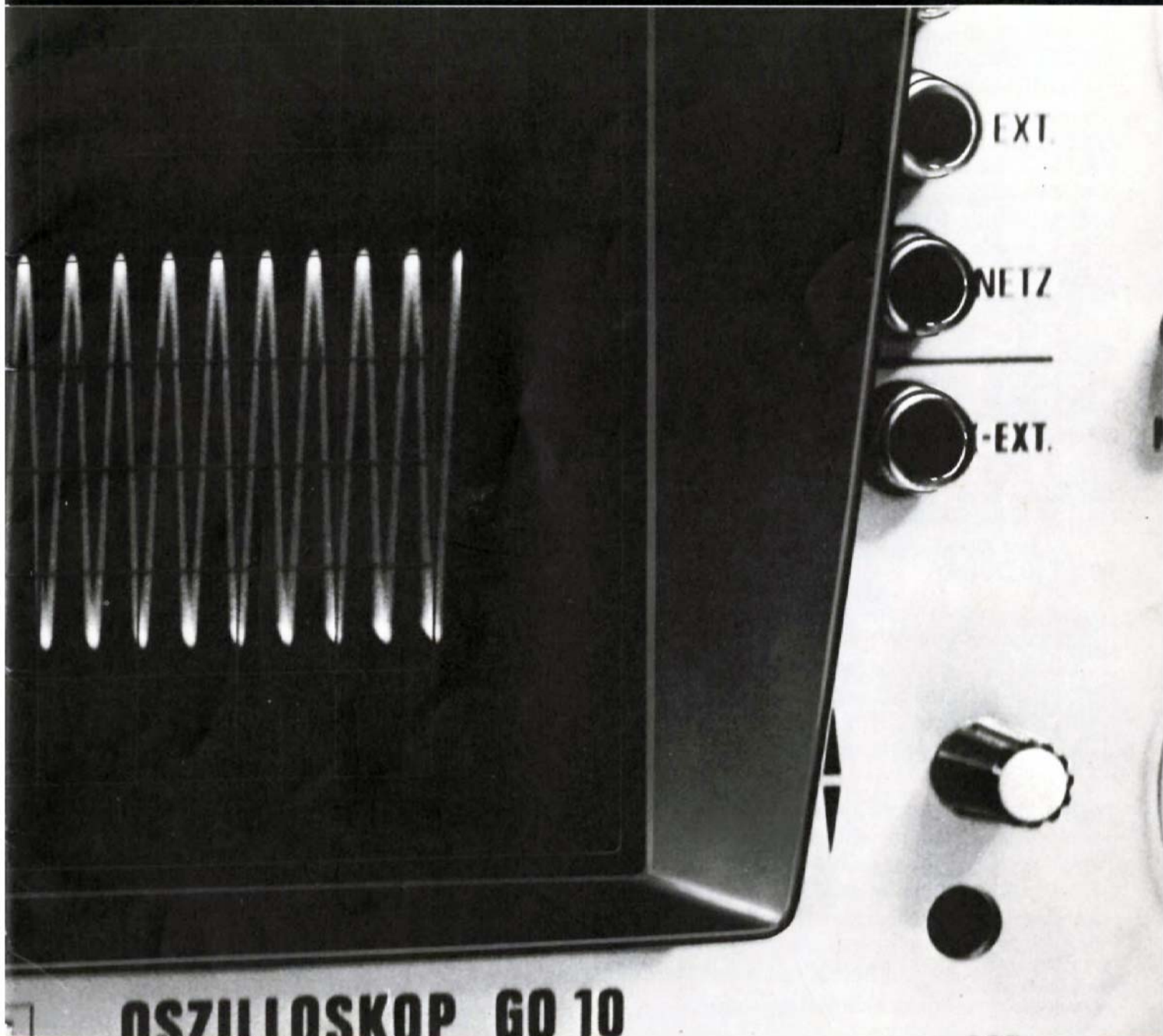


**NAD
NEW ACOUSTIC DIMENSION
HIFI PROGRAMME**



OSZILLOSKOP GO 10

INDEX

	Page
ABOUT NAD	3
PUBLISHED REPORTS ON NAD	5
<u>AMPLIFIERS</u>	
NAD MODEL 60	6
NAD MODEL 90	7
NAD MODEL 200 DOLBY	8
<u>TUNER</u>	
NAD MODEL 100	9
<u>RECEIVERS</u>	
NAD MODEL 140	10
NAD MODEL 160a	11
NAD MODEL 300 DOLBY	12
<u>TAPE DECK</u>	
NAD MODEL 900 DOLBY	13
WHAT IS DOLBY	14
<u>HEADPHONES</u>	
NAD MODEL 05	16
NAD MODEL 10	16
NAD MODEL 16	17
NAD MODEL 20e	17
NAD MODEL RP 18	18
TECHNICAL SURVEY	19



TELEDYNE

Acoustic Research
High Street Houghton Regis
Dunstable Bedfordshire L05.5QT
Telephone: (05 82) 60 31 51
Telex: 825 467 Arukint. DBLE.

ABOUT NAD

What's so special about NAD?

New Acoustic Dimension – NAD for short – is a new concept in top quality high fidelity. NAD offers a range of receivers, amplifiers, tuners, recorders and headphones, which have established new international standards.

American, European and Japanese engineers working with the leading dealers and distributors in the industry,



have developed a new design philosophy. The aim was a complete range which, without compromise, would meet

the musical needs of discriminating music lovers – at reasonable prices.

The NAD Philosophy

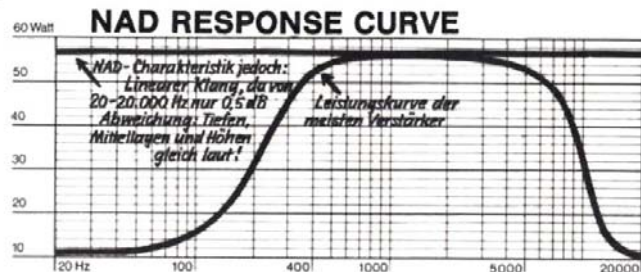
To develop and offer equipment which will reproduce music so that it as close to the original as the state of modern technology permits – equipment embodying advanced engineering and functional design – in a price class which sets new international standards for performance.

It was with that in view that a development programme lasting years was undertaken. It resulted in a series of easily operated NAD products with such conservative power supply sections that the rated power output existed throughout the entire audible frequency range, including the extreme bass and the extreme treble.

Flat Power Output

Thanks to this exceptional design, the output

is uniform in the bass range below 50 Hz and in the high harmonics beyond 10.000 Hz which are so important for tonal quality. Even with the volume set low you can enjoy the full sound spectrum.



NAD characteristic with: linear sound, curve flat within	0.5 dB from 20 to 20.000 Hz; bass, middle range and	treble equally loud! Response curves of most amplifiers
--	---	--

NAD receivers and amplifiers differ from most receivers and amplifiers in this price bracket whose stated nominal performance falls off markedly in the bass and the treble.

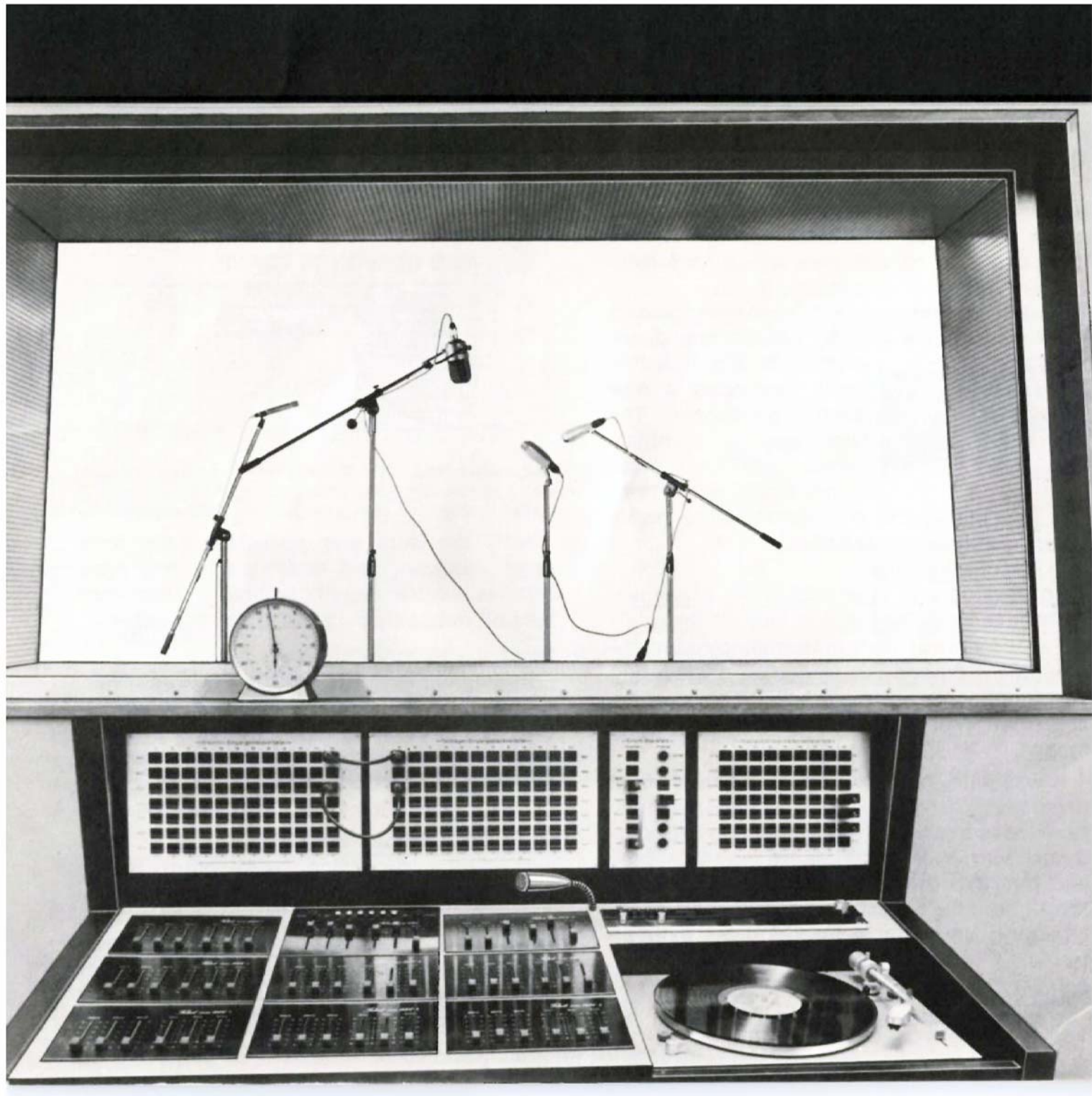
Solid, craftsmanlike finish

In keeping with the perfect electronic technology, and the excellent quality of reproduction, is the carefully detailed finish. It can be seen in the design of the cabinet and the front panel; it is apparent in the operation of the controls, which are smooth and easy to use.

2 year' guarantee

Our uncompromising insistence on quality in production, has made it possible to offer a 2 year' guarantee. What is more, each NAD instrument comes with a test certificate in which the specific measured values such as frequency response, distortion and power per channel have been tested individually.

NAD – a yardstick for quality and value



PUBLISHED REPORTS ON NAD

New Acoustic Dimension electronics have been tested by some of the leading hi fi publications. The following extracts from some of the reports will give you an idea of the quality and performance standard of NAD equipment.

Stereo Test of New Acoustic Dimension

Stereo, Vol. 15 (extract) (Germany)

„ . . . With their solidly built 160, NAD present a receiver with a good price/quality ratio which offers an impressive number of connection facilities (two each for microphone, tape monitor and headphones) and pseudo-quadraphonic reproduction.

At the output power claimed (45 W + 45 W)* the harmonic distortion – even at very high and very low frequencies – is definitely under 0.2 %.

The intermodulation level, too, is low enough to be called excellent. Reserves of power and low distortion likewise do much to help the amplifier section produce a tone that is as clean as it is full. The entire range from 20 Hz to 20.000 Hz is covered effortlessly. The channel separation with a surprisingly wide medium-frequency band is more than just adequate. The tone on stereo is not just crystal clear but also well structured spacially. The playback of a copy of the master tape of the new hm/BASF recording of Mozart's Requiem proved extraordinarily impressive and spacious.“

* The specified power of 45 W + 45 W has been increased to 55 W + 55 W in the NAD 160a.

Fono Forum, Vol. 6 (extract) (Germany)

„ . . . The NAD 160 produces a clean, transparent sound quality. Even with loudspeakers of less pronounced efficiency, it is possible to achieve meaty playback strength, free from distortion; the same also applies to the quadraphonic connection of four loudspeakers. The pseudo-quadraphonic circuit is not adjustable but has been so carefully balanced that an excellent impression is agained in a central listening position with four speakers of the same efficiency.

. . . With regard to sound, the NAD is scarcely distinguishable from other receivers in the top class and 'blindfold' comparisons revealed no decisive differences.

. . . All in all, what we have discovered about the NAD 160 already points in the direction of top class.“

Hi Fi Sound (England)

On Test – NAD 160 by Gordon J. King

“This new receiver, the NAD 160, has excellent performance figures and offers a good quality/price ratio.

. . . This instrument, designed for private use, provides transparent, true-to-nature reproduction, even at extremely high and extremely low frequencies.

With the FM receiver section it is possible to receive even distant stereo transmitters with very little extraneous noise and very low fluctuations of loudness.

Undoubtedly a very good receiver. The name, “New Acoustic Dimension“, is a very appropriate description of this instrument's performance.

AMPLIFIERS NAD MODEL 60



Amplifiers are used with tuners, turntables, cassette recorders and open reel tape decks.

New Acoustic Dimension amplifiers offer outstanding performance in their price bracket and represent good value for money.

NAD model 60

35 W + 35 W continuous power into 8 ohms, 20–20,000 Hz.

The amplifier has:

2 illuminated VU meters giving separate power output indication for each channel; quasi-quadraphony according to the Dynaquad system; 4 speaker, 2 headphone, 2 microphone and 2 tape monitor connections.

Amplifier section

The direct-coupled output stages with a linear response from 20 to 20,000 Hz are a precondition for outstanding reproduction of the bass range and an impressive dynamic range.

Continuous power output	35 W + 35 W, into 8 ohms
Bandwidth (IHF)	10 Hz to 50,000 Hz
Frequency response overall	20 Hz to 20,000 Hz ± 0.5 dB

Harmonic distortion at 1 kHz, nominal output, both channels driven	0.3% max.
Intermodulation	0.4% max.
Damping factor at 8 ohms	45 min.

Signal-to-noise ratio	
Phono	60 dB
Aux. tape	80 dB

Input sensitivity	
Phono	2.2 mV/47 kohms
Aux. tape	140 mV/50 kohms
Loudness control (-30 dB)	+ 8 dB at 100 Hz + 5 dB at 10 kHz - 5 dB at 10 kHz

Treble filter	
Treble tone control	± 10 dB at 10 kHz
Bass tone control	± 10 dB at 10 kHz
Dimension (w x h x d)	386 x 130 x 264 mm
Weight	approx. 10 kg



NAD MODEL 90



NAD model 90

55 W + 55 W continuous power into 8 ohms, 20-20.000 Hz.

The outstanding features of the NAD model 60 are naturally also features in this more powerful model. In addition the NAD model 90 has a Mic-Mixing device which makes it possible to mix microphone sound with any other sound source desired.

Signal-to-noise ratio

Phono and microphone

60 dB

Aux. tapes 1 and 2

80 dB

Input sensitivity

2.2 mV/47 kohms

Phono and microphone

120 mV/100 kohms

Aux. tapes 1 and 2

+ 8 dB at 100 Hz

Loudness control (-30 dB)

+ 5 dB at 10 kHz

Treble filter

-5 dB at 10 kHz

Treble control

± 11 dB at 10 kHz

Subsonic

-4 dB at 10 Hz

(rumble filter operating at extreme bass)

Bass control

± 11 dB at 100 Hz

Dimensions (w x h x d)

386 x 130 x 264 mm

Weight

approx. 12.5 kg

Continuous power output

55 W + 55 W into 8 ohms

Bandwidth (IHF)

10 Hz to 50.000 Hz

Frequency response overall

20 Hz to 20.000 Hz

± 0.5 dB

Harmonic distortion at 1 kHz,

nominal output, both channels driven

0.3% maximum

Intermodulation

0.4% maximum

Damping factor at 8 ohms

min. 45

2 year's full guarantee.



NAD MODEL 200 DOLBY



NAD model 200 Dolby

100 W + 100 W continuous power into 8 ohms, 20–20.000 Hz.

With the NAD model 200 Dolby we offer you a Hi-Fi amplifier in the very top class. Equipped with the Dolby system which ensures you noise-free recording on all tape decks and recorders, the NAD model 200 Dolby is a high-quality module contributing to optimum listening pleasure. At a reasonable price.

Input sensitivity

Phono and microphone

2.0 mV/47 kohms

Aux. tapes 1 and 2

180 mV/50 kohms

Loudness control (–30 dB)

+ 8 dB at 100 Hz

+ 5 dB at 10 kHz

Treble filter

– 5 dB at 10 kHz

Treble control

± 11 dB at 10 kHz

Subsonic

– 4 dB at 10 kHz

(rumble filter operating at extreme bass)

Bass control

± 11 dB at 100 Hz

Dimensions (w x h x d)

440 x 160 x 370 mm

Weight

approx. 21 kg

Dolby – registered trademark of the Dolby Laboratory

Continuous power 100 W + 100 W into 8 ohms

Bandwidth (IHF) 10–50.000 Hz

Frequency response overall 20–20.000 Hz ± 0.5 dB

Noise factor at 1 kHz, nominal output, both channels driven 0.1% maximum

Intermodulation 0.2% maximum

Damping factor at 8 ohms min. 45

Signal-to-noise ratio

Phono and microphone 60 dB

Aux. tapes 1 and 2 80 dB

2 years' full guarantee



TUNER NAD MODEL 100

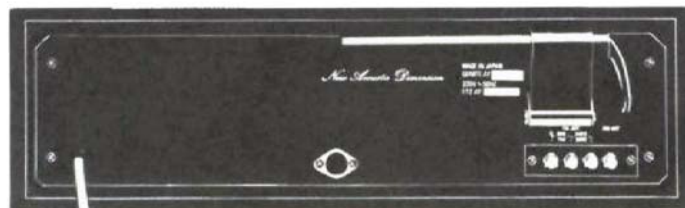


The function of a tuner is to pick up mono and stereo transmissions in the FM band without loss of quality and to process them without giving rise to the slightest distortion. The NAD 100 tuner has the built-in quality to deal with these problems superbly.

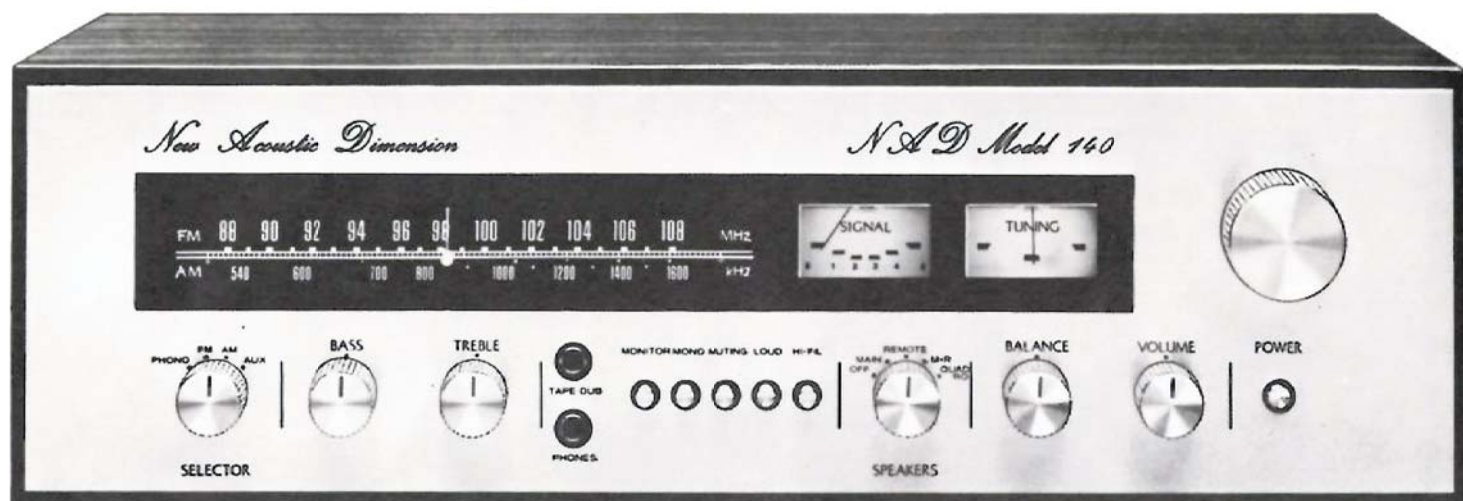
FM tuner

Input sensitivity (IHF)	1.8 μ V
(DIN)	1.0 μ V
Harmonic distortion	0.2% mono 0.4% stereo
Signal-to-noise ratio	65 dB
Capture ratio	2 dB
Separation	75 dB
Image rejection	80 dB
IF rejection	90 dB
Crosstalk attenuation at 1 kHz	40 dB
Pilot tone suppression	60 dB
De-emphasis	50 usec
Dimension (w x h x d)	386 x 130 x 220 mm
Weight	approx. 10 kg

2 years' full guarantee



RECEIVERS NAD MODEL 140



NAD model 140

35 W + 35 W power into 8 ohms, 20–20,000 Hz.

With a maximum harmonic distortion of only 0.3% the NAD model 140 is a model of clear sound definition. The great versatility of this receiver is typified by the headphone and tape monitoring connections on the front panel.

Amplifier section

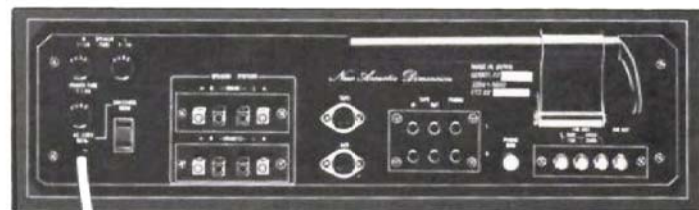
Continuous power output	35 W + 35 W into 8 ohms
Bandwidth (IHF)	10–50,000 Hz
Frequency response overall	20–20,000 Hz \pm 0.5 dB
Harmonic distortion at 1 kHz, nominal power, both channels driven	0.3% maximum
Intermodulation	0.4% maximum
Damping factor at 8 ohms	min. 45
Signal-to-noise ratio	
Phono and microphone	60 dB
Aux. tapes 1 and 2	80 dB
Input sensitivity	
Phono and microphone	2.2 mV/47 kohms
Aux. tapes 1 and 2	140 mV/50 kohms
Loudness control (–30 dB)	+8 dB at 100 Hz +5 dB at 10 kHz

Treble filter	–5 dB at 10 kHz
Treble control	\pm 10 dB at 10 kHz
Bass control	\pm 10 dB at 100 Hz

FM tuner

Input sensitivity (IHF)	2.0 μ V
(DIN)	1.2 μ V
Harmonic distortion	0.2% mono 0.6% stereo

Signal-to-noise ratio	65 dB
Capture ratio	2 dB
Separation	60 dB
Image rejection	70 dB
IF rejection	90 dB
Crosstalk attenuation at 1 kHz	40 dB
Pilot tone suppression	50 dB
De-emphasis	50 usec
Dimension (w x h x d)	450 x 130 x 350 mm
Weight	approx. 13.5 kg



2 years' full guarantee

NAD MODEL 160 a



NAD model 160a

Direct-coupled output stage, 55 W + 55 W continuous power into 8 ohms, 20–20,000 Hz.

Connections for 4 loudspeakers (matrix quadraphony), 2 headphones, 2 microphones and 2 tape monitors.

Extremely modern tuner section: 4-circuit FM tuner with 4 FET's; 1 dual-gate MOSFET as mixer stage; 6 ceramic filters; separate oscillator; separate AM/FM IF amplifiers. Field strength and tuning indicators.

Amplifier section

Continuous power output	55 W + 55 W into 8 ohms
Bandwidth (IHF)	10–50,000 Hz
Frequency response overall	20–20,000 Hz ± 0.5 dB
Harmonic distortion at 1 kHz, nominal power, both channels driven	0.3% maximum
Intermodulation	0.4% maximum
Damping factor at 8 ohms	min. 45
Signal-to-noise ratio	
Phono and microphone	60 dB
Aux. tapes 1 and 2	80 dB
Input sensitivity	
Phono and microphone	2.2 mV/47 kohms
Aux. tapes 1 and 2	140 mV/100 kohms

2 years' full guarantee

Loudness control (–30 dB)

Treble filter
Treble control
Bass control
FM Tuner

Input sensitivity
(IHF)
(DIN)

Harmonic distortion

Signal-to-noise ratio

Capture ratio
Separation
Image rejection
IF rejection
Crosstalk attenuation at 1 kHz
Pilot tone suppression
De-emphasis

Dimension (w x h x d)

Weight

+ 8 dB at 100 Hz
+ 5 dB at 10 kHz
– 5 dB at 10 kHz
± 11 dB at 10 kHz
± 11 dB at 100 Hz

1.8 uV
1.0 uV
0.2% mono
0.4% stereo

65 dB

2 dB

75 dB

80 dB

90 dB

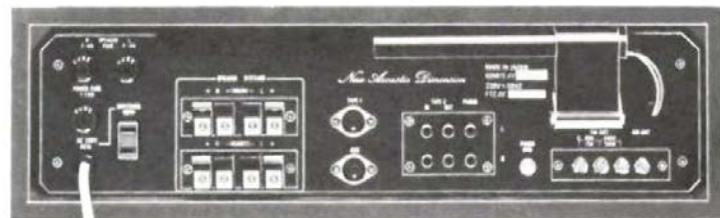
40 dB

60 dB

50 usec

450 x 140 x 360 mm

approx. 16 kg



NAD MODEL 300 DOLBY



NAD model 300 Dolby

100 W + 100 W continuous power into 8 ohms, 20–20,000 Hz.

This receiver, equipment in the forefront of the top class, offers you a maximum of listening pleasure. Great ease of operation, built-in Dolby system for noise-free recordings, tape dubbing facility on the front panel and numerous other features make the NAD model 300 Dolby a Hi-Fi module for the discriminating, high fidelity enthusiast.

Amplifier section

Continuous power output	100 W + 100 W into 8 ohms
Bandwidth (IHF)	10–50,000 Hz
Frequency response overall	20–20,000 Hz \pm 0.5 dB
Harmonic distortion at 1 kHz, nominal power, both channels driven	0.1% maximum
Intermodulation	0.2% maximum
Damping factor at 8 ohms	min.45
Signal-to-noise ratio	
Phono and microphone	60 dB
Aux. tapes 1 and 2	85 dB
Input sensitivity	
Phono and microphone	2.0 mV/47 kohms
Aux. tapes 1 and 2	180 mV/50 kohms

Loudness control (–30 dB)

+8 dB at 100 Hz
+5 dB at 10 kHz
–5 dB at 10 kHz
\pm 11 dB at 10 kHz
–4 dB at 10 Hz
\pm 11 dB at 100 Hz

Treble filter

Treble control

Subsonic

Bass control

FM tuner

Input sensitivity

(IHF)

(DIN)

Harmonic distortion

1.8 μ V
1.0 μ V
0.2% mono
0.4% stereo

Signal-to-noise ratio

Capture ratio

Separation

Image rejection

IF rejection

Crosstalk attenuation at 1 kHz

Pilot tone suppression

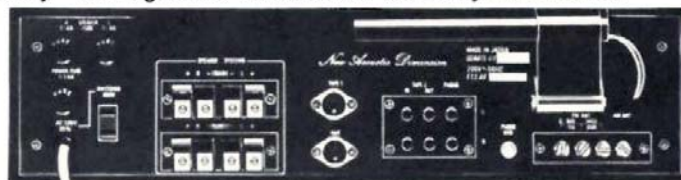
De-emphasis

Dimensions (w x h x d)

Weight

60 dB
1.2 dB
80 dB
85 dB
90 dB
40 dB
60 dB
50 usec
508 x 157 x 440 mm
approx. 22 kg

Dolby – the registered trademark of the Dolby Laboratories



TAPE DECK NAD MODEL 900 DOLBY



With the Tape Deck NAD model 900 Dolby we present a cassette recorder which, like all items of NAD equipment, offers you a maximum of technical perfection at a price which is unique in this quality class. The fact that all controls are mounted on the front panel makes this equipment ideal for combining with other Hi-Fi modules. The two built-in ferrite tape heads, famed for their long life, and the dual capstan drive are another proof of the technical quality of the NAD 900 Dolby.

Harmonic distortion	≤ 2.5%
Crosstalk attenuation at 1 kHz	35 dB
Tape heads	2, ferrite
Motor	1 dual capstan drive
Fast wind in either direction	90 sec. with C60 tape
Dimensions (w x h x d)	450 x 160 x 320 mm
Weight	approx. 10 kg
Equipped with:	Memory Play, 3-digit counter, 2 VU meters + LED peak value indication, autom. tape switch, 2 separate controls for both recording and replay.

Dolby – registered trademark of the Dolby Laboratories

Track system	2 channels, 1/4-track stereo recording and replay	
Tape speed	4.75 cm/sec	
Wow and flutter	0.06% (WRMS) ± 0.15% (DIN)	
Overall frequency response	20–14.000 Hz (normal) 20–15.000 Hz (CrO ₂)	
Signal-to-noise ratio	without Dolby	55 dB
	with Dolby	60 dB normal
	without Dolby	57 dB CrO ₂
	with Dolby	65 dB

2 years' full guarantee



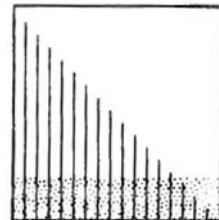
WHAT IS DOLBY?

Dr. Ray Dolby devised an ingenious system for suppressing noise. High-class cassette recorders come with this system already built in but if you insert a separate Dolby unit in circuit in your existing Hi-Fi recorder you will discover a new quality of sound. Hiss disappears completely and the dynamic range is improved by 10 dB.

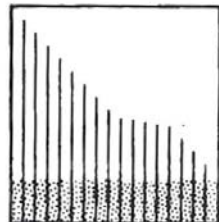
How the Dolby system works

It increases the loudness of soft passages, where noise is particularly disturbing, by a factor of 10 during recording and reduces their loudness by the same factor during replay. The frequency range remains unaltered. The Dolby cannot, of course, remove distortion from signals which reach it distorted – noise radio signals, noisy records, "un-dolbyised" recordings. But at any rate no noise will be added to them by the reproduction process.

This is a normal tape tracing. The lines are notes of various loudness. The band of dots represents the unavoidable tape noise.



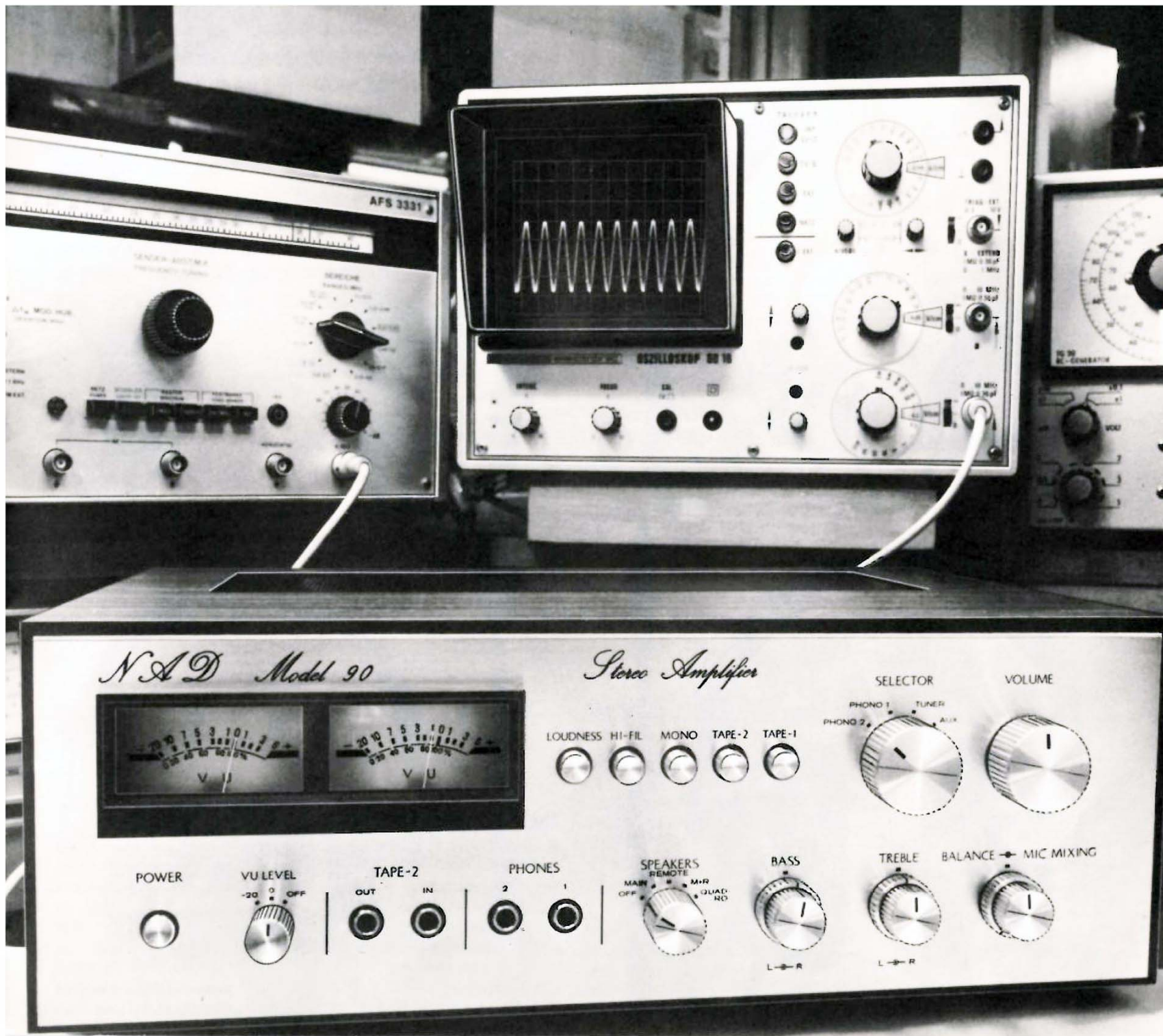
With a Dolby recording the level of the passages which are automatically amplified when recorded is higher than the hiss level.



With Dolby replay the loudness of the previously amplified passages is lowered to normal; the frequency range is retained – the background hiss has disappeared.



Photograph on right: Testing the frequency response



HEADPHONES

NAD MODEL 05

NAD MODEL 10



Via the "sounding board" of the listener's own head, Hi-Fi headphones provide what is probably the most intensive musical experience possible; they cannot replace loudspeakers but they enable you to listen at the loudness you want, without disturbing anyone and without being disturbed.

Even the headphones of New Acoustic Dimension have been developed in accordance with the NAD philosophy: up-to-date "state of the art" and high quality of production at a reasonable price.

The basic data on NAD model 05

Principle	open, moving coil
System	43 mm diam.
Source impedance	4-50 ohms
Frequency response	20-20.000 Hz
Sound pressure level	102 dB at 1 mW
Load-handling capacity	65 mW
Harmonic distortion	≤ 0.7%/100 dB/1 kHz
Length of lead	extendable to 3 metres
Weight	approx. 340 g incl. lead

The basic data on NAD model 10

Principle	closed, moving coil
System	57 mm diam.
Source impedance	4-50 ohms
Frequency response	20-20.000 Hz
Sound pressure level	108 dB at 1 mW
Load-handling capacity	65 mW
Harmonic distortion	≤ 1.6%/100 dB/1 kHz
Length of lead	extendable to 3 metres
Weight	approx. 490 g incl. lead

NAD MODEL 16

NAD MODEL 20e



The basic data on NAD model 16

Principle	open, moving coil
System	59 mm diam.
Source impedance	4–50 ohms
Frequency response	20–20.000 Hz
Sound pressure level	104 dB at 1 mW
Load-handling capacity	65 mW
Harmonic distortion	$\leq 1.4\%/100 \text{ dB}/1 \text{ kHz}$
Length of lead	extendable to 3 metres
Weight	approx. 450 g incl. lead



The basic data on NAD model 20e

Principle	open, electrostatic
System	64 mm diam.
Frequency response	20–20.000 Hz
Sound pressure level	90 dB/input 100 V RMS/max. 115 dB
Harmonic distortion	$\leq 0.3\%/100 \text{ dB}/1 \text{ kHz}$
Length of lead	extendable to 3 metres
Weight	approx. 320 g incl. lead

Power supply pack for NAD model 20e

Source impedance	4–16 ohms
Max. input power	5 W
Mains voltage	220 V, 50/60 Hz, 0.3 W
Harmonic distortion	$\leq 0.1\%$

NAD MODEL RP 18



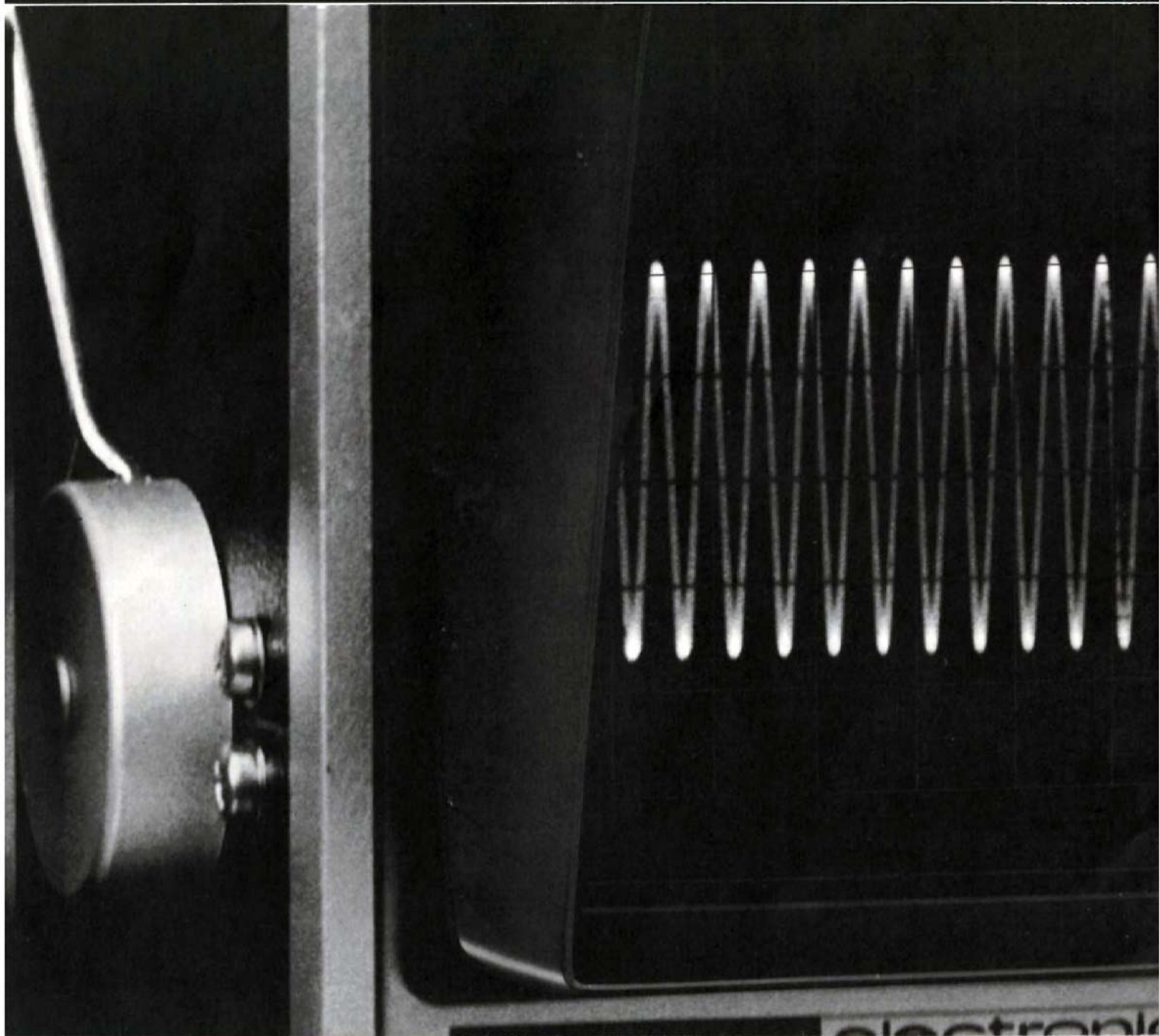
The NAD model RP 18 headphone is different from any system that has preceded it, this headphone offers a truly remarkable fidelity of reproduction. Its features, such as uniform whole-diaphragm drive, conductor tracks evaporated on the diaphragm to form the voice coil, and super-samarium-cobalt-magnets, make it revolutionary and unique.

The basic data on NAD model RP 18

Principle	open, magnetic, surface diaphragm regular phase
Source impedance	4–50 ohms
Frequency response	20–20.000 Hz
Sound pressure level	94 dB/1 mW
Max.load-handling capacity	200 mW
Harmonic distortion	≤ 0.35%/100 dB/1 kHz
Length of lead	extendable to 3 metres
Weight	approx. 520 g incl. lead

8/75/10.
Printed in W.-Germany

NAD



electronic