

SANSUI SC3110/2110

"Direct-O-Matic" Stereo Cassette Decks for
Fumble-Free Use and Strictly Hi-Fi Performance

Only hi-fi, everything hi-fi.

Sansui



THE SANSUI SC-3110 & SC-2110:



Not Afraid to Face the Music.

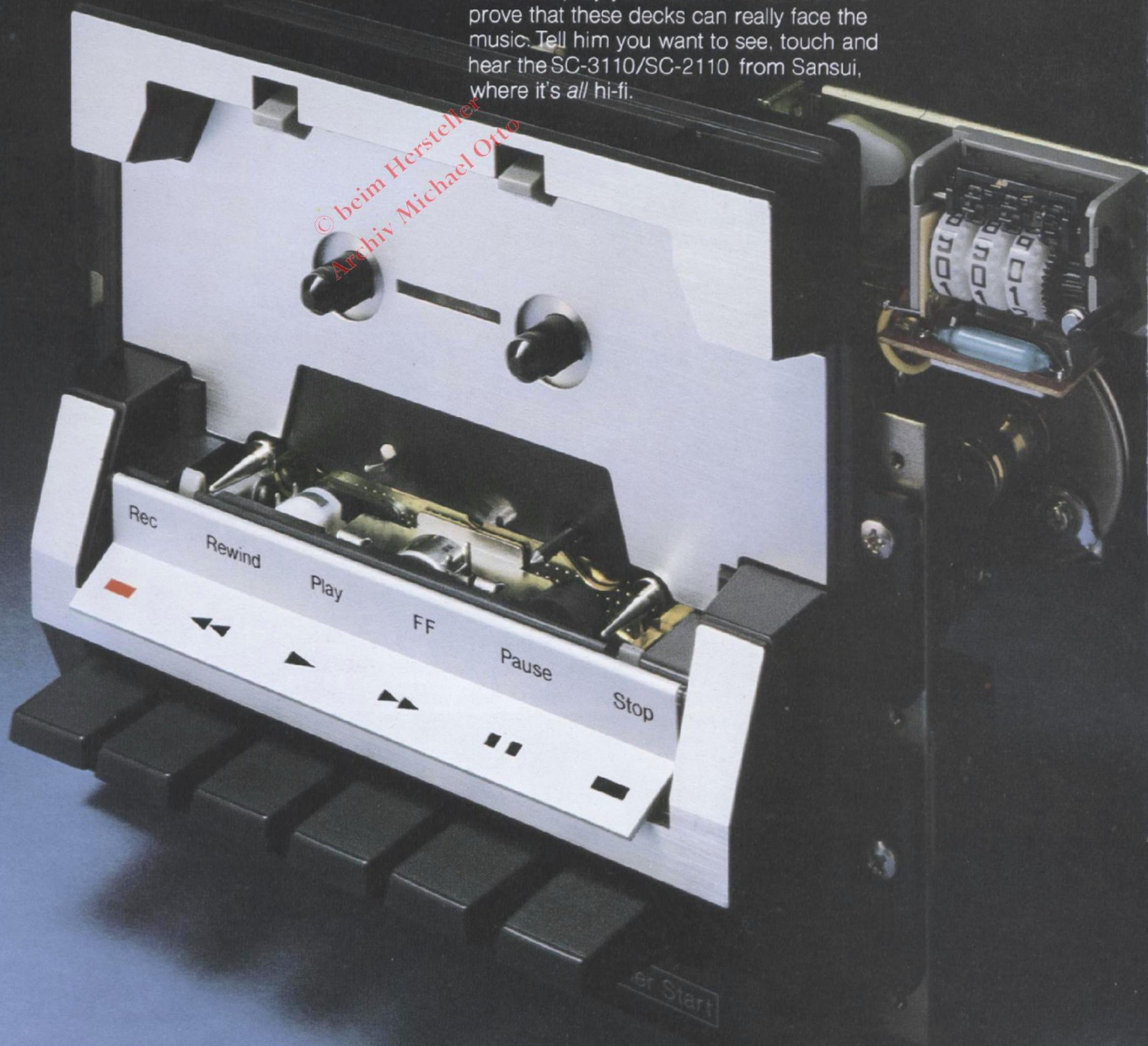
Sansui has faced the facts of life in stereo cassette design: today's decks have got to be tops electronically *and* mechanically to satisfy the sophisticated user. Now we can face the music as well. By designing the SC-3110 / SC-2110 decks to meet the strictest tests in both critical areas, we've scored another big success to add to our worldwide reputation for audio excellence.

Mechanically, they're packed with unusual technical advantages. Just one is our "Direct-O-Matic" format—so new and useful we've applied for a patent on it. It's done away with the problems of noisy, jam-prone doors and cramped tape compartments forever: there's no tape compartment at all! You have *direct* visual and physical access to the tape at all times (and to the heads for cleaning, too). An ingenious device protects the cassette in

use so that it cannot be dislodged or rattled. Because it permits highly stable tape-to-head contact, dropouts and dull response never spoil your music. There's also a unique Tape Lead-In device (Pat. Pend.) that advances your tape past the leader automatically.

Electronically, Sansui audio engineers have outdone themselves. Very low-distortion amps reduce phase shifts for definitive sound-image location in stereo. Ultra-low-noise components and circuit configurations keep the signal-to-noise ratio at 67dB or better (Chrome, Dolby in) while assuring the widest possible dynamic range.

We've faced facts about providing what you want in control conveniences, too. There's enough user-oriented engineering in the SC-3110/SC-2110 to fill a six-page brochure just telling you about it. After you've read about them, drop by your dealer's showroom to prove that these decks can really face the music. Tell him you want to see, touch and hear the SC-3110/SC-2110 from Sansui, where it's all hi-fi.

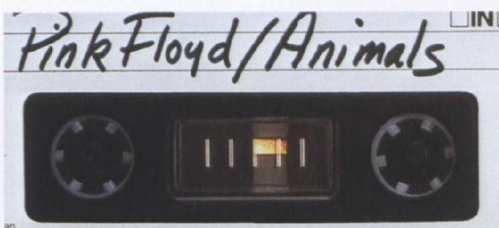


Strictly Hi-Fi "Direct-O-Matic" Decks.

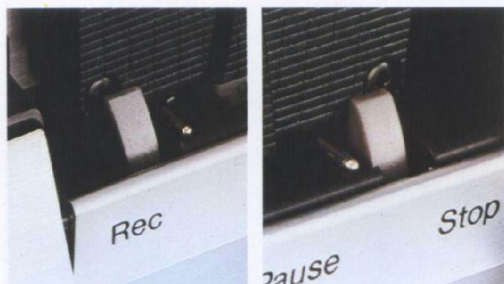
SANSUI'S "DIRECT-O-MATIC" & TAPE LEAD-IN EXCLUSIVES

Why "Direct-O-Matic"? The big reason is that it puts the cassette transport system right up front, not deep inside the chassis. There are three benefits: better tape handling/viewing, more stable, accurate tape transport, and easier access to the heads/capstan/pinch roller for maintenance. When you think about it, the professional open-reel decks in use for studio recordings offer the same benefits.

"Direct-O-Matic" ends the problems other designs inevitably face: noisy, jam-prone tape compartment doors, cramped tape compartments, limited handling access and, most particularly, restricted visibility. Now you can snap in a tape, watch as you rewind or fast forward to the spot you want, read tape labels at a glance and enjoy all the freedom open-reels offer with no fumbles, no fuss.



"Direct-O-Matic" also greatly improves the ultimate performance of the Sansui SC-3110/SC-2110 by providing more stability, too. Four clamps grip the cassette shell firmly enough to keep it from jarring loose or "creeping" in the record or playback modes. This means drastically reduced wow/flutter and modulation noise, better tape-to-head contact and more reliability. In the rewind and fast forward modes, they are still at work to add margin for safety. When the deck is in the STOP mode, the clamps withdraw entirely to permit you to remove the tape—otherwise, once you snap it in and operate the tape transport, it's there for good.



Finally, "Direct-O-Matic" gives you unlimited access to the tape heads, capstan and pinch roller parts. Cleaning and main-

taining cassette tape heads is a job not many of us like to do when the heads are buried inside a maze of complicated machinery. Yet it's probably the most important responsibility we have to ourselves if we want consistently high performance. In the SC-3110/SC-2110 it's easy, since everything's right up front. By the way, a hinged cover snaps shut to protect the heads/mechanism when not in use. "Direct-O-Matic" makes sense. No wonder we've applied for a patent on it.



Another Sansui Exclusive—Tape Lead-In

We're patenting another exciting innovation in cassette convenience, a device which automatically advances your cassette tape past its plastic leader and up to the spot where you can begin clean recording. The first 8 to 12 seconds of most cassette tapes, including the plastic leader strip, are unsuitable for recording because their surfaces are not uniform. This can cause dropouts and level fluctuations. Professionals *never* use the first 45 centimeters or so, and semi-pro users are learning to follow their example.

Sansui's unique Tape Lead-In mechanism works this way: insert your tape, fully wound on the left-hand spool, and set the Tape Lead-In button ON. Then push the FF button



to advance the tape. In one second or so the tape will automatically stop at a point sufficiently past the uneven portion of the lead-in where good recordings can begin, and the FF button is disengaged. Use the Tape Lead-In device on playback, too. It always stops at the same place, so you'll never miss the opening bars of your recorded music.

STRICTLY HI-FI PERFORMANCE

Tonal quality and overall musicality should be the prime objectives of the strict specifications required of any audio component claiming to be "hi-fi." In the SC-3110/SC-2110, Sansui engineers made sure that the electronics *and* the mechanical systems live up to those objectives—and then some. The two important parameters most often ignored in cassette decks are (1) maximum transfer of information (frequency response, dynamic range, etc.), and (2) resolute image localization in the sound field. The technical details which follow explain how we've achieved both of these critical parameters, and how we've improved tonal quality and overall hi-fi musicality along the way.

Accurate Head Azimuth and Head-to-Tape Contact

Sansui's "Direct-O-Matic" format is much more than a way to make tape handling easier. Its prime role is in ending dropouts, fluctuations in levels, and the kind of modulation noise generated when cassette-case dimensions are not quite up to specified tolerances. The head assembly in the SC-3110/SC-2110, and the cassette-holding system it employs, provide accurate head azimuth and ideal head-to-tape contact, always.

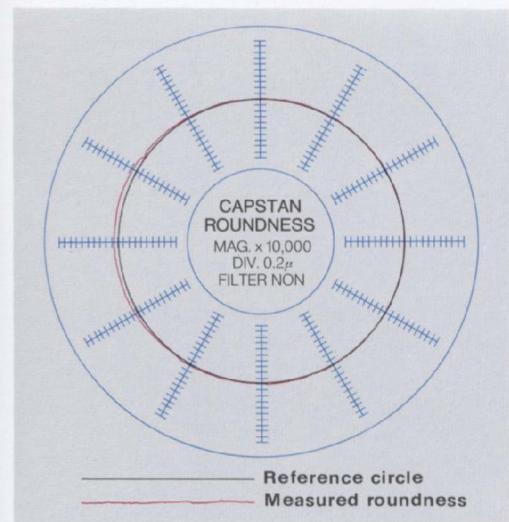
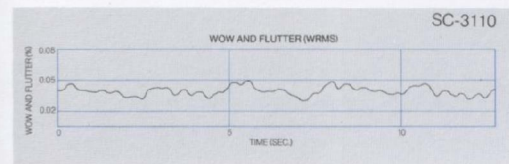
DC Motor for Capstan Speed Constancy

We designed an FG Servo Motor with proven accuracy and performance for the SC-3110. Speed-proportional pulses are generated by the FG (Frequency Generator) mounted on the DC motor, are converted into voltages, and in turn are compared with the reference voltage: the differences, if any, are used to control the speed of the capstan motor itself. Since this process is instantaneous, even the smallest variations of speed such as those caused by increased or decreased load are detected and rectified immediately. Smooth and accurate

capstan rotation (and therefore extremely accurate tape speed) is the result, reflected in the fact that the wow/flutter of the SC-3110 never exceeds 0.06% WRMS—an exceptionally low figure and one never before associated with a deck in this price range.

For the slightly less expensive Sansui SC-2110 we've employed an electronic DC Servo Motor featuring high-torque generation and long life. Since it is governed by servo electronics at all times, constant speed is obtained regardless of changes in supply voltages or tape loads. Wow/flutter is an excellent 0.08% WRMS.

In both these all-new Sansui decks we use a precision-ground, flat belt formed of special material. It works with the large and dynamically balanced flywheel and a mirror-finished capstan shaft (roundness error less than 0.1μ) to further ensure speed constancy.



Advanced Amplifier/Circuitry for Musicality

Maximum information transfer and resolute image localization, as mentioned above, are vital to cassette deck performance. Sansui's reputation for highly advanced amplifier design—such as featured in our latest lineup of state-of-the-art "DC" stereo amps which feature wide open-loop frequency range and minimum phase distortion—give us a head-start in creating electronic circuitry for cassette decks to live up to truly musical standards.

We've employed some of the best "DC" amp techniques in the SC-3110/SC-2110, and this is how you benefit:

(1) By improving the phase response of the recording and the playback amplifier circuits, both models deliver clear-cut sound image resolution in the sound field.

(2) By designing the circuitry specifically to complement the matched high-performance tape heads, the high signal-to-noise ratio of 67dB (Chrome, Dolby in) of both decks exceeds that achieved even by some of the most expensive open-reel decks.

(3) By using a well-designed power supply, including a constant-voltage supply for the major circuit blocks, we've avoided those kinds of voltage supply fluctuations which can cause variations in the bias current. Thus distortion and frequency response factors are protected against deterioration.

In perfecting this circuitry we used the latest kinds of laboratory instruments and techniques, of course. But most of all, we used our ears, auditioning and re-auditioning the results of the tiniest changes in the prototype models until the results satisfied us from the *musical* standpoint. After all, the best audio test instrument ever "invented" is the human ear. This standard policy of ours is another reason we say that at Sansui, it's all hi-fi.

DECKS WITH EVERYTHING—WE'VE GOT 'EM

Sansui's innovative "Direct-O-Matic" and new Tape Lead-In system aren't the only conveniences you'll want to take advantage of in the SC-3110/SC-2110. Here's a rundown of the features, some standard, some very special, provided on both models unless otherwise noted:

Illuminated Tape Counter

This is one of the specials—specially designed for ideal readability, even when your room lights are dimmed.



Memory Stop (SC-3110)

Push the Memory button, reset the counter to "000" and operate the deck in PLAY or REC. When playback or recording ends, REWIND the tape: it will automatically stop when the counter reads "999" and you are ready to play the just-played or just-recorded selection again, or to record new material.

Unmanned Timer Recording/Playback

Push the Play or Rec/Play buttons (plus the Pause) to prepare your deck to play or record automatically when a connected timer clock sends power to the deck at a preset time. Both models have Full Auto Stop/Shutoff.

Separate Bias/Equalizer Switches

Make the most of each and any type or brand of tape you care to use. There are two 3-position switches (one for Bias, one for EQ): *Normal* (LH) with 120/3180 μ sec; *High* (CrO₂) with 70/3180 μ sec; and *FeCr* with 70/3180 μ sec time constants.



Mic (DIN)/Line Mixing (SC-3110)

The SC-3110 has two independent recording circuits, one for line (records, radio broadcasts, etc.) and one for mics; you can mix and adjust the level of each circuit.

Dolby* Noise Reduction in IC

Tape hiss is reduced and signal-to-noise is improved by 10dB or more above 5kHz.

Super-Hard Permalloy Head

It performs with low distortion and excellent musicality over long years of use.

Large, Illuminated VUs

The twin VU meters are calibrated with precision for accurate recording level adjustment. The SC-3110 further features an LED Peak Level Indicator flashing when input levels exceed 0VU by +6dB or more.

Quick-Change Mode Facility

You can safely change directly from any mode to another (i.e. PLAY to REWIND, FF to PLAY, etc.) without going through STOP.

Full Auto Stop/Shutoff

This facility checks tape-end status and sets the deck in the STOP mode, with the heads moved away from the tape. It works in all modes.

Cassette Illumination

You know at a glance the amount of tape in either reel.

Output Level Control

This convenience lets you adjust output levels to match connected equipment.

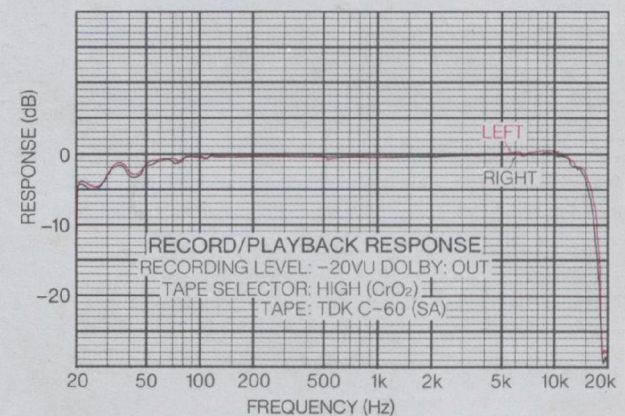
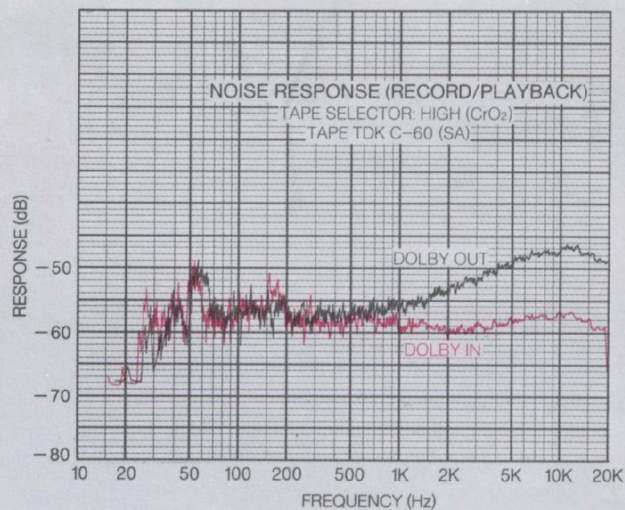
EIA Rack-Mounting Brackets

Sansui provides a pair of brackets and back stands with each SC-3110/SC-2110 to permit you to mount them in professional-type audio equipment racks of standard EIA-specified dimensions.

*Dolby is a trademark of Dolby Laboratories, Inc.

TAPE SELECTOR POSITION

MODE			MODE		
TAPE SELECTOR			TAPE SELECTOR		
TAPE	BIAS, EQUALIZER	EQUALIZER	TAPE	BIAS, EQUALIZER	EQUALIZER
AGFA	Hi-Low Noise SUPER		AGFA	STEREO CHROM	
BASF	LN LH LH super		BASF	chromdioxid	
FUJI FILM	FL FX FX Duo		MAXELL	UD-XL II	high (CrO ₂)
MAXELL	LN UD-XLI	normal (LH)	SONY	CR	high (CrO ₂)
SCOTCH	LD LH	normal (LH)	TDK	SA	
SONY	LOW-NOISE HF		BASF	ferrochrom	
TDK	D SD ED		SCOTCH	CLASSIC	Fe-Cr
			SONY	DUAD	
			SCOTCH	Master	normal (LH)
			TDK	AD	high (CrO ₂)
			FUJI FILM	FX Jr	normal (LH)
			MAXELL	UD	high (CrO ₂)



SPECIFICATIONS

SC-3110

TRACK 4 Track (2-Channel)
Record/Playback
TAPE SPEED 4.8cm/sec. (1 1/2 ips)
HEADS REC/PB (Super Hard Permalloy)
MOTOR ERASE (Ferrite)
FG Servo Controlled DC Motor
WOW & FLUTTER within 0.06% (WRMS)
FAST WIND TIME Approximately 75 seconds (C-60)

FREQUENCY RESPONSE (RECORD/PLAYBACK)
NORMAL TAPE (LH) 25-14,000Hz
30-13,000Hz ± 3 dB
CHROMIUM TAPE 25-16,000Hz
30-14,000Hz ± 3 dB

SIGNAL TO NOISE RATIO (RECORD/PLAYBACK)
CHROMIUM 57dB (without DOLBY) (Weighted)
67dB (with DOLBY) (Above 5kHz)

ERASURE FACTOR more than 60dB (1kHz)
INPUT SENSITIVITY AND IMPEDANCE (0VU, 1kHz)
MIC (LEFT, RIGHT) 0.2mV 200-10k ohms
LINE 70mV 100k ohms
DIN 0.2mV 4.7k ohms

OUTPUT LEVEL (0VU, 1kHz=160pwb/mm)
LINE 400mV (output control max. imp. 47k ohms)
DIN 400mV (output control max. imp. 47k ohms)

PHONES 0.2mW/8 ohms
BIAS FREQUENCY 85kHz

SPECIAL FEATURES

Tape Lead-in, Memory Stop, Illuminated Memory Tape Counter, Tape Selectors (Equalizer, Bias), Mic/Line Mixing, Timer Record/Play, Peak Level Indicator, Dolby NR System

POWER REQUIREMENTS

VOLTAGE 100, 120, 220, 240V (50/60Hz)
14.5 watts (Rated)
CONSUMPTION 31 Transistors; 2 ICs;
SEMICONDUCTORS 17 Diodes; 4 LEDs
DIMENSIONS 430mm (17")W
171mm (6 3/4")H
338mm (13 3/8")D
with Rack-mounting Adaptors and Back Stand
WEIGHT 7.8kg (17.1 lbs.) Net
8.3kg (18.3 lbs.) Net
10.2kg (22.5 lbs.) Packed
ACCESSORIES Dust cover, Head cleaning pen, Connecting cords

SC-2110

TRACK 4 Track (2-Channel)
Record/Playback
TAPE SPEED 4.8cm/sec. (1 1/2 ips)
HEADS REC/PB (Super Hard Permalloy)
MOTOR ERASE (Ferrite)
Electronically Speed Controlled DC Motor
WOW & FLUTTER within 0.08% (WRMS)
FAST WIND TIME Approximately 75 seconds (C-60)

FREQUENCY RESPONSE (RECORD/PLAYBACK)
NORMAL TAPE (LH) 25-14,000Hz
30-13,000Hz ± 3 dB
CHROMIUM TAPE 25-16,000Hz
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SIGNAL TO NOISE RATIO (RECORD/PLAYBACK)

CHROMIUM

57dB (without DOLBY) (Weighted)
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OUTPUT LEVEL (0VU, 1kHz=160pwb/mm)
LINE 400mV (output control max. imp. 47k ohms)
DIN 400mV (output control max. imp. 47k ohms)
PHONES 0.2mW/8 ohms
BIAS FREQUENCY 85kHz

SPECIAL FEATURES Tape Lead-in, Illuminated Tape Counter, Tape Selectors (Equalizer, Bias), Dolby NR System, Timer Record/Play

POWER REQUIREMENTS

VOLTAGE 100, 120, 220, 240V (50/60Hz)
14.5 watts (Rated)
CONSUMPTION 29 Transistors; 2 ICs;
SEMICONDUCTORS 14 Diodes; 3 LEDs
DIMENSIONS 430mm (17")W
171mm (6 3/4")H
338mm (13 3/8")D
with Rack-mounting Adaptors and Back Stand
WEIGHT 7.8kg (17.1 lbs.) Net
8.3kg (18.3 lbs.) Net
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ACCESSORIES Dust cover, Head cleaning pen, Connecting cords

Design and specifications subject to change without notice for improvements.