INSTRUCTION MANUAL

FOR THE

MODEL 2055
PORTABLE
ALTITUDE ALERT

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The model 2055 Altitude Alert is a portable, battery powered, pocket sized, altitude monitoring and alerting unit for general aviation pilots. The unit provides the pilot with both a visual and a voice alert for:

a) alerts the pilot when the aircraft approaches a preselected altitude during climb or descent.
b) alerts the pilot if the aircraft wanders more than 150 ft from an assigned altitude.
c) functions as a backup digital altimeter

The unit is completely portable, and does not connect to any aircraft system. It is powered by an easily replaceable standard 9 volt battery stored within the case. The unit is small sized and light weight. It can be mounted anywhere in the aircraft, on the panel, on the yoke, side panels etc. using velcro strips. It easily fits into most shirt pockets and flight bags. The unit incorporates a double row LCD display for easy daylight viewing of altitude and information. A display back light is provided for low light conditions .The unit is easy to operate. Three front mounted switches control all operating functions. Voice messages are heard through a built in speaker. An external audio output is provided for use with the aircraft audio system. The unit incorporates a battery saving auto shutoff feature. If the altitude remains unchanged for a 10 minute time period, the unit will shut off.

An external audio cable is available for playing the voice messages through the pilots headset and the aircraft audio system.
NOTE: The Altitude Alert is not designed for use in pressurized aircraft.

II. Operating Parameters

1. Size - 4 inch by 2 .5 inch by 1.375 inch high

2. Weight - 6 oz with battery

3. Operating range - 0 feet to 20,000 ft

4. Display - two row by 8 character LCD display with back light.

5. Altitude - displays altitude in 10 foot increments

6. Battery life - about 10 hrs of operation with new ni-cad battery. Life is dependent on use of back light.

7.Alarms - visual and voice alarms for the following:
a) alarms when within about 500 ft of a preselected altitude when climbing or descending
b) alarms when altitude changes 150 ft from a set value
c) alarms when the battery voltage is low

8. Auto shutoff - unit automatically shuts off if none of the switches are pushed, or the altitude it reads does not change more than 20 feet in a 10 min. period

9. External audio output - An audio jack is provided on the case for hooking the voice alerts directly into the pilots headset, or the aircraft intercom system. Connecter is compatible with a standard 2.5mm audio plug.

III. Battery Installation & use

The following are the steps for installing the battery

1. Make sure that the on/off switch is in the off position.

2. Slide the back cover of the instrument towards the top end by pushing on the grooves cut into the back of the case, and lifting the top end of the cover out of the detent.

3. Attach a new 9volt alkaline or nicad battery to the snap connecter.

4. Insert the battery and connecter into the bottom of the case, and close the back cover. Make cure that the cover is fully closed and the detent is engaged.

5. When the battery voltage decreases to a preselected value, the low battery alarm will operate. The display will flash the words “LOW BATTERY” continuously, and the voice message: “LOW BATTERY” will be heard. The voice message will sound only once, but the display will flash continuously

until the STEP switch is pushed at which time the unit will return to operation.

Note: A new Battery should provide about 10 hours of operation. Using the back light greatly shortens the battery life, as the back light

consumes about 10 times more power than the electronics.

IV. Operation Information

The Altitude Alert has 5 operating modes which can be selected by the switches. These modes are:

1. Setting the barometric pressure.

2. Setting the desired altitude for climb or descent.

3. Activating the climb or descent alert mode

4. Activating the maintain altitude mode.

5. Activating the backup altimeter.

Figure 1 of this manual shows the arrangement of the switches and controls in the unit.

V. On the Ground Operation

The following is a discussion of the use of the Altitude Alert on a typical flight. NOTE: When using the STEP switch to change the operating mode, push the switch and hold it until the words corresponding to the next mode appear on the LCD display, then release the switch. The microprocessor in the unit is very busy, and it may take a sec. or so for it to change operating modes. The display will change first, and then the unit will start functioning in the new mode after you release the STEP switch.

1. Turn the power switch on, after a few seconds, the display will show the words “BAR- PRESS” and “29.92".

2. Determine the local altimeter setting (barometric pressure). This can be obtained from the tower or AWOS if available.
You can also determine it by setting your aircraft altimeter to the field elevation and reading the pressure in the setting window.

3. Using the UP and DOWN switches, set the correct pressure on the display. Pushing either switch once and releasing it will increment the display one

value. Pushing and holding the switch will cause the display to advance rapidly.

4. Note: The Altitude Alert will only display altitudes greater than 0. If a barometric pressure is entered which causes the unit to calculate an altitude less than 0, the display will continuously flash “RESET BAR PRESS”. If this occurs, it will be necessary to go back and reenter a different value for the barometric pressure.

5. Once the correct barometric pressure has been set, push the STEP switch and hold it until the message “SET CLIMB” is displayed, then release the switch. When you know the altitude that you will be climbing or descending to, use the UP and DOWN switches to set this value in the display.

6. When ready to start your climb or descent, push the STEP switch and hold it until the message “CLIMB” appears on the display.

NOTE: It is suggested that this not be performed more than about 10 minutes prior to the aircraft taking off to prevent the auto shutoff from activating

VI. In Flight Operations

1. Once the aircraft has taken off, make sure the word “CLIMB” is on the display, if not, push the STEP switch until it is shown. In the “CLIMB” mode, the Altitude Alert will begin monitoring the aircraft altitude. The altitude that was set on the display will not change, it will serve as a reminder of the altitude that the aircraft is climbing or descending to. When the aircraft is about 500 ft away from the altitude which was set in the display, the unit will alert. The display will blink 5 times, and the voice message “APPROACHING ALTITUDE, APPROACHING ALTITUDE” will be heard once. The voice and the flashing display will stop by itself.

NOTE: The Altitude Alert does not hook to the aircraft static system, it senses the static pressure inside the aircraft. The pressure in the aircraft static system may be different from the pressure inside the aircraft, and this pressure may vary with airspeed etc. This difference in pressure will effect the altitude at which the climb alert activates, making it more or less that the specified 500 feet.

2. The aircraft will continue to climb or descend until it is at the assigned or desired altitude. At this time, push and hold the STEP switch until the word “MAINTAIN “ appears on the display. The system is now in the maintain mode, and will alert if the altitude changes by more that 150 feet up or down from the altitude selected when the maintain mode was activated.

NOTE: The Altitude Alert calculates the altitude at the time the STEP switch is pushed, and uses this as the reference for determining the 150 foot variation. This calculated reference may or may not be the altitude that is shown on the display. Do not push the STEP switch to put the unit into the MAINTAIN mode until you are at the precise altitude that you wish to monitor as the reference.

3. If the aircraft wanders more than 150 ft from the reference altitude that was calculated when the unit was placed in the "MAINTAIN" mode, the alert will activate. The display will flash 5 times, and the voice message "CHECK ALTITUDE, CHECK ALTITUDE" will be heard. The message will sound only once. If the aircraft continues to climb or decent, the alert will not sound again. However, if the aircraft is brought back to within 150 ft of the reference altitude, the unit will automatically reset, and the display and the voice alert will alarm the next time the aircraft wanders from the reference altitude being maintained.

4. Pushing and holding the STEP switch again, will change the operating mode back to the "BAR- PRESSURE" mode.

5. Pushing and holding both the UP and the DOWN switches together until the word "ALTIMETER" appears, will place the unit into the altimeter mode. The unit can also be placed in the "ALTIMETER"mode from any of the operating modes by pushing both switches simultaneously.

6. When in the altimeter mode, pushing and holding the STEP switch will place the unit back into the "BAR PRESSURE" mode, and from there the STEP switch allows you to access any of the other modes.

NOTE: The Altimeter is a backup unit only, it is not intended to provide primary information for flight. There will be differences in readings between the altimeter installed in the aircraft, and the Altitude Alert due to the different static pressure sources. The altitude determined by the existing aircraft altimeter should be used at all times for flight.

VII. Making Changes

The following describes how to make changes to the display when in flight.

A. Starting a climb (or a decent) while in the "MAINTAIN" mode.

1. If you wish to start a climb or a decent from an existing altitude, push and hold either the UP or the DOWN switch until the words "SET CLIMB" appear on the display.

2. Release the switch, and then push either the UP or the DOWN switch to set the new altitude you are climbing or descending to in the display.

3. Push and hold the STEP switch until the word "CLIMB" appears on the display. The unit is now in the climb mode, and will alert as you approach the new altitude shown on the display.

4. Pushing and holding the STEP switch once the aircraft is level at the new altitude will place the unit in the "MAINTAIN" mode.

B. Setting a new maintain altitude.

The following describes the procedure for setting a new reference altitude in the “MAINTAIN” mode.

1. Setting a new maintain altitude can be done in 2 different ways, either a) or b) as follows:
a) Push and hold either the UP or the DOWN switch until the words “SET CLIMB” appear on the display. You can enter a new altitude to be shown on the display by using the UP and DOWN switches if desired. Then push and hold the STEPswitch again until the word “CLIMB” appears on the display. Once the aircraft is level at the new altitude you wish to maintain, push and hold the STEP switch again until the word “MAINTAIN” appears on the display.

b) Push and hold the STEP switch until the words “BAR PRES” appear on the display, then release it. Push and hold the STEP switch until the words “SET CLIMB” appear on the display, then release it. You can enter a new altitude to be shown on the display by using the UP and DOWN switches if desired. Push and hold the STEP switch until the word “CLIMB” appears on the display, then release it. When the aircraft is at the desired altitude, push and hold the STEP switch until the word “MAINTAIN” appears.

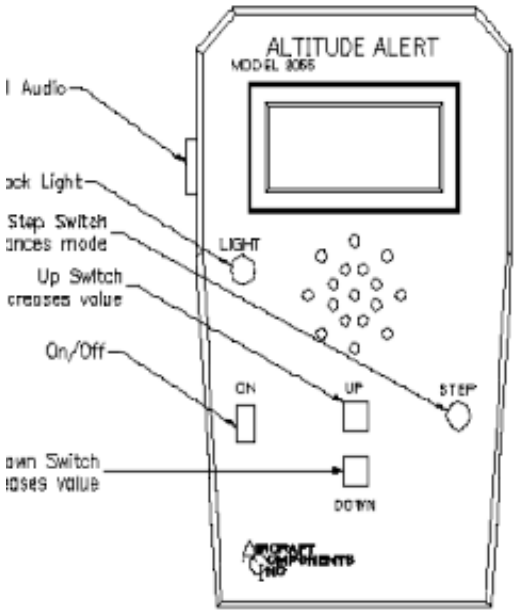
NOTE: If the altitude shown on the display is within 500 ft of the actual aircraft altitude, the CLIMB alert may sound as the display cycles through the CLIMB mode.

VIII. Auto Shutoff

The Altitude Alert incorporates an auto shutoff feature that prevents a dead battery in the event the pilot forgets to turn the unit off. If none of the switches are pushed for a 10 min. period, or the unit does not calculate a change in altitude for 10 minuets, the auto shutdown will turn it off. When in the shut down mode, the battery current is greatly reduced, however it is not zero and the auto shut off should not be used in place of the on/off switch. To reactivate the unit, turn the on/off switch to the off position, and then to the on position.

IX. WARRANTY

Aircraft Components inc. warranties this product to be free of defects in materials and workmanship for a period of (1) year from date of purchase. Aircraft Components inc. will at its option replace or recondition to new status any component which fails during the warranty period. Defective units are to be shipped prepaid to the factory for our evaluation. The conclusions of Aircraft Components inc. shall prevail in all cases. Aircraft Components shall not be responsible for loss of use or consequential damages from the use of this product. This warranty shall be the sole warranty, no other warranty is expressed or implied.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UP
STEP
DOWN

Figure 1