

Back View of FR960



Sound Panel



Display Graphics



Menu Navigator



* Optional Touch Screen Remote : Philips 'Pronto'



* Recommended subwoofer : Philips FB301



* Recommended speaker package : Philips FB965



	/00	/14
Asia Pacific		
Latam		
Europe	•	
E Europe		•
tuner		
FM65.81 - 74 MHz	•	
FM87.5 - 108 MHz	•	•
MW522 - 1602 kHz	•	•
LW 153 - 279 kHz	•	•
RDS EON	•	•
mains supply		
120/230V 50-60Hz		
230V/50Hz	•	•

* not available in all countries

EAN Code: 87 10101 35710 2 (/00)
EAN Code: 87 10101 35714 6 (/14)

Product Dimensions:
435mm (W) x 135mm (H) x 350mm (D) (set)
Product weight: 8.6 kg

Package Dimensions:
519mm (W) x 216mm (H) x 488mm (D)
Package weight: 10.0 kg

Carton contains: Receiver FR960, remote control, batteries, instruction for use, AM loop + FM wire antenna, warranty information, scart audio adaptor (/00, /14)

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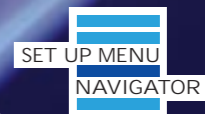
MATCHLINE

Digital Audio/Video Receiver

FR960

Digital Audio/Video Surround Receiver

- Integrated Dolby Digital® (AC-3), Dolby Pro-Logic® and MPEG Multichannel Surround Sound decoder
- 250 Watts Equal Surround Power Output : 5 x 50 Watts
- Stereo Power Output : 2 x 50 Watts (DIN, 1 kHz, 0.7% THD, 6 Ohm)
- Digital Surround Processing via DUET CORE
- Automatic Sound Type Detection (AC-3, MPEG, Dolby Pro-Logic® or PCM audio)
- 3D Virtual Surround for realistic Surround Sound without Rear Speakers
- 'Hall' feature for normal stereo with rear speaker sound (simulated surround)
- 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 Connection (coax) for Digital (CD) Recordings
- 3 Video Input and 2 Output Connections
- Screw terminals for Left, Right Center speaker connections
- 'Cinema Link' System Control Bus
- 51-key Audio/Video MultiBrand Universal Remote Control
- Menu Navigator Rotary Knob for quick set-up
- RDS EON with Traffic Announcement and NEWS! (/00, /14 only)
- Harmonized Philips Home Cinema Components design



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Sound Enhancement

Digital Surround Sound - Available on DVD, Laserdisc* and satellite broadcasts. Digital Surround 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. Dolby Digital (also known as AC-3 or Dolby 5.1) and MPEG Multichannel delivered the expanded sense of depth, localization and overall realism which was formerly only known from digital surround sound equipped cinemas.

MPEG MultiChannel Sound - MPEG MultiChannel is an audio coding method for digital multichannel surround sound just as Dolby Digital (AC-3) is. Next to Dolby Digital, MPEG MultiChannel is the alternative coding format for DVD. With MPEG as the (exclusive) audio coding format for multi channel digital TV broadcasting in Europe, the Philips receiver guarantees compatibility for the near future - making its purchase a save investment.

250W surround power output: - The five, 3x50W (left, right, center) and 2x50W (rear), receiver amplifiers deliver 250 Watts of home theater power. The stereo output power of 50W per channel is specified at 6 Ohm, DIN, 1 kHz 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.

Digital Sound Processing via DUET CORE - Philips Semiconductors is highly specialized in digital sound processing. One of their crown 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. Lastly DUET carries digital bass cross-over filters (for subwoofer signal) and 3rd generation virtualizer algorithms for highly realistic virtual surround.

3D Virtual Surround / Virtual Dolby Surround - A new Surround playback system that delivers amazingly rich and convincing surround sound from only the two or three front speakers. The Pro-Logic, MPEG or Dolby Digital surround channel is processed by a 'virtualizer' DSP to add 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.

Loudness, bass and treble control - Loudness is a dynamic sound adjustment that amplifies high and low frequencies depending on the volume (the higher the volume, the less the amplification). Thereby it creates 'richer' sound impression already at low volume. Bass and treble allows sound adjustment of high and low frequencies to personal preferences.

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

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, 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.

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

Subwoofer output connection - Affords easy access to greater dimensions in home theater sound with output signals made available for connections to a powered subwoofer.

Convenience

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!

Digitals input 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.

Video Connections - 3 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.

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 100W 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 or any other mainstream branded CD player, tape deck, VCR, television and DVD player, or Satellite receiver. The remote will operate your non-Philips 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. For RDS stations, station name, RDS clock and RDS text information is available. (/00, /14)

Convenience

RDS EON News & Traffic Announcement (TA) - Many RDS capable radio stations are of the so called EON (Enhanced Other Network) type. These stations are able to detect news broadcasts and traffic announcements of other stations in the same 'network'. The receiver display indicates when the active station is EON-capable. When 'News' and/or 'Traffic Announcement' are activated by the user, the tuner will automatically switch to the correct station when a news bulletin or traffic announcement is broadcasted. Afterwards the tuner conveniently switches back to the original station. News and TA not only work in tuner mode: when the receiver is set to any of its other sources (e.g. CD, VCR, CDR, etc.) it switches to the tuner whenever there is a news or traffic bulletin. Whatever you're listening to, Philips keeps you informed on the most recent traffic and news affairs! (Note : although all EON station offer TA, News might not be widely available in every country).

Set up Menu Navigator - The menu navigator rotary knob takes away many buttons from the set, thereby reducing complexity and enhancing usability of the set. The menu navigator is a menu-based user interface used for all kinds of initial set-up operations (speaker set-up, tuner installation etc.) Via icons in the display, the system conveniently guides the user to the next step in the receiver set-up. In normal mode, the menu rotary functions as tuner preset dial.

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 2 other HiFi components. 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.

Scart audio adapter - For easy connection between TV and VCR or DVD. (cable includes 'Cinema Link' connection) (/00, /14)

Design

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, DVD, etc).

Display - Color and graphic/character size are defined such that visibility remains clear even at larger distances. Speaker icons are used to show the actual sound mode.

Remote Control - The form of the remote control has proven very successful in usability test. The weight, shape and button follow the book in terms of ergonomic design, thereby offering maximum convenience.

Technical Specifications

Connections

- Audio inputs/outputs : 6 analogue input sources, 3 analogue output connections
 - Phono : in
 - CD : in
 - CDR/Tape : in/out
 - TV : in
 - VCR : in/out
 - 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
 - all spdif acc. IEC 60958
- Video inputs/outputs : 3 input sources, 2 output connections
 - DVD : in
 - SAT : in
 - VCR : in/out
 - Monitor : out
- 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 : 2
 - subwoofer pre-out : 1
 - center pre-out : 2
 - mains outlets : 2 (maximum 100W total)
 - AM antenna : loop type
 - FM antenna : coaxial 75 Ohm

Amplifier

- Power output stereo mode 6 Ohms, DIN, 1 KHz, 0,7% THD
 - left, right : 2 x 50W
- Power output surround mode 6 Ohms, 1KHz, 0,7% THD
 - left, right : 2 x 50W
 - center : 50W
 - rear left, right : 2 x 50W
- Amplifier characteristics
 - total harmonic distortion : 0.04 % (1 kHz, 25W output)
 - power bandwidth (D<0.7%) : 40 Hz – 20 kHz
 - frequency response (linear) : 20 Hz – 20 kHz, ± 3 dB
 - signal-to-noise ratio (weighted) : > 80 dBA, (acc. IHF, 1kOhm)
 - 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, MPEG Multichannel, Pro-Logic, Center Phantom, 3-Stereo, Hall
 - delay rear : 15 to 30ms (steps of 5ms)
 - center : 1 to 5ms (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
 - DVD (digital) : t.b.d.

Amplifier

- Audio output sensitivity
 - CDR/Tape : 250 mV / 1 kOhm
 - VCR : 250 mV / 1 kOhm
 - subwoofer pre-out : 3V / 1 kOhm
 - center pre-out : 2.5V / 1 kOhm
 - headphone : 3V / 120 Ohm

Tuner (typical values)

- FM section
 - wave range : see table on back side
 - Sensitivity at 75 Ohm
 - Mono 26 dB S/N : 17 dBf (/14, /01)
15 dBf (/00)
 - Stereo 46 dB S/N : 41 dBf
 - Selectivity : 55 dB at 300 kHz
 - Distortion mono/stereo : 0.9%, 0.8% (/14, /01)
0.85%, 0.3% (/00)
 - Frequency response : 63Hz-12.5KHz, ±1dB
 - S/N ratio mono/stereo : 60 / 55 dB
 - Stereo separation (1KHz) : 27 dB (/14, /01)
35 dB (/00)
 - Image rejection : 48 dB (/14, /01)
100 dB (/00)
 - IF suppression : 85 dB (/14, /01)
100 dB (/00)
- Sub carrier suppression
 - for 19 KHz : 30 dB
 - for 38 KHz : 50 dB (/14, /01)
37 dB (/00)

- AM section
 - Wave ranges : see table on back side
 - Sensitivity (MW) : 1.5 V/m
 - Selectivity : 30 dB
 - IF rejection : 64 dB (/14, /01)
50dB (/00)
 - S/N ratio : 48 dB (/14, /01)
50dB (/00)

General

- Power supply
 - mains voltage : see table on backside
 - power consumption : < 2W (in standby)
≈ 170W (in 5 channel operation)
- electrical requirements : IEC65, FCC stereo
- Remote control
 - keys : 51-keys
 - codes : RC5, RC6
 - type : Universal
- Set
 - material / finish : metal, hot-stamp foil on ABS
 - dimensions (incl. feet) : 435mm x 135mm x 350mm (W x H x D)
 - display : 2 color starburst FTD
 - weight : 9.4 Kg
- Package
 - dimensions : 519mm x 216mm x 488mm (W x H x D)
 - weight (incl. set) : 10.0 kg
- Accessories
 - remote control
 - 2 AA carbon/zinc batteries
 - instruction manual
 - warrantee information
 - AM loop + FM wire antenna
 - scart audio adaptor (/14, /01)

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