SAE Aerospace
An SAE International Group

AEROSPACE RECOMMENDED PRACTICE

SAE ARP4102/14 REV. C

Issued 1988-07
Revised 2000-04
Reaffirmed 2007-07
Stabilized 2012-07

Superseding ARP4102/14B

Full-Format Printer

RATIONALE

This document has been determined to contain basic and stable technology which is not dynamic in nature.

STABILIZED NOTICE

This document has been declared "Stabilized" by the SAE S-7, Flight Deck & Handling Qualities Stds. for Transport Aircraft Committee, and will no longer be subjected to periodic reviews for currency. Users are responsible for verifying references and continued suitability of technical requirements. Newer technology may exist.

TO PLACE A DOCUMENT ORDER: **Tel: 877-606-7323 (inside USA and Canada)**
Tel: +1 724-776-4970 (outside USA)
Fax: 724-776-0790
Email: CustomerService@sae.org
SAE WEB ADDRESS: **http://www.sae.org**

SAE values your input. To provide feedback on this Technical Report, please visit
http://www.sae.org/technical/standards/ARP4102/14C

1. SCOPE:

This document recommends criteria for the installation and operation of a printer intended for use by flight crew members on the flight deck. The printer is used to supply the flight crew with hard copies of information that originates from data sources such as FMS, EDMS, ACMS, CMS, and data link.

These criteria are in addition to the specifications of the referenced ARINC Characteristic 744A.

2. REFERENCES:

2.1 Documentation:

This annex should be used in conjunction with ARP4102 core document. In addition, the following documents are applicable:

SAE ARP4101, Flight Deck Layout and Facilities
SAE ARP4102/13, Data Link
SAE ARP4102/15, Electronic Library System
SAE ARP4103, Flight Deck Lighting
SAE ARP4105, Nomenclature and Acronyms
SAE S-7 Draft ARP, Electronic Data Management System (EDMS)
ARINC Characteristic 744A

3. OPERATIONAL REQUIREMENTS:

3.1 The printer's controls, output and means of loading output medium should be accessible to both pilots, flight deck space and lay-out permitting.

3.2 The printer should have the capability to print in multiple colors if it is intended to print charts.

3.3 It should be possible for the crew easily to obtain an undamaged printout. To achieve this requirement, it may be necessary for the printer to incorporate a cutting, perforating, or tearing device. The printout should be easy to tear off from any angle.

3.4 The printer should recognize and respond to a crew request to print multiple copies.

3.5 If an automatic printing facility is provided, any annunciation of this function should be inhibited during takeoff and landing phases. Automatic printer activation may be inhibited during takeoff and landing.

3.6 It should be possible to cancel individual printing tasks.

3.7 The print resolution should support comfortable reading of the printout by the flight crew under the full range of lighting conditions anticipated for normal operations on the flight deck. This should be no worse than that provided by existing printed materials.

3.8 Adequate warning of expiry of consumable media such as paper or ink should be given, such that the possibility of being unable to obtain printed output during a flight is precluded.

3.9 The crew should be able to replace any consumable media with a minimum of effort. It is suggested that the paper roll, for example, needs only to be inserted into the printer and an automatic feature will properly thread the paper, rather than the crew having to perform this task.

3.10 The possibility of printer jams should be minimized, due to safety criticality of the printed output. If and when a jam occurs, it must be easy to open and reload.

4. PANELS:

4.1 Panel placement and output direction should not cause normal amounts of output medium to obscure any flight critical controls or displays.

5. CONTROLS:

5.1 The print command control(s) should be on the control panel of the originating data display(s) and should be accessible to both pilots.

5.2 Controls should be provided to carry out at least the following tasks: stop, re-task, and resume printing.

6. DISPLAYS:

6.1 If the response from an initial request for printing is not essentially immediate (e.g., within 3 s) then an indication that the print request has been accepted must be provided.