

# TANDBERG

## *Creative Dissatisfaction*

*I*t has been said that "creative dissatisfaction" created the Tandberg 3000 Series. In the late 1970's, there was limited knowledge linking electrical engineering

theory to sound quality. Tandberg initiated a major engineering effort in order to quantify and define these relations. This resulted in the 3000 Series.

When the series was introduced some 15 years ago, it represented a significant advance in the technology of sound reproduction. Audio magazines





# 3000 Series

throughout the world gave the products outstanding evaluations. The performance specifications were way above competing equipment.

**T**he first product from this research was the legendary 3001 tuner. One and a half decades later, today's upgraded version is regarded by many as the best tuner on the market. The 3014 cassette deck from 1985, is considered one of the best cassette decks ever made. The TD 20A SE reel-to-reel tape deck is ranked at the top amongst professionals and music lovers who appreciate true analogue reproduction of sound.

**T**andbergs' control and power amplifiers have a Zero Negative Feedback design. The result is a remarkably warm and natural sound reproduction. Purity, transient detail, openness, resolution and the imaging are extraordinary. The Tandberg ampli-

fiers share a common heritage of musical accuracy resulting not only from innovative circuit design and meticulous attention to engineering details, but also from continuous listening and a true love for music. The 3000 Series is one of the longest lasting hi-fi

series in the business. There have been additions and some products are discontinued, but the design and philosophy behind the series is still very much alive.

The Tandberg 3000 Series is designed and produced in Norway.

## The Final Edition

# TANDBERG TD 20A SE

**M**uch of Tandbergs' reputation for quality was based on the unmatched performance of its tape decks.

The TD 20A SE is a direct descendant of the products that made Tandberg a leader in the audio market and is the best and most advanced tape deck ever designed at Tandberg!

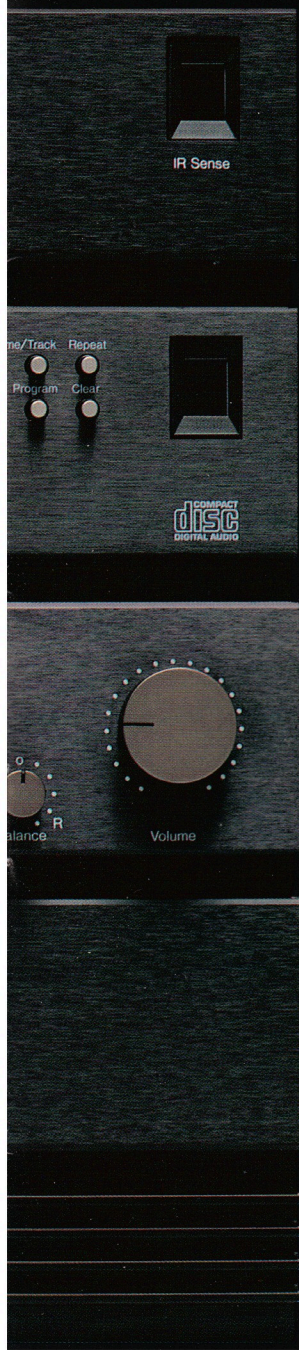
**T**he TD 20A SE features a four motor transport system, micro-processor control operating system, Dyneq and Actilinear. Dyneq and Actilinear increase recording headroom whilst reducing noise and high frequency overload to a minimum. It has four input mic./line



*The Tandberg TD20A SE: This two track high speed tape deck is a state of the art within tape decks.*

mixing and Track Sync. Tandbergs unique Special Equalisation takes advantage of high output/low noise tapes by reducing the playback boost, thus diminishing tape hiss significantly and allowing up to 80 dB signal-to-noise ratio without noise reduction circuits.

*The 3000 Series: The timeless industrial design of the 3000 Series makes the products still modern after more than 15 years on the market.*





# A Series of Living Legends

## TANDBERG TCA 3028A Control Amplifier



The 3028A is based on the much acclaimed 3018A. The phono-stage is excluded, but an optional high quality MM or MM/MC phono-stage can easily be installed. The 3028A is fully remote controlled and has separate listen and record functions. The line

level inputs have a high overload capability. The special Zero Negative Feedback circuit topology results in data unheard of in regular production. The 3028A control amplifier gives a remarkable performance with enhanced focus and resolution combined with excellent dynamic contrast and clarity.

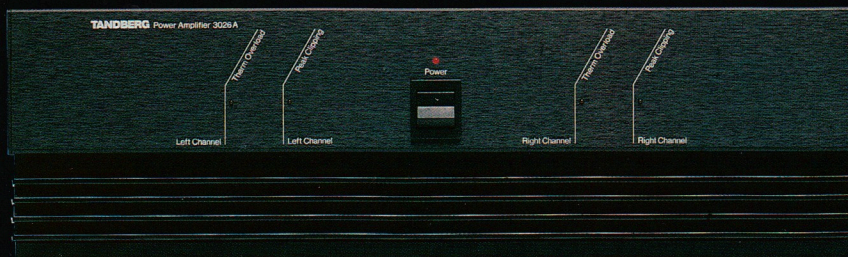
## TANDBERG TPA 3036A Mk II Power Amplifier



Years of experience with bi-polar technology is incorporated in the design of the 3036A MkII. The Zero Negative Feedback design, with local

error correction circuitry, greatly improves the amplifiers band-width and damping factor. The result is an exquisite openness and purity combined with accuracy and control. With the new toroidal transformer and high speed output stages, the MkII offers well above 100W per channel. The 3036A Mk II is a fast and accurate amplifier, rich in tonal texture and with a vast sense of depth.

## TANDBERG TPA 3026A Power Amplifier



This 2x150W audiophile power amplifier offers a Zero Negative Feedback design, with high speed solid state power MOSFET's.

The 3026A voltage amplification stage is a high speed, high accuracy Transconductance amplifier in conjunction with a Transimpedance stage.

The high current design guaranties superior performance even under the

most dynamic signal conditions.

The unique output stage error correction circuitry results in an extremely high

wide-band damping factor and a low distortion.

The 3026A protection circuitry continuously monitors temperature, current and voltage conditions. It disconnects the load if an irregular operating state should be detected.

The amplifier has an extremely well controlled bass, a highly detailed and accurate midrange and treble, hardly matched by other amplifier designs.



## TANDBERG TPA 3016A Power Amplifier

The 3016A was designed to be a power source for arduous loudspeaker loads. This immensely powerful amplifier will drive speakers with extremely low efficiency or conventional speakers at extremely high volumes. To get maximum pleasure from your system, it is still important that you match amplifier and loudspeakers with care. This rock solid Dual-Mono

amplifier produces a massive 220W per channel with an 8 ohm load, doubling into 440W per channel at 4 ohms. It can actually give a pulse power of 2,5 kW per channel at 0,5 ohm! It has the same basic amplifier design as the 3026A, but with larger power supplies. Each channel has its' own power supply and 8 high voltage, high current MOSFET



power devices. This enables the amplifier to deliver in excess of 100 amperes to the load. Effortless power and innovative circuit design ensures true high-end reproduction of music.

## TANDBERG TCP 3035A CD Player

This CD-player offers Tandbergs' "stackable top-loader" in the 3000 design, with the same transport as used in the 4035/4025.

It combines the benefits from the top loaders superior ability to subdue vibrations, with the

drawer mechanisms functionality.

The exceptional ability to reduce erroneous reading of CD's, has placed the 3035A in an elite of excellent transports, but at an affordable price. Although most often used in



conjunction with a D/A converter, the 3035A features a discrete Class-A analogue output stage, enabling high quality sound without the external D/A converter.

## TANDBERG TPT 3031A Tuner

This fully remote controlled digital tuner offers a high degree of stability in combination with an easy to read and accurate LED display. The tuner utilises 4 tuned circuits to prevent mirror imaging and other out-of-band distortions. The tuner features a

high quality discrete audio stage with carefully selected components, not compromising the sound quality.

The 3031A has 16 pre-sets. The front end employs gauged, tuned circuits where DC voltage controlled capacitance



diodes are used as tuning elements. Dual gate MOSFETs are used in the RF stage. This achieves stable, accurate tuning and good sensitivity combined with superior headroom.

## TANDBERG TPT 3001A Tuner

The 3001A offers extremely low distortion, an unprecedented signal to noise ratio of 92dB in stereo and overall performance specifications far above any competing tuner.

The 3001A uses a discrete MPX decoder to eliminate beat notes

and to increase audio quality. IF band-width is user adjustable in three ranges.

The 3001A features carefully chosen discrete components in all signal carrying stages. The result is superb selectivity, sensitivity and capture ratio



insuring the finest FM performance available. Although the 3001A is an analogue tuner, it has 8 pre-sets. FM becomes a viable high fidelity source.

## TANDBERG TCD 3014A Cassette Deck

The remote controlled 3014A uses Dolby B and C NR processors.

Individual components are selected for ultimate parameters of noise, sound quality, low distortion, gain and stability. The 3014A uses Dyneq and Acti-linear II.

It features four servo controlled

motors in the tape transport system and a real time counter. Incorporated in the transport, is the Tandberg designed three-head system, Azimuth alignment for all tapes.

The headbridge uses the fourth motor to position it accurately with the tape.

To attain maximum musical



accuracy, it features phase compensation circuitry and ultra wide-band design to pass a signal with no audible degradation in sound or image.



# Specifications

## Control Amplifiers/Intergrated Amplifier

	TCA 4038	TCA 3038A	TCA 3028A	TIA 4062
Continous Power Output	RMS 8 ohm RMS 4 ohm			2 x 50W 2 x 80W
Peak Current				>10 A
Frequency Response (20 Hz - 20 kHz)	+ 0 dB/- 0.5 dB	+ 0 dB/- 0.5 dB	+ 0 dB/- 0.3 dB	+ 0 dB/- 0.1 dB
Frequency Range (0 dB/- 3 dB)	1.6 Hz - 1.25 MHz	1.6 Hz - 250 kHz	1.6 Hz - 1.5 MHz	2 Hz - 200 kHz
Wideband Damping Factor				>100
THD + Noise (1W/8 ohm 1 kHz)				0.01 %
THD + Noise (0.5V, 1 kHz, High Level Inputs)	0.006 %	0.04 %	0.005 %	0.01 % (Tape Out)
THD + Noise (0.5V, 1 kHz, Phono MM)	0.06 %	0.08 %		
Signal-to-Noise Ratio (1W/8 ohm, A-Weighted)				85 dB
Signal-to-Noise Ratio (0.5V, A-Weighted, High Level Inputs)	90 dB	85 dB	90 dB	90 dB (Tape Out)
Signal-to-Noise Ratio (0.5V, A-Weighted RIAA MM)	75 dB	75 dB		
Sensitivity (1W/8 ohm)				0.03V
Sensitivity RIAA (0.5V, 1 kHz)	1.2 mV	1.5 mV		
Sensitivity Line (0.5V)	90 mV	60 mV	80 mV	500 mV (Tape Out)
Power Requirements	115/230 +/- 10 %	115/230 +/- 10 %	115/230 +/- 10 %	115/230 +/- 10 %
Power Consumption	18W	35W	25W	50 - 250W
Dimensions (W x D x H mm)	464 x 380 x 76	435 x 350 x 83	435 x 350 x 89	464 x 380 x 76
Weight (kg)	6.0	4.9	5.7	8.0

## Power Amplifiers

	TPA 4036	TPA 3036A Mk II	TPA 3026A	TPA 3016A
Continous Power Output	RMS 8 ohm RMS 4 ohm	2 x 100W 2 x 160W	2 x 100W 2 x 160W	2 x 150W 2 x 220W 2 x 400W
Peak Current		30 A	30 A	45 A >100 A
Frequency Response (20 Hz - 20 kHz)	+ 0 dB/- 0.1 dB	+ 0 dB/- 0.1 dB	+ 0 dB/- 0.1 dB	+ 0 dB/- 0.1 dB
Frequency Range (0 dB/- 3 dB)				
Wideband Damping Factor	>800	>800	>800	>400
THD + Noise (1W/8 ohm 1 kHz)	0.006 %	0.006 %	0.008 %	0.008 %
THD + Noise (0.5V, 1 kHz, High Level Inputs)				
THD + Noise (0.5V, 1 kHz, Phono MM)				
Signal-to-Noise Ratio (1W/8 ohm, A-Weighted)	90 dB	90 dB	96 dB	92 dB
Signal-to-Noise Ratio (0.5V, A-Weighted, High Level Inputs)				
Signal-to-Noise Ratio (0.5V, A-Weighted RIAA MM)				
Sensitivity (1W/8 ohm)	0.1V	0.1V	0.085V	0.085V
Sensitivity RIAA (0.5V, 1 kHz)				
Sensitivity Line (0.5V)				
Power Requirements	115/230 +/- 10 %	115/230 +/- 10 %	115/230 +/- 10 %	115/230 +/- 10 %
Power Consumption	50-500W	50-500W	110-830W	220-2500W
Dimensions (W x D x H mm)	464 x 380 x 76	435 x 350 x 130	435 x 350 x 130	435 x 350 x 221
Weight (kg)	10.0	10.6	14.3	28.0

## Cassette Deck

	TCD 3014A
Track	4 tracks/2 channels
Tape Speed	4.76 cm/sec.
Wow and Flutter (WRMS Play)	0.06 %
Distortion -250nW/m Dolby B NR	<1 % Metal <2 % Type II <1.5 % Type I
Frequency Response	Metal (20 dB) 18-23000 Hz +/- 1.5 dB Type II 18-20000 Hz +/- 1.5 dB Type I 18-20000 Hz +/- 1.5 dB
Signal-to-Noise Ratio (Metal Dolby C NR)	>74 dB
Input Impedance	150 Kohm
Input Sensitivity	Low 100 mV High 10 mV
Output Impedance	100 ohm
Output Level	Fixed 700 mV Variable 0-4V
Power Requirements	115/230V +/- 10 %
Power Consumption	50W
Dimensions (W x H x D mm)	435 x 166 x 350
Weight (kg)	9.8

## Tape Deck

	TD 20A SE
Track	2 Tracks/2 Channels
Tape Speed	38-19 cm/sec.
Wow and Flutter	38 cm/sec. WRMS 0.03 % 19 cm/sec. 0.05 %
Distortion	320 nWb/m 0.5 %
Frequency Response	38 cm/sec. 20-30000 Hz +/- 2 dB 19 cm/sec. 20-25000 Hz +/- 2 dB
Signal-to-Noise Ratio	IEC A-Curve 80 dB IEC Lin. RMS 70 dB
Input Impedance	Mic. 800 ohm Line 1 150 Kohms Line 2 250 Kohms
Input Sensitivity	Mic. 0.2 mV - 20 mV Line 1 50 mV - 5V Line 2 50 mV - 5V
Output Impedance	Line 100 ohm
Output Level	Line 1.5V
Power Requirements	115/230V +/- 10 %
Power Consumption	110W
Dimensions (W x D x H mm)	435 x 450 x 195
Weight (kg)	17.0



## CD-Players

	TCP 4035	TCP 4025	TCP 3035
Frequency Response (20 Hz - 20 kHz)	+/- 0.5 dB	+/- 0.1 dB	+/- 0.5 dB
Signal-to-Noise Ratio	100 dB	105 dB	105 dB
Dynamic Range	87 dB	90 dB	94 dB
Channel Separation at 1000 Hz	90 dB	93 dB	88 dB
THD + Noise (1 kHz)	0.01 %	0.004 %	0.007 %
Wow and Flutter	Quartz Crystal Precision	Quartz Crystal Precision	Quartz Crystal Precision
Error Correction System	CIRC	CIRC	CIRC
D/A Conversion	18 bit, 8 x oversampling	18 bit, 8 x oversampling	16 bit linear/channel
Line Output Level	Max. 1.5V at 0 dB	Max. 2V at 0 dB	Max. 1.8V RMS at 0 dB
Power Requirements	115/230V +/- 10%	115/230V +/- 10%	115/230V +/- 10%
Power Consumption	Max. 30W	Max. 30W	Max. 15W
Dimensions (W x D x H mm)	464 x 374 x 76	464 x 374 x 76	435 x 350 x 89
Weight (kg)	6.7	6.8	6.0

## Tuners

		TPT 4031	TPT 3031A	TPT 3001A
Usable Sensitivity	Mono	1.1 uV/75 ohm	1.1 uV/75 ohm	0.8 uV (6.8 dBf)
50 dB Quieting Sensitivity	Mono	2 uV/75 ohm	2 uV/75 ohm	0.9 uV (10.3 dBf)
	Stereo	20 uV/75 ohm	20 uV/75 ohm	11.0 uV (32.1 dBf)
Signal-to-Noise Ratio	Mono	82 dB	82 dB	95 dB
	Stereo	78 dB	78 dB	82 dB
Harmonic Distortion at 65 dBf (1 kHz)	Mono	0.15 %	0.15 %	0.06 %
	Stereo	0.15 %	0.15 %	0.05 %
Frequency Response 30-15000 Hz	Mono	+ 0.5 dB - 1 dB	+ 0.5 dB - 1 dB	+ 0.2 dB - 0.5 dB
	Stereo	+ 0.5 dB - 1 dB	+ 0.5 dB - 1 dB	+ 0.2 dB - 0.5 dB
Capture Ratio		1.0 dB	1.0 dB	1 dB
Alternate Channel Selectivity +/- 400 kHz		>100 dB	>100 dB	90 dB
Spurious Response Ratio		>90 dB	>90 dB	>135 dB
Stereo Separation	60-10000 Hz	>45 dB	>45 dB	
	100 Hz			60 dB
	1 kHz			60 dB
	6 kHz			50 dB
Subcarrier Product Ratio		70 dB	70 dB	95 dB
Power Requirements		115/230V +/- 10%	115/230V +/- 10 %	115/230V +/- 10 %
Power Consumption		20W	20W	34W
Dimensions (W x D x H mm)		435 x 350 x 83	435 x 350 x 83	435 x 350 x 83
Weight (kg)		4.9	4.9	7.0



# TANDBERG

**AKERSMIDT**  
**ELECTRIC CIRCUS**  
Langgt. 18 - 4300 SANDNES  
Tlf: (cd) 51 62 35 55 - (hifi) 51 62 35 56  
Telefax: 51 62 35 11