Introduction

This Systems guide is an essential tool for all ATR flight crew and engineer to learn or review ATR systems operation. To make learning process easier, systems are introduced in a user-friendly and efficient training method, including diagram and schematic display as appropriate.

This guide is a comprehensive document that efficiently complements FCOM 1st part – Systems description. Systems are organized as per FCOM chapter, including their ATA classification along with cockpit location. Cockpit panels familiarisation is presented with each relevant system description in a separate annex.

This new guide release is intended for training on ATR 42-300. It presents a generic aircraft not customized to your own aircraft systems. Should you find any discrepancy between Systems guide and your customized ATR operational documentation (AFM, FCOM & QRH), the latter takes precedence.

NB: This Systems guide is also available for 72-200 non PEC and 42-500/72-212A. This document will also be developed for the ATR-600.

The Training and Flight Operations support team.
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A. Aircraft general
1. Doors location

- Cargo door
- Pilot communication hatch
- Emergency exit type III
- Rear entry door / emergency exit type I
- Service door / emergency exit type I
- Pilot emergency hatch
- Aft avionics compartment door
- Forward avionics access hatch

ATA 52
2. Cargo door panel

**ARMED light**
- Selector armed green light is ON, when actuator selection switch working conditions are met:
  - cover panel opened
  - door unlocked by operating handle:
    all hooks are disengaged and FWD latchlock is unfastened

**LCHD light**
blue light is ON when all door hooks and latch locks are fully engaged

**GND HDL light**
Ground handling bus ON
BAT red light is ON when ground handling bus is directly supplied by HOT main bat bus:
means that the battery is discharging even if the BAT toggle switch is in OFF position (visible even when the cover panel is closed)
This red light is ON when:
- The refueling panel is open
- The cargo door control panel is open
- The passenger door is open and alert, that the battery is discharging before leaving the aircraft
- The AUX HYD pump pedestal switch is activated

**Actuator selection switch**
is used to operate the door (OPEN or CLOSE) when the CARGO DOOR ARMED green light is on

**Panel cover switch**
connects the ground handling bus on line when the panel cover is opened and allows operation of cargo door.

**CARGO LIGHT switch**
allows activation of the cargo bay light from outside

3. Doors panel

**DOORS lights**
CABIN and CARGO aural alarms are inhibited when the Condition Lever 1 is on FTR or FUEL SO
SVCE and FWD COMPT aural alarms are inhibited when the Condition Lever 2 is on FTR or FUEL SO

**CAB OK and SVCE OK**
Light on when SW TEST depressed and check microswitches operation

**SW TEST**
Tests continuity of microswitch system (on ground, doors opened)

**UNLK**
At least 1 micro switch is opened
4. External lights

A - Navigation lights
B - Taxi and T/O lights
C - Landing lights
D - Wing lights
E - Beacon lights
F - Strobe lights
G - Logo lights
H - Emergency light

Aircraft systems

Cabin panel

Memo panel

ATA 33
5. EXT LT panel

**BEACON and NAV** supplied by SVCE BUS and BUS 1
**LOGO** supplied by SVCE BUS

**TAXI & T.O** Supplied by ACW BUS 2

**STROBE, LAND** supplied by ACW BUS 1 (Left Hand), ACW BUS 2 (Right Hand)

**WING** Supplied by DC BUS 2

6. MEMO panel

**NO SMKG** illuminates blue when associated switch is selected ON

**SEAT BELTS** illuminates blue when associated switch is selected ON

7. Signs panel

**NO SMKG and SEAT BELTS** Blues Lts on MEMO panel when ON. (DC BUS 2)

**ON** emergency exit lights illuminates. Supply: DC STBY or 6 V BAT packs

**ARM** Emergency lights illuminate when <18 V on EMER bus or if both DC GEN off line. Emergency lights extinguish when >20V on EMER bus and at least 1 GEN operating

**DISARM** system deactivated
8. Internal lighting

ATA 33
9. LT panel

**INST**
Selects activation and intensity of main panel instrument integral lighting

**DSPL knob**
selects activation and intensity of all digit lighting

**PNL rotary selector**
selects activation and intensity of glareshield, pedestal and overhead panels instrument integral lighting

**FLOOD knob**
selects activation and intensity of pedestal panel flood lighting. *(OFF TO BRT)*

**9. LT panel  ATA 33**

10. ANN LT panel

**ANN LT**

To check and control the intensity of:
- the annunciator lights on the overhead and pedestal panels
- the overhead panel flow bars
**TEST**: All the associated lights come on bright
**BRT**: associated light illuminate bright
**DIM**: associated light are dimmed

**STORM switch**
On position, flood lights are ON with maximum intensity and fluorescent tubes are ON

**10. ANN LT panel  ATA 33**

11. Side panel

**CAPT CONSOLE LT knob**
selects activation and intensity of the respective lateral console

**CAPT READING LT knob**
selects activation and intensity of the respective spot light

**11. Side panel  ATA 33**

12. FLT COMPT LT panel

**DOME switch**
**BRT**: dome lights are supplied with maximum intensity
**DIM**: dome lights are dimmed
**OFF**: both dome are off
**DOME light**: the F/O dome light becomes BRT when the switch in BRT or DIM if:
- dual DC GEN loss
- or on ground, with BAT supply only

**STORM switch**
On position, flood lights are ON with maximum intensity and fluorescent tubes are ON

**STBY COMPASS switch**
to illuminate the STBY COMPASS ON and OFF position

**12. FLT COMPT LT panel  ATA 33**
B. Centralized crew alerting system

FCOM 1.02
1. Cockpit philosophy

In normal operation, all the lights are extinguished (Dark cockpit philosophy). With few exceptions, the lights illuminate to indicate a failure or an abnormal condition.

- Normal operation
- Warning indication
- Caution indication
- Other than normal basic operation
- Temporarily required system in normal operation
- Back up or alternate system selected
2. CCAS description

The CCAS draws crew's attention when a failure is detected and guides the crew to the system affected by the failure.

Three types of visual devices are used:
- MASTER WARNING and MASTER CAUTION lights
- CREW ALERTING PANEL (CAP) lights
- LOCAL ALERT lights

Detection sequence

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Example: ACW Generator 1 failure

- MASTER CAUTION light flashing
- Single Chime

Local alert: fault light on the ACW gen 1 push-button
Dear Customer,

This is an extract of the ATR Systems - 2010 edition, available in paper or electronic copy. Should you need any further information, please contact the ATR Training Center atc@atr.fr

Yours faithfully,

Your ATR Training & Flight Operations support team