

# new equipment reports

THE CONSUMER'S GUIDE  
TO HIGH FIDELITY EQUIPMENT

## STEREO RECEIVER FOR KIT ENTHUSIASTS



**THE EQUIPMENT:** Scott LR-88, a stereo receiver in kit form. Dimensions: front panel, 17½ by 5½ inches; depth behind, 13⅝ inches. Price: \$299.95. Optional wood case, Model KWW, \$29.95. Manufacturer: H. H. Scott, Inc., Maynard, Mass. 01754.

**COMMENT:** For do-it-yourself enthusiasts, Scott has designed a stereo FM/AM receiver which arrives as an orderly series of packaged parts and ends up, after a fair amount of soldering and fastening and adjusting, as a handsome, high-performing set. Discounting your own time, it's a very good buy on today's market, offering as it does a high-sensitivity tuner, a clean, medium-powered control amplifier, attractive styling, numerous features and hookup options—and a respectable AM section too. The unit reported on was built from the ground up, following the instructions furnished. Except for a defective capacitor, which Scott replaced free, no snags were encountered. Final adjustments, including FM touch-up for optimum performance, were made without professional instruments as per the instructions, and the results are those shown here. Sensitivity was clocked at 2.3 microvolts, an average-high figure for FM tuners generally and certainly better than average for this price class. Distortion was low on both mono and stereo. Capture ratio and signal-to-noise ratios both were very good; audio response remained linear within a few dBs variation to beyond 15,000 Hz. Both stereo channels were virtually perfectly balanced and amply separated, actually exceeding, across the midrange, the normal broadcast requirement of 30 dB separation. In our cable FM test, the set logged forty-nine stations of which thirty-one were judged good enough for long-term listening or off-the-air taping.

The amplifier portion furnished a jot less than 30 watts (continuous, RMS) power per channel, with both channels driven simultaneously into 8-ohm loads. For full rated output, harmonic distortion re-

mained under 1 per cent across most of the audio band, rising at the extreme ends. For half-rated output, harmonic distortion remained well under 1 per cent at any test frequency. IM distortion remained low and linear up to rated output. Sensitivity on all inputs was well suited for any external program source; signal-to-noise figures were excellent, being 65 dB or better on any input. The amplifier's frequency response spanned the normal 20 Hz to 20,000 Hz range within a 2 dB variation. As is true of every receiver in this price class we've tested, the extreme ends of the response range are rolled off so that power is conserved for the main part of the audio band. The set's tone control action was adequate; its high-frequency noise filter, effective; its disc playback equalization, accurate to within a few dB; its loudness compensation, not overly pronounced and quite agreeable.

The kit employs high-grade parts and, if instructions are followed scrupulously during the wiring and assembly, turns out to be a very well-built set—with securely mounted circuit boards, good shielding of critical areas, neat parts layout and wire-dressing, and smooth-operating controls. The front panel is divided into two halves, the upper being the kind that "disappears" when the set's power is turned off, and lights up when power is turned on to show the tuning dial—FM and AM channel markings and a logging scale. Two meters—one for center-of-channel tuning, the other showing relative signal strength—are provided. There's also a stereo indicator, and the tuning knob.

The lower half contains: stereo mike jacks, input selector (mike, phono, FM, AM, extra); channel balance knob, left and right channel separate bass and treble controls (dual concentric, friction coupled so that you can adjust both channels at once or each individually); loudness knob combined with the power switch. Push buttons cover loudness compensation, tape monitor, stereo/mono mode, noise filter, interstation muting, remote speakers off/on, and main

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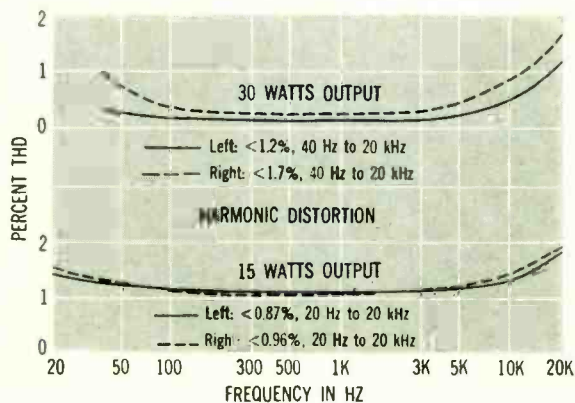
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speakers remote off/on. A stereo headphone jack is live at all times. At the rear are the inputs corresponding to the front panel signal selector, plus an extra set of high-level output jacks for driving an external power amplifier (for remote or additional sound systems to be controlled from the LR-88) or for feeding a tape recorder if you want to alter the signal by means of the LR-88's own controls. The usual tape in and out jacks also are provided. A preamp-sensitivity switch optimizes the phono inputs for different values of phono cartridge signal. Another adjustment sets the threshold for interstation FM muting. Speaker terminals permit connecting two separate sets of stereo speaker systems ("main" and "remote"); the remote output can be switched for stereo or mono, the latter being the recommended position for using one remote speaker as a center-fill sound source. Antenna terminals accommodate FM twin-lead and a long-wire AM antenna. There's also a built-in AM loopstick antenna for local reception. Two AC outlets (one switched), a power-line fuse, fuses for each output channel, and the set's line cord complete the rear complement. The LR-88 comes in its own metal housing with four rubber feet and so may be installed "as is" on a shelf or cabinet cut-out. Alternatively you can dress it up in the optional walnut case.

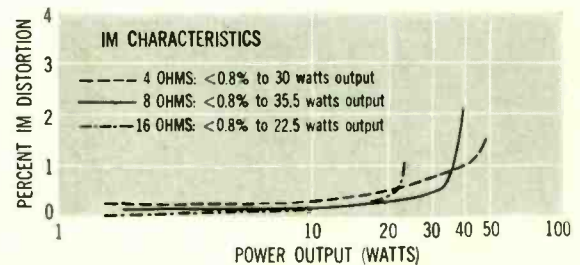
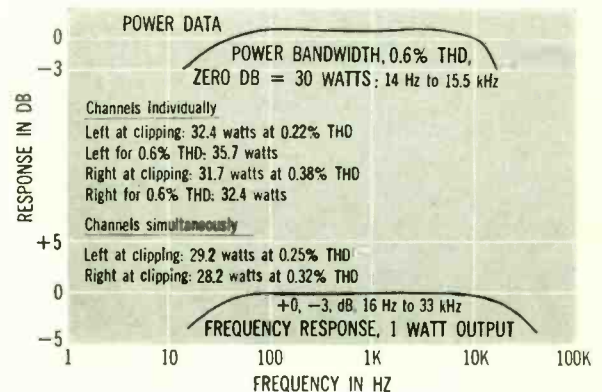
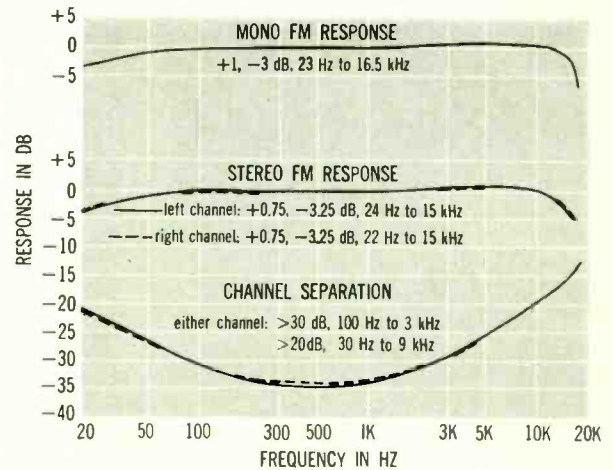
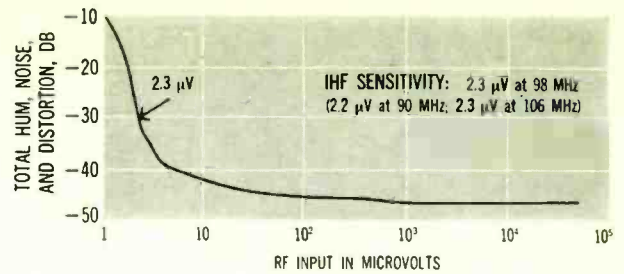
### HOW IT WENT TOGETHER

Parts for the Scott LR-88 receiver kit are packaged in numbered compartments of two large plastic trays; the instruction manual directs you to the particular compartment step by step. The manual's explicit text is augmented by very clear drawings, in which the particular wiring for each step is highlighted in color. The actual work includes mechanical assembly, wiring, and final adjustment of both the amplifier and tuner sections—the last item involving the use of a 15-watt electrical bulb and the set's own front panel meters as test indicators. The manual includes a glossary of high fidelity terms, advice on soldering, a section on basic audio theory, and advanced technical service information.

CIRCLE 141 ON READER-SERVICE CARD



Square-wave response to 50 Hz, left, and to 10 kHz.



## Scott LR-88

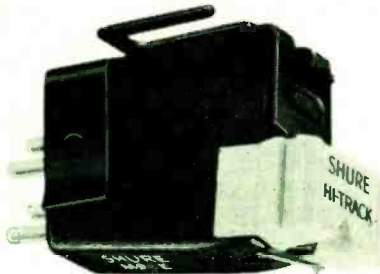
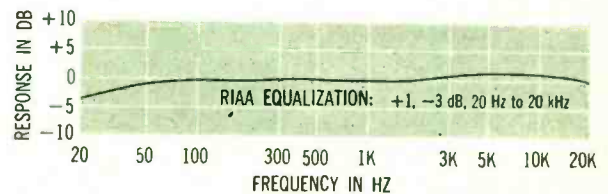
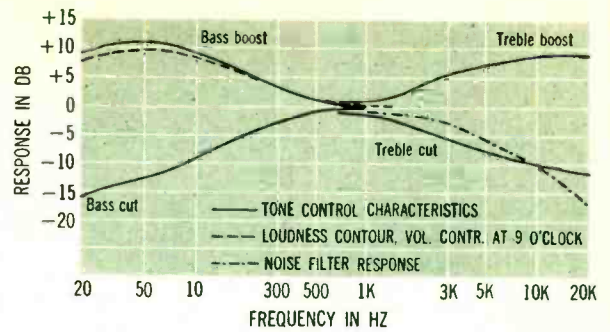
## Additional data

### Tuner Section

Capture ratio	2.8 dB		
S/N ratio	64 dB		
19-kHz pilot suppression	-43 dB		
38-kHz subcarrier suppression	-57 dB		
IM distortion	0.33%		
THD	mono	stereo, left	stereo, right
40 Hz	0.60%	0.94%	0.88%
400 Hz	0.50%	0.65%	0.54%
1 kHz	0.54%	0.33%	0.44%

### Amplifier Section

Input characteristics	Sensitivity	S/N ratio
phono, low	5.9 mV	67 dB
phono, high	3.6 mV	67 dB
mike, low	7.8 mV	68 dB
mike, high	4.8 mV	65 dB
extra	400 mV	74 dB
tape in	400 mV	70 dB

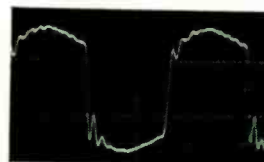
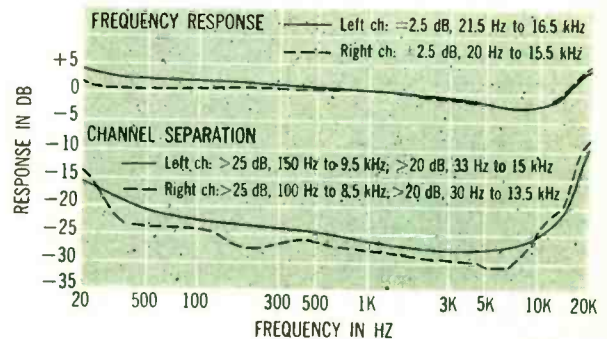


## CLOSE RUNNER-UP TO THE V-15 TYPE II

**THE EQUIPMENT:** Shure M91E, a stereo phono cartridge. Price: \$49.95. Manufactured by Shure Brothers, Inc., 222 Hartrey Ave., Evanston, Ill. 60204.

**COMMENT:** The M91E is the top model in Shure's recent series of "easy mount" cartridges which feature a retaining clip that fits into a tone-arm head and facilitates installing the pickup. It now occupies second place in Shure's complete line, being second only, in cost and performance, to the top-rated \$67.50 Model V-15 Type II [see HF test report, February 1967]. A light-weight, high-compliance model with elliptical stylus, the M91E is intended for use in low-mass tone arms, either separates or those found on today's high-quality turntable/arm combinations, manual or automatic.

The M91E is designed to track at 0.75 to 1.5 grams stylus force. In CBS Lab tests, a force of 0.8 gram was all that was needed to track the test bands of STR 100, and a force of 1 gram was found to be optimum (in the SME arm) for all subsequent tests, and for normal listening to commercial discs. Signal output was ample and well balanced on both channels, with 5 and 5.2 millivolts measured for left and right channels respectively. Frequency response, as shown on the accompanying graph, was smooth and linear across the audio band; the high-frequency peak, so often encountered in pickups, occurred just at the



Response to  
1-kHz square wave.