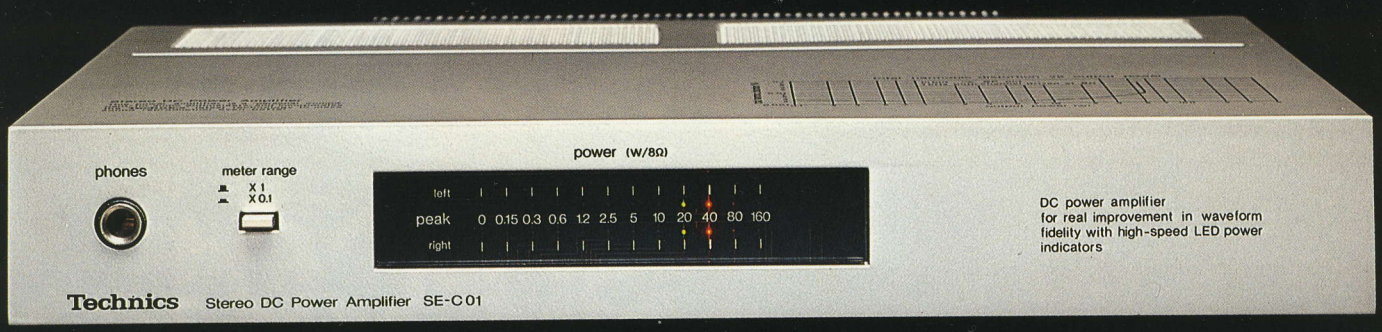
Technics SE-C01
Stereo DC Power Amplifier

SU-C01
Stereo Preamplifier

ST-C01
FM/AM Stereo Tuner

CONCISE
COMPONENT SERIES



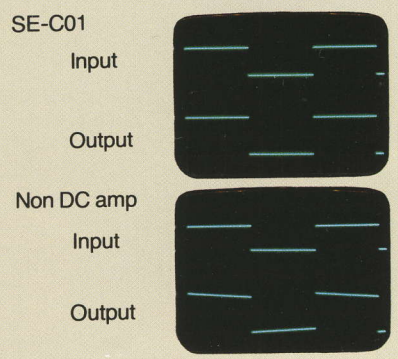
SE-C01 Stereo DC Power Amplifier

The new SE-C01 may be a compact component but puts out the kind power you expect from a much larger amplifier. And it does this in the high fidelity tradition, with virtually flat response over the entire audible range and total harmonic distortion of only 0.03%. It's a true DC amplifier that can handle the nuances and power of a full orchestra.

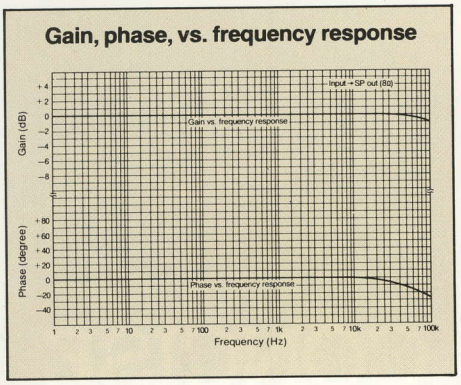
DC Amplifier for Realism in Sound

This DC (direct coupled) amplifier was designed without any coupling capacitors. You won't find any in the signal path nor in the feedback loop. Nor will you encounter DC drift and instability, problems often arising from this type of design. They have been controlled by the following design measures: a current-mirror loaded differential first amp stage using thermally balanced dual transistors; a voltage amp stage with purely resistive load and excellent open-loop characteristics; and a power amp stage which, by utilizing the diode-like behavior between transistor base and emitter, provides accurate thermal compensation over an extremely wide range of temperatures. Other features of special note are the current limiter and the short circuit protection circuit.

20 Hz square wave response



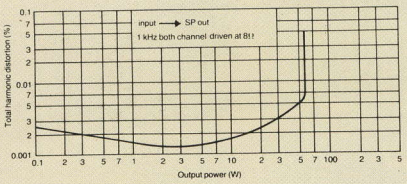
Gain, phase, vs. frequency response



Delivers 50 W + 50 W continuous power both channels driven into 8 ohms, 20 Hz to 20 kHz with no more than 0.03% THD

This DC amplifier illustrates that big things can come in small packages. The SE-C01 has ultra-compact dimension but delivers 50 watts per channel minimum r.m.s. power into 8 ohms with no more than 0.03% total harmonic distortion from 20 Hz to 20,000 Hz. Except in the most "power hungry" installations, it easily handles the dynamics and detail of a full orchestra.

Output power vs. total harmonic distortion

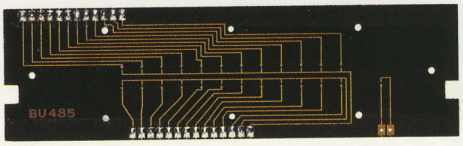


Pulsed Power Supply Operates More Efficiently in Less Space than Conventional Type

One of the main reasons for the compact size of this component is the pulsed power supply. It rectifies the AC line current, then converts it into a 20 kHz square wave pulse which drives the power supply transformer. Because of this high primary frequency, a transformer that is only a fraction of the size of a conventional transformer can be used. The secret to the pulsed power supply is the development of a reliable high voltage high speed switching transistor. In addition, spurious high frequency leakage has been prevented by efficient shielding in the diecast cabinet.

Easy-To-Read, Color-Coded LEDs to Meter Power

These easy-to-read LEDs let you use the full power and dynamism of the SE-C01 without driving it to the point where excessive distortion is introduced. A single circuit board contains a pair of 12-LEDs, with each pair having 9 yellow and 3 red light emitting diodes. They provide true peak power indication with extremely fast attack. The meter scale goes from 0 to 160W/ch (into 8 ohms) can be switched to read from 0 to 16W/ch for more accurate readings at lower power output.



Relay in Protection Circuit Handles Muting

This circuit provides positive protection in the case of malfunction and will cut off the speakers at the first sign of trouble. The relay in the protection circuit also functions for muting and eliminates click noises when turning the unit on or off.

Precision-Machined Diecast Cabinet

The cabinet is a unitized diecast construction with a very finely machined and finished front panel. It offers the elegant appearance and style that indicates the high quality and performance of the components it contains.

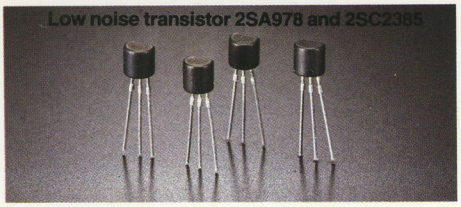
Power supply unit for SE-C01

SU-C01 Stereo Preamplifier

This Stereo Preamp is a perfect complement to the SE-C01 in compact size and superior performance. It brings you clear, precise sound reproduction and has its own built-in MC pre-preamplifier, a feature often lacking even on large units. The use of low noise transistors and other components makes it an ideal link in the chain from music source to high fidelity reproduction.

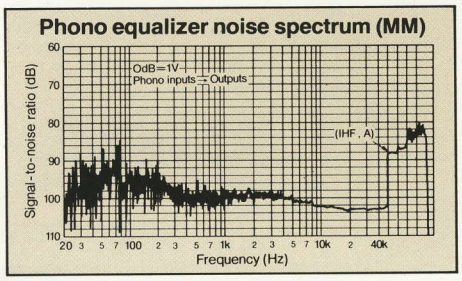
Built-in Moving-Coil (MC) Cartridge Pre-preamplifier

The increasingly popular MC cartridges can be used with the SU-C01 without purchasing a separate MC pre-preamp because it already has one built in. This built-in MC pre-preamplifier is a push-pull design from the front stage, with its low noise 2SA978 and 2SC2385 transistors, to the voltage amp output stage.
Referenced to a 250μV input, it has an impressive signal-to-noise ratio of 78 dB (IHF A).



Phono Equalizer with S/N Ratio of 88 dB (at 2.5 mV, MM input)

When you use a moving-magnet type cartridge, you can expect an even better signal-to-noise ratio, thanks to the ultra-low noise transistors used in a differential first stage with current mirror loading. Referenced to an input of 2.5 mV, the S/N ratio is 88 dB (IHF A), which in practical terms indicates that you simply won't hear phono circuit noise when listening to a record. Distortion is an amazingly low 0.005% at 3V output (VR: −20 dB, 20 Hz~20 kHz). RIAA equalization is within ± 0.2 dB from 20 Hz to 20 kHz due to



specially selected metal film resistors (1% tolerance) and polypropylene capacitors (tolerance 2%). And with a phono overload spec of 200 mV, you have plenty of dynamic range to handle the most difficult discs.

Subsonic Filter Cuts Rumble

This −12 dB/oct. subsonic filter cuts off unwanted noise below 30 Hz, such as arm resonances, record warp, platter rumble and so forth. It makes use of the tone control circuit and performs its function without additional components or degradation of the signal-to-noise ratio.

Tone Controls with Center-Defeat Positions

Both the bass and treble control circuits are defeated, i.e. completely switched out of the signal path, when their knobs are turned to the click-stopped center. The signal goes straight to the flat amplifier stage without encountering any response altering components.

Power Supply Designed for Low Noise, High Stability

The SU-C01's power transformer is mounted in an iron shielding case to prevent AC hum from entering any of the circuits. Zener diodes are employed for voltage regulation, further protecting against the effects of AC line induced noises. The result is virtually noiseless power supply that permits the ultra-low noise preamp circuits to perform to their full capacity.

Gold Plated Connection Jacks

All jacks are gold plated to ensure low-resistance electrical contact under all conditions and after years of repeated use. This gold plating is especially critical in the MC phono inputs where the generated signals are in microvolts.

- Finely Machined Diecast Cabinet
- Matched audio rack (SH-505, SH-505K) and steel stand (SH-504) are optionally available.

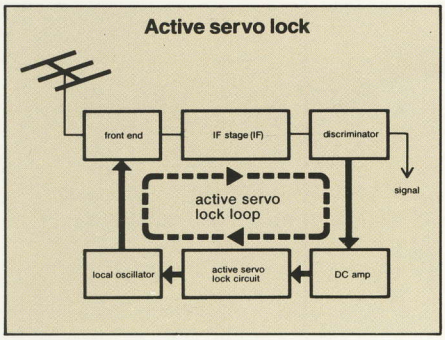
Optional rack (SH-505K)

ST-C01 FM/AM Stereo Tuner

This "Concise Component" tuner complements the preamplifier and power amplifier, both in size and performance, because it can reproduce the signals broadcasted by the radio station with striking fidelity. Its sensitivity, selectivity, channel separation, signal-to-noise ratio and frequency response are all of high technical standards. The secret is, of course, in Technics' choice of high performance components and advanced design.

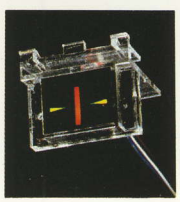
Active Servo Lock for Precise Tuning

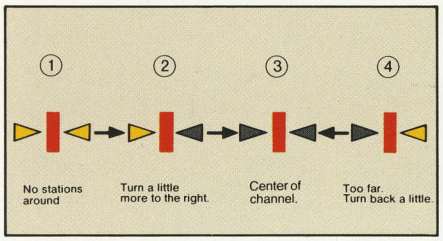
Outstanding stability, sensitivity and spurious rejection are provided by dual gate junction type FETs in the front end, a unitized coil-plus-capacitance construction of the local oscillator for high stability and other circuit features. But the main work is done by the Active Servo Lock which maintains optimum tuning under all conditions. This circuit eliminates frequency drift not only in the local oscillator but also in the IF stage and the FM discriminator. The Technics Active Servo Lock eliminates drift problems so completely that even unattended recordings from FM can be made without worry that the tuner will drift and the recording will be less than perfect.



Easy-To-Read LEDs Replace Signal Meters

Three LEDs, 2 arrow shaped yellow ones and one thin-line red one, replace the usual signal strength or tuning meters you normally see on tuners.
This feature provides super easy tuning. When no FM station is being received, all three are lit. When a station is approached, one of the yellow arrows goes out and the other indicates in

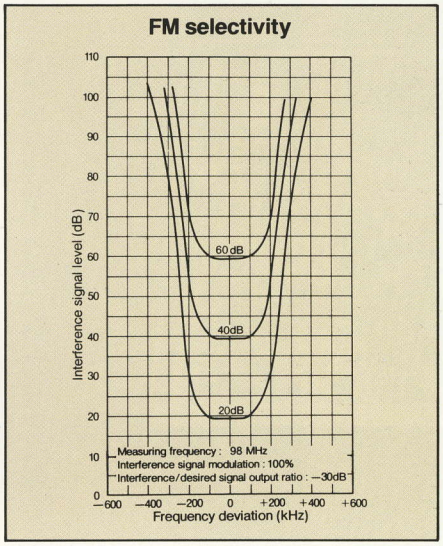




which direction you should tune. If you overshoot the station, a yellow LED will again light up to tell you which way to turn. When the station is tuned in perfectly, both yellow arrows go out and only the thin red line stays on. Explaining this feature in words makes it sound slightly complicated, but it is actually very simple. In addition, if the servo tuning switch is in the ON position, the "lock" LED will light up to indicate that the station is properly tuned and locked in.
Tuning for AM is similar. The yellow LEDs dim when a station is being received and their dimmest position indicates best reception.

Well Designed "IF" Stage for Sensitive, Low Distortion Reception

Three flat group delay ceramic filters ensure high selectivity and still maintain phase coherency in the IF stage. The five-stage differential amplifier in the IF stage displays excellent limiting characteristics. Other important design factors for stable and



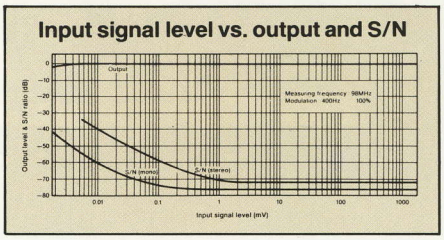
distortion-free FM stereo reception include a quadrature detector and PLL MPX stereo decoder.

Power Supply with New 3-Pole Regulator

The ST-C01 uses a 3-pole regulator. The result is a very stable supply voltage that permits all circuits and stages to operate to their optimum performance potential.

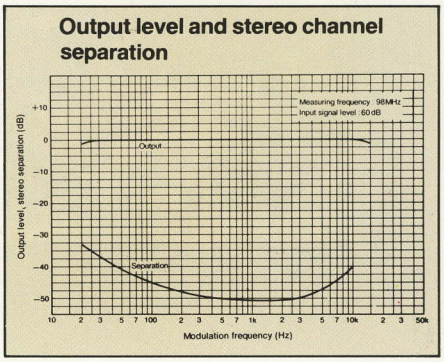
High Sensitivity Front End

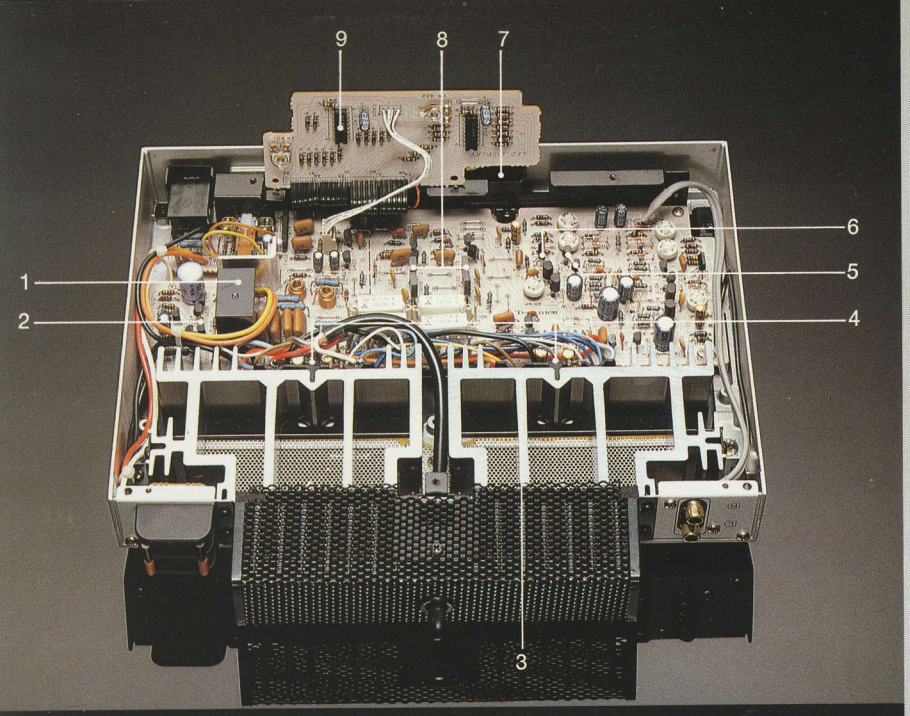
The RF stage uses a dual gate junction FET for the sensitivity needed to pick up weak stations. Unitized construction of oscillator coil and capacitors prevents drift caused by temperature and humidity changes. S/N 30 dB sensitivity is 1.9μV (300Ω) and 46 dB stereo quieting sensitivity is 20μV (75Ω).



Precision Machined Diecast Cabinet "Concise Component Series"

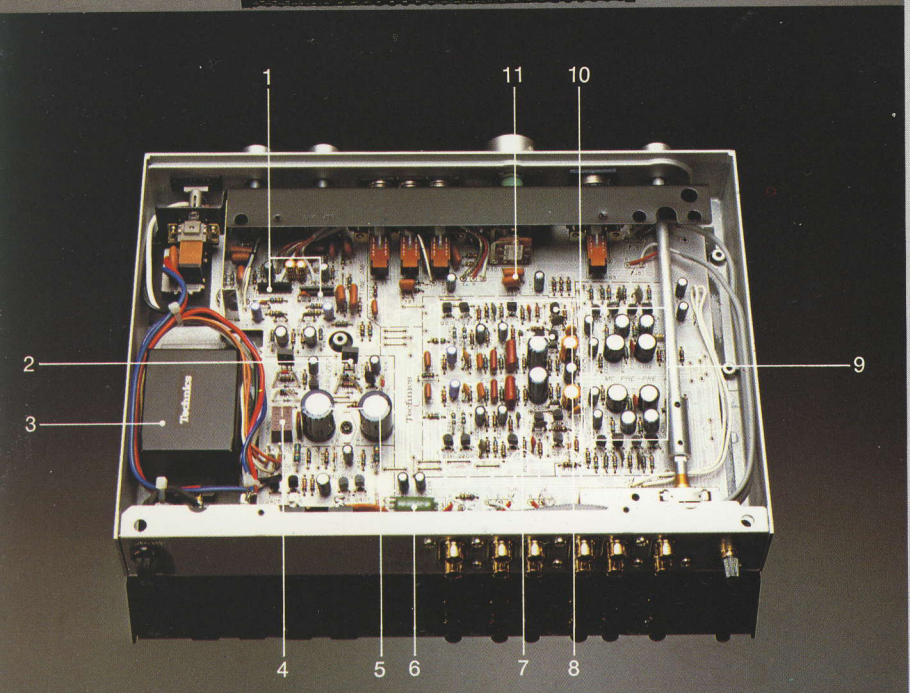
The cabinet of this tuner has the same unitized, diecast construction and undergoes the same high-precision machining as the other components in this "Concise Component Series".
In addition, this diecast cabinet provides effective shielding against extraneous, undesired electromagnetic waves.





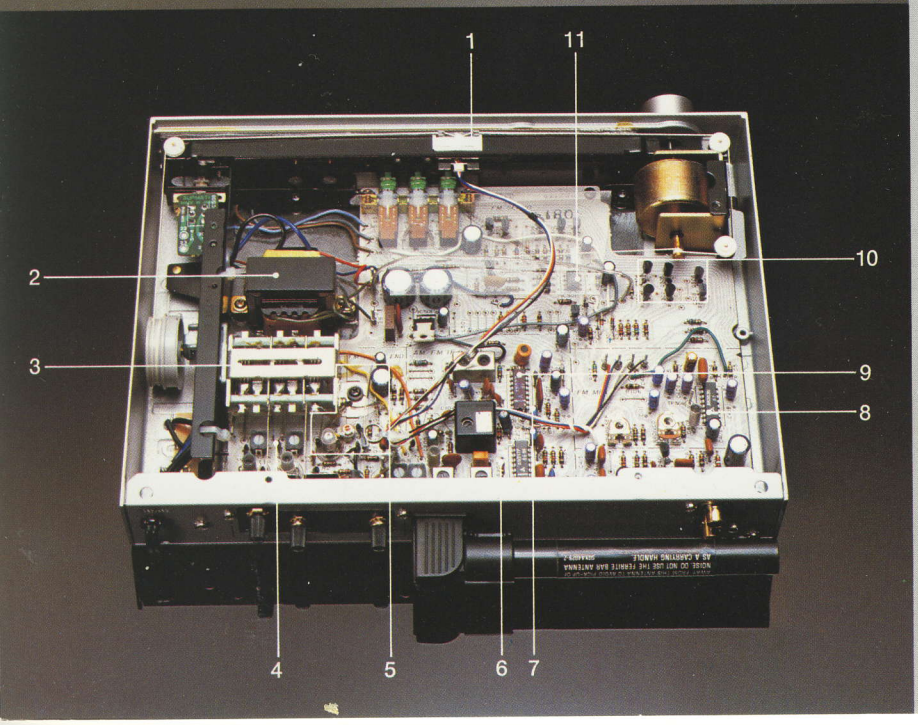
SE-C01

1. Protection relay
2. Muting circuit
3. Heat sinks
4. Power transistors
5. Current-mirror circuits
6. Dual transistors for initial stage differential amplifiers
7. LED peak power meter
8. Driver circuits
9. LED power meter drive circuit



SU-C01

1. Tone control circuits
2. Stabilizer circuit
3. Power transformer
4. Rectifier diodes
5. Electrolytic capacitors
6. Muting relay
7. Super low-noise-transistors for differential amplifiers
8. Current-mirror circuits
9. MC pre-preamp
10. Phono equalizer
11. Subsonic filter



ST-C01

1. LED tuning dial pointer
2. Power transformer
3. Variable tuning capacitor
4. FM RF circuit
5. FM front end
6. FM IF, AM converter circuit
7. Flat group-delay ceramic filters
8. FM MPX circuit
9. FM IF circuit
10. LED tuning drive circuit
11. Servo lock circuit

Technical Specifications (DIN 45 500)

SE-C01

AMPLIFIER SECTION

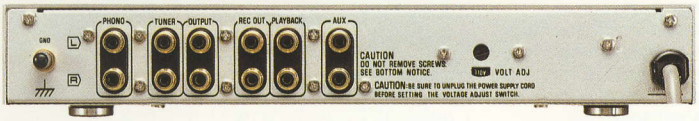
20 Hz~20 kHz continuous power output both channels driven	50W×2 (8Ω)	
40 Hz~16 kHz continuous power output both channels driven	50W×2 (8Ω)	
1 kHz continuous power output both channels driven	52W×2 (8Ω)	
Total harmonic distortion rated power		
at 20 Hz~20 kHz	0.03% (8Ω)	
at 40 Hz~16 kHz	0.03% (8Ω)	
at 1 kHz	0.03% (8Ω)	
half power	(distortion)	(distortion+ noise)
at 20 Hz~20 kHz	0.006% (8Ω)	0.015% (8Ω)
at 1 kHz	0.003% (8Ω)	0.005% (8Ω)
−26 dB power at 1 kHz	0.002% (8Ω)	0.03% (8Ω)
50mW power at 1 kHz	0.0015% (8Ω)	0.05% (8Ω)
Intermodulation distortion rated power at 60 Hz:7 kHz=4:1, SMPTE, 8Ω	0.03%	
Power bandwidth both channels driven, −3 dB	5 Hz~30 kHz (8Ω)	
Residual hum & noise	0.1mV (0.03mV, IHF A)	
Damping factor	50 (8Ω)	
Headphones output level & impedance	470mV/330Ω	
Load impedance	8Ω~16Ω	
Input sensitivity & impedance	1V/47kΩ	
S/N	105 dB (115 dB, IHF A)	
Frequency response	DC~100 kHz (−1 dB) +0, −0.1 dB (20 Hz~20 kHz)	
Channel balance 250 Hz~6300 Hz	±0.1 dB	
Channel separation 1 kHz	68 dB	

GENERAL

Power consumption	360W
Power supply	AC 110/120/220/240V, 50/60 Hz
Dimensions (W×H×D)	
Main unit	297×49×262 mm
Power supply unit (SH-C01)	297×49×220 mm
Weight	
Main unit	3.1 kg
Power supply unit (SH-C01)	3.6 kg

SH-C01 (Power Supply Unit)

SU-C01



AMPLIFIER SECTION

Input sensitivity & impedance	
PHONO MM	2.5mV/47kΩ
PHONO MC	100μV/47Ω
TUNER, AUX	150mV/47kΩ
TAPE	150mV/47kΩ
Phono maximum input voltage at 1 kHz, RMS	
MM	200mV
MC	8mV
Total harmonic distortion	
TUNER, AUX, TAPE	3V output (volume at max.), 0.003%
PHONO MM, MC	3V output (volume at −20 dB), 0.005%
S/N	
rated output	
PHONO MM	75 dB (88 dB, IHF A)
PHONO MC	66 dB (78 dB, IHF A)
TUNER, AUX	87 dB (100 dB, IHF A)
−26 dB output	
PHONO MM	63 dB
PHONO MC	63 dB
TUNER, AUX	65 dB
Frequency response	
PHONO	RIAA standard curve ±0.2 dB (30 Hz~15 kHz)
TUNER, AUX, TAPE	3 Hz~100 kHz (−1 dB) +0, −0.05 dB (20 Hz~20 kHz)
Tone controls	
BASS	50 Hz, +10 dB~−10 dB
TREBLE	20 kHz, +10 dB~−10 dB
High filter	7 kHz, −6 dB/oct
Subsonic filter	30 Hz, −12 dB/oct
Loudness control (volume at −30 dB)	50 Hz, +9 dB
Output voltage	
OUTPUT	1V (rated) 7V (max.)
REC OUT	150mV
Channel balance AUX, 250 Hz~6300 Hz	±1 dB
Channel separation AUX, 1 kHz	55 dB

GENERAL

Power consumption	9W
Power supply	AC 110/120/220/240V, 50/60 Hz
Dimensions (W×H×D)	297×49×241 mm
Weight	3 kg

ST-C01

FM TUNER SECTION

Frequency range	88~108 MHz
Sensitivity	
S/N 30 dB	1.9μV (300Ω), 1.2μV (75Ω)
S/N 26 dB	1.7μV (300Ω), 1.1μV (75Ω)
S/N 20 dB	1.5μV (300Ω), 0.9μV (75Ω)
IHF usable sensitivity	1.9μV (IHF '58)
IHF S/N 46 dB stereo quieting sensitivity	20μV (75Ω)
Total harmonic distortion	
MONO	0.1%
STEREO	0.15%
S/N	
MONO	68 dB (75 dB, IHF)
STEREO	63 dB (70 dB, IHF)
Frequency response	20 Hz~15 kHz, +0.5 dB, −2 dB
	20 Hz~13 kHz, ±1.5 dB
Alternate channel selectivity	75 dB
Capture ratio	1.0 dB
Image rejection at 98 MHz	50 dB
IF rejection at 98 MHz	85 dB
Spurious response rejection at 98 MHz	75 dB
AM suppression	55 dB
Stereo separation	
1 kHz	45 dB
10 kHz	35 dB
Carrier leak	
19 kHz	−35 dB (−37 dB, IHF)
38 kHz	−50 dB (−37 dB, IHF)
Channel balance, 250 Hz~6300 Hz	±1.0 dB
Limiting point	1.4μV
Bandwidth	
IF amplifier	180 kHz
FM demodulator	1000 kHz
Antenna terminals	300Ω (balanced) 75Ω (unbalanced)

AM TUNER SECTION

Frequency range	525~1605 kHz
Sensitivity S/N 20 dB	30μV, 250μV/m
Selectivity	30 dB
Image rejection at 1000 kHz	50 dB
IF rejection at 1000 kHz	40 dB

GENERAL

Output voltage	0.5V (fixed)
Power consumption	8W
Power supply	AC 110/120/220/240V, 50/60 Hz
Dimensions (W×H×D)	297×49×255 mm
Weight	3.2 kg

Technics
Matsushita Electric

SD9F020E