



Standard Practice for Electronic Interchange of Color and Appearance Data¹

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1. Scope

1.1 This practice covers procedures to be used in the electronic exchange of color and appearance data between users, by either modem or the physical transfer of electronic media. It is intended for use by manufacturers of color-measuring instruments and developers of software so that any instrument may acquire data for its use that may have been measured on an instrument of another manufacturer, at another place, or at another time.

1.2 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*²

E284 Terminology of Appearance

3. Terminology

3.1 Definitions of terms in Terminology E284 are applicable to this practice.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *data value identifier, n*—a keyword that identifies the contents of a data field and, by definition, signals the data type of the field as string, integer, or floating point.

3.2.2 *keyword, n*—in *electronic interchange*, an alphanumeric designator that defines the nature or number of following data fields.

3.2.2.1 *Discussion*—The word is used in its ordinary dictionary sense in Section 7.

3.2.3 *white space, n*—a valid character representation that does not generate a printable character in a file.

¹ This practice is under the jurisdiction of ASTM Committee E12 on Color and Appearance and is the direct responsibility of Subcommittee E12.04 on Color and Appearance Analysis.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

3.2.3.1 *Discussion*—Valid ASCII white space characters are *space* (decimal 32), *carriage return* (decimal 13), *form feed* (decimal 12), *vertical tab* (decimal 11), *newline* (decimal 10), and *horizontal tab* (decimal 9).

4. Summary of Practice

4.1 Users of this practice are given a mandatory list of keywords. The user fills out the list with the data values associated with each keyword. The user may then select from an optional list of keywords. The user then associates with these keywords the data values required to be transmitted.

4.2 The keywords are used at the receiving end of the transmission to decode the format and number of data values present in the transmission.

5. Significance and Use

5.1 This practice should be used by manufacturers of color-measuring instruments and developers of software when the transmission of color and appearance data is desired between instruments or computers and where ASCII files are the desired method of transfer.

5.2 The method of transmission may be via direct connection, modem, or the transfer of electronic media, for example, by floppy disk transfer.

5.3 The practice lends itself to the transmission of either a single record of data or multiple record files.

5.4 Examples of files generated in this practice are contained in Fig. X1.1 and Fig. X2.1 of Appendix X1 and Appendix X2.

6. Procedure

6.1 Prepare a file using ASCII code that consists of the mandatory keyword list followed by the associated data values. Each keyword and each data value is delimited by white space. The record may be organized into logical units associated with each keyword by using the carriage return character for the white space delimiter at the end of the data values associated with any keyword.

6.1.1 Every keyword in the record must be followed by at least one character of white space as a delimiter. Do not precede keywords on a line by other than white space. The exception to this recommendation, which is made to assist