

 <p>SERVIÇO PÚBLICO FEDERAL DEPARTAMENTO DE AVIAÇÃO CIVIL</p>	BRAZILIAN AIRWORTHINESS DIRECTIVE (EMERGENCY)	
	EFFECTIVE DATE <p style="text-align: center;">27 Dec. 2004</p>	EAD No.: <p style="text-align: center;">2004-12-04</p>

The following Emergency Airworthiness Directive (EAD), issued by the Departamento de Aviação Civil (DAC) in accordance with provisions of Chapter IV, Title III of Código Brasileiro de Aeronáutica - Law No. 7,565 dated 19 December 1986 - and Regulamento Brasileiro de Homologação Aeronáutica (RBHA) 39, applies to all aircraft registered in the Registro Aeronáutico Brasileiro. No person may operate an aircraft to which this EAD applies, unless it has previously complied with the requirements established herein.

EAD No. 2004-12-04 - EMBRAER - Amendment 39-1067.

APPLICABILITY: This Emergency Airworthiness Directive is applicable to all Embraer ERJ-170() aircraft models in operation.

CANCELLATION / REVISION: Not applicable.

REASON: It has been found the occurrence, during some flight tests performed by Embraer on ERJ-170 prototype aircraft, of a temporary loss of all display units (DU). Post-incident investigation showed that this failure could be traced to a failure on the master timer NIC/NIM synchronizer, which provides timing signals for the avionics standard communication bus (ASCB). In that scenario, for a period of approximately 4 seconds, the pilots are left with only the integrated electronic standby system (IESS) for basic flying, besides a VHF radio for voice communication. In all reported cases, the system recovered by itself without any specific pilot action. However, further investigation showed the theoretical possibility of a sustained loss of all DU, which could lead the flight crew to experience a significantly increased workload to safely complete the flight.

Since this condition may occur in other airplanes of the same type and affects flight safety, an immediate corrective action is required. Thus, sufficient reason exists to request compliance with this EAD in the indicated time limit without prior notice.

REQUIRED ACTION: Inclusion of operational instructions in the Aircraft Flight Manual (AFM); test of the ASCB; and installation of a new version of the PRIMUS EPIC system software.

COMPLIANCE: Required as indicated below, unless already accomplished.

- (a) Within the next 72 hours after the effective date of this EAD, insert the Embraer Operational Bulletin No. 170-011/04 Rev. 01, dated 23 Dec. 2004, into the AFM Emergency and Abnormal Procedures Section 4, and to not allow any flight to be dispatched with the IESS inoperative, even though it is allowed by the current version of the Master MEL.
- (b) Within the next 30 calendar days after the effective date of this EAD, or before of performing the modification required by item (c) below, whichever occurs first, perform a test to assess the general conditions of NIC communication, in order to reveal potential failures that could lead to NIC re-synchronization and temporary functional loss as multiple displays blanking.
- (c) Within the next 40 calendar days or 300 flight hours after the effective date of this EAD, whichever occurs first, install the software version of the PRIMUS EPIC system identified

as "load 15.3" or higher. After the embodiment of this modification, remove the Operational Bulletin required by item I above from the AFM.

The detailed instructions and procedures to accomplish this EAD are described in the Embraer Service Bulletins Nos. 170-31-0002, original issue, and 170-31-0003, original issue, or further revisions approved by the CTA, and in the Embraer Operational Bulletin No. 170-011/04 Rev. 01. Record compliance with this EAD in the applicable maintenance log book.

CONTACT: For additional information, please contact CTA-IFI-CAvC, P.O. Box 6001, 12231-970 - São José dos Campos-SP, Brazil, telephone: 55 (12) 3913-6069, fax: 55 (12) 3941-4766, e-mail: pds@ifi.cta.br.

APPROVAL: Original in Portuguese language available in the files of the Registro Geral de Aeronavegabilidade (RGA/TE-1/STE) of the Departamento de Aviação Civil. Signed by:

CLÁUDIO PASSOS SIMÃO - Ten Cel Eng
Chief of the Civil Aviation Certification Division
IFI/CTA

VENÂNCIO ALVARENGA GOMES - Cel Eng
Director of the Industrial Coordination and Fostering Institute
CTA