

# PBS600

## Digital Passenger Briefing System

### User Manual

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## INTRODUCTION

### 1. Scope

- A. This User Manual contains the general product overview, operational descriptions, user interface features, and user instructions for the PBS600 Passenger Briefing System.
- B. The PBS600 Passenger Briefing System, hereinafter referred to as the PBS600, is manufactured by Heads Up Technologies.

### 2. Product Support Services

- A. Technical Support, Component Maintenance Manuals and Installation Manuals for the PBS600 are available from Heads Up Technologies.

Heads Up Technologies, Inc.  
2033 Chennault, Suite 100  
Carrollton, TX 75006-5097  
Telephone: 972.980-4890  
FAX: 972.980-4843  
<http://www.heads-up.com>

### 3. Usage Guide

- A. This User Manual is written to Air Transportation Association (ATA) Specification 100 requirements. Refer to the Table of Contents (TOC) to find the necessary operational features, instruction, or other data. Descriptions of the User Manual Section content is outlined below:
  - (1) INTRODUCTION A general introduction to the PBS600. Subjects covered are: Scope, Product Support Services, Usage Guide, Advisories, Revision Service and Abbreviations.
  - (2) OVERVIEW This section provides a brief description of the PBS600 and the general purpose and application for the system. Installation information, basic features, use benefits, custom applications, and control button/display features are also provided.
  - (3) PBS600 OPERATION The operation section describes operator control functions required to address the functional features of the system.
  - (4) OPTIONS This section covers the language options, automatic messaging capabilities, background music options, and in-aircraft reprogramming capabilities.
  - (5) NOTES This page is provided for recording manual holder's records, application notes, and system-related information.

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#### B. WARNINGS - CAUTIONS- NOTES

- (1) **WARNINGS** are provided before potentially dangerous procedures, materials, methods, and processes, which must be followed precisely to avoid injury.
- (2) **CAUTIONS** are provided before procedures, materials, methods, and processes, which must be followed precisely to avoid equipment damage.
- (3) **NOTES** are provided after applicable procedural steps, when necessary, to highlight or clarify information.

#### C. DEFINITIONS

The following definitions are applicable to the programming of the PBS600 system:

- (1) MESSAGE A collection of sentences and paragraphs forming a single announcement.
- (2) MESSAGE GROUP A collection of related messages.
- (3) SCRIPT A collection of related message groups.

## 4. Advisories

**CAUTION:** TURN OFF POWER BEFORE DISCONNECTING ANY COMPONENT FROM INTERCONNECTING WIRING. DISCONNECTING THE COMPONENT WITHOUT TURNING POWER OFF MAY CAUSE VOLTAGE TRANSIENTS THAT CAN DAMAGE THE COMPONENT.



**CAUTION:** ESD DEVICES ARE SUBJECT TO DAMAGE BY EXCESSIVE LEVELS OF VOLTAGE AND/OR CURRENT, JUST AS ARE MORE CONVENTIONAL SEMICONDUCTOR DEVICES. HOWEVER, THE PRECAUTIONS NORMALLY USED TO PROTECT SEMICONDUCTORS ARE NOT SUFFICIENT FOR THE PROTECTION OF ESD DEVICES BECAUSE OF THEIR VERY HIGH ELECTRICAL RESISTANCE. THE LOW-ENERGY SOURCE THAT MOST COMMONLY DESTROYS ESD DEVICES IS THE HUMAN BODY WHICH, IN CONJUNCTION WITH NONCONDUCTIVE GARMENTS AND FLOOR COVERINGS, GENERATES AND RETAINS STATIC ELECTRICITY. IN ORDER TO ADEQUATELY PROTECT ESD DEVICES, THE DEVICE AND EVERYTHING THAT CONTACTS IT MUST BE BROUGHT TO GROUND POTENTIAL BY PROVIDING A CONDUCTIVE SURFACE AND DISCHARGE PATHS. THE FOLLOWING PRECAUTIONS MUST BE FOLLOWED:

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- A. DE-ENERGIZE OR DISCONNECT ALL POWER AND SIGNAL SOURCES AND LOADS.
- B. PLACE THE COMPONENT ON GROUNDED CONDUCTIVE SURFACE.
- C. GROUND THE INSTALLATION OPERATOR THROUGH A CONDUCTIVE WRIST STRAP OR OTHER DEVICE USING A 470-KILOHM OR 1-MEGOHM SERIES RESISTOR TO PROTECT THE OPERATOR.
- D. DO NOT HANDLE ESD DEVICES UNNECESSARILY OR REMOVE THEM FROM THEIR PACKAGES UNTIL ACTUALLY USED OR TESTED.
- E. TO PREVENT DAMAGE BY TRANSIENT VOLTAGES, ONLY SOLDERING IRONS HAVING ZERO VOLTAGE AT THE TIP SHOULD BE USED.

## 5. Revision Service

- A. Revised pages will be issued when necessary to correct errors or to add new configurations.
- B. The revised part of the page will be identified by a change bar or capital R in the left margin adjacent to the changed area.

## 6. Abbreviations

- A. When applicable, the following abbreviations, acronyms, and symbols are used. Additional abbreviations, acronyms, and symbols may be defined within the manual contents. Standard electronic terms and circuit signal names are not listed.

ESD	Electrostatic Discharge
FAA	Federal Aviation Administration
ATA	Air Transportation Association
EAR	Export Administration Regulation
ITAR	International Traffic in Arms Regulation
LCD	Liquid Crystal Display
PCMCIA	Personal Computer Memory Card International Association
TOC	Table of Contents

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## OVERVIEW AND FEATURES

### 1. Overview

- A. The PBS600 illustrated in Figure 1., is a computer controlled digital voice multi-language single-channel passenger briefing system which is designed for use in business aviation, regional airline, or major carrier operations. The system provides digital studio quality passenger briefings without moving parts.
- B. The PBS600 may be installed in either a flush mount or surface mount configuration in aircraft cabin bulkheads. It is designed to be operated by flight attendants and can be configured to provide automatic passenger safety briefings in conjunction with cockpit activated Fasten Seat Belt and No Smoking sign illuminations.
- C. The PBS600 provides a convenient and consistent method of informing passengers of important messages, and delivering music between announcements. Included are messages required by the Federal Aviation Administration (FAA) such as:

- Takeoff
- Landing
- Overwater

Additionally, since custom messages are possible, the passengers can be instructed about other events or aircraft features such as:

- Turbulence
- Fasten Seatbelt/No Smoking Signs
- Cabin Convenience
- Sightseeing Tour Information

- D. The PBS600 benefits the crew by reducing the workload, while at the same time, fulfilling all of the FAA requirements concerning passenger briefings. The PBS600 can provide messages in up to sixty-three (63) languages. Well-written scripts along with professional voices and studio-quality recording processes can increase the efficiency and professionalism of the flight.
- E. Scripts, which are approved by the customer, provide for custom message groupings, which have arbitrary numbers of messages or music items for every application. Messages and music are automatically "cued" for playing at the appropriate time.

### 2. Features

- A. In principle, the PBS600 utilizes digital audio similar to a compact disc player, except that the information is stored on memory cartridges, rather than on a spinning disk. The high quality passenger-briefing message is produced in a recording studio using the latest state-of-the-art digital techniques and professional announcers. Since the PBS600 does not use cassettes or continuous-loop magnetic tapes, it can provide the following features:
- High Quality Sound, Even After Years Of Use
  - No Tapes

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- No Tape Heads to Clean
  - Instantly Start and Stop Messages
  - Easy Installation
  - Can Be Interfaced With Other Aircraft Systems
  - Can Give Passenger Briefings Automatically
- B. The rugged high quality, solid state PBS600 Passenger Briefing System offers the following benefits over human or tape based passenger briefings:
- Reduced Crew Work Load During the Busiest Times of a Flight
  - Accurate and Consistent Safety Briefings Every Flight
  - Clear and Correct Foreign Language Briefings
- C. The PBS600 control keypad is used for selecting the desired languages according to the passenger manifest and for the selection the desired individual messages from the message groups. As the flight attendants press the play button, a selected narrative begins. After completion, the next message in that group is automatically cued and may be activated by re-pressing the play button.
- D. The PBS600 was designed to automatically announce messages in up to four (4) different selected languages. The messages are played in each of the languages in the order in which they were selected.
- Note: A maximum of sixty-three (63) different languages may be installed. However, only four (4) can be activated and "cued" for playing at one time.
- E. A Pentium type computer is used to create the script in all of the required languages. The script is transferred from the Pentium hard disk to a Personal Computer Memory Card International Association (PCMCIA) data storage card. The data card is then inserted into the PBS600 where the computer copies the information into the system internal memory. The PCMCIA is then removed from the PBS600. The computer converts this digital information into audio signals for subsequent amplification by the audio amplifier. The amplified audio signal is then routed to speakers in the passenger cabin.
- F. The Passenger Briefing System was designed to allow adding new messages, music, and languages without removing the unit from the aircraft. If you desire to change the message/music/language script in your PBS600, please contact our Customer Service Representative at:

Heads Up Technologies, Inc.  
2033 Chennault, Suite 100  
Carrollton, TX 75006-5097  
Telephone: 972.980-4890  
Fax: 972.980-4843  
Email: [aviationsupport@heads-up.com](mailto:aviationsupport@heads-up.com)  
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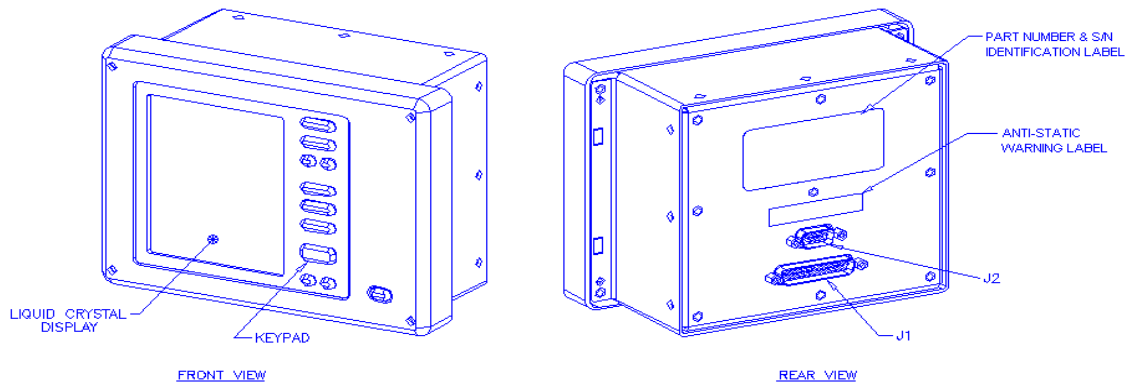


Figure 1. PBS600 Passenger Briefing System

### 3. Control Face Layout

The layout of the PBS600 control face is illustrated in Figure 2.

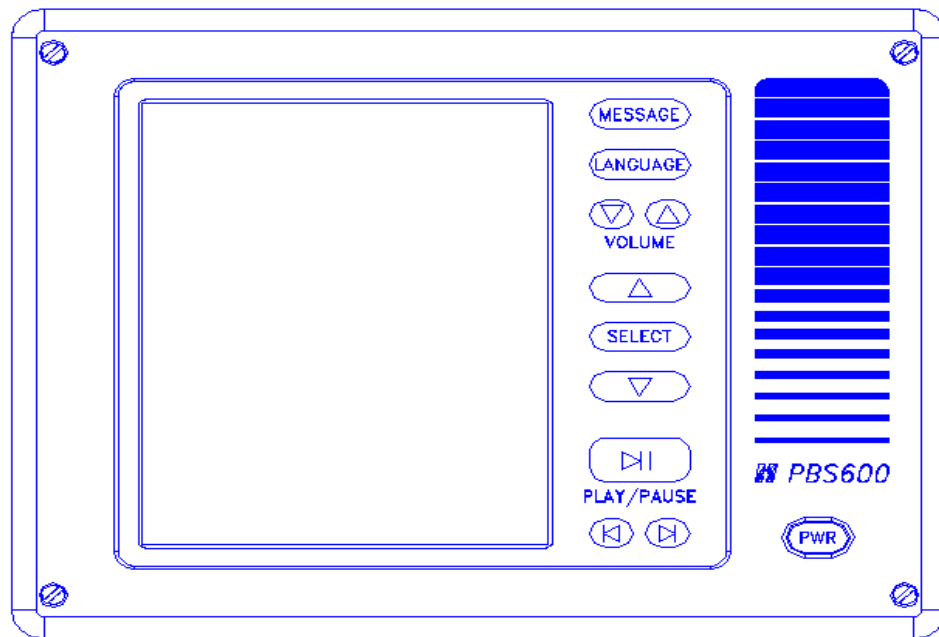


Figure 2. Illustration of PBS600 Control Face

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#### 4. Control Button And Display Functions

The PBS600 uses a button type keypad to power-up the system, control volume of the audio output, to make selections from the Liquid Crystal Display (LCD) menus, and to select/activate passenger briefing messages or music items.

The LCD display is used to present information to the user. This information includes the titles of message groups, selected languages, status of current message, next "cued" message, and a volume level indicator. The LCD display is backlit for operation in low ambient light conditions.

The control buttons are: Power, Message, Language, Volume Up and Down Arrows, Select, Select Up and Down Arrows, Play/Pause, Next and Back Arrows. All control buttons are backlit to provide visual identification in low ambient light conditions. The function of each is described in detail below:

##### A. POWER

The button labeled PWR is a momentary action switch. Pressing and releasing the PWR switch turns the PBS600 on; pressing and releasing the PWR switch again turns the PBS600 off.

##### B. MESSAGE

Pressing the MESSAGE button returns the user to the main (Message Group) menu for selecting messages or music to play.

##### C. LANGUAGE

Pressing the LANGUAGE button allows the user to access the "language selection" menu in order to select whatever languages are required to play. To exit the "language selection" menu, the user must press the MESSAGE button.

##### D. UP/DOWN VOLUME ARROWS

Pressing the UP or DOWN VOLUME ARROW buttons causes the PBS600 volume to increase or decrease. A symbol in the lower right-hand corner of the display indicates the volume level setting. **NOTE:** The volume level can only be changed when a briefing or music is actually playing.

##### E. SELECT

While in the "Message Group" menu, pressing the SELECT button activates the highlighted Message Group. While in the "language selection" menu, pressing the SELECT button activates or deactivates the highlighted language.

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#### F. UP/DOWN SELECT ARROWS

Pressing the UP or DOWN SELECT ARROW buttons scrolls the selection “arrow” on the LCD up and down the menu that is currently active (Message Groups or language selection). While scrolling between Message Groups or languages, the selection “arrow” on the LCD will be “open”. When a selection is made in the Message Group menu, the selection “arrow” will become “solid” and the first briefing in that group will be cued up. When a selection is made in the language selection menu, the selected language will appear in the middle portion of the LCD display to indicate it has been activated.

#### G. PLAY/PAUSE

Pressing the PLAY/PAUSE button causes the PBS600 to play the selected message shown at the bottom of the LCD screen. Pressing the PLAY/PAUSE button while a message is playing causes the message to pause. Pressing it again causes the interrupted message to resume. (The message will restart at the beginning of the interrupted sentence.)

#### H. BACK and NEXT ARROWS

The BACK and NEXT ARROWS directly below the PLAY/PAUSE button are used to quickly skip forward or backward through the available messages within a Message Group.

These keys can also be used to assist in selecting languages if the language list is very long. These keys will allow the user to move up or down the list, 5 languages at a time, with just one press of the key.

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#### PBS600 OPERATION

Operating the PBS600 requires the selection of operational features by keypad input. Current briefing status and selection options are presented on the LCD display. The following steps are required to operate the system:

#### 1. Power Up

ACTION	RESULT
1. Press PWR button	Unit will go through a “boot-up” process, after which the Message Group menu will appear in the LCD display.  <b>NOTE: DO NOT</b> press any other keys during the “boot-up” process.  After a unit “self-test” completes, a darkened arrow will appear in the display adjacent to the first Message Group or the last Message Group that was played prior to powering down the unit.  <b>NOTE:</b> The “self-test” can be terminated before completion by pressing the SELECT button.  In “low” ambient light conditions, backlighting of the keypad and display will be visible.

#### 2. Select Languages

ACTION	RESULT
1. Press LANGUAGE button	Displays “language selection” menu.
2. Press UP or DOWN SELECT ARROW button	Scrolls selection arrow through the language list 1 language at a time.
Press NEXT or BACK ARROW button	Scrolls selection arrow through the language list 5 languages at a time
3. Press SELECT button	The “highlighted” language is selected (activated) and appears in the middle of the LCD display below the language list.  <b>Note:</b> Up to sixty three (63) languages may be listed in the menu, however, only four (4) of these languages may be selected at one time. The customer-approved script controls available languages.

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#### 3. De-Select Languages

ACTION	RESULT
1. Use the UP/DOWN SELECT ARROW buttons to scroll to "selected" language	Scrolls selection arrow through the language list.  <b>NOTE:</b> This feature is only necessary if user is in the "language selection" menu selecting languages to be played.
2. Press SELECT button	The language will be de-selected and removed from the active language list in the middle of the LCD display.  <b>NOTE:</b> Exiting (pressing the MESSAGE button) and re-entering the "language selection" menu will de-select ALL of the selected languages. The user can then re-select desired languages.

#### 4. Select Message Groups

ACTION	RESULT
1. Press MESSAGE button	Display will show Message Group menu.
2. Press UP or DOWN SELECT ARROW buttons	Scrolls selection arrow through the Message Group list on the LCD display.
3. Press SELECT button	The highlighted Message Group is selected and a darkened arrow appears on LCD display adjacent to the activated selection.
4. Repeat steps 1 through 3	Select different Message Group.
<b>Note:</b> Briefing Message Groups might contain numerous sub-level briefing messages. The number of messages within the group will depend on the number specified in the customer-approved script.	

#### 5. Play Messages

ACTION	RESULT
1. Press PLAY/PAUSE button	The selected message shown at the bottom of display will be played.  After the message or music has been played, the next message in the selected group will be displayed, along with the word "CUED", at bottom of the display.

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When the last message within the selected Message Group has played, the word "PLAYED" will be displayed at the bottom of the screen. To continue, the user must return to the Message Group menu and select another group.

---

#### 6. Pause Message In Progress - Using Keypad

ACTION	RESULT
1. Press PLAY/PAUSE button	Unit stops playing message.
2. Press PLAY/PAUSE button again	The PBS600 continues the message from the beginning of the sentence at which it was interrupted.

---

#### 7. Pause Message In Progress - Using Microphone Key

ACTION	RESULT
1. Press Pilot or Co-Pilot Microphone Key	Unit stops playing message.
<b>Note:</b> When the key is released, the message will resume playing. The message will be re-started at the beginning of the sentence in which it was interrupted.	

---

#### 8. Skip Messages

ACTION	RESULT
1. Press the PLAY/PAUSE button (if unit is playing)	Unit stops playing message (pauses).
2. Press the NEXT button (right arrow button)	The unit advances to the next message within the currently selected Message Group.
3. Press the PLAY/PAUSE button	The new selected message is played.

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#### 9. Adjusting Audio Volume

ACTION	RESULT
1. While message or music is playing, press the VOLUME UP or VOLUME DOWN ARROW buttons.	Audio volume adjusts up or down and display volume indicator symbol changes in height accordingly.

#### 10. Power Down

ACTION	RESULT
1. Press PWR button	Unit powers down, the display goes blank, and the backlighting extinguishes. The unit will save currently selected languages, the Message Group, and volume settings in memory.  <b>Note:</b> The system will restore those settings when the unit is powered back up again.

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#### OPTIONS

#### 1. Automatic Messaging (Triggers)

The PBS600 can be configured to play up to 5 pre-programmed safety and informational messages in conjunction with Pilot or Co-Pilot actions, such as illuminating a "Fasten Seat Belt" or "No Smoking" cabin warning light. As these informational and/or safety signs are illuminated, the PBS600 can play a message. The automatic messaging option is determined during the installation of the unit and development of the script.

#### 2. Music

The PBS600 can provide up to (7) hours of pre-recorded music, depending on the memory configuration of the unit and how it is programmed. Music can be manually selected from the Message Group menu by using the front panel keypad and/or music can be programmed to play automatically after a selected briefing is done playing.

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#### FIELD PROGRAMMING PROCEDURES

1. Power off PBS600
2. Remove front cover (4 screws on bezel cover)
3. Insert programming flash card into reprogramming slot. Be sure the flashcard has proper orientation before inserting. Do not force. Use only approved flashcards (SanDisk or Silicon Technologies)
4. Depress the “volume down” key and power on the unit simultaneously. Keep the “volume down” key depressed until display reads “release”.

**NOTE: Do NOT interrupt power supply during reprogramming process. If power is interrupted during loading process data transfer will discontinue, however unit will appear to have completed transfer process when power is restored.**

5. Once the reprogramming sequence has initiated, “Upload ATA” will appear on screen. Unit otherwise appears dormant during programming process. Reprogramming is complete when unit reboots and screen displays normal “function” menu. Transfer time of data is approximately 1 minute for 10MB of data.
6. Power off PBS600 and remove reprogramming flashcard.
7. Carefully align cover and secure with 4 screws.
8. Reset volume levels. All levels will be at minimum level.

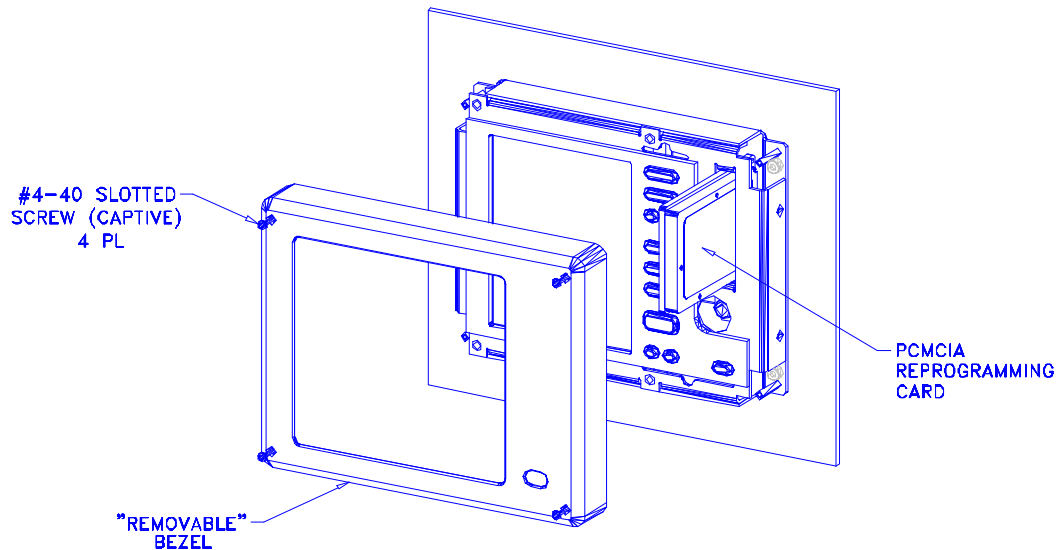


Figure 3. Reprogramming Illustration

Questions? Call Heads Up Technologies Customer Service at:

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Fax: 972-980-4843

e-mail: [service@heads-up.com](mailto:service@heads-up.com)

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