

HR-752

100-watt/ch. Remote Control Receiver

HR-722

60-watt/ch. Remote Control Receiver

- Silver Seven
- Transfer Function Modified
- Low impedance drive capability
- Sonic Hologram Generator
- Asymmetrical Charge-Coupled FM Detection circuit
- 6 audio inputs
- CD Direct bypass
- 20 random FM/AM presets
- 5-sec. sequential preset scan
- Auto/manual tuning
- FM stereo/mono
- 3-band tone controls
- Dual tape monitors w/dubbing
- 38-function remote control
- Motorized volume control
- Remote compatible w/Carver single-play CD Players
- 4 convenience outlets
- Headphone monitor jack
- A/B speaker switching
- Matrix surround sound synthesizer (HR-752 only)
- Pre/main outputs (HR-752 only)

RECEIVER INFO

What's the Difference?

The HR-722 and HR-752 FM/AM Stereo Receivers differ in three ways:

1. **Different power** (60 watts RMS per channel versus 100 watts RMS per channel).
2. **Matrix surround sound in the HR-752.** This feature is not to be confused with Dolby™ Surround decoding but can provide a pleasant 3-dimensional ambience to all types of inputs.
3. **Pre/main outputs on the HR-752.** This allows you to, at some future time, use just the preamp and tuner portions of the receiver while adding a more powerful amplifier.

Unique Carver Technology Combined with Convenient Features

The HR-722 and HR-752 represent two of the finest electronics values available today. Each is actually a combination of three quality separates: a Carver power amplifier which has been Transfer Function Modified, a Carver FM/AM tuner with Asymmetrical Charge-Coupled FM Detection and a Carver Sonic Holography® preamplifier. All combined into a single high-tech component which takes up less than two cubic feet of shelf space.

These three exclusive Carver technologies provide audible sonic improvements which aren't offered in any other brand of stereo receiver.

In addition, you'll come to appreciate the utility of features like CD Direct, 3-band tone controls, Mono FM and remote compatibility with Carver Compact Disc players.

Better FM Reception from Weak or Interference-Prone Stations

ACCD provides more listenable stereo than you've ever heard before from low-power,

distant or multipath-ridden stations. Multipath distortion is that annoying whooshing, sputtering or "picket-fencing" sound that comes and goes and makes many stations unlistenable. It's caused by reflections from buildings, hills and even large vehicles on nearby freeways and can be compared to an audio version of TV "ghosting", since it's caused by the same things. ACCD can dramatically reduce these problems and can also add up to 23dB of signal-to-noise ratio (S/N), making faint stations emerge from background hiss into sharp clarity.

ACCD works by compensating for inherent limitations of stereo FM broadcasting. FM radio began as a MONOphonic process. Only many years later was stereo added. The FCC demanded that the process be compatible so that

mono FM receivers wouldn't be obsolete. The result was the addition of a second signal, called the *Left-Minus-Right Difference* Signal. Unfortunately, this L-R signal is extremely "fragile" and prone to multipath interference (that's why pressing the MONO button on a tuner often gets rid of the problem — at the price of losing stereo). It's this L-R signal component that, when degraded, causes noise and distortion problems, usually induced by multipath reflections off hills, buildings, the ground...whatever.

ACCD Reconstructs "Broken" Signals

Bob Carver discovered that only 15% of the L-R signal is different than the basic mono signal. Of this, only 2%-3% is *really* necessary to create the ambient information needed for stereo reproduction.

If this tiny amount of the overall L-R signal is unaffected by interference, the Asymmetrical Charge Coupled FM Detector can actually recreate the rest of the L-R (stereo) signal, filtering audible interference and delivering nothing but quiet, noise-free stereo FM.

Here's what audio critics have said about ACCD's incredible powers:

"What distinguishes (it) is its ability to pull clean noise-free sound out of weak or multipath ridden signal that would have you lunging for the mono switch on any other tuner we know of..." — High Fidelity

"A breakthrough in FM tuner performance." — Audio Magazine

"Under conditions of weak signal stereo reception, the effectiveness is almost magical." — Ovation Magazine

"A major advance. Its noise reduction of stereo reception ranged from appreciable to tremendous. It makes the majority of stereo signals sound virtually as quiet as mono signal, yet it does not dilute the stereo effect." — Stereo Review

Please note that ACCD cannot work miracles, however. If the entire L-R stereo carrier is "destroyed", you will need to use the HR-722/HR-752's conventional FM MONO button. But not very often.

A Powerful Amplifier Section with a Pedigreed Sound

Carver is legendary for its power amplifiers and the HR-722 and HR-752 are no exceptions. They DELIVER with tight, authoritative bass, stunning dynamic peaks and the ability to unflinchingly handle 4-ohm loads found in many current speaker designs. But *quantity* of watts must also be balanced with *quality* of sound. That's where *Transfer Function Modification* comes in.

(continued on the back page)

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HR-752 • HR-722

Remote Control FM/AM Sonic Holography® Stereo Receivers

HEADPHONE JACK driven by a separate internal amplifier designed to provide correct voltage and current gain for all conventional dynamic headphones with impedance ratings from a few ohms to several thousand ohms.

POWER SWITCH also affects the SWITCHED convenience receptacles on the back of the unit and includes an electronic "clammer" to mute the main outputs and headphone output during turn-on and turn-off to reduce loud transients which could damage a speaker system.

PRESET BUTTONS allow you to preset up to 20 different AM and FM stations in any combination. Each of ten buttons are numbered with two different presets: For example, 4 and 14. All 20 presets may also be recalled from the HR-722/HR-752's remote control.

PRESET SCAN plays a 5-second sample of each station preset, beginning with Preset 1, continuing through Preset 20 and then starting again with Preset 1. When you have found a station you want to keep listening to, press **PRESET SCAN** again. The preset scan process will stop and the receiver tuning section will remain on the preset which has been selected.

MEMORY BUTTON used to record station presets.

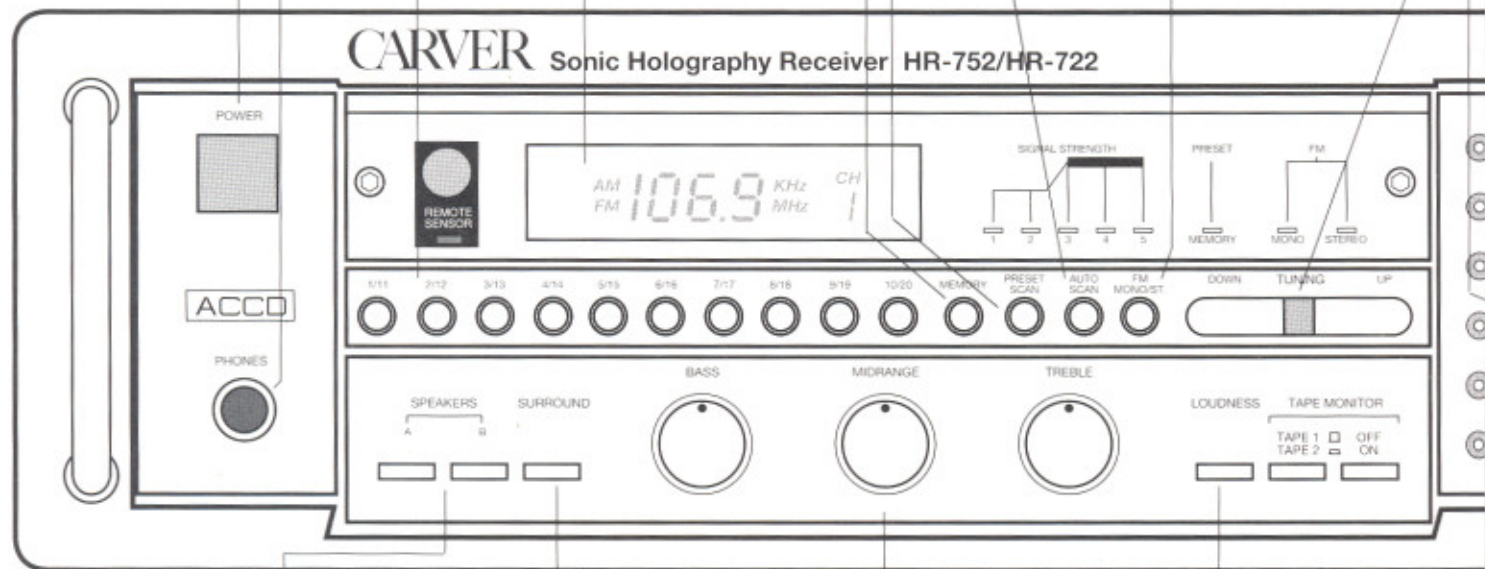
DISPLAY including the tuning section's digital frequency read-out, AM/FM light and channel (preset) displays, 5-LED signal strength meter, preset memory light and FM stereo/mono lights.

FM MONO/STEREO. The HR-722 and HR-752's ACCD FM signal processing circuitry does a remarkable job of salvaging bad FM reception. However, it does need a certain small percentage of clean stereo signal to work with. When this is not present, switching to **MONO** will eliminate multipath distortion (and, of course, stereo).

AUTO SCAN stops at every strong AM or FM station which can be tuned by the receiver.

CD DIRECT. While the HR-722 and HR-752's electronics are unusually noise and distortion-free, some serious listeners wish to hear a CD through the shortest possible signal path. Pressing the **CD DIRECT** button eliminates the Sonic Hologram Generator and tone control circuitry between the CD input and the receiver's power amplifier stage. Only **BALANCE**, **VOLUME** and **LOUDNESS** are operable. We encourage you to experiment with this option.

UP/DOWN TUNING. For manual tuning, simply press the **UP** or **DOWN** portion of this rocker switch. This function is also available on the HR-722/HR-752's remote control.



A/B SPEAKER SWITCHES. Connect two sets of 8-ohm speakers and play either or both of them at the same time.

SURROUND (HR-752-ONLY!) The HR-752 lets you use the "B" set of speaker output terminals to provide rear channel ambience. This is a

matrix surround sound effect created with L-R and L+R portions of the stereo signal and provides a dramatic 3-dimensional

spaciousness, that enhances many types of music and video soundtracks. The rear channel speakers do not need to be as large as front channel speakers.

LOUDNESS, a special equalization circuit designed for realistic music reproduction at low, "background" listening levels which gently boosts high and low frequencies, creating a more balanced sound at background listening levels.

BETTER RECEPTION WITH A.C.C.D

1. **FM STEREO** is composed of L+R (sum or mono) and L-R (difference or ambience) signals. The tuner recombines these to create stereo.



2. **FM STEREO MULTIPATH** interference causes most of the fragile L-R signal to become unusable. Conventional tuners are "confused" and create the abrupt, annoying sounds we hear as multipath interference.



3. **ACCD "FILTRATION"** analyzes & separates the unusable portion of the L-R signal. As little as 15% of the remaining L-R is then passed to the next ACCD stage.



4. **ACCD "RESTORATION"** uses a proprietary Leading Edge Detector to process the remaining undistorted L-R signal and carefully interleave it back into the receiver's FM PLL tuning matrix.



TREBLE, MIDRANGE AND BASS TONE CONTROLS. In addition to bass and treble, a midrange control has been provided which is especially useful for making vocals more distinct or "backing off" recordings which have so much midrange that they are aurally fatiguing. For all three controls, maximum rotation in either direction produces +8dB of equalization with band centers at 100Hz, 1kHz, and 10kHz.

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EXCLUSIVE • FEATURE

ACCD, Carver's proprietary circuit which can significantly reduce noise and interference in FM stereo broadcasts. It can "clean" up a station which previously was so ravaged by annoying bursts of multipath distortion as to be unlistenable. You may also discover that distant stations which were buried in "hiss" are now considerably clearer sounding, yet with full stereo separation.

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EXCLUSIVE • FEATURE

HOLOGRAM activates the Sonic Holography® sound processing circuits in the HR-722/HR-752. This feature is also available via the receiver's remote control unit.

SOURCE buttons give you a choice of up to 6 plus two tape inputs. An appropriate LED will light up next to the sound source button when pushed (or selected by remote control).

BALANCE CONTROL. Its sweep is intentionally not linear. That is, small movements off center produce smaller shifts in the stereo image per degree of rotation than near the extreme left and right positions. This makes slight adjustments more convenient.

VOLUME CONTROL with inset LED. It is motorized so that when you change volume with the remote control, the knob automatically rotates.

LIVE SOUND: Primary arrivals come from all directions. Your brain processes the differences in intensity between both ears and creates a 3-dimensional aural "image".



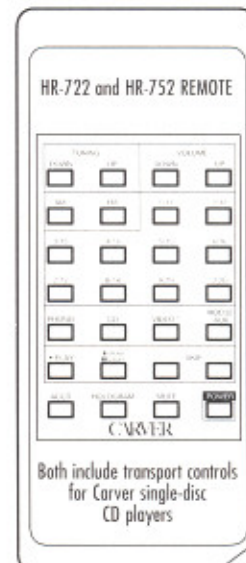
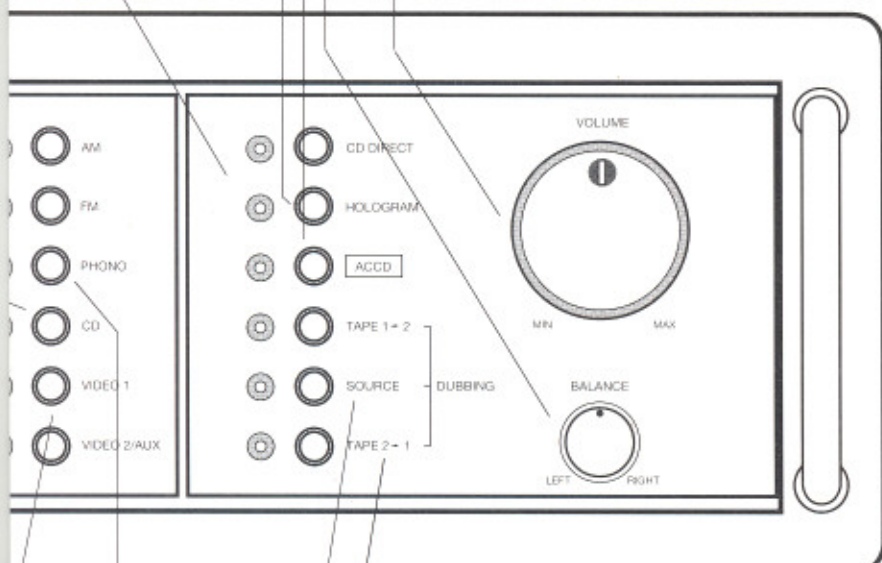
CONVENTIONAL STEREO: Primary arrivals come from just two points. But additional secondary sound arrivals reach the opposite ("wrong") ear, confusing your brain, compressing and distorting the aural image.



SONIC HOLOGRAPHY®: Confusing secondary arrivals are cancelled, leaving just the same kind of primary arrivals as live music. A large measure of 3-dimensionality is restored and soundstage size is vastly increased.



SONIC HOLOGRAPHY® RESTORES REALISM



PREAMP/MAIN CONNECTIONS (HR-752 ONLY). A receiver is actually a separate preamplifier, power amplifier and tuner in one chassis. The PREAMP outputs and MAIN inputs on the back of the HR-752 allow you to make use of preamplifier/tuner and power amplifier section independently. Add more power by upgrading to a Carver Magnetic Field Power Amplifier but keep your familiar and proven tuner and preamplifier functions. Or add other signal processing devices such as an electronic crossover and subwoofer.

PHONO INPUT is designed to receive the input of standard moving magnet cartridges which produce at least 5mV of signal.

DUBBING - SOURCE routes one of the receiver's input sources (AM, FM, CD, etc.) to either TAPE 1, TAPE 2 or both for recording.

DUBBING - TAPE 1->2 AND 2->1 allows copying material from one cassette deck to another without changing any patch cards.

VIDEO 1 and VIDEO/AUX are intended for the stereo outputs of a VCR, laser disc player or stereo TV tuner. Note, however, that both the VIDEO and CD inputs may be used with any line level audio source such as a satellite video sound input, second CD player, LDP, etc.

AM ANTENNA BRACKET & INPUT. The loop antenna provided is adequate for good AM reception in most areas and may also be wall-mounted with the supplied bracket.

TAPE 1 AND TAPE 2 MONITOR buttons activate the HR-722/HR-752's two tape monitor loops. When

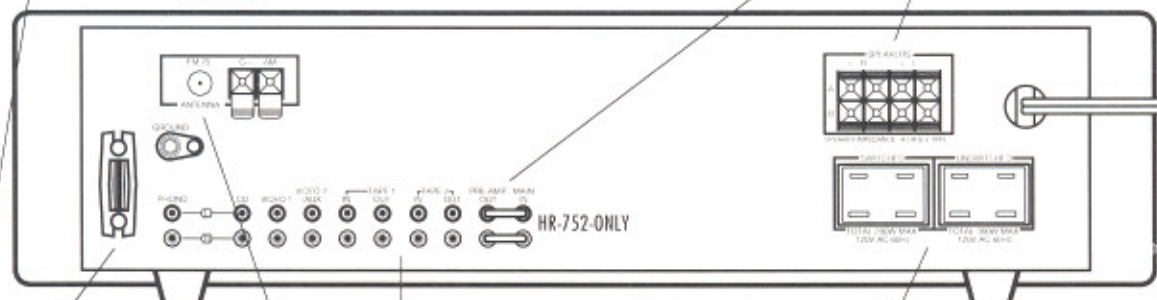
75-OHM/300-OHM FM ANTENNA TERMINALS. A 300-ohm dipole antenna and balun adaptor are also supplied.

one or the other is pressed in, playback from the deck which is connected to that tape monitor loop.

CONVENIENCE OUTLETS. SWITCHED are only live when the receiver's power switch is pushed and are useful for other components which

Quick-connect lever-type **SPEAKER TERMINALS** for two sets of 8-ohm speakers.

are used each time the system is played. The **UNSWITCHED AC outlets** are always live as long as the HR-722/HR-752 is plugged in. A device plugged here may be left permanently on, or may be switched off with its own switch.



HR-752 HR-722

The Silver Seven, "Amplifier of the Decade"

Bob Carver recently introduced a \$17,500 tube amplifier design which has awed the high-end, esoteric audiophile world and has been hailed as the "Amplifier of the Decade". This wouldn't be news to those of us on a slightly smaller budget except for Bob Carver's perseverance in making good sound affordable to all.

Every amplifier design exhibits a unique relationship between its input and output signals. Like human fingerprints, this transfer function is distinct, defining much of the sonic character of the design. Bob Carver has perfected the art of precisely measuring transfer function and then closely duplicating it in another design. This process is not magic and can't make a cheap amplifier into an expensive sounding one. But the HR-722 and HR-752 have extremely rugged amplifier sections which work well with the *Transfer Function Modification* process.

Each has been optimized so that their sound parallels that of the Silver Seven Reference Amplifier within **99 parts out of 100** (a 40dB null). You enjoy a warmer, richer, more natural sound, free from the harshness which plagues many solid state designs.

Closer to Reality: The Magic of Sonic Holography®

Conventional stereo sound is an illusion, and for some listeners not a particularly successful or convincing one. Stereo reproduction is subject to fundamental distortions of spatial perspective, sufficiently severe that no six-year-old with normal hearing will be fooled into confusing a stereo playback with a real, live sonic event.

In reality, sound approaches you not just head on but from the sides and from behind. It reverberates through a room, giving you cues as to not only the position of the performers but your position as well.

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EXCLUSIVE • FEATURE

successful or convincing one. Stereo reproduction is subject to

Because both of your ears hear sound from both stereo speakers, the sonic cues which define live music are garbled. Sonic Holography® restores timing and phase information that now exists in stereo sources such as CD's, tapes, records, FM broadcasts, VHS Hi-Fi video soundtracks etc., but has been inaudible with normal stereo components. You don't need special speakers or specially encoded music sources.

With Sonic Holography®, stereo information blossoms in three-dimensional space around the listener. The precise location of instruments and voice can be pinpointed. And you don't need a trained ear to notice the difference. Suddenly the listening field extends wider, higher and deeper than the speakers. You are literally immersed in the performance. But don't take our word for it. Consider what major audio magazines have said about Sonic Holography®.

"When the lights were turned out we could almost have sworn we were in the presence of a real live orchestra." — Popular Electronics

"The effect strains credibility—had I not experienced it, I probably would not have believed it...the 'miracle' is that it uses only the two normal front speakers." — Stereo Review

"(It)...seems to open a curtain and reveal a deployment of musical forces extending behind, between and beyond the speakers." — High Fidelity

Let Your Ears Convince You

Visit your nearest Carver dealer and do some serious listening. Tune a multipath-ridden station on a conventional receiver and then hear how ACCD lets the HR-722 and HR-752 cut through the interference. Put on a favorite CD and hear the effect of Sonic Holography® versus conventional stereo through any other receiver. Pick a pair of 4-ohm speakers and crank up the sound to prove to yourself just how gutsy the amplifier sections are in the HR-722 and HR-752.

Then take home a receiver that will give you years of listening enjoyment. A product of the unique American innovation that sets Carver apart from the competition.

Specifications

HR-722

60 watts RMS per channel,
both channels driven into 8 ohms
from 20-20kHz with less than 0.5% THD
90 watts RMS per channel,
both channels driven into 4 ohms
from 20-20kHz with less than 0.5% THD

HR-752

100 watts RMS per channel,
both channels driven into 8 ohms
from 20-20kHz with less than 0.5% THD
150 watts RMS per channel,
both channels driven into 4 ohms
from 20-20kHz with less than 0.5% THD

BOTH:

Frequency Response:
20-20kHz ±1 dB

S/N:

85dB IHF A-weighted

IM Distortion (CCIR or SMPTE):
less than 0.5%

THD:

0.5% or less, at rated power

TIM:

unmeasurable

Phono Gain:

36dB

Phono S/N:

78dB IHF A-weighted

Tone Control Turnover Frequencies:

100Hz, 1kHz, 10kHz

Sonic Hologram® Generator Image Resolution:

5° horizontal, 20° vertical

FM IHF Usable Sensitivity:

12.3dBf (2.2 µV) mono

FM Sensitivity for 50dB quieting (mono):

2.8µV

FM S/N:

78dB

FM IF Rejection:

82dB

FM Capture Ratio:

3.0dB

FM Harmonic Distortion:

0.15%

AM Suppression:

62dB

Stereo Separation:

46dB@1kHz

AM THD (2mV) 30% modulation:

1.2%

AM Selectivity:

50dB

AM Image Reject:

46dB

AM IF Rejection:

65dB

Weight:

21 lbs.

Dimensions:

4.5" H x 19" W x 14.5" D

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