The three Alert Sensitivity settings (Terrain, Obstacle, and Descent Rate) determine what level of alerts are annunciated. The aera 795/796 defaults to 'High' sensitivity, which annunciates all red and yellow alerts at the time set in Look Ahead Time. 'Medium' sensitivity annunciates all of the red and the highest priority of yellow alerts. 'Low' only annunciates red alerts. 'Off' disables the alert.

Setting the Caution Elevation:

1)   From the **Main Menu** touch the **Terrain** Icon.

2)   Touch the **Menu** Icon.

3)   Touch the '**Set Up Terrain**' menu option.

4)   Touch the 'Caution Elevation' Datafield Button and select the desired caution elevation from the list ('**500ft Below**', '**750ft Below**', and '**1000ft Below**').

Setting the Look Ahead Time:

1)   From the **Main Menu** touch the **Terrain** Icon.

2)   Touch the **Menu** Icon.

3)   Touch the '**Set Up Terrain**' menu option.

4)   Touch the 'Look Ahead Time' Datafield Button and select the desired Look Ahead Time from the list ('**60 Seconds**', '**90 Seconds**', and '**120 Seconds**').

Adjusting the Alert Sensitivity:

1)   From the **Main Menu** touch the **Terrain** Icon.

2)   Touch the **Menu** Icon.

3)   Touch the '**Set Up Terrain**' menu option.

4)   Touch the ◀ ▶ buttons to cycle through the list of available sensitivity settings (**Off**, **Low**, **Medium**, or **High**) for Terrain Alerts, Obstacle Alerts, and Descent Rate.

Terrain, Obstacle, and Descent Rate Alerts are issued when flight conditions meet parameters that are set within the software algorithms. Terrain alerts typically employ

120

Overview

GPS Navigation

Flight Planning

Hazard Avoidance

Additional Features

Appendices

Index

a CAUTION or a WARNING alert severity level, or both. When an alert is issued, visual annunciations are displayed and aural alerts are simultaneously issued. When the aircraft descends through 500 feet above the destination airport an audible "Five Hundred" altitude reminder occurs.

The Terrain Alert Annunciation is shown to the lower left corner of the screen. If the Terrain Map is not displayed, a pop-up alert appears. The Range Rings on the pop-up alert are spaced every whole mile/kilometer/nautical mile. Touch the Terrain Alert Annunciation to acknowledge the pop-up and/or aural alert.

AURAL ALERTS

- "Five Hundred"—when the aircraft descends through 500 feet above the destination airport.

The following aural terrain alerts are issued when flight conditions meet parameters that are set within the software algorithms, and are dependant on the sensitivity level set in the Terrain Setup Menu.

Alert	Terrain	Obstacle	Descent Rate
Caution	"caution, terrain" "caution, terrain ahead"	"caution, obstacle" "caution, obstacle ahead"	"caution, sink rate"
Warning	"terrain ahead! pull up!" "terrain! terrain! pull up! pull up!"	"obstacle ahead! pull up!" "obstacle! obstacle! pull up! pull up!"	"sink rate, pull up!" "pull up!"

Aural Alerts Summary

Adjusting terrain alert audio:

1) From the **Main Menu**, touch **Tools** > **Setup** > **Sound.**

2) Touch the **Terrain Audio On**/**Off** Button to toggle the terrain audio on/off, or touch the **Alerts** [icon] Icon to mute both Terrain and TIS-A alerts.

Or:

Touch the **Alerts** [icon] buttons to select an alert volume (0-10).