200 MM (8 IN) FLEXIBLE DISK CARTRIDGE TRACK FORMAT USING TWO-FREQUENCY RECORDING AT 6631 BPRAD ON ONE SIDE - 1.9 TPMM (48 TPI) FOR INFORMATION INTERCHANGE

CATEGORY: HARDWARE STANDARD
CATEGORY: INTERCHANGE CODES AND MEDIA
Foreword

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Abstract

This standard prescribes a set of physical track format specifications for single-sided, single-density, 200 mm (8 in) flexible disk cartridges which have a data density of 6631 bits per radian (bprad) and 77 tracks at a track density of 1.9 tracks per millimeter (tpmm) (48 tracks per inch (tpi)). Citing these specifications will help to ensure that interchange parties can reliably interchange data files between information processing systems.

Key words: Computers; computer system hardware; data interchange; data processing; data processing equipment; flexible disk cartridges; information systems; magnetic recording; standards.
Federal Information Processing Standards Publication 114

1985 September 30

Announcing the Standard for

200 mm (8 in) Flexible Disk Cartridge Track Format Using Two-Frequency Recording at 6631 bprad on One Side - 1.9 tpmm (48 tpi) for Information Interchange


Name of Standard. 200 mm (8 in) Flexible Disk Cartridge Track Format Using Two-Frequency Recording at 6631 bprad on One Side - 1.9 tpmm (48 tpi) for Information Interchange (FIPS PUB 114).

Category of Standard. Hardware, Interchange Codes and Media.

Explanation. This standard prescribes a set of physical track format specifications for single-sided, single-density, 200 mm (8 in) flexible disk cartridges which have a data density of 6631 bits per radian (bprad) and 77 tracks at a track density of 1.9 tracks per millimeter (tpmm) (48 tracks per inch (tpi)). Citing these specifications will help to ensure that interchange parties can reliably interchange data files between information processing systems.

In order to ensure interchangeability of data between information processing systems by use of a physically removable medium, three distinct levels of compatibility specifications are necessary:

1) specifications for the unrecorded interchange medium (e.g., the flexible disk cartridge),

2) specifications for the physical track format (the specifications in this document),

3) specifications for the logical track format (FIPS PUB 113).

Interchange of text, rather than data files, requires other specifications, in addition to the above three levels.
The track format specifications contained in this standard are only for one type of flexible disk cartridge recording technology. Other Federal Information Processing Standards Publications (FIPS PUBS) specify physical track formats for other major types of flexible disk cartridge recording technology, and labelling and file structure (logical track format) specifications for use with all types of flexible disk cartridges.

This family of specifications was developed through the international voluntary industry standards process. In this process, the American National Standards Institute (ANSI) represents the United States. The National Bureau of Standards (Institute for Computer Sciences and Technology) has provided the international representative, whose job has been to focus and coordinate U.S. interests for ANSI during the development of these physical track format standards.


Cross Index. International Organization for Standardization (ISO) 5654/2, Data Interchange on 200 mm (8 in) Flexible Disk Cartridges Using Two-Frequency Recording at 13 262 ftprad on One Side - Part 2: Track Format.

Related Documents.


Applicability. This standard is applicable to the acquisition and use of all recording and reproducing equipment employing 200 mm (8 in) flexible disk cartridges with the following characteristics: two-frequency recording at 6631 bprad on one side, and 77 tracks at a track density of 1.9 tpm (48 tpi). Federal information processing systems employing such equipment, including associated software, should provide the capability to accept and generate recorded flexible disk cartridges in compliance with the requirements set forth in this standard. This standard should be used for the interchange of flexible disk cartridges unless the interchange parties can agree upon an alternate interchange format which is more efficient, convenient, and cost effective.
Specifications. This standard incorporates by reference (with qualifications as noted) the technical specifications of ISO 5654/2, Data Interchange on 200 mm (8 in) Flexible Disk Cartridges Using Two-Frequency Recording at 13 262 ft/par on One Side – Part 2: Track Format.

Qualifications.


b. After the first sentence in section 5.2.2.1 Track Address (T), of ISO 5654/2, add the following sentence: All tracks shall be recorded in the natural order (i.e., 00, 01, 02, ..., 75, 76).

c. In ISO 5654/2, replace section 5.2.2.3 Sector Number (S) with the following section:

5.2.2.3 Sector Number (S). The third byte shall represent in binary notation the sector address from 01 for the first sector to 26 for the last sector. All sectors shall be recorded in the natural order (i.e., 01, 02, 03, ..., 25, 26).

d. Replace section 3.2, Track Location Tolerance of the Recorded Flexible Disk Cartridge, in ISO 5654/2, with the following section:

3.2 Track Location Tolerance of the Recorded Flexible Disk Cartridge

The centrelines of the recorded tracks shall be within ±0.085 mm (0.0033 in) of the nominal positions, when measured in the testing environment described in this section.

The testing environment shall consist of the following conditions:

- temperature: 23 ± 2°C (73 ± 4°F)
- relative humidity (RH): 40 to 60%
- conditioning before testing: 24 hours minimum.
The temperature and the RH shall be measured in the air immediately surrounding the cartridge. The ambient stray magnetic field shall not exceed 4000 A/m (50 Oe).

e. In section 5.2.2.1, Track Address (T), in ISO 5654/2, replace 76 with 74.

f. In section 6.2.2.1, Track Address (T), in ISO 5654/2, replace 76 with 74.

Implementation Schedule. This standard becomes effective April 1, 1986. Use by Federal agencies is strongly recommended when such use contributes to operational benefits, efficiency, or economy.

Special Information. Each agency has the responsibility for the procurement of unrecorded, single-sided, single-density, 200 mm (8 in) flexible disk cartridges for use with this standard. American National Standard for Single-Sided Unformatted Flexible Disk Cartridge (for 6631 - BPR Use), X3.73-1980, may be cited in agency procurements. While X3.73-1980 is not intended to be sufficient by itself as a procurement specification document, it can serve as an important basis for specifying compatibility. Each agency can also utilize the General Services Administration multiple award schedule for flexible disk cartridges (FSC GROUP 70 PART I SECTION B Class 7045-0001).

Where to Obtain Copies. Copies of this publication are for sale by the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia 22161. (Sale of the included specifications document is by arrangement with the American National Standards Institute.) When ordering, refer to Federal Information Processing Standards Publication 114 (FIPS PUB 114), and title. Payment may be made by check, money order, purchase order, credit card, or deposit account.
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