

Portable High-Fidelity Tape Decks

RS-686DS

RS-646DS



Technics



RS-646DS

Portable High Fidelity
Stereo Cassette Deck
with Separate Bias/
Equalizer and Mic
Attenuator



RS-686DS

Ultra-Compact 3-Head
Portable Stereo
Cassette Deck with
Anti-Rolling Mechanism

When You Move, It Responds

When you handle the controls on these new portable cassette decks from Technics, you get a feeling of satisfaction. Why? Because you're dealing with a professional. You can relax; you're in control. At your fingertips you have the power to make great recordings even under severe conditions. Hold the RS-686DS. Feel the solidity of stainless steel parts and fine workmanship. Technics made this deck like a professional quality camera to move with you and bend to your needs. Weighing no more than 3 kg and measuring a mere 24.3×7.7×20.0 cm, the RS-686DS may be one of the smallest high fidelity portable stereo cassette decks available. Packed into its rugged frame are such features as FG Servo Motor, Three-Head Configuration, Anti-Rolling Mechanism and more. In short, you get more of what you want in a stereo cassette deck in much less space. Check the control panel. Based on long experience in actual live recording situations, Technics has made some radical changes in front panel design. These changes, this more rational design means better recordings, fewer mistakes. So when you're in the field, the cassette deck becomes an extension of yourself, a tool that helps you achieve your recording goals.

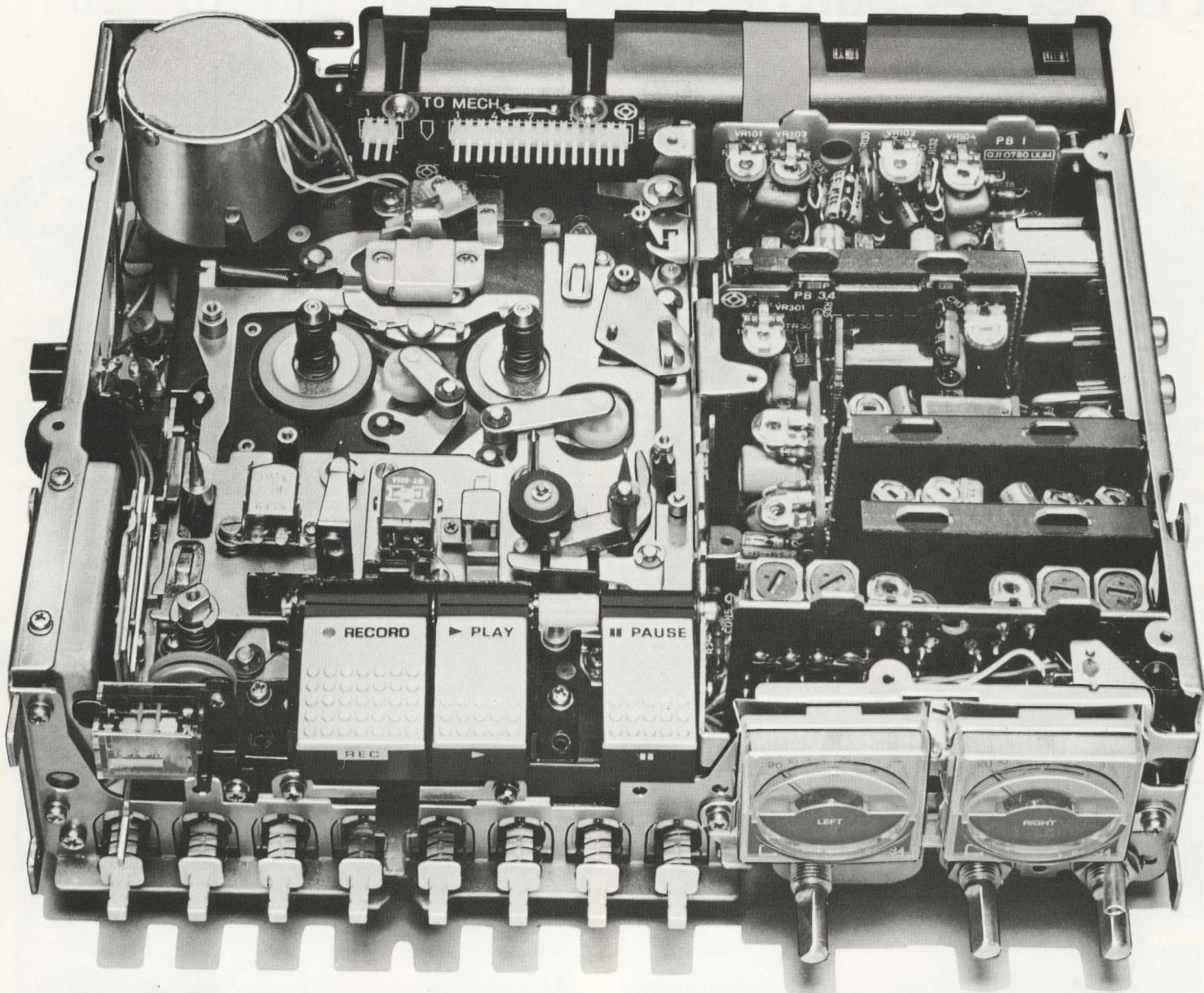
Crafted on a slightly larger scale, the RS-646DS is also a completely portable, completely component quality stereo cassette deck. Look at the large Level Meters, Dolby* NR Switch, Push-Lock Input Level Controls. It's all there, up front where you can use it. With this deck you can make professional quality recordings in the field and take them home for high fidelity listening pleasure. Separate Bias and Equalization Controls let you get all the sound quality today's recording tapes were designed to give. And the Limiter Switch and Meter Light help you get the best recordings in even the worst conditions. The Silent-Stop Mechanism that stops the tape without annoying switch noise may not be necessary in most recording situations. But when you do need it it's there, another example of the professional attitude that the RS-646DS symbolizes. External controls are a reflection of internal circuitry and you can depend on the outstanding circuit design used in the RS-646DS. In the amplifier circuit Technics uses IC's to cut noise and distortion and raise linearity. The result can be heard in the outstanding, realistic recordings you'll get from this completely portable stereo cassette deck from Technics.

*Dolby and "Double D" device are the trademarks of the Dolby Laboratories Inc.

RS-686DS

Ultra-Compact 3-Head Portable Stereo Cassette Deck with Anti-Rolling Mechanism





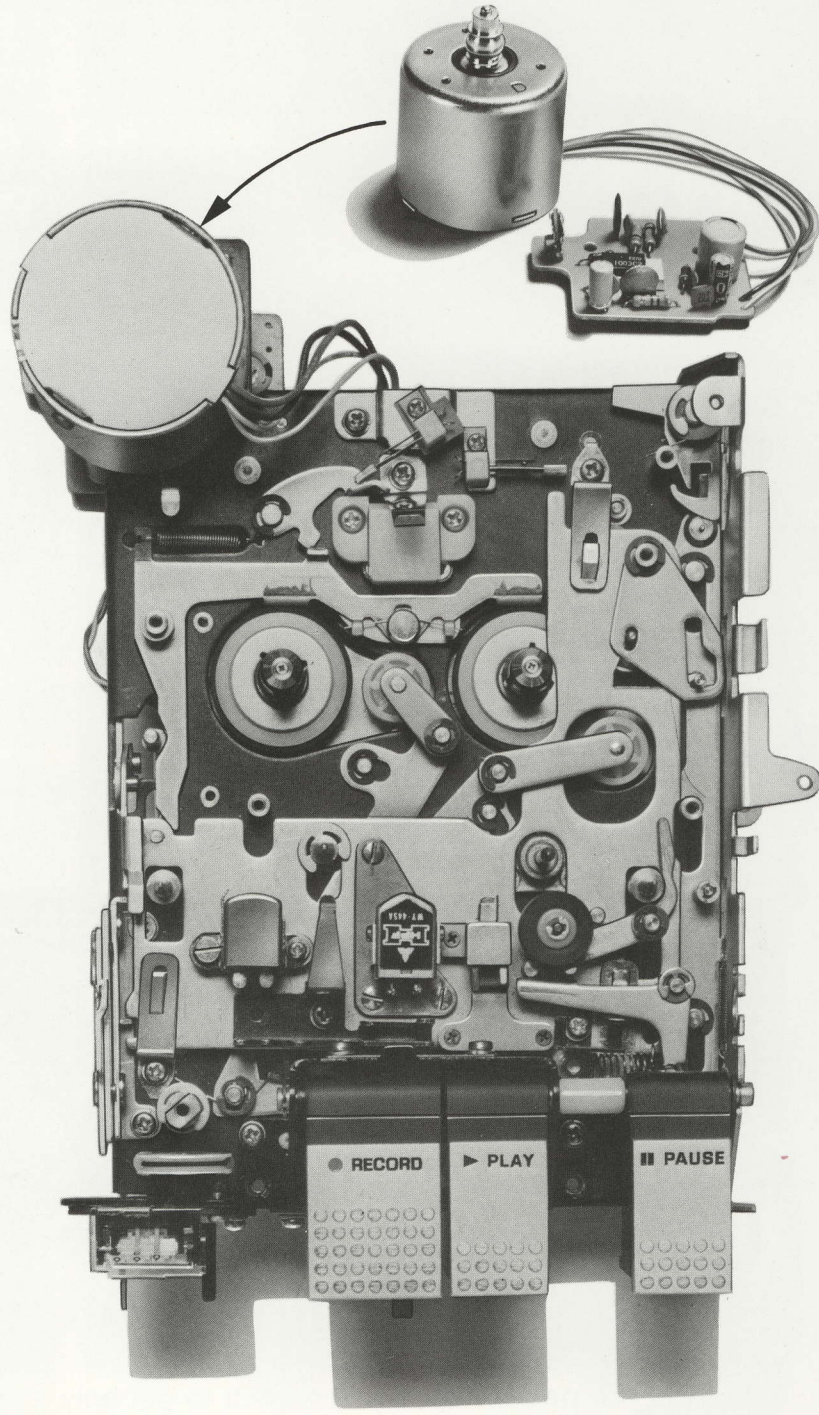
High Fidelity Cassette Deck Performance in a Light-Weight Portable

All of the performance you expect to get only in a home cassette deck is yours in this totally redesigned, handsome portable unit. The RS-686DS is light and small but it contains such high performance parameters as the following: 0.07% (WRMS), $\pm 0.18\%$ (DIN) wow & flutter; 3-head configuration; brilliant anti-rolling mechanism; FG Servo DC motor; redesigned mistake-proof function controls; advanced electronic amplifier circuitry; and many, many other features absent from many non-portable decks. Please refer to the following pages for details on the many exciting features of another winner from Technics.

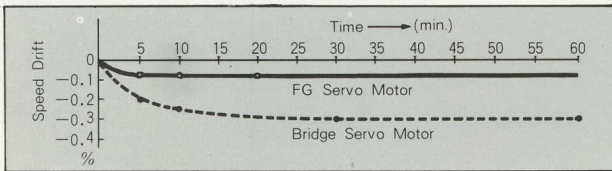


FG Servo-Controlled DC Motor

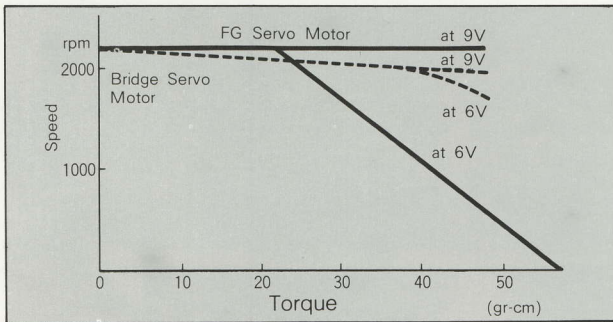
The heart of any recorder is its motor and transport system and none is better than its individual constituents. To meet the particular demands of a portable cassette recorder, a FG servo-controlled DC motor is utilized in the RS-686DS which is nearly impervious to load fluctuations, voltage variations and starting drifts. It boasts a wow and flutter of 0.07% (WRMS), $\pm 0.18\%$ (DIN), the same as or better than many large-sized decks. How does this motor work to maintain such a constant speed under rough portable use? The secret is in the control circuit. The electronic control circuit utilizes integrated circuits which are equivalent to 23 separate transistors to govern the motor speed through DC amplifier and motor drive circuits. Inside the motor are detectors which measure the frequency. This frequency is compared with a standard frequency of 1393.3 Hz and any deviation from this is immediately corrected by a compensating signal sent out by the electronic control circuitry. In this way, motor speed is kept to a high degree of accuracy even under the most extreme operating conditions. The graphs on this page show vividly the precision engendered by this highly reliable drive system.



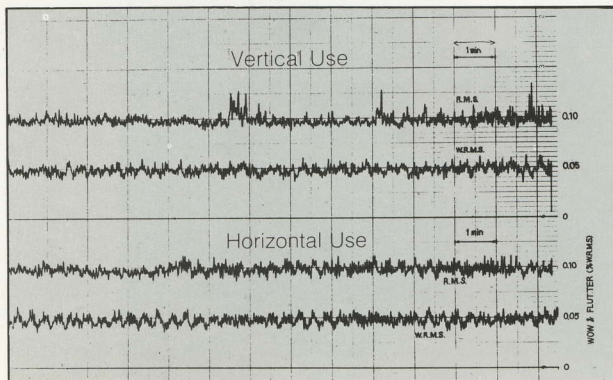
Drift of Motor Speed



Motor Speed vs Load Torque



Wow and Flutter Characteristics

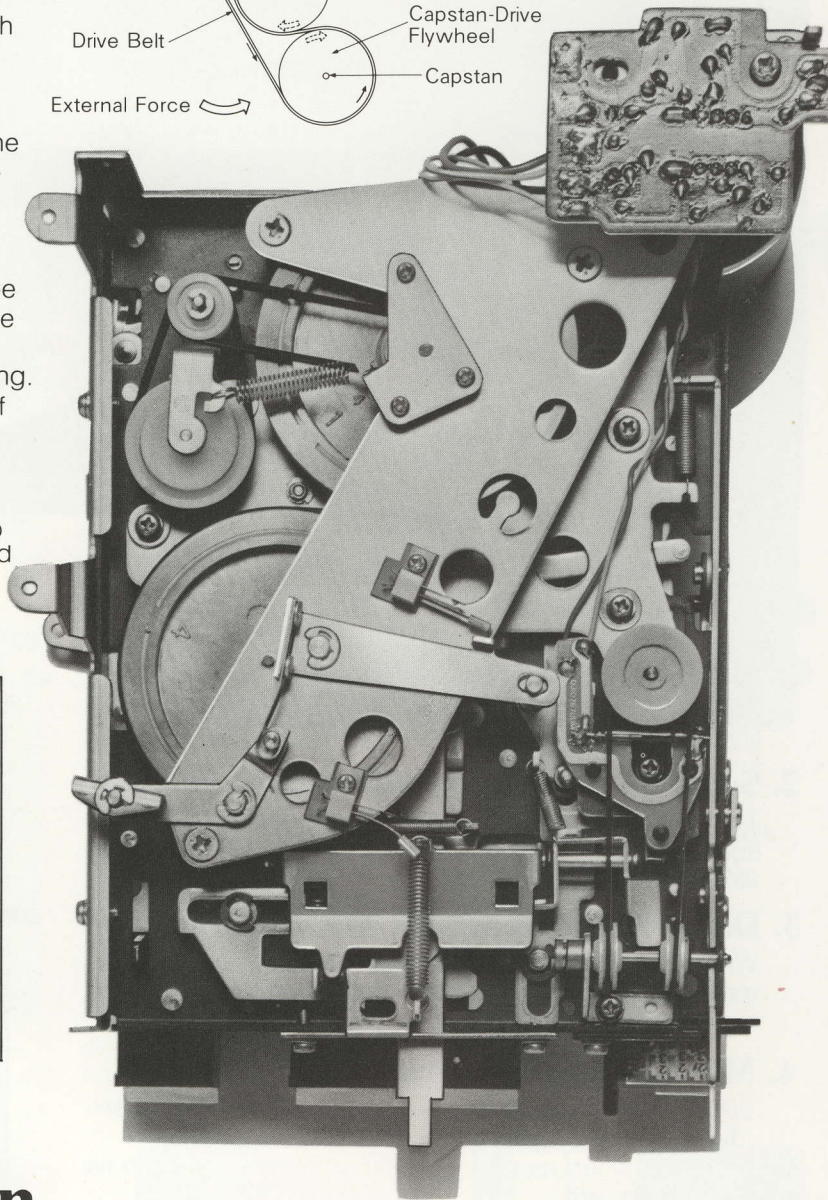
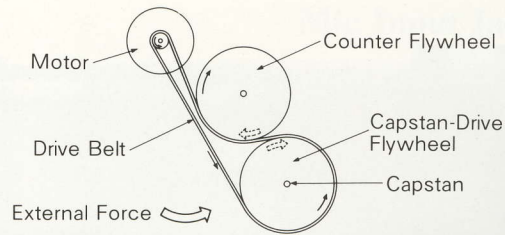


Wholesale Adoption of Stainless Steel in Structural Parts

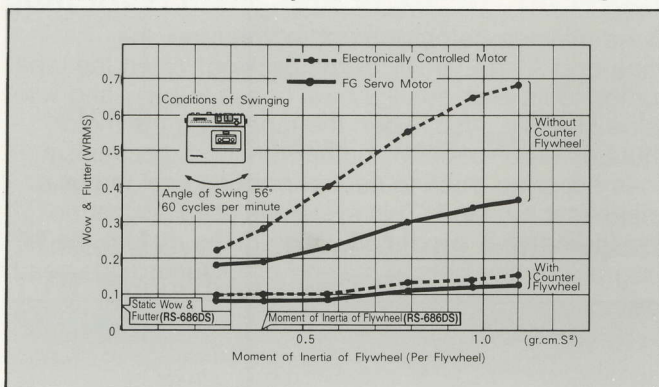
The greater reliability and resistance to wear of stainless steel have been taken full advantage of in the RS-686DS, thus ensuring that moving mechanical parts maintain their original operational accuracy for many, many years of outdoor use.

Anti-Rolling Mechanism

Inability to maintain its high performance standards while on the move would render the RS-686DS somewhat useless as a portable cassette deck. But through its unique anti-rolling mechanism, full tape transport stability is maintained even under the most severe operating conditions. This device depends upon the action of a large counter-flywheel which is linked to the main capstan flywheel by the drive belt. This counter-flywheel moves in the opposite direction from the capstan flywheel and acts to maintain constant tape speed by cancelling out any outside forces which otherwise would cause a slowdown or increase in tape speed. This enables the user to make full performance tapes without the slightest suggestion of distortion or wavering even while walking along or otherwise moving. Another factor accounting for the high performance of the RS-686DS is the precisely-manufactured flywheel and capstan. The flywheel has a dynamic balance of under 0.5 g/cm while the capstan is finished to the high level of roundness 0.15 μ . This contributes in no small part to the achievement of the very low wow and flutter figure and is especially important in guaranteeing full performance in portable use.

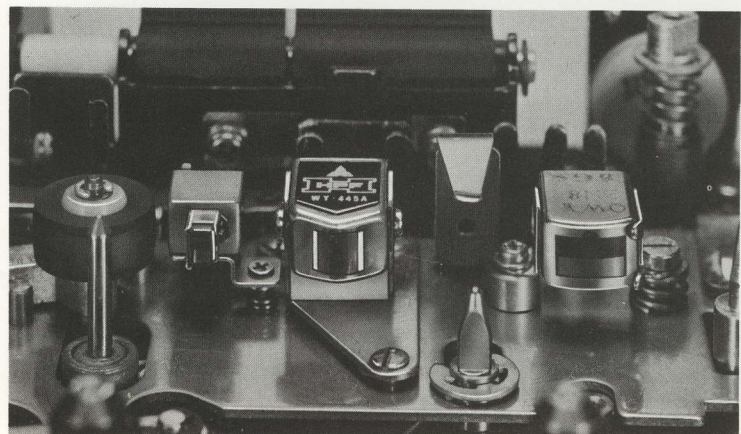


Effect of Counter Flywheel when Unit is Swung

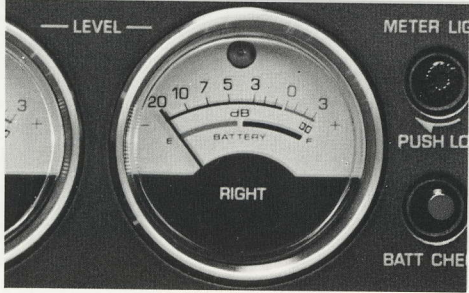


3-Head Configuration

In addition to the standard erase and record/playback heads, Technics has achieved another first by equipping the RS-686DS with a third head for monitoring monaurally what is being recorded on the tape. With this feature—something that no other portable can claim—the operator can monitor what is going on the tape to make sure the result is what he desires. This monitor head is a super permalloy head known for its high playback performance and long life. For the important record/playback head, Technics' famed HPF™ head is utilized. This ideal head features unsurpassable hardness, extremely long life and outstanding magnetic characteristics. And for the erase head a double-gap type ferrite head which is highly suited for the erase function is used.



Level/Battery Meters with Peak Check Indicator Lamps



The two meters function as level meters for right and left channels. Separate peak indicator (LED) lights in the upper portion of the meters come on independently for each channel when the input level is too high for undistorted recording. The right hand meter doubles as a battery check when the battery check button is pressed.

Lockable Meter Light Button

For work in dimly illuminated areas, the meter light may be locked in the on position.

Battery Check Button

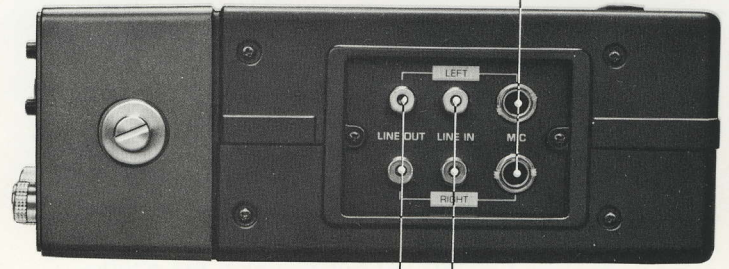
Master Level Control Along with Separate L/R Recording Level Controls

For professional fade-ins and fade-outs the master level control knob may be used once the separate adjustments have been made.

Functional Layout of Tape Transport Controls

All transport controls are laid out in an ingenious way to facilitate mistake-proof operation under the busiest conditions. There is no possibility of mistaking the fast forward button for the play button or rewind button because each is shaped differently or located in an unmistakable place. Fast forward and rewind are accomplished with the slide control on the instrument panel side, while the record, play and pause buttons—each distinguishable by size, feel and position—are handily placed on the edge of the upper surface. The stop button is round-shaped and is located off to the side completely to eliminate the possibility of accidental use. Even operation in total darkness is a breeze once the button locations are learned.

Mic Input Jacks

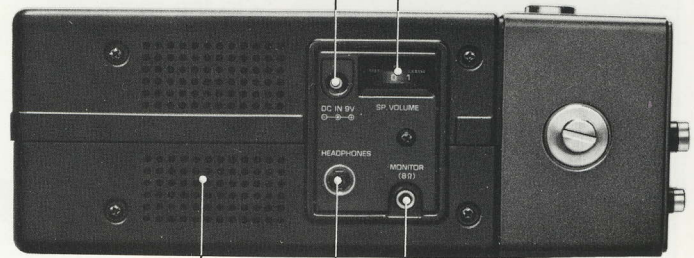


Line Output Jacks

Line Input Jacks

DC Input Jack

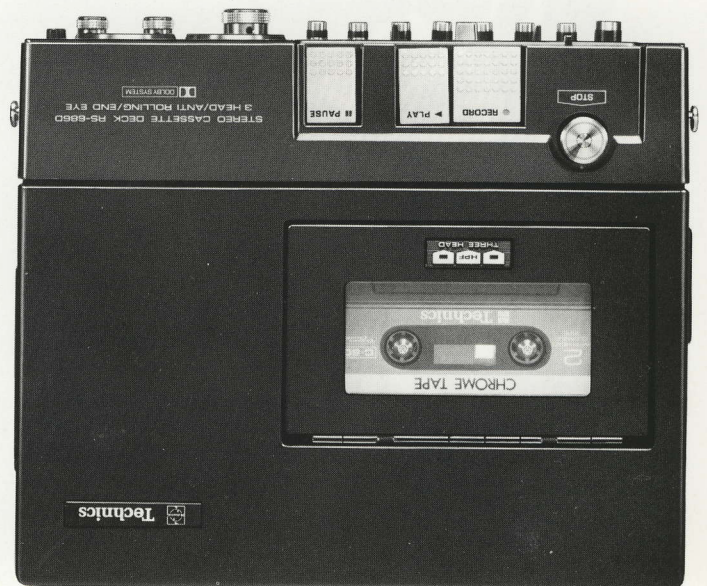
Speaker Volume Control



5 cm Monitor Speaker

The built-in speaker is equipped with its own volume control.

Headphone plus Earphone Jack

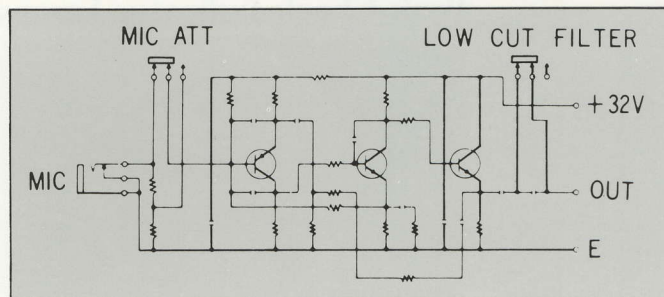
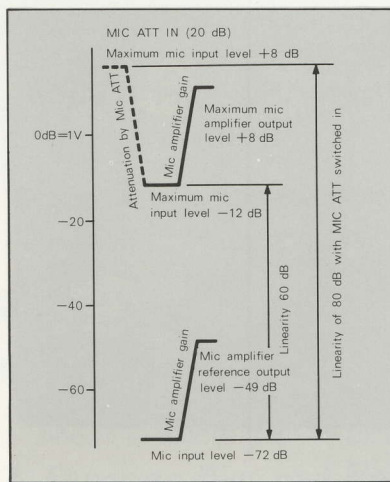


Closely-Packed Electronics

Mic Amp with +60dB Linearity

As the RS-686DS was designed from the start as a portable unit, a particularly great amount of attention has been given to the microphone amplifier circuit, especially to the creation of a head amplifier with wide dynamic range. By using a DC voltage booster to develop the high voltage source of 32 V, a whopping 60 dB of linearity is available. Normally the maximum permissible input is 250 mV but by using the attenuator, input signals up to 2.5 V can be handled. The PNP-NPN-NPN 3-stage direct-coupled circuit construction

employs only the most carefully selected low-noise transistors. DC voltage booster supplies 24 V and 15 V respectively to the recording amplifier and the line in amplifier.

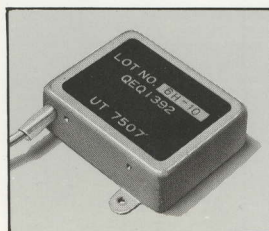
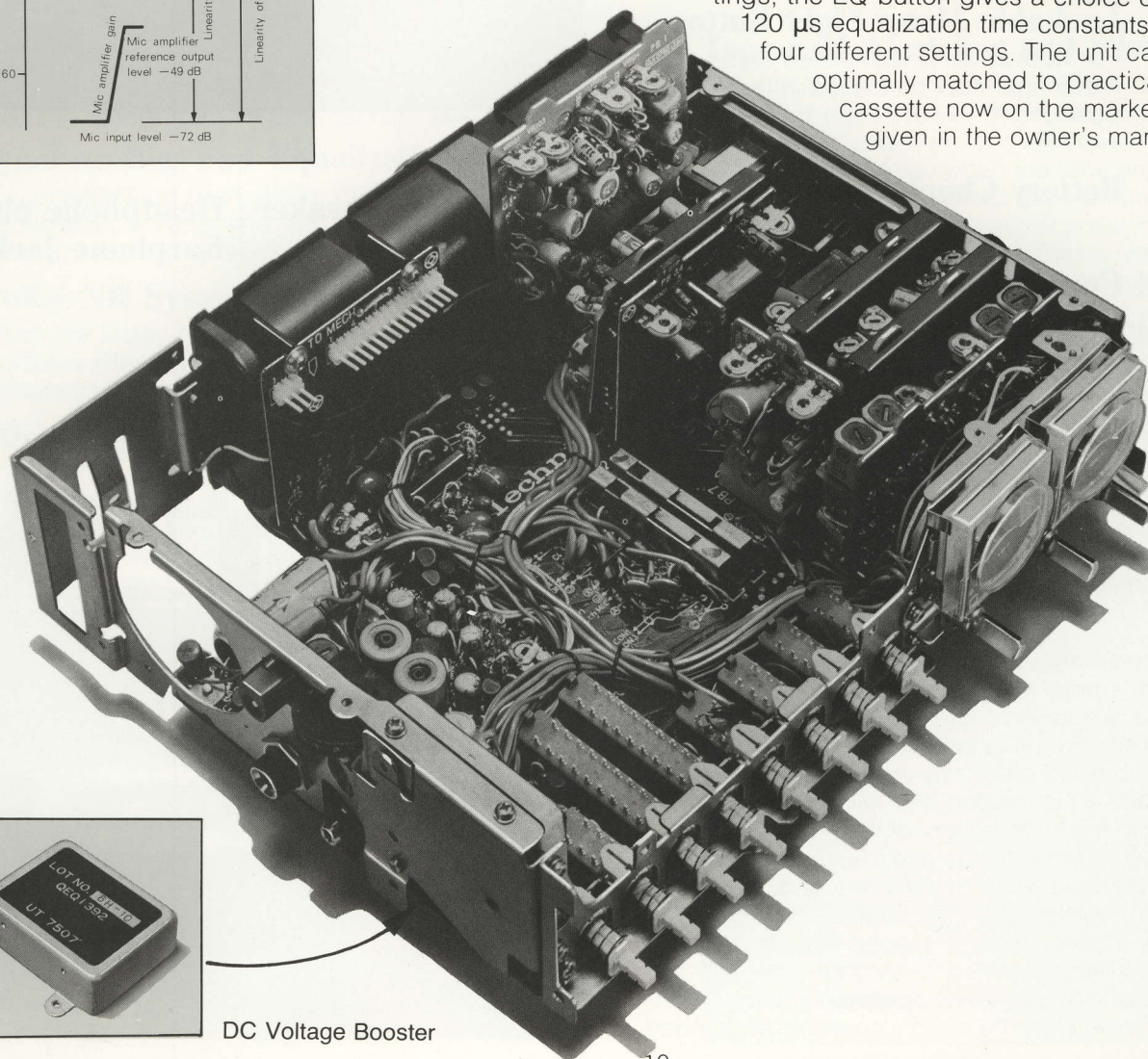


Dolby NR Circuit Combined with MPX Filter

The Dolby noise reduction circuit gives the RS-686DS a full 10 dB improvement in S/N ratio for an overall figure of 63 dB. When the Dolby NR button is pressed, the multiplex filter is automatically switched on to eliminate the FM pilot signal on stereo broadcasts.

Separate Bias and Equalization Selectors

While the Bias pushbutton provides high and low settings, the EQ button gives a choice of 70 μ s and 120 μ s equalization time constants, for a total of four different settings. The unit can thus be optimally matched to practically any type of cassette now on the market. Details are given in the owner's manual.

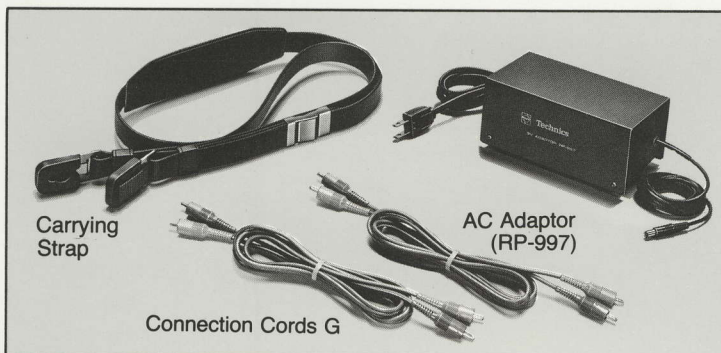


DC Voltage Booster

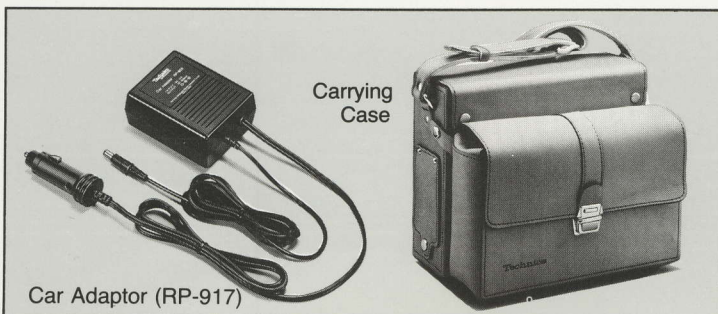
3-Way Operation

The RS-686DS is also fully equipped with the very handy and versatile 3-way power supply feature. Batteries are used in normal outdoor situations, but when at home, or when using the car, AC mains, and car battery (RP-997 AC adaptor supplied and RP-917 car adaptor optional) should be used, thus saving the regular batteries for even longer service life.

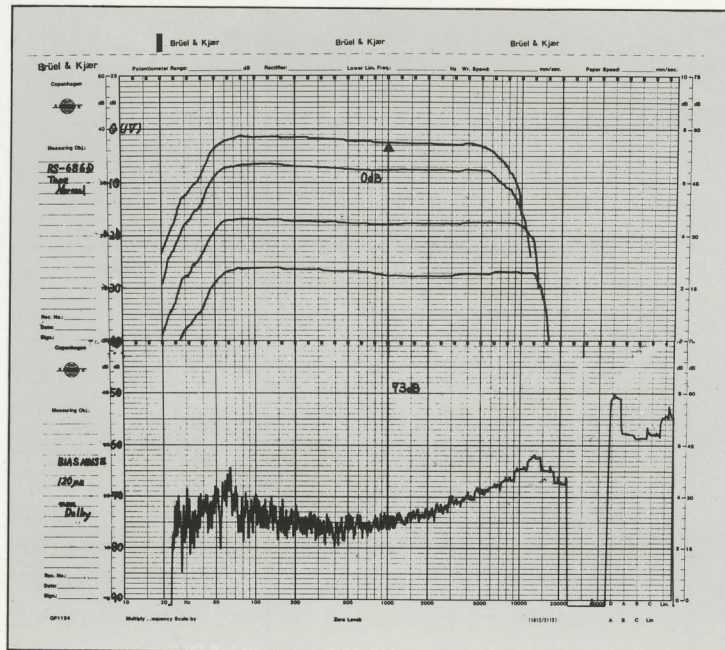
Standard Accessories



Optional Accessories



Overall Frequency Response and Signal-to-Noise Characteristics



Technical Specifications

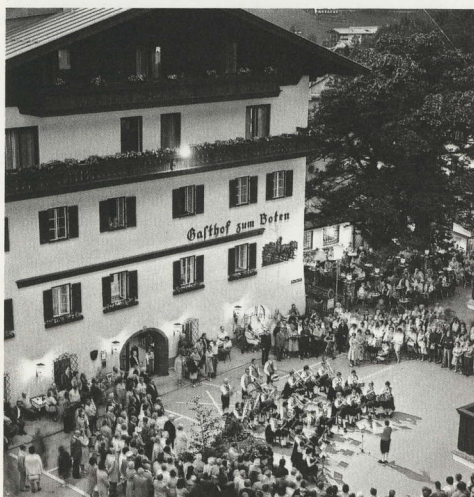
- Track System: 4-track 2-channel stereo recording and playback
- Tape Speed: 4.8 cm/s (1-7/8 ips)
- Power Requirements: DC; 9V, six R-14 size dry cell batteries
AC; 110/125/220/240 V, 50/60 Hz with AC adaptor RP-997 (accessory included)
Power consumption; 12 W
- Battery Life: Approx. 4 hours with alkaline batteries (continuous recording)
- Wow and Flutter: 0.07% (WRMS), $\pm 0.18\%$ (DIN)
- Frequency Response: CrO₂ tape; 50–16,000 Hz ± 3 dB
40–16,000 Hz (DIN)
Normal tape; 50–14,000 Hz ± 3 dB
40–14,000 Hz (DIN)
- Signal-to-Noise Ratio: Dolby NR in; 66 dB (above 5 kHz)
Dolby NR out; 56 dB (signal level = max. recording level)
- Fast Forward and Rewind Time: Approx. 80 sec. with C-60 cassette tape
- Inputs: MIC; sensitivity 0.25 mV, applicable microphone impedance 400 ohms–10 kilohms
LINE; sensitivity 60 mV, input impedance 100 kilohms
- Outputs: LINE; output level 0.42 V, load impedance 22 kilohms over
HEADPHONE; output level 65 mV, load impedance 8–125 ohms
EARPHONE; output level 65 mV, load impedance 8 ohms (monaural)
Monitor Speaker; output power 0.2 W (monaural)
- Motor: 1-FG servo controlled DC motor
- Heads: 3-head system
1-HPF head for rec/playback
1-Super-Permalloy head for recording monitor
1-Double-Gap Ferrite head for erasure
- Dimensions (W×H×D): 24.3 cm×7.7 cm×20.0 cm (9-1/2"×3"×7-7/8")
- Weight: 2.8 kg (6 lb. 3 oz.) (without batteries)

Specifications are subject to change without notice.

RS-646DS

Portable High Fidelity Stereo Cassette Deck with
Separate Bias/Equalizer and Mic Attenuator





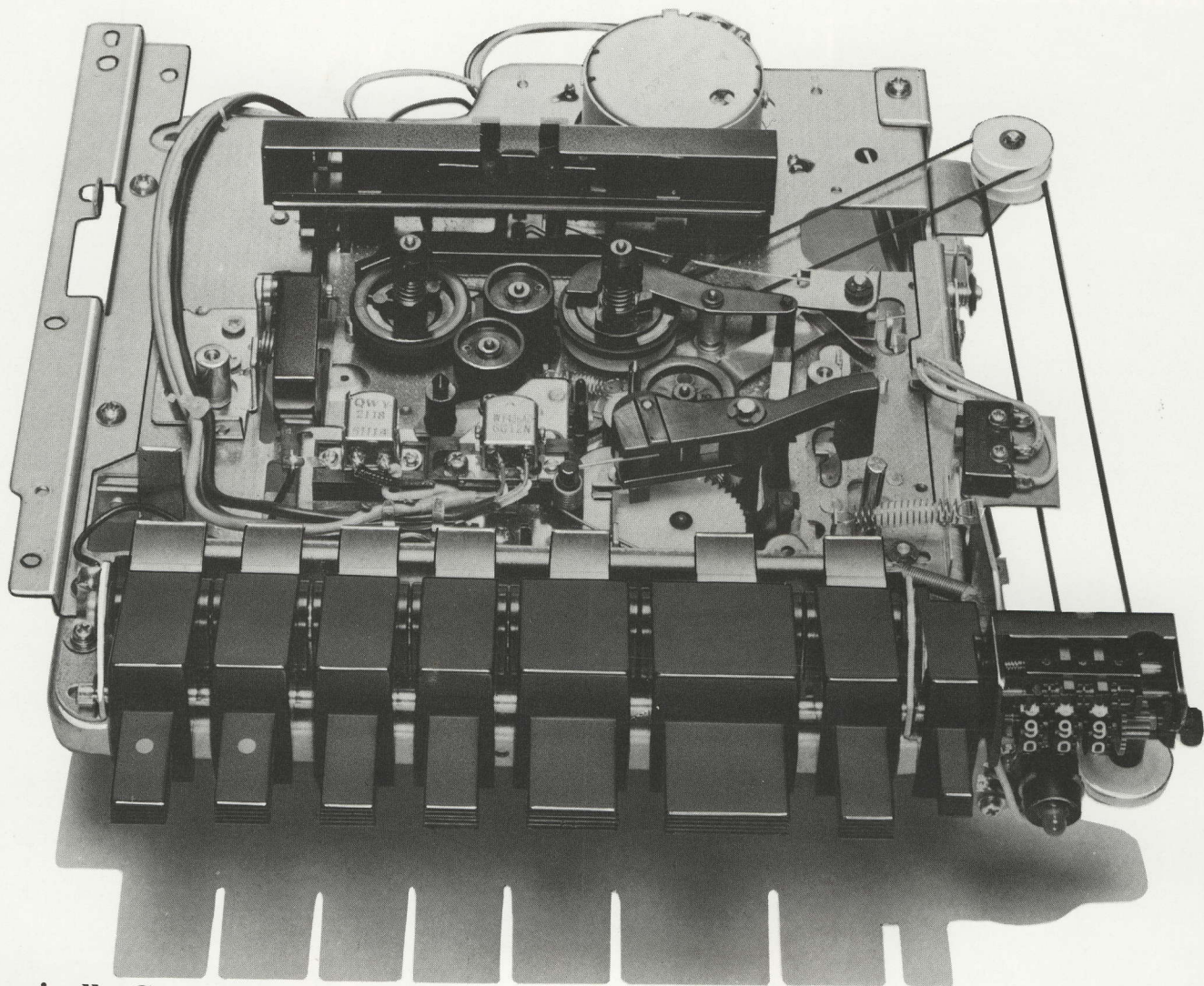
Portable Stereo Cassette Deck Breaks into the Realm of Genuine High Fidelity

Technics' RS-646DS is a completely portable version of a component stereo cassette deck. It lets you expand your component stereo system capability right out of your living room and into the exciting world of live recording. To give you decisive response in even the tightest recording situations, all controls have been designed for fast, easy handling. For mobile performance, the functionally constructed handles do double-duty when you buckle on a carrying strap. Stable tape transport is ensured by the electronically controlled DC motor, precision machined capstan and flywheel, and super-flat belt. Dolby* NR circuit, Limiter Switch and Dual

Level Meters help you get professional quality recordings in all situations. Plus, the separate Bias and Equalization Switches deliver all the high fidelity sound today's tape were designed to give. Based on live recording experience, Technics' RS-646DS also includes operational features such as:

- L/R Independent Level Controls with Synchronized Inter-Lock
- Silent-Stop Switch and End-Indicator Lamp for avoiding undesirable switching noise and for warning tape end.
- 10 cm Monitor Speaker with Volume Control for on the spot playback.

Precision Combines with Compactness in Tape Transport System

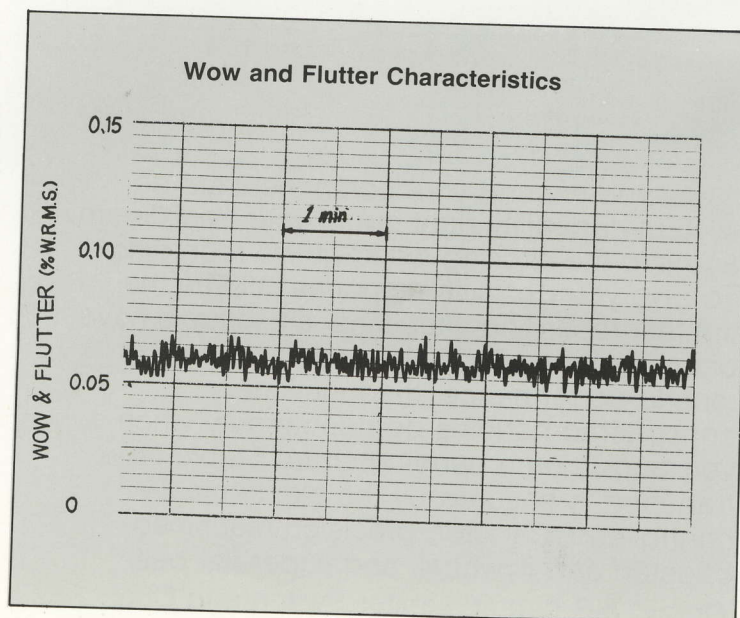


Electronically Controlled DC Motor

Since this deck was designed to be used outdoors as well as indoors, a reliable motor to ensure tape transport stability was a must. The RS-646DS uses a servo-type system that effectively resists load variations and starting drift. An electronic governor detects variations in rotational speed and makes instantaneous corrections to give you unwavering natural sound quality. Add to this the precision machined flywheel with high inertia and improved dynamic balance, plus the capstan and ultra-smooth drive belt and you get a tape transport system you can depend on. The wow and flutter rating is only 0.10% (WRMS), $\pm 0.2\%$ (DIN), a level formerly unhead of in portable decks.

Full Auto-Stop Mechanism

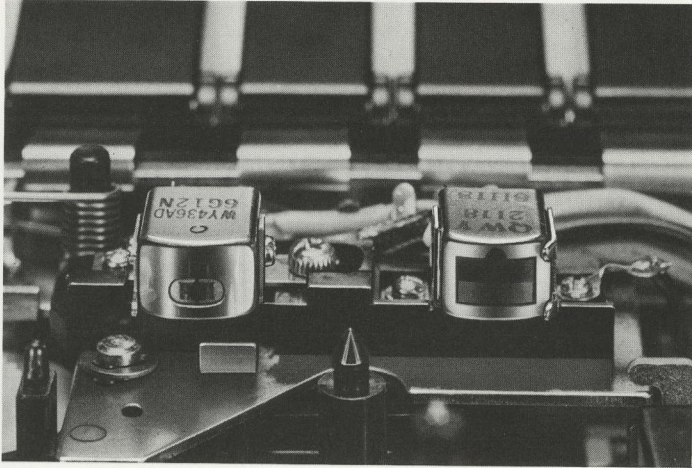
The full Auto-Stop Mechanism protects your tapes and your tape transport system. When the tape ends, the supply and take-up reels are disengaged while the motor continues to rotate supplying the power to release the mode control button to its raised position.



Advanced Electronics

Super Permalloy Record/Playback Head

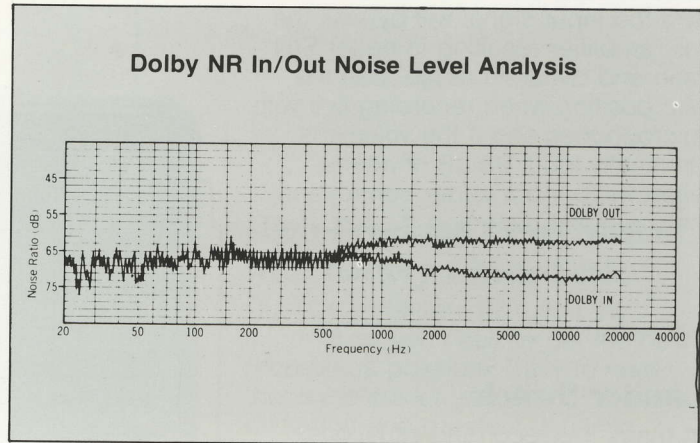
Developed by Technics for its outstanding magnetic properties, qualities of hardness and long life, the dynamic range delivered by this head means faithful sound reproduction. And even when you use the high performance CrO₂ tapes, you won't have to worry about abrasion affecting sound quality so you'll get years of listening pleasure.



Left: Super Permalloy Record/Playback Head
Right: Double-Gap Ferrite Erase Head

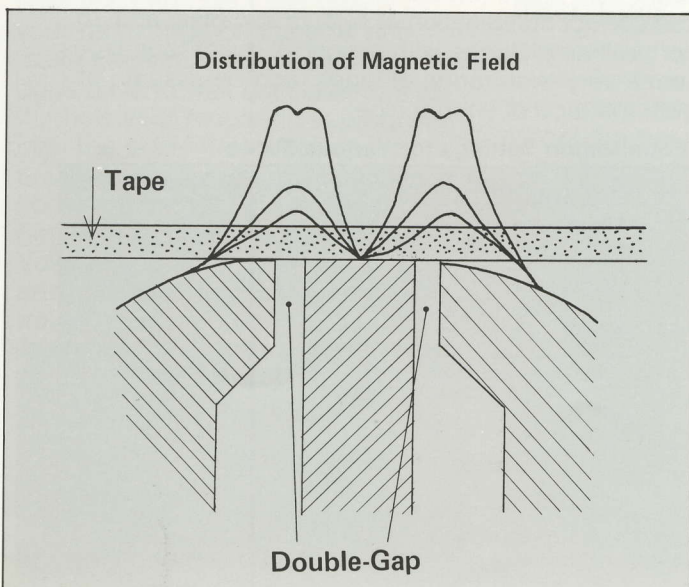
Dolby Noise Reduction System

Inclusion of Dolby NR capability was, of course, a must when designing this professional level cassette deck. Signal-to-noise ratio is improved by 10 dB (with CrO₂ tapes) for an overall rating of 69 dB. Audible tape hiss is virtually eliminated so you get recordings that sound as natural as the originals. Plus, when recording FM stereo broadcasts, the pilot signal is eliminated by an MPX filter when the Dolby NR is in the IN position.



Double-Gap Ferrite Erase Head

Double-Gap Ferrite construction gives erasing efficiency with all types of recording tape. The high powered action of this head handles even CrO₂ tapes with ease. And a structural shield cuts stray signal interference to prepare your tapes for clean, noise free recording.



Separate Bias and Equalization Selectors

The different bias and equalization parameters employed by the high-performance CrO₂ and FeCr tapes can be matched perfectly with these separate selector switches. The advantages of greater fidelity, higher signal-to-noise ratio, and wider dynamic range offered by these tapes can be realized fully with the RS-646DS.

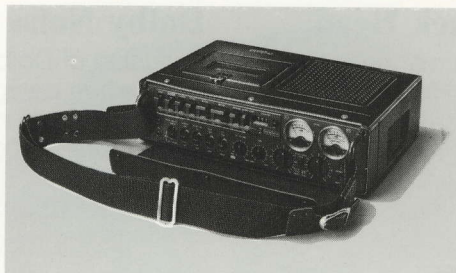
Low Distortion, High Linearity Mic Amplifier

Technics aimed for high linearity and low distortion when designing the microphone amplifier of the RS-646DS. By using IC circuitry, more natural sounding recordings are made possible and you get side benefits in longer battery life and mobile reliability.

Functional, Logical Design in Front Control Panel

Mic/Line Input Selector with Mic Attenuator

No matter what recording situation you are in, these controls give you the versatility you need. When recording from a turntable, tuner, or another tape deck, switch to Line and the input signal will bypass the mic amplifier resulting in better S/N ratio and dynamic range. Use the Mic position when recording live with microphones and if the volume is unusually loud, 20 dB of attenuation will bring it under control and help prevent distortion.

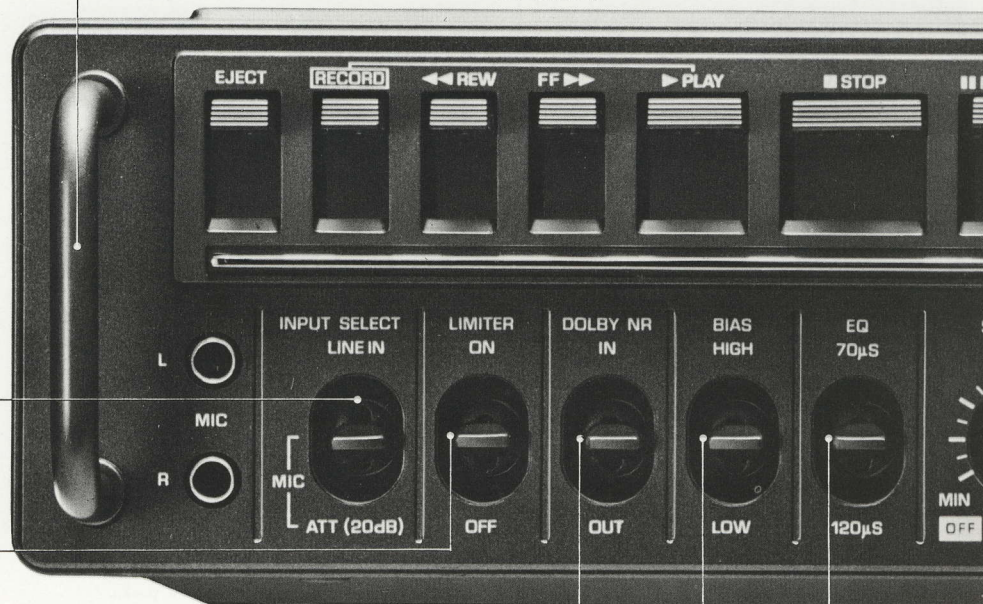


Carrying Handles

The sturdy carrying handles on the front panel of the RS-646DS also serve as ready attachments for the shoulder strap (provided), thus facilitating easier carrying and greater mobility. And the optional carrying case (RP-9646) provides greater protection against shock, dust, and the other similar problems when out-of-doors.

Limiter Switch

In many live recording situations there is a danger of sudden increases in volume causing distortion. When the Limiter is on, these sudden peaks that the recording tape cannot handle are clipped off so you get a distortion free, high quality recording.



Dolby Noise Reduction Switch

Signal-to-noise ratio is improved by a full 10 dB, above 5 kHz, using CrO₂ tapes. (Tape noise below 5 kHz is not significant.) For recording FM broadcasts, an MPX filter is provided, attenuating the 19 kHz pilot signal to avoid possible interference and compromise of fidelity.

Separate Bias and Equalization Selectors

To accommodate nearly all tape types now on the market, the RS-646DS is equipped with independent bias and equalization selector switches. As the table below indicates, the correct combination of high or low bias, and 70 µS or 120 µS equalization, will amply cope with almost all major tape types. You can thus choose from a very wide range of tapes, and be assured of optimum performance with the tape of your choice.

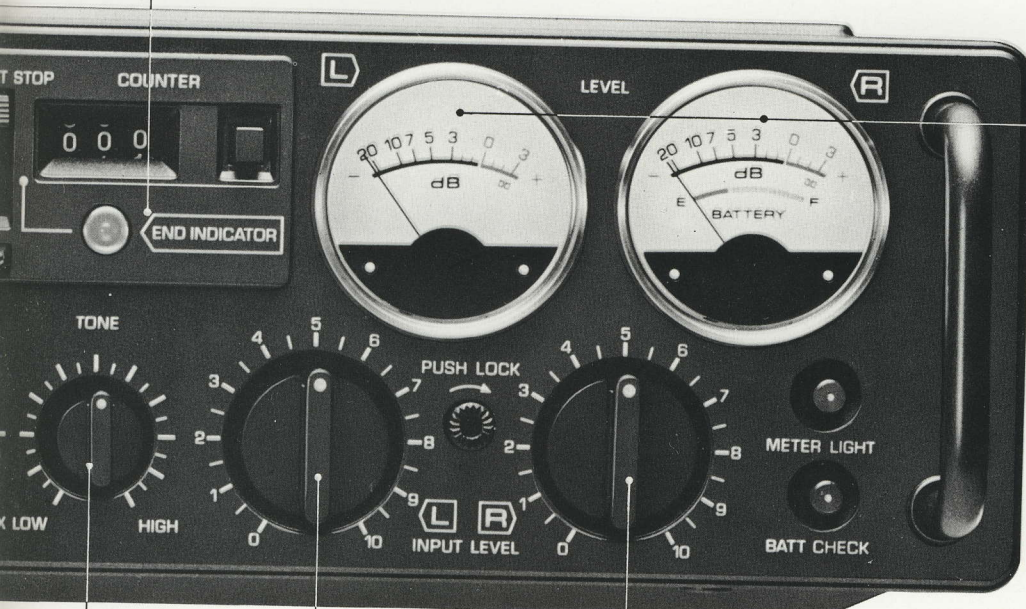
Bias and Equalization Settings for Various Tapes

Brand		Tape Type	Bias	Equalization
National	LN	C-60,		
Panasonic	LH	C-60, C-90		
BASF	UD	C-60, C-90	LOW	120 µs
MAXELL	HF	C-60, C-90		
SONY	SD	C-60, C-90		
TDK				
SONY	FeCr	C-60	LOW	70 µs
PHILIPS	CrO ₂	C-60		
SONY	CRO	C-60		
MAXELL	UDXL II	C-60	HIGH	70 µs
TDK	SA	C-45, C-60		
TDK	AUDUA	C-60, C-90		
MAXELL	UDXL I	C-60, C-90	HIGH	120 µs



Silent-Stop and End-Indicator Lamp

When you use the Silent-Stop feature, you can avoid the release noise that usually occurs when the tape reaches its end. This is useful when others are recording at the same time or in other situations where you do not wish to call attention to the fact that the tape has ended. When engaged, the Silent-Stop mechanism leaves the mode button in the depressed position while stopping the motor and simultaneously lighting up the End-Indicator Lamp. The tape transport controls can then be silently released by hand.



High Precision Level Meters with Battery Check Scale

Dual Level Meters give you the information you need to get the best recordings possible. Easy to read, these meters let you aim for the least distortion and greatest dynamic range. Plus, the handy meter light makes viewing easy even in low light conditions. The "Battery" scale in the right-hand level meter can be used to give clear indication of when the batteries are about to become depleted.

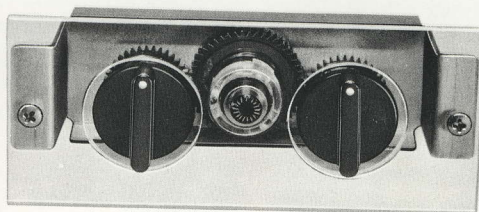
10cm Monitor Speaker with Volume Control

Now you can check the quality of your recordings on the spot and make adjustments if necessary. You don't have to wait until later to find out how your recording is progressing. The built-in monitor speaker ensures that the sounds you take home are the sounds you set out to get. And the front panel Speaker Volume and Tone Controls allow easy speaker volume and bass/treble adjustments.



Separate L/R Input Level Controls with Synchronized Inter-Lock

Independent left and right Input Level Controls let you set the left and right channel volume separately to get the best stereo balance when recording. Once the L/R Controls have been set, the Push-Lock switch allows synchronized fade-in or fade-out for professional beginnings and endings.

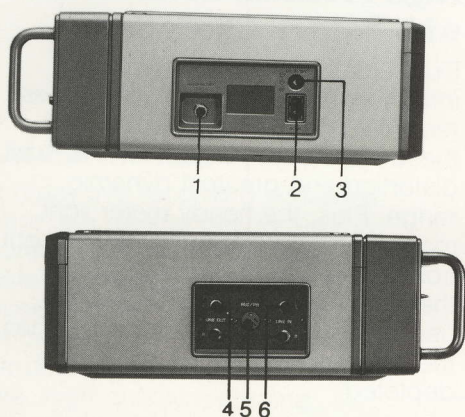


Other Features

- Enlarged Play and Stop Buttons for easier handling
- Monitor Speaker Tone Control
- Digital Tape Counter and Reset Button
- L/R Microphone Input Jacks
- L/R Line Input and Output Jacks
- Headphone Jack

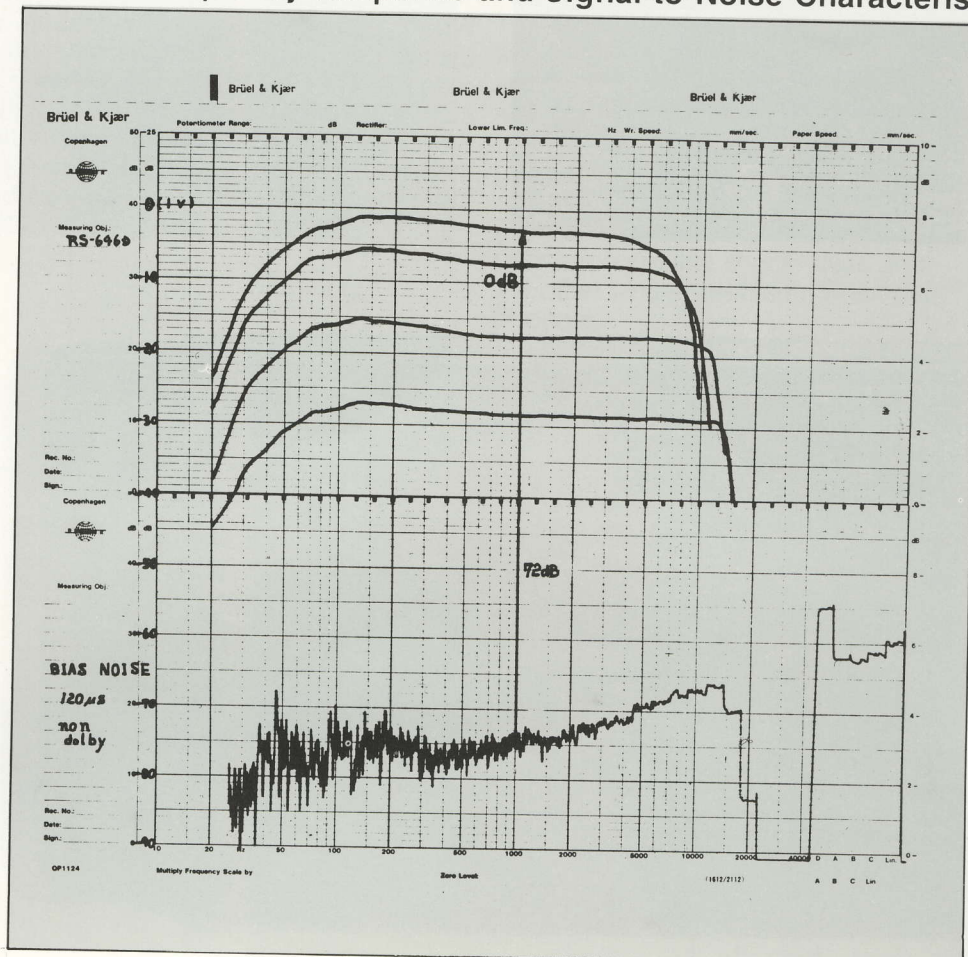
3-Way Power Supply

The RS-646DS runs on dry cell batteries, AC current, or your car battery so you have the versatility to record when and where you want to. With eight R-20 size dry cell batteries you can record for a full eight hours continuously. By using the optional car adaptor, the deck can be hooked up to your car's power supply via the cigarette lighter. And, since the RS-646DS was designed as a component as well as a portable cassette deck, it will run on ordinary AC current. The handy Battery Check Button lets you know when you need new batteries.



1. Headphone Jack
2. AC Input Jack
3. DC Input Jack (12 V)
4. Line Output Jacks
5. Rec/PB DIN Jack
6. Line Input Jacks

Overall Frequency Response and Signal-to-Noise Characteristics



Technical Specifications

Track System: 4-track 2-channel stereo recording and playback

Tape Speed: 4.8 cm/s (1-7/8 ips)

Power Requirements: AC; 110/220 V, 50/60 Hz, power consumption 10 W (240 V, 50 Hz England only)
DC; 12 V, eight R-20 size dry cell batteries

Wow and Flutter: 0.1% (WRMS), ±0.2% (DIN)

Frequency Response: CrO₂ tape; 50–14,000 Hz ±3 dB
40–14,000 Hz (DIN)
Normal tape; 50–14,000 Hz ±3 dB
40–14,000 Hz (DIN)

Signal-to-Noise Ratio: Dolby NR in; 66 dB (above 5 kHz)
Dolby NR out; 59 dB (signal level = max. recording level)

Fast Forward and Rewind Time: Approx. 130 sec. with C-60 cassette tape

Inputs: MIC; sensitivity 0.25 mV, applicable microphone impedance 400 ohms–10 kilohms
LINE; sensitivity 60 mV,

input impedance 47 kilohms
DIN; sensitivity 16 mV,
input impedance 2.7 kilohms
LINE; output level 0.42 V,
load impedance 50 kilohms over
DIN; output level 0.42 V,
output impedance 1 kilohm
HEADPHONE; output level 65 mV,
load impedance 8 ohms
Monitor Speaker; output power 0.8 W (monaural)

Outputs:

Motor: 1-DC electronically speed controlled motor

Heads: 2-head system
1-Super Permalloy head for rec/
playback
1-Double-Gap Ferrite head for erasure

Dimensions (W×H×D): 36.3 cm×10.6 cm×28.0 cm (14-1/4"×4-1/4"×11")

Weight: 5.0 kg (11 lbs) (without batteries)

Specifications are subject to change without notice.

Useful Hints on Live Recording Techniques

Choice of Microphones

The simplest method of making live stereo recordings uses a single so-called "single point" or "one point" stereo microphone. In this, two microphones are combined in a single unit, with their directions of maximum sensitivity spread at an angle of 45 degrees. Single point stereo mike recordings give a very good, natural balance between the sound source "target" that they are aimed at and the acoustic "atmosphere" of the environment such as a hall, etc.

Where single point stereo miking won't be satisfactory because sound sources are far apart or differ greatly in volume level, two separate microphones may be used. For this, there are unidirectional or "cardioid" microphones of pronounced directional effect. They can "focus" on a sound source while suppressing stray sounds coming from other directions.

There are also omnidirectional microphones which pick up sounds from all directions with equal intensity. When used for live music recording indoors, they add more "hall atmosphere" than cardioid mikes. They are also frequently used for outdoor work, interviews, etc. According to the transducer principle employed, microphones can be divided into dynamic and capacitor types. Capacitor types are credited with somewhat better transient response and flatter frequency characteristics, although high quality dynamic mikes will often perform just as well. An electret condenser type, a special variety of the capacitor microphone, needs no outside power supply and is more robust and much easier to handle than professional studio capacitor mikes. The "super cardioid" or "telescopic" microphone behaves much like a telescopic lens in photography, as its sensitivity is focused in a very narrow angle of "view." It is used in special applications where a large distance between microphone and sound source has to be bridged.

Microphone Arrangements

When using two separate microphones, placement can be either in X-Y or in A-B fashion. The X-Y method places the two microphones together, but pointed at the two extreme ends of the sound source, such as the leftmost and rightmost players of an orchestra. X-Y recordings sound very natural and are particularly "mono-compatible"—recordings made by this method can be reproduced monaurally without any great loss in the recorded information.

A-B means that the microphones are placed in front of a sound source but with a relatively large distance between them. This is preferable if the sound source—such as a classical orchestra or a brass band—is spread out horizontally, and when a very pronounced stereo effect is desired. Beware of the "hole in the middle" effect that results when the two mikes are too far apart. Also, recordings made in A-B fashion should not be reproduced monaurally.

The use of three, four or even more microphones is

called "multi-miking" and requires the help of a mixing console which mixes the various incoming channels down into two stereo channels. Multi-miking is the most commonly used professional recording technique as it affords the greatest freedom in achieving the desired effects. Multi-miking, however, is quite complex both in theory and practice and requires solid experience on the part of the recordist.

Recording Level Settings

This again is a relatively complex field, and professional recordists often spend hours in finding the ideal recording level(s) for a given microphone arrangement and project. The factors that come into play include expected peak volume levels, especially when percussive instruments are to be recorded; maximum acceptable recording levels for a given type of recording tape (the tape's "headroom"); considerations of tape noise and countermeasures taken (such as Dolby, compressors and other signal processors, etc.); type and placements of microphones involved; The following rules of thumb may be of value to the amateur recordist.

1. Decks equipped with VU meters: At maximum sound level, the needles should deflect as far as (but not beyond) the 0 VU point on the scale.
2. Decks equipped with VU meters plus peak indicator lamp: First set level as for VU adjustment (above), then raise level until peak lamp begins to flicker at volume peaks, finally reduce level to barely below flicker point.
3. Decks equipped with peak meters: Determine whether or not the music contains a great deal of high frequency peaks (such as cymbals, trumpets, loud piano passages played in the upper register, soprano voices singing fortissimo). If it does, adjust the recording level so that the peak meters will deflect up to +3 dB on these high frequency peaks. For other music, adjust so that the meters will deflect as far as +6 dB at volume peaks.

Accessories

Not infrequently, a recording project grinds to a standstill because some simple connection cord is missing or some plug doesn't fit. The experienced recordist therefore always carries some spare phono cables, microphone extension cords, binaural-to-pin plug adaptors, Cannon-to-pin converters, and maybe one or two spare microphones.

Other important accessories include a tape head cleaning kit, a small mirror (for observing the tape head surface), an extra supply of recording as well as leader tape, antimagnetic scissors for tape cutting, splicing tape, and (in the trunk of the car) a few 2x2 ft. reflector panels (made of styrofoam covered with aluminum foil). Experience will soon tell what other accessories may be needed for particular indoor and outdoor projects.

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