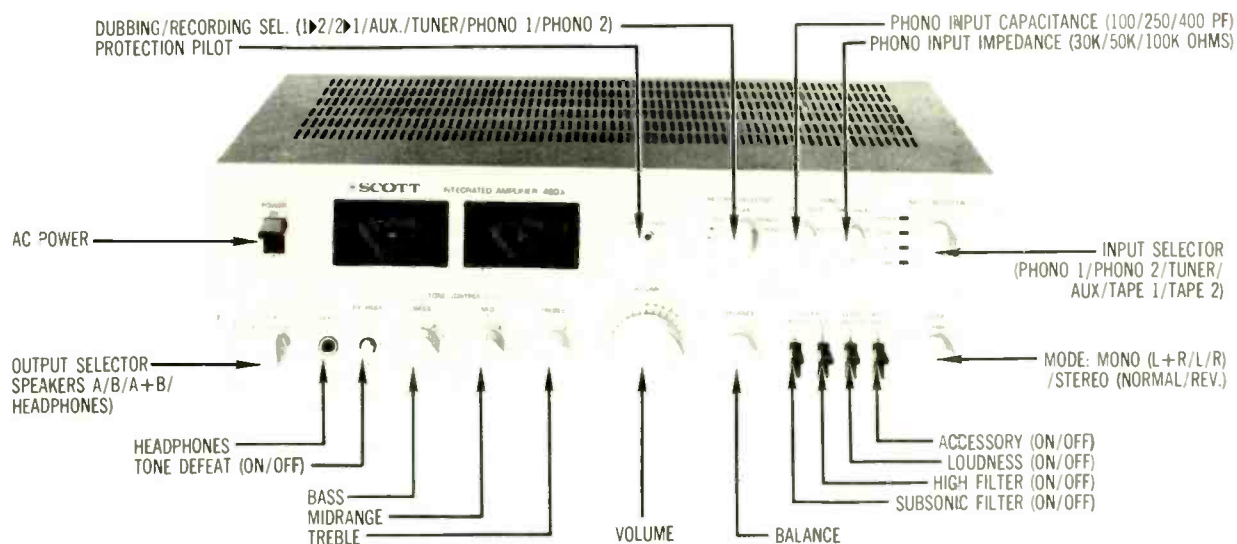


New Equipment Reports

Preparation supervised by
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Laboratory data (unless otherwise noted)
supplied by CBS Technology Center
and Diversified Science Laboratories



A Feature-Filled Integrated Amp

Scott 480A stereo integrated amplifier, in metal case. Dimensions: 17 by 5½ inches (front panel), 14¾ inches deep plus clearance for connections. Accessory AC outlets: 2 switched (220 watts total). Price: \$499.95. Warranty: "limited," three years parts and labor. Manufacturer: H. H. Scott, Inc., 20 Commerce Way, Woburn, Mass. 01801.

Standing at the top of Scott's integrated-amplifier line, the 480A is loaded with features—among them the RECORDING SELECTOR switch, which functions independent of the INPUT SELECTOR. The latter chooses the input fed to the amp section and speakers; the former determines which will be recorded on the two tape decks for which the 480A makes provision. Thus, not only can you dub in either direction between the two decks while listening to another source (a common provision), but you can record a disc while listening to an FM broadcast—an all too rare capability.

In addition to the complement of controls normally found on an integrated amp, the 480A offers an assortment of cartridge loads via two front-panel switches affecting the PHONO-1 input. A choice of two gain settings (differing by 6 dB) is available on the PHONO-2 circuitry via a back-panel slide switch. The amp's output-power rating—85 or 55 watts per channel—also is switchable on the back panel. (The latter is not, in our view, a very useful feature, but it's there.) An acces-

sory loop that can be engaged via the ACC switch provides patching for a noise-reduction system, equalizer, or the like without tying up a tape-monitor circuit. The MODE switch also offers more than the usual choice. Output power is monitored by two meters calibrated in both dBW and watts, into an 8-ohm load. The range extends from -30 to +20 dBW (0.001 to 100 watts).

With all its bells and whistles, the control panel of the 480A presents an imposing front to the world. The control arrangement is reasonably logical, but most users will require some period of adaptation before they feel at home with it. The

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Scott Model 480A Integrated Amplifier

Manufacturer's rated power 19¼ dBW (85 watts)/ch.

Power output at clipping (both channels driven)
L ch 20 dBW (102 watts)
R ch 20 dBW (102 watts)

Dynamic headroom (at 1 kHz) 1½ dB

Frequency response +0, -¼ dB, 10 Hz to 20 kHz
+0, -3 dB, <10 Hz to 75 kHz

RIAA equalization +¼, -½ dB, 20 Hz to 20 kHz

Input characteristics (re 0 dBW (1 watt); noise A-weighted)

	Sensitivity	S/N ratio
phono 1	0.27 mV	79 dB
phono 2—high	0.27 mV	79 dB
phono 2—low	0.54 mV	78 dB
tuner, aux	15.5 mV	84½ dB
tape 1, 2	15.5 mV	84½ dB

Phono overload (clipping point, at 1 kHz)
phono 2—high; phono 1 335 mV
phono 2—low 670 mV

Harmonic distortion (THD + N, 20 Hz to 20 kHz)
at 19¼ dBW (85 watts) output <0.022%
at 10 dBW (10 watts) output <0.024%
at -¾ dBW (0.85 watt) output <0.021%

Intermodulation distortion
into 8 ohms <0.025%, -10 to 20 dBW (0.1 to 98 W)
into 4 ohms <0.075%, -6 to 20½ dBW (0.25 to 110 W)
into 16 ohms <0.026%, -12¼ to 18 dBW (0.06 to 64 W)

Damping factor (at 50 Hz) >100

Subsonic filter -3 dB at 21 Hz; 12 dB/octave

High filter -3 dB at 8 kHz; 12 dB/octave

RECORDING SELECTOR and INPUT SELECTOR are of identical shape and have similar markings (though only the latter sports illuminating indicators for major sources). The knobs have rather sharp edges, and the rotary switches have very definite detents; taken together, these factors impart a rough feel to the controls.

On the bench, the 480A hurdles its specifications easily, with ¾ dB of power to spare on a continuous basis and 1½ dB dynamically, suggesting that this amp is capable of providing power bursts of almost 120 watts (20¾ dBW) when called upon to do so. Harmonic distortion (THD + N) is safely below an already tight (0.03%) spec in all measurements, and at 10 kHz and below it doesn't exceed even half the spec.

In every other regard the amplifier proves equally adept. Response is close to flat, and the phono-input circuitry defies overload with any cartridge we have tested—despite a signal-to-noise ratio that is better than average. Both the infrasonic and high-cut filters are pleasingly sharp and have well-chosen break points.

Our aforementioned cavils about the cosmetics aside, in fact, the Scott leaves little to be desired, as the test data suggest. We find that we confine our use of the tone controls to the first two positions on either side of center. Rarely would one find a tonal imbalance requiring more boost or cut; should the need arise, however, the reserve is there. The filters are particularly noteworthy in performance. The infrasonic filter can be left in the circuit at all times; it has no discernible effect on the music but serves as a safeguard against ultra-low-frequency disturbances. The high-cut filter does dull the transients while removing some high-frequency hiss, but it doesn't totally muffle the sound the way many high filters do.

The Scott 480A affords most of the control flexibility to be expected in separate preamps, with some to spare. Its amplifier performance is very good, and so is its price. Obviously, it's an integrated amp that, should you be shopping for one, commands serious consideration.

CIRCLE 132 ON PAGE 105

The Hall-Effect Head Is Here

Hitachi D-7500 stereo cassette deck in metal case. Dimensions: 17 by 6¾ (front panel; 18¾ inches wide with supplied handles), 10 inches deep plus clearance for connections. Price: \$700; optional remote-control unit (RB-2000), \$50. Warranty: "limited," three years parts and labor (one year on head, DC motor, and belts). Manufacturer: Hitachi Corp., Japan; U.S. distributor: Hitachi Sales Corp. of America, 401 W. Artesia Blvd., Compton, Calif. 90220.

For several years, we have been teased with the prospect of the first cassette deck with a so-called Hall-effect playback head that introduces an elegant "directness" into signal recovery. Conventional playback heads respond to the rate at which the magnetic pattern on the tape changes—not to the magnetic flux strength itself. The sensitivity (or output) of such a head is directly proportional to frequency over much of the audio range, which is to say that the output signal level is very much smaller at low frequencies than it is in the mid-band, and the playback amplifier must be equalized to compensate for this peculiarity. Hence the gain is very much higher at low frequencies, increasing both the signal and the

noise. The boost increases as the frequency decreases, but only until the amplifier runs out of steam—then low-frequency response drops off. Many decks do not make it much below 50 Hz.

A Hall-effect head responds directly to the magnetic flux—essentially to DC without equalization so that, even with the tape stopped, it would produce an output proportional to the magnetic flux it "sees." Evidently the problems of producing such a playback head in the cassette format have been solved; in Hitachi's D-7500 it is combined with a separate conventional recording head in a single housing. The D-7500 is, therefore, a true three-head deck with off-tape monitoring.

The advantage of the Hall-effect head is immediately apparent in the record/play response curves. Response remains uniform to nearly 20 Hz. As with conventional playback heads, the new design is subject to "head bumps," and minor ones show up in the 60- and 120-Hz regions. These aside, the response at -20 dB is flat, typically within ±1 dB, from 25 Hz to 15 kHz on all three tapes we used in testing (Maxell UDXL-II ferricobalt "chrome," Sony ferrichrome, and Maxell UDXL-I ferric), with the "chrome" providing a bit more high-fre-