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SMPTE STANDARD

SMPTE 317M-1999

for Television Digital Recording — 12.65-mm Type D-9 Component Format — Tape Cassette



Page 1 of 20 pages

1 Scope

This standard specifies dimensions for the video tape cassette used with the 12.65-mm type D-9 digital component television recorder.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below.

SMPTE 316M-1999, Television Digital Recording — 12.65-mm Type D-9 Component Format — 525/60 and 625/50

3 Measurement

Tests and measurements on cassette parameters shall be carried out under the following atmospheric conditions:

- Temperature $20^{\circ}\text{C} \pm 1^{\circ}\text{C}$
- Relative humidity $(50 \pm 2)\%$
- Barometric pressure 86 kPa to 106 kPa
- Stabilization time 24 hours

4 Video tape cassette

4.1 General specifications

4.1.1 The dimensions of the cassette used for recording shall be in accordance with figures 1 to 17.

4.1.2 The magnetic coating on the tape shall face out of the cassette as specified in figure 12.

4.2 Datum plane

4.2.1 Datum plane Z is determined by datum areas A, B, and C as specified in figure 7.

4.2.2 Datum plane Y shall be orthogonal to datum plane Z and shall run through the center of datum hole A and datum hole B as specified in figures 4 and 5.

4.2.3 Datum plane X shall be orthogonal to both datum plane Y and datum plane Z and shall run through the center of datum hole A as specified in figures 4 and 5.

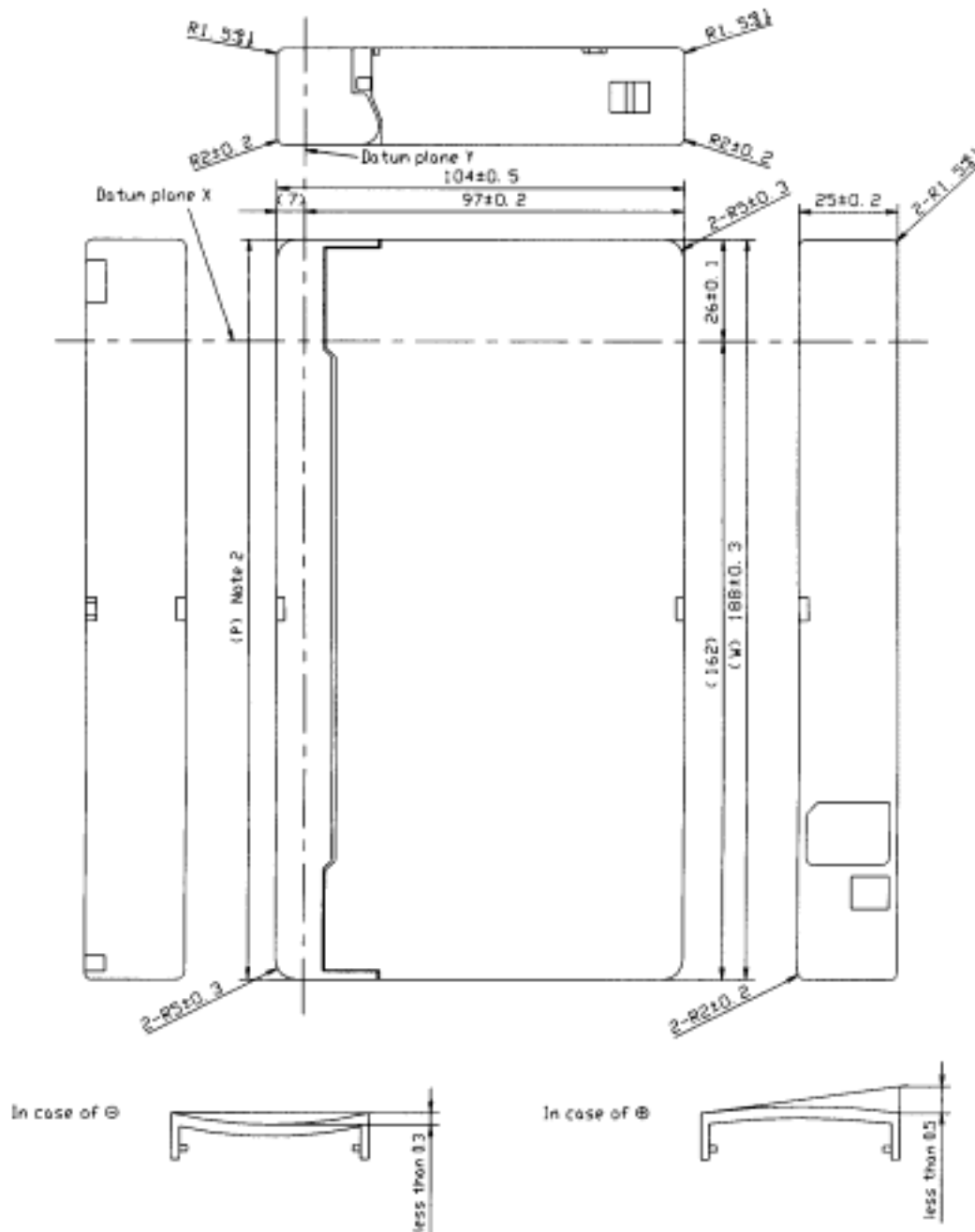
4.3 Window and labels

Window and label areas shall be as specified in figures 2 and 3.

4.4 Color

Window and reel upper flange: Transparent

Cassette shell: A color shall be selected so that overall light transmission of the cassette shell including wound tape is less than 2% when the light on the cassette upper surface is measured at the positions of the VTR light sensors. A VHS cassette optical tester or an equivalent measuring instrument shall be used.



Dimensions in millimeters

NOTES

1. Cassette warpage: The cassette shall pass through the tunnel gauge with an insertion force of less than 10 N. The tunnel gauge dimensions are a width of 188.6 mm + 0 mm – 0.02 mm, a height of 25.5 mm + 0 mm – 0.02 mm, and a depth of 100 mm + 5 mm – 0 mm.
2. The front cover dimension (P) can be made up to 0.7 mm smaller than the overall width dimension (W).
3. Front cover warpage shall be within + 0.5 mm – 0.3 mm. The drawings in the lower portion of the figure show the downward view.

Figure 1 – Cassette overall shape and dimensions

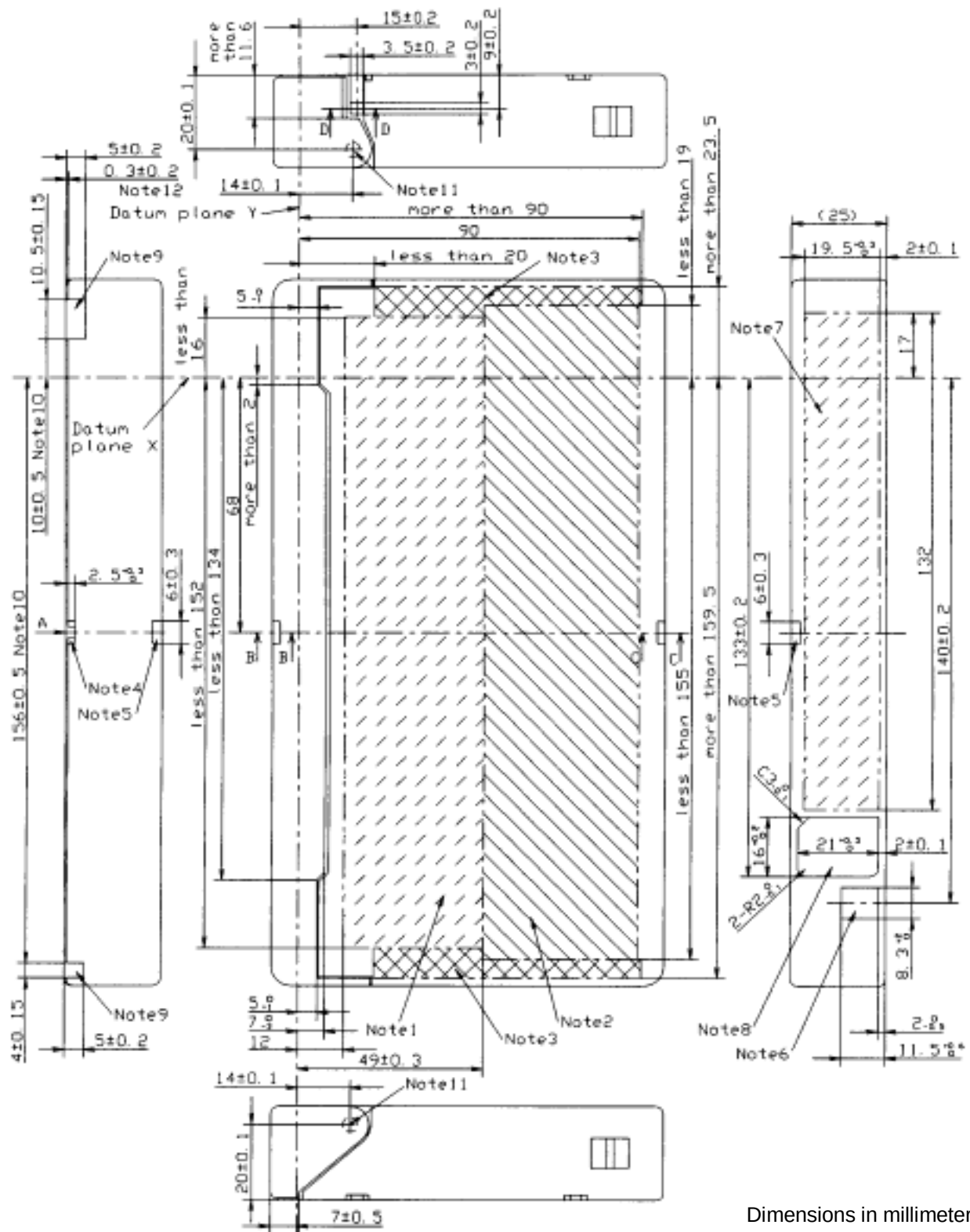
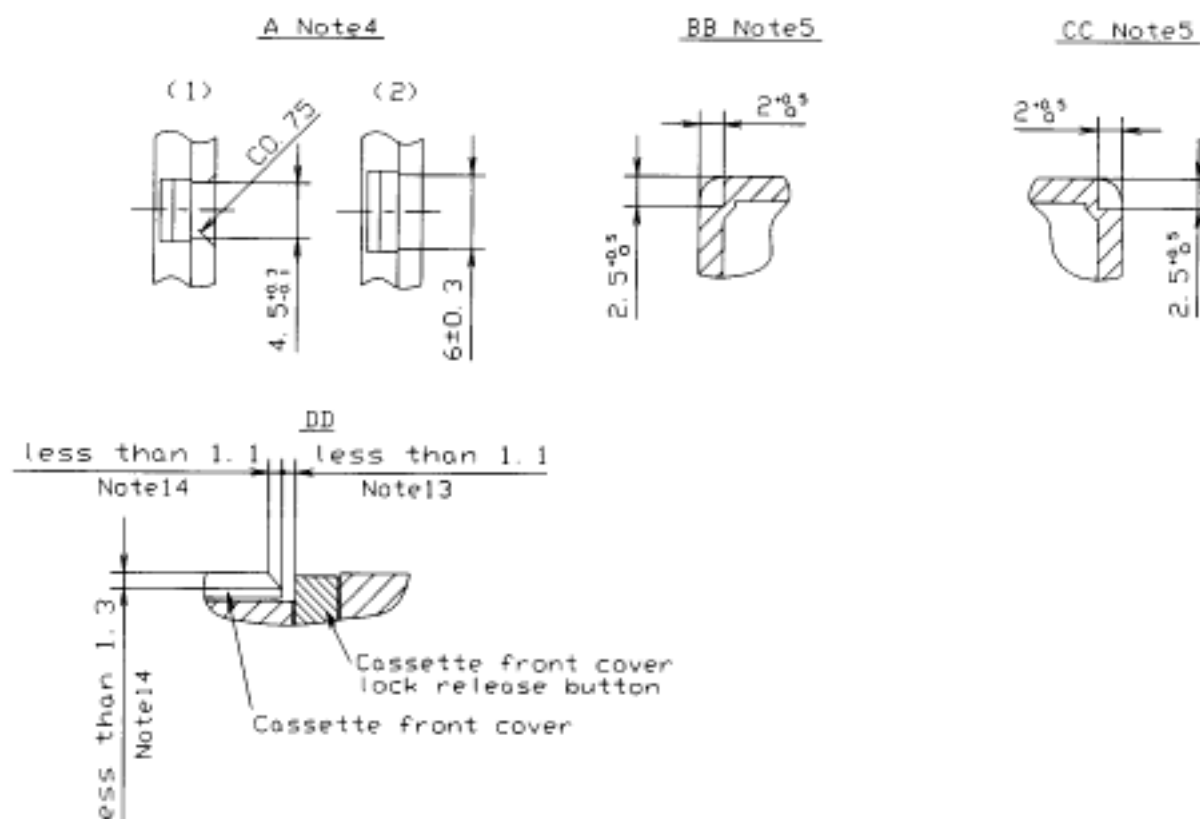


Figure 2 – Cassette top and side view dimensions (1)



Dimensions in millimeters

NOTES

- 1 Top label area: Provide label attachment portion within this area. The attachment area depth is $0.3 \text{ mm} \pm 0.1 \text{ mm}$ and the border of the attachment portion shall be visually indicated.
- 2 Tape amount display window area: Provide window within this area. The window shall not protrude above the top plane of the cassette.
- 3 Cassette holding area: The cassette is held by the recorder or player in this area. This area shall be flat.
- 4 Insertion error prevention groove: This dimension includes mechanical play of the front and rear covers.
- 5 Insertion error prevention notch.
- 6 Insertion error prevention hole: Depth greater than 2.9 mm.
- 7 Rear label area: Depth $0.5 \text{ mm} + 0.1 \text{ mm} - 0.2 \text{ mm}$.
- 8 Index device attachment portion: Depth $1 \text{ mm} + 0.2 \text{ mm} - 0 \text{ mm}$, attachment plane step difference shall be less than 0.2 mm.
- 9 Cassette position control portion.
- 10 This dimension includes mechanical play of the front and rear covers.
- 11 Front cover open/close axis center position.
- 12 Height dimension between cassette bottom cover and front cover bottom edge.
- 13 Space between front cover lock release button and front cover.
- 14 Front cover chamfer.

Figure 3 – Cassette top and side view dimensions (2)

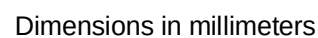
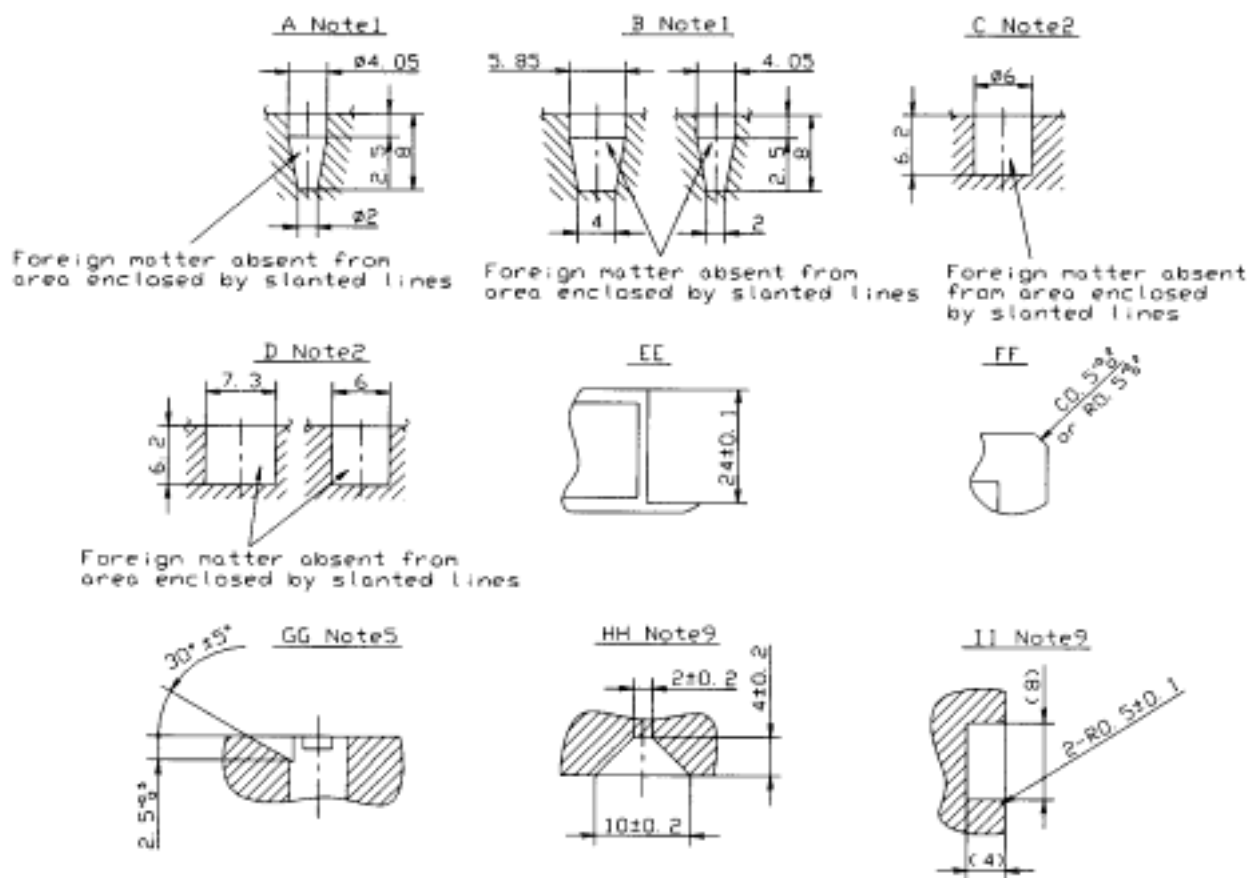


Figure 4 – Cassette bottom and side view dimensions (1)



Dimensions in millimeters

NOTES

- 1 A and B respectively indicate the minimum room to accommodate VCR datum pins in datum holes A and B.
- 2 C and D respectively indicate the minimum room to accommodate VCR position determining pins, in position determining holes C and D. C and D also include screw holes for securing the top and bottom cassette halves.
- 3 Long direction insertion error prevention groove.
- 4 Front insertion error escape groove, depth: $2.5 \text{ mm} + 0.5 \text{ mm} - 0 \text{ mm}$.
- 5 Rear insertion error escape groove.
- 6 Sensor light source hole depth: More than 22 mm.
- 7 Sensor light path hole: Both left and right sensor hole position and shape are the same.
- 8 Reel brake release hole.
- 9 Changer grip: Both left and right changer grip position and shape are the same.
- 10 Front cover holding section: Raised portions can be provided at two locations in the bottom half.
- 11 Insertion error prevention wall shall fulfill the following:
 - Wall strength shall endure a force of 150 N.
 - Cassette pull out force shall be less than 20 N.
- 12 Long direction insertion error escape groove: Groove shall be in the range indicated in the figure.

Figure 5 – Cassette bottom and side view dimensions (2)