

TANDBERG

TR 2075 Mk II

Multi-Chassis
Tuner/Amplifier/Preamp Control Center

Tandberg's finest receiver—
a new standard for flexibility, features, and quality,
within the convenience of a single, beautiful rosewood cabinet.



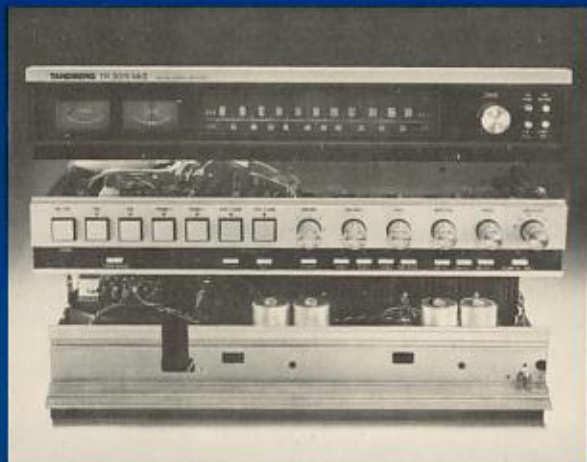
Outside, the timeless
beauty of classic
Scandinavian design . . .

By letting form follow function, designs from Scandinavia have achieved worldwide acclaim. And nowhere is this simple beauty more evident than in the handsome products from Tandberg.

There is no mistaking the distinctive TR 2075 MkII receiver—**especially when you notice the unique array of pushbuttons across the front panel, a Tandberg exclusive!** Add its exquisite rosewood cabinetry, easy-to-read metering system, and you'll find it lacks nothing to be classed among the most highly advanced audio components . . . yet the TR 2075 MkII is clearly designed to be "at home" among the finest furnishings.

Nothing else looks like it,
Nothing else sounds like it,
Nothing else lasts like it!

Inside, three separate, superb audio components working together in harmonious balance, for unsurpassed quality, performance and reliability.



Until now, to achieve the level of accuracy and flexibility found in the TR 2075 MkII, one turned to separate components. Each was then selected for its particular strong point, with little thought to convenience, styling, suitability for use in the home, or other aesthetic considerations. But Tandberg has changed all that.

With the TR 2075 MkII it is now possible to obtain a degree of accuracy of musical reproduction *unmatched by any other receiver*. For AM and FM Stereo listening, for Phono reproduction, for Tape recording and inter-recorder dubbing, for control flexibility beyond the scope of ordinary receivers—and, suprisingly, of many separate components, as well—there is nothing to equal the amazing Tandberg TR 2075 MkII receiver.

Most of all, in the parameters Tandberg has chosen to emphasize, such as DIM, Slew Rate, Rise Time and Phase Linearity, there is no other receiver to compare the TR 2075 MkII with. In fact, rare is the manufacturer willing to even list his products' specifications in these vitally important areas. Not so with Tandberg, as you can see in this brochure.

So whether you choose the TR 2075 MkII for the finest stereo system it is possible to have at home, or for its unique ability to perform as a multi-capability mini-recording studio control unit, you can make no more discriminating selection.

Light Emitting Diodes above each pushbutton

- Visible indication of operational mode
- These LED devices have virtually indefinite life

Large scale meters

- Very wide dynamic range on signal-strength meter
- Signal-strength meter deflects fully only in presence of the very strongest signals; still indicating on very low signals as well
- Tuning meter shows the exact tuning center of the station

2 Tape Inputs/Outputs

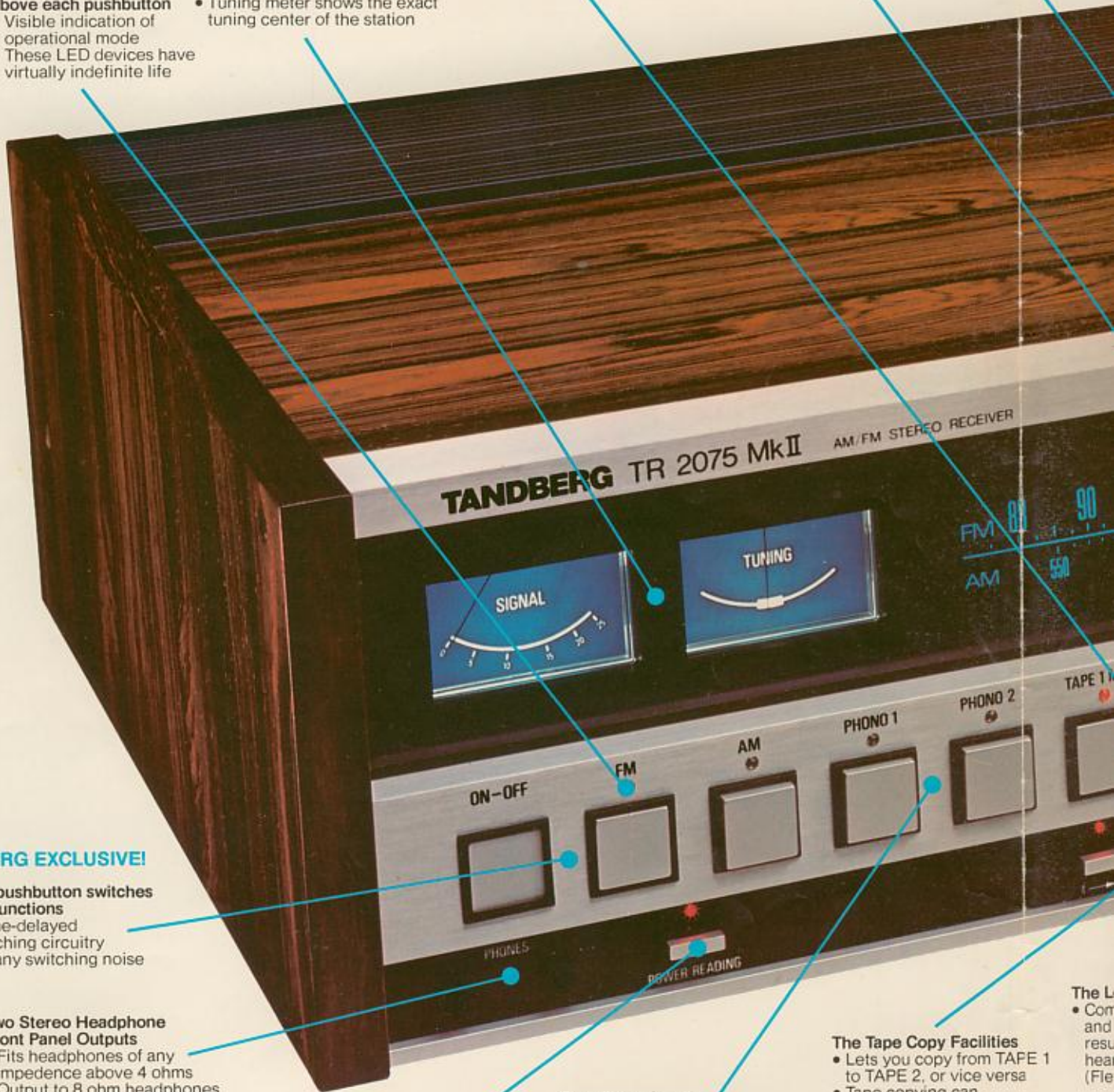
- Wide dynamic range
- Very low noise and distortion
- Level control for all inputs
- Combine with TAPE MONITOR function to enable you to control the program you record in either program source or tape test

The Balance Control

- Steep slope on each side of the midpoint

The Master Volume Control

- Common for both channels



A TANDBERG EXCLUSIVE!

Light-touch pushbutton switches for all main functions

- Control time-delayed diode switching circuitry
- Eliminate any switching noise

Two Stereo Headphone Front Panel Outputs

- Fits headphones of any impedance above 4 ohms
- Output to 8 ohm headphones is limited to prevent accidental damage

The Power Reading Switch

- Changes the function of the Signal Strength Meter to read the power output of the TR 2075 MkII

Two Phono Inputs

- 2 complete discrete component phone preamplifiers with proper RIAA curve
- Very low noise and distortion
- Wide dynamic range
- Input level control for PHONO 1

The Tape Copy Facilities

- Lets you copy from TAPE 1 to TAPE 2, or vice versa
- Tape copying can be accomplished while you listen to another source, such as radio or phono

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TANDBERG TR 2075 Mk II

Combining the best of separate chassis components and smooth working, logically placed controls . . . in a single, convenient cabinet of beautiful design.

The Tone Controls

- All active-type controls and filters
- Separate bass, treble, and midrange controls
- Adjustments separate for each channel
- All potentiometers on the preamplifier block use carbon-to-carbon contacts to eliminate noise and wear

The Tuning Knob

- Heavy flywheel gives accurate tuning performance

Special FM Controls; Light Dimmer Switch

- FM Mono switch
- Highly effective muting circuitry
- FM 25 μ sec. de-emphasis switch to be used in connection with an external Dolby* B decoder when receiving FM Dolby broadcasts
- Light dimmer switch reduces panel lighting for softer effect



The Loudness Switch

- Compensates accurately for both low and high frequency losses resulting from reduced hearing sensitivity at low volume (Fletcher-Munson compensation)

The Mode Switch

- Separate switches for Stereo, Mono Left, and Mono Right

The Tone Defeat Switch

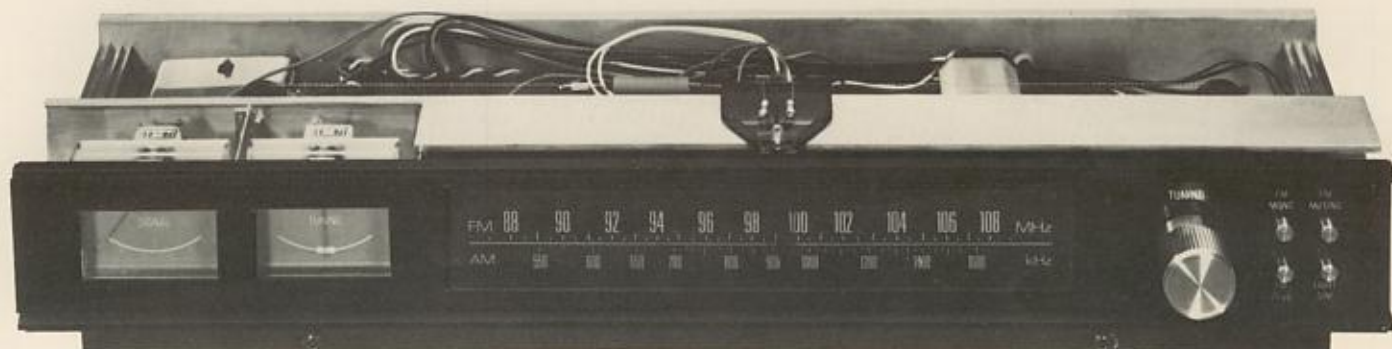
- Eliminates action of tone controls from circuit to yield totally "flat" response

The Filters

- LOW and HIGH 1 filters are active, transistorized
- LOW: -3 dB at 30 Hz, 12 dB slope per octave (subsonic filter)
- HIGH 1: -3 dB at 8,000 Hz, 12 dB slope per octave
- HIGH 2: -3 dB at 8,000 Hz, 6 dB slope per octave
- Total slope of the HIGH 1+2: 18 dB per octave

The Pre-Amp Record Switch, TAPE 2 Output

- Works in combination with the TAPE 2 Output
- When engaged, inserts all tone controls, volume control, filtering, loudness compensation and mode selectors into the output of the second tape recorder.
- Permits program re-contouring to a desired balance while recording
- Can also be used as an Audio Muting switch: Attenuation 20 dB



The Tuner Section

The AM and FM tuner is the section that makes the TR 2075 MkII a "receiver". The entire tuner chassis is matched with precision to the most sophisticated and technically advanced pre-amplifier and amplifier the state of the art allows. It is far from an overstatement to say that the only limit to the quality of sound provided by the tuner is the quality of the broadcast signal itself. Very costly 4 pole ceramic filters are employed along with selected MOSFETs and integrated circuits, including a stereo decoder with PLL (Phase Locked Loop) oscillator. The quieting slope is extremely steep, channel separation superb, distortion very low, and the signal to noise ratio is a spectacular 75 dB in stereo at an antenna voltage of only 1 mV*! *FM tuning is accomplished electronically with varactor diodes and the equivalent of a 5 gang mechanical tuner. In FM, the result is exceptional reception that is clearly audible.* And even in AM, often the step-child of receiver tuners, the Tandberg TR 2075 MkII delivers as near perfect AM reception as it is possible to obtain.

* (IHF unweighted)

- **FM Electronic Tuning System with varactor diodes plus 4 RF stages and Phase Locked Loop (PLL) decoder**
- **FM stereo decoder specially designed for the TR 2075 MkII with automatic change-over between mono and stereo**
- **FM capture ratio a mere 0.9 dB**
- **FM 25 microsecond de-emphasis switch for use with external Dolby noise reduction unit.**
- **FM muting circuit totally noise free when changing stations**
- **AM quality limited only by the broadcast signal**
- **AM includes 2 MOSFETs in the RF and mixer stages**
- **AM signal/noise ratio is superb by means of 2 tuned RF circuits**
- **AM features AVC (Automatic Volume Control) for equalized volume level listening of all stations**

Additional AM-FM Tuner section specifications

FM

Tuning range: 87.5 to 108 MHz.

** Sensitivity, IHF, at 30 dB signal/noise+ distortion: 1.7 μ V/300 ohms (10.4 dBf).

Sensitivity Stereo IHF, at 50 dB signal/ noise:

32 μ V/300 ohms (35 dBf). (Mono, 3 μ V)

** 50 dB quieting: 3 μ V/300 (14.8 dBf).

** Signal/noise, IHF, at 1 mV antenna voltage (65 dBf), unweighted: Mono:

78 dB, Stereo: 75 dB.

Selectivity:

Carrier down (alternate channel) 100 dB at \pm 400 kHz.

IHF Dynamic (alternate channel) 80 dB at \pm 400 kHz.

Carrier down 80dB at \pm 300 kHz.

Carrier down (adjacent channel) 40 dB at \pm 200 kHz.

IHF Dynamic (adjacent channel) 10 dB at \pm 200 kHz.

Limiting (-3 dB): 1 μ V/300 ohms.

Image Frequency Rejection: greater than 100 dB.

IF rejection, IHF: greater than 100 dB.

Spurious rejection, ($\frac{1}{2}$ IF): greater than 100 dB.

AM suppression, IHF: greater than 70 dB.

Capture ratio, at 1 mV antenna signal

(selectively measured): 0.9 dB.

Muting threshold: 6 μ V/300 ohms

(14.8 dBf).

Audio frequency response, at +1, -2 dB:

30-15,000 Hz.

Total harmonic distortion, IHF, at 75 kHz

deviation (65 dBf): Mono: 0.2%,

Stereo: 0.3%.

Total harmonic distortion, DIN, at 40 kHz

deviation: Mono: 0.15%, Stereo: 0.2%.

Channel separation, at 60-10,000 Hz

(selectively measured): greater than 40 dB.

Pilot tone suppression: greater than 70 dB.

(**75 μ sec. de-emphasis—U.S. version)

AM

Tuning range: 518 to 1600 kHz.

IF frequency: 455 kHz.

Sensitivity, IHF, 20 dB quieting at 1000

kHz, 30% mod.: ferrite antenna: 250 μ V/m,

external antenna: 20 μ V.

Selectivity: 45 dB at \pm 10 kHz, 42 dB at

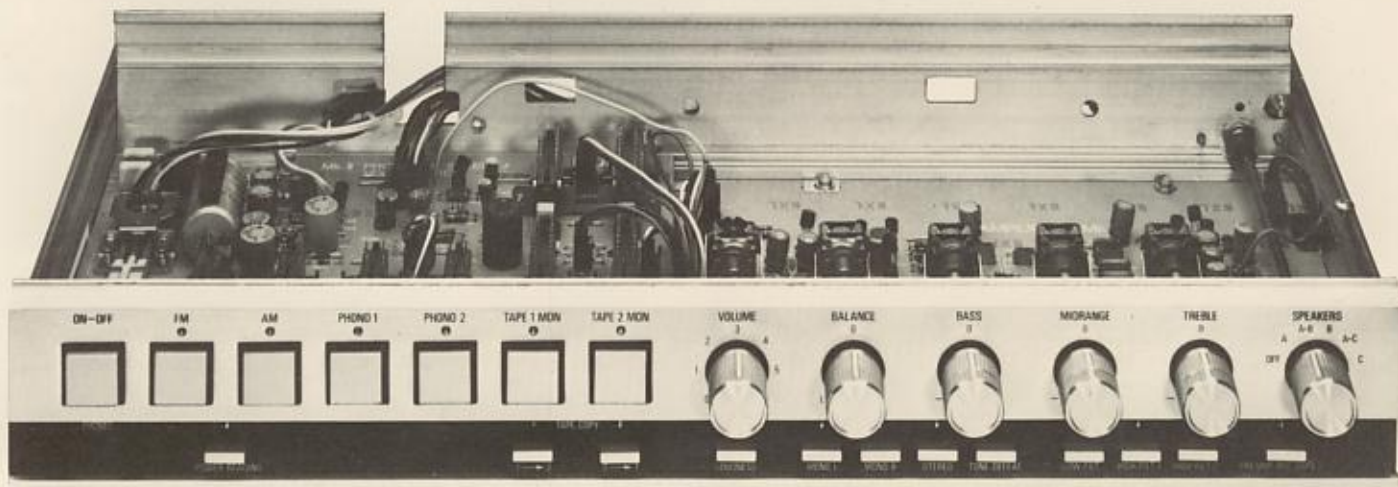
\pm 9 kHz.

IF rejection: 80 dB.

Image frequency rejection: 90 dB.

Harmonic distortion: 80% modulation:

1.5%, 30% modulation: 0.8%.



The Pre-Amplifier Section

The Pre-amplifier section of the TR 2075 MkII is distinguished by unusually low distortion of all types, plus uncommonly fine input signal-to-noise ratio, and a degree of versatility normally associated with only the most expensive separate preamplifiers. The dynamic range is generous. Overload protection is more than adequate. Rise time and speed is matched to that of the output amplifier. *The extra light-touch push button D.C. switching system controls diodes in each program block to yield noise-free changes from one program mode to another (Inter-program Muting Circuit—IPMC), permitting fade-out fade-in taping of one mode to another, as well as more pleasurable listening.* Input sensitivity controls let you match program levels at a single setting of the master volume control. And all pushbutton functions are marked with LEDs (Light Emitting Diodes). Other controls let you filter out subsonic rumble without affecting very low bass response, and defeat the tone controls completely for across-the-board "flat" output. One of the TR 2075 MkII's most extraordinary features is contoured tape output facility, so you can boost or cut bass or treble as desired during the recording itself. Other specifications offer further proof of the unsurpassed flexibility and quality of this distinctly superior audio component.

- Exclusive light-touch push button selectors for all program sources
- Interprogram Muting Circuit (IPMC) is electronic diode-controlled for noise-free source switching and selection
- Special facilities permit using the TR 2075 MkII as a MINI-RECORDING STUDIO, with independent volume, balance, and tone controls, mono/stereo filters, and loudness control, to modify signal on TAPE 2 input and output
- Two inputs/outputs pairs for two tape recorders
- Ability to copy from one tape recorder to another, while listening to a third program source
- Two separate PHONO input pairs with adjustable sensitivity controls, for unusually high overload capabilities
- Two independent phono pre-amps for PHONO I and PHONO II matched to RIAA specifications
- Instantaneous reproduction of transients for clean response
- Two output jacks for two pairs of stereo headphones

Additional Pre-amplifier/Control Section Specifications

***Total harmonic distortion:** Pre-amplifier only, from 20-20,000 Hz (Tape to Preamp out) at rated power: less than 0.01%.

Frequency response: Pre-amplifier only at -1.5 dB: 5 to 180,000 Hz.

Bass Control Range: ± 15 dB at 50 Hz.

Bass loudness: +8 dB at 50 Hz.

Midrange control: ± 7 dB at 1000 Hz.

Treble control range: ± 15 dB at 10,000 Hz.

Treble loudness: +3 dB at 10,000 Hz.

LOW filter: -3 dB at 30 Hz.

HIGH filter 1: -3 dB at 9,000 Hz (-12 dB/octave).

HIGH filter 2: -3 dB at 8,000 Hz (-6 dB/octave).

HIGH filter 1+2: -3 dB at 7,000 Hz (-18 dB/octave).

Sensitivity at maximum power output in 8 ohms load:

Tape 1: adjustable 150-600 mV (Input imp.: 25-33 k ohms).

Tape 2: adjustable 150-600 mV (Input imp.: 25-33 k ohms).

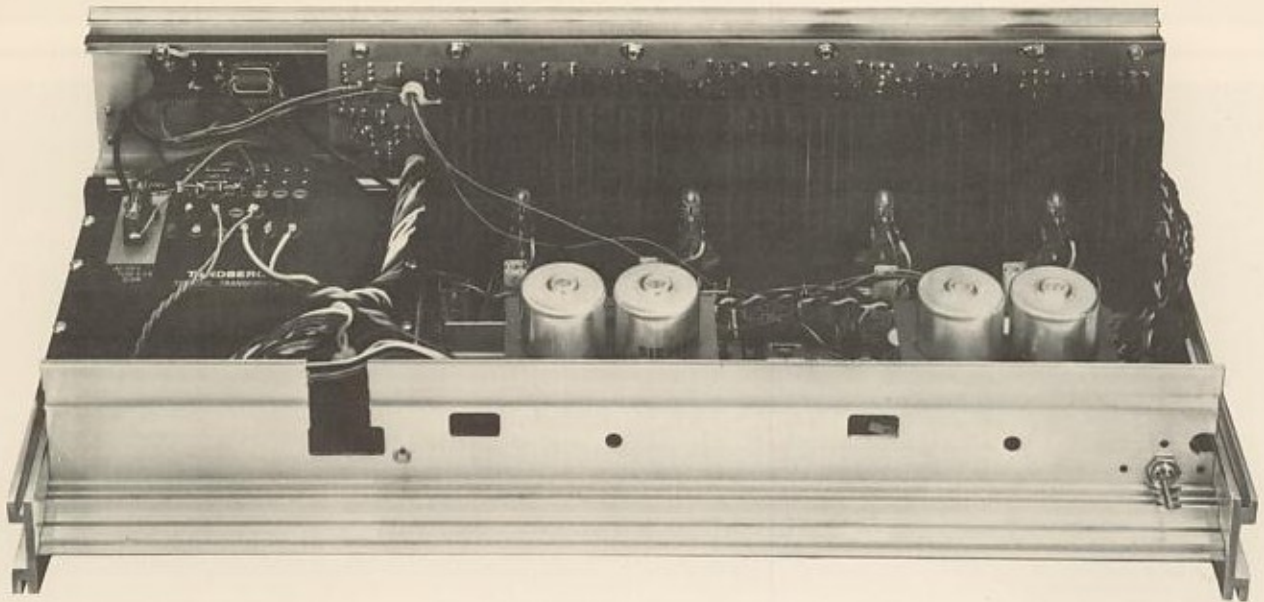
Phono 1: adjustable 2.2-10 mV (Input imp.: 47 k ohms).

Phono 2: 3 mV (Input imp.: 47 k ohms).

Maximum input signal: 120 mV at maximum sensitivity; 450 mV at minimum sensitivity (Phono 1).

Output of TAPE sockets, unloaded: Phono sockets: 1 V (Output imp.: 1 k ohms). DIN sockets: 250 mV (Output imp.: 33 k ohms).

Preamp output: 5 volt maximum.



The Amplifier Section

The most important function of any amplifier is to provide ample amounts of distortionless power. In the TR 2075 MkII, you enjoy one of the most powerful distortionless amplifiers—on its own separate chassis—ever placed within a receiver. Both the true complimentary power output and the driver transistors have a goodly reserve of safe operation area. Yet the power is also one of the most stable, with seven separate safety circuits, and a new cooling system for the output transistors that maintains lower working temperatures for longer life. In fact, the capabilities of the TR 2075 MkII are modestly underspecified, at guaranteed average continuous sinewave power of 80 watts RMS minimum per channel, as described below. And the combination of Phase Linearity, incredibly short Rise Time, low DIM, and very high Slew Rate, is nothing less than a remarkable design achievement—unmatched, in our experience, by no other receiver, and very few separate amplifier components.

- **Improved Peak Power for both 4 and 8 ohms load**
- **Distortion: 0.05% THD maximum from ¼ watt to 80 watts; less than 0.05% IM**
- **Differential input for minimum DC offset**
- **True complementary output with constant current feeding for inaudible secondary crossover distortion**
- **Facilities for three pairs of speaker systems**
- **Seven fail-safe electronic and thermostatic protection circuits for output and speakers**

Additional Amplifier section specifications

Amplifier Speed:

- **DIM maximum at rated power: 0.045%**
- **Rise Time: 1 μsec.**
- **Slew Rate: 20V/μsec.**
- **Phase Linearity: Achieved**

• **POWER OUTPUT:** Average continuous sinewave power is 80 watts minimum RMS per channel, both channels driven into 8 ohms load, from 20 Hz to 20 kHz with no more than 0.05% total harmonic distortion from ¼ watt to 80 watts as specified herein.

Power output, continuous, both channels driven into 4 ohms load from 20-20,000 Hz, 0.05% distortion: 2 x 100 watts.

Power output, continuous, both channels driven, into 8 ohms load at 1 kHz, 0.02% distortion: 2 x 80 watts.

Load impedance: 4 to 16 ohms.

*** TOTAL HARMONIC DISTORTION:**

Maximum 0.05% at any power from ¼ watt up to rated power in 8 ohms load.

Intermodulation, IHF and DIN 45500: less than 0.05%.

Damping factor: at 20-20,000 Hz: 30 at 4 ohms, 60 at 8 ohms.

Frequency response:

Overall linear input at -1.5 dB: 6 to 80,000 Hz.

Power amplifier only at -1.5 dB: 3.5 to 180,000 Hz.

Channel separation, at 1 kHz: Tape: greater than 60 dB, Phono: greater than 60 dB, Power amplifier only: greater than 75 dB.

Signal/hum and noise ratio, IHF, reference max, output, into 8 ohms load, shorted input, no filter network used, preset level controls at maximum sensitivity. Tape 1: 90 dB (input signal 150 mV). Tape 2: 90 dB (input signal 150 mV). Phono 1: 70 dB (input signal 2.2 mV). Phono 2: 82 dB (input signal 10 mV). Phono 1: 72 dB (input signal 3 mV). Power amplifier only: 105 dB.

Residual hum and noise, into 8 ohms load, volume control at minimum, no filter network used: less than 0.3 mV RMS.

Signal/hum and noise ratio, DIN 45500, reference 50 mV, 8 ohms load, preset level controls at maximum sensitivity. Tape 1: 68 dB (input signal 150 mV). Tape 2: 68 dB (input signal 150 mV). Phono 1: 62 dB (input signal 2.2 mV). Phono 2: 64 dB (input signal 10 mV). Phono 1: 69 dB (input signal 3 mV).

Sensitivity: at maximum power output, in 8 ohms load: Power amplifier only: 440 mV.

*Measured according to FTC rules.

General specifications

AC Power requirements: 120-220-240 V, 50/60 Hz

AC outlets: (US type, not allowed in all countries): 2 switched (total 200 watts) 1 unswitched (Max 100 watts).

Dimensions: width: 20 1/8" (51 cm), height: 6" (15.3 cm), depth: 13 3/8" + knobs 1 3/8" (35.3 cm + 2.4 cm).

Weight: 27.2 lbs (12.5 kg).

The Scandinavian Alternative to look-alike, sound-alike, mass-produced audio.

The Tandberg name is respected for engineering excellence and long-lived reliability, from the Far East to the corners of the globe. Now, with the phenomenal new TR 2075 MkII that reputation is elevated to a significant new high level.

We at Tandberg are concerned with bringing no-compromise technical solutions together, in a product of totally balanced performance, at moderate cost. To achieve this, we have taken firm positions in regard to three important product areas: specifications, power output, and amplifier speed (transient properties).

Discussion of these three performance characteristics is important to your product selection—yet most manufacturers of mass-produced audio choose, instead, to treat them superficially, if at all.

The term "specifications" as we use it, refers to recognized, defined methods of measurement conforming to FTC standards and regulations. Responsible manufacturers must use these clear specifications to reproduce the same result in each unit they make. Tandberg products reflect "minimum" specifications—every unit leaving the factory has a performance equal or better than the specification—and they are guaranteed.

These specifications give a clear message when compared to other products measured in the same way. In fact, Tandberg products offer the discriminating listener the only full-line

European alternative to mass-produced audio merchandise—products that will meet or beat their specifications while achieving state of the art performance

As to power output, we have purposely chosen not to engage in the "power war" common to other manufacturers, in order to maintain the overall quality of all our specifications. It is our position that excessive power going into the amplifier will be "paid for" by other parts of the receiver. Therefore, in keeping with our goal of *balanced performance* we have kept the output power at *optimum* relative to the other receiver components.

Amplifier speed (transient properties) can be defined as the ability to handle rapidly-occurring signal surges, prevalent in music (transients). The best results are reflected by low DIM (Dynamic Intermodulation), low Rise Time, and high Slew Rate—all the while, maintaining Phase Linearity. Tandberg has achieved *all* these important goals, often extremely difficult to perceive through listening (because the *lack* of certain distortion products is harder to hear than their *presence*). Therefore, we publish the results as specifications, obtained from critical testing, and readily comparable with those of other manufacturers whose equipment may be good enough to also include these parameters.

The most important factors behind the design and execution of the remarkable new TR 2075 Mk II stereo receiver, are the same factors that guide every Tandberg product, and, indeed, reflect the Scandinavian approach to life. The emphasis is on inner values: substance rather than show, performance over cosmetics, specifications before exaggeration, and honesty above all.

Tandberg Receivers— each in a class of its own.

In addition to the superlative TR 2075 MkII described in this brochure, the other receivers in the Tandberg line offer a variety of features and specifications that make them all among the most advanced in the world. So you can still choose the advantages you prefer, and the Tandberg quality you expect, every time.

TR 2055 FM Stereo Receiver The very same FM tuner as the TR 2075 MkII, and the same features and technology in other respects as well—except for the absence of AM and a power output of 57 watts per channel, minimum RMS, both channels driven into 8 ohms with less than 0.05% THD from 20 Hz to 20,000 Hz. Adjustable input sensitivity, connections for 2 tape recorders, and inter-recorder tape copying facilities, plus two filters, electronic tuning, noiseless push button diode switching, and more.



TR 2040 FM Stereo Receiver Outstanding FM performance from an exceptionally fine tuner section, plus push button pre-tuning for 5 FM stations you select. The preamplifier is typical of all those in the brilliant TR 2000 series' receivers—clean, clear, and quiet. Power output is 44 watts per channel minimum RMS, both channels driven into 8 ohms, with less than 0.09% distortion from 20 Hz to 20,000 Hz. The TR 2040 also features dual tone controls, electronic tuning, two filters, two tape inputs, and more.

TR 2025 FM Stereo Receiver The "twin" of the TR 2040 in every way but power output, with 28 watts per channel minimum RMS, both channels driven into 8 ohms, with no more than 0.09% distortion from 20 Hz to 20,000 Hz. Also includes Tandberg's push button pre-tuning for 5 FM stations you select, dual controls, two tape inputs, and built-in safety features, plus high quality preamplifier that is quiet, clean, and versatile.

TR 2025M AM/FM/MARINE BAND Stereo Receiver Here's a "first" for short wave receivers—technology in the short wave section that is as advanced as the rest of the receiver. Lives up to Tandberg's reputation for quality performance in every respect, notably FM, and the extraordinary AM and preamplifier, unusually fine for a unit of this type. Power output is 28 watts per channel minimum RMS, both channels driven into 8 ohms, with no more than 0.09% distortion from 20 Hz to 20,000 Hz. With three short wave bands and the same quiet switching found in all the TR 200 series' receivers, the TR 2025M deserves its world wide reputation.