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EIA STANDARD

EIA RS-399

*Dimensional Standard Coplanar
Magnetic Tape Cartridge
Type CP II (Compact Cassette)*

RS-399-A



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Engineering Department

ELECTRONIC INDUSTRIES ASSOCIATION

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EIA Compact Cassette Standard RS-399 is in harmony with IEC publication 94 and 94A with current amendments. Since EIA RS-399 is a dimensional standard only it in itself lacks the complete information as contained in the IEC documents. The additional information will be contained within two future EIA publications.

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DIMENSIONAL STANDARD COPLANAR MAGNETIC TAPE CARTRIDGE TYPE CP II (COMPACT CASSETTE)

(From RS-399, formulated under the cognizance of EIA Working Group P-8.3 on Audio and Digital Magnetic Recording Components and Tape Records. The Compact Cassette Dimensional Standard RS-399 is being reissued as RS-399-A with additions that will serve to clarify the original document. The basic addition is the inclusion of the 45-minute cassette (C-45) to the list of recommended cassette lengths. The second addition is clarification of dimensions appearing on the appended drawings.)

1. SCOPE

This standard covers the dimensional specifications considered essential for the successful interchange of cartridge called EIA Type CP-II (Compact Cassette) between equipment designed for audio recording and reproducing applications. This standard was prepared because of the lack of an existing industry approved standard on the titled subject.

2. DEFINITIONS

2.1 Coplanar Magnetic Tape Cartridge designates a design in which the tape is retained within a case. The ends of the tape are secured to hubs which are located on the same plane. The CP-II is commonly known as the Compact Cassette.

2.2 The Compact Cassette is a twin-hub tape cartridge of the coplanar type; it is suitable for mono/stereo compatible use.

2.3 Capstan designates a rotating shaft that contacts the tape and serves in conjunction with the pressure roller as the tape driving source.

2.4 Pressure Roller designates the rotating member that holds the tape against the capstan in order to obtain a suitable driving action of the tape.

2.5 Magnetic Head designates the transducers that contact the magnetic tape for the purpose of recording, reproducing or erasing a magnetic signal on the tape.

2.6 Internal Tape Supports designate members within the case to maintain the tape within an appropriate path.

2.7 Pressure Pad designates a resilient member used to hold the tape against a magnetic head.

3. GENERAL SPECIFICATIONS

3.1 The symmetrical compact cassette has its two sides with provision for being labeled 1 and 2 (or A

and B) respectively. The recording starts with side 1 up; at its conclusion, the compact cassette may be turned over and the recording continued with side 2 up. It may also be used for continuous reproduction, without having to turn over the compact cassette, by reversing the tape direction,

3.2 The back edge of the compact cassette shall be provided with two breakout lugs which, when removed, prevent accidental erasing of the relevant side. The relationship between the sides of the compact cassette and the breakout lugs is shown in figure A4 and B3 as indicated by arrows. These lugs shall be so constructed that they can withstand a perpendicular force of 3N (about 10.79 oz.) applied to the lug surface at a point defined by the intersection of the Z datum and the lug center line. The lug shall not deflect greater than 0.40 mm (.016 in.) with the applied force.

3.3 The compact cassette shall be provided with a pressure pad to hold the tape against the magnetic record/reproduce head.

3.4 The compact cassette shall be provided with a magnetic shielding of the magnetic record/reproduce head.

3.5 The compact cassette may be provided with windows for observing the amount of wound and unwound tape. For maximum dimensions see figure A3 and B3.

3.6 The tape shall be fastened to the hubs and wound with the magnetic coating facing out.

3.7 Recorded compact cassettes will accommodate lengths of tape as required by program content. Blank compact cassettes shall contain tape per the following table.

Nominal total recording time in minutes	Tape width		Maximum tape thickness		Minimum tape length	
	mm	in.	mm	in.	meters	feet
45	3.76	.148	.020	.0008	64	211
	3.81	.150				
60	3.76	.148	.020	.0008	86	282
	3.81	.150				
90	3.76	.148	.015	.0006	129	423
	3.81	.150				
120	3.76	.148	.010	.0004	172	564
	3.81	.150				