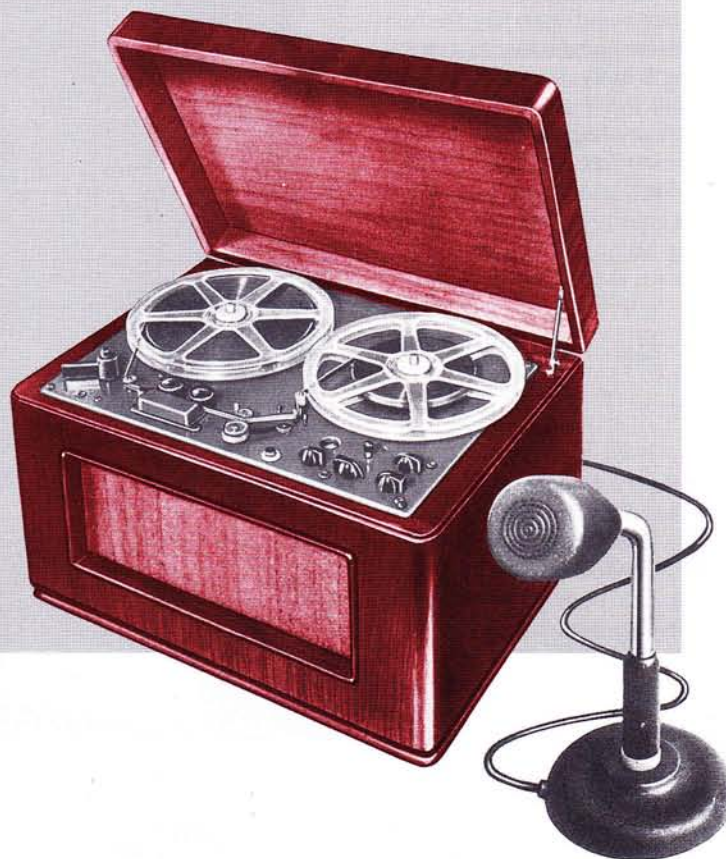


Studer Revox 1948-1987

# From prototype to world exports



Walter Krein

**STUDER REVOX**

The philosophy of excellence

## Studer Revox 1948–1987

Who has not heard one of those famous tales of an emigrant to the land of boundless opportunities. There, in the sweat of his brow he managed to work himself up from a dish-washer or a shoe-shine boy to owner of a factory and, consequently, become a millionaire. The life of Willi Studer and his Revox company is such a story, and it happened right here in Switzerland. The only difference lies in the sound technical training on which it is based.

It just goes to show that skill, iron will-power and being venturesome marks the way to this remarkable success. 40 years of personal commitment have resulted in an enterprise of more than 2000 employees. Willi Studer's name has become renowned and synonymous for quality the world over. The Confederate Technical High-school (ETH) bestowed upon him the honorary doctor of technical sciences; the Audio Engineering Society awarded him silver and gold medals for "permanent excellent contributions in development and production of recording components". Dr. h.c. Willi Studer still dedicates his entire strength to his enterprise, thereby inspiring and motivating his employees. The future of Studer Revox is in best hands.

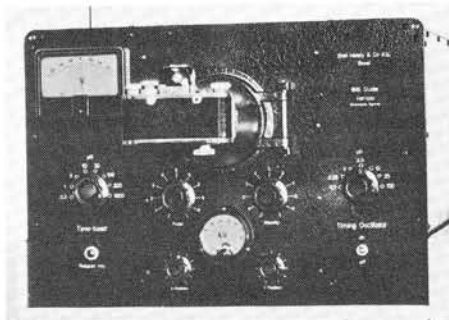
It all started in 1948:

### 1948

It started with a solid professional training followed by some hard years of further education. At the beginning of 1948, Mr. W. Studer founded his first own business, after he had been working in Research and Development for several firms, some of which had been founded on his initiative. Since there were no capital resources, the first order was financed by the first customer's deposit. After working for six months, nearly day and night, the first 10 high tension oscilloscopes are produced and ready for delivery. Other oscilloscopes, which were sold directly to industrial users, followed soon. In September of the same year, the young firm moves to Wehntalerstrasse in Zurich into the basement of an old post office building. The decisive turn to today's activities took place in these rooms. The staff consisted of 3 people.

### 1949

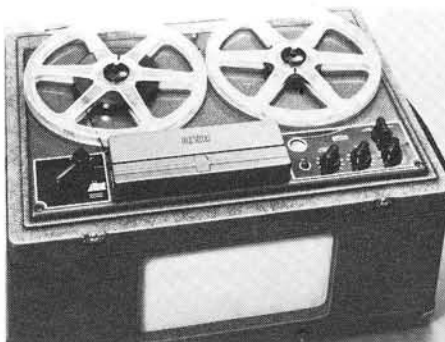
The first tape recorders are imported from the USA. They are not marketable



First high tension oscilloscope made by Willi Studer, Herisau.



Improved oscilloscope by Willi Studer.



Revox T26 as presented in the first leaflet.



Studer 27: first studio tape recorder

without modifications. The importer approached Messrs. Studer to modify these devices by replacing capstan-shafts, friction pulleys and rollers. Slowly the idea of developing and constructing better tape recorders emerges. With the purchase of 500 recorders from the importers development on the first Studer designed tape recorder Dynavox begins. The lack of accurate measurement facilities presents enormous obstacles.

For this first series in-house designed magnetic heads are used already. The telephone's dialtone is utilized to check wow and flutter. The great talent to improvise and the very strong will to introduce a high quality product leads to the first European designed amateur tape recorder ready for quantity production. The staff numbers 6 people.

### 1950

The assembly line for the Dynavox-series is now ready for production. Therefore the number of employees rises to 25 by year's end. The development of tape recorders is undertaken. As the first production batch of the Dynavox-series is nearing completion, economic considerations call for the formation of a marketing organisation which is to operate under the control of the manufacturer.

### 1951

Distribution by the own marketing company commences on the 27th of March. The new firm is called ELA AG. Simultaneously with this event, the name of the amateur-products is changed to "REVOX".

The prototype of the first professional studio tape recorder is ready for operation, and it is used by the Swiss Broadcasting Corporation to record on tape for the first time the performances at the Lucerne International Music-Festival.

### 1952

In addition to the production of the REVOX tape recorder T26 – the successor-model of the Dynavox series – 100 studio tape recorders are being built.

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### 1953

Larger production areas and new machines at Wehntalerstrasse make it possible to take on production of many parts that had to be obtained from outside sources previously.

The Revox model T26 was built also in Radio-Recorder Combination. A comparison of prices with today's devices is quite interesting:

The standard version T26 carried a price tag of Sfr. 1395.-. As production of the T26 series comes to an end, the number of units built totals 2500.

The development of the first 3 motor amateur tape recorders is now in progress.

### 1954

The form is cast: The first tape recorder of the successful 36 series goes into production and is introduced to the market. It features 3 motors, push button control, and the remarkable direct drive without belts or pulleys. The annual production amounts to 2500 units.

### 1955

A new era of professional studio tape recorders begins with the development of the series Studer A37 and B37. A monophonic high fidelity amplifier is added to the Revox line, and it appears on the market well timed with the break-through of the long playing record. A simultaneous attempt to produce a hi-fi turntable fails, because of insufficient production capacity.

### 1956

A new development, the modular plug-in microphone pre-amplifier for professional audio mixing consoles enlarges the basic range of products.

The new Revox B36 features separate heads for recording and replay, which enables the amateur to take advantage of before and after tape monitoring.



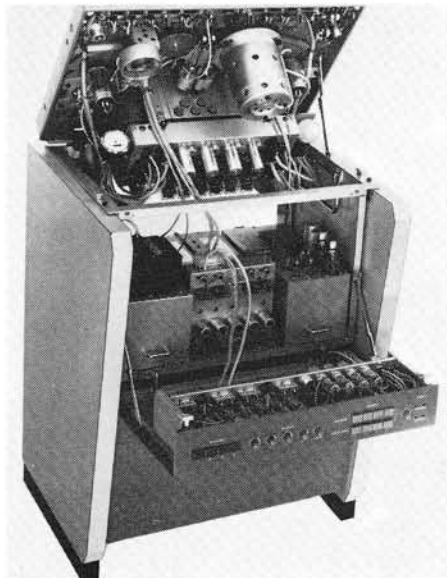
A36: the first of a world famous series



First Studer factory in Regensdorf; the building on the left was constructed in 1968



D36: first Revox stereo tape recorder



An inside view of the neat modular type construction of the J37

### 1957

Presentation of the portable compact studio tape recorder Studer B30 for mobile purposes with impulse push button control, interchangeable tape adapters and plug-in head assembly.

### 1958

The prototype of the first portable Studer model 69 mixing console is completed. But before it can be offered to the Swiss Broadcasting System, it has to pass many hard tests in the Inspection Department of the Swiss postal authority.

Additional space is required for the already 120 people that are employed by now and the acquisition of a 38,700 sq.ft. (3600 m<sup>2</sup>) building site in Regensdorf near Zurich is the first step towards the erection of a wholly owned plant.

### 1959

The construction of what is known today as plant I commences. Half of the land stays unused for future expansion. Additional mixers for the Swiss radio-studios, ordered by the Swiss postal authority, are being produced.

### 1960

The new factory is ready for occupancy. Various, rather heavy transitory technical and economical difficulties are caused by the conversion from the previous mono-units to the new stereo tape recorder Revox D36. Studer C37, the newly developed studio tape recorder, is ready for small quantity production. Within a very short time it becomes standard equipment in many famous studios. In view of the forthcoming multichannel versions, it is equipped with an extremely rugged transport mechanism and very compact amplifier electronics.

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### 1961

With the introduction of the model 40 stereo-amplifier, Revox presents a high quality product for the disc enthusiast. An improved tape recorder, the Revox model E 36, is now released on the market.

### 1962

The incisive event of this year – with far reaching consequences – is the Swiss Government's coercive measure of reducing the number of foreign workers in the country. This has the effect that the force of over 200 employees has to be reduced to 187.

In production is now the again improved tape recorder F 36.

### 1963

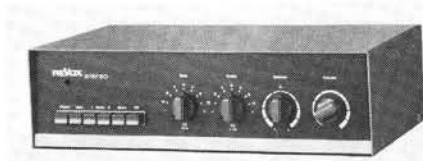
An innovation in the Studer program is the introduction of the fully transistorized professional tape recorder A 62.

### 1964

Presentation of the prototype version of the 4-channel-studio tape recorder J 37. It represents the up to now most complex, tube equipped machine, which paves the way for the acceptance of Studer products by well-known disc recording studios the world over. "Face lifting" and quite a number of important improvements are reflected in the Revox G 36, the last model within the 36-series. In July the foundation of a German daughter company takes place in the Black Forest. 86 000 sq.ft. (8000 m<sup>2</sup>) provide for the company's steady growth which has been halted in Switzerland due to Federal Government's restrictive measures. The new computer-system IBM 360/20 is ordered in November.

### 1965

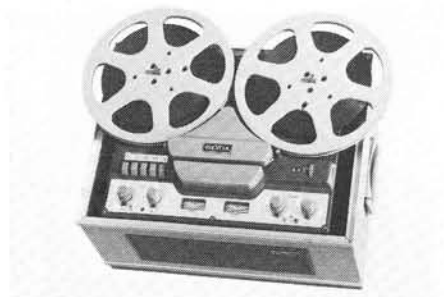
A dried-up labour market in Switzerland combined with the general restrictions justify the move to Germany.



Type 40: first Revox Hi-Fi amplifier



New plant in Löffingen, Black Forest (F.R. Germany)



G36: the last of a grand series



A77: the first transistorized Revox tape recorder



Mollis branch which supplies sub-groups

### 1966

Official opening of the new factory at Löffingen, Black Forest. The hitherto separate marketing organisation in Germany becomes integrated into the Willi Studer GmbH. Computers are being installed in Regensdorf and Löffingen.

### 1967

On the land held in reserve in Regensdorf since 1958, a second factory is being built.

The very successful series of model 36-recorders, of which more than 80 000 units have been produced, comes to an end.

The new Revox-generation is presented at consumer shows in Zurich and Berlin. The completely restyled and newly designed stereo tape recorder A 77 is complemented by the matching stereo amplifier A 50 and a separate FM stereo tuner. All these units are fully transistorized and of modular construction. These characteristics as well as the drive system of the A 77, with its servo controlled capstan motor, are the beginning of a new technical era.

### 1968

The officially opened new building in Regensdorf makes the long overdue expansion of research and engineering possible. It also allows the creation of two new departments, one for the in-house design of test equipment and the other for custom building of Studio equipment. At the Zurich consumer show "fera" the following units are shown:

Revox-FM-stereo-tuner A 76, Revox trainer language laboratory A 88 and the mixing console Studer 089.

Among the internationally leading FM-tuners, Revox immediately finds its place in the top-ranks. Its unconventional circuitry sets new measures. New possibilities for the use of the A 77 are provided by the newly developed language laboratory A 88. For the first time, numerous integrated circuits are used for logic control. A new audio mixer, Studer 089, is offered by the studio equipment division. Compact moduls, which provide for a multitude of adjustments in each channel, form the nucleus of this new product.

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The last series of high-tension oscilloscopes is being delivered to the customer. Herewith a 20 years' partnership terminates. The ever present strive to become more and more independent from external suppliers of semifinished products finds its reflection in the structuring of a motor production in a newly acquired plant in Ewattingen, Germany.

### 1969

In order to take excessive workloads from the mainplant at Regensdorf a new plant for subassembly production goes into operation at Mollis in the canton of Glarus (Switzerland).

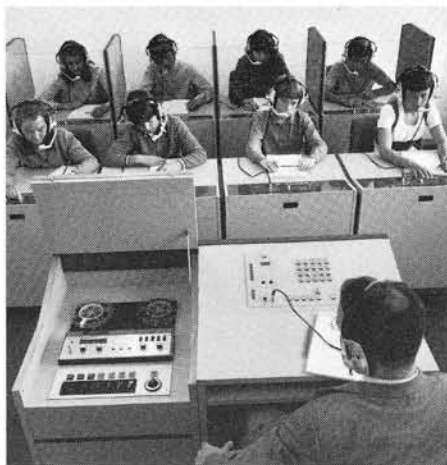
### 1970

The new generation of the series A80 professional studio tape recorders is introduced in the spring of this year. The entirely new design concept satisfies a wide range of possible applications while its well-conceived modular construction is optimized from a production point of view as well. Some of its outstanding characteristics are:

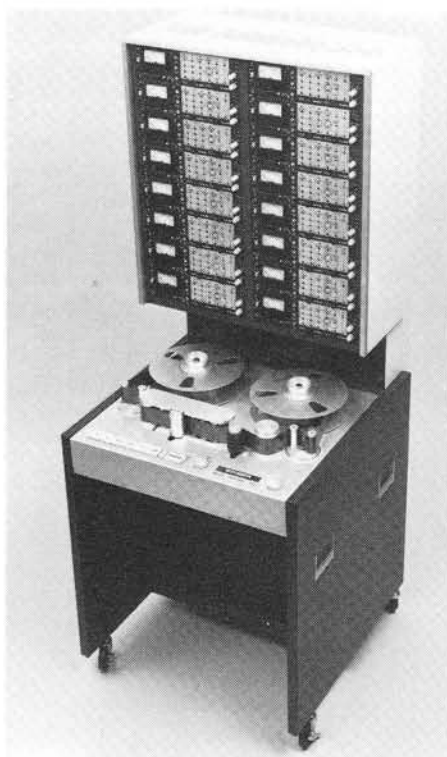
Sturdy tape transport mechanism with integrated logic control, electronically controlled tape tension even during fast wind and the braking phase, electronic sensing of tape motion and direction, electronic tape timing, electronic speed control, plug-in amplifier modules with separately pluggable equalization and level pre-sets plus electronic equalization changeover.

Presentation of the first Revox Multiprogramme Language Laboratory at the "Didacta" exhibition in Basle.

Construction of an extension to the existing plant at Loffingen increases the total floor space to 51 700 sq.ft. (4800 m<sup>2</sup>). A teleprocessing terminal is installed in the central Research & Development Department at the Regensdorf Headquarters. This terminal is utilized for technical-scientific calculations and for the production of punched tape as required for the operation of numerically controlled (NC) production centres. In recognition of his achievements in the field of Audio, Mr. Studer is made a Fellow of the "Audio Engineering Society".



A88 language laboratory, the first in-house development of the Revox trainer department



Studer A80 for 16 tracks



July 1976: move into the new production and administrative building

### 1971

In Wettingen, Switzerland, the partly owned marketing company for professional studio equipment, Studer Franz AG, starts its activities with the delivery of the first units of the improved version of the B62 series recorders. The Revox line appears in a new styling while several special versions of the A77 such as the models A77-PTT, A77-ORF and A77-Dolby are already in production.

A new studio tap recorder, the model A80/R "Broadcasting Version" complements the A80 series. The capacity of central data processing at the Regensdorf Headquarters is increased with the installation of the IBM 360/20-5 system complete with five magnetic disc storage units. The hitherto used IBM 360/20 cardsystem is transferred to the German sister company at Loffingen. At the end of the year the number of employees exceeds 1000 people.

### 1972

An urgently needed increase in production capacity is met with the addition of a further plant in Bonndorf, Germany. On a floor area of 56 000 sq.ft. (5200 m<sup>2</sup>) the production facilities for motors and printed circuits are accommodated.

In the department for studio equipments, the so far biggest professional audio mixing consoles, Studer 289 with 30 input channels for drama and music recording, are being produced for the Swiss Broadcasting Corporation. The versatile concept of the professional studio recorder A 80 permits its conversion into a quadrofonic model, which is called A 80 RT-Quadra.

### 1973

On the day of the firm's 25th anniversary, Messrs. Willi Studer purchase the factory building of Hermes-Precisa GmbH in Sackingen, Germany. This new acquisition is to operate under control of the Loffingen branch. The Sackingen plant specializes in non-cutting shaping operations, galvanising, spray painting and sub-assembly.

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bly production. In Switzerland the Mollis branch starts construction work on a new building (first phase) with a total floor area of 26 900 sq.ft. (2500 m<sup>2</sup>) to accommodate 200 workers. Planning goes under way for the construction of a new building at Regensdorf which is to house the headoffice of the Studer group of companies while also providing room for expansion for research, engineering and central administration. On a total floor area of 91 500 sq.ft. (8500 m<sup>2</sup>) it will also accommodate the production facilities for studio equipment and other special products.

### 1974

The first compact studio machine Studer A67 originated from the A700.

### 1975

Another professional year. Digital technology is introduced into control and synchronization. The TLS 200 provides completely new opportunities for coupling audio, video, and film machines with the SMPTE/EBU-time code. The professional power amplifier Studer A68 is launched, the Revox A740 being its amateur counterpart.

### 1976

This year is marked by the introduction of an efficient compact mixing console series Studer 169, equipped for mobile use. In July, the newly constructed production and administrative localities are moved into.

### 1977

Ten years since the launching of the successful A-series, time has come for replacement. The entire range of Revox components is replaced in one go by the B77 tape recorder, the B760 amplifier and B750 tuner, and as Revox novelty, the B790 tangential turntable.

### 1978

A memorable year for the founder Willi Studer: in autumn the ETH honours him for his relentless effort and research. They



B77, the first of the B-series



B750 amplifier



Tuner B760 for electronic tuning



A Revox novelty: B790 tangential turntable



The first Revox tape deck B710

bestowed upon him the rare honorary doctor of technical sciences. The newly developed multi-channel tape recording machine Studer A800 is introduced. The largest machine ever provides exceptional features: micro-computer controlled drive mechanism, PLL-capstan-servo with 13-MHZ-quartz control and flat disc tape tensioning.

### 1979

All of these projected extensions have now been completed. The Mollis branch supplies all the Studer factories with components, and the new building at Regensdorf has been completed, and production is in full flow. Revox's new product line includes a digital tuner, an amplifier, a tape recorder and a record player. This new series, known as the "B-Series", is enormously successful on the market. However, there are some innovative developments in studio equipment as well. There is the Studer A800, a microprocessor-controlled multi-track unit, and a new mixing console for transportable applications, both developed in 1978. So far this year the following products have been put into full production: the Studer 069 reporting unit for outside radio transmissions by land line; another item is a new style remote-control system for modern tape recorders.

### 1980

The B780 Receiver is added to the range of Revox equipment. The Triton loudspeaker system is marketed. On the professional side, the biggest mixing console of the 69 series, the Studer 369, is presented, accompanied by telephone hybrid and balancing unit.

### 1981

Finally, the Revox B710 Tape Deck is launched.

### 1982

The new speakers Forum B and Plenum B complete the product range. The cassette decks and turntables are modified, while the Studer A710 tape deck is marketed. The 89 mixing console generation is replaced by the elegant 900 series. The Re-

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vox PR99 is launched on the professional market.

In August, Studer International (distributors of professional equipment) move into the new building at Althardstrasse 10.

## 1983

As technology leaps forward, Revox launch the B251 amplifier and the B261 tuner, both units equipped with microprocessors and remote controllable.

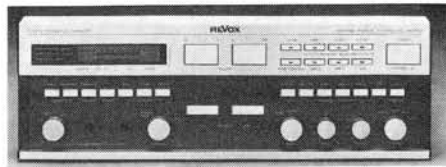
Digital technology first appears in the Studer SFC16 and the DAD16. The youngest recorder, Studer A810, also features digital control. Another novelty is the studio loudspeaker Studer 2706.

## 1984

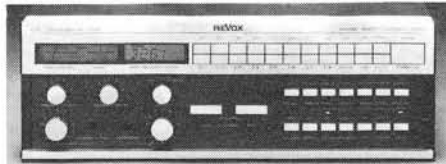
True to principle, Revox waited for the right moment to present an elaborately designed B225 CD player, while Studer launch their A725. The active speaker Agora B makes its first appearance.

## 1985

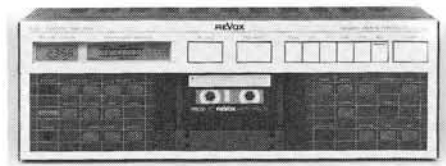
The Revox B215 tape deck and the B285 tuner/amplifier round off the product range. The B286, without power amplifiers, is designed for use with the active speaker Agora B. The complete line is remote controllable. On the professional side, the A820 tape recorder rings in the digital recording generation. The Studer compact mixing consoles 961 and 962 fully satisfy the latest requirements.



Advanced technology and microprocessors in the B251 amplifier and...



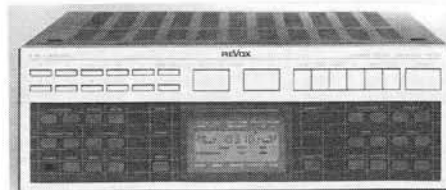
in the B261 tuner



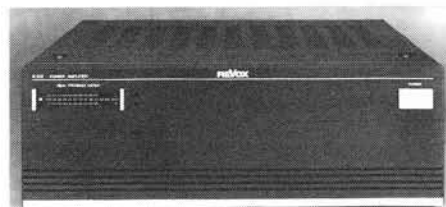
B215 cassette deck with integrated IR remote control



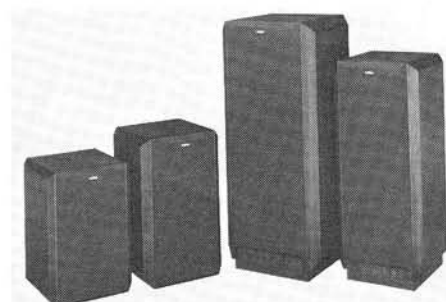
The digital era commences with the Revox B225 CD player



Compact B285 tuner/amplifier



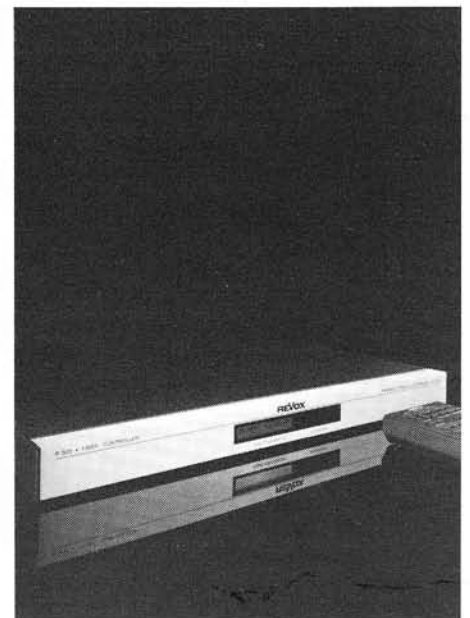
B242 power amplifier



A new generation of loudspeakers.

## 1986

The Studer system controllers SC4008 and SC4016 permit synchronization of up to 16 units (audio, video, film) with the SMPTE/EBU bus. Two compact tape recorders, A812 and A807, enrich the Studer line. The Revox B203 timer controller features three main functions: Easy Control, Timer and Personal Computer. The new power amplifier Revox B242 takes up a special place in the home hi-fi equipment. The B291 turntable with integrated IR control replaces the previous models B791 and B795. Thanks to the first Revox mixing console C279, all unconditional Revox users can now set up their own studios. The Forum MKII, Plenum MKII and Symbol MKII loudspeakers have been completely redesigned: the Atrium MKII is an elegant medium-sized newcomer. The B203 timer controller rings in a new era.



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