

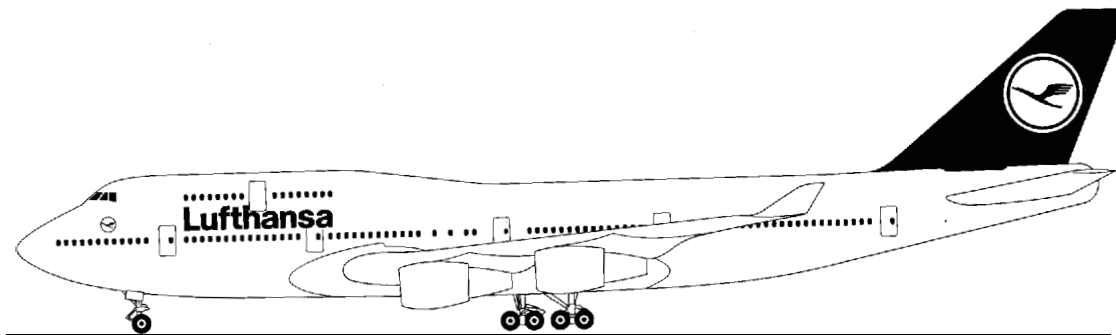


Lufthansa Technical Training

Training Manual B 747-400

ATA 23-28 SELCAL

ATA Spec 104 Level 3



Book No:

Lufthansa
Technical Training GmbH
Lufthansa Base

Issue: Nov 2001
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Lufthansa Technical Training GmbH

Lufthansa Base Frankfurt

D-60546 Frankfurt/Main

Tel. +49 69 / 696 41 78

Fax +49 69 / 696 63 84

Lufthansa Base Hamburg

Weg beim Jäger 193

D-22335 Hamburg

Tel. +49 40 / 5070 24 13

Fax +49 40 / 5070 47 46

SELCAL



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SELCAL SYSTEM - INTRODUCTION

The selcal system lets a ground station alert the flight crew to a selcal call on one of the communications transceivers. There is a unique selcal code for each airplane.

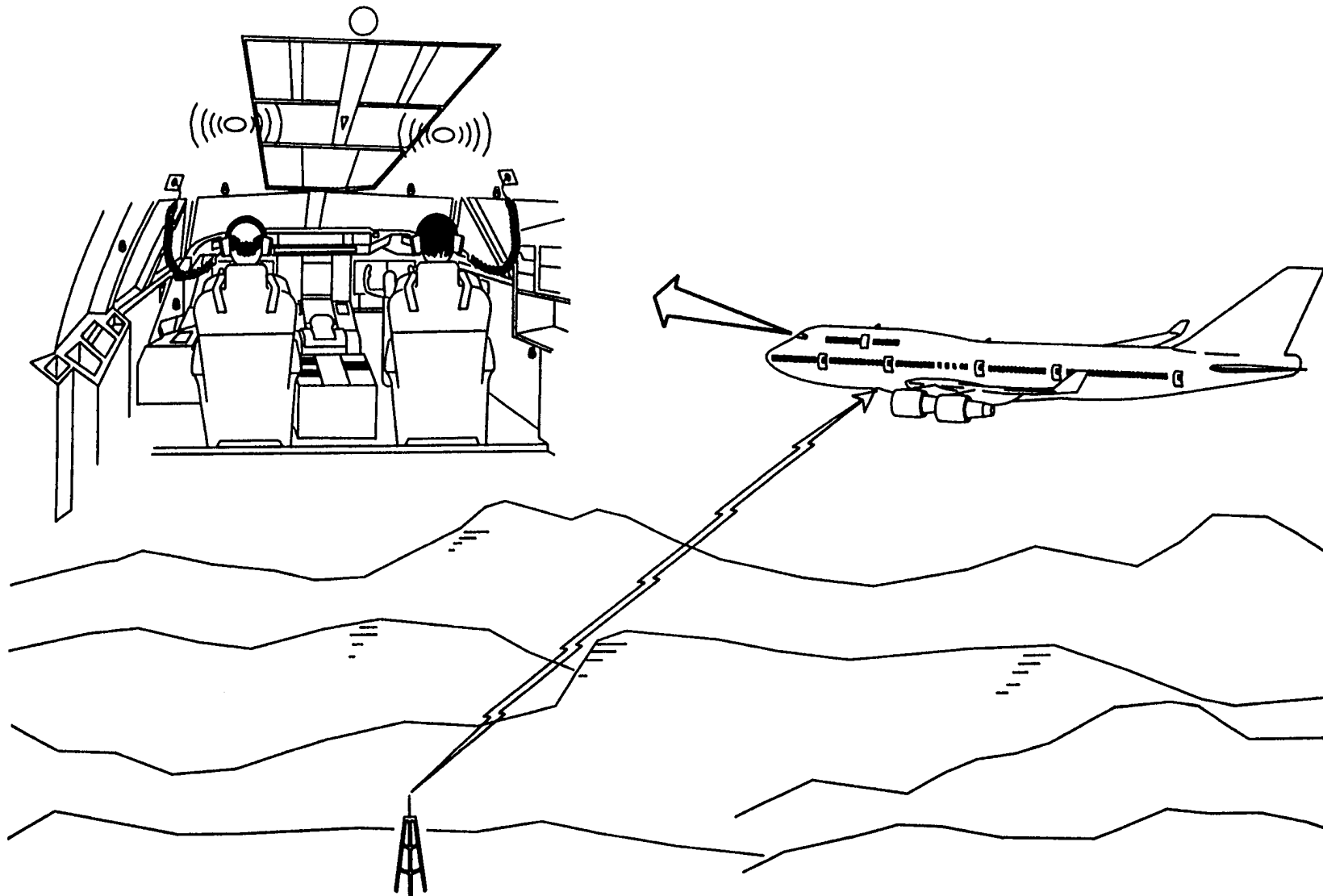


Figure 1 SELCAL SYSTEM - INTRODUCTION

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SELCAL SYSTEM

A selcal code is a sequence of four letters out of 16 possible letters. Each airplane has a unique selcal code. The program pins on the decoder tell it what the airplane code is. There is one fourbit group of program pins for each letter of the selcal code.

The selcal decoder gets audio from the VHF and HF communication transceivers. The audio may have a selcal signal, which is a group of four tones. Each tone represents a letter of a selcal code. The decoder monitors the five audio inputs. It decodes any selcal tones in the audio. If the sequence of letters in the audio is the same as the program pin code, the decoder sends a signal to the audio management unit (AMU). This tells the AMU to tell the audio control panels (ACPs) to turn on the CALL light for the transceiver that received the tones. The selcal decoder also sends a chime request to the modularized avionics and warning electronics assembly (MAWEA).

The CALL light reset signal comes from an ACP or a PTT switch, through the AMU, to the selcal decoder.

SELCAL

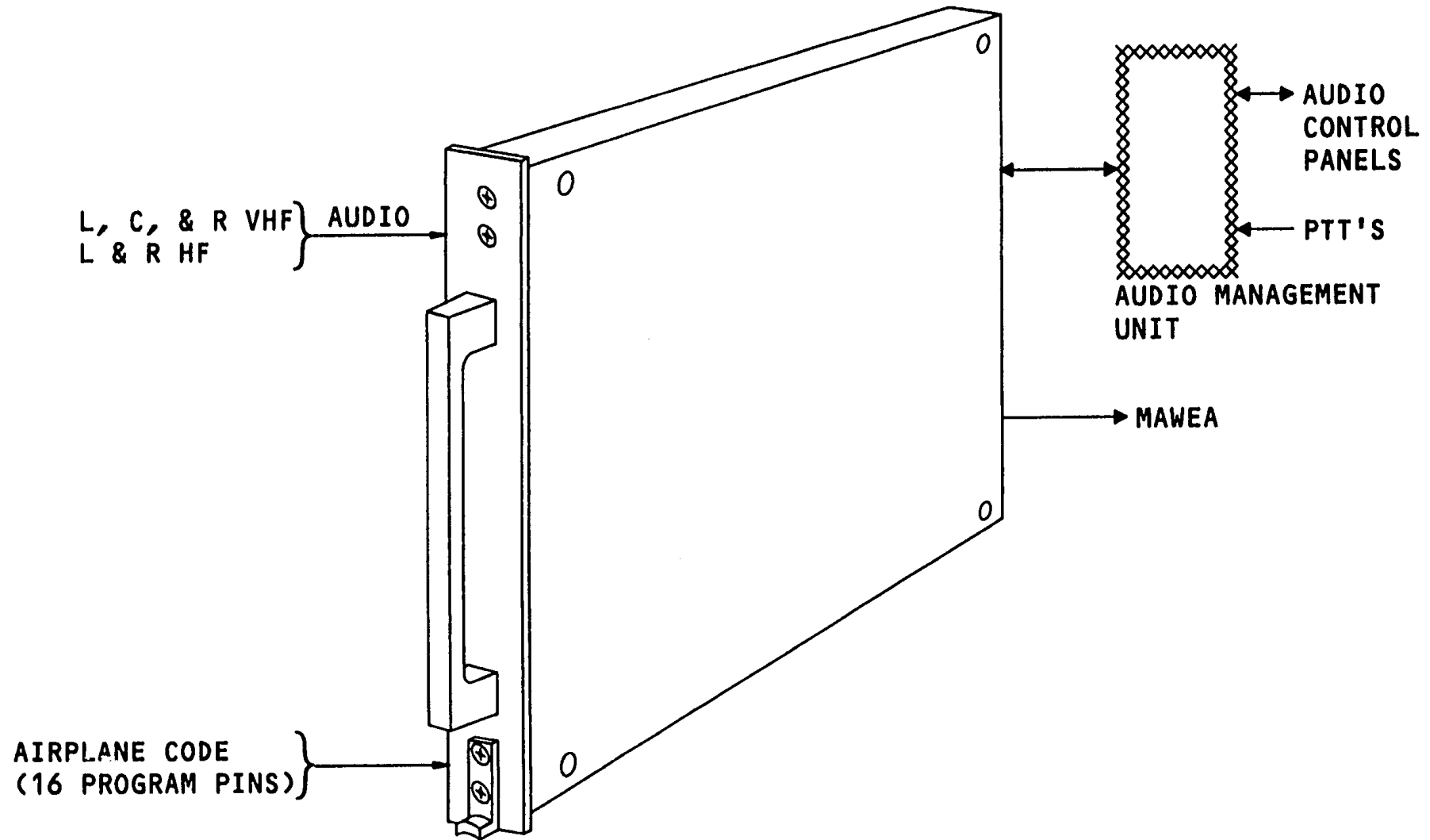


Figure 2 SELCAL SYSTEM

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COMPONENT LOCATIONS

The selcal system components are:

- Selcal circuit breaker
- Selcal decoder

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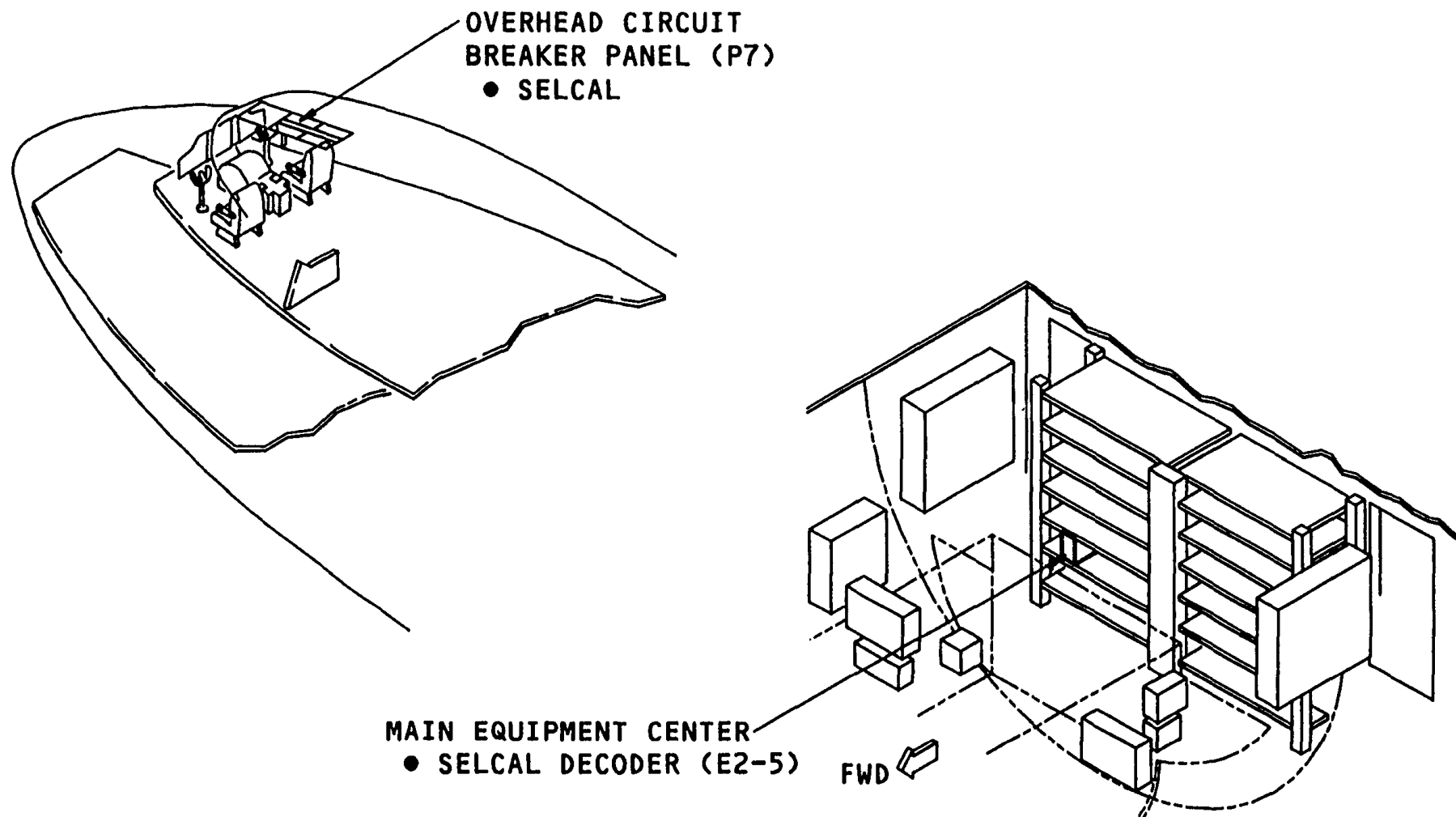


Figure 3 COMPONENT LOCATIONS

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INTERFACE DIAGRAM

Power

The 28v dc bus 3 supplies power to the power supply in the selcal decoder.

Audio

The selcal decoder gets audio from the VHF and HF transceivers.

Discretes

The selcal decoder sends a call set discrete for each of the five communications radios to the audio management unit (AMU). The AMU sends a call reset discrete to the selcal decoder for each radio.

The selcal decoder sends a chime request discrete to the modularized avionics and warning electronics assembly (MAWEA).

A set of 16 program pins puts the airplane code into the selcal decoder.

Flight Interphone

The AMU sends call set data to each audio control panel (ACP) on a digital bus. The ACPs send call reset data to the AMU on the same bus.

There are PTT inputs to the AMU from each ACP and from each crew member's hand mic. A PTT can reset a selcal call.

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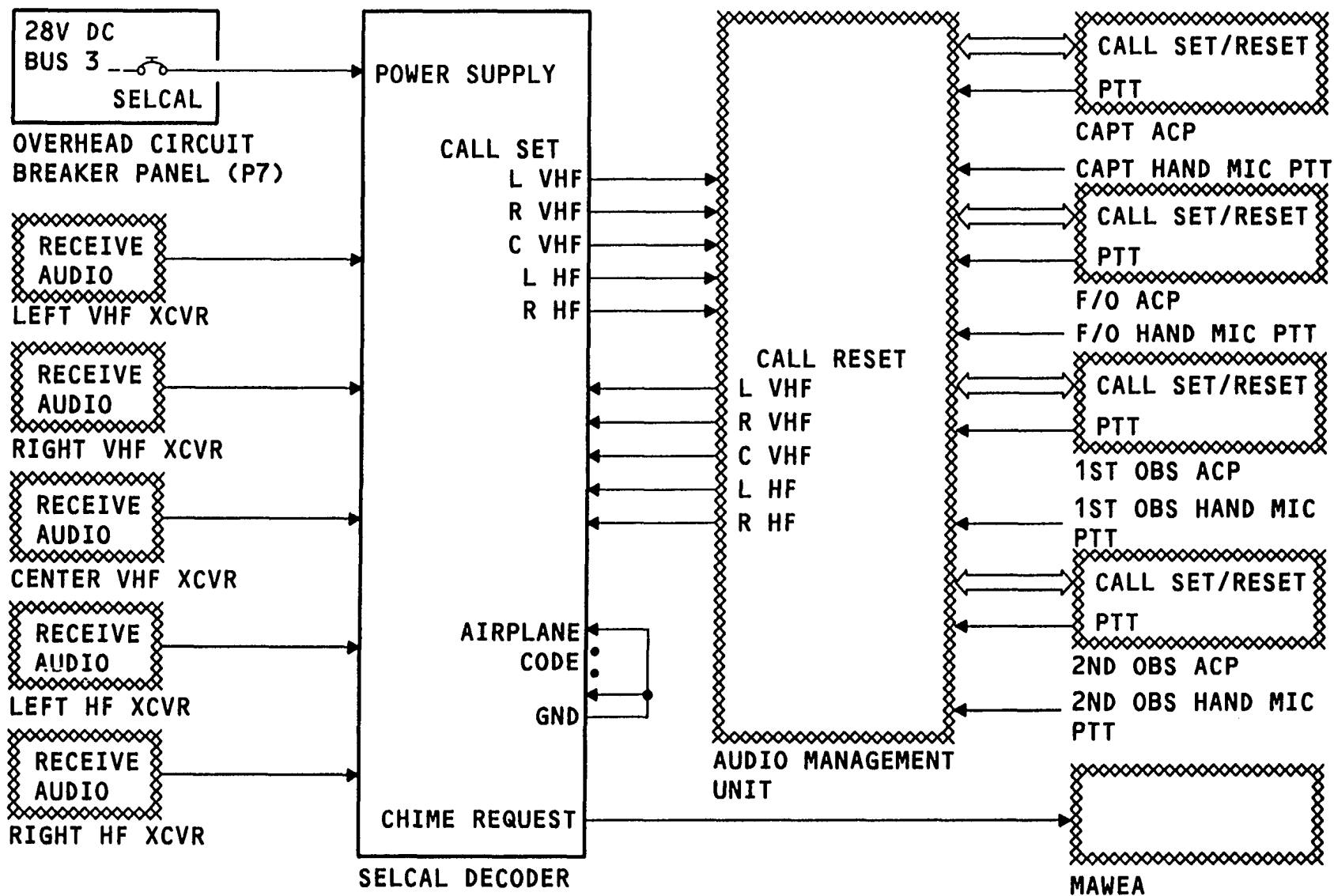


Figure 4 INTERFACE DIAGRAM

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SELCAL DECODER

The selcal decoder:

- Monitors the audio from the VHF and HF communication transceivers
- Recognizes receipt of the selcal code assigned to the airplane
- Generates alert signals

CAUTION: STATIC SENSITIVE. DO NOT HANDLE BEFORE READING PROCEDURE FOR HANDLING ELECTROSTATIC DISCHARGE SENSITIVE DEVICES (REF 20-41-02/201). CONTAINS DEVICES THAT CAN BE DAMAGED BY STATIC DISCHARGE.

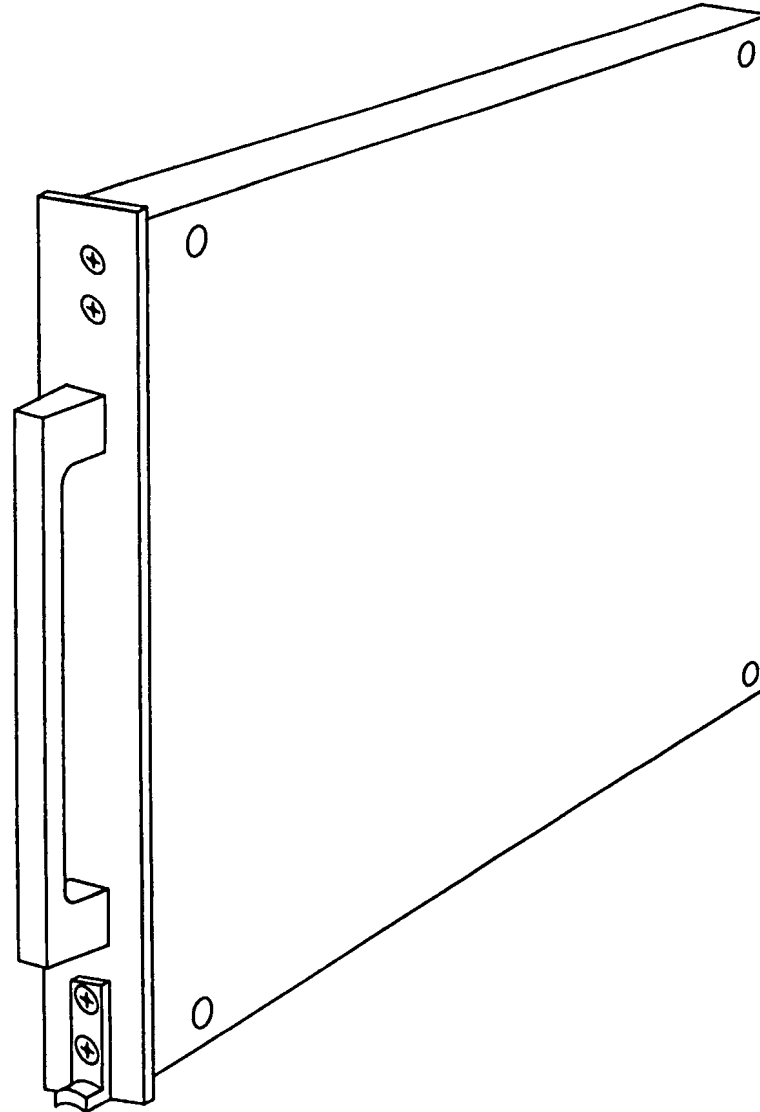


Figure 5 SELCAL DECODER

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CALL LIGHTS AND RESET SWITCHES

Purpose

The transmit switches on the audio control panel also function as call lights and reset switches for the selcal system.

Call Light Feature

A VHF or HF white CALL light turns on to alert flight crew of a selcal call.

Reset Switch Feature

To make a CALL light go off, push the transmit switch on which the CALL light shows. If MIC already shows for the same transmit switch on which CALL shows, any PTT (except an INT PTT) resets the CALL light.

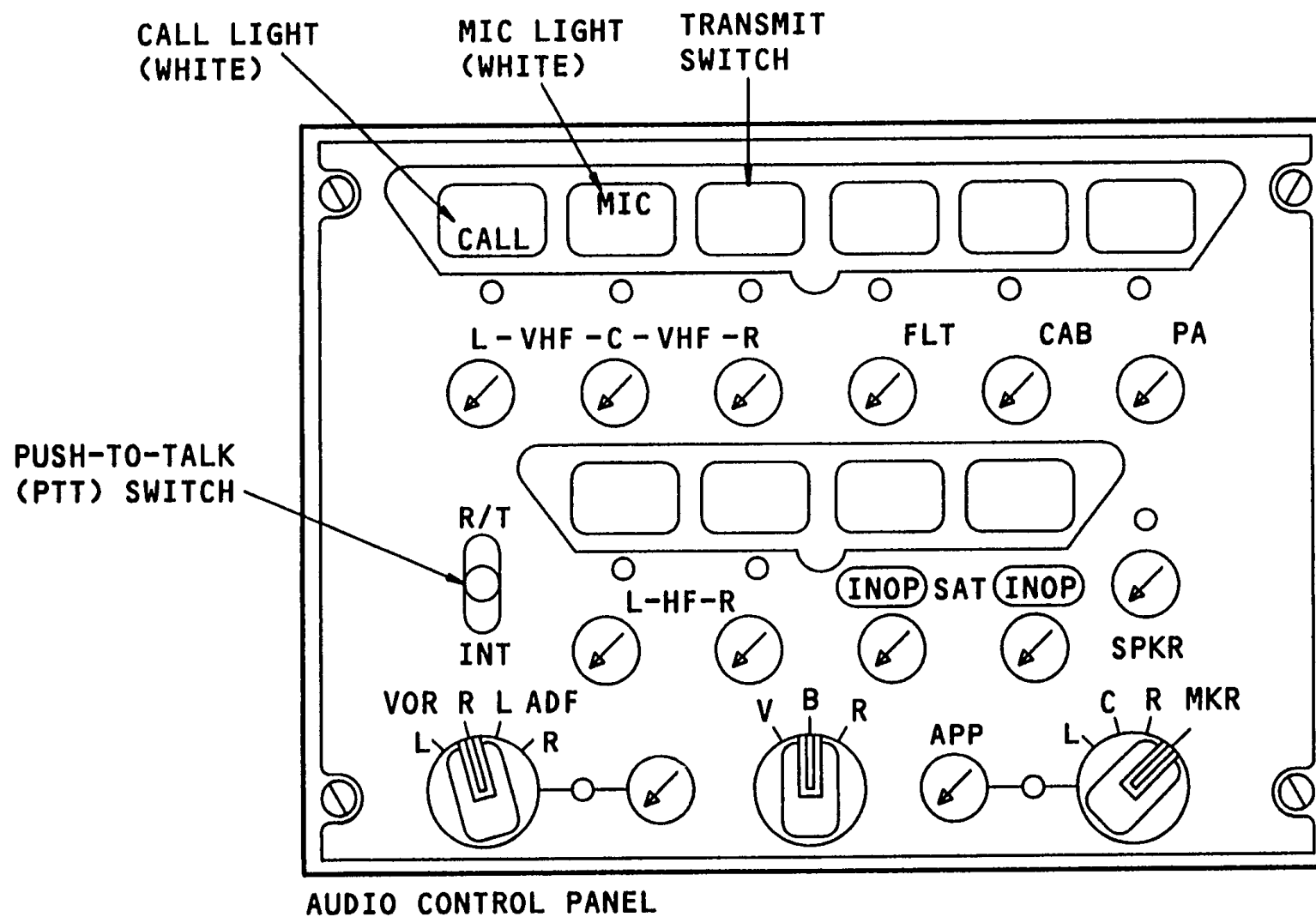


Figure 6 CALL LIGHTS AND RESET SWITCHES

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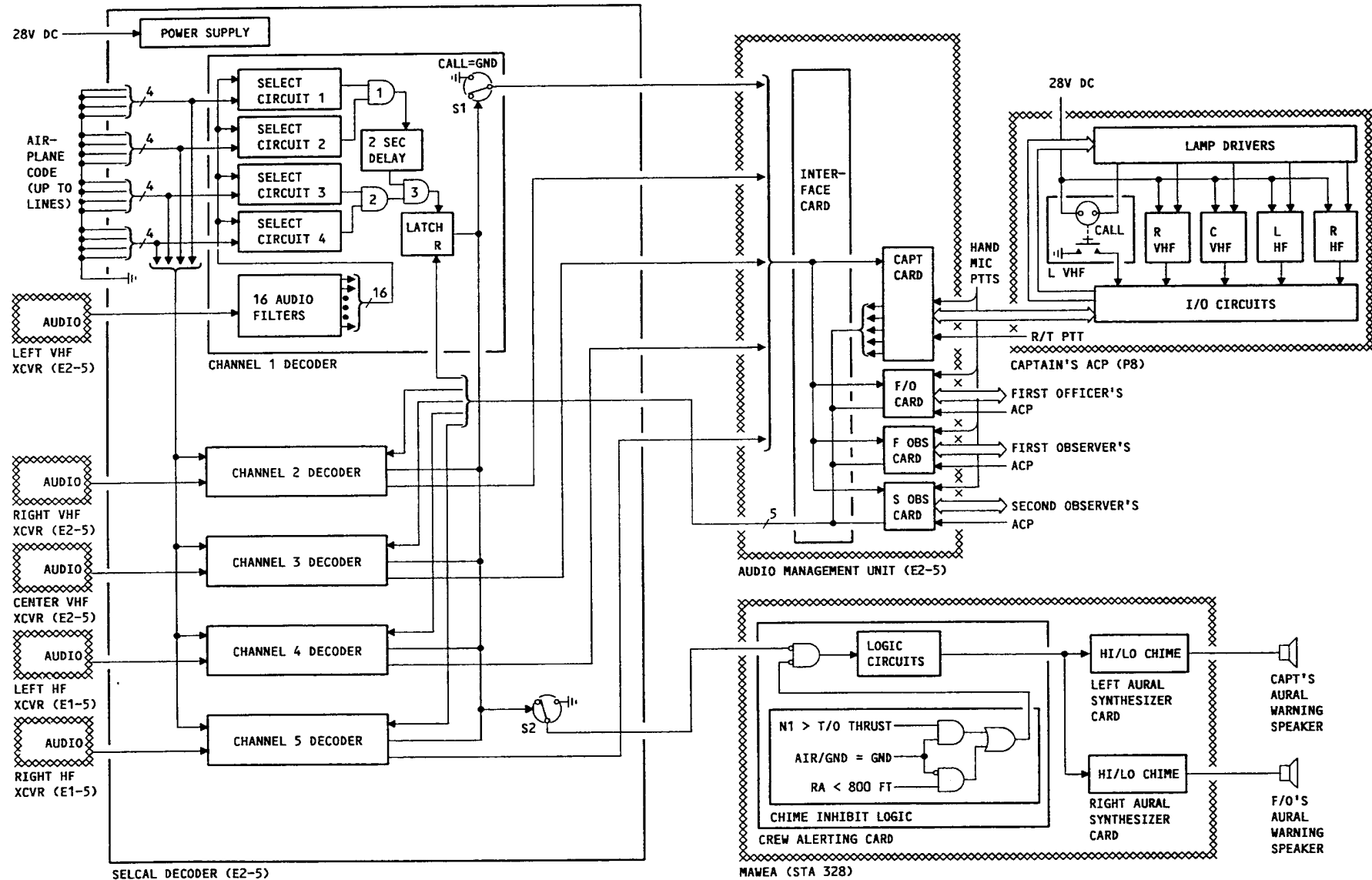


Figure 7 SELCAL SCHEMATIC DIAGRAM

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