



Digital Receiver System

USA **MX975D**

Digital Audio/Video Surround Receiver Package

- Integrated Dolby Digital® (AC-3) and ProLogic Surround Sound decoder
- 6-Speaker Package with Subwoofer (customized acoustical speaker design!)
- 450 Watts Surround Power Output : 3 x 100 Watts + 2 x 50 Watts, and 50 Watts Powered Subwoofer DIN 60hm
- Digital Sound Processing via DUET CORE
- Virtual 3D Surround for Simulated Surround Sound without Rear Speakers
- 'Hall' feature for normal stereo with rear speaker sound
- Loudness, Bass and Treble Control
- All Dolby surround Modes and Delay Times
- Equalizer smart sound modes : Personal, Speech, Music, Movie, Multi-Media
- Night mode for Dynamic Range Compression of Digital Sound
- 3 Digital Inputs (2 coax, 1 optical) and a Digital Output (coax) for Digital (CD) Recordings from multiple analogue or digital sources including DVD!
- 4 Video Input Connections and 2 Outputs
- Front A/V Game Input
- Easy Hook up via Color Coded Speaker Connections
- Screw terminals for Left, Right and Center speaker connections
- 'Cinema Link' System Control Bus
- 51-key Audio/Video MultiBrand Universal Remote Control
- Menu Navigator Rotary Knob for quick set-up
- Harmonized Philips Home Cinema Components design



Let's make things better.



PHILIPS

Sound Enhancement

Dolby Digital Surround Sound - Available on DVD, Laserdisc*, satellite broadcasts and as the standard for HDTV. Dolby Digital® offers the ultimate experience in home theater surround with six discrete channels of digital CD sound. Discrete means that each channel carries its own sound and depending on what happens on screen each speaker plays its own unique role in providing the right sound. Front left, center and right join two surround speakers to reproduce highs, mid and bass frequencies in five full-range channels of surround. Bass rumble, explosions and low frequency effects you feel are delivered through a dedicated sixth, subwoofer channel. Also known as AC-3 and Dolby 5.1, Dolby Digital® delivers the expanded sense of depth, localization and overall realism which was formerly only known from digital surround sound equipped cinemas.

6-speaker package - No less than six cinema loudspeakers to build your personal cinema. The five speakers are acoustically specially designed to match the tonal characteristics of the receiver. Front left and right and surround left and right speaker are tri-cone systems with a 5 1/4" driver, a 2" ferro fluid tweeter and a 6 1/2" passive radiator for improved bass performance at reduce distortion. The center speaker is three-way, carrying 2 4" drivers and a 2" tweeter. Front left, right and center speaker are magnetically protected to prevent any interference with television picture tube purity. The sixth speaker is a 50 watt powered subwoofer.

450W surround power output - The five, 3x100W (left, right, center) and 2x50W (rear), receiver amplifiers together with the 50W subwoofer amplifier deliver 450 Watts of home theater power. The stereo output power of 50W per channel is specified at 6 Ohm, 40Hz-20KHz and 0.7% total harmonic distortion (THD). The amplifiers have been designed with special attention to a short 'rise' and 'fall' time, so characteristic for the frequent and sudden drastic changes in dynamics of movie sound in general. Furthermore, the amplification reserves are designed such that they are more than sufficient to follow sudden needs for more sound pressure.

50 W powered subwoofer - Subwoofers add dynamism to normal music and motion pictures. It sets the stage for a more intense sensation. The 50W Philips subwoofer features a down-firing 5 1/4" woofer to reflect sound waves off the floor, thereby adding impact. In addition a 50-150Hz crossover adjustment knob and a bass level control rotary are present. In all, the subwoofer is sufficiently power packed to generate that cinema essential sonic sound boom.

Digital Sound Processing via DUET CORE - Philips Semiconductors is highly specialized in digital sound processing. One of their crown DSP (digital sound processing) ICs is the 'DUET'. The DUET's huge processing power of 80 MIPS (million instructions per second) assures the highest possible accuracy in digital audio processing. Other characteristics are automatic detection of source (AC-3, MPEG or PCM audio) and smooth (clicking free) automatic switching between coding formats. Furthermore DUET carries digital bass cross-over filters (for subwoofer signal) and 3rd generation virtualizer algorithms for highly realistic virtual Dolby. Lastly, DUET has the unique capability of translating Dolby Digital multi-channel sound into a stereo signal suitable for digital recording onto e.g. CD-R.

Virtual 3D Surround / Virtual Dolby® Surround - A new Dolby Surround playback system delivers amazingly rich and convincing surround sound from only two (or three) front speakers. The Pro-Logic or Dolby Digital® surround channel is processed by a 'virtualizer' DSP to add the surround effect from just the front speakers. The Philips virtualizer algorithm on the 'DUET' DSP is the current state of the art reference for virtual surround sound processing.

'Hall' feature - For use with non-surround sound sources in order to create a cinema effect through normal stereo with rear speaker sound. This 'simulated' surround provides an extra musical ('live') ambience to stereo sound.

Screw terminals - For left, right and center speaker connection ensures a loss-less flow of electrical signals from the set to all main loudspeakers.

Sound Enhancement

Equalizer Smart Sound - Has 5 modes, specially designed to match the sound of various TV (and Audio) programs. 'Speech' is used for news, discussions and talk show programs. 'Music' is used for music programs. 'Movie' is used for movies or TV-series or soaps. 'Multi-Media' is used when video games are connected to the TV. 'Personal' corresponds with the bass and treble setting chosen by the user.

Convenience

Digital inputs and output - 3 digital inputs (2 coax, 1 optical) are foreseen to connect digital sound sources (e.g. DVD player, CD player and Digital TV). A digital output connection (coax) is foreseen to enable digital (CD) recordings from any of the digital inputs. The output can provide a down-mixed (stereo) DVD multi-channel sound signal in order to record from DVD to e.g. CD-R.

Night mode - Establishes dynamic range compression of digital sound to reduce the volume differences between the loud and soft passages in source material with digital surround sound where sound level differences can be so dramatic. This feature is especially useful at night when you don't want to disturb the neighbors or wake up the kids!

Video Connections - 4 video input connections and 2 outputs (incl. monitor) are foreseen to hook up video sources. As these video inputs switch simultaneously with the audio inputs, correct picture with correct sound is guaranteed.

Front A/V, Game Input - For quick and easy connection to e.g. a camcorder or video game.

Easy hook up - With color coded speaker connections for quick and easy connection of all loudspeakers. By using distinct colors for each of the speaker connection terminal on the speaker and on the set, and using the same color for the cable, the chance of faulty connection (and customer complaints) are practically zero!

Cinema Link System Control Bus - When connected to a Philips TV with 'Cinema Link' (and even better, in addition a Philips VCR and/or DVD player), the combination offers an interesting range of extra user benefits: One Touch Cinema - upon starting your e.g. DVD disc, the complete system will automatically switch to the correct source and sound mode. High Resolution OSD - the onscreen display of the television will feature the 'receiver' menu option. This option can be used for easier receiver set-up and receiver settings. Multiple Languages - depending on the languages offered by the TV (likely are Spanish, French and English) the user can operate the set via the TV menu in his/her native language. TV as Center speaker - allows to get rid of the separate center speaker and use all the speakers and amplifiers in the TV to function as center speaker (most large screen Philips TVs provide over 50W of sound pressure). One Touch End - puts your complete home theater system into standby after some exciting hours of cinema enjoyment.

51-key Audio/Video Multi Brand Universal remote control - To operate all main receiver functions and Philips, Magnavox or any other mainstream branded CD player, tape deck, VCR, television and DVD player, Satellite or cable box! The remote will operate your non-Philips/Magnavox equipment by simply entering a code from the instruction manual in the remote control. The remote has a clear ergonomically designed lay-out (see picture).

30 tuner presets with station name display - The available tuner presets can be randomly used to store AM and FM stations (30 in total). Each of the presets can be given a user defined name of up to 8 characters. Giving the preset a name is as easy as 1-2-3 with the menu navigator.

Tuner sensitivity adjustment - The tuner sensitivity to pick up radio stations can be set to high and low. In case of low, only the 'strong' stations will be picked up during a search. When even some of the weaker stations are of interest, the 'low' option will pick up every station the tuner can possibly receive.

2 switched mains outlets - Allows to connect another HiFi component. Switching the receiver to standby will automatically switch off the connected set.

Standby power <2W - To help save energy consumption, the standby transformer of this set has been designed not to consume more than 2 Watt in standby mode.

Design

Display brightness adjustment - Conveniently adjusts the brightness of the display in 3 steps.

Harmonized Philips Home Cinema Components Design - The design of this component follows the design language of the Philips Harmonized Home Cinema design. Characteristics of this design language are stylish, simple, capable, powerful and rich. All Philips Home Cinema components and HiFi components will follow this design (e.g. VCR, CD Changer, CD Recorder, DVD, etc).

Connections

- | | |
|--|--|
| • Audio inputs/outputs | 7 analogue input sources,
3 analogue output connections |
| - Phono | : in |
| - CD | : in |
| - CDR/Tape | : in/out |
| - TV | : in |
| - SAT | : in |
| - VCR | : in/out |
| - Front A/V Game | : in |
| - DVD | : see digital audio inputs/outputs |
| - Headphone | : 6.3mm |
| • Digital audio in/output | 3 digital input sources,
1 digital output connection |
| - 2 digital coax connections: | : in |
| - 1 optical to slink connection | : in |
| - 1 digital coax connection | : out |
| • Video inputs/outputs | 4 input sources,
2 output connections |
| - DVD | : in |
| - SAT | : in |
| - VCR | : in/out |
| - Front A/V Game | : in |
| - Monitor | : out |
| - Front A/V Game | : in |
| • Speaker Connections suitable for speakers \geq 6 Ohm | |
| - left, right, center | : screw type connection |
| - rear left, right | : click-fit connection |
| • Miscellaneous connections | |
| - Cinema Link System control bus | : 1 |
| - subwoofer pre-out | : 2 |
| - center pre-out | : 2 |
| - mains outlet | : switched 2x |
| - AM antenna | : loop type |
| - FM antenna | : click-fit 300 Ohm |

UPC Code: 0 3794 987774 6

Product Dimensions:

17.1" W x 5.3" H x 13.8" D (set)

8.6" W x 16.6" H x 7.6" D (l/r, center and rear speakers)

17.1" W x 5.2" H x 4.8" D (center speaker)

9.3" W x 12.2" H x 14" D (subwoofer)

Product weight: 20.7 lbs.

Package Dimensions:

37.8" W x 20.7" H x 22.1" D

Total package weight: 68.3 lbs

Carton contains: receiver FR960/17, remote control, batteries, instruction for use, AM + FM antenna, quick installation card, warranty information, 6 loudspeakers (incl. subwoofer), loudspeaker cable (L/R: 2x13ft, C: 1x10ft, S: 2x39ft), subwoofer mains + connection cable, 'Cinema Link' cable

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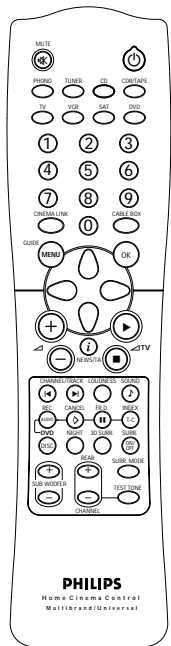
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* Dolby Digital laserdisc use requires optional AC-3 RF demodulator



Technical Specifications

Connections

- Audio inputs/outputs 7 analogue input sources, 3 analogue output connections
 - Phono : in
 - CD : in
 - CDR/Tape : in/out
 - TV : in
 - VCR : in/out
 - Front A/V Game : in
 - SAT : in
 - DVD : see digital audio inputs/outputs
 - Headphone : 6.3 mm
- Digital audio inputs/outputs 3 digital input sources, 1 digital output connection
 - 2 digital coax connections : in
 - 1 optical toslink connection : in
 - 1 digital coax connection : out
 - acc spdif acc. IEC 60958
- Video inputs/outputs 4 input sources, 2 output connections
 - DVD : in
 - SAT : in
 - VCR : in/out
 - Front A/V Game : in
 - Monitor : out
 - Front A/V Game : in
- Speaker connections suitable for speakers ≥ 6 Ohm
 - left, right, center : screw connection
 - rear left, right : click-fit connection
- Miscellaneous connections
 - Cinema Link System Control Bus connection
 - subwoofer pre-out : 1
 - center pre-out : 2
 - mains outlet : 2 (maximum 120W total)
 - AM antenna : loop type
 - FM antenna : click-fit 300 Ohm

Amplifier

- Power output stereo mode 6 Ohms, 40Hz-20KHz, 0,7% THD
 - left, right : 2 x 100 W
- Power output surround mode 6 Ohms, 1KHz, 0,7% THD
 - left, right : 2 x 100 W
 - center : 100 W
 - rear left, right : 2 x 50 W
- Amplifier characteristics
 - total harmonic distortion : 0.05 % (1 kHz, 1W output)
 - power bandwidth (D<0.7%) : 40 Hz – 20 kHz
 - frequency response (linear) : 20 Hz – 20 kHz, ± 3 dB
 - signal-to-noise ratio (weighted): > 82 dBA, (acc. IHF, 1 kOhm)
 - stereo separation : ≥ -65 dB, 1 kHz
- Controls
 - bass : 100 Hz, (-10dB ... +10dB)
 - treble : 10 kHz, (-10dB ... +10dB)
 - loudness : +6 dB (100Hz,-30dB), +3 dB (10kHz,-30dB)
- Surround
 - modes : Dolby Digital AC-3, ProLogic, Center Phantom, 3-Stereo, Hall
 - delay - rear : 15 to 30ms (steps of 5ms)
 - delay - center : 1 to 5 (steps of 1ms)
- Audio input sensitivity
 - Phono : 5 mV / 47 kOhms
 - CD : 250 mV / 47 kOhms
 - CDR/Tape : 250 mV / 47 kOhms
 - TV : 250 mV / 47 kOhms
 - VCR : 250 mV / 47 kOhms
 - SAT : 250 mV / 47 kOhms
- Audio output sensitivity
 - CDR/Tape : 250 mV / 1 kOhm
 - VCR : 250 mV / 1 kOhm
 - subwoofer pre-out : 3V / 1 kOhm
 - center pre-out : 0.8 V / 1 kOhm
 - headphone : 3V / 120 Ohm

Tuner section

- FM section
 - wave range : 87.5 – 108 MHz
 - Sensitivity at 75 Ohm
 - Mono 26 dB S/N : 17 dBf
 - Stereo 46 dB S/N : 41 dBf
 - Selectivity : 55 dB at 300 kHz
 - Distortion mono/stereo : 0.9%, 0.8%
 - Frequency response : 63Hz-12.5kHz, ± 1 dB
 - S/N ratio mono/stereo : 60 / 55 dB
 - Stereo separation (1KHz) : 27 dB
 - Image rejection : 48 dB
 - IF suppression : 85 dB
 - Sub carrier suppression
 - for 19 KHz : 30 dB
 - for 38 KHz : 50 dB
- AM section
 - Wave ranges : 530-1700 kHz
 - Sensitivity : 1.5 V/m
 - Selectivity : 30 dB
 - IF rejection : 64 dB
 - S/N ratio : 48 dB

General

- Power supply
 - mains voltage : 120V, 60Hz
 - power consumption : < 2W (in standby)
 - electrical requirements : $\approx 170W$ (in 5 channel operation)
 - UL, FCC stereo
- Remote control
 - keys : 51-keys
 - codes : RC5, RC6
 - type : Universal/Multibrand
- Set
 - material / finish : metal, hot-stamp foil on ABS
 - dimensions (incl. feet) : 17.1" x 5.3" x 13.8" (W x H x D)
 - display : 2 color starburst FTD
 - weight : 20.7 lbs
- Speakers
 - left, right, rear : 8.6" x 16.6" x 7.6" (W x H x D)
 - center : 17.1" x 5.2" x 4.8" (W x H x D)
 - subwoofer : 9.3" x 12.2" x 14" (W x H x D)
- Package
 - dimensions : 37.8" x 20.7" x 22.1" (W x H x D)
 - weight (incl. set) : 68.3 lbs
- Accessories
 - remote control
 - 2 AA carbon/zinc batteries
 - speaker cables : 13 feet left, right, 10 feet center, 39 feet rear
 - subwoofer cinch cable
 - subwoofer mains cable
 - "Cinema Link" cable
 - instruction manual
 - quick installation card
 - warranty information
 - AM loop + FM wire antenna

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