

YAMAHA

NATURAL SOUND AUDIO & VIDEO COMPONENTS '88/'89



An enduring tradition.



Backed by a proud tradition that began in the 19th century, Yamaha first earned its reputation for impeccable craftsmanship and unsurpassed quality for its superbly crafted professional musical instruments. As we approach the 21st century, Yamaha is now acknowledged as a major innovator in developing leading-edge audio and digital technologies, and remains committed to continuing its enduring tradition of excellence into the future.

Yamaha has always recognized the importance of R&D activities, as opposed to simply "borrowing" technologies developed by others. Relying on in-house R&D has become one of our major competitive strengths. One reason we opted to design and manufacture our own LSIs instead of buying them from

outside suppliers is that we could design custom LSIs to suit our specific purposes and achieve maximum performance with greater reliability. And our extensive R&D efforts have culminated in some of the most innovative components available in today's consumer market, such as the DSP-1 Digital Sound Processor.

For uncompromisingly high sound quality in Yamaha systems that combine analog, digital, and video source components, we have devised a revolutionary technology for controlling the maximum number and types of source components to prevent pure audio signals from being affected by internal electronic circuitry. Moreover, our original audio technology is reflected in every Yamaha control amplifier, power amplifier, tuner, and speaker to achieve the highest-

of excellence.



quality sound reproduction, and deliver optimized audio performance. This is because we consider audio technology simply the means to an end. And that end is the purest, most natural sound reproduction possible.

We have also focused our efforts in the relatively new field of digital sound processing. Our latest CD players are based on our innovative Hi-Bit digital technology, which increases the bits used for processing signals to obtain higher signal resolution and improved linearity. Yamaha control amplifiers are designed for use as base components in sophisticated A/V systems by relying on the latest audio circuitry to ensure maximum compatibility with today's digital sources. And our new A/V control technology enables superior integrated control of home entertainment systems that

combine analog and digital components, as well as audio and video equipment. We offer a comprehensive audio component product line to suit the most discriminating taste, and every Yamaha audio component is engineered to deliver the purest sound possible while offering maximized operational convenience. We thrive on the challenge posed by exploring new and exciting ways to bring our products that much closer to perfection. For us, the future is now. And by continuing to develop newer technologies and superior products, we look forward to earning an even greater reputation for superior quality and innovative design in our second hundred years.

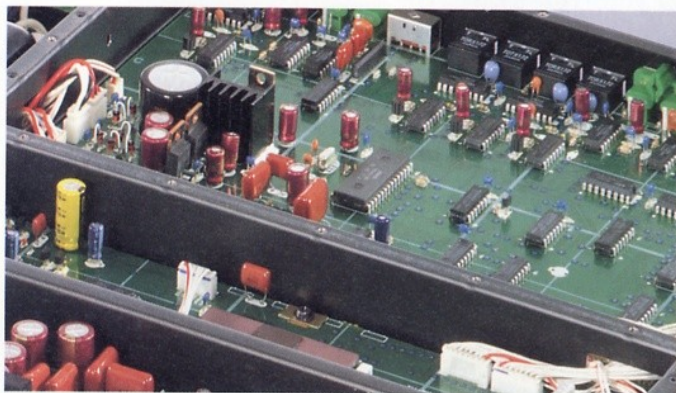
CONTROL AMPLIFIERS

Convenient A/V Compatibility without Compromising Sound Quality

Every Yamaha control amplifier is constructed using the finest quality materials and meticulously engineered using the latest audio technology to ensure the most natural sound reproduction possible. The CX-1000, CX-800 and CX-600 are multi-functional, high-performance control amplifiers specifically designed for use as base components in integrated home A/V entertainment systems.

Comprehensive A/V Center Control

Yamaha has contributed to the growing popularity of home A/V systems by providing innovative products that feature "natural sound" quality based on Yamaha's original audio and electronics technologies. Developed as control centers for advanced home A/V systems, the CX-1000, CX-800 and CX-600 offer an array of helpful features for greater convenience in integrated A/V system operation. These attractive models have multiple source selectors to let you configure a composite A/V system of selected input sources. Multiple A/V rec outputs allow you to record from one input source while listening to another. Audio and video outputs let you directly connect a VCR for A/V recording from a CDV source or recording an audio track from a separate source. Such features as continuously variable loudness control, a switchable subsonic filter and Source Direct switch help maintain outstanding sound quality. Moreover, the main functions of all connected Yamaha RS-compatible components can be easily controlled using the RS integrated system remote control unit for convenient and comprehensive system control.



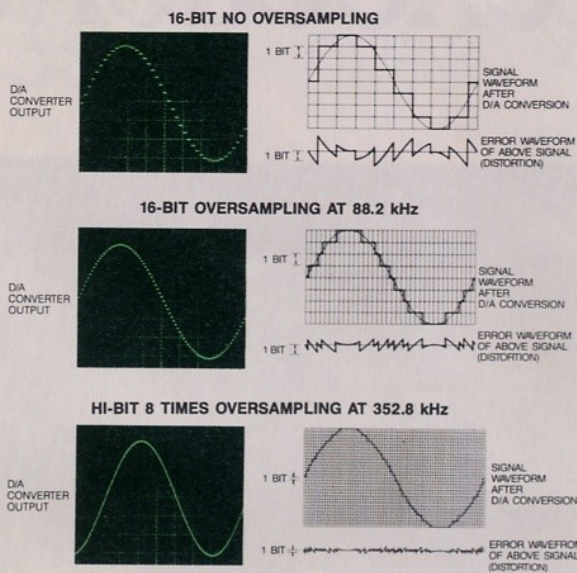
Yamaha Hi-Bit Digital Technology



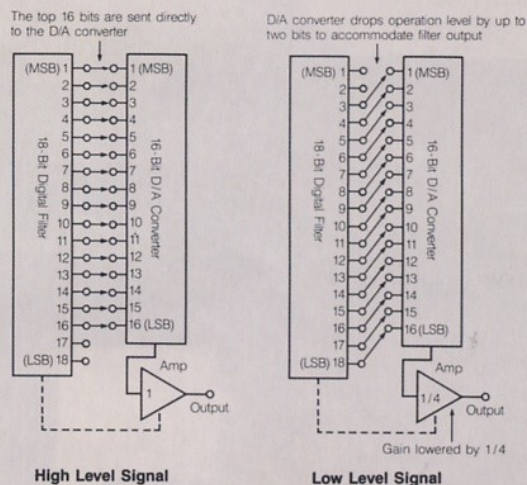
For example, the CX-1000 has a built-in Hi-Bit 8 times oversampling digital filter that samples input signals from digital sources at 352.8 kHz. The 3-stage filtering process uses individual 225th order, 41st order, and 21st order filters to raise the sampling noise above the audio signal level to virtually eliminate noise interference during playback. Digital data is interpolated at 2.8 μ s intervals for superb signal resolution, impressive stop band rejection (-100 dB), and minimal pass band ripple (± 0.0001 dB). The built-in Hi-Bit twin converters employ a unique floating system to achieve extremely high-resolution signal output. Filter operation shifts automatically to accommodate the two low-order bits of the 18-bit digital filter output when not using the two high-order bits. Thus, even the lowest level signals are accurately reproduced with excellent linearity for smooth D/A converter output. We believe that technology is the key to staying ahead of the competition. And every Yamaha control amplifier is designed to do just that.

What sets Yamaha control amplifiers apart from others is simple: superior technology. Yamaha's original Hi-Bit digital technology has made possible many innovative features.

Comparison of Oversampling Waveform Resolution



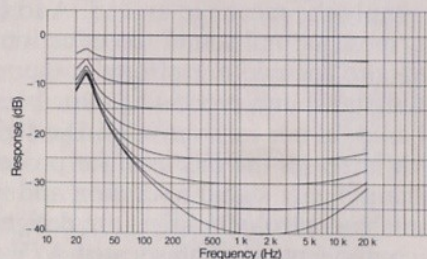
Principle of Hi-Bit D/A Conversion System



Super Low Distortion Electronic Signal Selector Circuit

A newly developed electronic signal selector circuit that minimizes mechanical contacts and wiring to achieve super low distortion and greater reliability is built into the CX-1000, CX-800 and CX-600 to control input selection. As a result, A/V functions can be increased while improving the quality of sound.

Continuously Variable Loudness Control Characteristics



POWER AMPLIFIERS

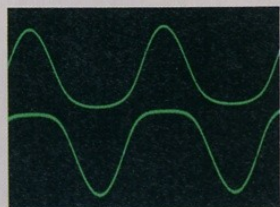
Pure and Powerful Performance for Superb Sound Reproduction

Yamaha power amplifiers feature Hyperbolic Conversion Amplification (HCA) circuitry to maintain optimum audio performance while offering massive power reserves to satisfy the demanding transient peaks of digital audio sources. The MX-1000, MX-800 and MX-600 are specifically designed to drive popular low-impedance speakers. And for the full dynamic range reproduction of digital sources, these models provide high dynamic power that is approximately four times their continuous output power rating.

Hyperbolic Conversion Amplification (HCA) Circuitry

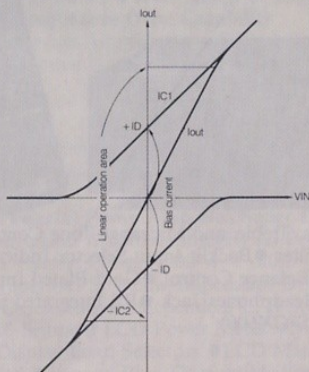


Yamaha's original HCA circuit resolves the problem of degraded operation posed by Class A amplification. The HCA circuit obtains its output current through hyperbolic conversion, which theoretically cancels the relationship between output and idling current. As a result, operation will never deteriorate to Class AB due to excessively high output. HCA circuitry eliminates output dependence on the idling current so that a much lower idling current can be set to reduce heat while maintaining peak performance.

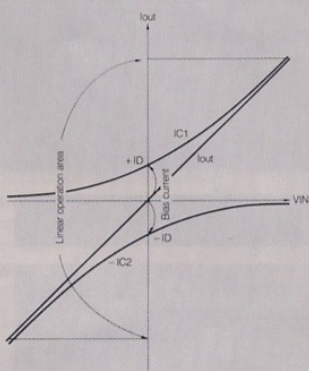


Waveform characteristics of the HCA circuit.

Conventional Class A Operation



HCA Operation



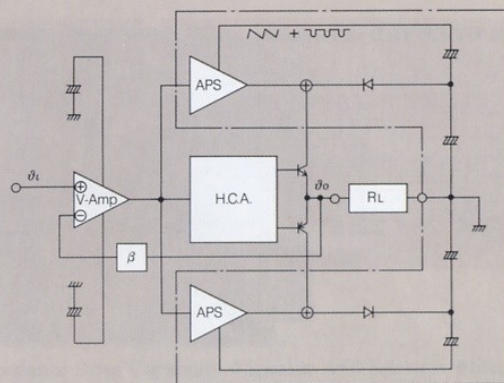
High Dynamic Power

Dynamic power refers to a measure of how much "peak power" an amplifier can momentarily deliver at power levels exceeding its minimum RMS output power rating. The MX-1000, MX-800 and MX-600 can each deliver dynamic power approximately four times their minimum RMS output power. Consequently, a large reserve of power is always available for the accurate reproduction of high-energy transient musical peaks in audio signals. Such high dynamic power is required for the high-fidelity reproduction of such popular digital audio sources as CD players, which have very wide dynamic ranges.

Advanced Power Supply (APS) Circuitry (MX-1000/MX-800)

APS circuitry overcomes the problems posed by supply voltage fluctuations by providing an active power supply for high signal amplitude to eliminate ripple. Featuring a large power supply capacity, APS circuitry maintains optimum operation in the current amplifier stage.

APS Circuitry Configuration



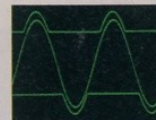
APS (Advanced Power Supply) Circuit

With 200 W/4 ohms
Load current component
Power supply charged/discharge component
With no signal



(1) Conventional Power Supply (+ Side) Ripple Waveform

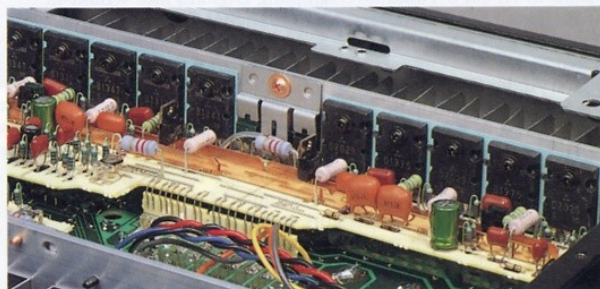
Output signal
Power supply charged/discharge component
With no signal



(2) APS Power Supply Voltage Waveform

Low-Impedance Drive Capability

The power supply and power output stage of Yamaha power amplifiers are carefully designed to supply full output power even when driving a low-impedance load. As a result, our power amplifiers can safely drive a wide range of speaker systems without activating internal protection circuits prematurely, while ensuring proper amplifier operation even for fluctuating low-impedance loads caused by music signal characteristics.



CONTROL AMPLIFIERS

CX-800

CONTROL AMPLIFIER



[AAFES] [CATALOG] [NAVY]



Multiple Source A/V Selection with A/V System-Wide Control

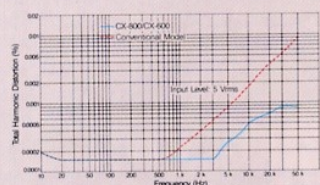
- Multiple A/V Source Selection (8 audio, 3 video) • A/V Rec Outputs (4 audio, 2 video) • Super Low Distortion Electronic Signal Selector Circuit • Source Direct Switch • Phase Invert Switch • Continuously Variable Loudness Control (-40 dB) • MM/MC Cartridge Load Selector • Continuously Variable Tone Control Turnover Frequencies • Switchable Subsonic Filter • Audio Muting Switch • Backlit Input Selector Indicators • Stereo/Mono Switch • Balance Control • Gold-Plated Input



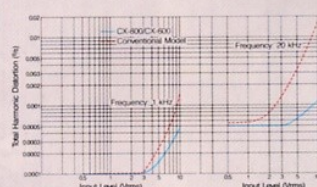
Hidden control panel

Terminals • Gold-Plated Headphones Jack • RS Integrated System Remote Control Unit (RS-CX800)

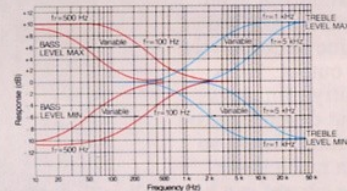
CX-800/CX-600 THD vs. Frequency



CX-800/CX-600 THD vs. Input Level



Tone Control Characteristics



CX-600

CONTROL AMPLIFIER



[AAFES]



Basic A/V System Controller with Multiple Source Selection

- Multiple A/V Source Selection (6 audio, 2 video) • A/V Rec Outputs (2 audio, 1 video) • Super Low Distortion Electronic Signal Selector Circuit • Source Direct Switch • Continuously Variable Loudness Control (-40 dB) • MM/MC Cartridge

Switching • Bass, Treble, and Midrange Tone Controls • Switchable Subsonic Filter • Backlit Input Selector Indicators • Stereo/Mono Switch • Balance Control • Gold-Plated Input Terminals • Gold-Plated Headphones Jack • RS Integrated System Remote Control Unit (RS-CX600)

CX-1000 DIGITAL CONTROL AMPLIFIER

[CATALOG] [NAVY]

Comprehensive A/V System Control and Innovative Features Based on Superior Yamaha Digital Technology

- Built-in Hi-Bit 8 Times Oversampling Digital Filter • Built-in Hi-Bit Twin D/A Converters • Hi-Bit Digital Output • Clean Digital System • Multiple A/V Source Selection (10 audio, 4 video) • A/V Rec Outputs (5 audio, 2 video) • Optical/Coaxial Digital Audio Source Inputs • Optical/Coaxial Digital Audio Rec Outputs • Automatic Sampling Frequency Switching • Super Low Distortion • Source Direct Switch • Continuously Variable Loudness Control (-40 dB) • MM/MC Cartridge Load Selectors • Bass, Treble, and Midrange Tone Controls • Switchable Subsonic Filter • Audio Muting Switch • Backlit Input Selector Indicators • Video Switch • Stereo/Mono Switch • Balance Control • Gold-Plated Input Terminals • Gold-Plated Headphones Jack • RS Integrated System Remote Control Unit (RS-CX1000)



Hidden control panel



Rear panel

POWER AMPLIFIERS

MX-800

POWER AMPLIFIER

[AAFES] [CATALOG] [NAVY]



Hyperbolic Conversion Amplification for Powerful Performance

●Hyperbolic Conversion Amplification (HCA) Power (170 W/ 8 ohms) ●High Dynamic Power (600 W/1 ohm/1 kHz) ●Advanced Power Supply (APS) ●Low-Impedance Drive Capability

●Speaker A/B/C Selectors ●Independent L/R Speaker Level Control ●Meter On/Off Switch ●New 26-Segment LCD Power Meter ●Meter Display Load Selectors ●Banana Plug-Compatible Speaker Terminals

MX-600

POWER AMPLIFIER

[AAFES]



HCA Performance to Power a Wide Range of Digital Audio Sources with Low-Impedance Drive Capability

●Hyperbolic Conversion Amplification (HCA) Power (125 W/ 8 ohms) ●High Dynamic Power (500 W/1 ohm/1 kHz) ●Low-

Impedance Drive Capability ●Speaker A/B Selectors ●Meter On/Off Switch ●Independent L/R Speaker Level Control ●12-Segment LED Power Meter ●Banana Plug-Compatible Speaker Terminals

MX-1000 POWER AMPLIFIER

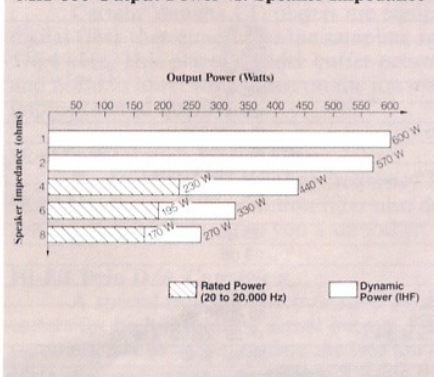
[CATALOG] [NAVY]

Yamaha's Most Powerful Power Amp plus Super Low Distortion

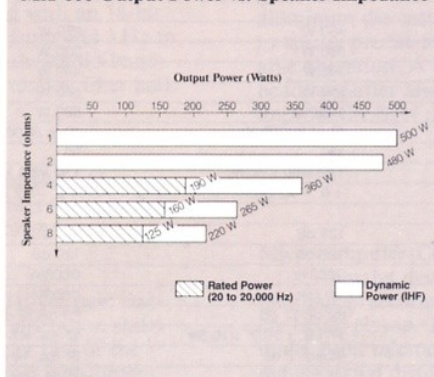
●Hyperbolic Conversion Amplification (HCA) Power (260 W/ 8 ohms) ●High Dynamic Power (1000 W/1 ohm/1 kHz) ●Advanced Power Supply (APS) ●Low-Impedance Drive Capability ●Speaker A/B/C Selectors ●Independent L/R Speaker Level Control ●New 26-Segment LCD Power Meter ●Meter On/Off Switch ●Meter Display Load Selectors ●LCD Meter and Digital Peak Hold Display ●Banana Plug-Compatible Speaker Terminals



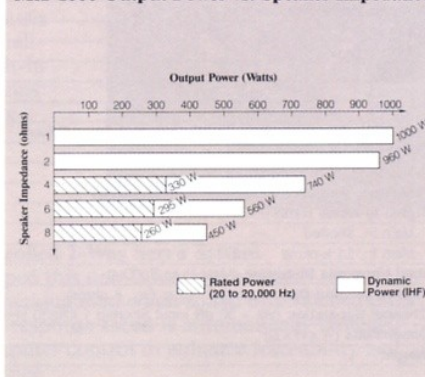
MX-800 Output Power vs. Speaker Impedance



MX-600 Output Power vs. Speaker Impedance



MX-1000 Output Power vs. Speaker Impedance



CX-800 A/V Source Inputs/Rec Outputs

	Inputs		Outputs		Rec Out Terminals
	AUDIO	VIDEO	AUDIO	VIDEO	(9)
Phono	✓				✓
CD	✓				✓
Tuner	✓				✓
Tape	✓		✓		✓
DAT	✓		✓		✓
CDV	✓	✓			✓
VCR 1	✓	✓	✓	✓	✓
VCR 2	✓	✓	✓	✓	✓
					Off

CX-1000 A/V Source Inputs/Rec Outputs

	Inputs		Outputs		Rec Out Terminals
	AUDIO	VIDEO	AUDIO	VIDEO	(12)
Phono	✓				✓
CD	✓				✓
Tuner	✓				✓
Tape 1/DAT 1	✓		✓		✓
Tape 2/DAT 2	✓		✓		✓
Tape 3	✓		✓		✓
CDV 1	✓	✓			✓
CDV 2	✓	✓			✓
VCR 1	✓	✓	✓	✓	✓
VCR 2	✓	✓	✓	✓	✓
					Source
					Off

CX-600 A/V Source Inputs/Rec Outputs

	Inputs		Outputs		Rec Out Terminals
	AUDIO	VIDEO	AUDIO	VIDEO	(6)
Phono	✓				✓
CD	✓				✓
Tuner	✓				✓
DAT	✓		✓		✓
CDV	✓	✓			✓
VCR/Tape	✓	✓	✓	✓	✓

CX-1000/CX-800/CX-600 Specifications

	CX-1000	CX-800	CX-600
AUDIO SECTION			
Input Sensitivity/Impedance			
Phono MC	100 μ V/10, 100, 1 k-ohm	100 μ V/10, 100, 1 k-ohm	100 μ V/100 ohms
Phono MM	2.5 mV/1 k-ohms	2.5 mV/1 k-ohm	2.5 mV/47 k-ohms
	47 k-ohms (220, 330 pF)	47 k-ohms (220, 330 pF)	
CD, Etc.	150 mV/47 k-ohms	150 mV/47 k-ohms	150 mV/47 k-ohms
Total Harmonic Distortion (1.5 V)			
Phono MC to Rec Out	0.002%	0.002%	0.002%
Phono MM to Pre Out	0.001%	0.001%	0.002%
Source Direct to Pre Out	0.001%	0.001%	0.002%
Intermodulation Distortion			
	0.002%	0.002%	0.002%
Frequency Response (20 to 20,000 Hz)			
	+0, -0.2 dB	+0, -0.2 dB	+0, -0.2 dB
Signal-to-Noise Ratio (IHF-A-Network)			
Phono MC (500 μ V, Input Shorted)	91 dB	90 dB	84 dB
Phono MM (5.0 mV, Input Shorted)	95 dB	95 dB	94 dB
Source Direct (Shorted)	106 dB	106 dB	106 dB
Channel Separation			
CD, Etc., 5.1 k-ohms (1 kHz/10 kHz)	90/69.5 dB	75/55 dB	70/60 dB
VIDEO SECTION			
Video Input Sensitivity/Impedance (CDV/VCR)	1 Vp-p/75 ohms	2 Vp-p/75 ohms	1 Vp-p/75 ohms
Video Output Level/Impedance (Monitor/VCR 1/VCR 2)	1 Vp-p/75 ohms	2 Vp-p/75 ohms	1 Vp-p/75 ohms
Dimensions (W x H x D)			
	17-1/8" x 5-1/16" x 15-3/4"	17-1/8" x 3-3/4" x 14-15/16"	17-1/8" x 3-1/4" x 11-11/16"
Weight			
	14 lbs. 15 oz.	13 lbs. 14 oz.	10 lbs. 6 oz.

Specifications subject to change without notice

MX-1000/MX-800/MX-600 Specifications

MX-1000: Minimum RMS Output Power Channel: 260 Watts (8 ohms) from 20 to 20,000 Hz at no more than 0.003% Total Harmonic Distortion
MX-800: Minimum RMS Output Power Channel: 170 Watts (8 ohms) from 20 to 20,000 Hz at no more than 0.003% Total Harmonic Distortion
MX-600: Minimum RMS Output Power Channel: 125 Watts (8 ohms) from 20 to 20,000 Hz at no more than 0.003% Total Harmonic Distortion

	MX-1000	MX-800	MX-600
Minimum RMS Output Power per Channel			
8 ohms 20 to 20,000 Hz, 0.003% THD	260 W	170 W	125 W
6 ohms 20 to 20,000 Hz, 0.007% THD	295 W	195 W	150 W
4 ohms 20 to 20,000 Hz, 0.002% THD	330 W	230 W	190 W
Dynamic Power per Channel (1 kHz)			
8 ohms	450 W	270 W	175 W
6 ohms	560 W	330 W	220 W
4 ohms	740 W	440 W	290 W
2 ohms	960 W	570 W	390 W
1 ohm	1,000 W	600 W	420 W
Power Bandwidth (8 ohms, 0.03% THD, Half Rated Power)			
	10 to 60,000 Hz	10 to 60,000 Hz	10 to 60,000 Hz
Damping Factor (8 ohms, 1 kHz)			
	130	90	70
Input Sensitivity/Impedance (Main In)			
	1.62 V/60 k-ohms	1.32 V/60 k-ohms	1.14 V/60 k-ohms
Frequency Response (Main In, 20 to 20,000 Hz)			
	+0, -0.2 dB	+0, -0.2 dB	+0, -0.2 dB
Signal-to-Noise Ratio (IHF-A-Network)			
Main In, Shorted	126 dB	124 dB	123 dB
Main In, 5.1 k-ohms	122 dB	120 dB	119 dB
Total Harmonic Distortion (Main In to Sp Out)			
	0.003%	0.003%	0.003%
Intermodulation Distortion (CD, Tuner Etc., 8 ohms)			
	0.003%	0.003%	0.003%
Channel Separation (Vol -30 dB Input Shorted 1 kHz/10 kHz)			
	89 dB/72 dB	89 dB/72 dB	89 dB/70 dB
Dimensions (W x H x D)			
	17-1/8" x 6-1/2" x 16-3/4"	17-1/8" x 6-1/2" x 16-3/4"	17-1/8" x 6-1/2" x 16-1/2"
Weight			
	45 lbs. 2 oz.	31 lbs. 14 oz.	28 lbs. 10 oz.

COMPACT DISC PLAYERS

COMPACT
disc
DIGITAL AUDIO

In Pursuit of Perfection Through Hi-Bit Digital Technology



YAMAHA HI-BIT DIGITAL TECHNOLOGY

The superior audio quality provided by Yamaha compact disc players is the result of Yamaha's original digital technology. Featuring an unprecedented dynamic range, channel separation, inaudible noise and distortion, and virtually nonexistent wow & flutter, our CD products rely on the latest digital audio technologies to enhance your listening pleasure by offering the finest sound reproduction available in the compact disc format.

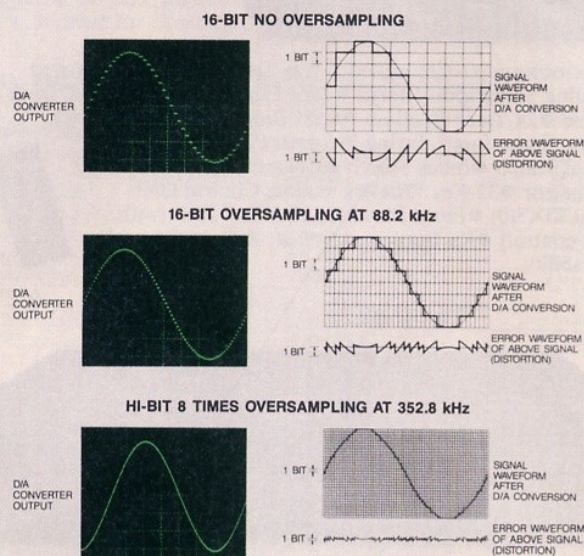
Hi-Bit Yamaha Digital Technology

Yamaha's Hi-Bit technology increases the bits used to process the audio signal from a CD player digital source to deliver the purest sound possible. Direct signal output from the built-in D/A converters is enabled by Hi-Bit DAC direct output to ensure the distinctive clarity of pure digital sound without phase deviation. You can also select direct DAC output or 3rd order low-pass analog filter output using a built-in selection switch.

Hi-Bit 8 Times Oversampling Digital Filter

Yamaha's original 8 times oversampling 18-bit digital filter raises the sampling rate for input signals from digital sources to 352.8 kHz. By boosting the sampling noise way beyond the music frequency range, this feature eliminates the nuisance of noise to further enhance your listening enjoyment.

Comparison of Oversampling Waveform Resolution



Hi-Bit Quadruple Oversampling Digital Filter

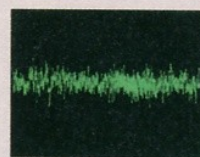
Certain Yamaha CD players are equipped with an 18-bit digital filter that quadruples the sampling rate from 44.1 kHz to 176.4 kHz. This places a wider buffer between the audio band and noise to lower the burden on the low-pass analog filter and improve sound quality.

Double Resolution Digital Filter

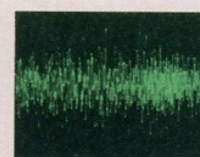
By doubling the sampling frequency from 44.1 kHz to 88.2 kHz, the double resolution filter also doubles the waveform resolution accuracy to give you a smoother, more natural sound.

Hi-Bit Twin D/A Converters

A special floating system is used by the Hi-Bit twin converters for high-resolution signal output. Filter operation shifts automatically to accommodate the two low-order bits of the 18-bit digital filter output when not using the two high-order



Hi-Bit D/A Converter Output



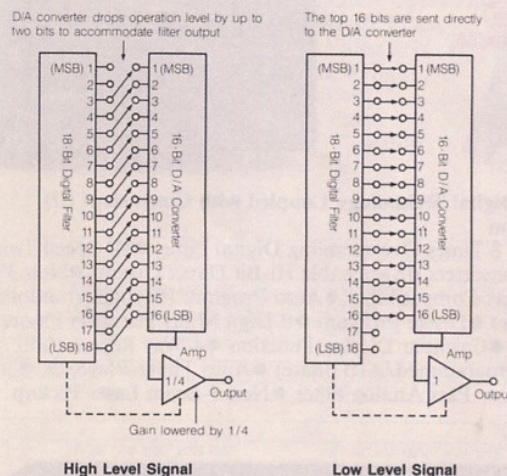
Conventional D/A Converter Output

bits. In this way, even the lowest level signals are accurately reproduced with excellent linearity for smooth D/A converter output. Operation is automatically shifted back when either or both of the two high-order bits are used.

High-Speed Twin D/A Converters

Operating at high speed to match the processing speed of the Hi-Bit digital filter, the twin D/A converters provide a purer signal for direct or low-pass filter-treated output to ensure precise digital-analog conversion with reduced distortion.

Principle of Hi-Bit D/A Conversion System

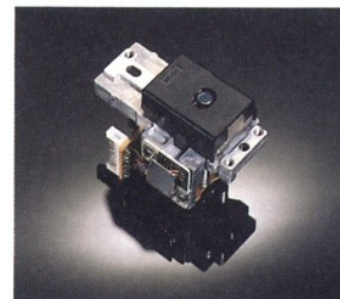


Hi-Bit Digital Volume Control

This 20-bit control ensures precise 0.4 dB-step attenuation from infinity to 0 dB while lowering the noise floor to achieve an extended dynamic range of 120 dB, which easily surpasses the maximum 96 dB of conventional CD players.

New 3-Beam Laser Pickup

The newly developed 3-beam laser pickup uses a glass lens enclosed in an aluminum die cast chassis to ensure precise and reliable operation. A built-in head amplifier also helps improve the S/N ratio.



Microcomputer-Controlled 2-Way Servo System

Yamaha developed this new 2-way servo system to maintain highly accurate tracking even when soiled or scratched discs are being played. The response speed is automatically switched under 8-bit microcomputer control to enhance traceability and reduce signal disturbance.

COMPACT DISC PLAYERS

CDX-910 COMPACT DISC PLAYER

RS
[AAFS] [CATALOG] [NAVY]



High CD Performance and Innovative Features for Sensational Sound Quality

- Switchable Hi-Bit Direct Output ● Hi-Bit 8 Times Oversampling Digital Filter ● Hi-Bit Twin D/A Converters ● Hi-Bit Digital Volume Control ● Microcomputer-Controlled 2-Way Servo System ● Isolation from Digital Interference ● Optical Digital/Coaxial Digital Output Connectors ● VM Dampener ● New 3-Beam Laser Pickup ● 46-Key Wireless Remote Control Unit (RS-CDX910) ● Direct Track Access ● 24-Track Random Access Programmable

- Playback ● Tape Edit Program ● 8-Digit Multi-Function Fluorescent Display ● Calendar Display Function ● 4-Way Repeat Play (full/single/programmed/A-B phase) ● Auto Space Insert during Program Playback ● Index Search ● Improved Floating Suspension Design ● 3-Way Music Search ● Delete Program ● New 3" CD Single Compatibility ● Auto Timer Playback ● RS Integrated System Remote Control Capability



CDX-710 COMPACT DISC PLAYER

RS
[AAFS] [CATALOG]



Hi-Bit Digital Technology Coupled with Convenient CD Operation

- Hi-Bit 8 Times Oversampling Digital Filter ● Hi-Speed Twin D/A Converters ● Switchable Hi-Bit Direct Output ● New 3" CD Single Compatibility ● Auto Program Playback (random playback) ● Delete Program ● 8-Digit Multi-Function Fluorescent Display ● Calendar Display Function ● 4-Way Repeat (full/single/programmed/A-B phase) ● Auto Timer Playback ● 3rd Order Low-Pass Analog Filter ● New 3-Beam Laser Pickup

- Microcomputer-Controlled 2-Way Servo System ● Improved Floating Suspension Design ● Tape Edit Program ● Direct Track Access ● 24-Track Random Access Programmable Playback ● Auto Space Insert during Program Playback ● 3-Way Music Search ● Index Search ● Coaxial Digital Output Connector ● 32-Key Wireless Remote Control Unit (RS-CDX710) ● Front Panel Headphones Jack (with level control) ● RS Integrated System Remote Control Capability



CDX-1110 COMPACT DISC PLAYER

[CATALOG] [NAVY]

- Yamaha's Finest CD System with Independent Transformer Shunt-Regulated Power Supply and High-Speed Linear Motor
- Hi-Bit Direct Output Terminals ● Hi-Bit 8 Times Oversampling Digital Filter ● Hi-Bit Twin D/A Converters ● Hi-Bit Digital Volume Control ● Microcomputer-Controlled 2-Way Servo System ● Independent Transformer Shunt-Regulated Power Supply ● Isolation from Digital Interference ● Optical Digital/Coaxial Digital Output Connectors ● High-Speed Linear Motor ● VM Dampener ● New 3-Beam Laser Pickup ● 44-Key Wireless Remote Control Unit (RS-CDX1110) ● Direct Track Access ● 24-Track Random Access Programmable Playback ● Random Playback ● 8-Digit Multi-Function Fluorescent Display ● Calendar Display Function ● 4-Way Repeat Play (full/single/programmed/A-B phase) ● Space Insert (switchable) ● Index Search ● Improved Floating Suspension Design ● 3-Way Music Search ● Delete Program Panel ● Auto Timer Playback ● RS Integrated System Remote Control Capability



CDX-510 COMPACT DISC PLAYER

- Outstanding CD Performance with Programmable Functions
- Hi-Bit Quadruple Oversampling Digital Filter ● Improved Floating Suspension Design ● Microcomputer-Controlled 2-Way Servo System ● Discrete Circuit Configuration ● Hi-Speed D/A Converter ● New 3-Beam Laser Pickup ● 22-Key Wireless Remote Control Unit (RS-CDX510) ● Direct Track Access ● 24-Track Random Access Programmable Playback ● Tape Edit Program ● 6-Digit Multi-Function Fluorescent Display ● 3-Way Repeat Play (full/single/programmed) ● Auto Space Insert during Program Playback ● Index Search ● 3-Way Music Search ● 2-Way Timer Playback Set ● RS Integrated System Remote Control Capability



LD/CD/CDV VIDEO PLAYER



CDC-610 COMPACT DISC CHANGER RS

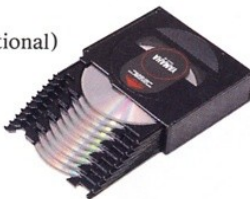
Featuring Yamaha's Original Auto Changer Mechanism with 10-Disc Magazine

- Auto Changer Mechanism with 10-Disc Magazine
- Hi-Bit Quadruple Oversampling Digital Filter
- Hi-Speed D/A Converter
- New 3-Beam Laser Pickup
- Microcomputer-Controlled 2-Way Servo System
- Direct Track Access
- 24-Track Random Access Programmable Playback
- "Plus One" Memory Play
- Random Play
- Disc Scan
- Music Scan
- Auto Timer Playback
- 8-Digit Multi-Function Fluorescent Display
- LED Disc In Display
- Repeat Play
- Index Search
- Additional YCM-10 Magazines (Optional)
- Wireless Remote Control Unit (RS-CDC6)



YCM-10 ADDITIONAL MAGAZINE (Optional)

Owning extra magazines will let you organize your CD collections according to music type, using one magazine for jazz, another for rock, another for classical, etc.



CDV-1000 LD/CD/CDV VIDEO COMBINATION PLAYER

[CATALOG] [NAVY]

Convenient 4-Disc Format Compatibility with Automated Operation

- 4-Disc Format (CDV/CD/8" LD/12" LD)
- Yamaha Custom LSIs
- High Resolution TBC (425-line horizontal resolution)
- Newly Developed Optical Head
- Super-Tracking Tilt Servo Pickup
- 15-Track/Chapter Random Programmable Access Play
- 4-Mode Repeat (entire disc/single track-chapter/A-B/program)
- Frame Number or Time Number Access
- CDV Video Priority Play
- Auto Digital Audio and Remote Control-Switchable Analog Audio
- 10-Speed Fast Forward/Reverse (CAV LDs)
- Vibration-Free Isolated Chassis
- Full Time On-Screen Display
- Reduced Disc Rotation Noise, Quiet Operation Throughout
- CD Index Search, Time Search
- Easy Connection to A/V Systems
- Superior Video S/N Ratio
- Original Yamaha Noise Canceller
- High-Performance Digital Filter
- Special Dropout Compensation Circuitry
- High-Quality Parts, Non-Interference Circuitry
- 31-Key Full-Function Remote Control Unit (RS-212)



CDX-1110/CDX-910/CDX-710/CDC-610 Specifications

	CDX-1110	CDX-910	CDX-710	CDC-610
AUDIO CHARACTERISTICS				
Frequency Response	2 to 20,000 Hz ± 0.3 dB	2 to 20,000 Hz ± 0.3 dB	2 to 20,000 Hz ± 0.3 dB	5 to 20,000 Hz ± 0.5 dB
Harmonic Distortion+Noise (1 kHz)	0.002%	0.003%	0.005%	0.008%
Dynamic Range	100 dB	100 dB	100 dB	96 dB
Signal-to-Noise Ratio	118 dB	118 dB	106 dB	100 dB
Wow and Flutter	Unmeasurable	Unmeasurable	Unmeasurable	Unmeasurable
Channel Separation (1 kHz)	100 dB	100 dB	100 dB	100 dB
Output Voltage	2 Vrms	2 Vrms	2 Vrms	2 Vrms
GENERAL				
Dimensions (W x H x D)	17-1/8" x 4-3/4" x 16-7/16"	17-1/8" x 4-3/16" x 13-11/16"	17-1/8" x 4-1/16" x 13-7/8"	17-1/8" x 4-13/16" x 14-1/16"
Weight	31 lbs. 4 oz.	16 lbs. 8 oz.	12 lbs. 2 oz.	15 lbs. 10 oz.

Specifications subject to change without notice.

CDV-1000 Specifications

VIDEO SECTION	
Nominal Output Level	1 Vp-p (Sync. Negative, 75 ohms, Unbalanced)
Horizontal Resolution	425 lines
VHF Output	Channel 3 or 4 (Switchable), F Type Jack (75 ohms, Unbalanced)
DIGITAL AUDIO SECTION	
Frequency Response	5 to 20,000 Hz, ± 0.5 dB
Total Harmonic Distortion	0.003% (1 kHz)
Channel Separation	90 dB (1 kHz)
Signal-to-Noise Ratio	97 dB

Dynamic Range	94 dB
Output Level	200 mVrms (1 kHz, -20 dB)
Impedance	1 k-ohms

ANALOG AUDIO SECTION	
Signal-to-Noise Ratio	70 dB (CX ON)
Output Level	200 mVrms (1 kHz, 40% Modulation)

GENERAL	
Dimensions (W x H x D)	17-1/8" x 4-1/4" x 15-3/4"
Weight	17 lbs. 10 oz.

Specifications subject to change without notice.

TURNTABLE TT-500 STEREO TURNTABLE RS [CATALOG]



Fully Automatic Operation for Precision Phono Playback

- FG Servo Direct Drive
- Fully Automatic Operation
- Yamaha Straight Tonearm
- Resonance Absorbing Turntable Mat
- Disc Clamper/EP Adaptor
- Front Panel Operation
- RS Integrated System Remote Control Compatibility

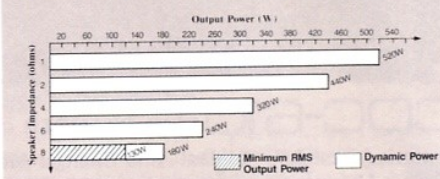
Specifications

- Signal-to-noise ratio: better than 78 dB
- Wow/flutter (WRMS): 0.03%
- Tonearm type: Static balance straight
- 16-15/16" x 4-5/16" x 14-3/4" (W x H x D)
- 10 lbs. 2 oz.

INTEGRATED AMPLIFIERS



AX-900 Output Power vs. Speaker Impedance



AX-900 INTEGRATED AMPLIFIER

[AAFES] [CATALOG] [NAVY]

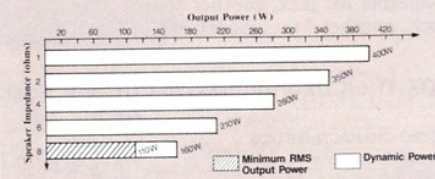
A New Approach to Amplifier Dynamics with Absolute Linear Amplification

- Absolute Linear Amplification (ALA) ● High Dynamic Power (520 W/1 ohm/1 kHz) ● Low-Impedance Drive Capability
- Completely Independent Pre/Main Amp Configuration ● Dual Rec Out Selectors ● 7 Source Inputs (including 3 tape inputs)

- Center Defeat Bass/Mid/Treble Tone Controls ● Continuously Variable Loudness Control ● Switchable High Filter ● Switchable Subsonic Filter ● CD Direct Position ● Tone Bypass Control
- Pure Current Servo Phono EQ Amp ● MM/MC Phono Selector ● Dual Tape Monitor Selectors ● Speaker A/B Selectors ● Banana Plug-Compatible Speaker Terminals ● Pre/Main Amplifier Loop ● Audio Muting Switch ● Quality Parts and Construction (aluminum push-pull heat sink, large insulator feet, extra-thick cable, and rigid bus bar cable)



AX-700 Output Power vs. Speaker Impedance



AX-700 INTEGRATED AMPLIFIER

[AAFES] [CATALOG]

Powerful Audio System Performance Provided by Absolute Linear Amplification

- Absolute Linear Amplification (ALA) ● High Dynamic Power (400 W/1 ohm/1 kHz) ● Low-Impedance Drive Capability
- 7 Source Inputs (including 3 tape inputs) ● Pure Current Servo

- Phono EQ Amp ● Rec Out Selector ● Continuously Variable Loudness Control ● Switchable Subsonic Filter ● CD Direct Position ● Tone Bypass Control ● MM/MC Phono Selector
- Dual Tape Monitor Selectors ● Center Defeat Bass and Treble Tone Controls ● Speaker A/B Selectors ● Banana Plug-Compatible Speaker Terminals ● Accessory Output Loop ● Audio Muting Switch ● Quality Parts and Construction (extra-large insulator connecting Load Remote Switch)

AX-900/AX-700 Specifications

	AX-900	AX-700
Minimum RMS Output Power per Channel		
20 to 20,000 Hz, 8 ohms	130 W (0.005% THD)	110 W (0.005% THD)
6 ohms	150 W (0.008% THD)	130 W (0.008% THD)
Dynamic Power per Channel (IHF)		
8/6/4/2/1 ohms	180/240/320/440/520 W	160/210/280/350/400 W
Input Sensitivity/Impedance		
Phono MC	160 μ V/220 ohms	160 μ V/220 ohms
Phono MM	2.5 mV/47 k-ohms	2.5 mV/47 k-ohms
CD, etc.	150 mV/47 k-ohms	150 mV/47 k-ohms

	AX-900	AX-700
Frequency Response		
20 to 20,000 Hz, CD etc.	+0 -0.5 dB	+0 -0.5 dB
Total Harmonic Distortion		
Phono MM to Rec Out, 3 V	0.003%	0.003%
Signal-to-Noise Ratio (IHF-A-Network)		
Phono MC/MM/CD etc.	78 dB/93 dB/106 dB	76 dB/92 dB/106 dB
Dimensions (W x H x D)	17-1/8" x 6-1/2" x 16-3/8"	17-1/8" x 6-1/2" x 16-3/8"
Weight	37 lbs. 6 oz.	26 lbs. 6 oz.

Specifications subject to change without notice.

Sound Effect/Video Enhancer Comparison

	AVX-100	AVC-50	AVC-30	SR-50
Natural Surround (1)	✓	✓	✓	✓
Natural Surround 2	✓			
Hall Surround	✓	✓		✓
Dolby Surround	✓	✓	✓	✓
Simulated Stereo	✓	✓	✓	✓
Simulated Surround	✓	✓	✓	✓
Live Surround	✓			
Presence Delay	✓			

	AVX-100	AVC-50	AVC-30	SR-50
Delay Time Control	✓			✓
Input Balance Control		✓		✓
Switchable High Filter		✓		✓
Bass Extension	✓	✓	✓	✓
Video Enhancer	✓	✓		
Detail	✓	✓		
Sharpness	✓	✓		
Video Level	✓	✓		
Tone Controls	Bass/Mid/Treble with Center Control	Rear Level	Bass/Treble, Rear Level	

AUDIO/VIDEO CONTROL INTEGRATED AMPLIFIERS



AVX-100 AUDIO/VIDEO CONTROL INTEGRATED AMPLIFIER RS

Yamaha's Most Advanced Control Amp for A/V Surround Processing

●10 Audio Source Inputs and 6 Video Source Inputs ●Independent Rec Out Selection of Audio/Video Sources ●Switchable 4-Channel or 3-Channel Operation ●Superimposition Function ●Title Editing Feature ●Built-In Video Enhancer with Continuously Variable Sharpness, Detail, and Level Control ●Original Yamaha Clean Picture Sharpness Control Circuit ●Built-In 8-Mode Surround Sound Processor ●Continuously Variable Delay Time Control ●Flexible System Configuration Capability ●High-Performance Integrated Amplifier ●Front Panel Auxiliary Video/Audio Terminals ●Dual Video Output Terminals ●Bass Extension Control ●Audio Muting Switch ●RS Integrated System Remote Control Unit (RS-AVX100)

Specifications

●Frequency Response (20 to 20,000 Hz): ± 1 dB ●THD: 0.005% ●Signal-to-Noise Ratio (Main A): 120 dB ●17-1/8" $\times$ 4-15/16" $\times$ 14-15/16" (W $\times$ H $\times$ D) ●22 lbs.



AVC-50 AUDIO/VIDEO CONTROL INTEGRATED AMPLIFIER RS

Multiple A/V Source Inputs and Special 5-Mode Surround Sound Processor to Capture the Dynamic Sound of Surround Processing

●10 Audio Source Inputs and 4 Video Source Inputs ●Independent Rec Out Selection of Audio/Video Sources ●Built-In Video Enhancer with Continuously Variable Sharpness, Detail and Level Control ●Original Yamaha Clean Picture Sharpness Control Circuit ●Front Panel VCR Inputs ●5-Mode Surround Sound Processor ●Continuously Variable Delay Time Control ●Bass Extension Control ●High Filter ●Audio Muting Switch ●Input Balance ●RS Integrated System Remote Control Unit (RS-AVC50)

Specifications

●Frequency Response (20 to 20,000 Hz): ± 0.5 dB ●THD: 0.005% ●Signal-to-Noise Ratio (CD, Etc., Front): 103 dB ●17-1/8" $\times$ 4-3/8" $\times$ 12" (W $\times$ H $\times$ D) ●14 lbs. 12 oz.



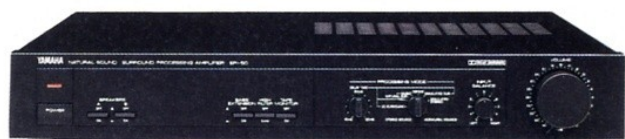
AVC-30 AUDIO/VIDEO CONTROL INTEGRATED AMPLIFIER RS

Total A/V System Flexibility with Multiple Source Inputs and High Power

●8 Audio Source Inputs and 3 Video Source Inputs ●Independent Rec Out Selection of Audio/Video Sources ●RS Integrated System Remote Control Unit (RS-AVC30) ●3-Mode Surround Sound Processor ●4-Channel Drive ●Bass Extension ●Rear Level Volume Control ●Volume Control with LED ●Bass and Treble Tone Controls ●Balance Control ●Pre-Main Coupling Loop ●Front, Rear, Front + Rear Speaker Selectors ●Headphones Jack

Specifications

●Frequency Response (20 to 20,000 Hz): ± 0.5 dB ●THD: 0.008% ●Signal-to-Noise Ratio (CD, Etc.): 100 dB ●17-1/8" $\times$ 4-3/4" $\times$ 12-7/16" (W $\times$ H $\times$ D) ●22 lbs. 7 oz.



SR-50 SURROUND PROCESSING AMPLIFIER

[CATALOG]

"Natural Sound" Enjoyment through Dynamic Surround Processing

●Dolby* Surround ●Yamaha Natural Sound ●Simulated Surround ●Defeat Mode ●Bass Extension ●Hall Surround ●Simulated Stereo (5 surround processing modes) ●Continuously Variable Delay Time Control ●High Filter ●Input Balance ●Speaker A/B Selection ●Tape Monitor Selector

Specifications

●Frequency Response (20 to 20,000 Hz): ± 0 , -2 dB ●THD: 0.03% ●Signal-to-Noise Ratio: 103 dB ●17-1/8" $\times$ 2-3/4" $\times$ 15-1/8" (W $\times$ H $\times$ D) ●11 lbs. 10 oz.

*Dolby, the double-D symbol, and HX PRO are trademarks of Dolby Laboratories Licensing Corporation.

Output Power Comparison

	AVX-100	AVC-50	AVC-30	SR-50
FRONT (MAIN A)				
Min. RMS (20—20,000 Hz)	65 W/70 W	45 W/50 W	100 W/—	25 W/28 W
8 ohms/6 ohms	(0.01% THD)	(0.05% THD)	(0.05% THD)	(0.03% THD)
REAR (MAIN B)				
Min. RMS (20—20,000 Hz)	14 W	—	20 W	—
8 ohms	(0.01% THD)		(0.05% THD)	
DYNAMIC POWER (IHF)				
8 ohms	85 W	73 W	125 W	40 W
6 ohms	105 W	76 W	155 W	45 W
4 ohms	—	85 W	190 W	50 W

A/V Source Inputs

	AVX-100		AVC-50		AVC-30		SR-50
	AUDIO	VIDEO	AUDIO	VIDEO	AUDIO	VIDEO	AUDIO
Phono	✓		✓		✓		
Tuner	✓		✓		✓		
Tape 1	✓		✓		✓		✓
Tape 2	✓		✓		(✓)		
CD	✓	✓(w/CDV)	✓		✓		
CDV/LD (VDP)	✓	✓	✓	✓	✓	✓	
TV Monitor	✓	✓	✓	✓	✓	✓	
VCR 1	✓	✓	✓	✓	✓	✓	
VCR 2	✓	✓	✓	✓	(✓)	✓	
Aux (Source)	✓	✓	✓		✓		✓

()=TAPE2/VCR2

RECEIVERS

RX-1100

AM/FM
STEREO RECEIVER

RS

[AAFES] [CATALOG] [NAVY]

489. -



Yamaha's Most Complete and Powerful A/V System Control Component

- Absolute Linear Amplification (ALA) ● High Dynamic Power (360 W/2 ohms/1 kHz) ● Low-Impedance Drive Capability
- Direct PLL IF Count Synthesizer Tuning ● 16-Station Random Access Preset Tuning ● Auto Search Tuning ● Manual Up/Down Tuning ● 10-Segment Signal Quality Meter ● Continuously Variable Loudness Control ● Dual Tape Monitor Inputs ● 2-Color Video Input Selector ● Tone Bypass Switch ● Stereo/Mono Mode Selector ● Banana Plug-Compatible Speaker Terminals
- Computer Servo Lock Tuning ● Digital Fine Tuning ● Two-Position IF Mode Selector with Indicators ● Three Video Source



Hidden Control Panel

Inputs ● Video and Audio Rec Out Selectors ● Simulated Stereo Circuit with Indicator ● Dynamic Noise Canceller with Indicator ● Center Defeat Bass/Mid/Treble Tone Controls ● Pre-Main Coupling Terminals ● Audio Muting Switch ● Video Enhancer with Level and Detail Control ● Speaker A/B/C Selectors ● LED Indicator on Volume Knob ● RS Integrated System Remote Control Unit (RS-RX11)



RX-900 AM/FM STEREO RECEIVER RS

[CATALOG] [NAVY]

Dynamic Performer with Multiple Source Inputs and Advanced Features for Sophisticated A/V System Control

- Absolute Linear Amplification (ALA) ● High Dynamic Power (200 W/2 ohms/1 kHz) ● Low-Impedance Drive Capability
- Direct PLL IF Count Synthesizer Tuning ● 16-Station Random Access Preset Tuning ● Auto Search Tuning ● Manual Up/Down Tuning ● 10-Segment Signal Quality Meter ● Continuously Variable Loudness Control ● Dual Tape Monitor Inputs ● 2-Color Video Input Selector ● Tone Bypass Switch ● Stereo/Mono Mode Selector ● Banana Plug-Compatible Speaker Terminals ● Computer Servo Lock Tuning ● Digital Fine Tuning ● Two-Position IF Mode Selector with Indicators
- Three Video Source Inputs ● Video and Audio Rec Out Selectors ● Simulated Stereo Circuit with Indicator ● Dynamic Noise Canceller with Indicator ● Center Defeat Bass/Mid/Treble Tone Controls ● Pre-Main



Hidden Control Panel

Coupling Terminals ● Audio Muting Switch ● Video Enhancer with Level Control ● Speaker A/B Selectors ● RS Integrated System Remote Control Unit (RS-RX11)

RX-700 AM/FM STEREO RECEIVER RS

[CATALOG]

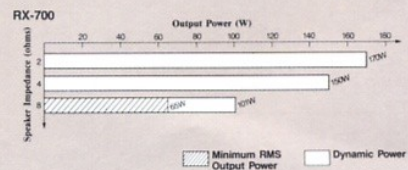
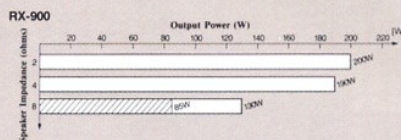
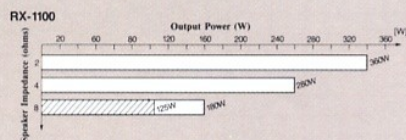
Multi-Function Integrated A/V Control Center with High Dynamic Power and Remote Control Capability

- High Dynamic Power (170 W/2 ohms/1 kHz) ● Low-Impedance Drive Capability ● Direct PLL IF Count Synthesizer Tuning ● 16-Station Random Access Preset Tuning ● Auto Search Tuning ● Manual Up/Down Tuning ● 10-Segment Signal Quality Meter ● Continuously Variable Loudness Control ● Dual Tape Monitor Inputs ● 2-Color Video Input Selector ● Tone Bypass Switch ● Stereo/Mono Mode Selector ● Rec Out Selector ● Two Video Source



Inputs ● Center Defeat Bass and Treble Tone Controls ● Video Enhancer with Level Control ● Speaker A/B Selectors ● RS Integrated System Remote Control Unit (RS-RX7)

Output Power vs. Speaker Impedance



TUNERS

TX-900

AM/FM STEREO TUNER

[AAFES] [CATALOG] [NAVY]



Superior Tuning Performance for Superb Clarity and Stereo Imaging

- Computer Servo Lock (CSL) Tuning ● Digital Fine Tuning
- Multi-Status Station Memory ● 20-Station Random Access Memory Preset Tuning ● Integrated Multi-Function LCD

- Display Panel ● 24-Segment Signal Quality Meter ● 3-Position Auto/Manual IF Mode Selector ● Hi Blend Selector ● Auto Stereo/Mono Tuning Selector ● Auto Search Tuning ● Manual Up/Down Tuning ● RS Integrated System Remote Control Capability

TX-1000 AM/FM STEREO TUNER

[CATALOG] [NAVY]

The Tops in Tuner Performance with "Alpha" Circuitry



- Computer Servo Lock (CSL) Tuning ● Absolute Linear Phase IF Amplifier ("Alpha") Circuitry
- Digital Fine Tuning ● Antenna

- Selector Switch ● Low-Distortion High-Separation Pure Stereo MPX Demodulator ● 24-Station Random Access Memory Preset Tuning ● 6-Way Multi-Status Memory
- 2-Mode Station Display with Station Name Display ● New Multi-Function LCD Display ● 24-Segment Signal Quality Meter ● 2-Position Auto/Manual IF Mode Selector ● Hi Blend Selector ● Auto Stereo/Mono Tuning Selector ● RF Attenuator On/Off Switch ● Auto Search Tuning ● Manual Up/Down Tuning



Hidden Control Panel

- Low-Impedance AM Loop Antenna (high gain type)
- Wireless Remote Control Unit (RS-TX1000) ● RS Integrated System Remote Control Capability

RX-1100/RX-900/RX-700 Specifications

AUDIO SECTION	RX-1100	RX-900	RX-700
Min. RMS Output Power/ich			
20 to 20,000 Hz, 8 ohms	125 W (0.015% THD)	85 W (0.015% THD)	65 W (0.015% THD)
20 to 20,000 Hz, 6 ohms	145 W (0.03% THD)	100 W (0.03% THD)	75 W (0.03% THD)
Dynamic Power per Channel (8/6/4/2 ohms)	180/220/280/360 W	130/150/190/200 W	101/118/150/170 W
Frequency Response (CD, etc., 20 to 20,000 Hz)	+0 -0.3 dB	+0 -0.3 dB	±0.5 dB
Total Harmonic Distortion (20 to 20,000 Hz)			
Phone MM to Rec Out (3 V)	0.003%	0.003%	0.005%
Signal-to-Noise Ratio (IHF-A-Network) CD etc.	103 dB	103 dB	103 dB
Video Signal-to-Noise Ratio	52 dB	52 dB	52 dB
FM SECTION			
50 dB Quieting Sensitivity (IHF) 75 ohms, Mono	14.8 dBf (1.5 µV)	14.8 dBf (1.5 µV)	15.1 dBf (1.55 µV)
Total Harmonic Distortion Mono/Stereo (1 kHz)	0.05%/0.07%	0.05%/0.07%	0.07%/0.07%
Signal-to-Noise Ratio (1 kHz) Mono/Stereo	85 dB/81 dB	85 dB/81 dB	81 dB/76 dB
GENERAL			
Dimensions (W x H x D)	17-1/2" x 6" x 16-5/8"	17-1/2" x 6" x 16-5/8"	17-1/2" x 5" x 11-3/8"
Weight	26 lbs. 6 oz.	24 lbs. 3 oz.	13 lbs. 14 oz.

Specifications subject to change without notice.

TX-1000/TX-900 Specifications

	TX-1000	TX-900
FM SECTION		
50 dB Quieting Sensitivity (IHF)		
Mono	15.3 dBf (1.6 µV)	15.1 dBf (1.55 µV)
Stereo	37.2 dBf (20 µV)	37.7 dBf (21 µV)
Usable Sensitivity (IHF)		
(30 dB Quieting, Mono, 75 ohms)	9.3 dBf (0.8 µV)	9.3 dBf (0.8 µV)
Alternate Channel Selectivity (IHF)	90 dB	85 dB (Super Narrow)
Signal-to-Noise Ratio (IHF)		
Mono/Stereo	98 dB/90 dB	96 dB/90 dB
Harmonic Distortion		
Mono, 1 kHz	0.02% (Wide)	0.02% (Wide)
Stereo, 1 kHz	0.03% (Wide)	0.03% (Wide)

	TX-1000	TX-900
Stereo Separation (1 kHz)	68 dB (Wide)	60 dB (Wide)
Frequency Response	20 to 15,000 Hz.	20 to 15,000 Hz
	+0.2, -0.5 dB	±0.5 dB
AM SECTION		
Sensitivity	250 µV/m	250 µV/m
Signal-to-Noise Ratio	55 dB	52 dB
GENERAL		
Dimensions (W x H x D)	17-1/8" x 3-3/4" x 14-7/16"	17-1/8" x 3-7/8" x 11-1/8"
Weight	13 lbs.	7 lbs. 4 oz.

Specifications subject to change without notice.

LEARNING-CAPABLE MULTI-FUNCTION REMOTE CONTROL

MIRX-100

LEARNING-CAPABLE MULTI-FUNCTION REMOTE CONTROL

[CATALOG]

Operational Convenience with Large-Capacity Memory

- 256 K-Bit S-RAM ● Comprehensive Operational Control
- 100 Separate Function Keys ● Multi-Command Keys

- Simple Programming ● Memory Backup
- User-Selectable Panel Sheets

Specifications

- 2-15/16" x 8-9/16" x 1-3/8" (W x H x D) ● 8 oz.

MEMORY MAX



CASSETTE DECKS

A Finely Balanced Blend of Technological Excellence

The superior sound quality, reliability, and operational performance of Yamaha cassette decks are attributed to our advanced audio-recording technology. Every cassette deck bearing the Yamaha name represents years of extensive R&D efforts to offer the absolute finest in precision performance and unsurpassed audio quality.

Closed Loop Dual Capstan Drive

Consistently high sound quality is supported by the controlled precision provided by the Closed Loop Dual Capstan Drive. This feature maintains accurate and stable tape travel by driving the tape before and after the heads under optimized tension to eliminate any possibility of modulation distortion.

High-Quality Amorphous R/P Head

Only the finest materials having ideal magnetic characteristics and wear-resistant properties are used in Yamaha's amorphous rec/playback head. Forged through a 12-layer lamination process, the finished head offers excellent high-frequency characteristics to provide the clarity and richness of sound that you hear.

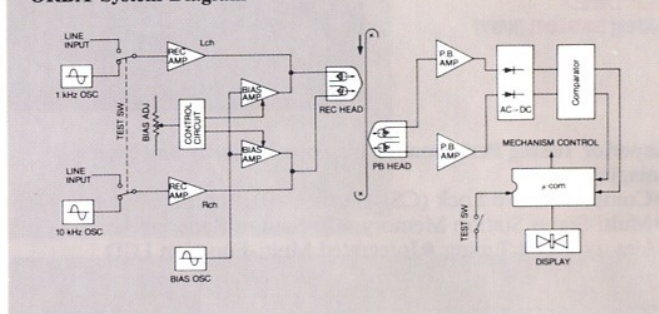


Optimum Record Bias Tuning (ORBiT)

The ORBiT System enables the bias level of the deck to be

adjusted to accurately match the recording tape characteristics, which improves the sound quality on any type of recording tape.

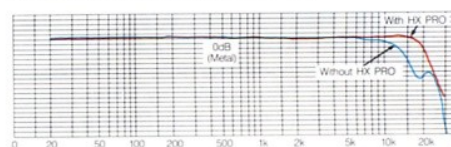
ORBiT System Diagram



Dolby HX Pro Dynamic Bias Servo

By varying the recording bias in response to changes in the music signal level, Dolby HX Pro effectively extends the recording headroom to improve the recorded sound quality of any cassette.

Frequency Response (HX Pro on)



KX-1200 STEREO CASSETTE DECK

RS

[AAFES] [CATALOG] [NAVY]



The Definitive Standard in Cassette Deck Audio Quality

- Closed Loop, Dual Capstan Tape Transport
- Dual Differential FET DC Playback Amp
- Double dbx** Dynamic Range Expansion
- Double Dolby B/C NR Systems
- ORBiT System with Optical Balance Tuning Indicator
- Dolby HX Pro Dynamic Bias Servo
- High-Quality Amorphous Head
- Full Logic Control
- Auto Tape Selector
- Auto Rec Mute
- Rec Return
- Optimum Recording Level Indicator
- Music Search
- Intro Scan
- Zero to Memory Point Repeat Play
- Memory Stop
- Timer Rec/Play Capability
- 4-Digit Electronic Tape Counter
- 3-Head Design
- Random



Hidden Control Panel

Control Unit (RS-K12) • RS Integrated System Remote Control Compatibility

- Program Play
- Dual Speed Fast Forward/Rewind
- Master Fader Control
- Full Repeat Play
- Remaining Tape Time Indicator
- Auto Monitor
- Output Level Control
- 20-Segment Peak Level Meters
- 28-Key Wireless Remote

KX-W302 STEREO DOUBLE CASSETTE DECK

RS

[AAFES] [CATALOG]



Yamaha's New Multi-Function Dual-Deck Unit with Double Deck Auto Reverse and Exceptional Operational Convenience

- Double Deck Auto Reverse
- High-Quality Amorphous R/P Head
- Dolby HX Pro Dynamic Bias Servo
- Two-Speed Dubbing
- Auto Tape Selector
- Rec Return
- Music Search
- MPX Filter
- Timer Rec/Play Compatibility
- Dolby B/C NR Systems

- 6-Segment LED Peak Level Meters
- Tape Counter
- Microcomputer Logic Control
- Relay Play
- Full Repeat Play
- Auto Rec Mute
- RS Integrated System Remote Control Compatibility
- Wireless Remote Control Unit (RS-KW5)



CASSETTE DECKS



KX-W900 STEREO TWIN CASSETTE DECK *RS*

[CATALOG] [NAVY]

Dual-Deck Convenience and Yamaha's Latest Innovative Features

●Microcomputer Logic Control ●Dolby HX Pro Dynamic Bias Servo ●High-Quality Amorphous R/P Head ●Double Gap Ferrite Erase Head ●Dolby B/C NR Systems ●Two-Speed Dubbing ●Relay Play ●Auto Tape Selector ●Rec Return ●Full Repeat Play ●Auto Rec Mute ●Music Search ●Timer Rec/Play Capability ●Auto Reverse Recording/Playback on Both Decks ●Simultaneous Independent Recording ●Super Bias ●Remaining Time Display ●13-Segment Peak Level Meters ●Linear Time Tape Counter ●Full Auto, Skip, Random Program, Manual, Two-Speed and Cross-Dolby Dubbing ●Random Program Play ●Intro Scan ●44-Key Wireless Remote Control Unit (RS-KW9) ●RS Integrated System Remote Control Compatibility



KX-R700 STEREO AUTO REVERSE CASSETTE CEDK *RS*

[CATALOG]

Sensational Sound Supported by Auto Reverse Recording/Playback and Yamaha's Original 2+1 Motor Transport Mechanism

●Auto Reverse Recording/Playback ●2+1 Motor Transport Mechanism ●Dolby HX Pro Dynamic Bias Servo ●Super Bias ●Electronic Rec Volume Control ●Optimum Record Level Indicator ●High-Quality Amorphous R/P Head ●Double Gap Ferrite Erase Head ●Power Eject/Close ●dbx Dynamic Range Expansion System ●Dolby B/C NR Systems ●Remaining Tape Time Display with Auto Fade-In/Fade-Out ●12-Segment Multi-Function Fluorescent Level Meters ●Real Time Linear Counter ●Auto Tape Selector ●Rec Return ●Blank Skip ●Bidirectional Intro Scan ●Random Program Play (9 selections) ●0—Memory Point Repeat Play ●Music Search ●Memory Stop ●Dual Function Programmable Timer ●Timer Rec/Play Capability ●39-Key Wireless Remote Control Unit (RS-KR7) ●RS Integrated System Remote Control Compatibility



Electronic REC Volume Control with Numerical Display

Cassette Deck Specifications

	KX-1200	KX-W900	KX-R700	KX-W302
Wow and Flutter				
W, RMS	Less than 0.03%	Less than 0.05%	Less than 0.05%	Less than 0.08%
W, Peak	Less than $\pm 0.06\%$	Less than $\pm 0.08\%$	Less than $\pm 0.08\%$	Less than $\pm 0.15\%$
Signal-to-Noise Ratio				
dbx/Dolby off	Better than 61 dB	Better than 58 dB	Better than 60 dB	Better than 58 dB
Dolby B on	Better than 69 dB	Better than 66 dB	Better than 68 dB	Better than 66 dB
Dolby C on	Better than 77 dB	Better than 74 dB	Better than 76 dB	Better than 74 dB
dbx on	Better than 95 dB	—	Better than 90 dB	—
Frequency Response				
(-20 dB)				
Metal Tape	20 to 24,000 Hz ± 3 dB	20 to 20,000 Hz ± 3 dB	30 to 20,000 Hz ± 3 dB	20 to 18,000 Hz ± 3 dB
Total Harmonic Distortion	Less than 0.8%	Less than 1%	Less than 0.8%	Less than 1%
Dimensions (W x H x D)	17-1/8" x 5-1/4" x 14-15/16"	17-1/8" x 5-3/16" x 12"	17-1/8" x 4-1/2" x 11-11/16"	17-1/8" x 4-7/16" x 10-11/16"
Weight	17 lbs. 6 oz.	15 lbs. 6 oz.	12 lbs. 12 oz.	10 lbs. 5 oz.

**dbx® is a trademark of dbx incorporated. Specifications subject to change without notice.

HEADPHONES

YHD-2 STEREO ORTHODYNAMIC HEADPHONES

The YHD-2 features sophisticated styling by Mario Bellini—world-famous for his ergonomic approach to design. Their special construction offers an optimum blend of high-fidelity music reproduction, sonic efficiency, and fatigue-free music enjoyment.

- Lightweight, Adjustable 2-Piece Headband
- High Efficiency for Full Sound Even at Low Output Level
- Mini-Plug with Phone Plug Adaptor
- Anti-Fatigue Design

Specifications

- Frequency Response: 20—20,000 Hz
- Output Sound Pressure Level: 97 dB/W/m
- Weight (without cord): 4.7 oz.



GRAPHIC EQUALIZER

EQ-500

GRAPHIC EQUALIZER

[AAFES] [CATALOG] [NAVY]



10-Band Spectrum Analyzer for Precise Frequency Response Control

Yamaha's EQ-500 Graphic Equalizer allows you to precisely adjust the tonal response of your music to compensate for acoustic irregularities. Obtain perfectly flat room response by referring to the 10-band spectrum analyzer while using the built-in pink noise generator and electret condenser microphone. You can also set the 10-band integrated display panels for EQ curve or spectrum analyzer readout.

- Fluorescent Spectrum Analyzer Display
- Pink Noise Generator
- Electret Condenser Microphone (MM-110)
- 10 Bands of In-

dependent L/R EQ ● Output Level Control ● EQ Recording Capability ● Tape Monitor Position ● Switchable Subsonic Filter ● EQ On/Defeat Selector ● Meter Level Adjustment ● Lights on Each Slider Control ● Microphone Jack

Specifications

- Total harmonic distortion (20 to 20,000 Hz): 0.005%
- Frequency response: 10 to 35,000 Hz ± 0.5 dB
- Signal-to-noise ratio (IHF-A-Network): 105 dB
- 17-1/8" $\times$ 3-15/16" $\times$ 9-1/8" (W $\times$ H $\times$ D) ● 6 lbs. 4 oz.



AUDIO TIMER

DT-60

AUDIO TIMER

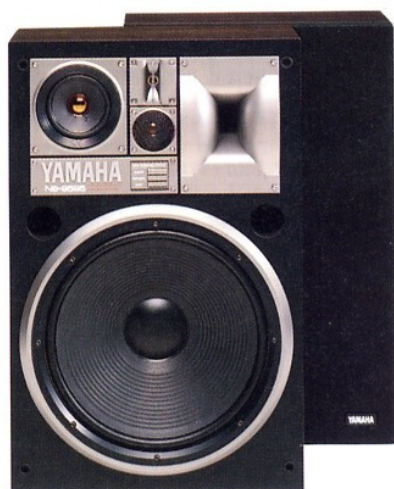
[AAFES] [CATALOG]



A convenient addition to any stereo system, the DT-60 lets you preset your system to switch itself on and off for recording broadcasts while you're away. The Sleep button turns the system

off at the preset time as you fall asleep to music.
● 17-1/8" $\times$ 2-13/16" $\times$ 5-1/4" (W $\times$ H $\times$ D) ● 3 lbs. 15 oz.

SPEAKER SYSTEMS



NS-9595 4-WAY 5-SPEAKER BASS REFLEX SPEAKER SYSTEM

[CATALOG] [NAVY]

- 300 Watts Peak Music Input Power
- 17" Cone Woffer with Improved Magnet Circuit for Better Bass Response
- 4-3/4" Cone Midrange
- Massive Horn Tweeter
- Exponential Horn Tweeter with Acoustic Lens
- 2" Cone Super Tweeter
- 3-Position Tone Response Control
- Heavy-Duty Speaker Terminals
- Auto Reset Power Protection
- Sound Pressure Level: 98 dB/W/m
- Frequency Response: 20 to 23,000 Hz
- 18-1/8" $\times$ 28-3/8" $\times$ 10-3/16" (W $\times$ H $\times$ D)
- 39 lbs. 10 oz.



NS-E555 PRESENCE SPEAKER SYSTEM

[CATALOG]

- 3-1/8" Single Cone Construction
- 20 Watts Peak Music Input Power
- Designed for Surround Sound Systems
- Magnetic Shielding for A/V Use Near a TV
- Compact Size with Mounting Clips
- Sound Pressure Level: 85 dB/W/m
- Frequency Response: 200 to 20,000 Hz
- Two 27-1/2" Cords
- 5" $\times$ 7" $\times$ 3-1/4" (W $\times$ H $\times$ D)
- 1 lb. 3 oz.

CAR AUDIO

Taking Yamaha Audio Quality on the Road

Yamaha's new line of car audio components provides the perfect complement to your driving pleasure. Based on the same advanced audio and electronics technologies for which Yamaha is famous, these components offer the latest in audio engineering achievements to accommodate the wide dynamic range and powerful transient peaks of digital sound reproduction. Incorporating the finest construction materials with innovative design

and advanced features, our car audio components ensure exceptional performance, unsurpassed sound quality and complete operating convenience. Designed compactly to fit snugly in any domestic or foreign car, our complete line of car audio components will make your time spent on the road a truly satisfying experience.

YCDT-1000 CAR AUDIO COMPACT DISC PLAYER/TUNER



CD Section

● Yamaha CD Cartridge System (with 5 CD cartridges) ● New Floating Suspension System ● Original Yamaha LSIs ● New 3-Beam Laser Pickup ● Improved Trackability Shock Sensor ● 4-Channel Pre-Out with Front/Rear Fader Control ● Music Search (forward and reverse) ● Continuously Variable Loudness Control ● Disc Location Stop Mode ● Disc In/Play Indicator ● Reset Button ● Separate Bass and Treble Controls ● Balance Control ● CD or Tuner Switching ● Volume Control with Power Drive Output and On/Off ● Notched Chassis Design for Easier Installation **Tuner Section** ● Yamaha MR II (Maximum Reception) ETR ● 12 FM/6 AM Preset Stations ● Seek Up/Down Tuning ● Manual Up/Down Tuning ● Stereo/Mono Switch ● Local/DX Switch (seek stop sensitivity) ● FM Auto Noise Control



Specifications

CD SECTION

● Frequency Response (20 to 20,000 Hz): +0, -3 dB ● THD: 0.05% ● S/N Ratio: 90 dB

TUNER SECTION

● Usable Sensitivity: 16.3 dBf (1.8 μ V) ● Alt. Ch. Selectivity: 80 dB ● Main Unit: 7" x 1-15/16" x 6-1/2"; Tuner: 7-3/4" x 1" x 4-3/4" (W x H x D) ● 5 lbs. 1 oz.



CDC-5 (P) CD Cartridge

Yamaha CD cartridges permit one-hand loading while driving, and protect discs from damage. For YCDT-1000 only. Available in sets of 5.

YCR-505 CAR AUDIO AUTO REVERSE CASSETTE RECEIVER

● Yamaha MR II (Maximum Reception) ETR ● 20 W x 4 Power Output ● 18 FM/6 AM Memory Presets ● Precision Auto Reverse Mechanism ● Hard Permalloy Tape Head ● Dual Azimuth Tape Head ● Dolby B NR System ● Auto Store Memory ● Seek Tuning ● Manual Up/Down Tuning ● Auto Load/DX Circuitry ● Preset Scan Tuning ● Stereo/Mono Switch ● FM Auto Noise Control ● High-Performance, Compact FM Front End ● Sophisticated AM Front End ● RCA Preout Terminals ● YMS (Yamaha Music Search) ● Metal/CrO₂ Tape Capability ● Key-Off Pinch Roller Release ● Yamaha Precision Load Transport ● Green LCD Frequency Display ● Backlit Control Indicators, Simplified Control Panel ● Continuously Variable Loudness Control ● Pre-Fader Control ● Separate Bass & Treble Controls ● Theft-Prevention Removable Chassis



Specifications

TUNER SECTION (FM)

● 50 dB Quietening Sensitivity: 18.3 dBf (2.2 μ V) ● Alt. Ch. Selectivity: 75 dB ● S/N Ratio (mono): 70 dB

DECK SECTION

● Wow/Flutter: 0.08% WRMS ● Frequency Response (Metal): 40 to 17,000 Hz $\pm$ 3 dB ● S/N Ratio (Dolby B): 67 dB ● 7-1/8" x 2-1/16" x 6-1/8" (W x H x D) ● 3 lbs. 15 oz.

YPA-700 CAR AUDIO POWER AMPLIFIER

[CATALOG]

● 2, 3 or 4-Channel Operation

2-Channel Mode

70 W x 2 (BTL) (0.1% THD, 30 to 20,000 Hz)

75 W x 2 (BTL) (0.1% THD, 1 kHz)

3-Channel Mode

70 W x 1 + 35 W x 2 (0.1% THD, 30 to 20,000 Hz)

75 W x 1 + 40 W x 2 (0.1% THD, 1 kHz)

4-Channel (Stereo) Mode

35 W x 4 (0.1% THD, 30 to 20,000 Hz)

40 W x 4 (0.1% THD, 1 kHz)

● Adjustable Input Level ● Full Protection Circuitry ● Low-Impedance Drive Capability ● Low RFI Canceller ● Screw Terminals for Easy Speaker Wiring ● Plug-In Auto Fuse ● Gold-Plated RCA Input Jacks ● Large Aluminum Heat Sinks ● Remote On/Off Switch



Specifications

● THD: 0.005% ● S/N Ratio: 105 dB ● Frequency Response: 10 to 100,000 Hz $\pm$ 0, -1 dB ● 11-13/16" x 1-15/16" x 8-7/16" (W x H x D) ● 8 lbs. 2 oz.

DIGITAL SOUND FIELD PROCESSOR/SYSTEM COMPONENTS

The Sensation of Digital Sound

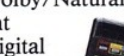
Sonic fidelity and spatial realism are two major elements of superior sound reproduction. Exceptional sonic fidelity has been realized through the digital recording technology used in compact disc players. Now Yamaha has achieved a comparable breakthrough in audio spatial realism by developing one of the most significant innovations since stereo, the DSP-1 Digital Sound Field Processor. The DSP-1 recreates the actual acoustical characteristics of 13 live performance environments by digitally



DSP-1 DIGITAL SOUND FIELD PROCESSOR

[CATALOG] [NAVY]

By digitally reproducing the reverberation and echo patterns of 13 separate "live performance" environments, the DSP-1 can recreate their actual depth, imaging and spatial realism to transform your listening room into an exciting and amazingly dynamic sound field of listening enjoyment.

- dynamic sound field of listening enjoyment.
- 13 Acoustic Programs ●3 Surround Programs (Dolby/Natural/Simulated) ●Acoustic Mode Parameter Adjustment
 - User Programmable Mode ●Title Editing ●16 Digital Sound Effectors ●Front/Rear Balance Control ●Effect Level Control ●Mute Selection ●Mix Input with Level Control ●Tape Selector with Playback Level Control
 - Multi-function Backlit LCD Display ●30-Key Wireless Remote Control Unit (RS-DSP) ●17-1/8" × 2-13/16" × 12-5/16" (W × H × D) ●9 lbs. 14 oz.
- 

MVS-1 MASTER VOLUME
CONTROLLER/SELECTOR

Maximize your operating convenience with perfectly balanced performance via single-knob volume control using the MVS-1 with your DSP-1/amplifier configuration. Achieve the DSP-1's full potential by directly feeding the input signal to the DSP-1 at the maximum 3 V while attenuating with the MVS-1's master volume control. Tape loops for system expansion are also provided.

● High-Precision 6-Channel Master Volume Control ● 3 Input Selectors ● Tape Monitor Selector ● 17-1/8" × 2-13/16" × 11-1/4". (W × H × D) ● 5 lbs. 8 oz.

NS-S1
2-WAY BASS REFLEX
SPEAKER SYSTEM

[NAVY]

- 80 W Music Input Power
- 4-3/4" Cone Woofer
- 1-3/16" Dome Tweeter
- 60 Hz to 20 kHz Frequency Response
- 6-1/8" x 9-7/16" x 6" (W x H x D)
- 5 lbs. 10 oz.



reproducing the depth, imaging and spatial realism of these environments using recorded reverberation and echo patterns. To maintain the superior sound of digital audio, a newly developed Yamaha VLSI, which includes a high-speed 24-bit $\times$ 13-bit multiplier and a 24-bit adder/subtractor, is used to process sonic reflections in real time, while digital signals are processed at a sampling rate of 44.1 kHz by 16-bit linear quantization A/D and D/A converters.



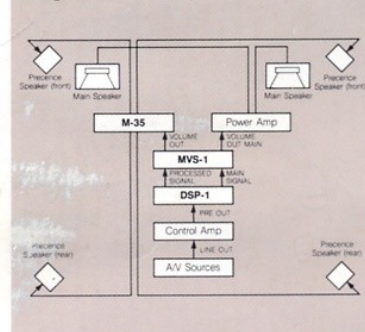
M-35 2/4 CHANNEL DUAL MODE POWER AMPLIFIER

[CATALOG] [NAVY]

Designed to drive the presence speakers used with the DSP-1, the M-35 is a switchable 2 or 4-channel power amp that lets you adjust each channel independently to compensate for any listening environment irregularities, and to finely adjust the surround effect to suit your particular taste.

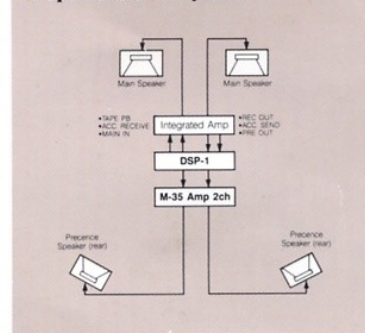
- 4 Independently Adjustable Output Channels ● Selectable 2-Channel (40 W/ch.)/4-Channel (20 W/ch.) Operation
- High Dynamic Power ● Low-Impedance Drive Capability
- 2-Channel/4-Channel Speaker Level Control
- 17-1/8" x 3-5/8" x 11-5/16" (W x H x D) ● 11 lbs.

6-Speaker DSP-1 System



6-Speaker DSP-1 System— Main audio signal from a hi-fi or video source is routed through the control amplifier and enters the DSP-1, where a pattern of reflections and reverberations are created. A new processed signal results which, together with the main signal, passes through the MVS-1 where master volume adjustment is made. The processed signal then proceeds through the M-35 (set to 4-channel operation) and out to two rear and two front presence speakers (NS-SI), and the main signal is fed through the power amplifier to the main speakers.

4-Speaker DSP-1 System



4-Speaker DSP-1 System—*Yamaha M-35 power amp set to 2-channel operation drives rear presence speakers. Mixed main and processed signal is fed through main speakers, driven by an integrated amp.*

In the Pacific and European areas, Yamaha products are available at Army & Air Force, Navy, Marine Corps Exchanges and also through:

EXCHANGE CATALOG—Exchange Catalog Sales P.O. Box 222340 Dallas, Tex. 75222

Note: Please check Exchange Catalog items in Exchange Catalogs at your nearest Exchange Counter.

[AAFES] AAFES Stock Assortment Item

[CATALOG] "Exchange Catalog" Item

[NAVY] Navy Order Item

The **RS** symbol indicates compatibility with all-Yamaha **RS** integrated remote system components.

YAMAHA
YAMAHA CORPORATION
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