



TANDBERG

TAPE DECKS AND RECORDERS • RECEIVERS •
STEREO POWER AMPLIFIER • PORTABLE RADIO • SPEAKERS

TANDBERG

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TANDBERG TCD 300 stereo

— the definitive high fidelity cassette deck

- Complies with high fidelity specifications set forth in DIN standard 45500.
- Hot pressed ferrite heads.
- Dolby noise reduction system.*
- 3 motors provide fast forward/rewind and precise record/playback.
- Hysteresis synchronous drive motor.
- Dual capstan closed loop ensures ideal tape handling and maximum stability.
- Two illuminated peak reading equalized recording and playback indicators.
- Minimum wow and flutter.
- Low Noise/CrO₂ Tape Switch.
- Electronic Controls.
- Microphone preamplifiers.
- Linear motion potentiometers for input levels.
- Automatic endstop.
- Wall mountable.
- Horizontal or vertical use.

The Tandberg Series TCD 300 Stereo is an entirely new cassette tape deck which meets the specifications set forth in DIN standard 45500 for high fidelity equipment to full satisfaction. Designed and manufactured at the Tandbergs Radiofabrikk in Norway, Series TCD 300 meets the stringent quality requirements imposed on all Tandberg tape machines.

DUAL CAPSTAN CLOSED LOOP TAPE DRIVE

This special tape handling system provides two capstan/pinch-roller systems that determine the position and orientation of the tape relative to the sound heads. This system ensures absolutely stable tape handling as well as minimum wow and flutter. Best possible results are obtained even with worn cassettes.

THREE MOTORS

The Tandberg Series TCD 300 has three motors (one hysteresis synchronous motor and two DC reel motors). The 2 separate winding motors make it possible to reduce the full-length winding time for a C 60 cassette to about 40 seconds. The tape handling mechanism feature rugged design and construction to assure excellent stability and reliability. Motors turn off automatically at end of tape for both recording/playback and fast forward/rewind, and the pinch rollers disengage tape. This eliminates risk that the tape will remain under pressure or in tension while the tape deck is not in use, and thereby ruin the cassette.

SOUND HEADS

Because the sound heads used in Series TCD 300 are made of hot-pressed ferrite, they can be guaranteed against wear throughout the service life of the tape deck.

DOLBY SYSTEM

The Tandberg TCD 300 Stereo features a built-in Dolby noise reduction system. This system reduces tape noise by about 10 dB relative to conventional systems and enables the Series TCD 300 to satisfy the signal/noise ratio requirements set forth in DIN standard 45500. The Dolby system is of special importance in a cassette tape machine for four reasons: tape noise is high, tapes are narrow, magnetic coatings are thin and tape speed is low. The Dolby system can be switched on and off.

PEAK READING METERS

Series TCD 300 is provided with peak reading meters that show peak recording levels. Levels are regulated with a linear motion potentiometer. These meters also show the level of the playback signal.

"SPEC. TAPE" SWITCH

The Tandberg Series TCD 300 is compatible with the most modern types of tape. This two-position selector switch can be set either for low noise, high output (LH) tape and for chromium dioxide (CrO₂) tape. CrO₂ switch position makes all four adjustments necessary for optimum recording with this kind of tape: record equalization, record bias, play equalization and erase current.

GENERAL SPECIFICATIONS:

Wall-mountable cabinet available in teak, rosewood or oak.
Dimensions: Length 16⁷/₈" (43 cm), height 4¹/₈" (10.5 cm), depth 9¹/₈" (23 cm). Weight: 14.5 lbs (6.5 kg).



TANDBERG TR-1000

— *top-of-the-line stereo receiver*

- Specifications exceed DIN standard 45500 by ample margin.
- Power output 2 × 50 Watts R.M.S. (2 × 70 Watts music power).
- Built-in decoder for FM stereo reception.
- Interstation noise muting.
- Adjustable inputs.
- Extra output for recording pre-amplified programmes.
- Loudness compensation added to volume control.
- Separate bass and treble controls for each channel.
- Low-cut filter and 2 high-cut filters.
- Front jack for stereo headphones.

The Tandberg FM Stereo Receiver TR-1000, one of the highlights in the Tandberg line of receivers was designed and constructed especially for the international high fidelity market. Superb features that permit extraordinarily all-round usage have endeared the TR-1000 to thousands of audiophiles throughout the world.

TUNER

The Tandberg Stereo Receiver TR-1000 contains a highly sophisticated FM tuner built up of dual gate MOSFET transistors. Pre-selection of up to 6 FM stations. Built-in decoder for FM stereo reception. Muting effectively suppresses interstation noise during tuning. Black dial remains dark until power is turned on, then lights up in crisp contrast to provide pleasant, easy tuning.

POWERFUL AMPLIFIER

With its high power output, 2 × 50 Watts R.M.S. the TR-1000 is ideal as central unit in any stereo system. The output stage features extraordinarily low crossover distortion (full complement of output terminals). Series capacitors provide your external speakers with maximum protection. Fuses blow in the event of a short circuit at the output terminals. Thermostat provides protection against damage in the event of insufficient cooling.

The Tandberg TR-1000 is provided with volume control and a balance control. Separate bass and treble controls for each channel. These latter permit individual channel adjustments to be made. Loudness compensation can be added to the volume control. This causes the lower and higher frequencies to be increased more than the middle frequencies when the volume is turned down, thus reducing the tendency of the music to sound "thin" at low volume.

INPUTS/OUTPUTS

The TR-1000 is provided with inputs for a record player (RIAA equalised pre-amplifier for magnetic pickup) and up to three tape decks. All inputs have adjustable sensitivity. The tape monitor facility makes it possible to monitor from either the tape itself or from the source while recording (A- and B-test, explained on page 17) using a tape deck with separate recording and playback heads as, for example, the Tandberg Series 9000X, 6000X or 3000X.

THREE FILTERS

The Tandberg TR-1000 is provided with one low-cut filter that reduces rumble from the record player and acoustic feedback between speaker and pickup. Two high-cut filters limit noise (hiss) such as that heard when playing worn records. Internal scale illumination lights individual legends as functions are engaged.

TR-1010 WITH MEDIUM-WAVE RECEPTION

The TR-1000 can also be supplied in a special version designated the TR-1010 which provides both FM and medium-wave reception.

TECHNICAL SPECIFICATIONS FOR TR-1000 AND TR-1010:

Power requirements: 110/220 V AC, 50/60 Hz.

Power consumption: 28 – 225 Watts.

Dimensions: Length 17" (43 cm), height 4³/₄" (12 cm), depth 12" (30.5 cm) plus ³/₄" (2 cm) for controls.

Weight: 19.5 lbs (8.8 kg).

AUDIO SECTION

Power output: (0.2% harmonic distortion at 1 kHz, DIN) 2 × 50 Watts R.M.S. into 4 ohms, 2 × 35 Watts R.M.S. into 8 ohms.

Music power: 2 × 70 Watts into 4 ohms.

Harmonic distortion: 0.1% at power output 1 dB below nominal value and lower.

Intermodulation distortion: Pre-amplifier 0.1% power amplifier 0.2%.

Damping factor: 30 at 4 ohms, 60 at 8 ohms.

Power bandwidth (DIN): 10 – 60,000 Hz into 8 ohms.

Frequency response (linear inputs, DIN): 12 – 60,000 Hz (– 1.5 dB).

Treble control: ± 14 dB at 10,000 Hz.

Loudness: + 7 dB at 10,000 Hz.

Bass control: ± 16 dB at 50 Hz.

Loudness: + 12 dB at 50 Hz.

Low-cut filter: – 3 dB at 70 Hz (– 12 dB per octave).

High-cut filter 1: – 3 dB at 8000 Hz (– 12 dB per octave).

High-cut filter 2: – 3 dB at 8000 Hz (– 6 dB per octave).

Channel separation (DIN): PHONO 52 dB, TAPE 55 dB.

Signal/noise-and-hum ratio: (DIN), reference 50 mW/nominal input signal: TAPE 1 and 2: 55/57 dB and PHONO magn.: 54/56 dB into 4/8 ohms.

Signal/noise-and-hum ratio: (IHF) reference maximum power output and nominal input signal: TAPE 1 and 2: 80/82 dB and PHONO magn.: 65/67 dB into 4/8 ohms.

Nominal sensitivity: (full power output at 1 kHz into 4/8 ohms) TAPE 1 and 2: 220/260 mV, adjustment range 130 – 500 mV. PHONO magn.: 3/3.6 mV, adjustment range 1.8 – 6 mV.

TAPE 1 and 2 outputs: (Quiescent) 1 V across phono contacts and 200 mV across DIN contacts.

FM SECTION

Frequency band: 87.5 – 108 MHz.

Audio frequency response: 20 – 16,000 Hz.

Sensitivity at 26 dB signal/noise ratio, DIN: 1 μV at 75 ohms, 2 μV at 300 ohms.

Signal/noise ratio at 1 mV antenna signal, IHF: 68 dB in mono, 66 dB in stereo.

Harmonic distortion (DIN): 0.2%, (IHF) 0.3%.

Limiting: (– 3 dB) 1.5 μV at 75 ohms.

Muting threshold: 5 μV at 75 ohms.

Capture ratio: 1.8 dB.

Channel separation (DIN): 35 dB at 1 kHz.

Pilot tone suppression (DIN): 68 dB.

38 kHz suppression (DIN): 50 dB.

SPECIAL SPECIFICATIONS FOR THE TR-1010:

AM SECTION

Frequency response (medium-wave): 518 – 1600 kHz.



TANDBERG TR-200

— sophisticated compact FM stereo receiver



- Specifications better than DIN standard 45500.
- Pre-selection of up to 6 FM stations.
- Interstation noise muting.
- Power output 2×20 Watts R.M.S. (2×30 Watts music power).
- Pre-amplifier for record players with magnetic pickup.
- Front jack for stereo headphones.

FM TUNER

The Tandberg FM Stereo Receiver TR-200 is provided with a sophisticated FM tuner that permits pre-selection of up to 6 FM stations. Black dial remains dark until power is turned on, then lights up in crisp contrast to provide pleasant, easy tuning. Muting effectively suppresses interstation noise during tuning. Available with decoder for stereo FM reception.

STEREO POWER AMPLIFIER

High power output (2×20 Watts R.M.S. and 2×30 Watts music power). RIAA equalized pre-amplifier for record player

with magnetic pickup. Loudness compensation switch. Inputs for record player, tape deck and an extra program source, thus providing a wide versatility. The TR-200 is ideal as the hub of your Tandberg high fidelity stereo system. The TR-200 is housed in a stylish cabinet available in walnut, teak, rosewood or oak.

TECHNICAL SPECIFICATIONS:

Power requirements: Selector for 115/220/240 V AC, either 50 or 60 Hz.

Power consumption: 15 – 100 Watts.

Dimensions: Length $16\frac{7}{8}$ " (43 cm), height $3\frac{7}{16}$ " (8.7 cm), depth $9\frac{5}{8}$ " (24.3 cm) plus $\frac{3}{4}$ " (1.8 cm) for controls.

Weight: 11 lbs (5 kg).

AUDIO SECTION

Nominal power output: (1% harmonic distortion at 1 kHz, DIN) 2×20 Watts R.M.S. into 4 ohms, 2×15 Watts R.M.S. into 8 ohms.

Music power: 2×30 Watts into 4 ohms.

Harmonic distortion: 0.25% at power output 1 dB below nominal value and lower.

Intermodulation distortion: 1%.

Damping factor: 15 at 4 ohms, 30 at 8 ohms.

Power bandwidth: (DIN) 20 – 35,000 Hz.

Frequency response: (linear inputs, DIN) 20 – 40,000 Hz.

Treble control: +14 dB, –15 dB at 10,000 Hz.

Loudness: +3.5 dB at 10,000 Hz.

Bass control: +16 dB, –16 dB at 50 Hz.

Loudness: +11 dB at 50 Hz.

Channel separation (DIN): 43 dB at 1000 Hz.

Signal/noise ratio: (DIN, reference 50 mW at nominal input signal, peak value) TAPE 52 dB, EXTRA 52 dB, PHONO magn. 52 dB, PHONO cer. 52 dB.

Sensitivity: (nominal power output at 1 kHz) TAPE 250 mV, EXTRA 100 mV, PHONO magn. 2.3 mV, PHONO cer. 70 mV.

FM SECTION

Frequency band: 87.5 – 108 MHz.

Sensitivity: (at 26 dB signal/noise ratio, DIN) $1 \mu\text{V}$ at 75 ohms, $2 \mu\text{V}$ at 300 ohms; (at 30 dB signal/noise ratio, IHF) $2 \mu\text{V}$ at 300 ohms.

Signal/noise ratio: (at 1 mV antenna voltage) unweighted DIN 61 dB, weighted DIN 70 dB, unweighted IHF 68 dB.

Harmonic distortion, (DIN): 0.5%. (IHF): 1%.

IF rejection, (IHF): 100 dB.

Image frequency rejection, (IHF): 70 dB.

IF bandwidth, (6 dB): 210 kHz.

Limiting, (–3 dB): $3 \mu\text{V}$ at 75 ohms.

Muting threshold: $5 \mu\text{V}$ at 75 ohms.

Capture Ratio: 1.8 dB.

TANDBERG TA 300

— a complete stereo amplifier

- Specifications better than DIN standard 45500.
- Power output 2 × 35 Watts R.M.S. (2 × 50 Watts music power).
- RIAA equalized pre-amplifier for magnetic pickup.
- High- and low-cut filters.
- Loudness compensation added to volume control.
- Inputs for 2 record players and 2 tape machines (tape/monitor function).
- Front jacks for 2 stereo headphones.
- Front input/output for extra tape machine on the TA 300.
- Microphone amplifier and mixing capability on the TA 300 M.

TECHNICAL SPECIFICATIONS:

Power requirements: Selector for 115/220/240 V AC, 50 or 60 Hz.

Power consumption: 10 – 180 Watts.

Dimensions: Length 16⁷/₈" (43 cm), height 3⁷/₁₆" (8.7 cm), depth 9⁵/₈" (24.3 cm) plus controls 1/4" (1.8 cm).

Weight: 11 lbs (5 kg).

Nominal power output: (0.3% harmonic distortion at 1 kHz, DIN) 2 × 35 Watts R.M.S. into 4 ohms, 2 × 25 Watts R.M.S. into 8 ohms.

Harmonic distortion: (power output 1 dB below nominal value and lower) 0.2% at 4 ohms, 0.15% at 8 ohms.

Intermodulation distortion: 0.4% in output stage at 8 ohms.

Damping factor: (1 kHz) 30 at 4 ohms, 60 at 8 ohms.

Power bandwidth: 15 – 50,000 Hz into 4 ohms, 10 – 80,000 Hz into 8 ohms.

Frequency response: 15 – 50,000 Hz (– 1.5 dB) with linear inputs.

Treble control: ± 17 dB at 10,000 Hz.

Loudness: + 7 dB at 10,000 Hz.

Bass control: ± 15 dB at 50 Hz.

Loudness: + 12 dB at 50 Hz.

Low-cut filter: – 3 dB at 70 Hz (– 12 dB per octave).

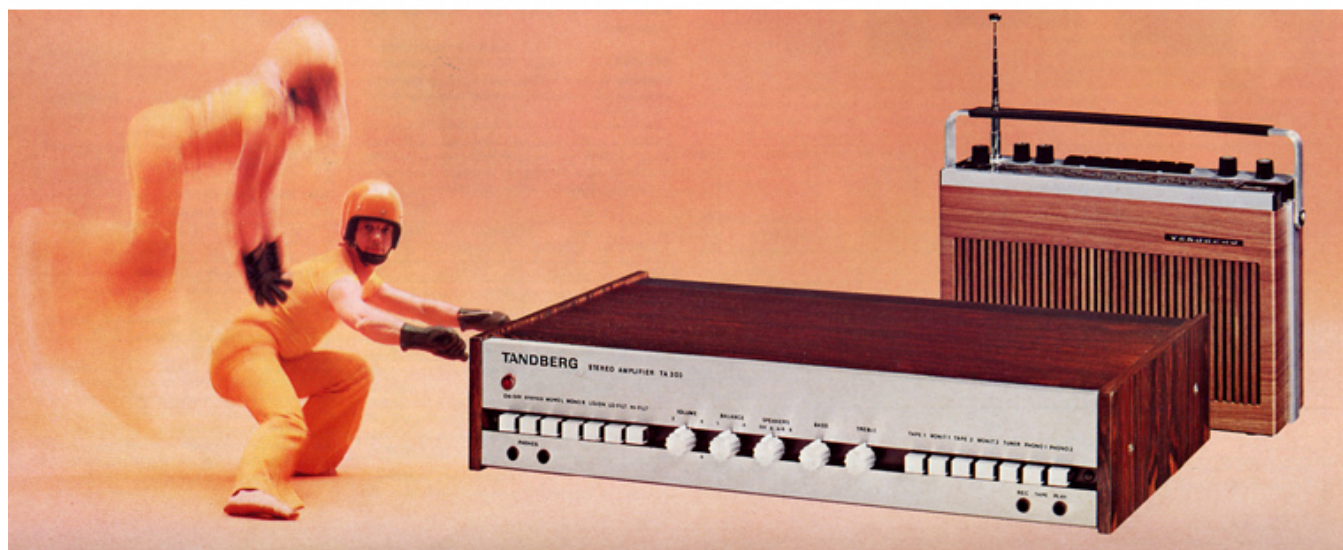
High-cut filter: – 3 dB at 7000 Hz (– 12 dB per octave).

Channel separation: PHONO 1 and 2, 60 dB; TAPE 1 and 2, 60 dB; TUNER, 65 dB.

Signal/noise-and-hum: (reference 50 mW, nominal input signal, peak values) PHONO 1 and 2: 55 dB; TAPE 1 and 2: 60 dB; TUNER: 60 dB.

Signal/noise-and-hum: (reference maximum power output and nominal signal input) PHONO 1 and 2, 60 dB; TAPE 1 and 2, 83 dB; TUNER, 79 dB.

Sensitivity: (nominal power output at 1 kHz into 4 ohms) PHONO 1 and 2: 2.5 mV; TAPE 1 and 2: 75 mV; TUNER: 60 mV.



TANDBERG PORTABLE RADIO

TP 41

— the ultimate compact
battery-powered radio

- Unsurpassed in American test conducted by "Stereo Review" magazine, July 1971.
- 4 wavebands: FM and long-, medium- and short-wave AM.
- Fine short-wave adjustment (loupe).
- Excellent sensitivity.
- Superb sound quality.
- Large special speaker, 5" by 9".
- Separate bass and treble controls.
- Powered from wall when used with battery eliminator.

TECHNICAL SPECIFICATIONS:

13 transistors, 5 diodes and 1 voltage stabilizing cell.
4 wavelengths:

Long wave (LW) 150 – 268 kHz (2000 – 1120 m).

Medium wave (MW) 518 – 1600 kHz (580 – 187 m).

Short-wave (SW) 5.8 – 18.5 MHz (51.7 – 16.2 m).

FM 87.5 – 108 MHz.

Antenna: Ferrite antenna for long- and medium-wave, telescoping antenna for FM and short-wave.

Connector for external antenna with separate input circuits for long- and medium-wave.

Power output: 1.5 W at 3% distortion (1.8 W at 10%) when operating on internal batteries. 2.5 W (3.5 W at 10%) when operating on 12 V automobile battery and on battery eliminator.

Frequency response: 40 – 20,000 Hz.

Tone controls: Separate continuously adjustable bass and treble controls.

Speaker: 5" by 9", 3.2 ohms.

Inputs/outputs: Extra speaker, battery eliminator, headphones and tape recorder or record player.

Power requirements: 9 V (six 1.5 V round transistor batteries) or 12 V from battery eliminator.

Current drain: 25 mA quiescent current, 75 mA at 50 mW power output, 295 mA at full power output.

Dimensions: Length 11" (28 cm), height 7¹/₈" (18 cm) excluding handle and knobs, depth 3¹/₄" (8.2 cm).

Weight: Approx. 5.5 lbs (2.5 kg) with batteries.