

# HI-FI PRODUCT REPORT

## EW LAB TESTED

by Hirsch-Houck Labs

**Scott 387 AM/Stereo-FM Receiver**  
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**T**HE new Scott 387 AM/stereo-FM receiver is rated at 55 watts per channel continuous output into 8-ohm loads. This is one of the most powerful amplifiers ever offered in an integrated receiver, backed up by an electronic short-circuit protection system. The FM-tuner section employs IC's in its i.f. and multiplex sections, plus a six-pole crystal filter that provides excellent selectivity as well as permanent FM alignment. Correct FM tuning is indicated by the lighting up of the word "Perfectune" next to the large, multi-color slide-rule dial (which blacks out when the receiver is off). The IC differential amplifier that operates the Perfectune lamp senses the correct tuning point more accurately than is normally possible with a zero-center tuning meter. An illuminated signal-strength meter helps in orienting an FM antenna and serves as an AM tuning indicator. The AM i.f. amplifier also uses an IC and has a fixed filter, rather than an i.f. transformer—two rather unusual features.

High-reliability wire-wrap connections are used throughout, and all the active circuits are on eight plug-in printed-circuit boards. Authorized Scott service centers can rapidly substitute a correctly operating board for a defective one, should the need arise. This is the basis for the "Modutron" service policy—free parts and labor for two years and a nominal exchange cost of \$10 per module at any later time.

The front panel has a full array of controls, including separate concentric bass and treble controls for the two chan-

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**Sony TA-1144 Integrated Stereo Amplifier**

nels, plus loudness and balance controls. In addition to FM, AM, phono, and a high-level Extra input, the 387 has rear-panel jacks that will accept a pair of dynamic microphones. A pair of front-panel tape-in and tape-out jacks parallel those in the rear. A row of push-on, push-off buttons controls the two sets of speaker outputs, FM interstation-noise muting, high-cut filter, mono/stereo mode, tape monitoring, and loudness compensation. There is also a front-panel stereo headphone jack. In the rear, besides all the expected inputs and outputs (including the usual 300-ohm antenna terminals), there is a jack intended for a 75-ohm low-impedance coaxial cable. There is also a two-position phono sensitivity switch.

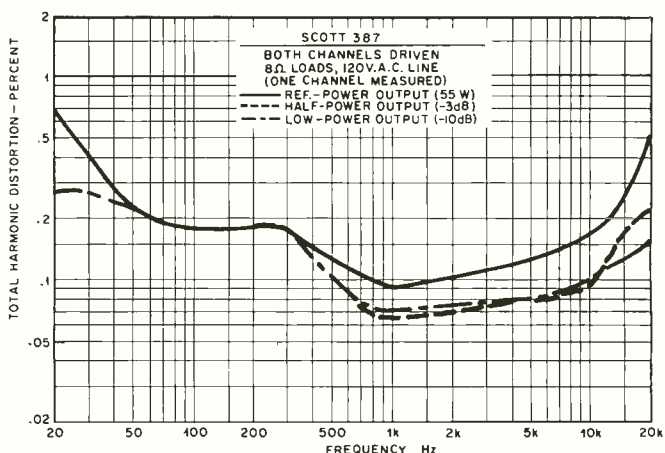
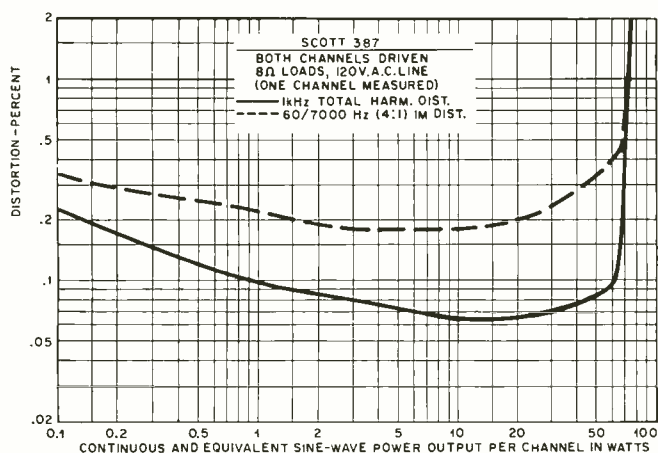
The receiver measures  $17\frac{1}{2} \times 15 \times 5\frac{1}{2}$  inches, including knobs and the AM rod antenna. It is supplied with a black metal cover, and weighs  $26\frac{1}{2}$  pounds. The recently downward revised price is \$399.95.

### Laboratory Measurements

The audio amplifiers delivered 67 watts per channel at the clipping point (both channels driven) into 8-ohm loads with a 1000-Hz test signal. Into 4 ohms, the output was 100 watts per channel, and into 16 ohms it was 39.5 watts. The harmonic distortion at 1000 Hz was below 0.1 percent from 1 to 60 watts and under 0.25 percent from 0.1 watt to 65 watts. The IM distortion was well below 0.5 percent from 0.1 watt to 65 watts. At the rated 55-watt output, the distortion was under 0.5 percent from 25 to 20,000 Hz, and less than 0.2 percent over most of that range. At lower power levels, the distortion was slightly less.

At frequencies below 1000 Hz, our measurements were affected by 120-Hz power-supply ripple, which increased (but remained inaudible) at higher power levels. (Above 1000 Hz, a filter in our distortion analyzer was able to remove these components, permitting an accurate distortion measurement.) The actual harmonic distortion at lower frequencies was typically a small fraction of the measured values, but could not readily be isolated from the ripple, which, it should be repeated, remained inaudible throughout.

The tone controls and loudness compensation had conventional characteristics. The high-cut filter introduced a 6-dB/octave slope beginning at 2000 Hz, which effectively

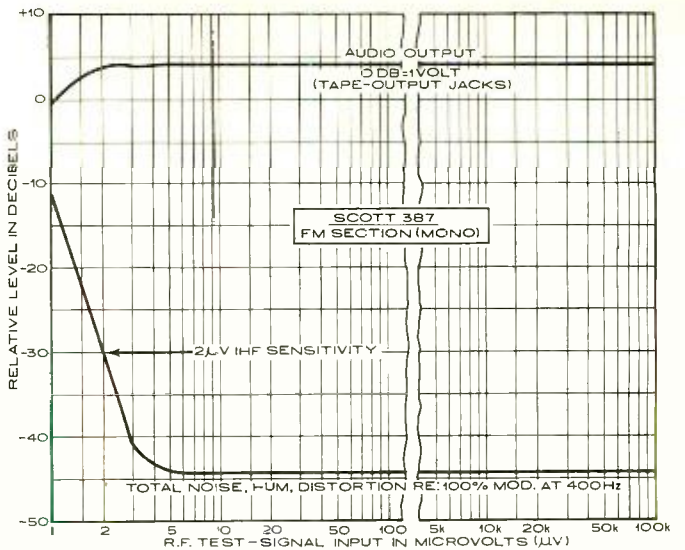


gave FM and phono programs an "AM" quality. At the phono input, 1.5 or 3 millivolts (depending on the setting of the phono-sensitivity switch) was needed for 10 watts output. Since the corresponding overload levels were 29 and 58 millivolts, the receiver can handle the output of any modern phono cartridge without overload distortion. The noise was 70 dB below 10 watts on the high-level Extra input, and 68 dB below 10 watts on high-gain phono input.

FM usable sensitivity (IHF) was 2 microvolts, with limiting complete at 4 microvolts. FM distortion was 0.62 percent at full signal. The ultimate quieting was 70 dB below full modulation, and the AM rejection was 66 dB. The image rejection was 60 dB. All these figures essentially met or surpassed Scott's excellent specifications. FM stereo separation was very uniform over a wide frequency range: about 30 dB from 100 to 3000 Hz, and better than 20 dB from 30 to 15,000 Hz. A highly effective low-pass filter in the multiplex outputs removed 18-kHz and higher frequency signal components while maintaining FM frequency response within  $\pm 0.5$  dB from 30 to 15,000 Hz. The Perfectune indication exactly corresponded to correct tuning for minimum distortion and optimum stereo separation. The FM interstation-noise muting was excellent, operating with a slight, positive "click," but without noise bursts.

### Use Tests

Although most of the design features of the 387 can be found in other receivers, and one would not expect any obvious audible advantages from most of them, in this case the total effect seemed to exceed the sum of its parts. Everything felt right and worked right, from the noncritical tuning, aided by the Perfectune indicator (which we judge to be a real convenience rather than a mere gimmick), to the transparently clean sound from FM or other program source at any listening level we could tolerate.



The unit delivered distortion-free FM reception from signals too weak to move its meter, yet most of the forty-odd stations we picked up on a single sweep of the dial drove the meter pointer nearly to the top of the scale. The AM performance was adequate, with pleasant sound quality and no whistles or "birdies," but it did not approach the tonal quality available on FM.

It is really quite difficult to single out any one aspect of the receiver's performance for special mention. It did a thoroughly fine job in all respects, which suggests that the combination of many small improvements can lead to a genuinely outstanding final product. Most users will probably never be aware of the design effort that has gone into the Scott 387, but the results speak for themselves. ▲

## Sony TA-1144 Integrated Stereo Amplifier

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THE new Sony TA-1144 integrated stereo amplifier differs from the company's previous models in styling and in much of its circuitry. The pale gold satin finish used on other Sony components has been replaced by a two-tone panel, whose silver-colored satin finish contrasts with its charcoal-gray borders and center section.

In its control flexibility and over-all caliber of performance, the TA-1144 closely resembled the company's much more expensive TA-1120A. A large volume-control knob dominates the center section of the panel, flanked by the two bass tone-control levers on the left and the two treble tone-control levers on the right. Each channel has its own

