

Sony TC 1169D  
549

HA1

GXC 300 370



NATIONAL PANASONIC

MODEL SA-420



Sony TC 18r  
419

HA1

GXC 300D

420

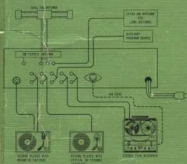
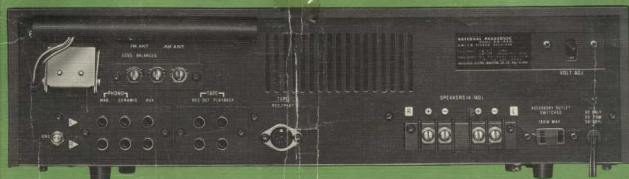


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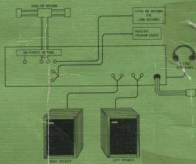
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Japan's Largest Producer of Electronic and Electrical Home Appliances  
**MATSUSHITA ELECTRIC**

# SA-420 30-WATT AM FM STEREO TUNER AMPLIFIER



The rear panel of the SA-420 provides facilities for connection of speakers and accessories; Input Terminals for Phono (mag), Phono (Cer), Aux, Playback and Din. And Output Terminals for Recording, Din and Speakers.



## SA-420 TECHNICAL SPECIFICATIONS

### AMPLIFIER SECTION

IHF Music Power:	30W at 4Ω - 20W at 8Ω <i>2x 8Ω</i>
RMS Power (at 1kHz and rated distortion):	11/11W at 4Ω 8/8W at 8Ω
Harmonic Distortion (at 1kHz and rated output):	0.8% <i>to C</i>
Intermodulation Distortion (60Hz~7kHz, 4:1, SMPTE):	1.2%
Power Bandwidth:	10Hz~50 kHz -3 dB
Frequency Response:	15Hz~100kHz -3 dB
Input Sensitivity (for rated output):	
Phono	2.5 mV
Ceramic	20 mV
Auxiliary	150 mV
Tape Monitor	150 mV
Input Impedance:	
Phono	50 kΩ
Ceramic	25 kΩ
Auxiliary	65 kΩ
Tape Monitor	65 kΩ
Hum and Noise:	
Phono	60 dB
Auxiliary	70 dB
Bass Range:	±10 dB at 50 Hz
Treble Range:	±10 dB at 10 kHz
Damping Factor:	30 at 8Ω
Recorder Output Level:	150 mV

### FM TUNER SECTION

Frequency Range:	88~108 MHz
FM Usable Sensitivity (IHF):	4 μV
FM Harmonic Distortion:	
(at 400 Hz, 100 % modulation)	1.5 %
Signal to Noise Ratio:	60 dB
Selectivity, Alternate Channel:	40 dB
Spurious Response Rejection (at 100 MHz):	65 dB
IF Rejection (at 100 MHz):	70 dB
Image Rejection (at 100 MHz):	47 dB
FM Stereo Separation (at 1 kHz):	35 dB
Capture Ratio (IHF):	3 dB

### AM TUNER SECTION

Frequency Range:	525~1605 kHz
AM Sensitivity (IHF):	100 μV/m, 20 μV
Selectivity (at 1 MHz and 10 kHz):	25 dB
Image Rejection (at 1 MHz):	45 dB
IF Frequency Rejection (at 1 MHz):	43 dB
Dimension (including control knobs and AM Ferrite antenna):	
16 1/2" Wide	
4 3/4" High	
13" Deep	
15 lb. 7 oz.	

Weight (unpacked)	15 lb. 7 oz.
Power Consumption:	Min 20 W Max 70 W
AC Power Supply:	110/120/220/240 V

Specifications are subject to change without notice.

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## ADVANCED ENGINEERING FEATURES

### EXCELLENT POWER BANDWIDTH AND DAMPING FACTOR THROUGH USE OF OCL CIRCUITRY

#### Amplifier Section

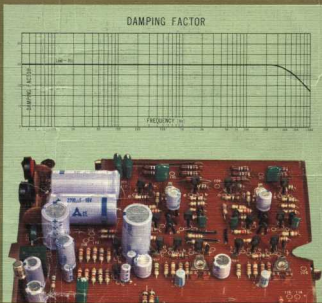
The SA-420 incorporates the most modern technical engineering advances of this electronic age, including recently-perfected ITL-OTL-OCL circuitry. The OCL circuitry is an especially advanced circuit which amplifies up to the direct output stage and makes exceptional power bandwidth and damping factor possible, resulting in excellent low frequency linearity and superior performance stability.

The OCL circuitry ensures far-improved technical performance together with a direct coupling system with differential amplifier circuitry, an exclusive feature for an amplifier of this class, thus resulting in a system which assures extra frequency linearity and completely stable performance... free from deviation due to temperature changes and voltage fluctuations. Finally, the OCL circuitry prevents possible damage to power transistors.

And, even though the SA-420 employs power transistors which are highly resistant to overload, the OCL system adds even more to their protection, thus reducing by one-half the overload to transistors due to short circuits of the speaker terminal caused by incorrect speaker connection, as compared to the ordinary SEPP circuit. Furthermore, the automatic electronic overload protection circuit completely protects the transistors and speakers from even the slightest chance of damage.

The amplifier section employs PNP silicon transistors in the equalizer and control amplifier circuitry to assure reduced noise.

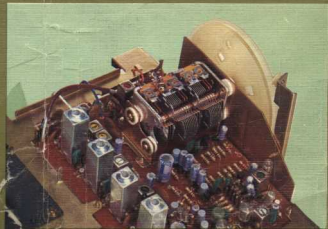
Thus, both sound fidelity and performance stability of the amplifier section of the SA-420 are uniquely superior... making this one of the best buys in audio equipment for the discriminating listener.



### INTERFERENCE-FREE FM STEREO RECEPTION

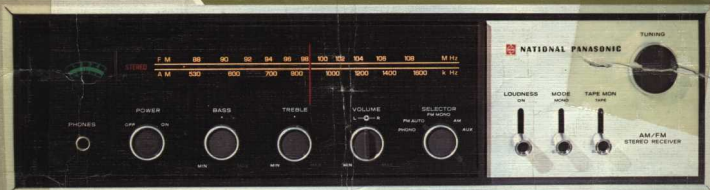
#### FM Tuner Section

The FM tuner of the SA-420 has equally important features for the stereo fan who wants the very best. A junction-type FET in the FM front end and 4-stage double-tuned IF circuitry with large 10 mm square IFT's provide exceptional selectivity, a very important feature for the reception of weak or distant FM stations. Other features of the FM tuner section include automatic stereo/mono switching circuitry for superior FM stereo separation and a convenient FM stereo indicator lamp.



30-WATT SOLID STATE  
AM/FM STEREO TUNER AMPLIFIER  
WITH FIELD EFFECT TRANSISTOR  
AND ADVANCED ITL-OTL-OCL CIRCUITRY

# NATIONAL PANASONIC SA-420



## MODEL SA-420 AM/FM STEREO TUNER AMPLIFIER. STYLED TO MATCH MODERN HOME DECOR.

This new solid state stereo tuner amplifier developed for music lovers who demand smooth and natural stereo sound. A full 30 watts of IHF music power (at 4 ohms) assures sufficient power for concert hall realism in the home. The National Panasonic solid state engineering includes a full complement of 38 transistors and 31 diodes to assure excellent hi-fi stereo performance. The advanced ITL-OTL-OCL circuitry provides extra frequency linearity in the complete low to high range, reproducing clear, distortion-free sound. In addition, the direct coupling system with the differential amplifier circuitry ensures extra low frequency linearity and stability.

The FM tuner permits greater sensitivity and selectivity through an FET and four double-tuned IF stages. Other superb features include an FM MPX circuit with an automatic stereo/mono switching system and a stereo indicator lamp which illuminates when FM stereo broadcasts are being received.

The attractive control panel features a loudness control, separate bass and treble controls, as well as a field strength tuning meter to indicate maximum signal reception. And, to even further enhance the enjoyment of this fine equipment, its elegantly slim design is styled to perfectly match modern home decor.