



AIRCRAFT MAINTENANCE MANUAL

PRA SYSTEM - MAINTENANCE PRACTICES

EFFECTIVITY: ALL

1. General

- A. This section gives the procedures to download the audio messages into the Prerecorded Announcement (PRA) remote computer.
- B. The procedures in this section are given in the sequence below. The tasks identified with (♦) are part of the Scheduled Maintenance Requirements Document (SMRD).

TASK NUMBER	DESCRIPTION	EFFECTIVITY
23-34-00-470-801-A	PRA COMPUTER - PROGRAMMING	AIRCRAFT WITH PRA SYSTEM



EMB145 - EMB135

AIRCRAFT
MAINTENANCE MANUAL

TASK 23-34-00-470-801-A

EFFECTIVITY: AIRCRAFT WITH PRA SYSTEM

2. PRA COMPUTER - PROGRAMMING

A. General

- (1) This task gives the procedures to download the audio messages into the Prerecorded Announcement (PRA) remote computer.

B. References

REFERENCE	DESIGNATION
AMM TASK 20-40-01-860-801-A/200	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE
AMM TASK 23-34-00-700-801-A/500	PRA SYSTEM - OPERATIONAL TEST

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
232		FWD galley

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Laptop computer	To run the software	
Commercially available	Parallel Communication Cable with 25-pin male connector at one end and a female connector at the other end.	To connect the laptop computer to the PRA programming port (PBS-400)	
Commercially available	USB Cable (USB A to USB B) no longer than 6 feet	To connect the laptop computer to the PRA programming port (PBS-400)	
Supplied by the manufacturer	Installation program	To download the audio messages into the PRA remote computer	
GSE 584	Converter, USB to DB25	To connect the laptop computer to the PRA programming port (PBS-400)	

E. Auxiliary Items

Not Applicable

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Passenger cabin



I. Preparation

SUBTASK 841-002-A

- (1) Energize the aircraft with the external DC power supply ([AMM TASK 20-40-01-860-801-A/200](#)).
- (2) On the circuit breakers panel, make sure that these circuit breakers are closed:
 - PRA (Location Tip: SHED BUS 1/SERVICE/PRA)
 - PA (Location Tip: ESSENTIAL DC BUS 2/COMM/PA)

J. Programming Procedures ([Figure 201](#))

SUBTASK 020-002-A

EFFECTIVITY: AIRCRAFT WITH PRA SYSTEM MODEL PBS400

NOTE: The software for data loading is supplied by Heads Up Technologies with the script for loading.

- (1) If applicable, open the access door that gives access to the PBS-400.
- (2) Make sure that the PBS-400 is off. If necessary, push the PWR button (6) to turn it off.
- (3) For notebooks with Windows 98 operating system:
 - (a) Connect the programming port (1) and laptop (5) with 25-pin parallel communication cable (2).
 - (b) Do the installation of the data loading software as follows:
 - 1 Turn laptop (5) on.
 - 2 Make sure that the minimum free space in the laptop (5) hard disk is two times the size of the data in the diskettes or CD.
 - 3 Create a folder named HEADSUP.
 - 4 Copy the software files into the HEADSUP folder.
 - (c) Do the data loading as follows:
 - 1 On the PBS-400 control head, push the DOWN (8) and PWR (6) buttons at the same time. Keep the DOWN button pushed.
 - The message DIAGNOSTICS comes into view on the display (7).
 - 2 After the message DIAGNOSTICS comes into view on the display (7), release the DOWN button (8).
 - 3 Set laptop (5) to the DOS mode
 - 4 Go to the HEADSUP folder.
 - 5 Type HEADSUP and push the ENTER key.
 - The data-loading sequence starts.

- When the data-loading sequence is complete, the PBS-400 remote computer will reset and go into the auto-test mode.

- 6 Turn laptop (5) off.
- 7 Disconnect the 25-pin parallel communication cable (2) from the programming port (1) and laptop (5).

(4) For notebooks with Windows 2000/XP operating system or later:

- (a) With the 25-pin parallel communication cable (2), connect the programming port (1) and Converter, USB to DB25 (GSE 584) (3).
- (b) With the USB Cable (USB A to USB B) (4), connect Converter, USB to DB25 (GSE 584) (3) and laptop (5).
- (c) Do the installation of the data-loading software as follows:

- 1 Turn laptop (5) on.

NOTE: When you connect the USB cable to your computer it can ask you to install a driver. The drivers are located on the CD, in the folder labeled "Driver".

- 2 Do the steps that follow:

- a Use the media or get access to the folder that has the files for the dataloading software procedure, located on your desktop.
- b Click on "EzHut-All-Install".
- c Click on "Extract".
- d Click on "OK".
- e Click on "Done".
 - The icons "EzHut" and "Uninstall EzHut" show on your desktop.

(d) Do the data loading as follows:

- 1 Click on "EzHut" icon on your desktop.
- 2 Click "Next" and do the instructions shown on the screen.
- 3 On the taskbar, do the sequence that follows to find the assigned COM port.
 - a Start
 - b Control Panel
 - c System
 - d Hardware
 - e Device Manager

f Ports

- The port is labeled "USB Serial port (Com X)".

4 Select the appropriate COM port in "EzHut".

- Follow the instructions shown on the screen.

5 When ready to program the unit, click "Next".

- When the data-loading sequence is complete, the PBS-400 remote computer will reset and go into the auto-test mode.

6 Turn laptop (5) off.

7 Disconnect the USB Cable (USB A to USB B) (4) from laptop (5) and Converter, USB to DB25 (GSE 584) (3).

8 Disconnect the 25-pin parallel communication cable (2) from Converter, USB to DB25 (GSE 584) (3) and from the programming port (1).

(5) Do the PRA System operational test (TASK 23-34-00-700-801-A).

(6) If applicable, close the access door.

K. Programming Procedures ([Figure 202](#))

SUBTASK 020-003-A

EFFECTIVITY: AIRCRAFT WITH PRA SYSTEM MODEL PBS600

NOTE: The script for data loading is supplied by the Heads Up Technologies (PRA manufacturer).

(1) If applicable, open the access door that gives access to the PBS-600.

(2) Make sure that the PBS-600 control face is turned off. If necessary, push the PWR button (2) to turn it off.

(3) Loosen the Dzus fasteners (4) that attach the front cover (3) and remove it.

(4) To load/update data into the PBS-600 control face, do as follows:

CAUTION: MAKE SURE THAT THE PCMCIA CARD HAS THE CORRECT ORIENTATION BEFORE YOU INSERT IT INTO THE EQUIPMENT PROGRAMMING SLOT. DO NOT APPLY MUCH FORCE, OTHERWISE DAMAGE TO THE PCMCIA CARD AND EQUIPMENT CAN OCCUR.

(a) Put the PCMCIA CARD into the programming slot (1).

(b) Push the volume-down (5) and PWR (2) buttons at the same time to turn the PBS-600 control face on. Keep the volume-down button pushed.

Result:

1 The PBS-600 control face turns on.

2 The message "RELEASE" comes into view on the display.

(c) After the message "RELEASE" comes into view on the display, release the volume-down button (5).

Result:

- 1 The data loading sequence starts and the message UPLOAD DATA comes into view on the display.
- 2 The unit becomes apparently inactive during the data loading sequence.
- 3 When data loading is complete, the unit reboots and becomes operational.

NOTE: • Do not stop the data loading sequence. The unit will not inform that the sequence was not completed after the subsequent power up process.

- The data transfer rate is of approximately 10 MB/min.

- (d) Push the PWR button (2).

Result:

- 1 The unit turns off.

- (e) Remove the PCMCIA CARD from the programming slot (1).

- (5) Put the front cover (3) on the PBS-600 control face and tighten the Dzus fasteners (4) to attach it.

- (6) Do the PRA System operational test ([AMM TASK 23-34-00-700-801-A/500](#)).

- (7) If applicable, close the access door.

L. Follow-on

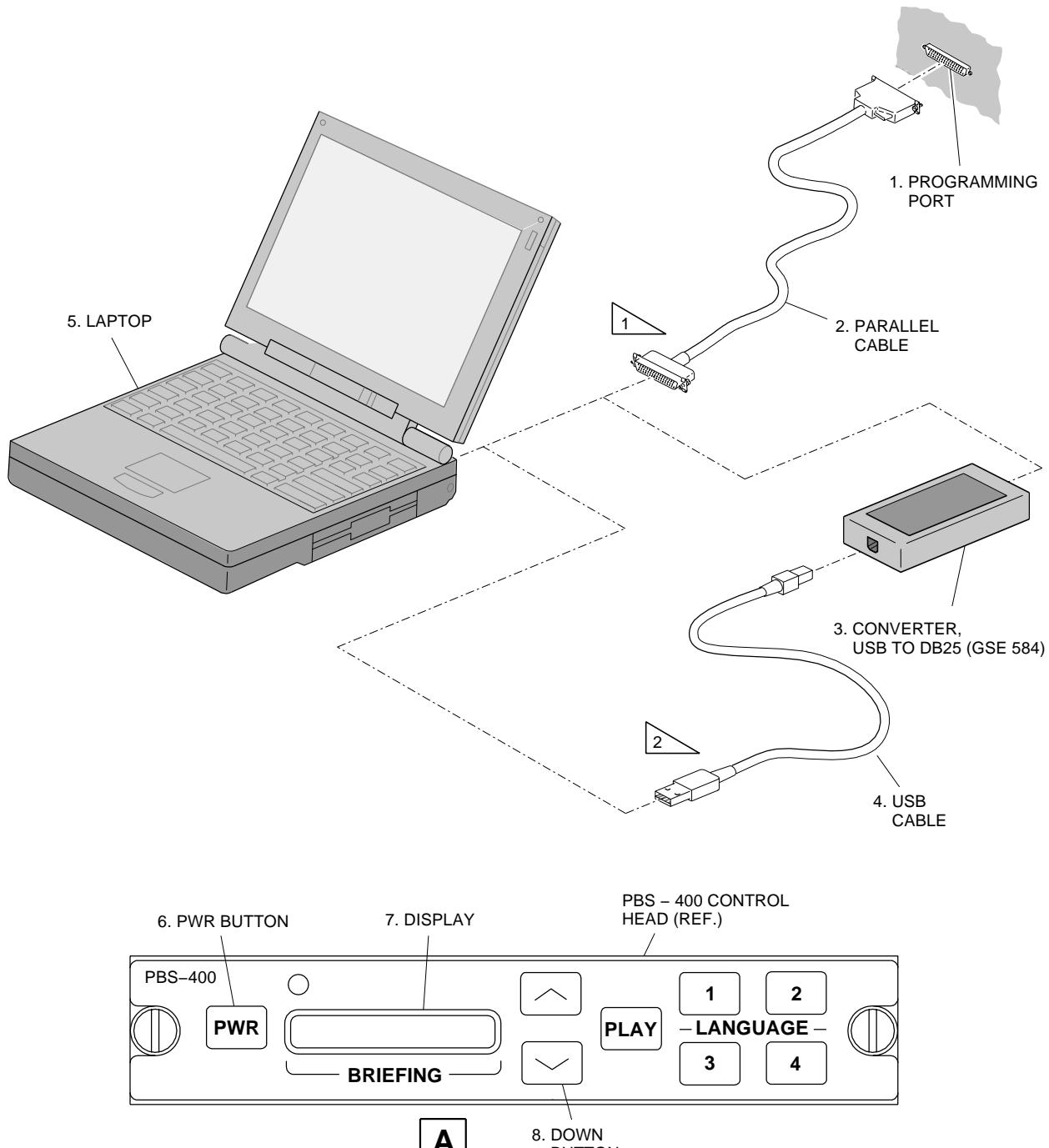
SUBTASK 842-002-A

- (1) De-energize the aircraft ([AMM TASK 20-40-01-860-801-A/200](#)).

EFFECTIVITY: AIRCRAFT WITH PRA SYSTEM MODEL PBS400

PRA System - Programming

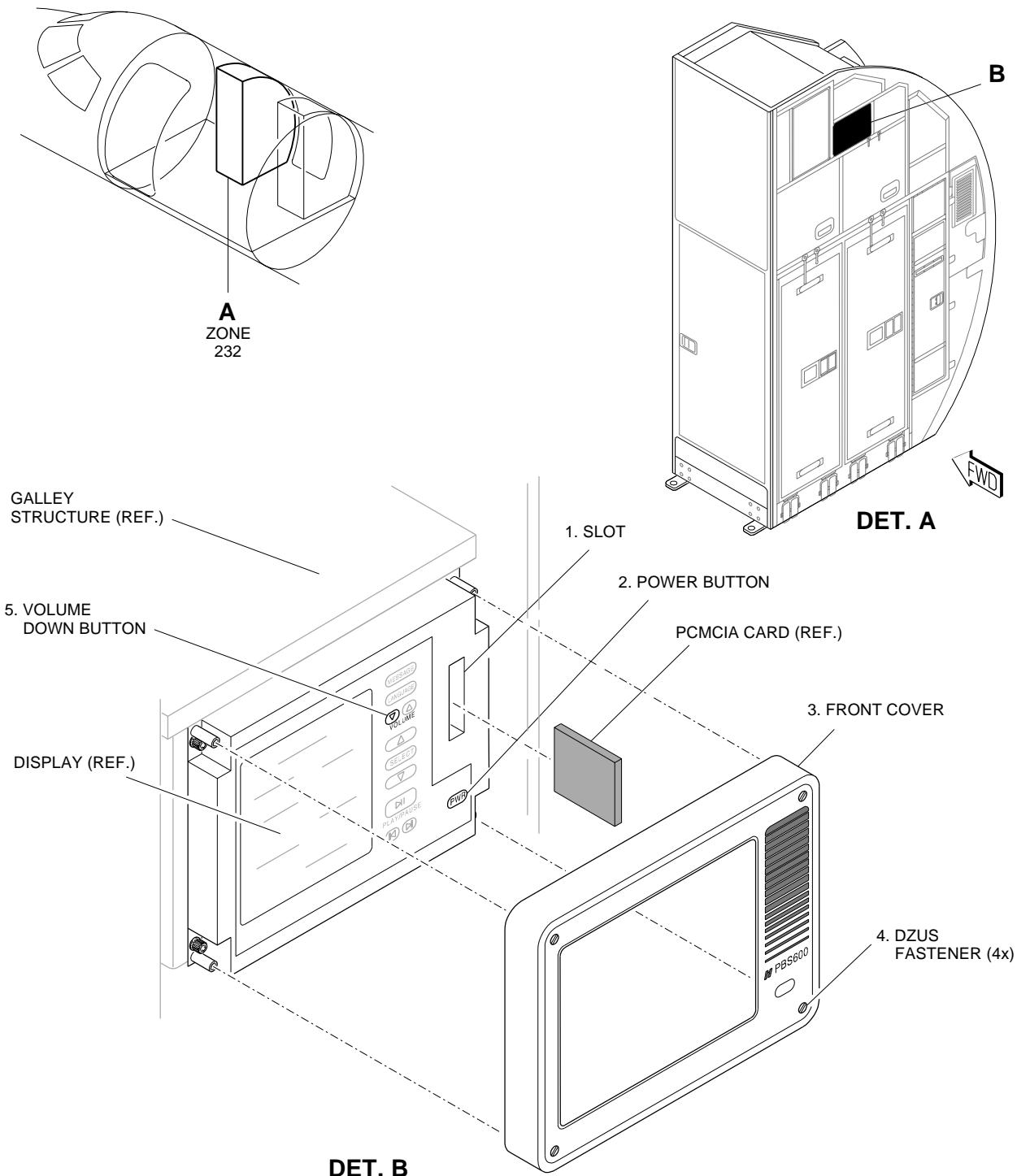
Figure 201



EFFECTIVITY: AIRCRAFT WITH PRA SYSTEM MODEL PBS600

PRA System - Programming

Figure 202



EM145AMM231425A.DGN