



**GENERAL PURPOSE 37-POSITION
AND 9-POSITION INTERFACE BETWEEN
DATA TERMINAL EQUIPMENT AND
DATA CIRCUIT-TERMINATING EQUIPMENT**

Prepared By:

**National Communications System
Office of Technology & Standards**

Published By:

**General Services Administration
Office of Information Resources Management**

JK
468
.A8A3
#143
85

Federal Standard 1031 has been redesignated as Federal Information Processing Standards Publication (FIPS PUB) 143. Reaffirmed 1-12-89. Issued by the National Institute of Standards and Technology pursuant to Section 111(d) of the Federal Property and Administrative Services Act of 1949 as amended by the Computer Security Act of 1987, Public Law 100-235.

JUNE 10, 1985

June 10, 1985

INTERIM FEDERAL STANDARD

TELECOMMUNICATIONS: GENERAL PURPOSE 37-POSITION
AND 9-POSITION INTERFACE BETWEEN DATA TERMINAL
EQUIPMENT AND DATA CIRCUIT-TERMINATING EQUIPMENT

This interim standard is issued by the General Services Administration pursuant to the Federal Property and Administrative Services Act of 1949, as amended. Its use is optional for all Federal Agencies. It is expected that this interim standard will be replaced with a new standard conforming to Integrated Services Digital Network (ISDN) procedures and utilizing the 8-position Common Physical Interface as soon as a mature international standard evolves in this area.

1. Description. This standard specifies the functional and mechanical interface characteristics for data terminal equipment (DTE) and data circuit-terminating equipment (DCE) used primarily in data communication applications over analog telecommunications networks.
2. Purpose. Federal telecommunication standards are to facilitate interoperability between telecommunications facilities and systems of the Federal Government and compatibility of these facilities and systems, at the computer-communications interfaces, with data processing equipment.
3. Application. This standard may be used by all Federal agencies in the design and procurement of DTEs and DCEs used in data communication applications over analog telecommunication networks.
4. Applicable documents. The following documents of the issue in effect on the date of invitation for bids or request for proposals form a part of this standard to the extent specified herein:

Electronic Industries Association (EIA) Standard RS-449, General Purpose 37-position and 9-position Interface for Data Terminal Equipment and Data Circuit-Terminating Equipment Employing Serial Binary Data Interchange.

EIA Industrial Electronic Bulletin No. 12, Application Notes on Interconnection Between Interface Circuits Using RS-449 and RS-232-C.

(Copies of EIA documents are available from: Electronic Industries Association, 2001 Eye Street NW, Washington, DC 20006.)

Federal Standard 1020A, Telecommunications: Electrical Characteristics of Balanced Voltage Digital Interface Circuits.

Federal Standard 1030A, Telecommunications: Electrical Characteristics of Unbalanced Voltage Digital Interface Circuits.

5. Basic Requirements. With the inclusion of the additional requirements listed in paragraph 6, this standard adopts in its entirety EIA Standard RS-449. Pursuant to the requirements of Federal Standards 1020A and 1030A, the electrical characteristics of balanced and unbalanced line generators and receivers of DTEs and DCEs shall be as specified in EIA Standards RS-422 and RS-423 respectively.

6. Additional Requirements. Depending on the specific application, DTEs and DCEs compliant with this standard must also comply with one of the following additional requirements.

A. For applications where interoperation is required with equipment conforming to EIA Standard RS-232-C, generators on all Category I circuits shall conform to Federal Standard 1030A and the provisions described by EIA Industrial Electronics Bulletin No. 12 shall be met.

B. For applications where interoperation is required with equipment conforming to MIL-STD-188C or MIL-STD-188-100 (unbalanced low level interface), generators on all Category I circuits shall conform to Federal Standard 1030A (MIL-STD-188-114, unbalanced circuits) and shall have an option which will allow changing the signal sense from the negative mark to positive mark.

C. For all new applications where a transition capability from either RS-232-C or MIL-STD-188C/MIL-STD-188-100 is not required, all provisions of RS-449 apply. Category I circuits may implement either FED-STD-1020A or FED-STD-1030A as prescribed in Section 6.11 of RS-449. When FED-STD-1020A is employed for MIL-STD-188 applications, the additional provisions of MIL-STD-188-114 shall apply.

7. Effective Date. Federal agencies may use this interim standard effective immediately. This interim standard will be automatically cancelled effective January 1, 1989 unless reconfirmed.

PREPARING ACTIVITY:

National Communications System
Office of Technology and Standards
Washington, DC 20305-2010

MILITARY INTEREST

Military Coordinating Activity

DCA - DC

Custodians

Army - CR
Navy - EC
Air Force - 90

Review Activities

Army - CR, SC
Navy - EC, NOSC
Air Force - 90, XOKC

This document is available from the General Services Administration (GSA), acting as agent for the Superintendent of Documents. A copy for bidding and contracting purposes is available from GSA Business Centers. Copies are for sale at the GSA, Specification Unit (WFSIS), Room 6039, 7th and D Streets, S.W., Washington, DC 20407, telephone (202) 472-2205. Please call in advance for pickup service.

