

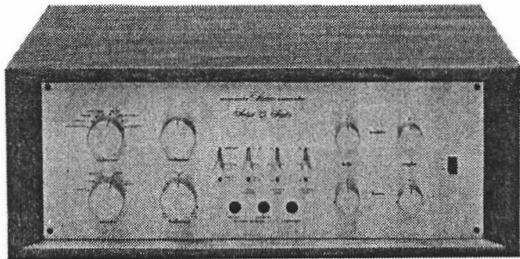
with excellent detail and a firm stereo image. What was really exciting was how it performed with older, mono discs. One that we keep on hand, as a kind of torture test for pickups, is an ancient pressing of Milhaud's *Le Boeuf sur le toit* (Col. ML-2032). This disc, now out of print, is at least 15 years old: pre-stereo, pre-RIAA, and played originally on an old clunker of a changer with a shillelagh of a pickup that tracked at about 8 or 9 grams (real light in 1951!). We had thought that by now there'd be nothing left on this disc but a low-pitched roar modulated by the gougings of a decade-and-a-half of various pickups. But here it was, sounding almost like new, with the Shure sensing all that original spanking, clanging audacity of the score. No doubt any elliptical stylus, which rides higher in the unworn portion of the groove, accounts for much of this effect on old records, but we did get the feeling that if there's any musical signal in any groove, the V-15 Type II could be counted on to get it out with as much accuracy as seems possible at the present state of the art.

CIRCLE 142 ON READER-SERVICE CARD

## MARANTZ 7T PREAMPLIFIER

**THE EQUIPMENT:** Marantz 7T, a solid-state preamplifier-control unit. Dimensions: front panel, 15 $\frac{3}{8}$  by 5 $\frac{3}{4}$  inches. Chassis depth behind panel: 7 inches. Price: \$295. Optional walnut case: \$24. Manufacturer: Marantz, Inc., subsidiary of Superscope, Inc., 25-14 Broadway, Long Island City, N.Y. 11106.

**COMMENT:** Marantz, a company long respected as a manufacturer of some of the finest tube equipment, has entered solid-state electronics with products that will in no way lessen its reputation. The 7T may be regarded as a transistorized version of the older Model 7, with a few innovations. One of these is a "center-channel" (A plus B mix) output with its own level control. Actually there are two such outputs, on the rear, so that both a center-fill basic amplifier and speaker (in the same room as the normal two stereo reproducers) plus an independent setup to



pipe mono signals into another room can be used at once. Also new are three front-panel phone jacks: one is for a stereo headset, the other two are for tape feed and tape playback. In most other respects, the 7T resembles the 7: that is to say, it provides more inputs and outputs than most preamps; its controls work with a professional smoothness and accuracy; its performance is topnotch.

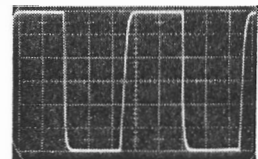
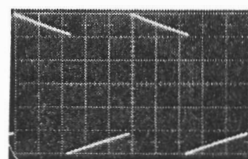
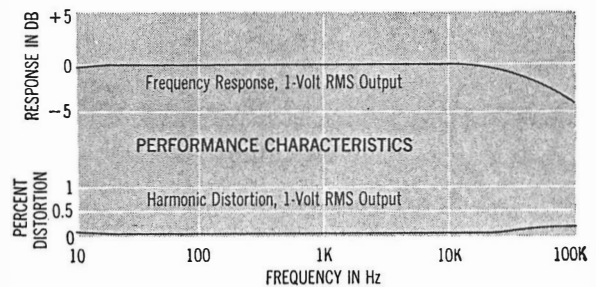
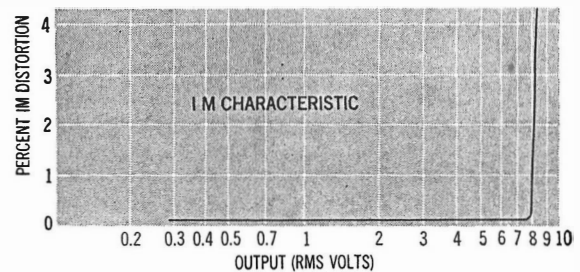
The program selector has eight positions: tape head, microphone, two magnetic phono, tuner, TV, and two auxiliary (high level). The mode selector can be switched to either channel A or B, to mono (A plus B), to stereo, or to reverse channel stereo. There is a volume control (with no loudness contour provision—purists, take note!), a channel balance control, and four separate controls for treble and bass on each channel. The huge toggles at the center of the panel handle tape functions (including monitoring and a special facility for using the 7T as a dubbing patch-unit when copying tapes from one deck to another); variable disc equalization (RIAA, old 78, and old

Columbia LP); low frequency filter (50 Hz, out, and 100 Hz); high frequency filter (9 kHz, out, and 5 kHz). The power switch is at the right. The tone controls, incidentally, are stepped so that precise and repeatable settings may be obtained—assuming, that is, the user marks his own settings on the panel; none are provided, probably in the interest of presenting a neat appearance.

The rear panel of the 7T is something of a surprise in home audio gear and reveals the enormous versatility of this instrument. For instance, there are no less than six AC outlets (five switched; one unswitched). Each channel has two output jacks; combined with the pair of A-plus-B jacks this means you can drive six sound channels simultaneously—and the 7T has the undistorted reserve signal voltage to do that. There are additional tape in-and-out jacks plus the eight pairs of stereo jacks that correspond to the markings on the front panel selector. In conjunction with the tape head inputs, by the way, a pair of playback equalization adjustments may be used to set or vary the NAB standard. Construction and wiring of the 7T, as with every Marantz unit we've seen, are exemplary—in the professional class.

Performance matches the high-quality features and construction. Details of the test results obtained at CBS Labs add up to general excellence. Frequency response was literally a straight line across the audible range, and clocked out to 100 kHz, where it was down by only 4 dB. Harmonic distortion remained just about nonmeasurable to 20 kHz, being lower than 0.1 per cent to 27 kHz and only 0.2 per cent at 100 kHz. IM distortion did not go above 0.1 per cent up to 7.5 volts output. Both equalization curves (for RIAA disc playback and NAB tape head playback) were accurate within negligible variations over the band. Square-wave response was splendid: the 50-Hz wave had a minor tilt and very flat tops; the 10-kHz wave showed very fast rise time and no ringing. Tone control and filter characteristics were ideal; the latter, especially noteworthy, really cut off sharply objectionable portions of response without disturbing the main portion of the response one whit.

Using the Marantz adds more than a touch of pro-



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

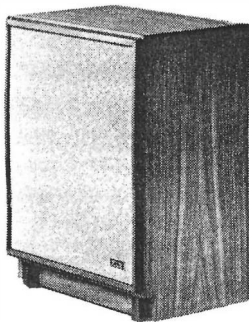
fessionalism to a home music system. Like other topflight amplifiers, it does its job beautifully and in utter silence. That is to say, it makes way for the music while at the same time providing you with unprecedented facilities for controlling a complex system, including two tape recorders, if your system is that elaborate.

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<i>Lab Test Data</i>	
<b>Performance characteristic</b>	<b>Measurement</b>
Maximum output level	either ch: in excess of 8 V RMS
Harmonic distortion, 1-volt output	under 0.1%, 10 Hz to 27 kHz; under 0.2% to 100 kHz
IM distortion	0.1% to 7.5 V RMS
Frequency response, 1-volt output	+0, -3 dB, 10 Hz to 85 kHz
RIAA equalization	+1.75, -0 dB, 20 Hz to 20 kHz
NAB equalization	+2.25, -1 dB, 20 Hz to 20 kHz
Input characteristics	S/N ratio
re 5 mV input	
phono	60 dB
tape head	60 dB
mike	65 dB
re 100 mV input	
high-level	78 dB

## KLH-TWELVE SPEAKER SYSTEM

**THE EQUIPMENT:** KLH-Twelve, a full-range speaker system in integral enclosure. Dimensions: 29 $\frac{1}{4}$  by 22 $\frac{1}{4}$  by 15 inches. Supplied with control box. Price: (in oiled walnut): \$275. Manufacturer: KLH Research & Development Corp., 30 Cross St., Cambridge, Mass. 02139.



**COMMENT:** The Model Twelve is, right now, KLH's top speaker system in the dynamic class (they also make a Model Nine electrostatic, and several other smaller dynamic speaker systems too). The Twelve is also the largest of the KLH dynamic speaker systems and, with its recessed cabinet base, obviously designed for floor placement. Of course, like any "consolette" it could conceivably be installed on a raised surface or even on a shelf that was deep and strong enough to hold it—or them, if a pair is used.

The Twelve differs from previous KLH systems in being an enlarged acoustic suspension system, designed to furnish a bit more of the deep bass than previous KLH systems of this type, and with somewhat higher efficiency from the 8-ohm output termi-

nals of high-quality, though not necessarily the highest-powered, amplifiers. The speaker actually is recommended for use with an amplifier that can supply at least 25 RMS watts per channel; we also found that it is robust enough to be driven from amplifiers rated considerably higher than that.

The attractive, sturdy enclosure of the Twelve houses four speakers, all direct radiators. There is a 10 $\frac{3}{4}$ -inch woofer, two 4-inch midrange cones, and a 4-inch high-frequency cone. The midrange units, incidentally, are housed in "sub-enclosures" behind the front baffle that load them for their particular frequency range. A novel feature of the Twelve is its accompanying contour control box, a separate little unit—also in walnut—which must be connected between the amplifier output and the speaker inputs. This box houses a complex network and is fitted with four frequency-range adjustments that control the response from 300 to 800 Hz; from 800 to 2,500 Hz; from 2,500 to 7,000 Hz; and from 7,000 to 20,000 Hz. One can set any or all of these switches to any of three fixed positions for tailoring the sound to suit varying conditions of room acoustics or program material. For instance, on noisy records you might want to back off on the top control to de-emphasize the highs; in some rooms you might want to advance the bottom control to bring up the bass a bit, and so on. The control box (one for each speaker system) may be used remotely (generous lengths of cable are supplied) or attached by self-adhering strips directly to the rear of the speaker enclosure itself. We elected to use the latter arrangement once we found the settings we preferred in our own room.

The response of the Twelve strikes us as being as clean and well balanced as any previous KLH system but with a lower reach way down and a fuller "more open" quality at the top. The bass seems to begin a gentle roll-off at about 60 Hz but continues cleanly, if at reduced amplitude, to just about 30 Hz. Doubling was hard to induce and only became apparent at inordinately high input levels below about 45 Hz. The upper bass, midrange, and highs all were exceptionally smooth and clean, with no discernible peaks or dips and with a very wide spread throughout the room. There was scarcely any sense of beaming even above 5,000 Hz; in fact a 12-kHz tone was clearly audible well off axis. A 13-kHz tone was easily heard but in a narrower "cone of sound" in front of the system. The response from about here seems to slope gradually toward inaudibility. White noise sounded moderately smooth and became more subdued when listening off axis.

From a music-listening standpoint, we agree the Twelve is a step (or more) upward from previous KLH compact speaker systems. An honest, transparent reproducer, with a full, clean, open, and very neutral sound, its over-all impression on us was one of smooth, effortless handling of any program material with never any hint of boxiness or honking. A pair on stereo can easily fill average-to-large rooms with an excellent presentation, and the wide sound dispersion eliminates any "hole in the middle" effect in a normally spaced installation.

CIRCLE 144 ON READER-SERVICE CARD

**REPORTS IN PROGRESS**

**Altec Lansing 848A Speaker System**

**Kenwood TK-400 Amplifier**